

STATE OF HAWAI‘I  
DEPARTMENT OF HAWAIIAN HOME LANDS  
**HAWAIIAN HOMES COMMISSION MEETING/WORKSHOP AGENDA**  
Kūhiō Hale, 64-756 Māmalahoa Highway, Kamuela, HI 96743, and Zoom: Meeting ID: 609 754 2925  
Monday, March 17, 2025, at 9:30 a.m. to be continued, if necessary,  
on Tuesday, March 18, 2025, at 9:30 a.m.

*Livestream available at [www.dhhl.hawaii.gov/live](http://www.dhhl.hawaii.gov/live)*

*Note: Commission Meeting Packets will be available at [dhhl.hawaii.gov](http://dhhl.hawaii.gov) by Wednesday, March 12, 2025.*

**I. ORDER OF BUSINESS**

- A. Roll Call
- B. Approval of Agenda
- C. Approval of Minutes:
  - a. February 18 & 19, 2025 Regular Meeting
  - b. February 25 & 26, 2025 Public Hearings
  - c. February 26, 2025, Special Meeting
- D. Public Testimony on Agendized Items – see information below

Public testimony on any item **relevant to this agenda** may be taken at this time, or a testifier may wait to testify when the agenda item is called for discussion. Pursuant to section 92-3, Hawaii Revised Statutes, and section 10-2-11(c), Hawaii Administrative Rules, the Chair of the Commission has the authority to impose reasonable conditions to ensure an orderly and efficient meeting.

**II. ITEMS FOR DECISION MAKING**

**A. CONSENT AGENDA**

Homestead Services Division

- D-2 Approval of Consent to Mortgage (see exhibit)
- D-3 Approval of Streamline Refinance of Loans\
- D-4 Approval of Homestead Application Transfers / Cancellations (see exhibit)
- D-5 Approval to Certify Applications of Qualified Applicants for the month of February 2025 (see exhibit)
- D-6 Commission Designation of Successors to Application Rights – Public Notice 2022, 2023 (see exhibit)
- D-7 Approval of Assignment of Leasehold Interest (see exhibit)
- D-8 Approval of Amendment of Leasehold Interest (see exhibit)
- D-9 Approval to Issue Non-Exclusive Licenses for Rooftop Photovoltaic Systems for Certain Lessees (see Exhibit)
- D-10 Commission Designation of Successor – KEAWE K. WILHELM, Residential Lease No. 11700, Lot No. 18508, Kanehili, Oahu
- D-11 Cancellation of Lease – LUCY L. K. WHITING, Agricultural Lease No. 6082, Lot 170, Kalamaula, Molokai

**B. REGULAR AGENDA**

Office of the Chairman

- C-1 Acceptance of the 2025-2026 Native Hawaiian Housing Block Grant (NHHBG) Annual Housing Plan

Homestead Services Division

- D-12 Approval to Amend the Lease Commencement Date of the Pu'ukapu Pastoral Leases Awarded in 1990

Land Management Division

- F-1 Approval to Amend Land Management Division's FY 2025 Budget for acquisition of 787 Isenberg Street property, Island of Oahu, TMK No. (1) 2-7-011:052
- F-2 Approval to Issue Revocable Permit to E-Opala Corporation, Lot 3, Shafter Flats Industrial Subdivision, Moanalua, Island of Oahu, TMK No. (1) 1-1-064:033
- F-3 Approval to Issue Right-of-Entry Permit to Kula No Na Po'e Hawaii, Honolulu, Island of Oahu, TMK No. (1) 2-2-005:035 (p)
- F-4 Approval to Issue Three (3) 3 Revocable Permits to Center Scale Automation Hawaii, Inc., HBR Builders Corp., Hawaii Construction, Lot 2, Shafter Flats Industrial Subdivision, Moanalua, Island of Oahu, TMK No. (1) 1-1-064:034

Planning Office

- G-1 Approval of a Temporary Water Bill Subsidy for Kailapa Homestead Lessees on the DHHL Kawaihae Water System
- G-2 Approve the Final Environmental Assessment (FEA) and Declare a Finding of No Significant Impact (FONSI) for the DHHL the North Kona Wells Project – Gianulias Site, Island of Hawai'i TMK No. (3)-7-5-014:001 and 011

Administrative Services Office

- H-1 Approval to Transfer Hawaiian Home Receipts Fund Balance – End of 3<sup>rd</sup> Quarter, FY 25

