FILE COPY

JUL 08 2015

NEIL ABERCROMBIE
GOVERNOR
STATE OF HAWAII

JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

WILLIAM AILA JR.
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAII 96805

RECEIVED
'15 JUN 12 P4:02
OFC. OF ENVIRONMENTAL QUALITY CONTROL

June 8, 2015

Ms. Jessica Wooley, Director
Office of Environmental Quality Control
Department of Health, State of Hawaii
235 S. Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Ms. Wooley.

Subject: Draft Environmental Assessment (DEA) for Kumu Camp, Anahola, Kauai, Hawaii (TMK (4) 4-8-007:001)

With this letter, the Department of Hawaiian Home Lands hereby transmits the draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI) for the action situated at TMK (4) 4-8-007:001 located in Anahola on the island of Kauai for publication in the next available edition of the Environmental Notice.

Enclosed is a completed OEQC Publication Form, two copies of the DEA-AFONSI, an Adobe Acrobat PDF file of the same, and an electronic copy of the publication form in MS word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to your office.

If there are any questions, please contact the Department of Hawaiian Homes Lands Planning staff person, Bob Freitas at (808) 620-9484.

Aloha,

Jobie M. K. Masagatani, Chairman
Hawaiian Homes Commission

APPLICANT ACTIONS
SECTION 343-5(C), HRS
PUBLICATION FORM (JANUARY 2013 REVISION)

Project Name **Kumu Camp**
Island: Kauaʻi
District: Kawaihau
TMK: (4) 4-8-007:001
Permits: HRS Chapter 343 FEA/FONSI, Individual Wastewater Management Permit
Approving Agency:
Department of Hawaiian Home Lands
State of Hawaiʻi
91-5420 Kapolei Parkway
Kapolei, Hawaiʻi 96707
Applicant:
Homestead Community Development Corporation
P.O. Box 646
Anahola, Hawaiʻi 96703
Contact: Robin P. Danner (808) 652-0140
Consultant:
Planning Solutions, Inc.
210 Ward Avenue, Suite 330
Honolulu, Hawaiʻi 96814
Contact: Mākena White (808-550-4538)
Status (check one only):

XX DEA-AFNSI	Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day comment period ensues upon publication in the periodic bulletin.
__FEA-FONSI	Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov; no comment period ensues upon publication in the periodic bulletin.
__FEA-EISPN	Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day consultation period ensues upon publication in the periodic bulletin.
__Act 172-12 EISPN	Submit the approving agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov. NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.
__DEIS	The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.
__FEIS	The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
__ Section 11-200-23 Determination	The approving agency simultaneous transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the applicant. No comment period ensues upon publication in the periodic bulletin.
__Statutory hammer Acceptance	The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it failed to timely make a determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and that the applicant's FEIS is deemed accepted as a matter of law.
__Section 11-200-27 Determination	The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and

determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.

__Withdrawal (explain)

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page)**:**

The proposed action consists of DHHL granting a long-term License or Lease that will allow the Homestead Community Development Corporation to continue its Kumu Camp operations in Anahola, Kaua'i. If approved, HCDC will operate campsite facilities, including: metal-framed tent bungalows (tentalows); restrooms equipped with an Individual Wastewater System; a 24' x 36' raised wooden pavilion with temporary roof; two "yurt"-style tents used as enclosed meeting areas; and miscellaneous other facilities (storage structures, solar-powered pathway lighting, a DOH-certified mobile kitchen, outdoor recreation areas, and an imu). It would also use approximately three acres on the eastern part of the parcel as a low impact park and picnic area (no structures). The purposes of the proposed action are to: allow HCDC to provide an outdoor camping experience close to DHHL beneficiaries; utilize DHHL-owned land in the area for its intended purpose as described in Section 207 of the Hawaiian Homes Commission Act; provide a venue for youth and cultural camps to perpetuate Hawaiian culture and values; maintain uses that are compatible with adjacent residential and recreational activities in the area; and ensure that use of the property is consistent with the objectives, policies, and guidelines of the Coastal Zone Management program (HRS Chapter 205A).

Draft Environmental Assessment
KUMU CAMP PROJECT

ANAHOLA, KAUA'I, HAWAI'I

PREPARED FOR:
Homestead Community Development Corp.

PREPARED BY:
PLANNING SOLUTIONS

JUNE 2015

PROJECT SUMMARY

Project:	**Kumu Camp Project**
Applicant:	Homestead Community Development Corporation P.O. Box 646 Anahola, Hawai‘i 96703 Contact: Robin P. Danner (808) 652-0140
Approving Agency:	Department of Hawaiian Home Lands State of Hawai‘i 91-5420 Kapolei Parkway Kapolei, Hawai‘i 96707
Location:	4261-4281 Poha Road, Anahola, Kaua‘i, Hawai‘i
Proposed Action:	Chapter 343 Environmental Assessment for the existing Kumu Camp in Anahola, Hawai‘i.
Associated Actions Requiring Environmental Assessment:	Commitment of state-owned land.
Tax Map Key:	(4) 4-8-007:001
Parcel Area:	11 acres
Project Area:	8.39 acres
Judicial District:	Kawaihau
State Land Use District:	Urban
County Zoning:	Open
Required Permits & Approvals:	HRS Chapter 343 Environmental Assessment Individual Wastewater Management Permit
Anticipated Determination:	Finding of No Significant Impact
Parties Consulted:	See Chapter 7
Consultant:	Planning Solutions, Inc. 210 Ward Avenue, Suite 330 Honolulu, Hawai‘i 96814 Contact: Mākena White (808-550-4538)

TABLE OF CONTENTS

1. PURPOSE AND NEED FOR THE PROJECT 1-1
1.1 OVERVIEW OF PURPOSE AND NEED 1-1
1.2 HOMESTEAD COMMUNITY DEVELOPMENT CORPORATION/KUMU CAMP 1-1
1.3 ORGANIZATION OF THE REPORT 1-5

2. DESCRIPTION OF THE PROPOSED ACTION 2-1
2.1 PROPOSED ACTION 2-1
2.2 EXISTING/PLANNED FACILITIES 2-1
2.2.1 Tentalows 2-3
2.2.2 Pavilion 2-4
2.2.3 Yurts 2-4
2.2.4 Restroom & Associated Individual Wastewater Treatment Facility 2-4
2.2.5 Mobile Kitchen 2-6
2.2.6 Other Facilities 2-6
2.2.7 Water Service 2-6
2.3 CONSTRUCTION ACTIVITIES 2-6
2.4 OPERATION AND MAINTENANCE 2-7
2.5 DECOMMISSIONING 2-7
2.6 IMPLEMENTATION SCHEDULE 2-8
2.7 PROJECT COSTS 2-8
2.8 ALTERNATIVES EVALUATED IN THIS EA 2-8
2.8.1 Alternatives Addressed in Detail In This Report 2-9
2.8.1.1 Proposed Action – Continued Operation of Kumu Camp 2-9
2.8.1.2 No Action Alternative 2-9
2.8.2 Alternatives Considered and Eliminated 2-9
2.8.2.1 Alternative Location 2-9
2.8.2.2 Altered-Scale Action 2-9
2.8.2.3 Delayed Action 2-10

3. EXISTING ENVIRONMENT & PROBABLE IMPACTS 3-1
3.1 TOPOGRAPHY, GEOLOGY, AND SOILS 3-1
3.1.1 Existing Conditions: Topography, Geology, and Soils 3-1
3.1.2 Probable Impacts on Topography, Geology, and Soils 3-2
3.2 HYDROLOGY 3-3
3.2.1 Existing Conditions: Hydrology 3-3
3.2.1.1 Existing Conditions: Surface Water 3-3
3.2.1.2 Existing Conditions: Groundwater 3-4
3.2.2 Probable Impacts: Hydrology 3-6
3.2.2.1 Effects on Surface Water 3-6
3.2.2.2 Effects on Groundwater 3-6
3.2.2.3 Sanitary Wastewater Disposal 3-6
3.3 CLIMATE/MICRO-CLIMATE 3-6
3.3.1 Existing Conditions: Climate/Micro-Climate 3-6
3.3.1.1 Wind 3-7
3.3.1.2 Rainfall 3-8
3.3.1.3 Temperature 3-9
3.3.2 Effects on Climate/Micro-Climate 3-11
3.4 AIR QUALITY 3-11
3.4.1 Existing Conditions: Air Quality 3-11
3.4.2 Probable Air Quality Impacts 3-12
3.5 BIOTA 3-12

3.5.1 Existing Conditions 3-12
3.5.2 Probable Impacts on Biota 3-13
3.6 NOISE 3-13
3.6.1 Existing Conditions 3-13
3.6.2 Probable Impacts 3-14
3.7 ARCHAEOLOGICAL AND HISTORICAL RESOURCES 3-14
3.7.1 Background Research 3-15
3.7.2 Field Results 3-16
3.7.3 Probable Impacts on Archaeological and Historic resources 3-17
3.8 CULTURAL IMPACT ASSESSMENT 3-18
3.8.1 Historical and Cultural Research 3-20
3.8.1.1 Cultural Traditions and Historical Land Use in Anahola 3-20
3.8.1.2 Mo‘olelo and Wahi Pana of Anahola Ahupua‘a 3-25
3.8.2 Interview Selection and Methodology 3-28
3.8.3 Biographical Information of Interviewees 3-30
3.8.4 Historical and Archival Research and References Cited 3-30
3.8.5 Confidential Information 3-30
3.8.6 Analysis of Impacts and Mitigation Recommendations 3-31
3.9 NATURAL HAZARDS 3-31
3.9.1 Susceptibility to Seismic Damage 3-31
3.9.2 Volcanic & Tsunami Hazards 3-32
3.9.3 Susceptibility to Hurricane Damage 3-33
3.10 SCENIC & AESTHETIC RESOURCES 3-35
3.10.1 Existing Conditions 3-35
3.10.2 Probable Visual Impacts 3-35
3.11 PUBLIC INFRASTRUCTURE 3-35
3.11.1 Water Supply 3-35
3.11.1.1 Existing Conditions 3-35
3.11.1.2 Probable Effects 3-36
3.11.2 Sanitary Wastewater Collection and Disposal 3-37
3.11.2.1 Existing Conditions 3-37
3.11.2.2 Probable Impacts. 3-37
3.11.3 Electricity and Telecommunications 3-37
3.11.3.1 Existing Conditions 3-37
3.11.3.2 Probable Effects 3-37
3.11.4 Emergency Services and Schools 3-38
3.11.4.1 Existing Conditions 3-38
3.11.4.2 Probable Impacts to Police, Emergency Services, and Schools 3-38
3.11.5 Solid Waste Management 3-38
3.11.5.1 Existing Conditions 3-38
3.11.5.2 Probable Impacts 3-38
3.12 TRANSPORTATION FACILITIES 3-38
3.12.1 Existing Conditions 3-38
3.12.1.1 Airports and Harbors 3-38
3.12.1.2 Roadways: Kūhiō Highway 3-39
3.12.1.3 Probable Impacts 3-39
3.13 LAND USE & SOCIOECONOMICS 3-39
3.13.1 Existing Conditions 3-39
3.13.2 Probable Impacts 3-41
3.14 RECREATION & SHORELINE ACCESS 3-45
3.14.1 Existing Conditions 3-45
3.14.2 Probable Impacts 3-45

4. CONSISTENCY WITH LAND USE PLANS, POLICIES & CONTROLS 4-1

4.1 COUNTY OF KAUA‘I 4-1

4.1.1 Kaua'i County General Plan 4-1
4.1.1.1 Relevant General Plan Provisions 4-1
4.1.1.2 Conformance with the Kaua'i County General Plan 4-4
4.1.2 County of Kaua'i Land Use Ordinance 4-4
4.2 STATE OF HAWAI'I 4-4
4.2.1 Hawai'i State Plan 4-4
4.2.2 Department of Hawaiian Home Lands 4-5
4.2.2.1 Relevant Position 4-6
4.2.2.2 Conformance with the Policy 4-6
4.2.3 Chapter 205, Hawai'i Revised Statutes - Land Use Law 4-6
4.2.4 Coastal Zone Management (CZM) Program 4-7
4.2.4.1 Recreational Resources 4-7
4.2.4.2 Historic Resources 4-8
4.2.4.3 Scenic and Open Space Resources 4-8
4.2.4.4 Coastal Ecosystems 4-9
4.2.4.5 Economic Uses 4-9
4.2.4.6 Coastal Hazards 4-9
4.2.4.7 Managing Development 4-10
4.2.4.8 Public Participation 4-10
4.2.4.9 Beach Protection 4-12
4.2.4.10 Marine Resources 4-12
4.2.5 Required Permits and Approvals 4-13

5. ANTICIPATED DETERMINATION 5-1
5.1 SIGNIFICANCE CRITERIA 5-1
5.2 FINDINGS 5-1
5.2.1 Irrevocable Loss or Destruction of Valuable Resource 5-1
5.2.2 Curtails Beneficial Uses 5-2
5.2.3 Conflicts with Long-Term Environmental Policies or Goals 5-2
5.2.4 Substantially Affects Economic or Social Welfare 5-2
5.2.5 Public Health Effects 5-2
5.2.6 Produce Substantial Secondary Impacts 5-2
5.2.7 Substantially Degrade Environmental Quality 5-2
5.2.8 Cumulative Effects or Commitment to a Larger Action 5-2
5.2.9 Effects on Rare, Threatened, or Endangered Species 5-2
5.2.10 Affects Air or Water Quality or Ambient Noise Levels 5-2
5.2.11 Environmentally Sensitive Areas 5-2
5.2.12 Affects Scenic Vistas and View planes 5-3
5.2.13 Requires Substantial Energy Consumption 5-3
5.3 ANTICIPATED DETERMINATION 5-3

6. REFERENCES 6-1

7. CONSULTATION & DISTRIBUTION 7-1
7.1 CONSULTATION & DISTRIBUTION OF THE DRAFT EA 7-1

A. USDA WEB SOIL SURVEY MAP A-1

B. ARCHAEOLOGICAL INVESTIGATIONS FOR THE PROPOSED KUMU YOUTH ACADEMY AT SITE 50-30-08-116 ..... B-1

C. ORAL HISTORY INTERVIEW TRANSCRIPTS C-1

LIST OF FIGURES

FIGURE 1.1 LOCATION MAP 1-2
FIGURE 1.2 VICINITY MAP 1-3
FIGURE 1.3 EXISTING CONDITIONS ON THE PROJECT SITE 1-4
FIGURE 2.1 SHORELINE SURVEY MAP 2-2
FIGURE 2.2 PHOTOGRAPHS OF TENTALOWS 2-3
FIGURE 2.3 RESTROOM FACILITIES AT KUMU CAMP 2-5
FIGURE 3.1 GENERALIZED GEOLOGY OF KAUA'I ISLAND 3-1
FIGURE 3.2 AQUIFER DESIGNATION 3-4
FIGURE 3.3 WATER LEVELS IN THE ANAHOLA C WELL: 1992-2011 3-5
FIGURE 3.4 AVERAGE TEMPERATURE AT ANAHOLA, BY MONTH 3-7
FIGURE 3.5 WIND ROSE: LĪHU'E AIRPORT, 1950-1995 3-8
FIGURE 3.6 EFFECTIVE WIND SPEED: ISLAND OF KAUA'I. 3-9
FIGURE 3.7 RAINFALL DEPTH-DURATION FREQUENCY CURVES, ANAHOLA, KAUA'I. 3-10
FIGURE 3.8 ARCHAEOLOGICAL INVESTIGATION TEST PIT LOCATIONS 3-17
FIGURE 3.9 TSUNAMI EVACUATION MAP: KAUAPEA BEACH TO ANAHOLA BAY 3-33
FIGURE 3.10 TRACKS OF MAJOR HURRICANES AFFECTING THE STATE OF HAWAI'I (1950-2012) 3-34
FIGURE 3.11 DHHL LAND USE DESIGNATIONS FOR ANAHOLA 3-41
FIGURE 3.12 STATE LAND USE DISTRICTS 3-43
FIGURE 3.13 KAWAIHAU PLANNING DISTRICT LAND USE MAP 3-44
FIGURE 4.1 SOEST SHORELINE EROSION RATE MAP FOR ANAHOLA, KAUA'I 4-11

LIST OF TABLES

TABLE 1.1 SUMMARY OF PROJECT OBJECTIVES 1-5
TABLE 2.1 ESTIMATED ACTIVITY AT KUMU CAMP, 2012 AND 2013 2-7
TABLE 2.2 ESTIMATED PROJECT COSTS 2-8
TABLE 3.1 ANAHOLA AQUIFER CLASSIFICATION 3-5
TABLE 3.2 TEMPERATURE AND AVERAGE ANNUAL PRECIPITATION ON KAUA'I, BY ELEVATION 3-7
TABLE 3.3 AVERAGE MONTHLY RAINFALL: ANAHOLA STATION 1114, 1930-1995. 3-8
TABLE 3.4 AVERAGE TEMPERATURES, LĪHU'E AIRPORT: 2000-2013 3-10
TABLE 3.5 STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS 3-11
TABLE 3.6 AVIAN SPECIES OBSERVED AT KUMU CAMP 3-13
TABLE 3.7 HAWAI'I ADMINISTRATIVE RULES §11-46 NOISE LIMITS 3-14
TABLE 3.8 GUIDE TO DISCUSSION OF CULTURAL IMPACT TOPICS 3-19
TABLE 3.9 LAND COMMISSION AWARD CLAIMS FOR THE AHUPUA'A OF ANAHOLA 1848 TO 1850 3-21
TABLE 3.10 BIOGRAPHICAL SUMMARY OF ORAL HISTORY INTERVIEW PARTICIPANTS 3-30
TABLE 3.11 MAJOR HURRICANES AFFECTING THE STATE OF HAWAI'I: 1950-2010 3-34
TABLE 3.12. POTABLE WATER TEST RESULTS: ANAHOLA WATER SYSTEM – 2012 3-36
TABLE 3.13 COMPARISON OF DEMOGRAPHICS FOR ANAHOLA VS. KAUA'I COUNTY 3-40
TABLE 7.1. DRAFT EA DISTRIBUTION LIST 7-1

1. PURPOSE AND NEED FOR THE PROJECT

1.1 OVERVIEW OF PURPOSE AND NEED

This Environmental Assessment (EA) evaluates the potential environmental effects of continued operation by the Homestead Community Development Corporation (HCDC) of Kumu Youth Academy (henceforth "Kumu Camp"), located in Anahola, on the island of Kaua'i. Kumu Camp is located on approximately 5 acres of an 8-acre Department of Hawaiian Home Lands (DHHL) property located immediately adjacent to Anahola Beach Park on TMK No. (4) 4-8-007:001.

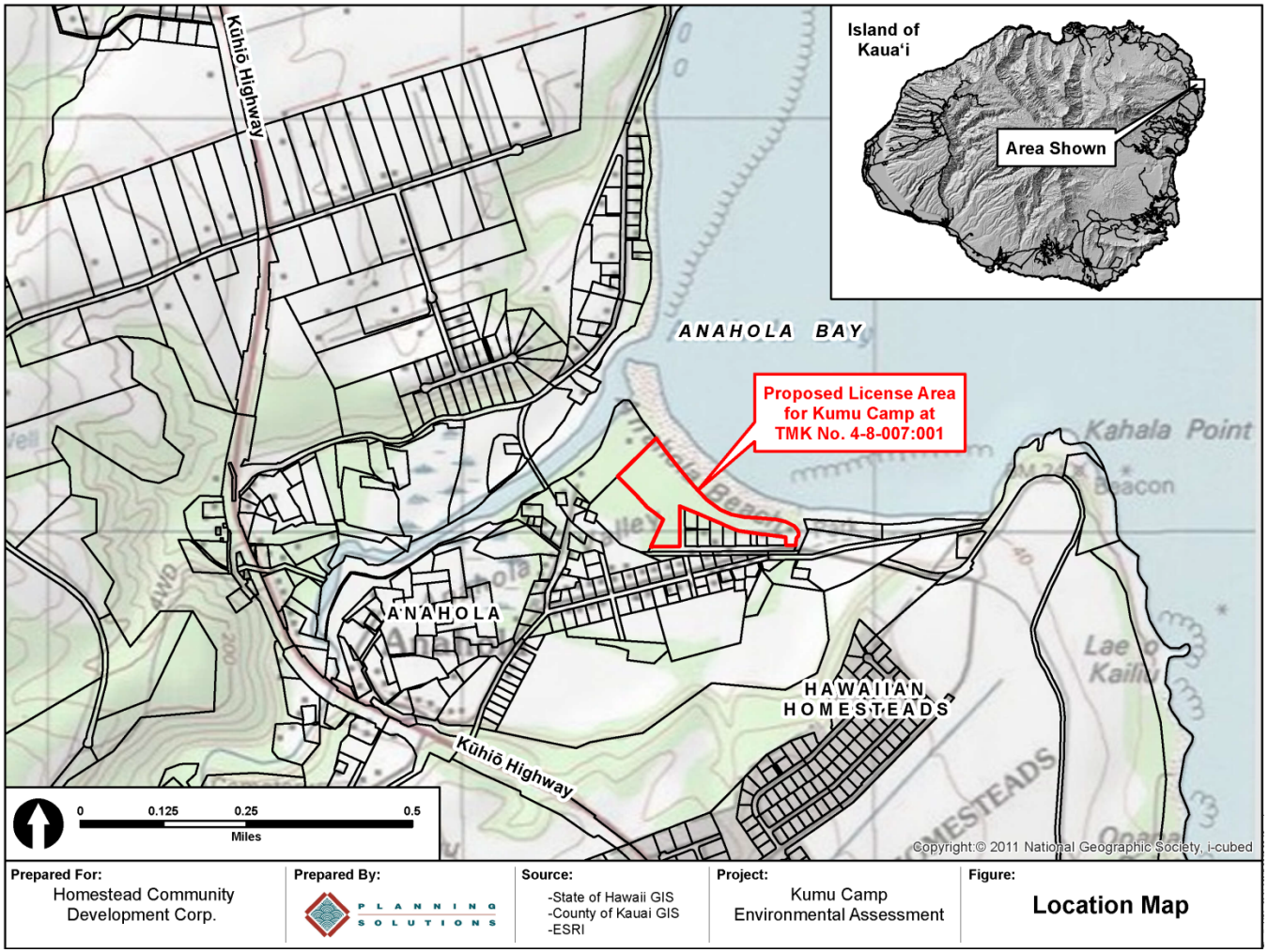
HCDC currently operates Kumu Camp under a month-to-month Revocable Permit that DHHL issued in 2011. Kumu Camp is seeking to convert this Revocable Permit to a License for the full 8-acre parcel for a term of 25 years. The use of DHHL lands makes the project subject to the environmental review process outlined in Hawai'i Revised Statutes (HRS) Chapter 343. DHHL's Land Management Division and its Planning Office have jointly reviewed the structures, uses, and activities currently underway at Kumu Camp pursuant to HRS Chapter 343 and its implementing regulations, Hawai'i Administrative Rules (HAR) §11-200. The agency has made the determination that Kumu Camp is not eligible for exemption from, and is therefore subject to, the requirement for an environmental assessment (EA). This report is intended to satisfy that requirement.

1.2 HOMESTEAD COMMUNITY DEVELOPMENT CORPORATION/KUMU CAMP

Kumu Camp is located on the shoreline in the central portion of Anahola Bay (see Figure 1.1 and Figure 1.2). The camp is operated by HCDC, the tax-exempt development arm of the homestead associations in the State of Hawai'i, including the Anahola Hawaiian Homes Association (AHHA). AHHA is a Hawaiian Homes Commission Act beneficiary-controlled and governed organization. HCDC's mission, since its founding in 2009, is to develop community and economic facilities and projects important to homestead areas and the Native Hawaiian people.

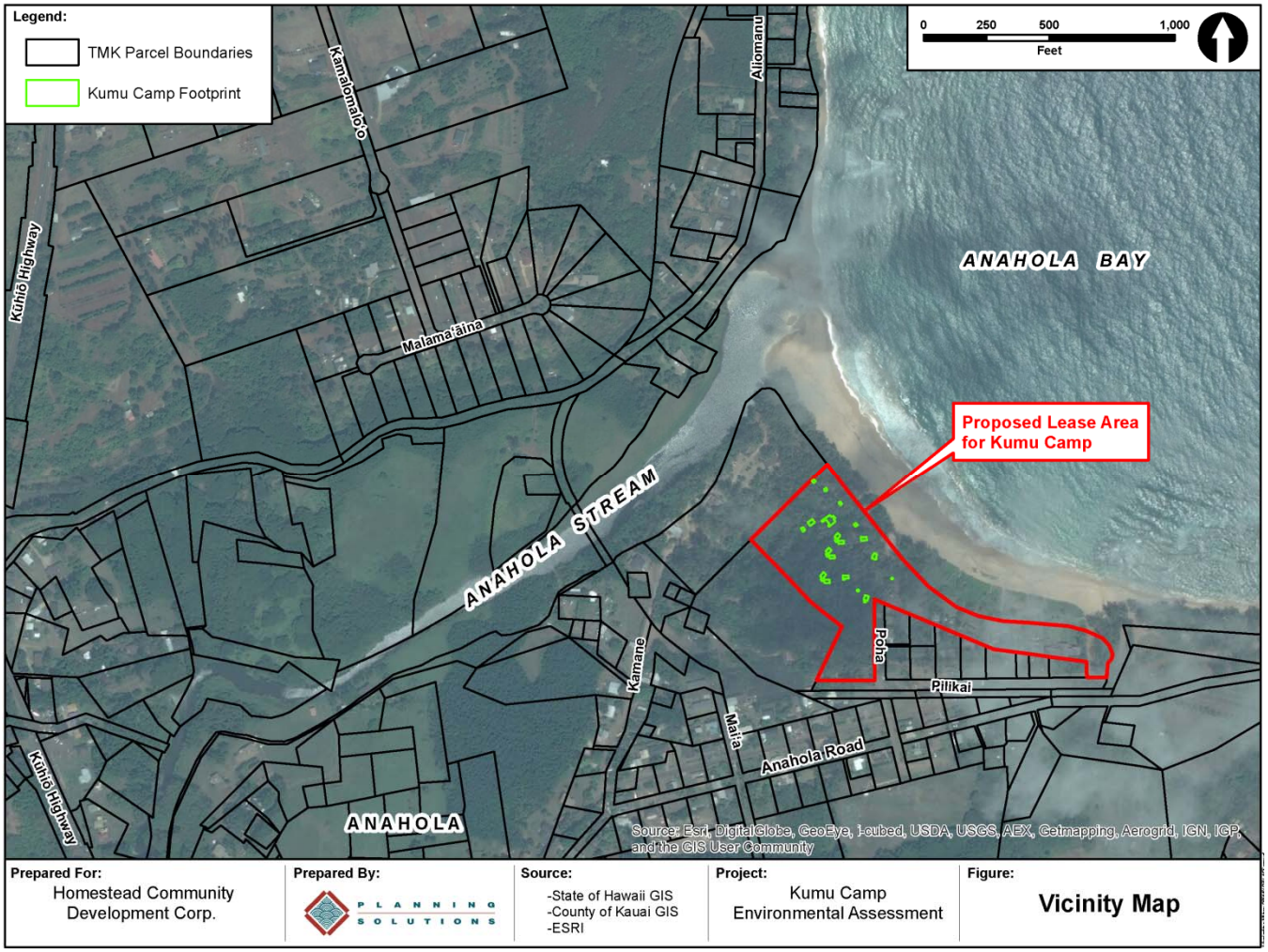
In July, 2011 AHHA received authorization from DHHL to create campsites and other temporary improvements needed to begin use of the parcel as a camp, formally known as Kumu Youth Academy (aka "Kumu Camp") (see Figure 1.3). The camp opened to the public and began full operations in 2012. Kumu Camp is used for group and individual overnight camping, as well as hosting regular surfing, yoga, and hula classes in the scenic environs of Anahola Bay.

Figure 1.1 Location Map



Source: Planning Solutions, Inc. (2015)

Figure 1.2 Vicinity Map



Source: Planning Solutions, Inc. (2015)

Figure 1.3 Existing Conditions on the Project Site

View facing mauka *of existing access road to camp from Poha Road.*

Existing parking area at Kumu Camp.

View of a single tentalow on its raised platform.

View of two tentalows on conjoined platform.

View of Anahola Beach fronting Kumu Camp.

View across Kumu Camp towards the southeast.

Source: All photos by Planning Solutions, Inc. (2014)

HCDC's objectives for Kumu Camp are summarized in Table 1.1, below:

Table 1.1 Summary of Project Objectives

Objective	*Definition*
1	Continue to provide a safe and enjoyable camping experience at Kumu Camp to the region's youth and families.
2	To provide an outdoor camping experience close to DHHL beneficiaries.
3	To utilize DHHL-owned land in the area for its intended purpose as described in Section 207 of the Hawaiian Homes Commission Act.
4	To fund, organize, and host youth and cultural camps to perpetuate Hawaiian culture and values.
5	To operate the camp in a way which is compatible with adjacent residential and recreational activities in the area, and to disrupt illegal activity in the immediate area.
6	To ensure that use of the property is consistent with the objectives, policies, and guidelines of the Coastal Zone Management program (HRS Chapter 205A).
Source: Homestead Community Development Corporation (2015)	

1.3 ORGANIZATION OF THE REPORT

The remainder of this report is organized as follows:

- Chapter 2 describes the project in detail, and outlines the alternatives considered in the planning process.
- Chapter 3 describes the existing environment and analyzes the ways in which the project could impact environmental, cultural, and socio-economic resources. It also outlines strategies for minimizing potential adverse effects and for mitigating unavoidable adverse impacts.
- Chapter 4 discusses the project's consistency with applicable county and state plans, policies, and controls.
- Chapter 5 outlines the bases for the anticipated determination that the project will not have an adverse effect on the environment (i.e., for issuance of a FONSI).
- Chapters 6 and 7 identify the parties consulted and the references cited in the development of this environmental assessment.

THIS PAGE INTENTIONALLY LEFT BLANK

2. DESCRIPTION OF THE PROPOSED ACTION

This chapter describes the proposed action and the activities that will continue if it is approved. In doing this, it provides information about the design of the existing camp facilities and the activities associated with its construction and ongoing maintenance and operation. Finally, it summarizes the alternatives that were considered but rejected because they do not meet the project's objectives.

2.1 PROPOSED ACTION

The proposed action consists of DHHL granting a long-term License or Lease that will allow Kumu Camp to continue its present operations (see Figure 2.1 below for the configuration of the principal camp features). HCDC has also proposed to expand into the remaining 3 acres of the property, with the additional area being used passively as a low impact park and picnic area, pending approval by DHHL. This report documents the environmental effects that are likely to occur if Kumu Camp is allowed to continue operations at its current, DHHL-owned site, over the long term. The following sections of the report describe the existing facilities and the way they would be operated if the requested License or Lease is granted.

2.2 EXISTING/PLANNED FACILITIES

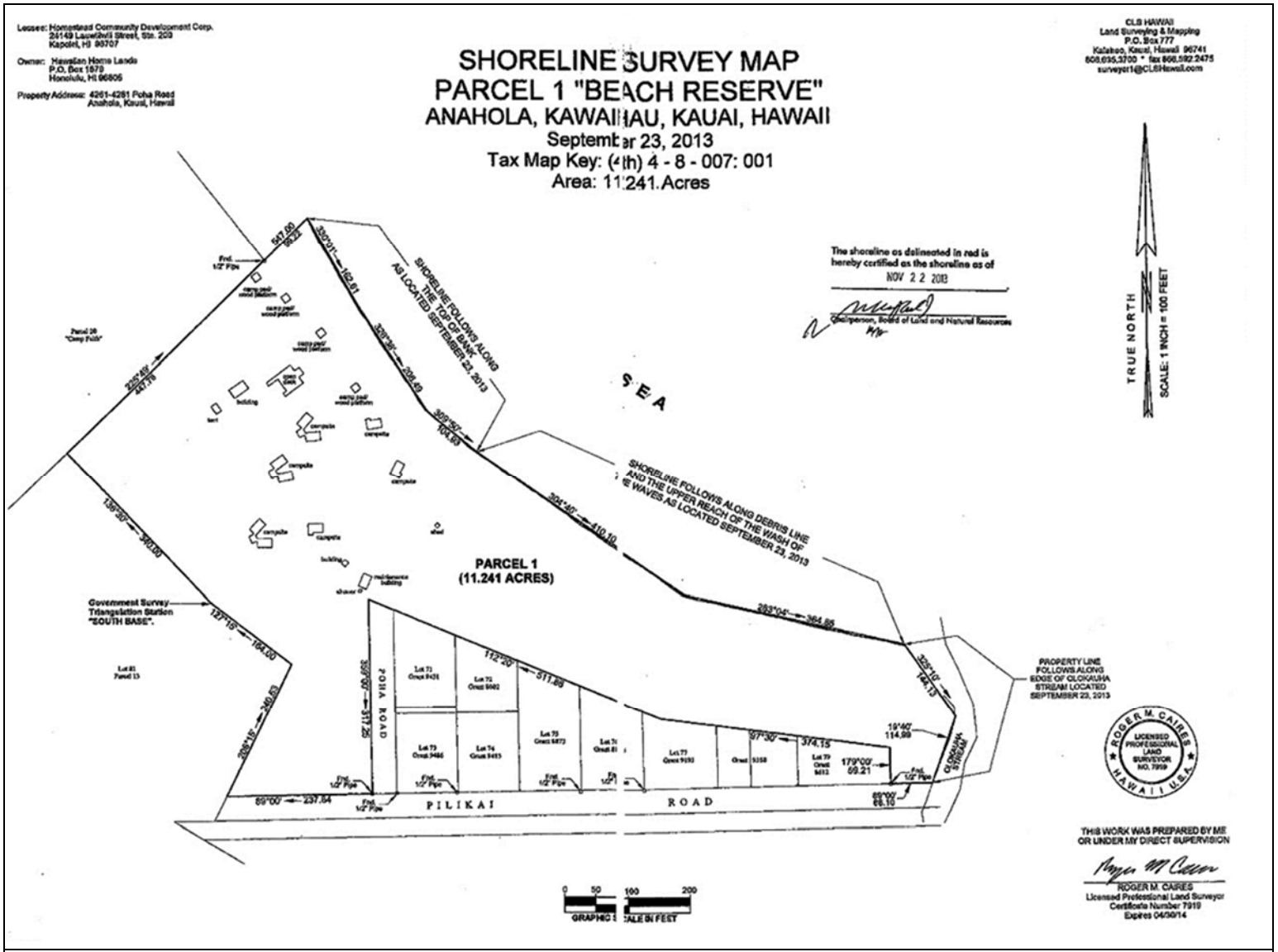
The existing campsite facilities at Kumu Camp include the following:

- Ten (10) metal-framed tent bungalows, known as "tentalows".[1]
- A restroom with separate facilities for males and females, equipped with an Individual Wastewater System (IWS) without leach field, is capped and is used as a holding tank. HCDC is seeking certification by the Department of Health (DOH), pending approval of this EA. Currently, campers use a portable toilet adjacent to the restroom.
- A 24′ x 36′ raised wooden pavilion with temporary roof.
- Two "yurt"-style tents used as enclosed meeting areas.
- Miscellaneous facilities including storage structures, solar-powered pathway lighting, a DOH-certified mobile kitchen, outdoor recreation areas, and an *imu*.