**III. ITEMS FOR INFORMATION/DISCUSSION**

**A. REGULAR ITEMS**

Office of the Chairman

- C-2 For Information Only - Status Report of DHHL Enforcement Unit Efforts and Statistics (February 10, 2025 – March 9, 2025)

Homestead Services Division

- D-1 HSD Status Reports
  - A. Homestead Lease and Application Totals and Monthly Activity Reports
  - B. Delinquency Report

Land Development Division

- E-1 For Information Only - West Hawaii Updates

Planning Office

G-3 For Information Only – Native Hawaiian Rehabilitation Fund (NHRF) Revenue Update

G-4 For Information Only - Status Update on Plan Implementation in the West Hawaii Region

G-5 For Information Only - West Hawaii Water Projects and Issues Update

**IV. ANNOUNCEMENTS AND RECESS**

1. DHHL Community Meeting, Monday, March 17, 2025. 6:30 p.m. Kailapa Community Association, 61-4016 Kai ‘Ōpae Place, Kameula, Hawai‘i, 96743

STATE OF HAWAI‘I  
DEPARTMENT OF HAWAIIAN HOME LANDS  
**HAWAIIAN HOMES COMMISSION MEETING/WORKSHOP AGENDA**

Kūhiō Hale, 64-756 Māmalahoa Highway, Kamuela, HI 96743,

and Zoom: Meeting ID: 609 754 2925

Tuesday, March 18, 2025, at 9:30 a.m.

*Livestream available at [www.dhhl.hawaii.gov/live](http://www.dhhl.hawaii.gov/live)*

**I. ORDER OF BUSINESS**

A. Roll Call

B. Public Testimony on Agendized Items - see information below

Public testimony on any item **relevant to this agenda** may be taken at this time, or a testifier may wait to testify at the time the agenda item is called for discussion. Pursuant to section 92-3, Hawaii Revised Statutes, and section 10-2-11(c), Hawaii Administrative Rules, the Chair of the Commission has the authority to impose reasonable conditions to ensure an orderly and efficient meeting.

**II. ITEMS FOR INFORMATION/DISCUSSION**

**A. GENERAL AGENDA**

Requests to Address the Commission

J-1 Bo Kahui – Lai’Opua Community Development Corporation

J-2 Michael Hodson – Waimea Nui Development

J-3 Jojo Tanimoto – Kawaihae Water and Emergency Access

J-4 Kauilani Almeida – Panaewa Hawaiian Home Lands Community Association

J-5 Kanani Kapuniai – West Hawaii Beneficiary Concerns

J-6 Kekoa Enomoto – Paupena Community Development Corp Advocacy

J-7 Germaine Meyers – Vacant Lot Awards

J-8 Kapua Keliikoa-Kamai – Various Concerns

J-9 Kenna Stormogipson – Waipouli Relocation Concerns

**III. ANNOUNCEMENTS AND ADJOURNMENT**

A. Next Regular HHC Meeting –April 21 & 22, 2025, Kūlana Ōiwi Hālau, 600 Maunaloa Highway, Kalama‘ula, Moloka‘i, 96748

B. Adjournment



Kali Watson, Chairman

Hawaiian Homes Commission

## COMMISSION MEMBERS

Dennis L. Neves, Kaua‘i  
Michael L. Kaleikini, East Hawai‘i  
Sanoë Marfil, O‘ahu  
Archie Kalepa, Maui

Pauline N. Namu‘o, O‘ahu  
Makai Freitas, West Hawai‘i  
Walter Kaneakua, O‘ahu  
Lawrence Lasua, Moloka‘i

If you need an auxiliary aid/service or other accommodation due to a disability, contact Michael Lowe at 730-0298 or michael.l.lowe@hawaii.gov as soon as possible, preferably by February 14, 2025. If a response is received after that, we will try to obtain the auxiliary aid/service or accommodation, but we cannot guarantee that the request will be fulfilled. Upon request, this notice is available in alternate formats.

**Public Testimony on Agendized Items** can be provided either as (1) in person at the meeting location by filling out a form at the reception table, (2) written testimony mailed to *Commission Testimony, P.O. Box 1879, Honolulu, HI, 96815*, or emailed to *DHHL.icro@hawaii.gov* by March 14, 2025, or (3) live, oral testimony online by joining the Zoom meeting and relabeling your profile to include the agenda item you wish to testify on. Please keep your computer muted and your camera off until you are called. You will need a computer with internet access, a video camera, and a microphone to participate if you would like to be visible to Commission members and other meeting participants.