The configuration of these facilities is shown in Figure 2.1 below. The platform, yurts, and pavilion are on above-ground concrete post-and-pier foundations. The IWS is recessed in the ground in a space that was excavated for that purpose. Figure 1.3 contains photographs of these existing facilities.

[1] Kumu Camp plans to install two additional tentalows at some point in the future, but no schedule has yet been determined.

Figure 2.1 Shoreline Survey Map



Source: Homestead Community Development Corporation (September 23, 2013)

2.2.1 TENTALOWS

The primary overnight accommodations at Kumu Camp are ten (10) metal-framed tent bungalows, colloquially known as "tentalows". The tentalows, which are large enough to accommodate one queen-sized bed, one twin-sized bed, and a small end table, are stationed on raised 12′ x 20′ wooden platforms. The platforms are on unsecured post-and-pier foundations emplaced on the native sand of the area (see Figure 2.2). Kumu Camp plans to install two additional tentalows on the northern side of the parcel. Three pairs of tentalows are installed on a conjoined platform, sharing an adjacent shower and common *lānai*.

Figure 2.2 Photographs of Tentalows

<table>
<tr><td>
</td><td> </td></tr>
<tr><td>View of tentalow from the front, showing the raised platform, entrance and adjacent shower facility.</td><td>View of the same tentalow from the back. All tentalows are identical; however there are minor differences in the platforms.</td></tr>
<tr><td> </td><td> </td></tr>
<tr><td>View of the interior of a tentalow showing camper accommodations.</td><td>Sample view of the post-and-pier foundations of the tentalow platforms. Note that they rest on top of the native sand.</td></tr>
<tr><td colspan="2">Source: All photographs by Planning Solutions, Inc. (April 22, 2014)</td></tr>
</table>

2.2.2 PAVILION

A 24′ x 36′ raised wooden pavilion, with a galvanized metal roof and awnings serves as the activity center of the camp. It is also used to host group events, including regularly scheduled yoga and hula classes. As with all other structures present within the camp, the pavilion foundations are of post-and-pier construction, with concrete footings sitting atop the area's native sand. As can be seen in the adjacent photograph, the awning can be raised or lowered as weather conditions allow. Lighting for nighttime use of the pavilion is provided by solar-powered electric lamps.

2.2.3 YURTS

In addition to the tentalows and pavilion area, Kumu Camp also has two larger "yurt"-style tents which can be used as meeting areas or for larger camping groups which wish to sleep together.[2] These yurts can provide sleeping space for up to 15 youth campers. The photograph at left shows one of the two yurts; as with other structures present at the camp it is constructed on an elevated wooden platform with post-and-pier foundations, with the concrete footings sitting atop the sand. Unlike the tentalows, there are no shower facilities associated with the two yurts.

2.2.4 RESTROOM & ASSOCIATED INDIVIDUAL WASTEWATER TREATMENT FACILITY

Kumu Camp is equipped with separate restroom facilities for men and women, each with hot running water provided by two (2) propane-powered water heaters. The restroom facilities, as with other features of the camp, are built on a raised wooden platform with post foundations sitting on concrete piers. Wastewater from the restrooms is piped to an existing Individual Wastewater System (IWS) which has been recessed in the ground adjacent to the restroom structure. The IWS is capped and has no leach field. It will act as a holding tank and its contents will be periodically pumped out and disposed of off-site by a certified waste disposal company. HCDC submitted an application for an Individual Wastewater Management Permit (IWMP) to the Department of Health, Environmental Management Division, Wastewater Branch (DOH-Wastewater Branch) early in 2014. In a letter dated April 4, 2014 DOH-Wastewater Branch indicated that they were unable to process the application until they received confirmation that Chapter 343 requirements had been met. Once the Chapter 343 process (of which this document is a part) is completed, HCDC will provide DOH-Wastewater Branch with the documentation it needs to issue an IWMP for the IWS. Currently, the restroom facilities and associated IWS at Kumu Camp are not in use, awaiting issuance of an IWMP by DOH-Wastewater Branch and a License from DHHL, which will allow use of the IWS as a

[2] A yurt is a portable, tent dwelling structure originally used by Central Asian nomads. The structure comprises a crown or compression wheel, supported by roof ribs which are bent down at the end where they meet the lattice wall. The top of the wall is prevented from spreading by means of a tension band which opposes the force of the roof ribs. The structure is usually covered by layers of fabric for insulation and weatherproofing.

permanent facility. In the interim, two portable toilets have been stationed on the platform between the men's and women's restrooms and will remain in place until the restroom facilities enter into service. Figure 2.3 below depicts these facilities.

Figure 2.3 Restroom Facilities at Kumu Camp

Men's and women's restroom facilities on raised wooden platform w/ portable toilet stationed between them.

Interior view of women's restroom facility.

One of two propane water heaters providing hot water for the restroom facilities.

IWS, capped and unused pending issuance of IWMP.

Source: All photos by Planning Solutions, Inc. (April 22, 2014)

2.2.5 MOBILE KITCHEN

Food preparation facilities at the camp are provided by a mobile kitchen (see photo at right). Because the mobile kitchen is not used to prepare food intended for sale it is not required to be permitted by the State DOH. The mobile kitchen is capable of serving an approximate maximum of 50 meals at a time and is equipped with a propane stove, food preparation and storage areas, as well as pots, pans and cooking utensils. Originally certified by the Department of Health (DOH) Sanitation Branch pursuant to Hawai‘i Administrative Rules (HAR) 11-12-70, Kumu Camp has subsequently made the determination that it will not be used to sell food, and thus, a permit is not required. The mobile kitchen can return to its commissary area at the nearby Anahola Marketplace whenever necessary for supplies, cleaning, and servicing. When stationed at Kumu Camp, as seen in the above photograph, it is typically parked between two raised wooden platforms which form a dining area for campers. Refuse from the kitchen is stored and deposited in approved waste receptacles off-site.

2.2.6 OTHER FACILITIES

A variety of small portable sheds, portable awnings, and a steel shipping container are scattered about Kumu Camp; most are used for sheltering equipment and material storage. One is used as a reception office and material storage area. All of these are portable and all were placed on the surface of the ground without disturbing the underlying soil.

2.2.7 WATER SERVICE

The Kumu Camp site is served by the County of Kaua‘i, Department of Water municipal potable water system. On June 18, 2012 DHHL’s Land Management Division authorized HCDC to obtain water service from the County and to use one DHHL Facilities Reserve Charge (FRC) credits for installation of a 5/8-inch water meter. Kumu Camp then paid to install the water meter, back-flow prevention devices, piping, and other necessary equipment. This system serves the campsite’s showers and restrooms, and to irrigate the youth planting projects in various areas of the camp.

2.3 CONSTRUCTION ACTIVITIES

Per the terms of the Revocable Permit from DHHL, none of the structures or platforms at Kumu Camp are permanent; all are designed to be removable over a relatively short timeframe. In order to create the camp, HCDC organized volunteer efforts to clear out rubbish and debris which had accumulated over time. This material was removed from the project site and deposited at the Kapa‘a Refuse Transfer Station. Subsequently, volunteers removed some invasive trees and other vegetation on the site to create open areas for campground structures and activities; all green waste from these activities was deposited offsite to an approved County disposal site or used for firewood.

Once areas were cleared, no further grading or alteration of the site’s topography was conducted. All camp structures were brought to the site by volunteers and emplaced on raised wooden platforms which were purpose-built onsite. All construction waste was deposited at locations approved for the purpose by the Kaua‘i County Department of Public Works Solid Waste Division. HCDC has confirmed that it obtained all required permits for construction activities.

2.4 OPERATION AND MAINTENANCE

HCDC's Kumu Camp facility has been in operation continuously since the first campsites were created in 2011. While campers are not always present at the site, volunteer workers are continually conducting grounds-keeping, maintenance, and oversight duties there. Historical usage statistics for the Camp are summarized in Table 2.1.

Table 2.1 Estimated Activity at Kumu Camp, 2012 and 2013

Item	*2012*	*2013*
Days Kumu Camp in Use	50	75
Number of Overnight Visitors	500	750
Source: Compiled by Planning Solutions, Inc. using information from HCDC (2014).		

As can be seen in the above table, the number of overnight visitors has increased over the intervening years, and demand is expected to continue to increase in the future. The upward limit on the total number of campers at Kumu Camp is determined by two factors: (*i*) the number of overnight spaces available and, (*ii*) the number of nights the camp is open for overnight stays. Assuming that Kumu Camp ultimately places the two additional tentalows it already has space for in service, it will be able to accommodate a maximum of 50 campers per night. In the extremely unlikely event that it were filled to capacity every night (i.e., 365 nights per year), this would amount to 18,250 camper-nights annually, and all kitchen, bathroom, solid waste, and other infrastructure at Kumu Camp has been sized to accommodate that maximum number. In reality, usage thus far has been a small fraction of the theoretical capacity, and HCDC anticipates that this is highly likely to continue to be the case for the foreseeable future. Based on experience to date, it anticipates that there will be no more than 20 per night, or 7,300 overnight users per year through at least 2025.

In addition to overnight visitors, Kumu Camp will occasionally host groups that are there just for the day. For these occasional larger (i.e., up to 200-person) groups of day-visitors, Kumu Camp will ensure that the bulk are carried to and from the site in buses rather than smaller vehicles and will rent and place on-site portable toilets sufficient to accommodate the temporary spike in usage. These larger groups are not likely to occur more than ten times a year.

As a campsite undergoing regular use by individuals and groups, maintenance is ongoing. Structures, equipment, and other surfaces are periodically washed using onsite potable water. This cleaning involves washing the exposed surfaces using water containing no cleaners, chemicals, or other additives and is only conducted as often as circumstances require. Other equipment, such as the mobile kitchen, are removed from the site for cleaning elsewhere. Vegetation at the campsite is trimmed and controlled on an ongoing basis. In particular, volunteers at Kumu Camp maintain, and when necessary remove, ironwood trees which have become dangerous as determined by a certified arborist. As noted above, all solid waste is collected in receptacles and removed to the Kapa'a Refuse Transfer Station by Kumu Camp volunteers.

2.5 DECOMMISSIONING

Per the terms of Kumu Camp's Revocable Permit from DHHL, all structures and other installations at the camp are removable and above ground, with the sole exception of the IWS which is semi-submerged in the sand native to the area. With the issuance of a long-term License, Kumu Camp would be allowed to create permanent structures, but would only do so through a DHHL-approved process. While it has no plans to decommission the campsite, in the event that it became necessary or desirable to do so, HCDC would remove and/or demolish all structures and either recycle or dispose of these materials at a county-approved site. HCDC intends that its decommissioning procedures will

return the site to a state similar to, or better than, its original condition and suitable for another appropriate use. HCDC would obtain all required permits or approvals and comply with all applicable regulatory requirements during the decommissioning of the campsite.

2.6 IMPLEMENTATION SCHEDULE

As noted above, HCDC is seeking an after-the-fact approval for existing structures. If its license request is approved, it will continue operating the Camp for the foreseeable future.

2.7 PROJECT COSTS

HCDC has prepared cost estimates for the facilities described above. These estimates are summarized in Table 2.2.

Table 2.2 Estimated Project Costs

Component	*Cost ($)*
Total Cost of Existing Improvements	$175,500
Additional Planned Infrastructure (e.g., tentalows)	$11,200
Total	**$186,000**
Source: Homestead Community Development Corporation (2015)	

2.8 ALTERNATIVES EVALUATED IN THIS EA

Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200 (HAR §11-200), contains the Department of Health’s environmental impact rules. This section: (*i*) defines the assessment process for “applicant actions” such as the one that HCDC is proposing (i.e., granting of a long-term License or Lease); (*ii*) requires that the approving State of Hawai‘i agency—in this case the Department of Hawaiian Home Lands—analyze alternatives, in addition to the proposed project, in its environmental assessment; and (*iii*) establishes the required contents of environmental assessments. Among the requirements listed is the identification and summary of the project’s likely impacts and alternatives considered.

In accordance with these state requirements, and as part of its continuing review of its operational objectives and needs, HCDC considered a number of alternatives before deciding to request long-term authorization to continue use of Kumu Camp. The process consisted of formally defining the objectives for its campsite (see Table 1.1), identifying other ways in which those objectives might be achieved (i.e., alternatives, including those specifically mandated by HRS Chapter 343 and HAR §11-200), and evaluating each alternative with respect to the project’s objectives. Possibilities considered included the “No Action” alternative, alternate locations, reduced scale action, and delayed action. HCDC concluded that only two of these alternatives would meet its objectives and, therefore, merit further consideration in the impact analysis portion of this EA. They are “No Action” and the proposed action of continued operation of Kumu Camp as currently designed and located. The following section briefly describes the criteria that HCDC used to decide whether to include them in the impact analysis section presented in Chapter 3.

2.8.1 ALTERNATIVES ADDRESSED IN DETAIL IN THIS REPORT

2.8.1.1 Proposed Action – Continued Operation of Kumu Camp

This alternative consists of the proposed action as described in Section 2.1 above. HCDC believes that continued operation of Kumu Camp in its existing location and configuration would best achieve the project objectives outlined in Table 1.1 and thus, represents the preferred course of action. The facilities are already in place, and with the exception of the two additional tentalows that are now being considered for the northern side of the parcel, no substantial changes are envisioned.

2.8.1.2 No Action Alternative

The "No Action" Alternative consists of DHHL not granting a License or long-term Lease that would allow HCDC to continue its operations at Kumu Camp. Because, as discussed in Section 2.8.2, HCDC has no viable locations at which it could operate the camp, this alternative would not meet the project objectives as defined in Table 1.1. Hence "No Action" is not a viable alternative, and would not allow HCDC to provide a safe camping experience to DHHL beneficiaries, island residents, and visitors. It is included here solely to meet the requirements of HRS Chapter 343 and HAR §11-200.

2.8.2 ALTERNATIVES CONSIDERED AND ELIMINATED

2.8.2.1 Alternative Location

The current location of Kumu Camp possesses several characteristics that make it particularly advantageous to HCDC and the people it serves from an economic, environmental, and operational viewpoint. These include:

- Its location on DHHL land has enabled HCDC, per the terms of the Hawaiian Homes Commission Act, to establish and operate Kumu Camp as a nonprofit endeavor to provide healthy, family-based cultural and educational activities, and to disrupt illegal activity in the immediate area.
- Kumu Camp's close proximity to the Anahola community, including the Anahola Hawaiian Homestead and its educational partner Kanuikapono Charter School, and close to existing transportation lines provides excellent accessibility for the area's families.
- The current Kumu Camp site is located along the scenic shoreline at Anahola Bay, providing a beautiful beach environment for camping. Alternative sites would be unlikely to meet or exceed the current location of Kumu Camp in terms of recreational and aesthetic value.
- The existing infrastructure, including all of the structures and amenities discussed in Section 2.2, allows HCDC to avoid the need for substantial new infrastructure which would be required to establish the camp at some alternative location.

Kumu Camp's present location is ideal from a functional and community service viewpoint, and its operation causes no known significant adverse environmental effects that might be avoided through relocation to an alternate site. Because of this, HCDC did not conduct an in-depth search for alternative locations. If its present request is denied, HCDC will consider whether it is feasible to base the activities it now conducts at Kumu Camp at an alternate, less desirable location.

2.8.2.2 Altered-Scale Action

The proposed project consists of the continued operation of Kumu Camp at its present location and configuration. HCDC has considered the possibility of operating the camp with fewer tentalows and other amenities, but ultimately made the determination that this would reduce its ability to achieve the objectives listed in Table 1.1. A smaller campsite, with fewer tentalows and other amenities would place additional limits on the size and number of groups able to enjoy Kumu Camp and increase the per-person cost of operating there. These considerations have led HCDC to conclude that it is not practicable to pursue a reduced-scale alternative.

HCDC rejected the possibility of seeking permission to place additional tentalows and/or other structures on the remaining 3-acre portion of the DHHL parcel that it is seeking permission to use, which would be kept as passive open space under its proposed plan. It concluded that such an increase in the scale of its operations was not needed to achieve its objectives and would, in fact, make it more challenging to maintain the low-impact profile that it is able to achieve with its existing facilities.

2.8.2.3 Delayed Action

Kumu Camp has been in operation since 2012; this EA has been prepared after the fact at the request of the Department of Hawaiian Home Lands. Thus, delaying the proposed action is not a viable alternative.

3. EXISTING ENVIRONMENT & PROBABLE IMPACTS

This chapter describes the potential environmental effects of continued operation of Kumu Camp at its present location and existing configuration as described in Chapter 2. The term "campsite" refers to the entire parcel where Kumu Camp is located (TMK No. [4]-4-9-007:001), and includes those areas which are not presently occupied by camp structures or amenities. This chapter is organized by resource-area (e.g., air quality, noise, geology and soils, water quality, etc.). The discussion under each topic begins with an overview of existing conditions. The scale of the discussion is dependent on resource; where appropriate, the large environmental context (e.g., Northwest Kaua'i) is discussed, and in other cases the focus is limited to the project parcel.

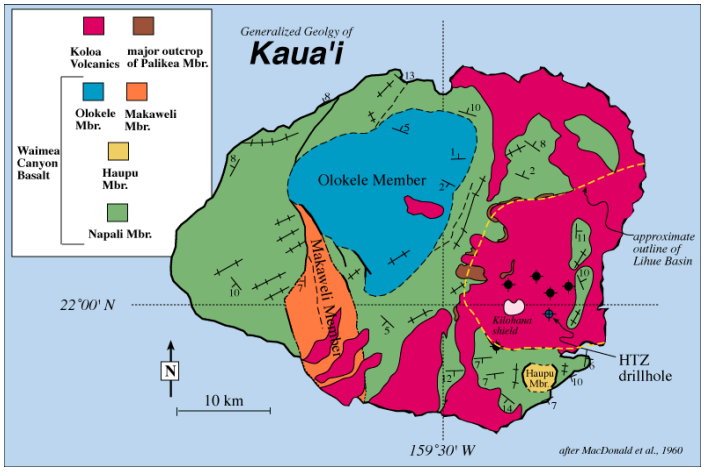
This report is an after-the-fact environmental assessment for a campsite which has been in continuous operation since 2012. No new construction is required. Consequently, the discussion of impacts focuses on the effects that continued operation of Kumu Camp is likely to have on the physical and socio-economic environment. Where appropriate, the discussion includes the measures that HCDC is, or will, take to minimize or mitigate potential adverse effects.

3.1 TOPOGRAPHY, GEOLOGY, AND SOILS

3.1.1 EXISTING CONDITIONS: TOPOGRAPHY, GEOLOGY, AND SOILS

Kaua'i has a land area of slightly more than 550 square miles. Roughly circular in shape, its most striking physiographic features are a high central plateau topping out at over 5,000 feet at the summits of Wai'ale'ale (5,148 feet) and Kawaikini (5,243 feet), steep cliffs and deeply incised valleys along the northern Nāpali coast; the 3,600 foot deep Waimea Canyon; the broad Līhu'e Basin on the southeastern quadrant of the island; and extensive coastal plains. It consists of a single great shield volcano, which is deeply eroded and partly veneered with much later volcanics. Kaua'i, like the other Hawaiian Islands, was formed by magma that erupted from a hotspot on the earth's crust. Over time, the eruptions formed a typical Hawaiian shield volcano

Figure 3.1 Generalized Geology of Kaua'i Island



The main mass of Kaua'i is believed to be about 3 to 5 million years old, although there were a few small eruptions on the island as late as about 400,000 years ago. Figure 3.1 illustrates the major rock units that are present. The oldest is the Makaweli member of the Waimea Series lavas and is shown in green (Clague & Dalrymple, 1988). The Olokele Member of the Waimea Series (shown in blue) occupies a large area in the center of the island. The Waimea Canyon scarp probably represents a major collapse at the beginning of the post-shield (or declining) stage. Post-shield-building volcanic soils of the Olokele Member of the Waimea Canyon Basalt may have in-filled a major caldera-like collapse structure to form the present day broad summit area of Mt. Wai'ale'ale and the Alaka'i Swamp. The Makaweli series volcanics fill a graben-like feature in the southern part of the island. The major east-west trending Haupu Mountain ridge, between Po'ipū and Līhu'e, is composed of the Haupu Member of the Waimea Canyon Basalt. This is thought to be a structural remnant of the original shield-building and/or post-shield volcanic stage of the island.

After a long period (probably about 0.5 to 1.5 million years) of no eruptions and great erosion of the Waimea Series lavas, eruptions began again. Lavas from this second period of great eruptive activity formed the Kōloa series volcanics. The surface expression of these lavas, which underlie the Anahola site, are depicted in red on the map. This post-erosional stage of volcanism on Kaua‘i is particularly well-developed, especially on the eastern side of the island. Very late stage explosive volcanic vents and cones of the Kōloa Volcanics such as Kilohana Crater, Kīlauea Crater, and 35-40 other smaller but similar features are present throughout the eastern portion of the island. The very steep eastern facing scarp of Wai‘ale‘ale was formed in part by the collapse of the Līhu‘e Basin.

Kumu Camp is located adjacent to the certified shoreline at Anahola Bay. The land on which the campsite has been created ranges between approximately 5 and 15 feet above mean sea level (msl), with elevations generally lower near the shoreline and increasing as one moves further inland. Because the campsite is constructed on sand dunes, there is considerable variation across the campsite; this topographic relief has not been altered by installation of the camp structures and amenities.

No exceptional slopes are present on the campsite. According to the USDA Web Soil Survey (2014, available on the web at: www.websoilsurvey.nrcs.usda.gov) and the USDA Soil Survey (1972), all of the soil present on the site is classified as Mokulē‘ia Fine Sandy Loam (MR) except for those portions directly adjacent to the shoreline, which are classified as Beach Sand (BS) (see Appendix A for USDA Web Soil Survey Map), both soil-types are defined as not being highly erodible land and are not considered appropriate for commercial agriculture (Foote et al., 1972).

The Land Study Bureau's Detailed Land Classification rates the agricultural suitability of soils. A five (5) class productivity rating is applied using the letters “A”, “B”, “C”, “D” and “E”, with “A” representing lands of the highest productivity, and “E” the lowest or very poorly suited for agricultural production. The Land Study Bureau has not rated the project site, but areas adjacent to it have been rated “E”, not suitable for agricultural production. Because it is with the State Urban land use district, the State Agricultural Lands of Importance to the State of Hawaii (ALISH) system designates the property as “Unclassified”.

3.1.2 PROBABLE IMPACTS ON TOPOGRAPHY, GEOLOGY, AND SOILS

Per the terms of HCDC’s Revocable Permit from DHHL, HCDC has agreed to obtain DHHL’s approval prior to any alternation of the topography at the campsite.[3] No grading or other land disturbance is required for continued operation of Kumu Camp, and the only previous excavation consisted of the removal of a few cubic meters of sand to recess the IWS (see Figure 2.3). As noted above, the soil in the area is not appropriate for agricultural use, and no commercially useful minerals or other deposits are present. The absence of exposure to significant geological hazards is discussed in Section 3.9.

Ongoing operation and maintenance of Kumu Camp and its associated facilities and amenities (as described in Chapter 2) does not involve activities that have the potential to significantly affect topography, soils, or geologic resources. Maintenance of existing ground cover and the use of appropriate vegetation management procedures prevent and/or limit soil loss over the long term. This, in turn, maintains the condition of the soils on the campsite so that they can be, if deemed necessary, be put to some other appropriate use when/if the campsite is decommissioned.

Decommissioning. While Kumu Camp is expected to be operated as a community-based recreational resource for DHHL beneficiaries and the general public for the indefinite future, HCDC has been

[3] Grubbing to remove surface vegetation is allowed, and HCDC has done this prior to placement of the existing platforms.

careful to create only temporary, above-ground structures and amenities which can be disassembled and removed from the site without any substantial effect on topography or soils, allowing the area to be returned to much the same condition it was in prior to development as a campsite. The tentalows, pavilion, restrooms, and their respective platforms could be dismantled and removed by hand with minimal soil disturbance. Removing the partially-buried IWS would involve slightly more disturbance than the aforementioned facilities but can be accomplished using either hand-tools or a small backhoe and immediate backfilling would prevent unnecessary erosion or soil loss.

3.2 HYDROLOGY

3.2.1 EXISTING CONDITIONS: HYDROLOGY

This section describes the existing movement, distribution, and quality of surface and groundwater on Kauaʻi and in and around the project site. It begins by broadly describing the existing conditions on the island and then narrowing the focus to the project site and the project's likely impacts to water resources. The subject is broken into two related parts. The first addresses surface water resources, such as ponds, rivers, streams, and their floodplains; the second describes the origin and movement of groundwater through the permeable lavas that underlie the project site.

3.2.1.1 Existing Conditions: Surface Water

Islandwide Overview. Kauaʻi's surface water hydrology differs somewhat from the other main Hawaiian Islands. Most of the streams radiate out from the Waiʻaleʻale-Kawaikini massif in all directions, cutting through intrusive dikes that retard the groundwater movement toward the ocean from high rainfall areas in the interior. In the process they tend to receive large influxes of groundwater throughout their length. Thus, unlike most Hawaiian streams, many of those on Kauaʻi actually gain flow as they descend (i.e., they are gaining streams). As a result of this, in some parts of Kauaʻi more than 65 percent of mean annual rainfall becomes stream runoff. This proportion is far higher than the 30 percent of mean annual rainfall that the U.S. Geological Survey estimates runs off as streamflow throughout the State of Hawaiʻi.

Even on Kauaʻi, the percentage of rainfall that directly runs off varies spatially among basins and temporally within a basin. Within a basin, the percentage of rainfall that runs off varies temporally among individual storms, and may range from less than 5 to greater than 90 percent. The percentage of rainfall that runs off is generally highest in areas which have relatively high average rainfall, experience high-intensity rainfall, have low-permeability soils, have steep slopes, possess a water table at or near the land surface, or where the antecedent soil moisture is high.

There are also substantial differences between different drainages with respect to the seasonality of streamflow, base flow, total discharge, and other factors. At 19.5 miles, the Waimea River-Poʻomau Stream is the longest stream on Kauaʻi. Other long rivers on the island include the Makaweli River (15.1 miles), the Wainiha River (13.8 miles), the Hanapepe River (13.3 miles), and the Wailua River (11.8 miles). At 140 million gallons per day (MGD), the Hanalei River has the highest average discharge. Occupying 424 acres, the Waita Reservoir, which is located on the southern side of the island near Kōloa, is the largest surface water body.

Anahola Watershed. The project site is located within the 10.9 square-mile Anahola watershed. There is only one perennial waterway in the project vicinity, Anahola Stream, which opens out onto the ocean approximately 450 feet north of the campsite parcel. Other streams within the watershed, further from the project site, include Kaʻalula, Kahoʻopulu, and Keaʻoʻopu Streams. According to the *Atlas of Hawaiian Watersheds & Their Aquatic Resources* (2008), only 2.7 percent of the watershed is in the State Urban Land Use District. The remainder is in the Conservation District (58.3%) or Agricultural District (38%).

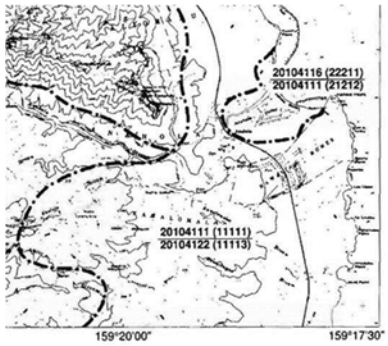
Observations during site visits and a review of data from the State of Hawai'i GIS system, records from the State of Hawai'i Commission on Water Resource Management, the U.S. Geological Survey 1:24,000-scale topographic map and the U.S. Fish and Wildlife Service (http://www.fws.gov/wetlands/data/mapper.html), indicate that there are no lakes or wetlands within the Kumu Camp parcel. The site has no known history of agriculture and there are no remnant irrigation features on it.

According to the *Atlas of Hawaiian Watersheds and Their Aquatic Resources* (2008), the affected reach of Anahola Stream (the only waterway near Kumu Camp listed in the Atlas) does not possess significant native insect diversity or other fauna. There are some native species of native macrofauna present, but there are no known federally-listed threatened, endangered, or candidate species in Anahola Stream.

Based on the latest available (2007) Flood Insurance Rate Map (FIRM) for the area, all of the Kumu Camp parcel lies in Flood Zone X, with the exception of southernmost portion of the parcel, where no camp facilities or activities are located, which is in the Flood Zone AE. Zone X is defined as the flood insurance rate zone that corresponds to: (*i*) areas outside the 500-year floodplain; (*ii*) areas within the 500-year floodplain where the water depth resulting from the 100-year flood is less than 1 foot; (*iii*) areas where the contributing drainage area is less than 1 square mile; and (*iv*) areas protected from the 100-year flood by levees. Because of the low probability of flooding in Zone X, no base flood elevations or depths have been defined within the zone. Zone AE is defined as the flood insurance rate zone that corresponds to: (*i*) areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods; (*ii*) Base Flood Elevations (BFEs) are shown.

3.2.1.2 Existing Conditions: Groundwater

Figure 3.2 Aquifer Designation



Source: Mink and Lau (September 1992).

The Makaleha Mountains inland of the project site are exposures of the Nāpali formation. A formation is a grouping of basaltic lavas produced by the shield volcano that forms the island. A large remnant of the Nāpali rises above the Ko'olau platform near Papa'a, which is a short distance north of Anahola. Where the mountains plunge beneath the lavas that make up the Koloa platform (on which the site is situated) an unconformity of old alluvium occurs. The Koloa formation carries poorly permeable perched aquifers while the Nāpali contains high level dike aquifers. The State of Hawai'i Commission on Water Resource Management (CWRM) has established ground-water hydrologic units to provide a consistent basis for managing ground water resources. The units are primarily determined by subsurface conditions, with each island divided into regions that reflect broad hydro-geological similarities while maintaining hydrographic, topographic, and historical boundaries where possible. As shown in Figure 3.2, the project site overlies the Anahola Aquifer (20104) of the Līhu'e Hydrologic Unit.[4]

Mink and Lau (September 1992) classified the aquifer according to its development stage, utility, salinity, uniqueness, and vulnerability to contamination using a system based on the U.S. Environmental Protection Agency (EPA) groundwater classification system (see Table 3.1). Because the upper and lower formations beneath Anahola differ from one another, there are two numbers applicable for Anahola. The CWRM has determined that the sustainable yield of the aquifer is

[4] The southern boundary of the aquifer is the Wailua drainage divide; the northern boundary is the Hanalei-Kawaihau District line and reaches the sea just north of Moloa'a Bay; and the interior boundary follows the crest of the Makaleha Mountains. Total area is 45 square miles.

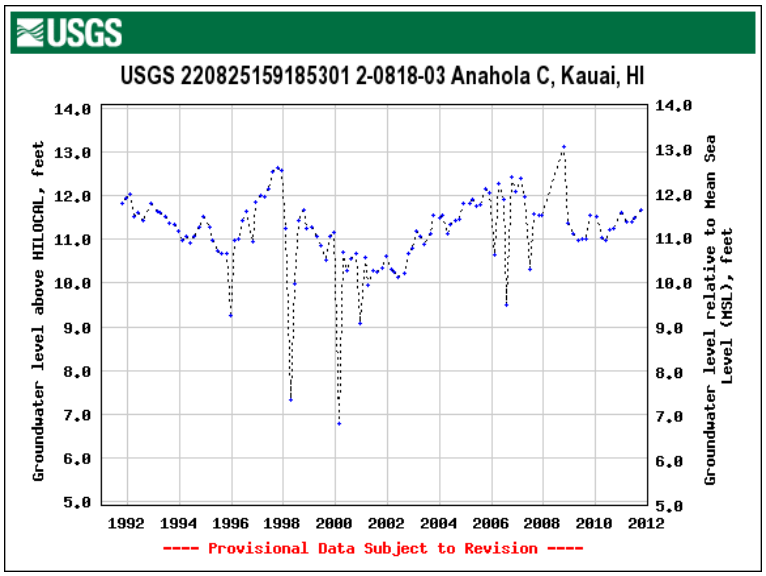
approximately 17 MGD. In cases where CWRM has determined that special limits are required in order to properly manage the resource, it has established Water Management Areas. To date, CWRM has not established any groundwater management areas on Kaua'i.

Table 3.1 Anahola Aquifer Classification

Factor	*Upper Formation (20104-111)*	*Lower Formation (20104-122)*
Development Stage	Currently Used	Currently Used
Utility	Drinking Water	Drinking Water
Salinity (mg/l) Cl^-	Fresh (<250)	Fresh (<250)
Uniqueness	Irreplaceable	Irreplaceable
Vulnerability to Contamination	High	High
Source: Mink and Lau (September 1992)		

The Kaua'i County Department of Water Supply owns and operates three wells (Anahola Wells A, B, and C) that are located a short distance north of the project site. The U.S. Geological Survey's monitoring data from the Anahola C well shows that the groundwater levels fluctuate over time, but do not appear to have a significant upward or downward trend (see Figure 3.3). As indicated in their 2010 annual report there was no contamination to any of the Anahola wells. The State of Hawai'i Department of Health maps indicate that there is no contamination in the Anahola area.[5]

Figure 3.3 Water Levels in the Anahola C Well: 1992-2011



Note: The well is located at 22°08'14.5" north/ 159°18'43.7" west (NAD83).
Source: http://nwis.waterdata.usgs.gov/usa/nwis/gwlevels/?site_no=220825159185301

[5] See http://hawaii.gov/health/about/admin/health/environmental/water/sdwb/conmaps/pdf/conmaps05.pdf.

3.2.2 PROBABLE IMPACTS: HYDROLOGY

3.2.2.1 Effects on Surface Water

Continued operation of Kumu Camp does not involve any activities that would alter existing stream channels, wetlands, or other surface water bodies. Kumu Camp does not involve any installation or construction within the 100-year flood plain (Flood Zone A). Continued operation of the campsite does not require any "critical action" in the 500-year floodplain, and is consistent with the applicable regulations and guidance pertaining to floodplain management.[6] Consequently, it is consistent with applicable regulations and guidance, including the County of Kaua'i *Storm Water Runoff System Manual* (2001) related to floodplain management.

3.2.2.2 Effects on Groundwater

Continued operation of Kumu Camp will not require an increase in withdrawals from the aquifer above the minimal level described in Section 3.11.1.2. All of the water which is used at the campsite is obtained from the Kaua'i County Department of Water Anahola System. As discussed in Section 3.11.1.1, the DWS Anahola Water System is adequately supplied for this use.

3.2.2.3 Sanitary Wastewater Disposal

As noted in Section 2.2.4, currently the only restrooms available at the camp are supplied by portable toilets which are removed from the site for cleaning and servicing. Once the Department of Health issues a permit for the Individual Wastewater Treatment System which has been installed but held out of service pending completion of the Chapter 343 process, all sanitary wastewater generated at the campsite will be collected and piped into it. The IWS will in turn be periodically pumped out by an approved service provider, in accordance with the requirements of the State of Hawai'i, Department of Health Administrative Rules §11-62 governing wastewater systems.

3.3 CLIMATE/MICRO-CLIMATE

3.3.1 EXISTING CONDITIONS: CLIMATE/MICRO-CLIMATE

Climate encompasses variable factors including temperature, humidity, wind, precipitation, and other meteorological measurements in a given region over time. Climate can be contrasted to weather, which is the present condition of these elements and their variations over shorter periods. A microclimate is a local atmospheric zone where the climate is distinct from the surrounding climate.

The Hawaiian Island chain is situated south of the large Eastern Pacific semi-permanent high-pressure cell, the dominant feature affecting air circulation in the region. This high-pressure cell produces very persistent winds over the islands called the northeast trade winds. During the winter months, cold fronts sweep across the north central Pacific Ocean, bringing rain to the Hawaiian Islands and intermittently modifying the trade wind regime. Thunderstorms, which are rare but most frequent in the mountains, also contribute to annual precipitation. There is great climatic variation across the island.

Selected temperature and rainfall averages for different towns (arranged according to elevation above sea level) are shown in Table 3.2. Average monthly temperature as measured at the station in Anahola is shown in Table 3.3.

[6] 24 CFR § 55.2(b)(i) Critical action means any activity for which even a slight chance of flooding would be too great, because such flooding might result in loss of life, injury to persons, or damage to property.

Table 3.2 Temperature and Average Annual Precipitation on Kaua'i, by Elevation

Station	*Ground Elevation (ft. +msl)*	*Average Temperature (°F)*		*Average Annual Precipitation (inches)*
		Coolest Month	*Warmest Month*	
Kekaha	10	64.8	84.8	21.78
Po'ipū	52	69.3	82.6	36.08
Līhu'e Airport	100	69.8	81.1	40.82
Kīlauea Town	390	67.1	79.5	67.86
Kōke'e	3,600	51.1	67.3	66.21
Source: Dept. of Business, Economic Development, and Tourism *2012 State of Hawaii Data Book*				

Figure 3.4 Average Temperature at Anahola, by Month

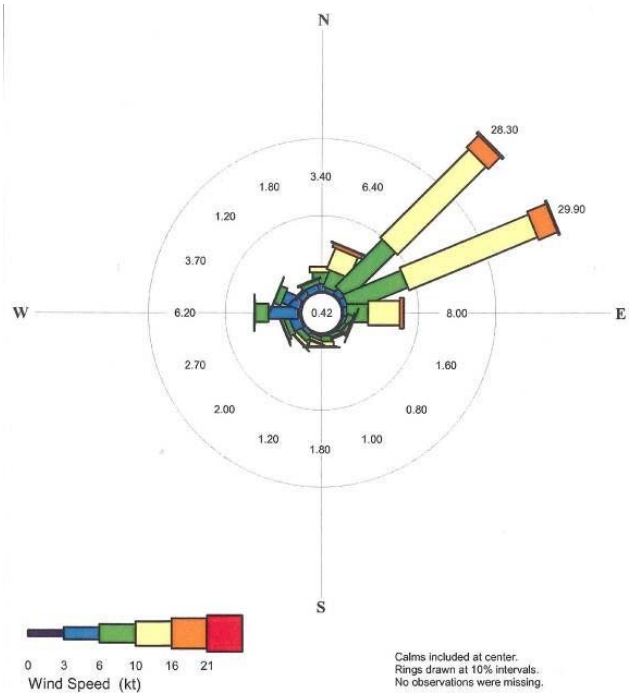
Source: http://www.weather.com/weather/ wxclimatology/monthly/graph/USHI0002

3.3.1.1 Wind

The northeast trade winds are the most important determinant of Kaua'i's climate. The trade wind zone moves north and south seasonally with the sun, so that it reaches its northernmost position in the summer. Consequently, the trade winds are strongest and most persistent from May through September, when the trades are prevalent 80 to 95 percent of the time. From October through April, Hawai'i is located to the north of the heart of the trade winds, and their frequency decreases to about 50 percent (as a monthly average). Kaua'i's topography interacts with the winds to produce large variations in conditions from one locality to another. Air blowing inland as part of the trade wind flow is redirected horizontally and vertically by the mountains and valleys. This complex three-dimensional flow of air results in marked wind speed and directional differences from place to place in wind speed, cloudiness, and rainfall.

Figure 3.5 shows a wind rose diagram based on wind data recorded at Līhu'e Airport between 1950 and 1995. It indicates that the winds there come from the east through northeast approximately two-thirds of the time. No site-specific wind information is available for the project site. However, as its exposure is similar to that of the airport, the wind rose is believed to be reasonably representative of conditions there.

Figure 3.5 Wind Rose: Līhu'e Airport, 1950-1995



Source: R.M. Towill & Associates

As part of work aimed at updating building codes throughout the State of Hawai'i, Chock, et al. have prepared "Micro-zoned Design Maps of Topographic Wind Effects and Exposure in the State of Hawaii". The islandwide wind-exposure map that they prepared for use in amending the building code show that there are no special topographic or other features that would cause winds on the project site to be particularly severe (see Figure 3.6). Chock, et al. recommend using the standard wind design speed (105 miles per hour) in designing structures for the area on which the facilities are proposed.

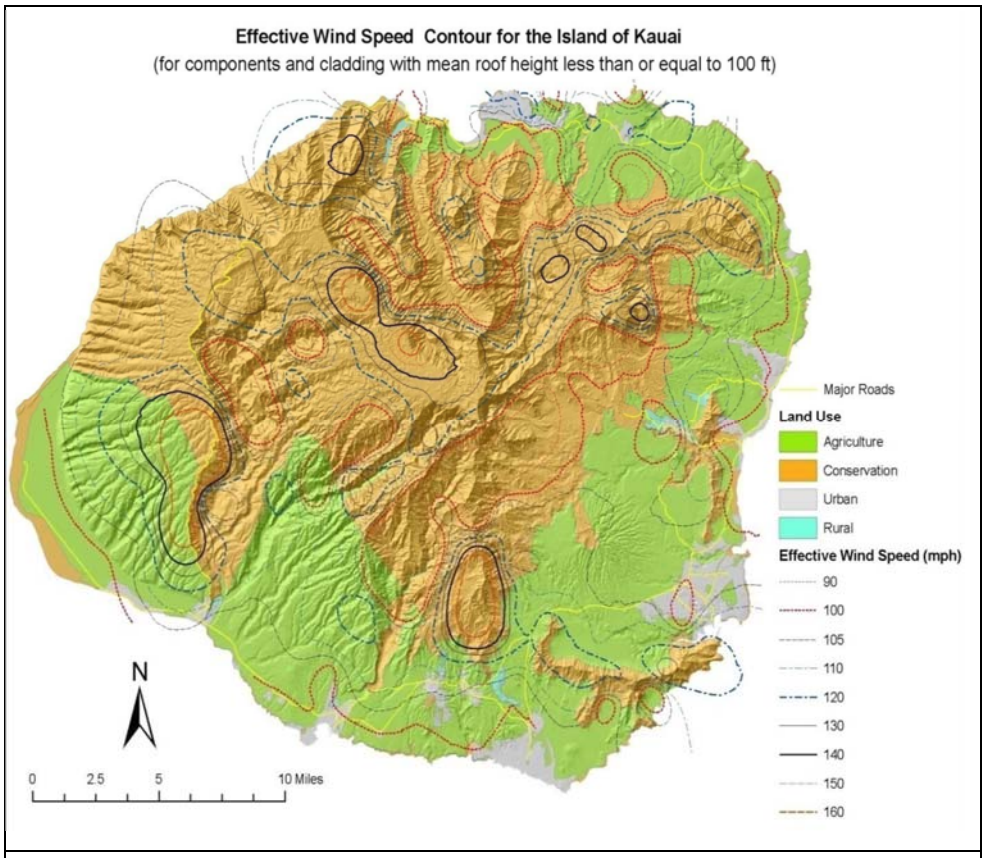
3.3.1.2 Rainfall

The nearest rain gauging station to the proposed project site is at Anahola (Station 1114), just a few hundred feet to the north of the project site. The average annual precipitation at this location between 1930 and 1995 was just under 50 inches. With average monthly rainfall of 5.9 inches and 6.0 inches, respectively, December and January were the wettest months during that period. With 1.4 inches, June was, on average, the driest month. Average annual rainfall data is summarized in Table 3.3 below; effective wind speeds are shown in Figure 3.6.

Table 3.3 Average Monthly Rainfall: Anahola Station 1114, 1930-1995.

Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Year*
6.0	4.8	5.7	4.6	3.4	1.7	2.4	2.5	2.1	4.5	5.2	5.9	49.1
Source: http://www.worldclimate.com/cgi-bin/data.pl?ref=N22W159+2200+510145C; ANAHOLA 1114, KAUAI data derived from NCDC Cooperative Stations. 50 complete years between 1930 and 1995.												

Figure 3.6 Effective Wind Speed: Island of Kaua'i.



Source: martinchock.com/_library/documents/papers/hawaiistatebuildingcodewindprovisions.pdf

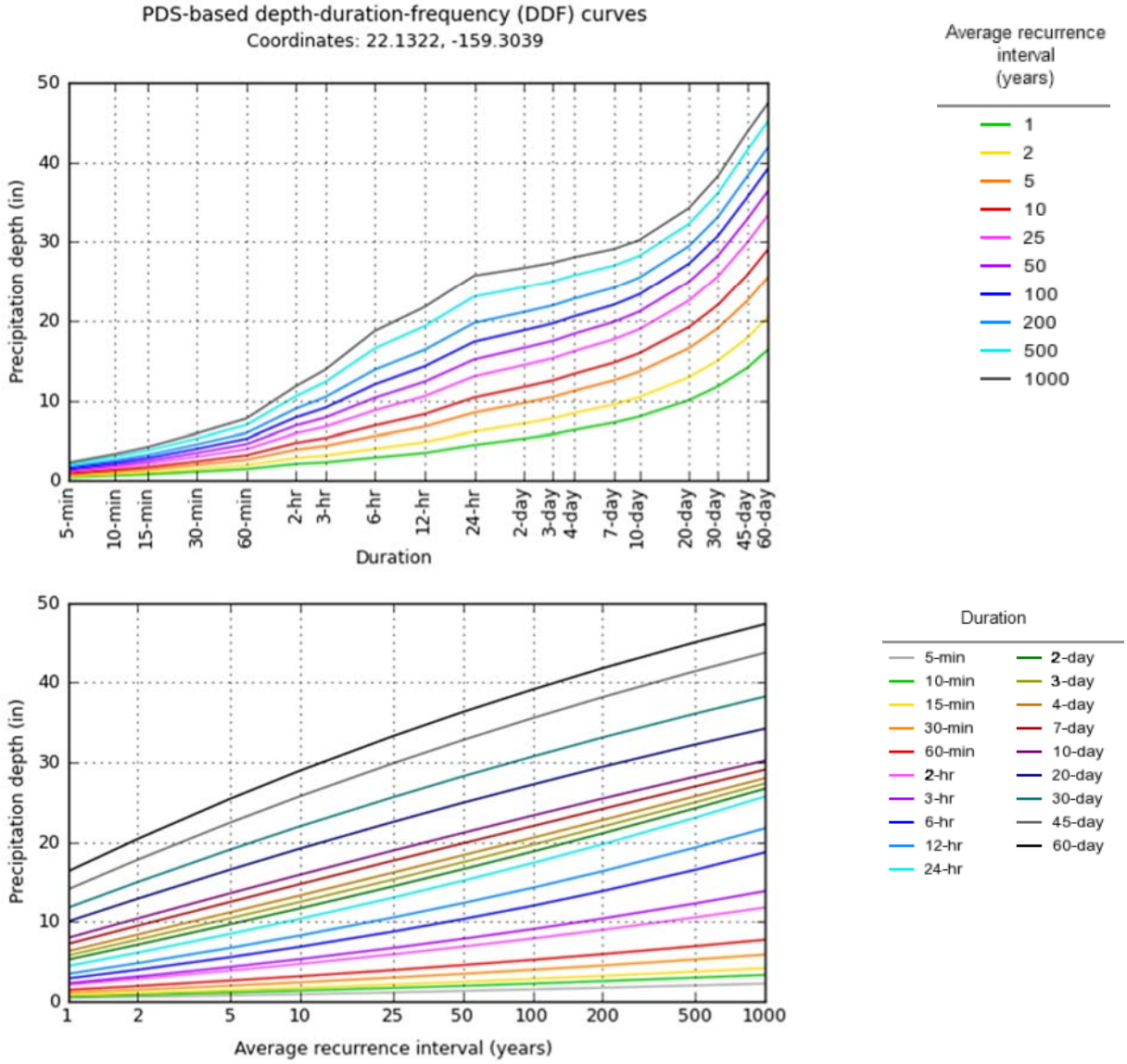
While the average rainfall amounts at Anahola are modest, storms can produce extremely heavy rainfall events. As can be seen in the plots reproduced in Figure 3.7, the 24-hour rainfall with a recurrence interval of 25 years (the lifetime of the project) is about 13 inches. The 100-year/24-hour rainfall event is approximately 18 inches.

3.3.1.3 Temperature

Temperatures in the project site are moderate. Data from the Līhu'e Airport, which is at a slightly lower elevation but otherwise similar to the Anahola area, is reproduced in Table 3.4. The average temperature there during the coolest month of the year (February) is 71.8°F; during the warmest month of the year (August) it is 79.6°F. The average monthly minimum temperature is lowest in January through March, when it is between 69.6 and 69.9°F. The average monthly maximum temperature during the warmest month (August) is 80.9°F. The highest temperature ever recorded at the station is 91°F; the lowest temperature is 46°F, which occurred on January 14, 1930.[7]

[7] Interestingly, that extreme high temperature has been recorded six times over the past 90 years, but the most recent occurrence was in 1936 (9/4/1936; 10/4/1930; 10/21/1926; 10/26/1925; 7/4/1918; and 7/2/1918.

Figure 3.7 Rainfall Depth-Duration Frequency Curves, Anahola, Kaua'i.



Source: *NOAA Atlas 14*, Volume 4, Version 3, Location name: Anahola, Station 1114, Hawai'i.

Table 3.4 Average Temperatures, Līhu'e Airport: 2000-2013.

Temp. (deg F.)	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Year*
Average Temperature	72.2	71.8	72.6	74.1	76.3	78.2	79.1	79.6	79.5	78.3	75.6	73.6	75.7
Avg. Min. Temp.	69.9	69.7	69.6	70.1	74.3	77.0	77.0	78.6	78.5	77.3	74.1	71.2	72.1
Avg. Max. Temp.	76.1	73.4	75.3	76.2	78.0	79.4	80.1	80.9	80.7	79.2	77.4	74.8	76.8
Source: http://www.nws.noaa.gov/climate/xmacis.php?wfo=hnl													

3.3.2 EFFECTS ON CLIMATE/MICRO-CLIMATE

Existing and ongoing operation of Kumu Camp as a community-based, recreational campsite will not involve any activities that produce substantial heat or moisture emissions which would have the potential to affect the regional climate, or the microclimate in the immediate area. Neither are there any tall structures or graded areas which would alter wind flow within the campsite parcel or surrounding areas to any measurable extent. Consequently, Kumu Camp does not have the potential to measurably affect the microclimate of the area.

3.4 AIR QUALITY

3.4.1 EXISTING CONDITIONS: AIR QUALITY

The EPA has set national ambient air quality standards (NAAQS) for ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, 2.5-micron and 10-micron particulate matter ($PM_{2.5}$ and PM_{10}), and airborne lead. These ambient air quality standards establish the maximum concentrations of pollution considered acceptable, with an adequate margin of safety, to protect the public health and welfare. The State of Hawai'i Department of Health (DOH) has also set ambient air quality standards for some pollutants; in some cases, these are more stringent than the Federal standards. Hawai'i Administrative Rules (HAR), Title 11, Chapter 59 *Ambient Air Quality Standards* and Chapter 60 *Air Pollution Control* establish these standards. Table 3.5 presents the state and national ambient air quality standards for selected pollutants.

Table 3.5 State and National Ambient Air Quality Standards

Pollutant	*Unit*	*Averaging Period*	*NAAQS*	*SAAQS*
CO	ppm	1-hour	35[b]	9
		8-hour	9[b]	4.4
Pb	$\mu g/m^3$	Quarterly	1.5[h]	1.5
NO_2	ppb	1-hour	100	None
	ppm	Annual	0.053[c]	0.04
H_2S	ppm	1-hour	None	0.025
PM_{10}	$\mu g/m^3$	24-hour	150[d]	150
		Annual	None [e]	50
$PM_{2.5}$	$\mu g/m^3$	24-hour block avg.	35	None
		Annual	15[f]	None
O_3	ppm	8-hour rolling avg.	0.075[g]	0.08
SO_2	ppm	3-hour	0.5[a]	0.5
		24-hour	0.14[b]	0.14
		Annual	0.03[c]	0.03

Notes:
a. Federal Secondary Standard.
b. Not to be exceeded more than once per year.
c. Average of all 1-hour values in the year may not exceed the level of the standard.
d. May not be exceeded more than one day per year.
e. EPA revoked the annual PM_{10} standard effective December 17, 2006 due to a lack of evidence linking health problems to long-term exposure. The State still has an annual standard.
f. The 3-year average of 24-hour values must not exceed the level of the standard.
g. The 3-year average of the fourth highest daily maximum value must not exceed the level of the standard.
h. Average of all 24-hour values in any calendar quarter may not exceed the level of the standard.

Source: DOH (2011)

Both State and national air quality standards consist of two parts: (*i*) an allowable concentration of a pollutant and (*ii*) an averaging time over which the concentration is measured. The allowable concentrations are based on the results of studies of the effects of the pollutants on human health, crops, and vegetation, and, in some cases, damage to paint and other materials. The averaging times are based on whether the damage caused by the pollutant is more likely to occur during exposure to a high concentration for a short time (one hour, for instance), or to a lower average concentration over a longer period (e.g., 8 hours, 24 hours, or a year). For some pollutants there is more than one air quality standard, reflecting both its short-term and long-term effects.

The State DOH maintains monitoring stations in those parts of the state where it believes that there is a potential for air quality standards to be exceeded. As there are no significant human fixed sources of air pollutants on Kaua‘i and it is far from the Big Island volcanoes whose eruptions have produced natural emissions that have affected air quality on other islands during recent years, the State DOH did not operate any air quality monitoring stations on Kaua‘i until recently. In 2010, it established an air monitoring station at Niumalu, Kaua‘i to monitor ambient cruise ship emissions; no exceedances of ambient air quality standards were recorded in 2013, the most recent year for which complete records are available (http://health.hawaii.gov/cab/files/2014/01/exceedances_2013.pdf). Because of its location far from significant pollutant sources, existing ambient air quality at Anahola is almost certainly well above the standards.

3.4.2 PROBABLE AIR QUALITY IMPACTS

Kumu Camp has been in continuous operation since 2012, and no further construction activities are required for it to continue to function as a community-based, recreational resource. Hence, the proposed action does not have the potential to cause any construction-related effects on air quality.

No significant on-site air pollutant sources, such as generators or other machinery, are used in day-to-day operations of the facility. Neither does the ongoing operation of the camp involve substantial numbers of vehicles traveling to and from it. In the absence of significant air pollution sources, continued operation of Kumu Camp does not have the potential to have a significant adverse effect on local or regional air quality.

3.5 BIOTA

3.5.1 EXISTING CONDITIONS

Flora. The campsite is situated within a partially-cleared ironwood (*Casuarina equisetifolia*) grove. There is little ground cover in the camp proper (see Figure 1.3). There are several planted ornamental plants including: red ginger (*Alpinia purpurata*), white ginger (*Hedychium coronarium*), and coconut (*Cocos nucifera*) within Kumu Camp. The facilities are separated from Anahola Beach by a strand of beach naupaka-kahakai (*Scaevola sericea*), interspersed with beach heliotrope (*Tournefortia argenta*) and a few *hala* (screw pines or *Oandanus tectorius*).

Terrestrial Fauna. During the site visit, tracks of cats (*Felis catus*) and dogs (*Canis familiaris*) were observed.[8] Although no rodents were recorded, it is likely that some or all of the four established alien muridae found on Kaua‘i—roof rat (*Rattus rattus*), brown rat (*Rattus norvegicus*), black rats (*Rattus exulans hawaiiensis*), and European house mice (*Mus musculus domesticus*)—use various resources found within the general project area on a season basis. Because the camp is clean and

[8] The biological survey was conducted on July 10, 2014.

well-maintained, with no trash or open trash receptacles, the campsite has limited attractiveness to alien mammals.

Avifauna. While on-site, the biologist recorded the avian species listed in Table 3.6, below.

Table 3.6 Avian Species Observed at Kumu Camp

Common Name	*Scientific Name*
Gray Francolin	*Francolinus pondicerianus*
Red Junglefowl	*Gallus gallus*
Cattle Egret	*Bubulicus ibis*
Zebra Dove	*Geopelia striata*
Japanese Bush-Warbler	*Cettia diphone*
Japanese White-eye	*Zosterops japonicus*
Chinese Hwamei	*Garrulax canorus*
Red-crested Cardinal	*Paroaria coronata*
Northern Cardinal	*Cardinalis cardinalis*
House Finch	*Haemorhus mexicanus*
House Sparrow	*Passer domesticus*
Common Waxbill	*Estrilda astrild*
Source: Rana Biological Consulting (2014)	

All of these avian species are alien to the Hawaiian Islands. The biologist carefully searched the strand vegetation separating the campsite from the beach for Wedge-tailed Shearwaters (*Puffinicus pacificus*), the only potential native avian species likely to use resources on the site. No burrows or sign of seabird activity was recorded. July is the height of nesting activity for this species, so not finding them in mid-July indicates that they are not currently nesting using this property.

No migratory shorebirds were detected during the course of the survey. It is possible that at least two migratory shorebird species commonly encountered in Hawai‘i, Pacific Golden Plover (*Pluvialis fulva*) and the Ruddy Turnstone (*Areniara interpres*), use resources on a seasonal basis within camp parcel. Both species are indigenous migratory shorebird species which nest in the high Arctic during the late spring and summer months, returning to Hawai‘i and the tropical Pacific to spend the fall and winter months each year. They usually leave Hawaii and return to the Arctic in late April or the very early part of May. As this survey was conducted after most of the wintering shorebirds in Hawaii had left the islands for their breeding grounds, these species were neither expected nor observed.

3.5.2 PROBABLE IMPACTS ON BIOTA

All of the species observed during the biological survey of the site are common alien species which are present despite ongoing operations at Kumu Camp. Continued operation of the camp would have no adverse impact on the area flora and fauna.

3.6 NOISE

3.6.1 EXISTING CONDITIONS

The kinds of recreational and educational; activities that take place at Kumu Camp are inherently quiet. Moreover, nearly all of them take place during the daytime and early evening hours. As a result, they have not historically led neighbors to complain of excessive noise.

Waves, wind, occasional birdcalls, and the sounds of people recreating at the nearby Anahola Beach Park are the most prevalent noise sources under typical conditions. While the site is only 320 feet

from Pili Kai Road (which serves to access Kumu Camp), traffic volume on this small neighborhood road is low. Consequently, it is not a significant source of noise compared to the ever-present ambient sounds of the ocean.

Based on observations made during a site-visit conducted on April 22, 2014, ambient sound levels during regular trade wind weather range between 55 and 60 dBA. Background ambient sound levels during periods of calm wind and sea conditions were closer to 45 to 50 dBA.

The State DOH regulates the noise levels from fixed machinery by imposing maximum allowable sound levels at the property boundaries for various zoning categories as shown in Table 3.7.[9] The noise limit for "Class A Districts" is defined in HAR 11-46-3(3) as, *"…all areas equivalent to lands zoned residential, conservation, preservation, public space, open space, or similar type."*. The Kumu Camp parcel is zoned "Open" space, and thus the allowable noise levels from fixed machinery at or beyond the project site boundaries is 55 dBA during the daytime and 45 dBA during nighttime periods.

Table 3.7 Hawai'i Administrative Rules §11-46 Noise Limits

Zoning District	*Noise Limit (in dBA)*	
	Daytime (7:00 a.m. to 10:00 p.m.)	***Nighttime (10:00 p.m. to 7:00 a.m.)***
Class A: Areas equivalent to lands zoned residential, conservation, preservation, public space, open space, or similar type	55	45
Class B: All areas equivalent to lands zoned for multi-family dwellings, apartment, business, commercial, hotel, resort, or similar type.	60	50
Class C: All areas equivalent to lands zoned agriculture, country, industrial, or similar type.	70	70
Source: Hawai'i Administrative Rules §11-46 "Community Noise Control"		

3.6.2 PROBABLE IMPACTS

Continued operation of Kumu Camp does not require any further construction activities which would have the potential to be significant sources of noise. In addition, the camp has been in operation since 2012 without any noise-related complaints or other issues. The main source of noise produced by regular camp activities will continue to be produced by vehicles entering and leaving the site, however it is unlikely that even these sources, despite being exempt, would exceed the limits outlined in Table 3.7.

3.7 ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Hawai'i Revised Statutes (HRS) §343 and its implementing regulations contained in Hawai'i Administrative Rules (HAR) §11-200-12 mandate that agencies consider whether a project involves an irrevocable commitment to the loss or destruction of any natural or cultural resource in assessing

[9] Noise produced by portable or movable equipment (such as trucks, front end loaders, fork lifts, etc.) are not subject to the DOH noise-limit regulations.

the significance of a project's impacts. Here cultural resources are defined both as resources relevant to ongoing cultural practices as well as historic or pre-historic properties with cultural significance. State of Hawai'i law with regard to historic preservation is contained in Chapter 6E, HRS. It is implemented through a number of state regulations; these include but are not limited to HAR §13-197, §13-198, and §13-300. The remainder of this section describes: (*i*) the steps HCDC took to locate any archaeological or historic resources at Kumu Camp; and (*ii*) the potential for continued operation of the camp to adversely affect any such resources.

3.7.1 BACKGROUND RESEARCH

The earliest available record from the Hawai'i Bureau of Conveyances show the parcel being owned by the State of Hawai'i in 1962. Information for this parcel (TMK No. [4]4-8-007:001) does not appear on earlier land records. The parcel is currently owned by DHHL, a state agency, and thus it appears that there has not been any change in this status for over 50 years.

Bennett's (1931) archaeological research on Kaua'i identified Site 50-30-08-116, which is located with the bounds of (4)4-8-007:001, as follows:

> *Site 116. Dune burials, in the dunes around Anahola bay many bones that have been found as burials have been uncovered by the shifting sands.*

Bennett did not determine the exact boundaries of the site and does not provide information on the number of burials or their spatial distribution within the dunes. Other nearby sites recorded by Bennett includes site -113, 'Aikanaka Heiau, which has been destroyed, and site -115, Kuhua Heiau.

Remnants of Kuhua Heiau, site 50–30–04–115, are located approximately 0.3 mi. northwest of Kumu Camp. Prior to a residential development, the Anahola community was consulted about the heiau remains. Nancy McMahon, at that time an employee of the County of Kaua'i Planning Department, stated that she believed the *heiau*'s integrity had been destroyed long ago; thus, the proposed home construction should be allowed. The area has since been developed.

An inventory survey at Anahola Beach Park was done in 1999. Six trenches were excavated by a backhoe. Only modern material was found. It was noted that the "predicted settlement pattern model which anticipated the possibility of burials or special activity areas (*ahu*, fishing camps) was not shown to be evident in the extant project area." No further work was recommended for the project area. However, the possibility that burials might be present was noted.

Shefcheck and Dega (2007) monitored fiber optic installation at a location in Anahola less than 0.1 mile south of the Kumu Camp. A single set of human remains was discovered near the intersection of Maia Road and Anahola Road (and designated Site 50–30–04–6034). It was determined to be a traditional-period burial. Site 6034 was assessed as significant under Criteria D and E and was preserved in place. The report authors recommended full-time monitoring for further work in the area.

An archaeological inventory survey of a 38 ac. parcel in Anahola, located about 0.25 mi. southwest of Kumu Camp, was conducted in 2001. No surface features were observed; however, subsurface features were observed which seemed to represent remains of a former *lo'i* system that was severely disturbed during modern times. It was assigned as site 50–30–04–877 and is significant under Criterion D. Because of the possibility that this site might extend into areas that might be developed in the future, the archaeologist recommended that subsurface testing be done before extensive ground disturbance to that site was undertaken.

Elmore and Kennedy (2003) monitored Kūhiō Highway drainage improvements in an area located 0.6 mile northwest of Kumu Camp. The finds expected included agricultural features, ancillary temporary habitation, stone walls, and enclosures. Excavations were done to a depth of 2 meters

below surface. Soils were found to consist of fill and disturbed soils, and no sites of historical significance were identified. Thus, the archaeologist's report recommended no further investigations.

An archaeological assessment including fieldwork was conducted in 2009 for a project to repair a portion of 'Aliomanu Road located 0.6 mi. north of the Kumu Camp. There were no subsurface excavations. No significant properties were identified during the assessment, and it concluded that "traditional habitation does not appear to be indicated for the project area or its immediate vicinity as no LCA claims were made and the location is not conducive to agricultural cultivation." However, monitoring was recommended because the area is underlain by sand, which may contain burials.

Bobby Keao and Frank Cummings, gentlemen familiar with the area and its history, acted as heavy equipment operators for the archaeological investigation. They noted that human remains were discovered a short distance east of the Kumu Camp, during development of a beachfront home along Pili Kai Road. The location of this burial, which is outside the Kumu Camp parcel, was not determined during fieldwork for this project. No record of the burial was found during the review of records at the State Historic Preservation Division (SHPD).

3.7.2 FIELD RESULTS

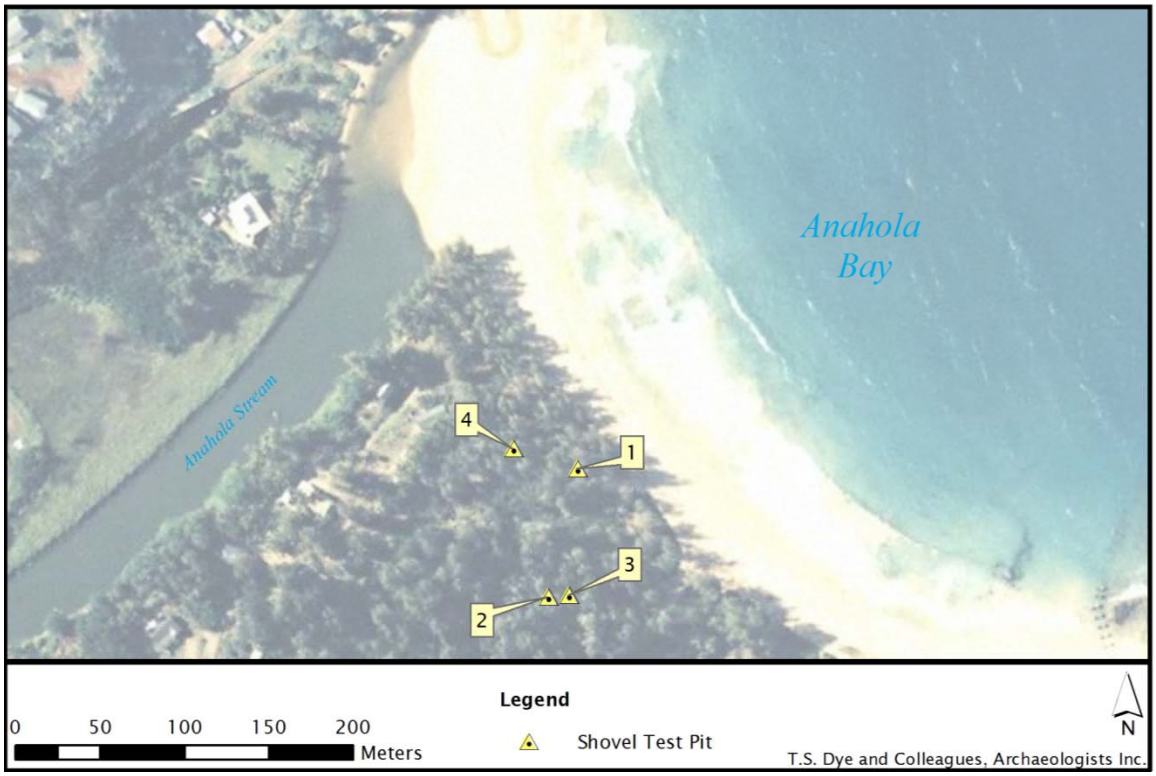
Prior to construction of Kumu camp, HCDC worked with T.S. Dye & Colleagues, Archaeologists, Inc. to carry out an archaeological investigation at Site 50-30-08-116, a sand dune located within the campsite parcel. Site 50-30-08-116 was described in the early 1930s as a location where traditional Hawaiian burials were exposed by shifting dune sands. The goal of the investigation was to determine whether there was stratigraphic information at site 50-30-08-116 that might help to predict the location and depth below surface of traditional Hawaiian burials that have, from time to time, eroded out of the sand dunes in the area. Excavation of three test pits, each to a depth of approximately 1 meter (3.28 ft.), exposed simple stratigraphic profiles of a recently vegetated but formerly active sand dune. No human remains were encountered and no information was found that might help determine the locations or depth below surface of human remains that could be present at Site 50-30-08-116. The resulting report in contained in Appendix B of this EA.