**Disruption of Interactive Technology** – If all participating Commissioners cannot maintain audiovisual communication and a quorum is lost, the meeting will automatically be recessed for 30 minutes. During that time, an attempt to restore audiovisual communication will be made. If such an attempt to restore is unsuccessful within 30 minutes, all Commissioners, public members, staff, and other interested individuals shall log on again to the Zoom link on this Notice, whereby audio communication will be established for all participants, and the meeting will continue. If reconvening the meeting is impossible because audio and visual communication cannot be re-established, the meeting will be terminated.

| <b>ITEM D-2 EXHIBIT</b>         |                  |                     |
|---------------------------------|------------------|---------------------|
| APPROVAL OF CONSENT TO MORTGAGE |                  |                     |
| <b>LESSEE</b>                   | <b>LEASE NO.</b> | <b>AREA</b>         |
| DUDOIT, Dustin Keakahi          | 10258            | Hoolehua, Molokai   |
| GARCES , Evans                  | 10594            | Puuhona, Maui       |
| HIGASHI, Jandie-Lee             | 12505            | Kanehili, Oahu      |
| KAAWA, Stalysha Preciouslee     | 3806             | Nanakuli, Oahu      |
| KEAHI, Bruce                    | 10324            | Waiohuli, Maui      |
| KEKONA, Shirley Ann             | 13098            | Puuhona, Maui       |
| KEUNG, Ashley                   | 7622             | Waiohuli, Maui      |
| MAUNAKEA, Chani K.C.            | 506              | Nanakuli, Oahu      |
| NAIHE, Mahiai R.                | 11144            | Anahola, Kauai      |
| RUSSELL, Brian K.               | 13008            | Anahola, Kauai      |
| VIERRA, Philip K.               | 11285            | Kumuhau, Oahu       |
| WONG, Curtis                    | 13111            | Puuhona, Maui       |
| YUEN, Stanley R.                | 9456             | Waiehu Kou II, Maui |

| <b>ITEM D-3 EXHIBIT</b>                   |                  |                  |
|---|------------------|------------------|
| APPROVAL OF STREAMLINE REFINANCE OF LOANS |                  |                  |
| <b>LESSEE</b>                             | <b>LEASE NO.</b> | <b>AREA</b>      |
| LEIALOHA, Bradford J.                     | 6321             | Keaukaha, Hawaii |

**ITEM D-4 EXHIBIT**  
APPROVAL OF HOMESTEAD APPLICATION TRANSFERS / CANCELLATIONS

| <b>APPLICANT</b>          | <b>AREA</b>                  |
|---------------------------|------------------------------|
| AUWAE, Dorcas R.          | Waimanalo Area / Oahu IW Res |
| BEE-MANNERS, Darlene      | Hawaii IW Res                |
| BRIGHT, Albert P., Jr.    | Maui IW Res to Hawaii IW Res |
| BUNDA, Roberta L.H.       | Oahu IW Res                  |
| ENGLAND, Sholan K.K.K.    | Hawaii IW Res                |
| HANOHANO, Quincy K.       | Hawaii IW Res to Oahu IW Res |
| HEWETT, Emma D.W.         | Hawaii IW Agr to Oahu IW Agr |
| KAHAWAI-KAMANAWA, Dawn K. | Oahu IW Res                  |
| KELIIHOLOKAI, Cecelia W.  | Oahu IW Res                  |
| MAHI, Antone              | Waimea Area / Hawaii IW Pas  |
| MAIO, Joseph K., Jr.      | Maui IW Agr                  |
| MAKANEOLE, Christian E.   | Hawaii IW Res                |
| MAKUA, Nelson H.          | Hawaii IW Res                |

| <b>ITEM D-4 EXHIBIT (Continued)</b> |   |
|-------------------------------------|---|
| <b>APPLICANT</b>                    | <b>AREA</b>                                   |
| MAKUAKANE-JARRELL, Joni Mae L.      | Hawaii IW Res                                 |
| PACHECO, Jason Kaaha                | Hawaii IW Pas                                 |
| SPENCER, Zebadiah P.                | Oahu IW Res                                   |
| TOLENTINO, Jamie-Anne K.            | Hawaii IW Res                                 |
| VICTORINO, Violet K.                | Keaukaha / Waiakea Area / Hawaii IW Res       |
| WILSON, Barbara J.                  | Hawaii IW Res                                 |
| YANAGIDA, Theresa D.                | Waimanalo Area / Oahu IW Res to Hawaii IW Res |
|                                     | * IW = Islandwide                             |

**ITEM D-5 EXHIBIT**

APPROVAL TO CERTIFY APPLICATIONS OF QUALIFIED APPLICANTS FOR THE MONTH OF  
FEBRUARY 2025

| <b>APPLICANT</b>          | <b>AREA</b>                             |
|---------------------------|---|
| ALCON, Chaice K.          | Oahu IW Res                             |
| ALCON, Chaice K.          | Molokai IW Agr                          |
| BENNETT, Stephanie        | Oahu IW Res                             |
| BREDE, William A.K.       | Oahu IW Agr                             |
| BREDE, William A.K.       | Oahu IW Res                             |
| BROWN, Elson K.           | Keaukaha / Waiakea Area / Hawaii IW Res |
| CASPERSON, Betty          | Papakolea / Kewalo Area / Oahu IW Res   |
| DE PRUE, Rennie K.        | Maui IW Res                             |
| DIAZ, Edward T.           | Waimanalo Area / Oahu IW Res            |
| ENRIQUEZ, Robert Jr.      | Waianae Area / Oahu IW Res              |
| ESPIRITU, Lynette K.      | Waimanalo Area / Oahu IW Res            |
| FONTANILLA, Maile M.      | Paukukalo Area / Maui IW Res            |
| HAKUOLE, Stacie K.        | Oahu IW Res                             |
| HAKUOLE, Stacie K.        | Kauai IW Agr                            |
| HIROKANE, Rose H.         | Waimanalo Area / Oahu IW Res            |
| HOOPII, William K.        | Papakolea / Kewalo Area / Oahu IW Res   |
| ISHIHARA, Wilbert S.      | Waimanalo Area / Oahu IW Res            |
| JERVES, Royal K.E.P.O     | Oahu IW Agr                             |
| JERVES, Royal K.E.P.O     | Oahu IW Res                             |
| JOHN, Alex Alike K.A.K.   | Hawaii IW Pas                           |
| KAHALEWAI, Rian E.K.K.    | Hawaii IW Agr                           |
| KAHALEWAI, Rian E.K.K.    | Hawaii IW Res                           |
| KAHEIKI, Steven           | Waimanalo Area / Oahu IW Res            |
| KAHOALII, Charles K., Jr. | Waimanalo Area / Oahu IW Res            |
| KAHOOHULI, George P.      | Kapaakea Area / Molokai IW Res          |
|                           |   |

| <b><u>ITEM D-5 EXHIBIT</u></b> Continued |                              |
|--|------------------------------|
| <b>APPLICANT</b>                         | <b>AREA</b>                  |
| KAHOLOAA, Jonah Kekaipoi K.P.            | Molokai IW Agr               |
| KAIKAINAHAOLE, Seth                      | Waimanalo Area / Oahu IW Res |
| KAUI, Tiani H.                           | Kauai IW Pas                 |
| KAUI, Tiani H.                           | Kauai IW Res                 |
| KUAMOO, Louis K., IV                     | Hawaii IW Agr                |
| KUAMOO, Louis K., IV                     | Hawaii IW Res                |
| KWAN, Brenette I.                        | Oahu IW Res                  |
| LAIMANA, Albert K.                       | Maui IW Res                  |
| LAIMANA, Albert K.                       | Kauai IW Agr                 |
| LEBLANC, Roselani S.                     | Oahu IW Agr                  |
| LEBLANC, Roselani S.                     | Oahu IW Res                  |
| MAKA, Scott K.                           | Oahu IW Res                  |
| MAKA, Scott K.                           | Hawaii IW Pas                |
| MEYERS, Bushrod G.                       | Oahu IW Res                  |
| NIHOA, Aliihoa V.G.                      | Hawaii IW Agr                |
| NIHOA, Aliihoa V.G.                      | Hawaii IW Res                |
| PARKER, Arthur M.                        | Oahu IW Agr                  |
| PARKER, Arthur M.                        | Oahu IW Res                  |
| PERREIRA, Ana M.                         | Oahu IW Agr                  |
| PERREIRA, Ana M.                         | Oahu IW Res                  |
| POEPOE, Teaho N.                         | Molokai IW Agr               |
| POEPOE, Teaho N.                         | Molokai IW Res               |
| RAWLINS, Mililani K.                     | Molokai IW Agr               |
| RAWLINS, Mililani K.                     | Molokai IW Res               |
| RECOPUERTO, Venus K.                     | Maui IW Res                  |
| RECTOR, Artlym I.P.                      | Kauai IW Agr                 |
| RIVERA, Eric W.M.                        | Kauai IW Pas                 |
| RIVERA, Eric W.M.                        | Kauai IW Res                 |
| SABEY, Isaiah K.                         | Oahu IW Res                  |
| SABEY, Isaiah K.                         | Maui IW Agr                  |
|  | * IW = Islandwide            |