When T.S. Dye & Colleagues, Archaeologists, Inc. conducted its archaeological investigation at Site 50-30-08-116 prior to construction of Kumu Camp, the investigators excavated a sand dune located within the campsite parcel. Three test pits (labelled 1, 2, and 4 in Figure 3.8, below) were excavated with hand tools under the direction of Thomas S. Dye, PhD, a fully-qualified archaeologist. The test pits were each approximately 1.5 m (4.9 ft.) on a side and were planned to extend to a depth of approximately 1 meter (3.28 ft.). The findings related to each of the three valid pits are summarized below.

Test Pit No. 1. Test pit 1 was located near the beach and the center of the property (see Figure 3.8); the pit was situated on a low rise in the topography with sparse vegetation. Excavation to a depth of 1.03 m exposed a simple stratigraphic profile with two natural layers. The surface layer, *Context* 1, represents the modern *A horizon*, which was about 10 cm thick here.[10] Beneath this, to the depth of excavation, was an aeolian deposit of clean calcareous sand, Context 2. No cultural materials or human bones were found during excavation of Test pit 1. The test pit was backfilled after excavation.

[10] In archaeological parlance, a *context* is a unit of stratification associated with a natural or cultural process or event, and a *horizon* is a subdivision of soil. The *A horizon* is the surface layer in the soil containing humus, an eluvial layer from which minerals, etc. are leached.

Figure 3.8 Archaeological Investigation Test Pit Locations



Source: T.S. Dye & Colleagues, Archaeologists, Inc. (2012)

Test Pit No. 2. Test pit 2 was located farther inland, near the southern boundary of the campsite. It was situated on a topographic high point in an open space among the *ironwood* trees. Excavation to a depth of 1 m (3.28 feet) exposed a simple stratigraphic profile with two natural layers. The surface layer, Context 3, represents the modern *A horizon*, which was about 7 cm thick here. Beneath this, to the depth of excavation, was an aeolian deposit of clean calcareous sand, Context 4. No cultural materials or human bones were found during excavation of Test pit 2; the test pit was backfilled after excavation.

Test Pit No. 3. Test pit 3 was located in a topographic low spot immediately *makai* of Test pit 2. Shortly after excavation began it became apparent that abundant ironwood roots would make it very difficult to excavate the test pit. The excavation was abandoned and the small amount of material that had been removed was returned to the pit, restoring the surface to its original condition.

Test Pit No. 4. Test pit 4 was located at the north end of the property, next to a path from the beach. It was situated on a level area at an open space among the ironwood trees. Excavation to a depth of 0.97 m exposed a simple stratigraphic profile with two natural layers. The surface layer, Context 5, represents the modern *A horizon*, which was about 13 cm thick here. Beneath this, to the depth of excavation, was an Aeolian deposit of clean calcareous sand, Context 6. No cultural materials or human bones were found during excavation of Test pit 4. The test pit was backfilled after excavation.

3.7.3 PROBABLE IMPACTS ON ARCHAEOLOGICAL AND HISTORIC RESOURCES

The archaeological investigation found no direct evidence of the presence of human remains in the vicinity of Kumu Camp. Excavation of three test pits at widely separated areas of the campsite exposed simple stratigraphic profiles. In each test pit, a recent *A horizon* had developed on a deposit

of windblown beach sand. No cultural deposits, either buried or at the surface, were encountered in the excavations and no human bones were found.

The review of archaeological reports at SHPD that was conducted prior to the start of field work yielded information on one human burial about 150 m *mauka* of the Kumu Camp parcel, near the intersection of Maia Road and Anahola Road. This burial was found in the same Mokuleia fine sandy loam that is present on the Kumu Camp parcel, and which is characteristic of the flat coastal portion of Anahola Valley. The discovery of the human burial near the *mauka* end of this soil deposit appears to indicate that the boundaries of site 50–30–08–116 are coterminous with the Mokuleia fine sandy loam. If this is the case, then site 50–30–08–116 extends *mauka* of the proposed Kumu Youth Academy for some distance. Also, portions of site 50–30–08–116 are currently developed with residential structures along Anahola, Maia, Kamane, and Pili Kai Roads.

Other than the secondhand information provided by Bennett (1931), that "many bones" were found in the shifting sands of the dunes behind Anahola Bay, T.S. Dye & Colleagues, Archaeologists, Inc. found no information that indicates site 50–30–08–116 might contain a dense concentration of burials. In fact, the information available led it to conclude that the Kumu Camp site did not contain a dense concentration of burials. The two burial finds in the area that are known (at Pili Kai Road and Maia Road) are relatively few, given the extent to which the former sand dunes has been developed with residential structures. In addition, a previous extensive archaeological excavation with a backhoe in the sandy soils at Anahola Beach Park did not encounter any human remains.

The authors of the archaeological investigation report concluded that while no burials or human remains have been identified on the Kumu Camp parcel, it is possible that some may be present at unknown locations and depths. The movement of sand on the site, over time, can bring some buried objects closer to the surface while at the same time burying others under more sand. Thus, if there are traditional Hawaiian burials on the Kumu Camp parcel, they could be immediately below the surface or buried beneath several meters of sand. Finally, the report recommends that the likelihood of disturbing human burials can be lessened by limiting the extent and depth of any excavation at the site, a recommendation which HCDC has followed.

In the absence of any known archaeological or historic properties on the Kumu Camp parcel, and any ground-disturbing activities, continued operation of Kumu Camp as a community-based recreational resource is unlikely to have any impact on these resources.

3.8 CULTURAL IMPACT ASSESSMENT

In accordance with the provisions of HRS Chapter 343 and its implementing regulations contained in HAR §11-200, HCDC has worked with its consultants to perform a detailed analysis of the effects that continued operation of Kumu Camp could have on cultural practices, resources, and features. The disclosure of this information is intended to promote transparent and responsible decision-making in accordance with Articles IX and XII of the Constitution of the State of Hawai'i, other state laws, and the courts of the state, all of which mandate government agencies to endeavor to promote and preserve the cultural practices and resources of Native Hawaiians and other ethnicities.

In addition to the content requirements of Chapter 343 and HAR §11-200, on November 19, 1997 the State of Hawai'i Environmental Council issued specific *Guidelines for Assessing Cultural Impacts*. That guidance provides a methodological and content protocol for projects that may have the potential to affect cultural resources, stipulating specific matters that should be addressed in cultural impact assessments such as this. Table 3.8 below summarizes the guidance and identifies the sections in this report which address each item. The remainder of this Section summarizes HCDC and its consultants' findings with respect to each of the required topics. Each informational requirement identified in the above table is discussed in one of the following subsections, with a summary of findings and conclusions.

Table 3.8 Guide to Discussion of Cultural Impact Topics

Number	*Requirement*	*Discussion in EA*
1	A discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the Project Area, including any constraints or limitations which might have affected the quality of the information obtained.	§3.8.2
2	Descriptions of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.	§3.8.2
3	Ethnographic and oral history interview procedures, including the circumstances which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.	§3.8.2
4	Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the Project Area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationships to the Project Area.	§3.8.3
5	A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations, or biases.	§3.8.4
6	A discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the Project Area.	§3.8.6
7	A discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the Project Area, affected directly or indirectly by the proposed development.	§3.8.6
8	A discussion of confidential information that has been withheld from public disclosure in the assessment.	§3.8.5
9	A discussion concerning any conflicting information in regard to identified cultural resources, practices, and beliefs.	§3.8.2
10	An analysis of the potential effect of any proposed physical alternation on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.	§3.8.6
11	A bibliography of references, and attached records of interviews which were allowed to be disclosed.	Chapter 6 and Appendix C

Source: State of Hawai‘i Environmental Council, *Guidelines for Assessing Cultural Impacts* (1997)

3.8.1 HISTORICAL AND CULTURAL RESEARCH

3.8.1.1 Cultural Traditions and Historical Land Use in Anahola

According to Wichman's *Kaua'i: Ancient Place Names and Their Stories* (1998), Anahola is so-named "after a *mo'o*, a lizard *kupua* that appeared on land as a man and in the sea as a merman". Other sources suggest that Anahola is named after the mountain peak that serves as the upland pinnacle boundary point of the *ahupua'a* (and the adjacent Kamalomalo'o *ahupua'a*); here Anahola may be translated as "Hola Cave", referring to the technique of *hola* or *'auhuhu*, a traditional method of fishing by poisoning or stunning fish with the *'auhuhu* plant (*Tephrosia purpurea syn. T. piscatoria*).[11]

Anahola is the southernmost *ahupua'a* in the Kawaihau District.[12] Handy and Handy (1972:152) say that it was an area noted for its many *'ulu* (breadfruit) trees:

> *On Kauai, early voyagers noted extensive plantings of breadfruit along the southern and leeward coast, from Waimea to Wailua. According to Keahi Luahine, there were many breadfruit trees in Anahola.*

No less notable a visitor than Captain James Cook (1784) noted that "…*breadfruit thrive here, not in such abundance, but produce double the quantity of fruit that they do on the plains of Otaheite*." Regarding agriculture and the method of agricultural terracing along the banks of the Anahola Stream, Handy and Handy (Part V, pg. 423) offer the following:

> *The last ahupua'a on this, the ko'olau (east and northeast) coast, is Anahola. Here is the largest river in the Ko'olau District. There are old abandoned terraces along its banks far upstream. There are old loi from two to four miles inland along Anahola River and its tributary Ka'alua Stream, and below their point of juncture there are many lo'i on flats along the river banks as it meanders through its wide gulch. The delta is three-fourths mile wide, and this was all terraced.*

Consistent with the records of Handy and Handy, claims made in Anahola during the Māhele were focused around Anahola Stream.[13] A large number of claims were made in Anahola during the *Māhele 'Āina* between 1848 and 1850, compared to other adjacent *ahupua'a* including Kamalomalo'o, which indicates that there was a considerable settlement in Anahola during the mid-19th century. These records are valuable on several accounts; they provide a documentary record of those who lived on, and knew the land, in a traditional manner. The *Māhele* records also describe land use, residency, and the practices of the families of Anahola and its smaller land divisions. Table 3.9 contains the Land Commission Award claims for the *ahupua'a* of Anahola. With this information, we gain considerable insight into the history and cultural landscape of Anahola.

[11] Pukui and Ebert (1986) offer the following definition of *hola*: "to spread...Same as *'auhuhu*; to drug fish with this poison."

[12] State of Hawai'i GIS, available online at: http://files.hawaii.gov/dbedt/op/gis/maps/ahupuaa_map.pdf

[13] Māhele records are available online at: www.waihona.com

Table 3.9 Land Commission Award Claims for the Ahupua'a of Anahola 1848 to 1850

Claim Number	*Claimant*	*'Ili/Ahupua'a*	*Kuleana*	*Designation*
0457	Anahola	Anahola Puamano, Papaikiahoaka	3 lo'i, 2 mala of wauke, 1 mala of noni and the house site	Award 4547; R.O. 7083; Anahola, Koolau; Jan.11, 1848
04538	Ehuelua	Anahola	2 lo''i, 2 mala of noni, a kula planted in wauke and the house lot	Not awarded Jan. 12, 1848
04593	Haili	Anahola Haili	5 lo'i and a kula adjoining the lo'i and the house lot	Award 4593; R.P. 6544; Haili Anahola, Ko'olau; Jan. 12, 1848
04594	Hiapo	Anahola	2 lo'i, 1 cultivated kula and the house lot and the trees planted on it, an orange, some breadfruits and a kou	Not awarded Jan. 11, 1848
05391	Hilo	Anahola Kaakaulua, Papakolea	Taro land; Name of the taro land is Papakolea, and there is also a house	Award 5391; R.P. 8086; Kaakaulua Anahola, Koolau; Jan. 19, 1848
04591	Hulu	Anahola Kuakemana, Paanoho	9 lo'i and 2 mala of noni, an orange tree, a mala of wauke. Kali'ipalala is the name, and Koelonai 2 is the house lot	Award 4591; Poanoho, Anahola, Ko'olau; Jan. 13, 1848
04581	Huluhulu	Anahola Kanapaa, Kapuonunui, Papaukai	1 lo'i, 3 mala of noni and the house site	Award 4581; R.P. 6631; Kanapa'a, Anahola Koolau; Jan. 11, 1848
04879	Inoa`ole (No name given)	Anahola Kape, Kukuluauki	4 taro lo'i and 1 house lot. Taro lo'i and kula received from Makuakāne	Not awarded; Numerical index lists this as Inoa'ole; Jan. 13, 1848
05143	Kaahiki Hilo, his son	Anahola	13 lo'i, 2 kula for wauke, 2 kula for noni, 7 orange trees, 2 kuakua, two hala trees, one place in a gobey fish stream. It was held from Kahanapapa until Panipani (probably Konohiki names)	Not awarded Jan. 13, 1848
05048	Kaehu	Anahola	3 lo'i, 1 mala of wauke and the house lot	Not awarded Jan. 13, 1848
04909	Kaeleu	Anahola Kamalupe, Kaloula/Kalouulu, Olelokana	9 lo'i, a cultivated kula adjoining those lo'is, also another cultivated kula in another place, 2 kula for wauke and 3 kula for noni, two house claims, Malupa and Kumakole, 1 orange tree	Award 4909; R.P. 7487; Kalouulu, Anahola, Ko'olau; Mar. 13, 1850
05105	Kahaiola	Anahola Pikau, Kalama	2 lo'i and a cultivated kula, and a house lot	Award 5105; Pikau Anahola,Ko'olau; 1847
05205	Kaholomoana	Anahola Hahalua	Lo'i and its kula, 1 mala of noni, 2 mala of wauke and one house lot	Award 5205; Hahalua, Anahola, Koolau; Jan. 12, 1848
05170	Kalawaia	Anahola Ananakini, Hakaea	9 lo'i, 3 mala of noni, 1 mala of wauke and the house site	Award 5170; Ananakiki, Anahola, Ko'olau; Jan. 11, 1848
04971	Kalehua	Anahola Kanamoa, Kapuakea	4 lo'i, a kula, a house lot, a plantation of wauke and a mala of noni	Award 4971; Kahaina'a, Anahola, Ko'olau; Jan. 12, 1848
04981	Kalimaeleele wahine	Anahola	3 lo'i and the noni standing there and the house site	Award 4981; Anahola, Ko'olau; Jan. 12, 1848

Claim Number	*Claimant*	*'Ili/Ahupua'a*	*Kuleana*	*Designation*
05142	Kaliuwa'a	Anahola Hoolakauka, Kamoku	2 lo'i, 1 mala of wauke, 1 mala of bitter gourd, 1 mala of noni, 1 mala of tobacco, and the house lot	Award 5142; Anahola, Ko'olau; Jan. 11, 1848
05084	Kaniku	Anahola Palikoa, Puapala	5 lo'i, 5 mala of noni, 3 orange trees, 1 place for catching gobey fish. There are some pōulu, also breadfruit trees	Award 5084; R.P. 6760; Puapala, Anahola, Ko'olau; Jan. 12, 1848
04913	Kanuha	Anahola Olokuiha, Kamokuapi	2 lo'i and a kula and the house lot	Award 4913; R.P. 6325; Kamokuapi, Anahola, Ko'olau; Jan. 13, 1848
05099	Kauhaialae	Anahola Puuomano, Olelokana	1 lo'i, 2 mala of noni and the house site	Award 5099; R.P. 5541; Olelokana, Anahola, Ko'olau; Jan. 11, 1848
05141	Kaukai	Anahola Kuloa, Koapupu	14 lo'i, 2 mala of noni, 1 mala of wauke and the house site	Award 5141; R.P. 7872; Kuloi'i, Anahola, Ko'olau; Jan. 11, 1848
05078	Kawaaiai	Anahola Kahalepua, Pohakumano	2 lo'i and kula which adjoins them. 2 mala are in another place, and in another place is a mala of noni and wauke, and also a house lot	Award 5078; Anahola, Ko'olau; Jan. 11, 1848
03030	Kawaimakanui	Anahola Palawai, Pauko	House lot and also taro land	Award 3030; R.P. 7275; Palawai, Anahola, Ko'olau; Jan. 12, 1848
05104	Kawaohia (Kawaaohia)	Anahola Olokauha, Kaheewale	3 lo'i, 2 kula of wauke and noni, and the 2 house lots	Award 5104; R.P. 7314; Kaheewale Anahola, Ko'olau; Jan. 11, 1848
04987	Keanuhawai'i	Anahola Pauku, Kaupapa, Papaikiapoaka	4 lo'i, 2 mala of noni, and the house lot and a kou tree	Award 4987; R.P. 6291; Anahola, Ko'olau; Jan. 12, 1848
04590	Kekuaiki Ho`opana, his wife	Anahola Hahalina / Kahalina	5 lo'i and a kula planted in tobacco, 4 mala of noni and the house lot	Award 4590; R.P. 7347; Kahalina, Anahola, Ko'olau; Jan. 12, 1848
05190	Kekuaiki	Anahola	5 lo'i and the kula planted in wauke and the house site	Not awarded Jan. 11 1848
05083	Kiei	Anahola Kanakawale, Hikii	4 mala of noni, 2 mala of wauke, 3 lo'i and the house site	Award 5083; R.P. 7122; Anahola, Ko'olau; Jan. 11, 1848
04984	Kole (Kale)	Anahola Papooulu, Kealuaahokia/ Kalalea	2 lo'i, a kula planted in gourd and the house site	Award 4984; R.P. 7597; Kaluaohiki, Anahola, Ko'olau; Jan. 12, 1848
04935	Koleaka (Kolehaka) Keolawa, brother in law	Anahola Kalahiki, Hikii	2 lo'i, and a cultivated kula and one house lot	Award 4935; Hiki'i; Anahola, Ko'olau; Jan. 12, 1848

Claim Number	*Claimant*	*'Ili/Ahupua'a*	*Kuleana*	*Designation*
05023	Kolia, D	Anahola Pukoenieni, Kanakahikio, Kuka, Kuaimanui, Kahonaula, Palikoa, Kauakahi	Small area of land named Kiki'i which was given to me by Kaikioewa. Lo'i named Kuemonū, 2 house lots, 2 mala of noni	Award 5023; R.P. 7740; Kauakahi, Anahola, Ko'olau Jan. 13, 1848
05089	Kuhaimoana Nahulekoa, wahine	Anahola	2 lo'i, 6 mala of noni, 1 mala of wauke, and the planted trees: 2 kou, 1 orange and 1 breadfruit	Not awarded Jan. 12, 1848
05102	Kuihu	Anahola Puuoniunu, Papahikiloaka	1 lo'i, 1 mala of noni, 2 mala of wauke, and the mala of bitter gourd, and the house lot	Award 5102; R.P. 5927; Anahola, Ko'olau; Jan., 11, 1848
04916	Kumukou	Anahola Lanakini, Piwaha	1 lo'i, 1 gulch planted with noni, and 2 mala of wauke and the house lot	Award 4916; R.P. 7318; Lanakini Anahola, Ko'olau Jan. 12, 1848
04984	Kole (Kale)	Anahola Papooulu, Kealuaahokia/Kalalea	2 lo'i, a kula planted in gourd and the house site	Award 4984; R.P. 7597; Kaluaohiki Anahola, Ko'olau Jan. 12, 1848
05199	Kuoha (Kueha)	Anahola Puamano, Kalua`o`opu	7 lo'i and a kula for planting tobacco adjoining the lo'is, a mala of noni in another place, and the house lot	Award 5199; R.P. 7120; Kalua'o'opu Anahola, Ko'olau Jan. 12, 1848
04980	Kuohu	Anahola Pu'uoio, Olelokana	1 lo'i, 1 mala of noni, 1 mala of wauke and also the house site	Award 4980; R.P. 6018; Olelokana Anahola, Ko'olau Jan. 12, 1848
05112	Kupukupu Mumuku	Anahola	5 lo'i, a place for planting wauke and also a mala of noni, and the house site	Not awarded Jan. 13 1848
04694	Lono	Anahola Puoio, Kumunana	2 lo'i, 2 mala of noni, 1 mala of wauke, 1 male of bitter gourd and the house lot	Award 4694 to Lono 2; R.P. 6449, Anahola, Ko'olau Jan. 11, 1848
04694B	Lonoiki	Anahola Ananakini, Kalua'o'opu; Puoio, Kapuoni	1 lo'i in 'ili Ananakini 1 lo'i in 'ili Kalua'o'opu	Award 4694B; Lonoiki Anahola, Ko'olau (No Date)
04693	Luahele	Anahola Palawai, Koananai	2 lo'i, 4 mala of wauke	Award 4693; R.P. 7598; Palawai Anahola, Ko'olau Jan. 12, 1848
04699	Lupaieie	Anahola	2 lo'i and a kula which adjoins them, also a mala of wauke in another place, also a mala of noni, another mala of noni at Kamalomalo'o, and my house lot in Anahola	Award 4699; R.P. 7275; Anahola, Ko'olau Jan. 13, 1848 4608 not awarded

Claim Number	*Claimant*	*'Ili/Ahupua'a*	*Kuleana*	*Designation*
04722	Mahilauawa	Anahola Palawai	1 lo'i, and some trees, a kou and a noni	Award 4722; R.P. 7511; Palawai Anahola Ko'olau Jan. 13, 1848
04711	Mailou	Anahola Hakaea, Makaikai	6 lo'i, 3 mala of noni, 1 mala of wauke, 2 orange trees, 2 mala of kikope* and the house site	Award 4711; Land Patent 8090 Jan. 11, 1848
04712	Makaino Kikoo	Anahola Hioka / Kioka	7 lo'i, 3 mala of noni, 1 mala of wauke and the house site.	Award 4712; Hioka Jan. 11, 1848
04721	Makakane	Anahola	1 lo'i, and a cultivated kula and the house lot	Not awarded Jan. 13, 1848
04719	Makaole (Makaola)	Anahola Hoopala	12 lo'i and a cultivated kula adjoining the lo'is, and the house lot	Award 4719; R.P. 3887; Ho'opala; Jan. 12, 1848
04731	Makuakāne	Anahola Kanapa'a, Pouka, Pauka, Palawai	I, the Konohiki on the land of Anahola on the island of Kauai, am under Ka'aha. All the benefits of the Pō'alima confirmed by law as belonging to the Konohiki are what I claim	Award 4731; R.P. 6342; Kanapa'a, Anahola, Koolau Jan. 11, 1848
04730	Manamana	Anahola Kalaewahiwai, Kamuliwai, Kekau	6 lo'i, 5 mala of wauke, 3 mala of noni, 1 kula weuweu /grass kula/, 4 orange trees, 2 kou trees and two house lots	Award 4730; R.P. 7118; Anahola, Ko'olau; Jan. 12 1848
04718	Maumau	Anahola	1 lo'i and a kula for cultivation and a house lot	Award 4718; R.P. 6685; Anahola, Koolau; Jan. 12, 1848
04724	Mona (Mana)	Anahola Kamoku, Kamuliwai, Kekau	4 lo'i, 4 kula of noni, one kula of wauke, 2 house lots	Award 4724; R.P. 7119; Kamoku Anahola, Ko'olau; Jan. 12, 1848
04760-1	Naelele	Anahola Palawai, Pukalio	1 lo'i and a kula and 2 mala of noni	Award 4760; R.P. 5666 Anahola, Ko'olau Jan. 13, 1848
04780	Naiwi (Naiui)	Anahola Mamania, Kaluanui	5 lo'i, 3 mala of wauke, 6 mala of noni, 3 orange trees, 2 pō'ulu breadfruit trees, and 1 house lot	Award 4780; R.P. 3917; Kaluanui; Jan. 12, 1848
04782	Nakea	Anahola Pauko	2 lo'i and a kula and 3 mala of noni	Award 4782; Pouko, Anahola, Ko'olau; Jan. 12, 1848
04690	Nalawaia Nalawaianui	Anahola Kealohi	Lo'i, named Ke'alohi, 2 mala of noni, 2 mala of wauke and 2 house lots	Award 4690; R.P. 7596; Kealohi, Anahola, Ko'olau; Jan. 12, 1848
04777	Nanukuwaiki (Nukuwaiki) Kukaena, his wife	Anahola Kauapa, Kumuahane, Kapunakuoio	4 lo'i, 5 mala of noni, 2 mala of wauke, 1 mala of bitter gourd, and the house lot	Award 4777; R.P. 3957; Kauapa, Anahola, Ko'olau; Jan. 11, 1848
04765	Naololi Kekuaiki, his brother	Anahola Pukoanini, Kaupake	5 lo'i, 2 mala of noni, 1 mala of wauke and 2 house lots	Award 4765; R.P. 7319; Kaupaka, Anahola, Ko'olau; Jan. 11, 1848

Source: Waihona 'Āina (2015) & Native Kaua'i LLC (2012)

The earliest record of land ownership for the Kumu Camp parcel (TMK No. 4-8-007:001) shows it being owned by the State of Hawai‘i in 1962; information on this parcel from earlier historical sheets was absent (Sholin and Dye; 2013). As noted in Chapter 1, the parcel is currently owned by the Department of Hawaiian Home Lands; thus, it appears that there has not been any change in ownership of the Project Area since 1962.

3.8.1.2 Mo‘olelo and Wahi Pana of Anahola Ahupua‘a

Lae Kuaehu is the promontory that divides Anahola from ‘Aliomanu, the adjacent *ahupua‘a* to the north. Beginning at the northern point of the Anahola *ahupua‘a*, the boundary line runs toward Kalalea Mountain from east to west, connecting to Kīko‘o, a named peak on Kalalea. From there, the boundary line connects through the landmarks of Kawaiūmakua, Pu‘u Ehu, Kaho‘opulu, Pu‘u Keakea, Mālamalamaiki, Lele Iwi and Namahana; from Namahana, the boundary turns south to Pu‘u Eu. From there, the southern boundary with Kamalomalo‘o *ahupua‘a* turns and continues back east towards the ocean (Kehau and Alapa‘i; 2012).

Along the shared *ahupua‘a* boundary with Kamalomalo‘o is the peak called Anahola (see Section 3.8.1.1) which gives the *ahupua‘a* and village their name. This mountain peak serves as the apex of the Kamalomalo‘o *ahupua‘a*. Pu‘u Anahola connects to Pu‘u Awa, and finally terminates with Lae-līpoa at the shore. Lae-līpoa serves as the southernmost boundary in the *ahupua‘a* of Anahola.

One *mo‘olelo*, or traditional story, which is closely tied to the Project Area at Anahola first appeared in print in the Hawaiian language newspaper *Nupepa Kuokoa*, in a series of writings from December 30, 1876 to March 3, 1877.[14] The translation into English provided here was prepared by L. Kēhaulani Kekua and A. ‘Aikāne Alapa‘i (2012):

> *Kalalea was born to Kapa‘opa‘o the father and Kahala, the mother, Anehola [Anahola] was the birth land. They were ali‘i—of the chiefly class from Ko‘olau. Their residence was at Kalaewahiwahi, located near the upland trailway to a place where the ali‘i continue to reside today. While they were living there they were both young.*
>
> *Kahala was pregnant at this time. When it appeared that the time had come for the child to be born, thunder boomed, lightning struck, the earth shook, and the rivers raged with red mud. However, for three nights and three days, there was nothing. No significant signs appeared that this child was soon to arrive.*
>
> *A messenger was sent to seek out the kahuna by the name of Kanoeoalaka‘i. Her place of residence was in the uplands of Wainiha. When the messenger arrived, she was seen sitting upon the kuina akaka—a unique kapa from Miloli‘i. She had already received a vision of a person traveling and asked, “Why have you traveled here to see me?”*
>
> *“I have been sent by the ali‘i of Anehola, by Kapa‘opa‘o, about the childbirth of his wife, Kahala,” the messenger replied. “For three nights and three days have already passed, yet the child has not even emerged. Therefore, I have been sent to fetch you.”*
>
> *“I will not go with you today,” advised the kahuna. “Instead, when evening arrives tomorrow, I will go and sleep near Kuaehu in ‘Aliomanu.”*
>
> *“Here is what you will say when you return to the ali‘i. Fetch pu‘awa hiwa with the leaves from Maiakini. This place is located upland of Kealia. Secondly, water must be gathered*

[14] Note that *kahakō* (macrons) were not in common usage in Hawaiian language publications at this time, and as such, are not used in the translation provided here. Also, the original article gives the place name as Anehola, instead of the more common Anahola. This variant spelling has appeared in other records of *mo‘olelo* and a few documented chants, however Anahola is a far more common spelling and has become the preferred spelling in modern usage.

from atop Wai‘ale‘ale; not with a gourd but with a leaf of a mokihana. Bundle it entirely and bring it here to me. Then I can act upon it.”

The messenger returned to the ali‘i and recited everything that he had heard from the kahuna. The chief listened then turned and asked all of the other ali‘i who were sitting there, “Who will be the right one to fetch these things instructed by the kahuna?”

Kahala turned in extreme agony and asked her brother Pohakumalumalu if he could go and fetch the ‘awa from Maiakini. When asked who would fetch the water, Keanuo‘aipo offered to take on the task.

In no time both of the items were gathered and delivered. By the time evening had arrived, the kahuna Kanoealaka‘i had traveled to lay in the house of Kuaehu. Hoku was the moon phase that evening. And when the morning came, Hoku was also that day. Then the kahuna arrived and stood in front of Kapa‘opa‘o. Everything had been prepared as instructed. Only the work of the kahuna remained to be done.

All parts of the ‘awa were prepared, including the roots, stalk, and leaves, until the ‘awa was soft and mixed with water. The kahuna then rubbed the ali‘i wahine from her head down to her feet. Immediately thereafter, the thunder began clapping, lightning began flashing, and the earth trembled. Then the cry of a child was heard. Finally, the birthing was complete. The child was a boy, dark skinned on the back from head to toe with dark facial features as well. When ten days had passed the piko was severed and the child was named Kalalea. All the difficulties were finally over.

In time, Kahala became pregnant once again. Signs of approaching the end of her pregnancy appeared with her cravings for the ‘olalimoeone fish of Halaulani. When it was almost time for the birthing, just as dawn was about to break, the darkness was honored with the clap of thunder, a flash of lightning and the trembling of the earth. That very evening, the child was born—this time a girl that they named Nalehuaolulu‘upali. The rearing of this child was given to Ho‘ohila—a brother of Kahala whose home was in Lumaha‘i. These were the only children of these ali‘i.

The translators of this mo‘olelo help to elucidate this traditional story, its meaning, and the place names therein (Kekua and Alapa‘i; 2012):

The main characters in the story are traditional places in Anahola. They remain significant landmarks to this day. In the process of preparing this study, Native Kaua‘i [the author-translators] consulted and met with many indigenous Hawaiians of Anahola. While all of the identified and referred to Anahola’s landmark mountain range as Kalalea, all were not aware of the individual mountain peaks or their original names and related stories. There was great interest expressed by those interviewed, to learn more information.

Kalalea is the offspring born to Kahala—a female, and Kapa‘opa‘o—a male. Both Kalalea and Kahala are names of traditional wahi pana or storied places in Anahola...

Kahala and Kapa‘opa‘o—Kalalea’s mākua or parents are also names of native fish species that are highly prized as a food source as well as for their symbolism in Hawaiian culture. Both are tropical marine fish in the carangidae family which include the jacks, pompanos, jack mackerels and scads. Most species are fast-swimming predatory fishes that hunt in the waters above reefs and in the open sea. Some dig in the sea floor for invertebrates. The largest fish in the family is the greater amberjack or kāhala.

The other characteristic that both the kāhala and the kapa‘opa‘o fish species share is that they are strong, fast and aggressive in nature. They are symbols of protective mana or

energy that is an essential value and characteristic of parents with young offspring. These are also ʻano or traits that are essential to a child that is destined to grow into a warrior...

Moʻolelo...provide insight into the ways, practices and beliefs of the ancient Hawaiians. We have included this example of a story to share of the kuleana or responsibility that aliʻi (or in today's time—government and community leaders) have to the land and the people that they manage and oversee...

Lae Kuaehu held a prominent place in the lives of the ancient people of this district. Located on the coast at the northern boundary line of the Anahola ahupuaʻa, Kuaehu was identified by native Hawaiian informant, Kauniahi as a place of sacrifice in the olden days, and as a place of worship by Pihuiki. The kamaʻaina also described it as a resting place called Ahole just ma uka of Kuaehu...

On a literal level, Kuaehu means, "silent, still or lonely". It also describes interactive movements of the environment that are typical to that place. Windward breezes blowing offshore conjure up waves that carry the ehukai or seaspray to create shrouds of ocean mist over the promontory.

However, it is through the experiences of our Hawaiian ancestors, preserved in the form of moʻolelo or traditional stories that we learn there is much more to the place name, Lau Kuaehu.

Recordings preserved in the Bishop Museum archives feature oral interviews with native Hawaiian *kūpuna* of Anahola in the 1950s and 1960s provide additional insight on the close connection between geography, native biology, place names, and *wahi pana* (storied places) in Hawaiian civilization. The following *moʻolelo* is based on an interview conducted by Hawaiian scholar, Mary Kawena Pukui and *kupuna* Daisy Waihoikahea Valpoon Lovell (Kekua and Alapaʻi; 2012):

Hālaulani

Lit. Myriad Breaths of the Heavens

Just outside of Lae Kuaehu is a channel where the kūpuna cite the location of Hālaulani—the home of the shark god and his retinue of resident manō. Kupuna Daisy Waihoikahea Valpoon Lovell spoke about Hālaulani as the home of ʻaumākua sharks just outside of Lae Kuaehu. She described the relationship and feeding customs that her grandmother and her ʻohana were still practicing when she was a young girl. Makahia and Malaepapa are the names of the reef flats in this area where the shark was fed. This shark provided them protection and was both an ancestor and guardian to them. Neither of the two big tidal waves in her lifetime damaged Lovell's seaside home.

The name Hālaulani also references a heavenly or chiefly structure; such as a home of a chief. The aliʻi is not the only native chief who rules over the land. The manō too, is recognized as a chiefly denizen of the ocean realms—fierce, dominant and ready to protect and regulate over his domain.