**ITEM D-6 EXHIBIT**  
**COMMISSION DESIGNATION OF SUCCESSORS – PUBLIC NOTICE 2022, 2023**

| <b>APPLICANT</b>     | <b>AREA</b>       |
|----------------------|-------------------|
| HO, Teri K.          | Oahu IW Res       |
| PACHECO, Jason Kaaha | Hawaii IW Agr     |
| SPENCER, Zebadiah P. | Hawaii IW Res     |
|                      |                   |
|                      | * IW = Islandwide |



**ITEM D-7 EXHIBIT**  
APPROVAL OF ASSIGNMENT OF LEASEHOLD INTEREST

| <b>LESSEE</b>                   | <b>LEASE NO.</b> | <b>AREA</b>       |
|---------------------------------|------------------|-------------------|
| AWEAU, Michael S.               | 4552             | Nanakuli, Oahu    |
| AWEAU, Michael S., Jr.          | 4552             | Nanakuli, Oahu    |
| FEARY, Dancetta M.              | 8026             | Puukapu, Hawaii   |
| HAA, John I.                    | 6215             | Panaewa, Hawaii   |
| KEALOHA, Kevin F.               | 7095             | Kawaihae, Hawaii  |
| LEE, Karen L.                   | 9084             | Keaukaha, Hawaii  |
| PUALOA-UBANDO, Lois N.          | 9393             | Kaniohale, Hawaii |
| RAMOS, Joanne P.                | 3117             | Waimanalo, Oahu   |
| ALBINO, Louella W.              | 575              | Hoolehua, Molokai |
| MAHI, Gerard M.                 | 8097             | Puukapu, Hawaii   |
| TAYLOR-HILONGO, Nathalie Ann K. | 6381             | Waiakea, Hawaii   |
|                                 |                  |                   |

**ITEM D-8 EXHIBIT**  
APPROVAL OF AMENDMENT OF LEASEHOLD INTEREST

| <b>LESSEE</b>       | <b>LEASE NO.</b> | <b>AREA</b>           |
|---------------------|------------------|-----------------------|
| ALBINO, Louella W.  | 575              | Hoolehua, Molokai     |
| CAMARA, Gregory K.  | 4928             | Kuhio Village, Hawaii |
| DOLE, George E.     | 4433             | Waianae, Oahu         |
| HAA, Albert K., Jr. | 6215             | Panaewa, Hawaii       |
| RAMOS, Joanne P.    | 3117             | Waimanalo, Oahu       |

**ITEM D-9 EXHIBIT**  
APPROVAL TO ISSUE A NON-EXCLUSIVE LICENSE FOR ROOFTOP PHOTOVOLTAIC  
SYSTEMS FOR CERTAIN LESSEES

| <b>LESSEE</b>        | <b>LEASE NO.</b> | <b>AREA</b>     |
|----------------------|------------------|-----------------|
| AHUE, Kent M.        | 8784             | Waimanalo, Oahu |
| ANDERSON, Justina M. | 4545             | Nanakuli, Oahu  |
| ANDRESEN, May L.     | 8201             | Waimanalo, Oahu |
| DUDOIT, Zandee       | 12272            | Waiehu 4, Maui  |
| DUQUE, John Lance    | 8459             | PKE, Oahu       |
| KAHELE, Dana M.      | 11892            | Kanehili, Oahu  |
| KING, John Guy       | 4537             | Nanakuli, Oahu  |
| KUNIPO, Kamaile M.   | 8426             | PKE, Oahu       |
| MITRAVICH, Wendy M.  | 8182             | Waimanalo, Oahu |
| PILOR, Wyomie N. K.  | 2042             | Kewalo, Oahu    |
| SIMON, Andaline K.   | 12296            | Hikina, Maui    |

Hawaiian Homes Commission Meeting Packet  
March 17 & 18, 2025  
Waimea, Hawai'i

**C ITEMS**

STATE OF HAWAI'I  
DEPARTMENT OF HAWAIIAN HOME LANDS

March 17-18, 2025

To: Chairman and Members, Hawaiian Homes Commission

From: Lehua Kinilau-Cano, NAHASDA Government Relations  
Program Manager

Subject: Acceptance of the 2025-2026 Native Hawaiian Housing  
Block Grant (NHHBG) Annual Housing Plan

RECOMMENDED MOTION/ACTION:

The Hawaiian Homes Commission accept the 2025-2026 Native Hawaiian Housing Block Grant (NHHBG) Annual Housing Plan.

DISCUSSION

Each year, as part of its compliance with 24 CFR Part 1006, Title VIII of the Native American Housing Assistance and Self-Determination Act (NAHASDA), DHHL must file an annual housing plan (AHP) with the U.S. Department of Housing and Urban Development (HUD). As part of that process, the Department releases the attached housing plan.

**Fiscal Year 2025-2026 Projected Expenditures by AHP Activity:**

| Program #  | Program Name                             | Budget     |
|------------|--|------------|
| AHP I      | 2025 Capital Improvement Projects        | 250,000    |
| AHP II     | Developer Financing                      | 7,500,000  |
| AHP III    | Homeowner Financing                      | 11,777,500 |
| AHP III-A  | Down Payment/Closing Cost (NLI)          | 200,000    |
| AHP IV     | Home Assistance Program                  | 2,000,000  |
| AHP V      | Waimanalo Kupuna Housing Rental Asst.    | 830,000    |
| AHP VI-A   | Rental Vouchers for Temporary Relocation | 125,000    |
| AHP VI-B   | Emergency Rental & Utilities Asst.       | 300,000    |
| AHP VI-B-1 | Emergency Rental & Utilities Asst. (NLI) | 30,000     |
| AHP VI-C   | DHHL Kupuna Rental Subsidy Program       | 3,750,000  |
| AHP VI-D   | Rental Vouchers for Units Dev. for DHHL  | 125,000    |
| AHP VII    | Housing Counseling                       | 1,000,000  |
| AHP VII-A  | Housing Counseling (NLI)                 | 100,000    |
| AHP VIII   | Homeowner Assistance                     | 300,000    |
| AHP IX     | Water Infrastructure Improvements        | 250,000    |
| AHP X      | Housing Conversion                       | 9,600,000  |
| AHP XI     | Property Acquisition                     | 0          |
| AHP XII    | Operation & Maintenance                  | 150,000    |
|            | Planning and Administration              | 1,000,000  |

For DHHL's Use: July 1, 2025 thru June 30, 2026 Annual Housing Plan

**NATIVE HAWAIIAN HOUSING PLAN/ANNUAL PERFORMANCE REPORT**  
(NAHASDA §§ 803(b)(1), 803(c)(1) and 820(a)(2))

This form meets the requirements for a Native Hawaiian Housing Plan (NHHP) and Annual Performance Report (APR) required by the United States Department of Housing and Urban Development (HUD). The information requested does not lend itself to confidentiality.

Regulatory and statutory citations are provided throughout this form as applicable. The Department of Hawaiian Home Lands (DHHL) is encouraged to review these citations when completing the NHHP and APR sections of the form.

Under Title VIII of the Native American Housing Assistance and Self-Determination Act of 1996 (NAHASDA) (25 U.S.C. 4221 et seq.), HUD will provide grants under the Native Hawaiian Housing Block Grant (NHHBG) program to DHHL to carry out affordable housing activities for Native Hawaiian families who are eligible to reside on the Hawaiian Home Lands. To be eligible for the grants, DHHL must submit a NHHP that meets the requirements of the Act. To align the NHHBG program with recent improvements made to the Indian Housing Block Grant program, HUD is requiring DHHL to submit the NHHP to HUD at least 75 days prior to the start of its 12-month fiscal year. The APR is due no later than 60 days after the end of DHHL's fiscal year (24 CFR § 1006.410).