Other elders of Anahola, as well as kupuna in our own family preserved knowledge of these practices through the telling of stories and experiences that were occasionally shared. Admittedly, they did not explain all of the intricate details of how and why they interacted with the manō (sharks) in the way that they did. There was no need to know more beyond their response that, "We feed them because they are ʻohana to us."

From 1938 to 1961, Mary Kawena Pukui worked as an ethnological assistant at the Bishop Museum where she translated hundreds of documents, including stories, chants and early records of *aliʻi* and native Hawaiian historians. Among her notable works during her term at the Bishop Museum are oral histories that she led in the 1950s and 1960s. Traveling throughout six of the Hawaiian Islands, she

interviewed residents on various subjects relating to Hawaiian culture, stories, places; many of the interviews were conducted in the Hawaiian language.

One of the recordings preserved in the Bishop Museum Archive made on August 13, 1959 is an interview with *kupuna* David Kahanu, who discusses some of the prominent geographical features of Anahola. He spoke about the *pu'u* named Kalalea and Kōnanae, citing that the former–Kalalea–is male and Kōnanae, the latter, is female. These two peaks are husband and wife, companions as allegorical figures in nature that are celebrated as characters in the *mo'olelo* and traditions of this region. They are personified and seen as beloved *kūpua* or supernatural forms in the landscape that guard, watch over, and protect the families who have dwelt in this community for generations. Kalalea is seen as the upright peak representing the masculine power of the god Kū. Kōnanae is representative of the feminine energy of the goddess, Hina. Together, they serve as symbols of procreative vigor and the balance of these two principles, serving as inspiration for the perpetuation of the family lineages of Anahola.

3.8.2 INTERVIEW SELECTION AND METHODOLOGY

In addition to the important cultural-historic documentary research carried out in preparation for this CIA, HCDC's cultural consultant Theodore Kawahinehelelani Blake also conducted oral history interviews from April, 2014 through March, 2015. Individuals and organizations with expertise and insight into the cultural resources, practices, and beliefs of Anahola and, more broadly, the northeastern region of Kaua'i were sought and identified as potential cultural informants. Particular effort was made to identify individuals who:

1. Had been residents of Anahola prior to Statehood in 1959.
2. Had been granted land awards by the State of Hawai'i.
3. Currently reside in Anahola.
4. Currently operated a business or other organization in Anahola.

Using these criteria, a total of seven individuals were contacted and offered an opportunity to participate in one-on-one interviews and provide cultural information; ultimately four actually participated in interviews. Once identified, HCDC's cultural consultant followed up on referrals, contacted the individuals or organizations with cultural expertise, secured consent, and conducted the interviews. In the course of these discussions, informants possessing expertise in Hawaiian language and/or cultural practices shared information relating to spirituality, history, resource management, agriculture, and fishing in the Anahola region. The interview transcripts, edited for clarity are included in Appendix C of this EA.

Interviews were coordinated with each cultural informant and conducted at a location chosen by the interviewee to accommodate their comfort and convenience. Most cultural informants requested that their interviews be conducted at their homes or a nearby location; in some cases the cultural informant asked to be provided with additional information about Kumu Camp or to visit the location in order better orient the knowledge being shared to the area under consideration. All the interviewees provided personal experiences on the land and/or in the ocean, and discussed changes to the environment which they had witnessed in their lifetimes.

The interviewees were asked the following questions to help guide the interview process:

- *Interviewees name?*
- *Interview date?*
- *Interview location?*
- *When were you born?*

- *Where were you born?*
- *What types of cultural practices or cultural beliefs are you aware of occurring in the Anahola Bay area?*
- *What can you share of the history of Anahola Bay?*
- *What do you know about Kumu Camp and the kinds of activities that happen there?*
- *Are there any native plants or other cultural resources located at Kumu Camp that you use, or that are used by others?*
- *Do you use the beach and fishermen's access road provided by Kumu Camp?*
- *How have the programs delivered to the community by Kumu Camp affected your cultural practices or cultural beliefs?*
- *What recommendations would you make to Kumu Camp in order to enhance and strengthen cultural priorities in Anahola?*

Because the experiences conveyed through interviews are personal, the narratives are often richer and more animated than those found in archival or academic reports. Through the process of conducting oral history interviews, information is preserved which could be overlooked or lost through other forms of documentation. The interviews demonstrate how traditional knowledge is passed down through time, from generation to generation. They also show how, with the passage of time, knowledge and personal recollections can change; sometimes, information which was once vitally important becomes forgotten, or is assigned lesser importance. Today, when individuals (particularly those who come from a culture different than the one which originally assigned cultural values to places and traditional practices) evaluate such things as cultural sites, resources, practices, and history, their significance is often misunderstood or diminished. Thus, oral historical narratives provide present and future generations with an opportunity to understand the cultural attachments or relationships shared between people and their natural and cultural environment.

Due to the subjective nature of cultural-historic interviews, the level of documentation is incomplete. In the process of conducting oral history interviews, it is impossible to record all the knowledge or information that a cultural informant may possess. Thus, the record provides only a glimpse into the stories being told, and the lives and experiences of the interview participants. The interviewer made every effort to accurately record and relay the recollections, thoughts, and recommendations expressed by the people who shared their personal history in the course of preparing this CIA. However, as one might expect, participants in oral history interviews sometimes have different recollections of places, people, or events. There are a number of reasons for these types of discrepancies:

- Recollections result from varying levels of importance assigned to an area or occurrences during an interviewee's life, and particularly during their formative years.
- They reflect localized or familial interpretations of the particular history being conveyed.
- With the passage of time, sometimes that which was heard from elders in childhood many years before may transform into something which the interviewee recalls actually having experienced.
- In some cases, differences can arise as a result of the inadvertent grafting of more recent information onto traditional concepts and practices.
- Some aspects of an interviewee's recollections can be shaped by a broader world view. In the face of continual change to one's cultural and natural environment, there can emerge a sense of urgency in caring for what has been.

In general, the discrepancies between the various historical recollections collected in the course of this CIA are very minor. If anything, these minor differences help to direct new lines of questioning which might be investigated through additional research. In some cases, they pose questions that may

never be answered, but which add texture to the record of times past. Diversity in the stories told should be seen as something that will enhance interpretation, preservation, and long-term management of the lands of Anahola *ahupua'a* in general, and especially to the Kumu Camp area at Anahola Bay.

3.8.3 BIOGRAPHICAL INFORMATION OF INTERVIEWEES

Four people were interviewed—two individually, and one pair—in the process of preparing this CIA. Their names, relationship to Anahola *ahupua'a*, and areas of expertise are summarized Table 3.10 below.

Table 3.10 Biographical Summary of Oral History Interview Participants

Name	*Relationship to Anahola*	*Areas of Expertise*
Frank Cummings	HHCA Beneficiary Anahola Homestead Resident	Land steward, farmer, and cultural practitioner.
Luella Leimomi Hasegawa	Anahola Resident	*Lā'au lapa'au*
Billy Lemm	Anahola Resident, adjacent to Project Area	Farmer, fisherman, waterman, cultural practitioner, Hawaiian language, history.
Charlie Pereira	Anahola Resident	*'Upena ho'olei* (throw nets), *lawai'a* (traditional fishing practices).

Source: T.K. Blake (2015)

3.8.4 HISTORICAL AND ARCHIVAL RESEARCH AND REFERENCES CITED

Primary research references cited in this CIA include, but are not limited to land use records, including review of Hawaiian Land Commission Award (LCA) records from the *Māhele 'Āina* (Land Division) of 1848 (available online at: www.waihona.com) and historical texts authored or compiled by Capt. James Cook (1784), Handy and Handy with Pukui (1972), M.K. Pukui and S.H. Elbert (1986), and F.B. Wichman (1998), among others. This CIA also draws on the excellent work compiled and translated from Hawaiian language by L.K. Kekua and A.A. Alapa'i (2012), and the archaeological investigation of the project area by archaeologists C.E. Sholin and T.S. Dye (2013). This CIA also records important oral testimony of elder *kama'āina* of Anahola and its nearby environs, including Kamalomalo'o and 'Aliomanu. Historic and archival resources were located in the collections of the Bishop Museum, the University of Hawai'i library system, and in the private collection of Planning Solutions, Inc. A complete list of references cited is included in Chapter 6 of this report. Interview transcriptions are provided in Appendix C.

3.8.5 CONFIDENTIAL INFORMATION

None of the cultural informants required cultural or historical information to be kept confidential or withheld from public disclosure. However, to encourage open dialogue, information shared that was not directly relevant to the cultural history of the area and the cultural impacts related to continued operation of Kumu Camp were not attributed to any particular individual. However, no portion of this CIA or its constituent interviews is to be cited out of context, or used to justify actions which are detrimental to the land or culture of the Hawaiian people. Further, the oral history accounts are not to be used to support research or assumptions which are inconsistent with traditional or customary Hawaiian cultural values.

3.8.6 ANALYSIS OF IMPACTS AND MITIGATION RECOMMENDATIONS

From the documentary evidence and oral history interview participants, certain patterns emerge which include, but are not limited to, the following categories:

- The cultural-geographic landscape is one and the same; memories of specific activities are tied to certain individuals and specific locales.
- As elsewhere in coastal parts of the islands, fishing—whether by hand, spear, net, natural *ʻauhuhu* toxin, or pole—in the areas fronting Kumu Camp and elsewhere in Anahola Bay was a major source of sustenance, lore, and community activity.
- The Anahola shoreline was once famous for its groves of fecund *ʻulu* (breadfruit), with native *lauhala* (pandanus) and *naupaka* (*Scaevola taccada*) also being prominent along the shore, and *wauke* (paper mulberry), *ipu* (bottle gourd), and *kalo* (taro) on the inland slopes and banks of Anahola Stream. Wild *lauhala* and *koaliʻawa* (*Ipomoea indica*) were gathered near the shoreline. Several interviewees expressed pleasure at the restoration of native plants at Kumu Camp.
- Ongoing cultural practices in the area, aside from activities actively supported by Kumu Camp such as *hula*, include fishing, utilizing various methods, and gathering of *limu* (seaweed), *hāʻukeʻuke* (shingle urchin; *Colobocentrotus atratus*), *wana* (long-spined and/or diadem sea urchin; *Diadema paucispinum* or *Echinothrix diadema*), and *loli* (sea cucumber) among other things.
- Four-wheel drive vehicles being driven on the sand at Anahola Bay are a source of disruption for the lawful beachgoers, fishermen, and the natural environment.

The interview participants also expressed several areas of common concern and recommendations for long-term protection and management of the cultural and natural heritage of Anahola Bay, and Kumu Camp's environs in particular. A general summary of their recommendations include:

- Continue to structure Kumu Camp's physical infrastructure in a way that flows with the existing sand dunes and grounds, and avoiding changing the *ʻāina*'s natural contours unnecessarily.
- Continue to provide cultural practices, such as *hula*, and gatherings to provide healthy alternatives for the area's youth. Kumu Camp provides an opportunity to continue and/or expand youth oriented programs for native astronomy, Hawaiian language, and historical education in an environment where local *kūpuna* can pass on traditional practices and resource management skills. Emphasis was placed (by some) on having an established schedule of activities and outreach to the surrounding community so that they are aware of the campsite, its programs, and its availability.
- In order to maintain an ongoing commitment to the preservation and enhancement of cultural properties and practices at Kumu Camp, two recommendations are made. First, that an advisory committee be established to foster and guide cultural programming at Kumu Camp. Second, signage notifying the public that it is illegal to drive vehicles on state beaches should be posted near the shoreline, in the vicinity of Kumu Camp.
- Continued operation of Kumu Camp does not have the potential to adversely affect cultural practices, properties, or resources on the property or its environs.

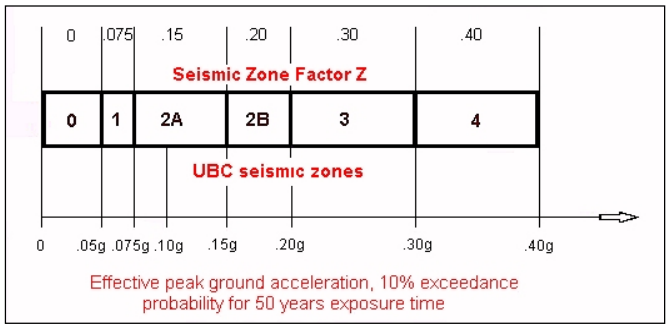
3.9 NATURAL HAZARDS

3.9.1 SUSCEPTIBILITY TO SEISMIC DAMAGE

Most earthquakes which occur in the state are localized around the island of Hawaiʻi, and most are too small to be detected except by highly sensitive instrument. The most powerful earthquake in Hawaiʻi on record, reported by the U.S. Geological Survey (2001) (http://pubs.usgs.gov/gip/hazards/earthquakes.html) was recorded in 1868. This earthquake occurred beneath the Kaʻu district on the southeast flank of Maunaloa, on the island of Hawaiʻi. It had an estimated magnitude of between 7.5

and 8.1 and caused damage across all of Hawai‘i Island. However, while this powerful earthquake was felt on Kaua‘i, it did not cause any recorded damage there.

Engineers, seismologists, architects, and planners have devised a system of classifying seismic hazards based on the expected strength of ground shaking and the probability of the shaking actually occurring within a specified time. The diagram below depicts this system of classification:



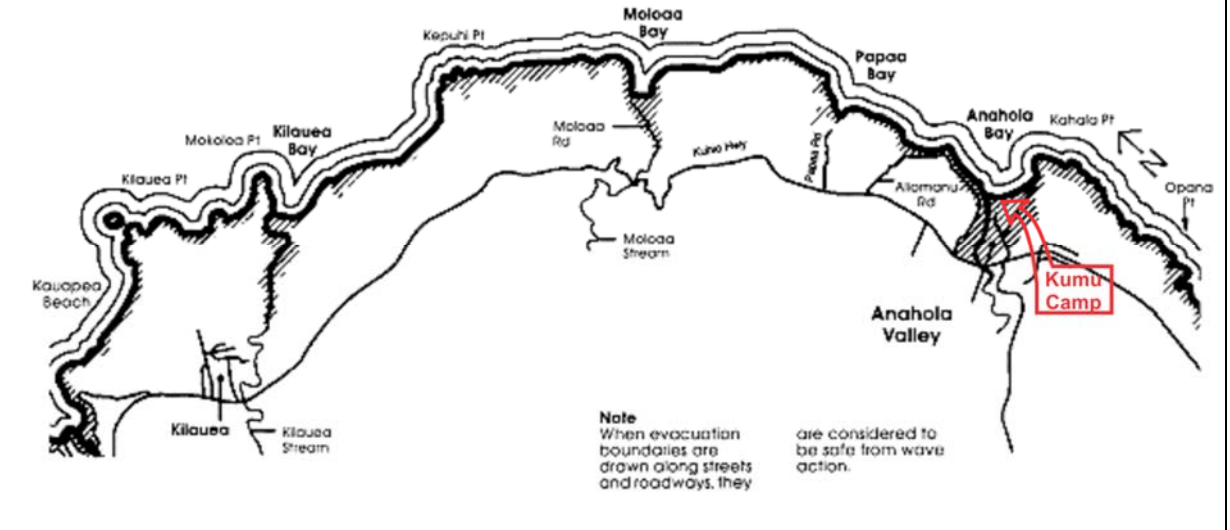
The results are included in the Uniform Building Code (UBC) seismic provisions. The UBC contains six seismic zones, ranging from 0 (no chance of severe ground shaking) to 4 (10 percent chance of severe shaking in a 50-year interval). For the purposes of structural design, the entire island of Kaua‘i is classified as Zone 1, a very low risk of severe ground shaking (USGS 1997). With the exception of the pavilion and restrooms, all inhabited structures at the camp are framed tents with little potential to pose a hazard in event of an earthquake.

3.9.2 VOLCANIC & TSUNAMI HAZARDS

There are no active volcanoes on the island of Kaua‘i and Kumu Camp is not in a region that the U.S. Geological Survey (2001) has designated as subject to volcanic hazards. Hence, Kumu Camp is not susceptible to volcanic hazards.

According to the Civil Defense Tsunami Evacuation for this portion of the County of Kaua‘i (see Figure 3.9), the entire project parcel is within the tsunami evacuation zone and is susceptible, due to its coastal location, to inundation in the event of a tsunami. Historically, tsunami wave heights on Kaua‘i have been highly variable depending upon the origin of the wave and the offshore bathymetry. For example, the 1946 tsunami was recorded at 20 feet near Kīlauea and 33 feet on the coastline near Moloa‘a, both to the north of Anahola, while it was one-half to one-third that height at Līhu‘e and Hanapēpē. See Section 3.2 for a discussion of Kumu Camp’s susceptibility to flooding.

Figure 3.9 Tsunami Evacuation Map: Kauapea Beach to Anahola Bay



Source: Civil Defense Tsunami Evacuation Zone maps for the County of Kauai (http://tsunami.pdc.org/hazards/tsunami/kauai/Kauai02.gif)

HCDC is well aware of the hazard and has taken measures to ensure that it will be evacuated. According to the County of Kaua'i, the nearest civil defense warning siren is No. 201, located at Anahola Village Park just a short distance away. This civil defense warning siren is audible at Kumu Camp, giving individual campers warning when a threat is detected. Moreover, in the event of a tsunami warning, HCDC will coordinate with on-site camp supervisors to help promptly evacuate campers, and to move the mobile kitchen and the propane tank(s) for the water heater to higher ground. In addition, emergency evacuation procedures are posted in each tentalow. For a discussion of emergency services in the area, see Section 3.11.4.

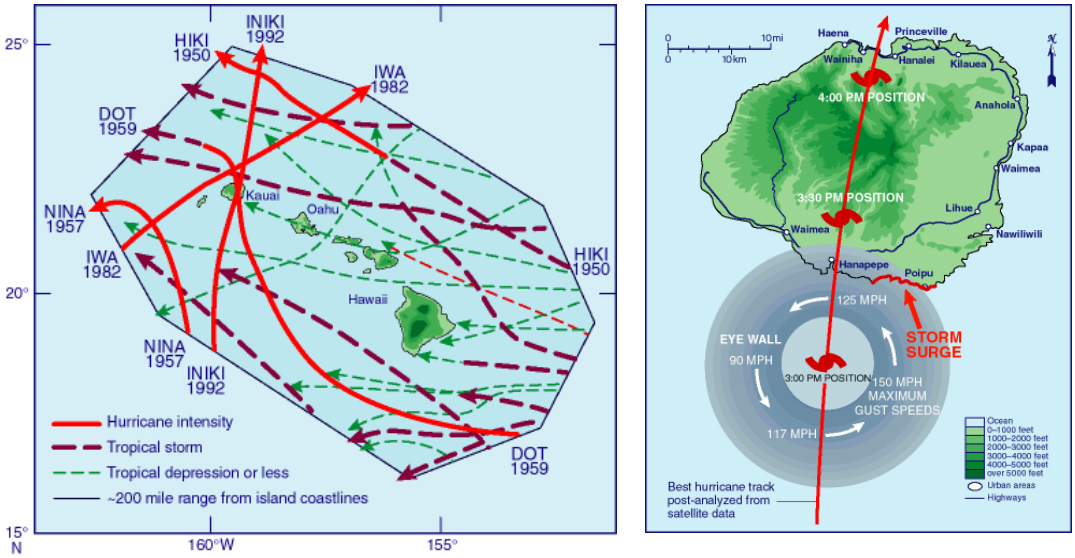
3.9.3 SUSCEPTIBILITY TO HURRICANE DAMAGE

Two different factors must be considered in evaluating a facility's susceptibility to hurricane damage. The first is the likely track and magnitude of the storm themselves. The second is the robustness of the facility. Both are discussed below.

Hurricane season in the Hawaiian Islands begins in June and lasts through November. During the last 50 years, many hurricanes and tropical storms have come close to the Hawaiian Islands, but only three hurricanes have had direct impact. In all three cases, Kaua'i was the hardest hit (see Figure 3.10 and Table 3.11. The two most recent hurricanes, 'Iwa which struck the island on November 23, 1982 and 'Iniki which hit a decade later on September 11, 1992, have been by far the most devastating. Electrical power was knocked out islandwide, and it was many months before electrical service was fully restored to North Shore communities.

In August of 1959, Hurricane Dot caused losses totaling approximately $6 million. In November of 1982, Hurricane 'Iwa caused over $250 million in damages. By far the most destructive storm to strike Hawaii in recorded history was Hurricane Iniki, in September 1992. That storm caused widespread wind- and water-related destruction, with damages totaling $2.2 billion (Post et al.; 1993). For both the 1982 and 1992 hurricanes, the majority of the damage in Hawai'i was suffered on the island of Kaua'i.

Figure 3.10 Tracks of Major Hurricanes Affecting the State of Hawai'i (1950-2012)



Source: http://www.soest.hawaii.edu/MET/Faculty/businger/ poster/hurricane/Fig2_tracks.gif and Fig4_kauai_track.gif

Table 3.11 Major Hurricanes Affecting the State of Hawai'i: 1950-2010

Name	*Date*	*Maximum Recorded Winds Ashore (mph)*		*Category*	*Deaths*
		Sustained	*Peak Gusts*		
Hiki	Aug. 15-17, 1950	68	NA	1	1
Nina	Dec. 1-2, 1957	NA	92	1	1
Dot	Aug. 6, 1959	81	103	2	-
'Iwa	Nov. 23, 1982	65	117	3	1
'Iniki	Sept. 11, 1992	92	143	4	8
*Note: Category is based on the Saffir-Simpson Hurricane Scale: Category 1 – Wind speed of 74-95 mph, minimal damage. Category 2 – Wind speed of 96-110 mph, moderate damage. Category 3 – Wind speed of 111-130 mph, extensive damage. Category 4 – Wind speed of 131-155 mph, extreme damage. Category 5 – Wind speed of >155 mph, catastrophic damage.					
Source: *State of Hawaii Data Book 2010*					

In the event of a hurricane warning, Kumu Camp procedure for staff and volunteers calls for the cancelation of all activities at the camp and assisting campers in evacuating the site. Once all campers have been moved to safety, camp personnel will remove the tents and frames from their platforms, and store them in an on-site metal storage container, so that they cannot become damaged or airborne in high winds. The mobile kitchen will also be driven off site to a safer location. Finally, camp personnel will leave the camp for the duration of the storm and retreat to safer areas away from the shoreline.

In view of these findings, it appears likely that while an extremely powerful hurricane (Category 4 and higher on the Saffir-Simpson Hurricane Scale) could damage the campsite, all temporary

facilities would be broken down and secured in advance of the storm's arrival with the exception of the pavilion and the wooden platforms supporting the tentalows and restroom facilities. Because Kumu Camp is not permitted to install permanent structures, these platforms are built on posts resting on concrete blocks laid on the surface of the ground, similar to those used on other nearby DHHL properties. Should DHHL grant a long term License or Lease to Kumu Camp, HCDC will coordinate an acceptable means of securing the platforms in the event of high winds.

3.10 SCENIC & AESTHETIC RESOURCES

3.10.1 EXISTING CONDITIONS

The northeast portion of Kaua'i in general, and specifically Anahola Bay, is known for its scenic beauty. In terms of visual character (see Figure 1.3), the Kumu Camp parcel is characterized by an overstory of (predominantly ironwood) trees, with native coastal strand understory, including *naupaka kahakai*, growing on sand dunes adjacent to the sandy beach of Anahola Bay. Some portions of the parcel have been irrigated and landscaped by adjacent landowners; other portions of the site are currently not in use and more overgrown. The site is crossed by unpaved footpaths, access road, and parking area.

Because of the highly vegetated nature of the site and the undulating sand-dune terrain, only portions of the 11-acre parcel are visible to adjacent landowners, primarily on the south side of the property. Only Poha Road, the short lane which accesses the campsite, is visible from the nearest community thoroughfare, Anahola Road (see Figure 1.2); the rest of the camp is not visible from there. By far, the greatest number of people viewing the site are those recreants moving up and down the beach at Anahola Bay, who have relatively unobstructed views of the campsite and structures when looking *mauka*. However, even these views are partially obscured by the natural sandy berm which has formed at the boundary between the beach and inland ironwood groves.

3.10.2 PROBABLE VISUAL IMPACTS

Continued operation of Kumu Camp, in its current location and configuration, would not substantially alter the character of the area or interfere with views across the site. While the site may be partially visible to some adjacent properties and uses, it is substantially obscured by surrounding vegetation and is not visible from the nearest thoroughfare, Pili Kai Road.

3.11 PUBLIC INFRASTRUCTURE

3.11.1 WATER SUPPLY

3.11.1.1 Existing Conditions

As described in Section 2.2.7, water service to Kumu Camp is provided by connection to the County of Kaua'i, Department of Water (DOW) municipal potable water system. The water is used for the showers and restrooms at the campsite. The DOW[15] operates the Anahola Water System which services the campsite just to the north of the project site. The Anahola water system includes three wells (Anahola Well A [90-A], and Anahola Well B and Anahola Well C). All of the water is chlorinated and pumped into the distribution system or stored in two tanks, one with a capacity of 500,000 gallons and other with a capacity of 150,000 gallons. As indicated by the results of tests

[15] DOW is a semi-autonomous agency responsible for the management, control, and operation of the island's municipal water system.

conducted in 2011 that are reproduced in Table 3.12, the quality of the water from the three DOW wells is very good and requires no treatment except for disinfection.[16]

3.11.1.2 Probable Effects

All of the water which is used at the campsite is obtained from the Kauaʻi County DOW Anahola System. As Kumu Camp is already in operation, its continued use will not require an increase in withdrawals from the aquifer. As discussed in Section 3.2.2.2, the DWS Anahola Water System is adequately supplied for this use.

Table 3.12. Potable Water Test Results: Anahola Water System – 2012

Substance	*Highest Level Allowed (MCL)*	*EPA MCLG*	*Highest Level Detected*	*Detection Range*	*Date*	*Violation*	*Source of Contaminant*
Inorganic Contaminants							
Chromium (ppb)	100	100	7	6-7	2011	No	Erosion of natural deposits
Nitrate (ppm)	10	10	0.4	-	2012	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Organic Contaminants							
Haloacetic Acids (HAA) (ppb)	60	NA	1.1	-	2010	No	By-product of drinking water chlorination
Lead and Copper Rule Compliance							
Substance	Action Level	MCLG	Highest Level Detected	# of Sites Sampled		# of Sites Found Above the AL Source of Contaminant	Source of Contaminant
Lead (ppb)	15	0	11	10		0	Corrosion of household plumbing systems
Copper (ppm)	1.3	1.3	0.08	10		0	Corrosion of household plumbing systems

Source: Water Quality Report Covering the period of January 1, 2013 to December 31, 2013. Kauaʻi Department of Water Anahola Water System (http://www.kauaiwater.org/wqr_anahola.pdf).

[16] DOW tests the water for many potential chemical regulated contaminants, each with a maximum contaminant level (MCL) and a maximum contaminant level goal; and unregulated contaminants, which don't have maximum contaminant levels. Included among the contaminants for which it tests are coliform bacteria and heavy metals (lead and copper).

3.11.2 SANITARY WASTEWATER COLLECTION AND DISPOSAL

3.11.2.1 Existing Conditions

There is no sanitary sewer system in this part of the island. Instead, wastewater is treated by each owner using individual wastewater treatment systems. At the present time, the County of Kaua'i Wastewater Management Division does not envision extending service to Anahola.[17]

As described in Section 3.2.2.3, only portable toilets are available at Camp Kumu which are periodically removed from the site for cleaning and servicing. Once the State DOH issues a permit for the IWS that HCDA has already installed at Kumu Camp pending acceptance of this EA, all sanitary wastewater generated at the campsite will be collected and piped into the IWS.

3.11.2.2 Probable Impacts.

Kumu Camp will continue to generate sanitary wastewater as part of their normal operations. HCDC has already installed, but not yet put into operation, an onsite individual wastewater system (IWS) in order to receive the sanitary wastewater generated by campers (see Section 2.2.4). With the anticipated use of the IWS, the use of portable toilets will be discontinued and the units removed from the campsite. The IWS is designed, has been constructed, and will be operated in accordance with the provisions of Hawai'i Administrative Rules §11-62. The Department of Health has indicated to HCDC that they will permit the IWS upon acceptance of the Final EA.

Section 11-62-31.1 establishes general requirements for IWS in the state. It provides that an IWS may be used as a temporary onsite means of wastewater disposal for non-residential uses in lieu of wastewater treatment works when: (*i*) there are 10,000 square feet of usable land area for each individual wastewater system; (*ii*) the total wastewater flow is not more than 15,000 gallons per day; (*iii*) the lot is at least 10,000 square feet; and (*iv*) the total wastewater flow into each individual wastewater system does not exceed one thousand gallons per day. HCDC is able to comply with all of these provisions.

3.11.3 ELECTRICITY AND TELECOMMUNICATIONS

3.11.3.1 Existing Conditions

There is currently no electrical service at the campsite. Portable generators are occasionally brought to the site for special occasions, but this is done infrequently. There is no land-line based telecommunication service to the campsite; all telecommunications are conducted with wireless cellular technology.

3.11.3.2 Probable Effects

HCDC has no plans to connect Kumu Camp to Kaua'i Island Utility Cooperative's islandwide electrical grid. It will continue to use a portable generator on the rare occasions when this is needed. Hence, it will have no effect on electrical power use from the KIUC system. Similarly, telecommunications services to the site will continue to be provided only by wireless cellular technology, thereby avoiding any potential effect on the existing telecommunications system.

[17] See the Final *Wastewater Rate Study and Long-Term Financial Analysis Report* prepared for the County by R.W. Beck in September 2010.

3.11.4 EMERGENCY SERVICES AND SCHOOLS

3.11.4.1 Existing Conditions

Kumu Camp is served by the Hanalei and new Keālia Fire Stations, and the Hanalei and Līhu‘e Police Stations, operated by the Kaua‘i County Fire Department and the Kaua‘i County Police Department, respectively. The nearest fire hydrant is located just a short distance away on the *mauka* side of the intersection of Anahola Road and Poha Road. There is no hospital in Anahola; the nearest medical facilities are the Kaua‘i Medical Clinic in Kīlauea and Wilcox Memorial Hospital in Līhu‘e. See Section 3.9 for a discussion of Kumu Camp's susceptibility to natural hazards.

The area is served by the Anahola campus of Kamehameha Preschool, the Kanuikapono Public Charter School of Kaua‘i, Kapa‘a Elementary School, Kapa‘a Middle School, and Kapa‘a High School. Because it does not house any permanent residents, Kumu Camp does not place any burden on these or other educational facilities.

3.11.4.2 Probable Impacts to Police, Emergency Services, and Schools

Continued operation of Kumu Camp will not increase the need for police, emergency, or educational services above the level presently experienced. To the extent that it serves as a community-based recreational opportunity available to school groups, it will continue to serve as a resource for area schools. Finally, continued operation of Kumu Camp does not involve any activities that would permanently alter the need for, availability, or ability to provide, emergency services.

3.11.5 SOLID WASTE MANAGEMENT

3.11.5.1 Existing Conditions

Operation of Kumu Camp generates relatively small quantities of solid waste. This solid waste is gathered in appropriate receptacles and trucked by volunteers to the Kapa‘a Refuse Transfer Station. From there, the Kaua‘i County Department of Public Works Solid Waste Division (SWD) transports it to the Kekaha Phase II Land Fill, which is the primary solid waste disposal site on the island.

At present, green waste from vegetation control activities is taken by volunteers to Moloa‘a Heart & Soul Organics, a County of Kaua‘i permitted composting center located in Kīlauea, Kaua‘i. Metal waste is collected by volunteers and taken to Puhi Metals Recycling Center in Līhu‘e.

3.11.5.2 Probable Impacts

Operation of Kumu Camp will continue to generate solid waste at approximately the same level as now occurs. Unless better collection and disposal methods are identified, HCDC anticipates that it will be handled in accordance with present practices. As the solid waste volumes are low, do not involve hazardous or other difficult to handle materials, and are capably handled by the existing procedures, no significant adverse effects are likely. Because individuals who are generating solid waste at Kumu Camp are not generating waste at their place of normal residence, there is no measurable increase in waste volume as a result of the Camp's operation and, therefore, no increase in the burden on the Kekaha Phase II Land Fill.

3.12 TRANSPORTATION FACILITIES

3.12.1 EXISTING CONDITIONS

3.12.1.1 Airports and Harbors

Līhu‘e Airport. Līhu‘e Airport, the only public use airport on the island of Kaua‘i, is located approximately 12 miles south of the project site. It is owned and operated by the State of Hawai‘i Department of Transportation. Situated approximately 150 feet above sea level, the airport has two asphalt-surfaced runways, 3/21 and 17/35; both are 6,500 feet long. In 2005, there were slightly more

than 100,000 operations and 28 based aircraft at the airport. In 2010, over 2,415,000 passengers and 14,386 tons of air cargo passed through the airport. The proposed project is not in or near a runway approach or clear zone; neither is it sufficiently close to any designated flight paths for reflections from it to adversely affect aircraft in flight.

Princeville Airport. Princeville Airport is a private facility located approximately 11 miles west-northwest of Anahola. Its single runway (5/23) is located at an elevation of 344 feet above mean sea level, is 3,560 feet long and has an asphalt surface. The airport is owned and operated by the Princeville Corporation, and permission is required before landing. The proposed project is not in or near a Princeville Airport runway approach or clear zone; neither is it anywhere near flight paths associated with that airport.

Nāwiliwili Harbor. The State DOT Harbors Division owns and operates Nāwiliwili Harbor. It is a manmade port, which includes three piers providing over 1,800 feet of berthing space and handles all of the island's waterborne commerce.

3.12.1.2 Roadways: Kūhiō Highway

Road access to Kumu Camp is via Kūhiō Highway (Hawai'i Route 56) and several local roads between the highway and the camp. Kūhiō Highway is a 28-mile route stretching from Rice Street in Līhu'e to Ha'ena on the north shore of the island. The road itself is a major thoroughfare for travel to and from the eastern and northern parts of the island and is the principal means of access to communities in the project vicinity. The portion of the highway near the project site is a two-way, two lane roadway with a pavement width of 24 feet; 6-foot shoulders are present on both sides. Sight-distance in both directions is more than 1,000 feet. The posted speed limit is 45 miles per hour.

From Kūhiō Highway, the typical means of access for vehicles approaching from the south would be to turn right on Kukuihale Road, then left on Mana I Road which joins with Anahola Road, and then onto Poha Road which accesses the site. For vehicles approaching from the north, they would turn off Kūhiō Highway onto Anahola Road, then access the site by turning left on onto Poha Road. All of these local roads are owned and maintained by the County of Kaua'i.

The number of vehicles traveling to and from Kumu Camp varies greatly from day-to-day. On weekdays when occupancy is low, it averages less than ten vehicle-trips per day. On weekends, when Kumu Camp is used more heavily, there may be 30 to 40 vehicle-trips. On an exceptional day, when the yurts and tentalows are fully occupied and other activities occur as well, it is possible that as many as 100 vehicle-trips might be recorded, but this occurs no more than a few times a year. There is no record of vehicles traveling to and from Kumu Camp having caused congestion or arousing complaints from neighbors.

3.12.1.3 Probable Impacts

Kumu Camp has been in continuous operation since 2012 without any appreciable effects on the area's roadways. Continued operation of the camp would continue to generate vehicle-trips at the relatively low levels experienced to date and does not, therefore, have the potential to adversely affect the level of service on area roadways.

3.13 LAND USE & SOCIOECONOMICS

3.13.1 EXISTING CONDITIONS

The project site is located within Anahola Census Tract 9400 (CT9400), which encompasses 55.17 square miles. The 2010 resident population of CT9400 was 3,715, representing about 5.5 percent of the island's population of 67,091. According to the 2010 American Community Survey, median household income in Kauai County was somewhat lower than the State average, at $55,723 compared

with $63,741.[18] Unemployment within the civilian labor force was 4 percent, 4 percent lower than the countywide average of 8.5 percent.[19]

Table 3.13 summarizes relevant comparative demographic and socio-economic data between Tract 9400 and the County of Kauaʻi for an assessment of environmental justice. As can be seen, Anahola does not have significantly more poverty than the county-wide average, but has a significantly higher proportion of native Hawaiians than the average across Kauaʻi County.

The County of Kauaʻi's Kawaihau Planning District extends from Wailua in the south to Moloaʻa in the north, and encompasses the communities of Wailua, Kapaʻa, and Anahola, including the entire Kumu Camp parcel. The *Kauaʻi General Plan* (2000) 6.2.1, which states policies providing for growth and the enhancement of communities in the Kawaihau Planning District, specifically calls for: "Recreational opportunities—beaches, ocean, mountains." It further states that, under the guidance of the Department of Hawaiian Home Lands long-range master plan, Anahola will continue to be developed with additional homes, farm homesteads, and ancillary infrastructure.

Table 3.13 Comparison of Demographics for Anahola vs. Kauaʻi County

Comparative Data for Environmental Justice Analysis		
Race	***Census Tract 9400 (Anahola)***	***Kauaʻi County***
	Percentage	***Percentage***
White	29.9	33.0
Black	0.3	0.4
Native American & Alaskan	0.5	0.4
Asian	9.4	31.3
Native Hawaiian & Pacific Islanders	26.1	9.0
Mixed	33.3	24.9
Other	0.5	0.9
TOTAL MINORITY	70.1	67.0
White	29.9	33.0
TOTAL	100	100
Percentage of Population With Income Below Poverty Level		
Anahola	***Kauaʻi County***	
13.1	13.2	
Source: U.S. Census Bureau, 2007-2011 American Community Survey		

DHHL's *Anahola, Kamalomaloʻo, Moloaʻa Regional Plan* (June 2010), which is the most recent of its many plans for the area, notes that DHHL owns 4,228 acres in Anahola and Kamalomaloʻo extending from the shoreline *mauka* to the Keālia. It notes that Anahola is the largest Hawaiian homestead community on Kauaʻi, but that most of the land remains undeveloped and unused by homesteaders. It provides the following summary of leases as of 2009: (*i*) 529 residential leases on 165 acres; (*ii*) 47 agricultural leases on 241 acres; and (*iii*) 154 acres of pasture and commercial uses short term leases. It also defines a system of land use designations for the area which include the following districts: (*i*) Residential; (*ii*) Subsistence Agriculture; (*iii*) Pastoral; (*iv*) General Agriculture; (*v*) Special District; (*vi*) Conservation; (*vii*) Community Use; and (*viii*) Commercial.

[18] American Community Survey 5-Year Estimates Hawaii Geographic Area Profiles, Census Tracts Neighbor Islands.

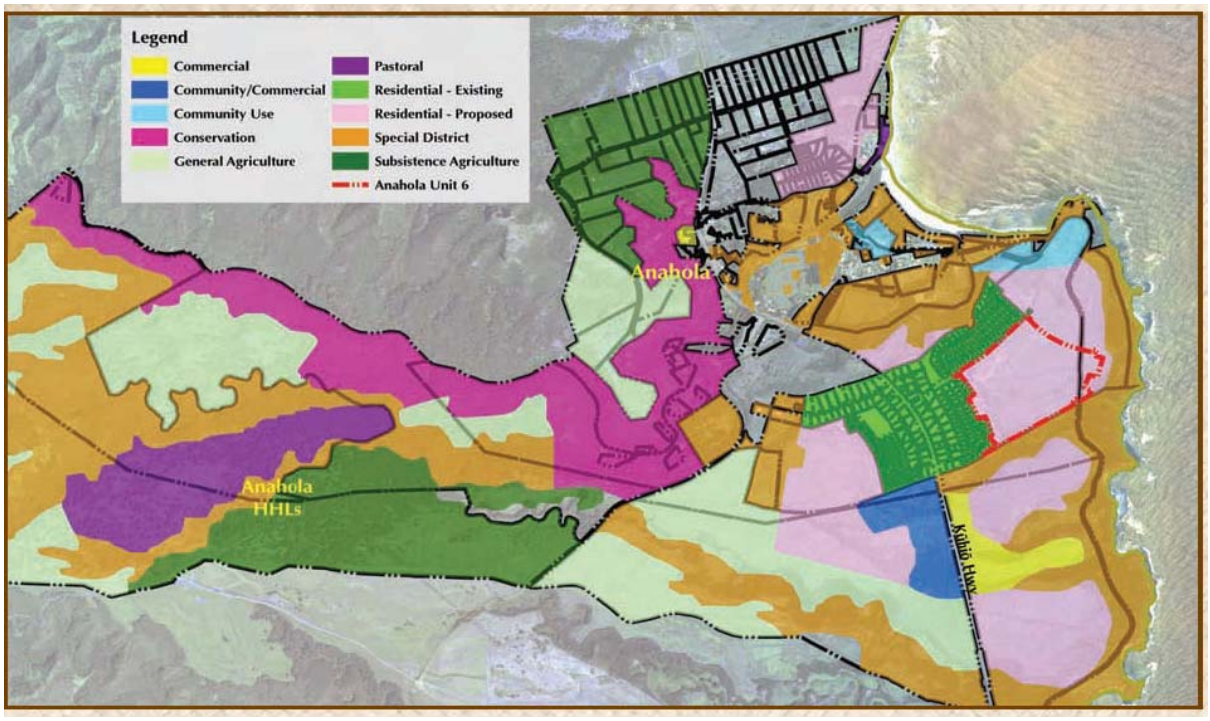
[19] U.S. Bureau of Labor Statistics for 2011, not seasonally adjusted.

According to that plan's Kaua'i Island Plan Land Use Designations Map for Anahola, reproduced in Figure 3.11 below, Kumu Camp is located in the Special District.

The Special District areas in Anahola are described as follows:

> *Special District areas in Anahola identify land that needs to be protected for cultural and environmental reasons or pose challenges to development. Portions of the special district areas could be used for low intensity activities such as farming, ranching, or other outdoor recreation. Many of these lands are in steeper drainage areas. Some special district lands are designated as such for special economic or community purposes. This is true for the makai town center plan area.*
>
> *Most of the 1,419 acres of land designated Special District is located mauka of Kūhiō Highway. This land consists of deep gullies, and steep slopes. The Special District areas makai of the Highway are designated around the Anahola Stream and flood zone as well as vacant shoreline areas. Residents of Anahola have an inextricable link to the mountains and the ocean and their resources. It is essential that these regions remain accessible, healthy and thriving.*

Figure 3.11 DHHL Land Use Designations for Anahola



Source: Department of Hawaiian Home Lands, *Anahola Regional Plan* (June, 2010)

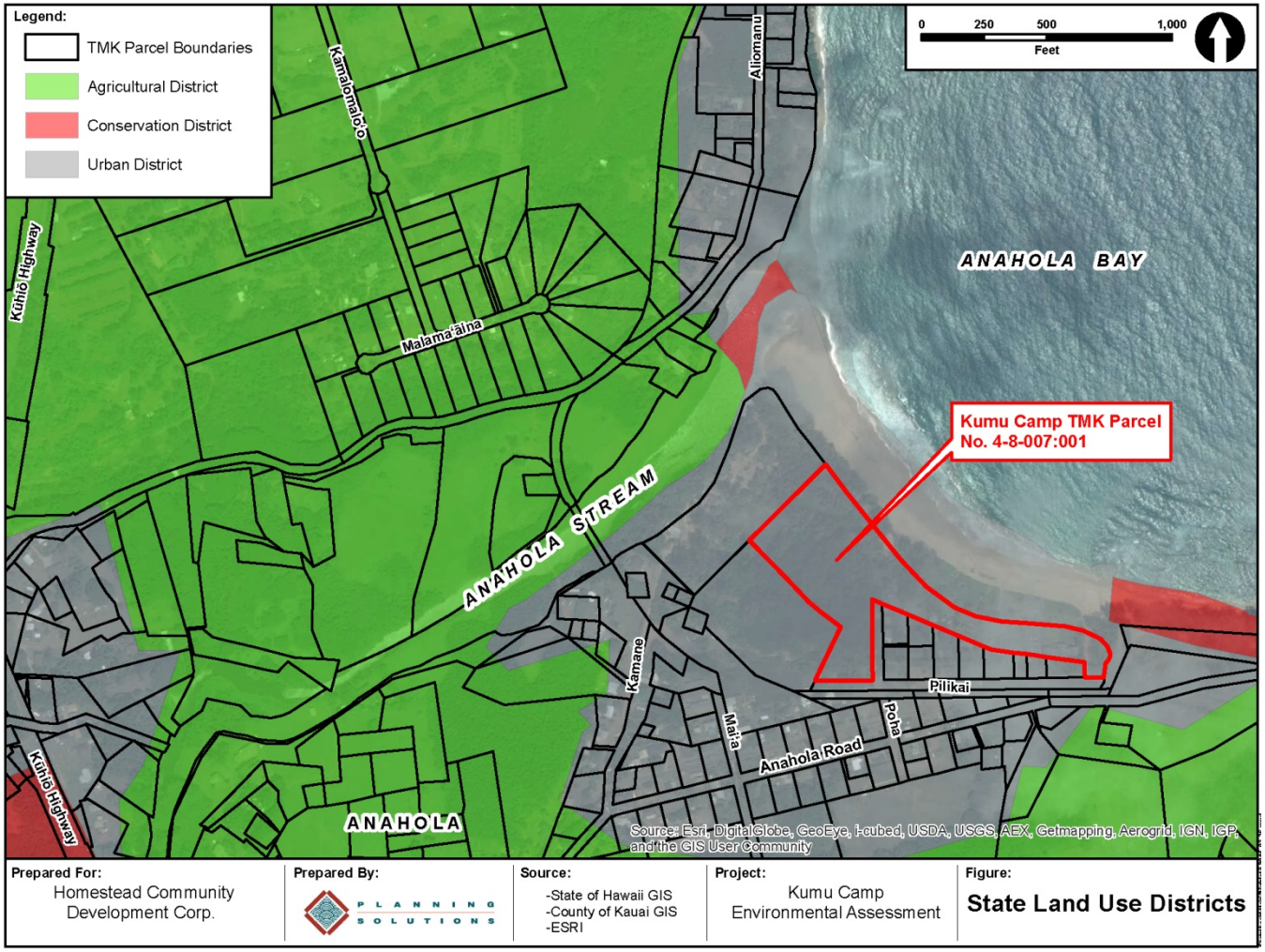
3.13.2 PROBABLE IMPACTS

HCDC believes that continued operation of Kumu Camp as a non-profit, community-based recreational resource is compatible with the existing and planned use of the area. Because nearly all of the work done at the campsite is conducted by volunteer labor, operations and maintenance of the camp will not stimulate or otherwise significantly alter population growth or economic activity in the area. As can be seen in Table 3.13, the total minority population in Census Tract 9400 is not

meaningfully higher than the County of Kaua‘i as a whole; however, it should be noted that the total minority population in both the county and in the Anahola Census Tract exceeds 50 percent. As such, Anahola does not represent a meaningful concentration of poverty nor is the project an unjust burden on the community, particularly given the close cooperation and support the community provides to Kumu Camp. No persons will be displaced by the continued operation and maintenance of Kumu Camp.

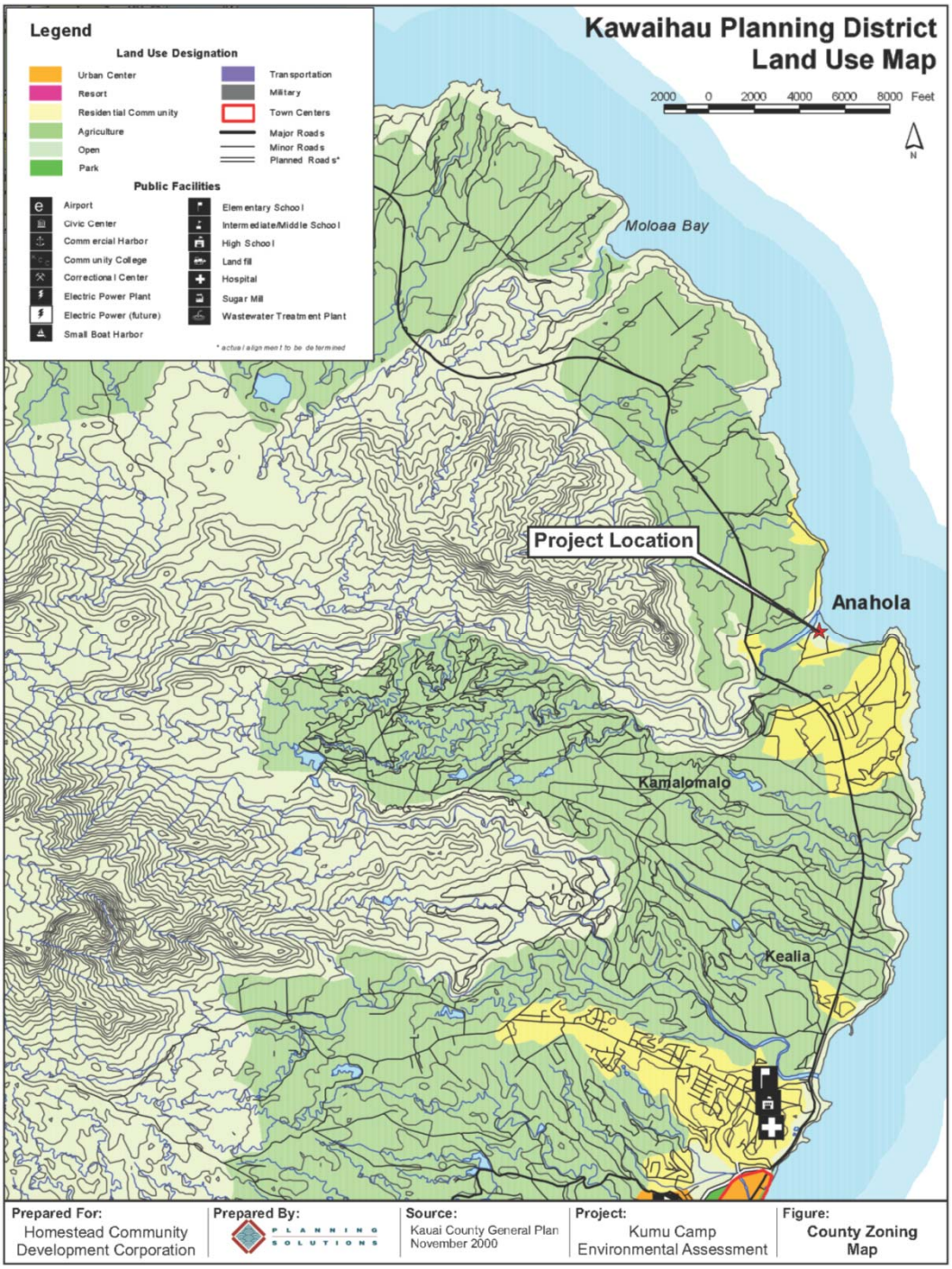
Kumu Camp is located in the State “Urban” District and the County of Kauai “Open” District. While Kumu Camp is located on DHHL land which is not subject to state and county land use regulations, the camp is an allowable use under these designations, conforming to their purpose and intent. Figure 1.3 shows the existing uses on the site. Figure 3.12 shows the state land use districts in and around Kumu Camp. Figure 3.13 depicts the county zoning designations at the campsite. According to the DHHL system of land classification it is located in the Special District, which are lands set aside for community purposes, including outdoor recreation. HCDC believes that the camp provides recreational infrastructure which will accommodate the future growth and economic activity planned for the area and that continued operation of Kumu Camp is in the interest of the Anahola, and islandwide community.

Figure 3.12 State Land Use Districts



Source: State of Hawaii GIS (2015)

Figure 3.13 Kawaihau Planning District Land Use Map



Source: Kaua‘i County Planning Department (2015)

3.14 RECREATION & SHORELINE ACCESS

3.14.1 EXISTING CONDITIONS

The County of Kaua'i operates 15 parks encompassing 211 acres of land in the Kawaihau Planning District, which includes Anahola. These include athletic fields, playgrounds, beach parks, and playing courts. There are two parks in the immediate vicinity of Kumu Camp. Anahola Beach Park just south of the campsite, accommodates typical beach activities including, but not limited to, picnicking, camping, swimming, surfing, and fishing. Anahola Village Park, on the *mauka* side of Anahola Road opposite the intersection with Poha Road, includes a playground, playing field, basketball court, and comfort station.

3.14.2 PROBABLE IMPACTS

Continued operation of Kumu Camp does not have the potential to affect recreational activities or facilities in the area and will not obstruct access to area beaches or shoreline. Neither will it produce noise or air emissions that have the potential to adversely affect other existing recreational resources in the area. Finally, operations at Kumu Camp will not generate sufficient vehicular traffic or changes in water quality that could degrade other available recreational experiences. Consequently, no recreation or shoreline access impacts are anticipated.

THIS PAGE INTENTIONALLY LEFT BLANK

4. CONSISTENCY WITH LAND USE PLANS, POLICIES & CONTROLS

In accordance with the requirements of Hawai‘i Administrative Rules (HAR) 11-200-17(h), this chapter discusses the relationship between the continued operation of Kumu Camp and with existing land use plans, policies, and controls for the area. HCDC has evaluated its operation of Kumu Camp for consistency with these regulations; it has also identified the extent to which the proposed action by the Department of Hawaiian Home Lands (DHHL) of issuing a long-term License or Lease would conform or conflict with objectives and specific terms of approved land use plans, policies, and controls.

The discussion is organized by jurisdiction and then by specific ordinance, relations, or law. An important consideration is that Kumu Camp is located in Anahola, Kaua‘i on approximately 11 acres of land owned by the DHHL. HCDC, the operator of the non-profit Kumu Camp, is seeking to move from a month-to-month revocable permit to a long-term License or Lease and has prepared this Environmental Assessment at the request of DHHL. Because of the unique situation on DHHL lands, not all land use classifications and county regulations—including zoning and special management area (SMA) authority—from which DHHL is exempt, are applicable. However, HCDC believes that, despite DHHL’s exemption, Kumu Camp is consistent with the rules and regulations which would typically apply.

4.1 COUNTY OF KAUA‘I

4.1.1 KAUA‘I COUNTY GENERAL PLAN

4.1.1.1 Relevant General Plan Provisions

The *Kaua‘i County General Plan* is the primary document covering long-range and comprehensive development, land use, and allocation of land and water uses within the County of Kaua‘i. It serves as the enabling legislation establishing the framework, parameters, constraints, and guidelines for the County’s Development Plans, Comprehensive Zoning Ordinance (CZO), infrastructure master plans, and capital improvement programs. The Plan also establishes the geographic areas of the county to be utilized or developed for various purposes, such as agriculture, open space, communities, and resorts. Other ordinances and regulations (e.g., the CZO) regulate specific uses within these areas. As discussed below, the proposed project is consistent with the provisions of the *Kaua‘i County General Plan*. The purpose of the plan is reproduced below in italics:

> *1.2 Purpose of the General Plan*
>
> *The General Plan fulfills the legal mandates of State law and the Charter of the County of Kauai. More importantly, it provides guidance for land use regulations, the location and character of new development and facilities and planning for County and State facilities.*

In that plan, the *Vision for Kauai 2020* sets several objectives and policies, several of which are cited below followed by a discussion of Kumu Camp’s consistency with them:

Policy:

2.1 COMMUNITY VALUES

The Community Values were formulated by the Citizens Advisory Committee, using input from 25 outreach meetings with a variety of community, business and public interest groups. The statement was revised based on public review and the initial round of Planning District meetings in June 1998.

Protection, management, and enjoyment of our open spaces, unique natural beauty, rural lifestyle, outdoor recreation and parks.

Conservation of fishing grounds and other natural resources, so that individuals and families can support themselves through traditional gathering and agricultural activities.

Access to and along shorelines, waterways and mountains for all. However, access should be controlled where necessary to conserve natural resources and to maintain the quality of public sites for fishing, hunting, recreation and wilderness activities valued by the local community.

Discussion: Kumu Camp is a non-profit community-based recreational campsite on the shoreline at Anahola Bay. The intent of Kumu Camp is to provide the youth of Kaua‘i with a way to enjoy a safe, low-cost outdoor camping experience and to act as a forum for interaction between youth and *kūpuna* who can pass on their legacy of traditional skills (e.g., hula and surfing), and their knowledge of the *‘āina*. Kumu Camp maintains this portion of the shoreline in a relatively undeveloped state, with only temporary, removable structures providing for the careful management and enjoyment of this unique natural area. By inviting youth and families to recreate along the shoreline, HCDC intends to foster a sense of connection and *kuleana* (responsibility) for the land and sea, and pride in the accomplishments and traditions of Hawaiian civilization.

Policy:

2.2 VISION FOR KAUA‘I 2020

We envision that in 2020 Kaua‘i will be…

A “garden island” of unsurpassed natural beauty;

A rural environment of towns separated by broad open spaces;

A vital modern society formed by the people and traditions of many cultures;

An island of distinctly individual towns and communities, each with its own unique history and character;

A community which values its historic places and where people practice and draw strength from ancient languages and cultural traditions;

Discussion: Kumu Camp provides a community-based recreational resource where campers can come and enjoy outdoor recreational and cultural interpretive activities in an open, natural setting. The camp achieves this by drawing on the natural beauty of its location at Anahola Bay, and through the generous volunteer efforts of area *kūpuna*, who use the camp as a forum to teach youth about native Hawaiian skills, traditions, and lore. Even the name “Kumu Camp” is intended to

communicate this concept of putting the young people of Kaua'i in touch with their roots.[20] Great attention has been given in the creation and operation of Kumu Camp to creating a community resource which maintains the rural character of the area and its unique history and culture. Thus, Kumu Camp serves the vision of Kaua'i as a place of rural communities bound together by its traditions, culture, and natural beauty.

Policy:

6.2 Kawaihau

The Kawaihau district extends from the Wailua River north to Moloa'a, including the Kapa'a-Wailua basin, Keālia and Anahola. The Kapa'a-Wailua basin is home to a large portion of Kaua'i's population. An urban corridor extends along Kūhiō Highway from Haleilio Road in Wailua to Kawaihau Road, at the northern edge of Kapa'a Town.

6.2.1 Community Assets

During the 1988-99 General Plan Update process, Kawaihau residents and business people attending community meetings listed the assets of their communities. The entire list was long and diverse and is available in the GP Update Working Papers. Following is a selection of assets related to the Kawaihau District, particularly the physical environment:

- *Rural scenery, open space, and agricultural lands.*
- *Scenic mountain views.*
- *Recreational opportunities—beaches, ocean, mountains.*
- *Walking paths and bridges.*
- *Plantation town heritage.*
- *Working Town environment.*

Discussion: When these land use policies were mapped out, their intent was to preserve and foster the area's scenic beauty, the rural character of the community, and the opportunities which they afford. It is with that same grassroots desire to preserve and promote Anahola's natural and cultural legacy for future generations that Kumu Camp was first created.

Policy:

6.2.4.2 Policy

(a) Regional Growth and Public Facilities

(1) Locate new growth in and around the Waipouli-Kapa'a urban center and on DHHL lands in Anahola.

(c) Support agricultural, residential, and limited commercial development of the Hawaiian Home Lands at Anahola, with the recommendation that projects be

[20] Pukui and Elbert define *kumu* as, "the bottom, base, foundation, title, main stalk of a tree, trunk, handle, or root…"

> *sited to avoid the appearance of strip development along the highway and that the highway frontage be enhanced with landscaping.*

Discussion: Kumu Camp is located near the shoreline at Anahola Bay and has no highway frontage. It is located in an area which is easily accessible to the people of Anahola and much of the rest of the island, and supports regional growth on DHHL lands in Anahola. It does not contribute to a "strip development" appearance to the area, which refers to commercial land developed with direct access to roadways and parking areas.

4.1.1.2 Conformance with the Kaua'i County General Plan

Continued operation of Kumu Camp as a community-based recreational resource is in conformance with the *Kaua'i County General Plan*. The Plan sets out regional policies that encourage the orderly development of resources and infrastructure for all members of the community. Kumu Camp meets all applicable county standards. It is also consistent with the stated policy objectives of the Kawaihau Planning District, which specifically calls for development on DHHL lands in support of measured residential and commercial growth. The camp has been in operation since 2012 and is allowable under the existing state and county zoning and development regulations. Kumu Camp does not produce substantial noise or airborne emissions which could disturb existing uses on adjacent properties.

4.1.2 COUNTY OF KAUA'I LAND USE ORDINANCE

Pursuant to HRS §205-2, the County of Kaua'i establishes the permitted uses for zoning districts in the Comprehensive Zoning Ordinances (CZO). The purpose of the CZO is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies. It does this by establishing zoning districts and specifying the kinds of development and development standards that must be adhered to within each zoning district.

Kumu Camp is located in the County Open District. CZO §8-9.1, which defines the function of the Open District states:

> *The Open District is established and regulated to create and maintain an adequate and functional amount of predominantly open land to provide for the recreational and aesthetic needs of the community or to provide for the effective functioning of land, air, water, plant and animal systems or communities.*

Kumu Camp supports the intended purpose of the Open District, and all camp facilities are consistent with the requirements of this zoning district (CZO §8-9.2). As noted in Chapter 3, continued operation of Kumu Camp will not significantly impact surrounding land uses. If Kumu Camp were not exempted due to its location on DHHL-owned land, it potentially could be required to obtain a Class II or III Use Permit. If such a permit were sought, it appears as though Kumu Camp would satisfy all of the conditions and restrictions contained in the applicable section of the CZO (e.g., setbacks, height limits, etc.).

4.2 STATE OF HAWAI'I

4.2.1 HAWAI'I STATE PLAN

The *Hawai'i State Plan* is intended to guide the long-range development of the State by:

- Identifying goals, objectives, and policies for the State and its residents;
- Establishing a basis for determining priorities and allocating resources; and

- Providing a unifying vision to enable coordination between the various counties' plans, programs, policies, projects and regulatory activities to assist them in developing their county plans, programs, and projects and the State's long-range development objectives.

The *Hawai'i State Plan* is a policy document. It depends upon implementing laws and regulations to achieve its goals. The sections of the *State Plan* that are most relevant to the proposed project are Sections 226-18(a) and (b), which establish objectives and policies for energy facility systems. These sections are reproduced in italics below, and the proposed project's consistency with them is discussed.

> ***§226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources.***
>
> *(a) Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:*
>
> *(1) Prudent use of Hawaii's land-based, shoreline, and marine resources.*
>
> *(2) Effective protection of Hawaii's unique and fragile environmental resources.*
>
> *(b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:*
>
> *(1) Exercise an overall conservation ethic in the use of Hawaii's natural resources.*
>
> *(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.*
>
> *(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.*
>
> *(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.*
>
> *(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.*
>
> *(8) Pursue compatible relationships among activities, facilities, and natural resources.*
>
> *(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.*

Discussion: Continued operation of Kumu Camp as a community-based recreational resource is consistent with these provisions of the *Hawai'i State Plan*. It represents a use of a State-owned shoreline area, providing increased access to, and prudent use of, inland and shoreline areas for public recreational and educational purposes.

4.2.2 DEPARTMENT OF HAWAIIAN HOME LANDS

The Hawaiian Homes Commission Act of 1920 forms the legal basis for the DHHL. The purpose of this act is defined in the following way:

> *Title 1A: Purpose*
>
> *§101. Purpose. (a) The Congress of the United States and the State of Hawaii declare that the policy of this Act is to enable native Hawaiians to return to their lands in order to fully support self-sufficiency for native Hawaiians and the self-determination of native Hawaiians in the administration of this Act, and the preservation of the values, traditions, and culture of native Hawaiians.*

(b) The principle purposes of this Act include but are not limited to:

(5) Providing financial support and technical assistance to native Hawaiian beneficiaries of this Act so that by pursuing strategies to enhance economic self-sufficiency and promote community-based development, the traditions, culture and quality of life of native Hawaiians shall be forever self-sustaining.

In keeping with this purpose, the mission of the DHHL is to effectively manage the Hawaiian Home Lands Trust and to develop and deliver lands to native Hawaiians. To accomplish this, DHHL works in partnership with government agencies, private landowners, non-profit organizations, homestead associations, and other community groups. Regional plans provide the means to solidify visions and partnerships that are essential to effectively manage Hawaiian Home Lands trust lands for the betterment of native Hawaiian beneficiaries.

DHHL has formalized its plans for Anahola and surrounding areas in its *Anahola Regional Plan* (June, 2010). The plan identifies resources and goals for the area and sets priorities for various projects supported by the Department. The most relevant positions from the *Anahola Regional Plan* are reproduced below, followed by a discussion of Kumu Camp's consistency with them.

4.2.2.1 Relevant Position

V. Homestead Issues & Priorities

Makai Resource Management Plan. Develop a plan to identify shoreline resources and access to manage the land between Anahola Beach Park and the edge of DHHL Lands makai of Kūhiō Highway. Include designation of a 5 acre parcel along the shoreline to establish management jurisdiction. Begin implementation.

A "Kumu Academy". Develop plans for a Kumu Academy (retreat area) for Hawaiian organizations, cultural practitioners, kumu and homesteaders around the base of the Anahola River on Aliomanu Road.

4.2.2.2 Conformance with the Policy

DHHL's *Anahola Regional Plan* calls for comprehensive, planned management of its lands *makai* of Kūhiō Highway. One important increment of that plan, which DHHL has identified as a priority, is the development of Kumu Camp (aka "Kumu Youth Academy") as an outdoor retreat area for homesteaders, *kūpuna*, cultural practitioners, and others interested in Hawaiian culture and traditions. HCDC believes that continued operation of Kumu Camp is wholly consistent with DHHL's policies and priorities for the Anahola region.

4.2.3 CHAPTER 205, HAWAI'I REVISED STATUTES - LAND USE LAW

Chapter 205, Hawai'i Revised Statutes (HRS), establishes the State Land Use Commission (SLUC) and gives this body the authority to designate all lands in the state as Urban, Rural, Agricultural, or Conservation District Lands. The counties make all land use decisions within the Urban District in accordance with their respective county general plans, development plans, and zoning ordinances. The counties also regulate land use in the state Rural and Agricultural Districts, but within the limits imposed by Chapter 205.

Kumu Camp is located in the State's Urban District. Hawai'i Revised Statutes §205-2 defines allowable activities within the Urban District as follows:

(b) Urban districts shall include activities or uses as provided by ordinances or regulations of the county within which the urban district is situated.

The County of Kaua'i has designated the Kumu Camp parcel as being within the Open Zone, and as discussed in Section 4.1.3, outdoor recreation facilities are an allowable use of the Open Zone.

However, because this project involves use of lands owned entirely by the DHHL, and because DHHL lands are not subject to the State's land use classifications and county zoning designations, these regulations do not apply.[21]

4.2.4 COASTAL ZONE MANAGEMENT (CZM) PROGRAM

The objectives of the Hawai'i Coastal Zone Management (CZM) Program are set forth in the Hawai'i Revised Statutes, Chapter 205A. The program is intended to promote the protection and maintenance of valuable coastal resources. All lands in Hawai'i are classified as valuable coastal resources. The State Office of Planning administers Hawai'i's CZM program. A general discussion of the project's consistency with the objectives and policies of Hawai'i's CZM Program follows.

4.2.4.1 Recreational Resources

Objective: *Provide coastal recreational opportunities accessible to the public.*

Policies:

1. *Improve coordination and funding of coastal recreational planning and management; and*
2. *Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*
    a. *Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
    b. *Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;*
    c. *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
    d. *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*
    e. *Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*
    f. *Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;*
    g. *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*
    h. *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission,*

[21] Hawaii Attorney General Opinion No. 72-21: "Under this bill certain specific lands are withdrawn from [the public land commissioner's] jurisdiction and from the jurisdiction of every commission except the special one to have charge of these specific lands described in the bill, and those lands are exclusively by the terms of this bill under the control of this commission." The commission which is referred to is the Hawaiian Homes Commission.

board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.

Discussion: Kumu Camp is intended to provide coastal recreational opportunities and is open to the public. The campsite is not visible from the nearest public recreational area, Anahola Beach Park, and continued operation of Kumu Camp will not have any adverse impact on other nearby coastal recreational resources.

4.2.4.2 Historic Resources

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

Policies:

1. *Identify and analyze significant archaeological resources;*
2. *Maximize information retention through preservation of remains and artifacts or salvage operations; and*
3. *Support state goals for protection, restoration, interpretation, and display of historic resources.*

Discussion: With the exception of the recessed IWS, all facilities at Kumu Camp are temporary, above ground structures which do not have the potential to disturb subsurface archaeological or historic resources. The Kumu Camp parcel has been the subject of archaeological investigation and no artifacts or remains have been recovered from the site to date. Section 3.7 summarizes the results of research which has been conducted in the area and discusses the steps that HCDC and/or Kumu Camp volunteers would take to preserve any resources inadvertently discovered during operation of the camp. SHPD will be provided with a copy of this EA for review and comment.

4.2.4.3 Scenic and Open Space Resources

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

Policies:

1. *Identify valued scenic resources in the coastal zone management area;*
2. *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
3. *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
4. *Encourage those developments that are not coastal dependent to locate in inland areas.*

Discussion: All Kumu Camp facilities are temporary, above ground structures which can be disassembled and removed from the site with the sole exception of the IWS which is partially recessed into the area's native sand. Installation of the facilities at Kumu Camp did not require any alteration of natural landforms and most of the structures are situated well away from any public view of the shoreline. While Kumu Camp is a visual presence in the area, all of the structures are relatively low-lying and screened by vegetation, consistent with construction elsewhere along this stretch of the coastline.

4.2.4.4 Coastal Ecosystems

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

Policies:

1. *Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;*
2. *Improve the technical basis for natural resource management;*
3. *Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;*
4. *Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and*
5. *Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.*

Discussion: The proposed project will not affect coastal ecosystems or any other water body, as described in Section 3.5.

4.2.4.5 Economic Uses

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

Policies:

1. *Concentrate coastal dependent development in appropriate areas;*
2. *Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and*
3. *Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:*
    a. *Use of presently designated locations is not feasible;*
    b. *Adverse environmental effects are minimized; and*
    c. *The development is important to the State's economy.*

Discussion: The continued operation of Kumu Camp as a community-based, outdoor recreational resource will not lead to any changes in the concentration or location of coastal developments. The camp has been in operation since 2012 and has not changed the character or normal use of surrounding areas.

4.2.4.6 Coastal Hazards

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

Policies:

1. *Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;*
2. *Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;*
3. *Ensure that developments comply with requirements of the Federal Flood Insurance Program; and*
4. *Prevent coastal flooding from inland projects.*

Discussion: Section 3.9 confirms that all camp facilities are in Flood Zone X, and within the county Tsunami Evacuation Zone. In the event of a tsunami warning, HCDC and Kumu Camp staff will ensure that campers are notified and assisted in evacuating the camp promptly. The School of Ocean and Earth Science and Technology (SOEST) at the University of Hawai'i at Mānoa has a prepared a Shoreline Erosion Rate Map for Anahola, Kaua'i, reproduced in Figure 4.1 below. As shown in this map, the shoreline in front of the camp has experienced accretion (rather than erosion) at a rate of 0.3 feet per year. Thus, the Kumu Camp site is not located in an area subject to significant rates of shoreline erosion or subsidence.

4.2.4.7 Managing Development

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

Policies:

1. *Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;*
2. *Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and*
3. *Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.*

Discussion: In order to facilitate efficient informed decision making by responsible parties, HCDC will distribute a copy of this EA to all state and county agencies tasked with oversight of coastal resources and hazards for review and comment.

4.2.4.8 Public Participation

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

Policies:

1. *Promote public involvement in coastal zone management processes;*
2. *Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and*
3. *Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

Figure 4.1 SOEST Shoreline Erosion Rate Map for Anahola, Kaua'i

Source: School of Ocean and Earth Science and Technology, University of Hawai'i at Mānoa (2009)

Discussion: HCDC is a DHHL-beneficiary organization dedicated to fulfilling the promise of the Hawaiian Homes Commission Act. Towards this end, it supports the involvement of beneficiaries and the community through its informational, planning, and consultation activities. During the planning of the Kumu Camp project, and in addition to regular briefings on the project at its own monthly board and community meetings throughout 2011, HCDC conducted several consultation meetings which were open to all DHHL beneficiaries and the general public:

- On May 28, 2012 HCDC held its annual meeting at the Anahola Resource Center, provided a briefing on the project, and announced two additional upcoming community outreach meetings.
- On June 25, 2012 a community consultation meeting was held from 6:00 p.m. to 8:00 p.m. at the Anahola Marketplace Office, located at 4523 Ioane Road, Anahola, Kaua'i.
- On July 2, 2012 a community consultation meeting was held from 6:00 p.m. to 8:00 p.m. at the Anahola Marketplace Office.
- In addition, for those who could not or did not attend these outreach meetings, HCDC prepared a *Beneficiary Consultation Briefing & Survey on the Anahola Beach Retreat and Kumu & Youth Academy* document which outlined the project and solicited input from the public.

Beneficiaries and the public will also have an opportunity to review and comment on this EA, pursuant to the requirements of Hawai'i Administrative Rules §11-200.

4.2.4.9 Beach Protection

Objective: *Protect beaches for public use and recreation.*

Policies:

1. *Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;*
2. *Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and*
3. *Minimize the construction of public erosion-protection structures seaward of the shoreline.*

Discussion: Continued operation of Kumu Camp poses no risks to beaches. No structures are planned seaward of the shoreline, and no interactions with littoral processes would be involved.

4.2.4.10 Marine Resources

Objective: *Promote the protection, use, and development of marine and coastal resources to assure their sustainability.*

Policies:

1. *Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;*
2. *Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;*
3. *Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;*

4. *Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and*
5. *Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.*

Discussion: The proposed project does not have the potential to adversely affect marine resources.

4.2.5 REQUIRED PERMITS AND APPROVALS

Kumu Camp has been in continuous operation since 2012. Following a review of existing month-to-month revocable permits, DHHL has asked Kumu Camp's operator, HCDC to prepare an EA prior to issuing a long-term License or Lease. This EA is intended to satisfy that requirement. In addition, the Department of Health has indicated that it will issue a permit for the camp's IWS pending acceptance of this EA. No other permits or approvals are required.

THIS PAGE INTENTIONALLY LEFT BLANK

5. ANTICIPATED DETERMINATION

5.1 SIGNIFICANCE CRITERIA

Hawai‘i Administrative Rules (HAR) §11-200-12.2 establishes procedures for determining if an Environmental Impact Statement (EIS) should be prepared for a project, or if a Finding of No Significant Impact (FONSI) is warranted. HAR §11-200-11.2(1) provides that applicants should issues an Environmental Impact Statement Preparation Notice (EISPN) for actions that it determines may have a significant effect on the natural or human environment. HAR §11-200-12 lists the following criteria to be used in making that determination.

In most instances, an action shall be determined to have a significant effect on the environment if it:

1. *Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;*
2. *Curtails the range of beneficial uses of the environment;*
3. *Conflicts with the State's long-term environmental policies or goals as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;*
4. *Substantially affects the economic or social welfare of the community or State;*
5. *Substantially affects public health;*
6. *Involves substantial secondary impacts, such as population changes or effects on public facilities;*
7. *Involves a substantial degradation of environmental quality;*
8. *Is individually limited but cumulatively has considerable effect on the environment or involves a commitment for larger actions;*
9. *Substantially affects a rare, threatened, or endangered species, or its habitat;*
10. *Detrimentally affects air or water quality or ambient noise levels;*
11. *Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;*
12. *Substantially affects scenic vistas and view planes identified in county or state plans or studies; or,*
13. *Requires substantial energy consumption.*

5.2 FINDINGS

The likely effects of continued operation of Kumu Camp, as described in Chapter 3 of this document, have been evaluated against these significant criteria. The finding with respect to each criterion is summarized below.

5.2.1 IRREVOCABLE LOSS OR DESTRUCTION OF VALUABLE RESOURCE

Operation of Kumu Camp as a community-based outdoor recreational resource, in its current location and configuration, will not involve the loss of any significant cultural or natural resources.

5.2.2 CURTAILS BENEFICIAL USES

Operation of Kumu Camp will not curtail any other beneficial use of the site at some point in the future. With the exception of the IWS (see Section 2.2.4), all structures and facilities at Kumu Camp are removable and above ground.

5.2.3 CONFLICTS WITH LONG-TERM ENVIRONMENTAL POLICIES OR GOALS

Continued operation of Kumu Camp is consistent with the *Kaua'i General Plan* (see Section 4.1.1) and with the State's long-term environmental policies and goals as expressed in Chapter 344, Hawai'i Revised Statutes and elsewhere in state law.

5.2.4 SUBSTANTIALLY AFFECTS ECONOMIC OR SOCIAL WELFARE

Kumu Camp's continued operation as a community-based outdoor recreational resource will not have any substantial effects on economic or social welfare.

5.2.5 PUBLIC HEALTH EFFECTS

Kumu Camp's operations will not adversely affect air quality or any water sources used for drinking or recreation. Neither will it generate large amounts of solid waste or produce other emissions that will have a significant adverse effect on public health.

5.2.6 PRODUCE SUBSTANTIAL SECONDARY IMPACTS

Kumu Camp's operations will not produce substantial secondary impacts. The camp is not intended to foster population growth or to promote economic development. Instead, it is intended to provide a community-based outdoor recreational resource for the people of Anahola and the general public.

5.2.7 SUBSTANTIALLY DEGRADE ENVIRONMENTAL QUALITY

Kumu Camp's operations will not have any substantial long-term environmental effects.

5.2.8 CUMULATIVE EFFECTS OR COMMITMENT TO A LARGER ACTION

Continued operation of Kumu Camp does not represent a commitment to a larger action and is not intended to facilitate substantial population growth. It is intended to serve as a community-based outdoor recreational resource.

5.2.9 EFFECTS ON RARE, THREATENED, OR ENDANGERED SPECIES

No rare, threatened, or endangered species are known to utilize the Kumu Camp parcel. Continued operation of the camp will not use or affect resources needed for the protection of rare, threatened, or endangered species.

5.2.10 AFFECTS AIR OR WATER QUALITY OR AMBIENT NOISE LEVELS

Operations at Kumu Camp do not have a measurable effect on water or air quality (see Sections 3.2 and 3.4). The camp has been in operation since 2012 and the minor noise and airborne emissions resulting from camper activities has not, and is not anticipated to, affect any adjacent noise-sensitive uses, as discussed in Section 3.6.

5.2.11 ENVIRONMENTALLY SENSITIVE AREAS

As discussed in Section 2.2, all of the physical infrastructure at Kumu Camp, with the exception of the semi-recessed IWS holding tank, is constructed on above-ground concrete post-and-pier foundations. Should DHHL approve HCDC's license request, Kumu Camp will continue to structure its physical infrastructure in a way that flows with the existing dunes and grounds, and avoid disturbing or altering the *'āina*'s natural contours unnecessarily.

With the exception of the southwestern corner of the site, where no structures are located or planned, the entire camp is outside a defined flood zone. The entire campsite is in a tsunami evacuation zone (see Section 3.9.2); evacuation plans are posted in all overnight accommodations and the camp will be promptly evacuated in the event of a tsunami warning. All facilities at the camp are removable and above-ground structures.

5.2.12 AFFECTS SCENIC VISTAS AND VIEW PLANES

Kumu Camp is not within a formally designated scenic area. While the camp facilities do alter the visual character of the parcel to some extent, they do not impact scenic vistas or important views across it. See Section 3.10 for a discussion of impacts to scenic and aesthetic resources.

5.2.13 REQUIRES SUBSTANTIAL ENERGY CONSUMPTION

Kumu Camp facilities have already been constructed and installed, and do not require any additional energy consumption. The lighting at the camp is by photovoltaic solar-powered lamps; there is no electrical service at the camp. The camp facilities themselves require only infrequent maintenance with hand tools.

5.3 ANTICIPATED DETERMINATION

In view of the forgoing discussion, HCDC and DHHL have concluded that continued operation of Kumu Camp will not have a significant adverse impact on the environment. Consequently, DHHL anticipates issuing a Finding of No Significant Impact (FONSI) for the proposed action. However, it is important to note that a FONSI would not constitute approval of HCDC's License request or its proposal to expand into the remaining 3 acres of the 8-acre parcel.

THIS PAGE WAS INTENTIONALLY LEFT BLANK

6. REFERENCES

Bennet, W.C. (1931). *Archaeology of Kauai*. Number 80 in B.P. Museum Bulletin, Honolulu: Bishop Museum Press

Chock, Gary (n.d.) *Micro-zoned Design Maps of Topographic Wind Effects and Exposure in the State of Hawaii Building Code*. http://martinchock.com/_library/documents/papers/ hawaiistatebuildingcodewindprovisions.pdf

Clague, D.A. and G.B. Dalrymple (1988). "Age and petrology of alkali postshield and rejuvenated-stage lava from Kauai, Hawaii". Contributions to Mineralogy and Petrology, 99: 202-218.

Cook, J. Capt. (1784). *A Voyage to the Pacific Ocean . for making Discoveries in the Northern Hemisphere. Performed under the Direction of Captains Cook, Clerke and Gore, in His Majesty's Ships the Resolution and Discovery, in the Years 1776, 1777, 1778, 1779 and 1780*, Vol. III, p. 120

David. R. E (2014). *Kumu Camp Biological Overview*. Prepared for: Planning Solutions, Inc. and Homestead Community Development Corporation. Anahola, Kauaʻi, Hawaiʻi.

Dye, T.S. (May 2012). *Archaeological Investigations for the Proposed Kumu Youth Academy at Site 50-30-08-116, Anahola Ahupuaʻa, Kawaihau District, Kauaʻi Island*. Prepared for Homestead Community Development Corporation by T.S. Dye & Colleagues, Archaeologists, Inc. Honolulu.

DOH (State of Hawaiʻi Department of Health) (2010); http://hawaii.gov/health/environmental/air/cab/ cab_misc_pdf/ naaqs_sep_2010.pdf)

DOH (State of Hawaiʻi Department of Health). (2009). 2011 *Air Quality Data Book*, State of Hawaiʻi.

Elmore, M. and J. Kennedy (2003, February). *An Archaeological Monitoring report for the Proposed Kuhio Highway Drainage Improvements Project at Kapaʻa and Anahola (Project #56AC-01-01) Located in Kawaihau District, Island of Kauaʻi*. Prepared for Site Engineering, Haleʻiwa, Hawaii: Archaeological Consultants of the Pacific.

Foote, Donald E., Elmer L. Hill, Sakuichi Nakamura, and Floyd Stephens (August 1972). *Soil Survey of Islands of Kauaʻi, Oʻahu, Maui, Molokai, and Lanai, State of Hawaiʻi.* U.S. Department of Agriculture Soil Conservation Service in cooperation with the University of Hawaiʻi Agricultural Experiment Station. US Government Printing Office, Washington, DC. 233 p.

Handy, E.S.C. and E.G. Handy (1972). *Native Planters in Old Hawaii: Their Life, Lore, and Environment*. Number 233 in B.P. Museum Bulletin. Honolulu: Bishop Museum Press. With the collaboration of Mary Kawena Pukui.

Kekua, L.K. and Alapaʻi, A.A. (2012) *Cultural Impact Assessment: Native Hawaiian Traditions, Customary Practices and Perspectives of Kamalomaloʻo and Anahola Ahupuaʻa, Moku O Kawaihau, Kauaʻi Island.* Native Kauaʻi LLC for Kauai Island Utility Cooperative.

Mink, John F. and Stephen Lau. September 1992. *Groundwater Protection Strategy for Hawaiʻi: Aquifer Identification and Classification for Kauaʻi*. Technical Report No. 186: University of Hawaiʻi Water Resources Research Center.

Parham, J.E., Glenn R. Higashi, Eko K. Lapp, Darrell G.K. Kuamoʻo, Robert T. Nishimoto, Skippy Hau, J. Michael Fitzsimons, Daniel A. Polhemus, and William S. Devick (2008). *Atlas of Hawaiian Watersheds & Their Aquatic Resources.* Joint project between the Hawaii Division of Aquatic Resources and Bishop Museum.

Post, Buckley, Schuh & Jernigan, Inc. (September 1993). *Hurricane Iniki Assessment*. Prepared for the U.S. Army Corps of Engineers, Federal Emergency Management Agency, and State of Hawaii Department of Defense. Tallahassee, Florida.

Pukui M.K. and S.H. Elbert. (1986). *Hawaiian-English Dictionary: Revised and Enlarged Edition*. University of Hawai‘i Press. Honolulu.

R.W. Beck, Inc. (September 2009). *Integrated Solid Waste Management Draft Plan.* Prepared for the County of Kaua‘i Department of Public Works—Solid Waste Division.

Shefcheck, D.M. and M.F. Dega (November 2007). *An Archaeological Monitoring Report for Fiber Optic Installation in the Anahola Scattered Lots Subdivision, Anahola Ahupua‘a, Kawaihau District, Island of Kaua‘i, Hawai‘i [TMK: (4) 4-8-008:024]*. Prepared for Ho‘akea. Honolulu: Scientific Consulting Services.

Sholin, C. and Dye, T.S. (February 2013) *Archaeological Inventory Survey with Backhoe Trenching Near Anahola.* Prepared for Kaua‘i Island Utility Cooperative by T.S. Dye & Colleagues, Archaeologists, Inc. Honolulu.

U.S., Department of Agriculture, Soil Conservation Service (1972). *National Engineering Handbook*. U.S. Government Printing Office. Washington, D.C.

U.S., Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center, (2009). *Local Climatological Data, Annual Summary with Comparative Data, 2009*, “Normals, Means, and Extremes, Honolulu, HI” (annual) as cited in the *2010 State of Hawai‘i Data Book*.

U.S. Geological Survey (2001). *Hazards in Hawai‘i*. http://hvo.wr.usgs.gov/earthquakes/hazards/

Wichman, F.B. (1998). *Kaua‘i: Ancient Place-names and Their Stories*. Honolulu: University of Hawai‘i Press.

7. CONSULTATION & DISTRIBUTION

7.1 CONSULTATION & DISTRIBUTION OF THE DRAFT EA

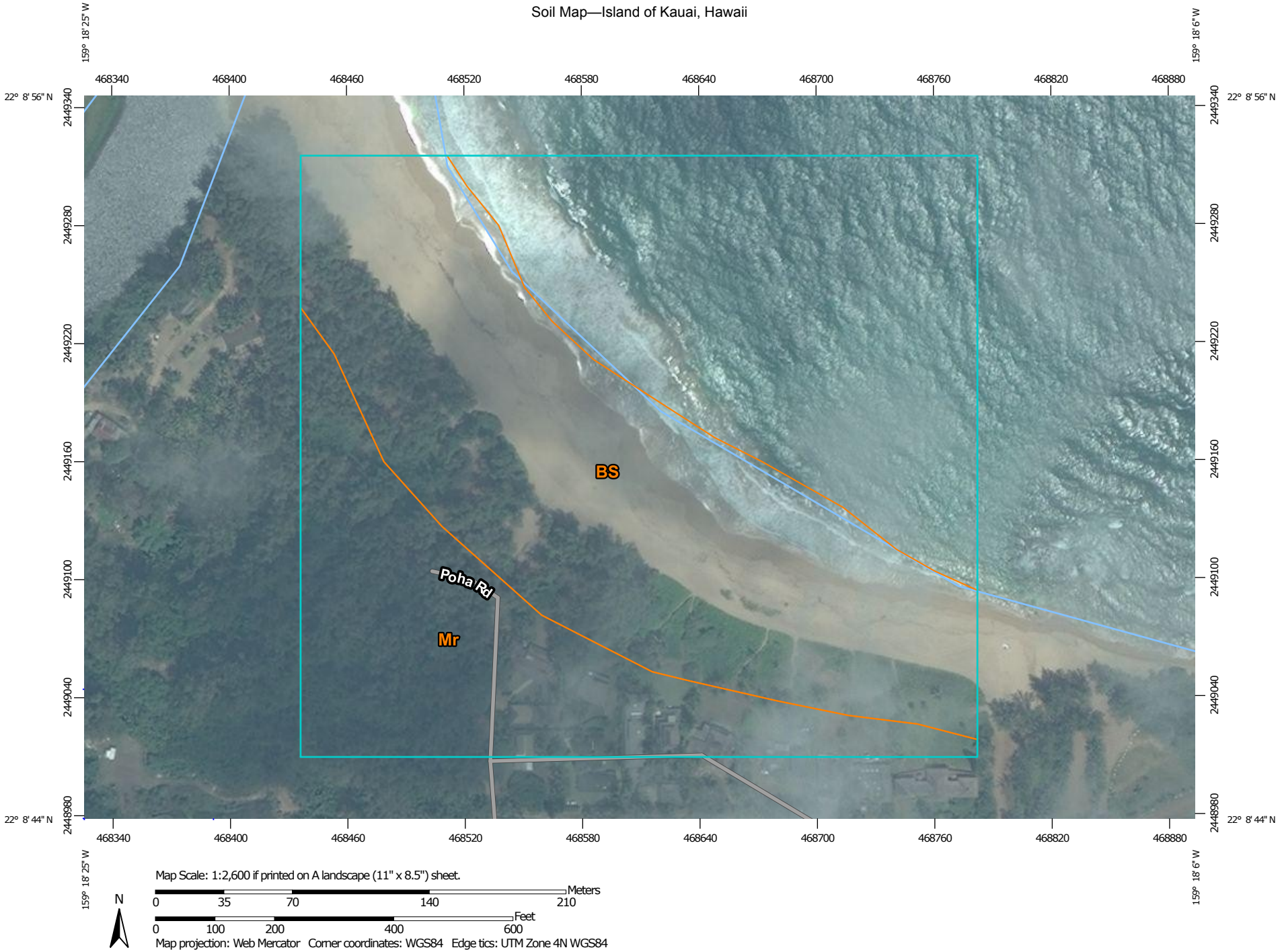
The Homestead Community Development Corporation is distributing copies of this Draft Environmental Assessment to the parties listed in Table 7.1.

Table 7.1. Draft EA Distribution List

State Agencies	**City and County of Kaua'i**
Department of Agriculture	Department of Parks & Recreation
Department of Accounting and General Services	Department of Planning & Permitting
Department of Business, Economic Development, and Tourism (DBEDT)	Department of Public Works
DBEDT - Energy Division	Department of Transportation
DBEDT – Office of Planning	Department of Water
Department of Defense	Kaua'i County Fire Department
Department of Education	Kaua'i County Police Department
Department of Hawaiian Home Lands	
Environmental Planning Office, Department of Health	
Clean Air Branch, Department of Health	
Clean Water Branch, Department of Health	
Wastewater Branch, Department of Health	**Elected Officials**
Department of Human Services	US Senator Brian Schatz
Department of Labor and Industrial Relations	US Senator Colleen Hanabusa
Department of Land and Natural Resources	US Representative Mazie Hirono
DLNR Historic Preservation Division	US Representative Tulsi Gabbard
Department of Transportation	State Senator Ronald D. Kouchi (Dist. 7)
Hawaii Housing Finance and Development Corp.	State Representative Derek S.K. Kawakami (Dist. 14)
Office of Hawaiian Affairs	Mayor Bernard P. Carvalho, Jr.
UH Environmental Center	
Federal Agencies	**Libraries and Depositories**
US Department of the Army, Regulatory Branch	Hawai'i State Library Hawai'i Documents Center (1 HC)
US Department of Agriculture	
US Fish and Wildlife Service	Kapa'a Public Library
US Department of the Interior, Geological Survey	Līhu'e Regional Library
Utility Companies	
Hawaiian Telcom	
The Gas Company	
Oceanic Time Warner Cable	**News Media**
Other	Honolulu Star Advertiser
Anahola Homestead Association	Garden Island
Source: Compiled by Planning Solutions, Inc. (2014)	

THIS PAGE WAS INTENTIONALLY LEFT BLANK

A. USDA WEB SOIL SURVEY MAP



Map Scale: 1:2,600 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 35 70 140 210

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 4N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Island of Kauai, Hawaii
Survey Area Data: Version 8, Dec 7, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 26, 2011—Oct 3, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Island of Kauai, Hawaii (HI960)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BS	Beaches	11.1	42.5%
Mr	Mokuleia fine sandy loam	6.1	23.2%
Subtotals for Soil Survey Area		**17.2**	**65.7%**
Totals for Area of Interest		**26.2**	**100.0%**

B. ARCHAEOLOGICAL INVESTIGATIONS FOR THE PROPOSED KUMU YOUTH ACADEMY AT SITE 50-30-08-116

T. S. Dye & Colleagues, Archaeologists, Inc.
735 Bishop St., Suite 315, Honolulu, Hawai'i 96813

Archaeological Investigations for the Proposed Kumu Youth Academy at Site 50-30-08-116

Anahola Ahupua'a, Kawaihau District, Kaua'i Island

Thomas S. Dye, PhD

May 31, 2012

Abstract

Archaeological investigations were carried out at site 50-30-08-116, the sand dune behind Anahola Bay, where the Anahola Hawaiian Homes Association proposes to establish the Kumu Youth Academy. The goal of the investigations was to determine whether there was stratigraphic information at site 50-30-08-116 that might help to predict the location and depth below surface of traditional Hawaiian burials that have from time to time eroded out of the sand dunes here. Excavation of three test pits, each to a depth of approximately 1 m, exposed simple stratigraphic profiles indicative of a recently vegetated but formerly active sand dune. No human remains were encountered and no information was found that might help predict the locations or depth below surface of human remains that might be buried at site 50-30-08-116.

Contents

1 Introduction **2**

2 Background **2**
2.1 Natural Setting 2
2.2 Traditional and Historic Land Use 3
2.3 Archaeological Background 5

3 Field Results **6**

4 Discussion **9**

Glossary **10**

Hawaiian Terms 11

Abbreviations 11

Bibliography 12

Illustrations

1 Location of the proposed Kumu Youth Academy 4
2 Locations of Test pits 1–4 6
3 Excavation of Test pit 1 7
4 Stratigraphic profiles of test pits 7
5 Excavation of Test pit 2 8
6 Excavation of Test pit 4 9

Tables

1 Sediment descriptions for Test pits 1, 2, and 4 8

1 Introduction

At the request of the Anahola Hawaiian Homes Association, T. S. Dye & Colleagues, Archaeologists has completed archaeological investigations of *site* 50–30–08–116, located in the *sand* dunes around Anahola Bay. The investigations were prompted by plans to establish a Kumu Youth Academy on Hawaiian Homelands at Anahola Bay. The academy will house participants in tentalows, a structure that is a cross between a tent and a bungalow and consists of a framed canvas structure on a wooden platform. Site 50–30–08–116 was described in the early 1930s as a location where traditional Hawaiian burials were exposed by shifting dune sands. The goal of the investigations was to determine whether near-surface dune sediments might yield evidence that would help to predict the locations and depths of human burials. Investigations were limited to near-surface sediments because the wooden tentalow platforms rest on the surface and don't require deep excavations. Investigation of the near-surface sediments also reduced the likelihood of encountering human remains.

2 Background

2.1 Natural Setting

The proposed Kumu Youth Academy lies near the shore of Anahola Bay (fig. 1). The soils in the area are classified as Mokuleia fine sandy loam (Mr) and Beaches (BS). The Mokuleia series consists of well-drained soils that formed in recent *alluvium* deposited over coral

sand.[1] The Mokuleia fine sandy loam is found on the flat coastal portion of the valley, from the beach and Anahola Stream to the base of the hill that constitutes Kahala Point. It extends *mauka* of the proposed Kumu Youth Academy to approximately the intersection of Kamane Road and Anahola Road.

The *project* area receives 40–60 in. of rainfall annually [3].

2.2 Traditional and Historic Land Use

Anahola is the southernmost *ahupua‘a* in the Kawaihau District.[2]

Handy and Handy [5] say that there were many breadfruit trees in Anahola. Cook noted that “breadfruit thrive [on Kaua‘i], not in such abundance, but produce double the quantity of fruit they do on the plains of Otaheite” [5:152–153].[3] Regarding terracing in Anahola, Handy and Handy say

> The last *ahupua‘a* on this, the *ko‘olau* (east and northeast) coast, is Anahola. Here is the largest river in Ko‘olau District. There are old abandoned terraces along its banks far upstream. There are old *lo‘i* from two to four miles inland along Anahola River and its tributary Ka‘alua Stream, and below their point of juncture there are many *lo‘i* on flats along the river banks as it meanders through its wide gulch. The delta is three-fourths mile wide, and this was all terraced. [5:423]

Māhele claims in Anahola are focused around Anahola Stream. A large number of claims were made in Anahola, compared to other *ahupua‘a*, which evidences that there was a considerable settlement in Anahola in the mid-1800s, at least.[4]

The earliest record of the land ownership found was of the parcel being owned by the State of Hawai‘i in 1962. Information on TMK: 4–8–007:001 on earlier history sheets was absent. The parcel is currently owned by Hawaiian Home Lands, a state department whose aim is “to manage the Hawaiian Home Lands trust effectively and to develop and deliver land to native Hawaiians.”[5] Thus, it appears that there has not been any change in ownership since 1962.

---

[1] USDA Web Soil Survey, `http://websoilsurvey.nrcs.usda.gov`.

[2] The Kawaihau District is known traditionally as the Ko‘olau District.

[3] These trees were usually planted along southern coasts, and to a lesser degree, inland along windward coasts and in valleys. The trees bear fruit that was a staple food for traditional Hawaiians. According to legend, the god Kū could take the form of this tree, and did so to save his family from starvation. The fruit was prepared by baking it in an *imu*, then pounding it to make *poi ‘ulu*. Another preparation is to peel the very ripe fruit, mash it, and mix it with *coconut* cream, then bake it. The simplest way was just to bake it. Traditional Hawaiians used *kēpau*, a milky latex which could be collected from the ripening fruit or by bruising or cutting the plant, in canoe building. *Kēpau* was also used in repair of wooden objects, catching birds, and binding of certain fishing tools. Ceremonial drums were made by hollowing out a section of the tree trunk. The wood was also used to make short boards for surfing, and in making musical instruments. Also, a yellow to tan to brown dye could be made from the male inflorescence. In the game *‘ulu maika*, originally a disk cut from a half-grown breadfruit was used instead of a discoidal stone.

[4] Waihona ‘Aina, `http://www.waihona.com`.

[5] Department of Hawaiian Home Lands, `http://hawaii.gov/dhhl`.

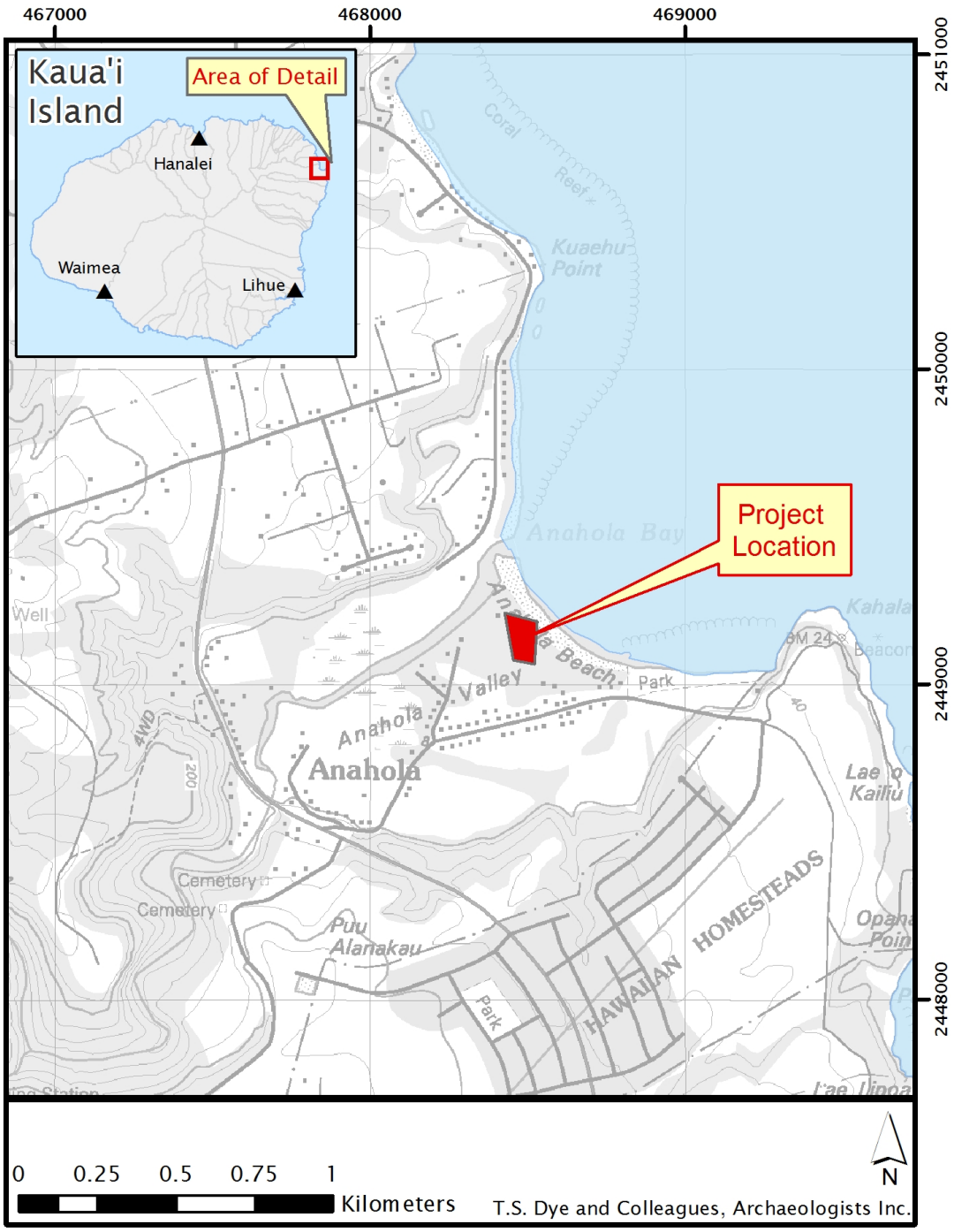


Figure 1: Location of the proposed Kumu Youth Academy on a portion of a USGS quadrangle map.

2.3 Archaeological Background

In Bennett's archaeological research on Kaua'i, he identified site 50–30–08–116, which is located within TMK: (4) 4–8–007:001.

> Site 116. Dune burials, in the dunes around Anahola bay many bones that have been found as burials have been uncovered by the shifting sand. [1:129]

Bennett did not determine the boundaries of site 50–30–08–116, and does not provide information on the number of burials or their spatial distribution within the dunes.

Other nearby sites recorded by Bennett [1] include site 113, Aikanaka Heiau, which has been destroyed, and site 115, Kuhua Heiau.

Remnants of Kuhua Heiau, site 50–30–04–115, were located approximately 0.3 mi. northwest of the proposed Kumu Youth Academy. Prior to a residential development, the Anahola community was consulted about the *heiau* remains. Nancy McMahon, at that time an employee of the County of Kaua'i Planning Department, stated that she believed the *heiau*'s integrity had been destroyed long ago; thus, the proposed home construction should be allowed [9]. The area has since been developed.

An inventory survey at Anahola Beach Park was done in 1999 [6]. Six trenches were excavated by a backhoe. Only modern material was found. It was noted that the "predicted settlement pattern model which anticipated the possibility of burials or special activity areas (ahu, fishing camps) was not shown to be evident in the extant project area." No further work was recommended for the project area. However, burials are possible.

Shefcheck and Dega [8] monitored fiber optic installation in Anahola. The project area was located less than 0.1 mi. south of the proposed Kumu Youth Academy. A single set of human remains was inadvertently discovered, site 50–30–04–6034, near the intersection of Maia Road and Anahola Road. It was determined to be a traditional-period burial. Site 6034 was assessed as significant under Criteria D and E and was preserved in place. Full-time monitoring is recommended for work in the area.

An archaeological inventory survey of a 38 ac. parcel in Anahola, located about 0.25 mi. southwest of the proposed Kumu Youth Academy, was conducted in 2001 [7]. No surface features were observed; however, subsurface features were observed which seemed to represent remains of a former *lo'i* system that was severely disturbed during modern times. It was assigned as site 50–30–04–877 and is significant under Criterion D. Since site 877 may extend beyond into yet undeveloped areas, it was recommended that subsurface testing be done.

Elmore and Kennedy [2] monitored Kūhiō Highway drainage improvements in an area located 0.6 mi. northwest of the proposed Kumu Youth Academy. The finds expected included agricultural features, ancillary temporary habitation, stone walls, and enclosures. Excavations were done to a depth of 200 cm below surface. Soils consisted of *fill* and disturbed soils. No sites of historical *significance* were identified. Thus, no further investigations are necessary.

An archaeological assessment including fieldwork was conducted in 2009 for a project to repair 'Aliomanu Road [4]. The study area is located 0.6 mi. north of the proposed Kumu Youth Academy. No significant properties were identified. There were no subsurface

excavations. The assessment concluded that "[t]raditional habitation does not appear to be indicated for the project area or its immediate vicinity as no LCA claims were made and the location is not conducive to agricultural cultivation." However, monitoring was recommended because the area is underlain by sand, which may contain burials.

Bobby Keao and Frank Cummings noted that human remains were discovered a short distance east of the proposed Kumu Youth Academy, during development of a beachfront home along Pili Kai Road. The location of this burial, which is outside the proposed Kumu Youth Academy, was not determined during fieldwork for this project. No record of the burial was found during the review of records at the State Historic Preservation Division (SHPD).

3 Field Results

Three test pits, labeled Test pits 1, 2, and 4, were excavated with shovels by Jay Coloma and Agenhart "Tintin" Pu'ulei under the direction of Thomas S. Dye, PhD, a fully qualified archaeologist (fig. 2). Test pit 3 was abandoned when abundant large tree roots were encountered near the surface. The test pits were each approximately 1.5 m on a side and were excavated to a depth of approximately 1 m.

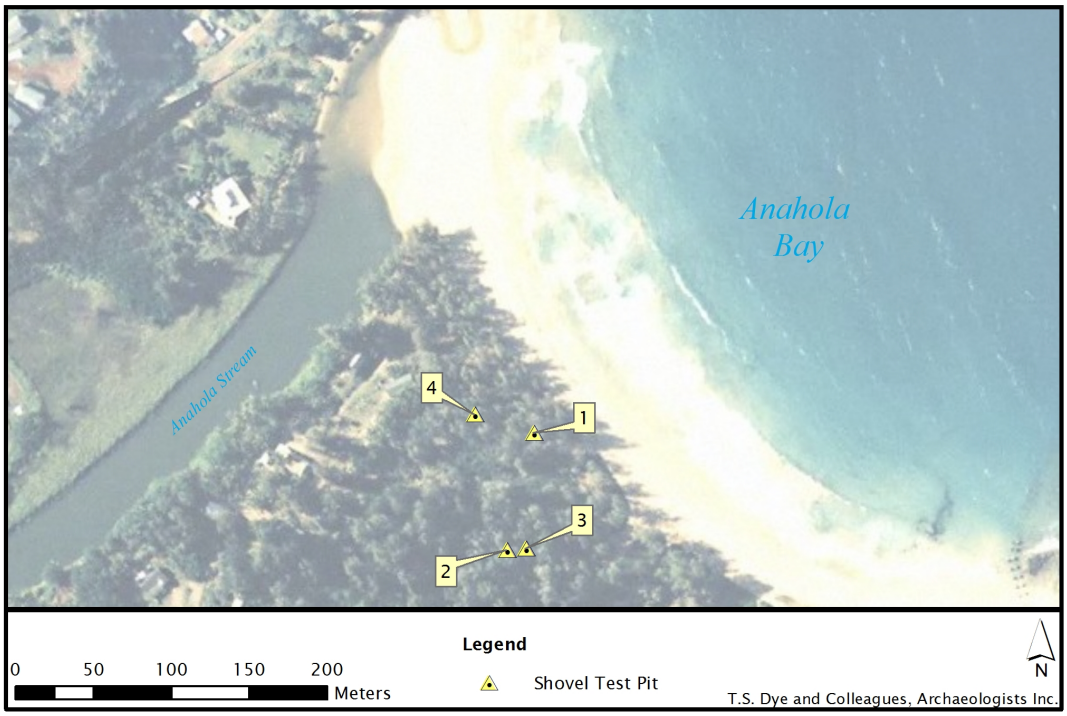


Figure 2: Locations of Test pits 1–4 on an aerial photograph.

Test pit 1 was located near the beach and the center of the property (see fig. 2). It was situated on a low rise in the topography with sparse vegetation (fig. 3). Excavation to a depth of 1.03 m exposed a simple stratigraphic profile with two natural layers (table 1). The surface layer, *Context* 1, represents the modern *A horizon*, which was about 10 cm thick here. Beneath this, to the depth of excavation, was an *aeolian* deposit of clean calcareous sand, Context 2. No cultural materials or human bones were found during excavation of Test pit 1. The test pit was backfilled after excavation.

Figure 3: Excavation of Test pit 1, looking west. Tintin Pu'ulei shovels sand from the test pit.

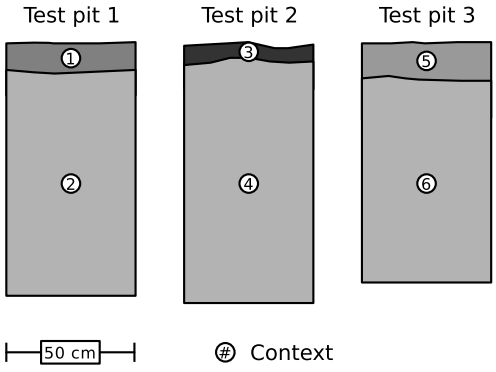


Figure 4: Stratigraphic profiles of Test pits 1, 2, and 4 at site 50–30–08–116.

Test pit 2 was located farther inland, near the southern boundary of the property (see fig. 2). It was situated on a high point in the topography at an open space among the *ironwood* trees (fig. 5). Excavation to a depth of 1 m exposed a simple stratigraphic profile with two natural layers (table 1). The surface layer, Context 3, represents the modern *A* horizon, which was about 7 cm thick here. Beneath this, to the depth of excavation, was an aeolian deposit of clean calcareous sand, Context 4. No cultural materials or human bones were found during excavation of Test pit 2. The test pit was backfilled after excavation.

Test pit 3 was located in a low spot in the topography, immediately *makai* of Test pit 2 (see fig. 2). Shortly after excavation began it became apparent that abundant ironwood roots would make it very difficult to excavate the test pit. The excavation was abandoned and the small amount of material that had been removed was returned to the pit, restoring the surface to its original condition.

Test pit 4 was located at the north end of the property, next to a path from the beach (see fig. 2). It was situated on a level area at an open space among the ironwood trees.

Table 1: Sediment descriptions for Test pits 1, 2, and 4

Context	Depth*	Color	Description	Interpretation
Test pit 1				
1	0–10	10YR 5/3	Brown calcareous loamy sand; non-sticky, non-plastic; clear, smooth lower boundary	Natural deposition process; modern surface
2	10–103+	10YR 7/4	Very pale brown calcareous medium sand; non-sticky, non-plastic; base of excavation	Natural deposition process; dune sand
Test pit 2				
3	0–7	10YR 2/1	Black calcareous loamy sand; non-sticky, non-plastic; abrupt, smooth lower boundary	Natural deposition process; modern surface
4	7–100+	10YR 7/4	Very pale brown calcareous medium sand; non-sticky, non-plastic; base of excavation	Natural deposition process; dune sand
Test pit 4				
5	0–13	10YR 4/2	Dark grayish brown calcareous loamy sand; non-sticky, non-plastic; abrupt, smooth lower boundary	Natural deposition process; modern surface
6	13–97+	10YR 7/4	Very pale brown calcareous medium sand; non-sticky, non-plastic; base of excavation	Natural deposition process; dune sand

*Depth in cm below surface.

Figure 5: Excavation of Test pit 2, looking northwest. Jay Coloma shovels sand from the test pit.

(fig. 6). Excavation to a depth of 0.97 m exposed a simple stratigraphic profile with two natural layers (table 1). The surface layer, Context 5, represents the modern *A* horizon, which was about 13 cm thick here. Beneath this, to the depth of excavation, was an aeolian deposit of clean calcareous sand, Context 6. No cultural materials or human bones were found during excavation of Test pit 4. The test pit was backfilled after excavation.

Figure 6: Excavation of Test pit 4, looking west. Jay Coloma and Tintin Pu‘ulei backfill the test pit.

4 Discussion

Our investigations found no direct evidence that human remains are present at the proposed Kumu Youth Academy.

Excavation of three test pits at widely separated areas of the proposed Kumu Youth Academy each exposed simple stratigraphic profiles. In each test pit, a recent *A* horizon had developed on a deposit of windblown beach sand. No cultural deposits, either buried or at the surface, were encountered in the excavations and no human bones were found.

The deposits of windblown beach sand in each of the test pits lacked paleosols, which are typically present in coastal calcareous sand deposits in Hawai‘i. Paleosols represent formerly vegetated and stable surfaces that were subsequently buried. They are identified by their dark color, residual organic content, and typically fine texture relative to the parent calcareous sand. The absence of paleosols in the test pits likely indicates that the sand dunes at Anahola Bay formerly lacked vegetation sufficient to stabilize the surface. Typically, sand dunes without a vegetated surface actively change shape due to wind, rain, and waves. Movement of sand on an unvegetated dune exposes materials buried in the dune and it is likely that this is the situation described by Bennett in the 1930s when he was told about the many bones found as burials.

The review of archaeological reports at SHPD yielded information on one human burial about 150 m *mauka* of the proposed Kumu Youth Academy, near the intersection of Maia Road and Anahola Road. This burial was found in the same Mokuleia fine sandy loam that is present in the proposed Kumu Youth Academy, and which is characteristic of the flat coastal portion of Anahola Valley. The discovery of the human burial near the *mauka* end of this soil deposit appears to indicate that the boundaries of site 50–30–08–116 are coterminous with the Mokuleia fine sandy loam. If this is the case, then site 50–30–08–116 extends *mauka* of the proposed Kumu Youth Academy for some distance. Also, portions of site 50–30–08–116 are currently developed with residential structures along Anahola, Maia, Kamane, and Pili Kai Roads.

Other than the secondhand information provided by Bennett, that “many bones” were found in the shifting sands of the dunes behind Anahola Bay, we found no information that indicates site 50–30–08–116 might contain a dense concentration of burials. In fact, the information available to us appears to indicate that the site does not contain a dense

concentration of burials. The two burial finds of which we are aware—at Pili Kai Road and Maia Road—are relatively few, given the extent to which the former sand dune has been developed with residential structures. In addition, extensive archaeological excavation with a backhoe in the sandy soils at Anahola Beach Park did not encounter any human remains.

From a practical point of view, the former presence of active sand dunes at site 50–30–08–116 indicates that it will be impossible to predict the depth below surface of any burials that might be present. This is because the movement of sand brings some buried objects closer to the surface at the same time that it buries others under more sand. The dunes have stabilized somewhat now that ironwood and other plants have established themselves, but it is not possible to know how this stable surface relates to the land surface at the time site 50–30–08–116 was used for human burial during traditional Hawaiian times. If there are traditional Hawaiian burials at the proposed Kumu Youth Academy they could be immediately below the surface or buried beneath several meters of sand.

In this situation, the likelihood of disturbing human burials can be lessened by limiting both the extent and depth of excavation.

It is recommended that, prior to construction of the Kumu Youth Academy, a protocol be developed in case human remains are discovered. If it is the case that there is some flexibility in the siting of tentalows and other infrastructure, then one possible protocol would be to leave a human burial in place and relocate infrastructure at an appropriate distance from it.

Glossary

***A* horizon** The surface layer in the soil containing humus, an eluvial layer from which minerals etc. are leached. See also *horizon*.

abrupt A transition between horizons that is 0.5 cm or greater but still less than 2 cm. See also horizon.

aeolian Associated with Aeolus, the Greek god of the winds, hence related to wind action, i.e. borne, deposited, produced, or eroded by wind.

alluvium Detrital deposits from rivers or streams.

clear A transition between horizons that is 2 cm or greater but still less than 5 cm. See also horizon.

coconut The palm, *Cocos nucifera*.

context A unit of stratification associated with a natural or cultural process or event.

detritus Material produced by the disintegration and weathering of rocks that has been moved from its site of origin, or a deposit of such material.

fill Any sediment deposited by any agent so as to fill or partly fill a valley, sink, or other depression.

horizon A subdivision of soil.

ironwood A historically introduced large tree, *Casuarina equisetifolia*.

medium sand Fine earth particles ranging from 0.25 mm to less than 0.5 mm.

non-sticky Little or no soil adheres to fingers, after release of pressure.

project The archaeological investigation, including laboratory analyses and report preparation. See also *undertaking*.

sand Detrital material ranging in size from 0.5 mm to 2 mm in diameter. See also *detritus*.

significance A quality of a historic property that possesses integrity of location, design, setting, materials, workmanship, feeling, and association. The qualities are set out in SHPD administrative rule §13–275–6, *Evaluations of Significance*.

site The fundamental unit of archaeological investigation, a location that exhibits material evidence of past human activity.

smooth A soil boundary which is planar with few or no irregularities.

undertaking Any action with the potential for an adverse effect on significant historic properties. See also project.

Hawaiian Terms

ahu Heap, pile; altar, shrine, cairn.

ahupua‘a Traditional Hawaiian land division, usually extending from the uplands to the sea.

heiau Traditional Hawaiian place of worship.

imu Underground oven.

lo‘i A single irrigated taro patch; irrigated terrace, especially for taro.

Māhele The mid-nineteenth century land division responsible for the introduction of fee simple land title in Hawai‘i.

maika Ancient Hawaiian game suggesting bowling.

makai Seaward.

mauka Inland, upland, toward the mountain.

poi The Hawaiian staff of life, made from cooked taro corms, or rarely breadfruit, pounded and thinned with water.

‘ulu 1. Discoidal, smooth stone as used in *‘ulu maika* game.
2. breadfruit.

‘ulu maika Stone used in the *maika* game. See also *maika*.

Abbreviations

cm The centimeter, a derived unit of length in the International System of Units, equal to 10^{-2} m. See also m.

LCA Awards issued by the Board of Commissioners to Quiet Land Titles between 1846 and 1855 to persons who filed claims to land between 1846 and 1848.

m The meter, a base unit of length in the International System of Units, equal to the length of the path traveled by light in vacuum during a time interval of 1/299,792,458 of a second.

SHPD The State Historic Preservation Division of the Hawai‘i Department of Land and Natural Resources, a government agency responsible for implementing the National

Historic Preservation Act of 1966, as amended, and Chapter 6E of the Hawai‘i Revised Statutes.

USDA A federal government agency whose mission is to provide leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management. Archaeologists in Hawai‘i typically describe sediments according to standards established by the agency.

Bibliography

1. Bennett, W. C. (1931). *Archaeology of Kauai*. Number 80 in B. P. Bishop Museum Bulletin. Honolulu: Bishop Museum Press.

2. Elmore, M. and J. Kennedy (2003, February). *An Archaeological Monitoring Report for the Proposed Kuhio Highway Drainage Improvements Project at Kapa‘a and Anahola (Project #56AC-01-01) Located in Kawaihau District, Island of Kaua‘i*. Prepared for Site Engineering. Hale‘iwa, HI: Archaeological Consultants of the Pacific.

3. Giambelluca, T. W. and T. A. Schroeder (1998). Climate. In S. P. Juvik and J. O. Juvik (Eds.), *Atlas of Hawai‘i* (Third ed.)., pp. 49–59. Honolulu: University of Hawaii Press.

4. Groza, R., D. W. Shideler, and H. H. Hammatt (2009, March). *Final Archaeological Assessment for the ‘Aliomanu Road Repair Project, Anahola Ahupua‘a, Kawaihau District, Kaua‘i, TMK: (4) 4–8–018:029, 999*. Prepared for Oceanit. Kailua, HI: Cultural Surveys Hawaii.

5. Handy, E. S. C. and E. G. Handy (1972). *Native Planters in Old Hawaii: Their Life, Lore, and Environment*. Number 233 in B. P. Bishop Museum Bulletin. Honolulu: Bishop Museum Press. With the collaboration of Mary Kawena Pukui.

6. McGerty, L. and R. L. Spear (1999, March). *An Archaeological Inventory Survey of Anahola Beach Park, Kawaihau, Kaua‘i, Hawai‘i (TMK: 4–8–14:6)*. Prepared for Department of Public Works. Honolulu: Scientific Consulting Services.

7. Rechtman, R. B. and D. S. Dougherty (2001, April). *Archaeological Inventory Survey of Approximately 38 Acres, Department of Hawaiian Homelands (TMK: 4–4–8–03:05, por. 16)*. Prepared for Kodani and Associates. Kea‘au, HI: Rechtman Consulting.

8. Shefcheck, D. M. and M. F. Dega (2007, November). *An Archaeological Monitoring Report for Fiber Optic Installation in the Anahola Scattered Lots Subdivision, Anahola Ahupua‘a, Kawaihau District, Island of Kaua‘i, Hawai‘i [TMK: (4) 4–8–008:024]*. Prepared for Ho‘akea. Honolulu: Scientific Consulting Services.

9. Taniguchi, C. K. (1996, April 15). Remnants of Kuhua Heiau, Anahola. Memorandum from Department of Hawaiian Home Lands Kaua‘i District Office in State Historic Preservation Division Library, Kapolei, HI.

C. ORAL HISTORY INTERVIEW TRANSCRIPTS

Name: Gary Frank Cummings, Jr.
Date of Birth: October 31, 1952 (62 years old)
Place of Birth: Līhuʻe, Puna, Kauaʻi
Occupation: Heavy Equipment Operator
Residency: Kamalomaloʻo from 1969 to 1984; Anahola Village from 1984 to 2015
Interview Location: Anahola Village, Anahola, Kauaʻi

What types of cultural practices or cultural beliefs are you aware of in the Anahola Bay area?

Throughout his forty-six years of living in Anahola, I have no recollection of any cultural beliefs (religious or otherwise) on the shoreline or in the bay, nor any knowledge of *wahi pana* that may be present there also. I have never witnessed nor heard of any cultural or religious practices by anyone being held on the shore or in the bay.

However, the cultural practices I have observed over the years include: fishing (utilizing various methods and/or techniques), and the gathering of various species of *limu*, *ʻopihi*, *hāʻukeʻuke*, *wana*, and *loli* and others.

I have no knowledge of any ʻiwi discovered in the shoreline area or the Kumu Camp site. There were no *wahi pana* known to me there, and none were uncovered during construction of Kumu Camp or the archaeological investigation of the area by T.S. Dye & Colleagues, Archaeologists, Inc. I was the heavy equipment operator hired to do the excavation for the archaeological survey by the archaeologist, Tom Dye.

The only native plants he identified as being present on the shoreline are *naupaka* and *lauhala*.

What can you share of the history of Anahola Bay?

There was a railroad track running parallel to, and crossing, Anahola River, just above the river's mouth.

The Meatoga *ʻohana* once lived in a house near the present site of Kumu Camp. After they vacated the house, squatters (homeless) took over and it became an overgrown homeless haven. Many carried on illegal activities that included drugs and burglaries.

Evidence of illegal activity was found in the trash collected during grubbing of the Kumu Camp project site, including car parts, (drug) bags, drug paraphernalia, wallets, and other items from burglaries. There were quite a few abandoned automobiles present as well.

What do you know about Kumu Camp and what kinds of activities happen there?

Kumu Camp is a great facility and venue that gives the community another option, close to home, for activities including accommodating guests from Kauaʻi and off-island, family reunions, recreation, *hula halau*, meetings, retreats, and (beach) volleyball tournaments.

There is a traditional *imu* on the site, and Kumu Camp also has a *kahua ho'olulu* for gatherings.

Are there any native plants or other resources located at Kumu Camp that you use, or that are used by others?

Indigenous and native plants have been planted but haven't yet reached maturity.

Do you use the fishermen's beach access road provided by Kumu Camp?

A popular access for fishermen heading to the beach from Pilikai Road is Poha Road. Poha [Road] runs perpendicular to Pilikai Road and to the vegetation line, down to the shore.

How has, or would, the programs delivered to the community by Kumu Camp affect your cultural practices or cultural practices?

I have, for the first time, learned about the Hawaiian Homestead Act from lectures and seminars we have had at Kumu Camp. I know that there is planning going on for more cultural activities and conferences.

I was a volunteer for the grubbing and grading. The negative *hui* who visited the site to inquire what was occurring had a negative opinion of the project. Half the group that had a negative opinion has now changed to supporters because of the recreational activities being held at Kumu Camp.

I believe I will broaden my cultural knowledge from cultural activities drawn to Kumu Camp.

What recommendations would you make to Kumu Camp to enhance and strengthen cultural priorities at Kumu Camp?

A set schedule of activities, especially for the summer and vacation times. Reiterate to the surrounding community that Kumu Camp is for most activities. I have heard supportive and encouraging comments about Kumu Camp.

Name: William Kalaukahiki Lemn
Date of Birth: October 2, 1938 (76 years old)
Place of Birth: Keālia, Kawaihau, Kauaʻi
Occupation: Retired
Residency: Lifelong resident of Anahola Village
Interview Location: Anahola Village, Anahola, Kauaʻi

Name: Luella Leimomi Hasegawa Lemn
Date of Birth: January 29, 1940
Place of Birth: Hoʻolehua, Molokaʻi
Occupation: Homemaker
Residency: Anahola Village resident for 57 years
Interview Location: Anahola Village, Anahola, Kauaʻi

What types of cultural practices or cultural beliefs are you aware of in the Anahola Bay area?

[Billy begins by naming the *papa*, or reefs, in the area].

Beginning at Keālia, Kunā is near the area where sand was mined for home use; waves slapped the boats down departing shore and nets would go flying, thus the name. Then Papalo, Papaiki, Kihau, Anahola Bay, Kanaha, Kukui, Opea, and ʻAliomanu.

[Luella and Billy] We cannot recall any cultural beliefs or religious practices that occurred in Anahola Bay.

[Billy recounts many experiences he witnessed fishing in Anahola Bay, growing up in Anahola Village] This story predates me, of a time when the *ʻāweoweo* were so plentiful around the landing, the waters were red. Hawaiians knew this was a sign that foretold an *aliʻi* would be lost. This was around the time when [Queen] Liliʻuokalani passed away on November 11, 1917. Uncle Billy and Aunty Annie, my parents, and another aunty went pole fishing from the landing and the catch was huge.

In the village, we had Kaleiohi and Kaʻiwi *ʻohana* nearby whom I grew up with. When my parents were at work, my babysitter was Naiʻa Kapule, the *konohiki* of Anahola and brother of Debra Kapule. In Naiʻa's housee was a cloak, *pūʻolo*, and *ihe* (spears). I remember the cloak being in disrepair and feathers falling on the floor. I don't know what happened to this cloak.

Naiʻa was known as the Chief of Anahola. Neighbors would say when I walked down the road with him, that I had the same mannerisms as Naiʻa. It never occurred to me how proud I should be when they made those comments because he was the Chief of this area.

When I was five or six years old, *Tūtū* Naiʻa would take me down to the beach when there was a *hukilau* and sit me on the sand in one place. He would catch fish and bring them up to me, where I was sitting. He would dig a hole in the sand and with the *naupaka*, place the fish in the hold, and cover it with *naupaka* leaves to keep fresh. I had to remain in the same spot for if I moved, we wouldn't know where the fish was buried.

I told Luella this story about another experience I had with Naiʻa. One day I went to fish with him. He went diving. After a while he came out of the water and walked up to me on the shore. In his mouth was a *moi*, as well as *moi* in each of his hands. I was so frightened because the *moi* in his mouth was still flapping!

A number of years later, we were at the Kauaʻi Museum to research photos of the Anahola pier near Olokahau Stream. I saw a photograph of a man with a fish in his mouth and one in each hand walking out of the water. I told Luella, "Look, it's him, it's Naiʻa!" Someone had taken this photograph of this moment I had told her about years ago. Chris Faye showed us a booklet of someone who had lived in the village and was a photographer who took this photo. When she died, her friends presented this book to the Kauaʻi Museum, where it is today.

The '42 tidal wave did so much damage in the village, that the military planted a buffer of pine trees [ironwood] to protect and ward off water eroding the sand and flooding the village. The tidal wave of '56 came through Olokahau Stream and did considerable damage there, but not in the village.

During World War Two, tanks would be driving up and down the beach and bunkers were built. Planes were flying overhead and lights searching them out, and target practice in the air. Cannons would also fire towards the bay. There were a few incidents when unexploded ordnance was discovered. Residents called the military to come and dispose of this ordnance. If villagers knew of any *ʻiwi* there, the people were not conscious or protective of the dunes.

The last major flood a few years ago was devastating to residents along the Anahola River. I cannot remember how many, but some lost their lives after being swept away by the flash flooding. A huge volume of water burst through the walls of a reservoir up in the area of Koʻolau Huiʻia Church. The river clogged with debris from upstream and blocked water from passing under the bridge on Kūhiō Highway. The excess water from the reservoir that burst caused the water level in the river to rise considerably.

The reservoir closest to the church burst and caused the flooding. The reservoir breach was never publicized, but kept quiet. The reservoir sat on DHHL land that was previously leased to Līhuʻe Plantation.

Anahola Village was Hawaiian Homestead and first inhabited in 1865. Most of the residents then were related. There is a difference between Hawaiian Homes and Hawaiian Homestead. The [Anahola] Village is Hawaiian Homestead, and Kamalomaloʻo is Hawaiian Homes. Hawaiian Homestead parcels were passed to those *kanaka* interested in the property during the *Māhele*. Each was awarded a 999 year lease for one dryland parcel and a wetland parcel.

The Lemn's *kupuna* was *Tūtū* Castro, one of the first *paniolo* brought to Hawaiʻi by Kamehameha I. *Tūtū* Castro married a Nāhulu [family] *wahine* from Hilo and settled in Anahola Village.

Judge Kaeo informed the Lemns that their catering house was on Hawaiian Homes land and their occupation was illegal. He later recanted because he found their award was Hawaiian Homesteads. The whole of Anahola Valley, from point on one ridgeline to the other ridgeline was excluded from the Hawaiian Homes Act. Anahola School, the Koʻolau Huiʻia Church and Anahola Valley were excluded from the Hawaiian Homes Act.

When Sam Lee was the State Land Manager, the government transferred all the land Hawaiian Homestead leases to his department because it was too cumbersome to manage. He took all the parcels and transferred them to Hawaiian Homes.

When we take our walks along the beach early in the mornings, we noticed fish nets used by *lawai‘a* for *moi* which was *kapu* at that time. They are bottom fish which live on crustaceans and crabs. Fishing now is with poles for *moi* or *‘ō‘io*. Certain times of the year also have schools of *‘ō‘io, ma‘au*—small size adults—that come into the bay. They are bottom fish who feed on crustaceans, fish, clams, and worms, found in or on the sandy floor. Other than that, there were schools of *kala*, *enenue*, *‘ō‘io*, and *‘āweoweo* that were known to come into the bay at certain times.

Before there were many more *‘upena ho‘olei*—net throwers—but their number today have diminished drastically and given way to pole fishers. Now we see only one or two *‘upena ho‘olei* and more pole fishers. It is dangerous for pole fishers because of the number of motorized vehicles, especially trucks, driving up and down the beach, some at a high rate of speed.

What can you share of the history of Anahola Bay?

Growing up in the village, there was not much activity from the village to the high watermark. There were mostly sand dunes without much vegetation. This was a favorite spot for children to play in the dunes and along the shore.

When the military forces showed up, they occupied a camp up by the lighthouse, between Ka Lae O Kahala and Lae O Kailio, and established a Marine Camp up there. The lighthouse was just above Baby Beach on the hill above the south side of Anahola Bay, towards Keālia. The Marine camp was large. Big trucks would be going up and down to the camp during the war hauling supplies from the landing area. I am one of the few children in the village who remembers the Anahola Landing.

What do you know about Kumu Camp and what kinds of activities happen there?

I am not familiar with all the activity at Kumu Camp but I support all they do. It is a good thing for the community. We have what no other community on Kaua‘i has, beachfront tentalows.

Are there any native plants or other resources located at Kumu Camp that you use, or that are used by others?

Naupaka, ‘ilima and others I don’t know the names of grew there. Native plants have been choked out by invasive species, but I don’t know what is there now. The pine trees were planted by the Corps of Engineers. It caused each of the native plants to perish because the needles sterilized the ground and choked out other plants from growing.

[Luella] I gather *lauhala* leaves from trees along the shoreline. These leaves were coveted because the salt breeze helped to cure the leaves for weaving. The *lauhala* trees were taken over by other invasive species and eventually most died.

Another plant I would see gathered was the morning glory with the purple flower. There was also one with the white flower that was preferred because it was not hot, as the purple flower was, when used as a *koali* (salve), used for strains, fracture, and similar injuries. You pounded the stems and roots and applied externally to wounds, aches, bruises and broken bones. *Koali‘awa*, like its relatives, are poisonous and should never be taken internally. *Koali‘awa* is still used in *lā‘au lapa‘au* as it was in the early days.

Do you use the fishermen’s beach access road provided by Kumu Camp?

[Billy] Andrew Lovell established the right of way to the beach for a more convenient way to get to the beach. He too, was like a *konohiki* of Anahola. He was a good fisherman and established the right of way close to his home on Pilikai Road.

We never went to the beach through Kumu Camp. We would travel to Olokahau to get to the beach. Now, I can access the beach by walking out the back door of my house through Kumu Camp and to the beach. Our preferred choice before Kumu Camp was to walk to Olokahau and access the beach from there.

How has, or would, the programs delivered to the community by Kumu Camp affect your cultural practices or cultural practices?

[Billy] From what I hear, good things are happening there for which I am happy. I encourage them to continue.

What recommendations would you make to Kumu Camp to enhance and strengthen cultural priorities at Kumu Camp?

[Billy and Luella] The contribution of Kumu Camp and Robin Danner to the community is, in our opinion very positive. She is very supportive of youth activities and for community involvement bringing our church group for conferences and staying at Kumu Camp. Kumu Camp has been able to do what the community hasn’t been able to accomplish previously.

People grumbling about the situation at Kumu Camp today have lived here and did not take advantage of the property known today as Kumu Camp. The property was overgrown and uncared for. We have some *hukihuki* here because we both support Kumu Camp and the efforts of Robin Danner. Kumu Camp and Robin are doing good and I support them both.

Name: Charles Blake Pereira
Date of Birth: June 22, 1929 (85 years old)
Place of Birth: Waikomo, Kōloa, Kauaʻi
Occupation: Retired
Residency: Anahola Village, Anahola, Kauaʻi (39 years)
Interview Location: Anahola Village, Anahola, Kauaʻi

Pilialoha is a song composed for two revered kupuna from Anahola Village, Aunty Loke and Uncle Charlie Pereira. Aunty Loke Lovell Pereira was the daughter of Andrew Lovell, *konohiki* of Anahola Bay. This interview is with Uncle Charlie Pereira.

What types of cultural practices or cultural beliefs are you aware of in the Anahola Bay area?

Cultural practices in Anahola Bay include gathering *limu* and fishing. The best *limu kohu* is from Anahola. Adding salt to the *limu* brings out a deeper color, and Anahola *limu* has the best flavor. Kaliko Lovell was the best gatherer of *limu*. Aunty Loke was also known as a gatherer of *limu*.

The type of fishing most observed was *ʻupena hoʻolei*—the throw net—but other types of nets were used to catch *akule* and lobster. The most abundant species of fish in the bay were mullet, *manini*, *moi*, *āhole*, *kala*, and *nenue*.

What can you share of the history of Anahola Bay?

My late wife and I would always weed the *limu* grounds in the bay. All the areas where we picked *kohu*, we would weed of unwanted or "rubbish *limu*". We would gather all the invasive *limu* from the *kohu* beds and take them ashore so as not have the invasives seed other *limu* areas. Some gatherers would rake the whole area of *limu* instead of puling from spots to allow the *limu* to continue to grow and fill in the *puka*.

Military had big presence in Anahola and at the bay during World War Two. They built many bunkers on the beach. To my knowledge, *ʻiwi* was never found or discovered on the shoreline fronting Kumu Camp or on the entire beach for that matter.

What do you know about Kumu Camp and what kinds of activities happen there?

I don't have any idea what goes on there but I do know it has a positive effect on this community. I live right across the street, on Pilikai Road, from the vehicular access to Kumu Camp. I only see regular people driving in there; before there were only shady people.

Are there any native plants or other resources located at Kumu Camp that you use, or that are used by others?

I don't know. I am a fisherman and net maker. Ask me about that.

Do you use the fishermen's beach access road provided by Kumu Camp?

I did when I was younger. I will be 86 in June and leave the fishing to the younger guys now.

A good fisherman before was George Kealohi. He was the master and would give me tips on net weaving. His grandson Matthew, son of Joe, also weaves nets.

The best fisherman in Anahola, in my opinion today, is Wayne Riviera. He is about 51 or 52 years old, and lives in Anahola. Wayne always shares his catch with others. And he give you more than two or three, he gives a lot.

How has, or would, the programs delivered to the community by Kumu Camp affect your cultural practices or cultural practices?

I don't know so I can't comment on this.

What recommendations would you make to Kumu Camp to enhance and strengthen cultural priorities at Kumu Camp?

I hear more positive than negative and just say, "keep on going."