The NHHP and the APR (previously two separate forms) are now combined into one form. The sections pertaining to the NHHP are submitted **before** the beginning of the 12-month fiscal year, leaving the APR (shaded) sections blank. If the NHHP has been updated or amended, use the most recent version when preparing the APR. After the 12-month fiscal year, enter the results from the 12-month fiscal year in the shaded sections of the form to complete the APR. More details on how to complete the NHHP and APR sections of the form can be found in the body of this form. In addition, DHHL may find it helpful to refer to the IHP/APR form guidance available at [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/public\\_indian\\_housing/ih/codetalk/nahasda/guidance](http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/nahasda/guidance) until a guidance specific to the NHHP/APR form is made available.

**FORM COMPLETION OPTIONS:** The NHHP/APR form may be completed either in hard copy or electronically. Hard copy versions may be completed either by hand or typewriter. Alternatively, the form may be completed electronically as it is a Word document. It is recommended that the form be completed electronically because it is more efficient to complete, submit, and review the form. Furthermore, electronic versions of the form may be submitted to HUD as an email attachment. To document official signatures on the electronic version, you should sign a hard copy of the pages and either fax (808-457-4694) that signed page or email ([claudine.c.allen@hud.gov](mailto:claudine.c.allen@hud.gov)) it as an attachment to the Office of Native American Programs – Attention: Claudine Allen in the HUD Honolulu Field Office. The sections of the NHHP that require an official signature are the Cover Page and Sections 13 and 14, if applicable. For the APR, the Cover Page requires an official signature.

The NHHP data is used to verify that planned activities are eligible, expenditures are reasonable, and DHHL certifies compliance with related requirements. The APR data is used to audit the program accurately and monitor DHHL's progress in completing approved activities, including reported expenditures, outputs, and outcomes. This form is exempt from OMB Approval pursuant to 5 CFR 1320.3(4)(c).

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**Note:** The page numbers in the Table of Contents can update automatically as the NHHP or APR is completed. To update the page numbers, right-click anywhere in the table, select “Update Field” and select “update page numbers only.”

**Native Hawaiian Housing Block Grant (NHHBG)**

Exempt from OMB Approval. 5 CFR 1320.3 (c) (4)

**NHHP/APR**

**U.S. Department of Housing and Urban Development**

Office of Public and Indian Housing  
Office of Native American Programs

**COVER PAGE**

(1) Grant Number: 22HBGHI0001; 23HBGHI0001; 24HBGHI0001

(2) Recipient Fiscal Year: 2026

(3) Federal Fiscal Year: 2025

(4)  Initial Plan (Complete this Cover Page then proceed to Section 1)

(5)  Amended Plan (Complete this Cover Page and Section 14)

(6)  Annual Performance Report (Complete items 24-27 and proceed to Section 3)

|   |                       |                             |
|---|-----------------------|-----------------------------|
| <b>(7) Name of Recipient:</b> Department of Hawaiian Home Lands                             |                       |                             |
| <b>(8) Contact Person:</b> Lehua Kinilau-Cano, NAHASDA Government Relations Program Manager |                       |                             |
| <b>(9) Telephone Number with Area Code:</b> 808-730-0172                                    |                       |                             |
| <b>(10) Mailing Address:</b> PO Box 1879  |                       |                             |
| <b>(11) City:</b> Honolulu  | <b>(12) State:</b> HI | <b>(13) Zip Code:</b> 96805 |
| <b>(14) Fax Number with Area Code (if available):</b> N/A                                   |                       |                             |
| <b>(15) Email Address (if available):</b> Nicole.L.Kinilau-Cano@hawaii.gov                  |                       |                             |

|  |
|--|
| <b>(16) Tax Identification Number:</b> 99-0266483                                  |
| <b>(17) UEI Number:</b> GVV8DG3H8GK1   |
| <b>(18) CCR/SAM Expiration Date:</b> 02/19/2026                                    |
| <b>(19) NHHBG Annual Grant Amount:</b> \$22,300,000                                |
| <b>(20) Name of Authorized NHP Submitter:</b> Kali Watson                          |
| <b>(21) Title of Authorized NHP Submitter:</b> Chairman, Hawaiian Homes Commission |
| <b>(22) Signature of Authorized NHP Submitter:</b>                                 |
| <b>(23) NHP Submission Date:</b> 04/30/2025  |
| <b>(24) Name of Authorized APR Submitter:</b>                                      |
| <b>(25) Title of Authorized APR Submitter:</b>                                     |
| <b>(26) Signature of Authorized APR Submitter:</b>                                 |
| <b>(27) APR Submission Date:</b>   |

**Certification:** The information contained in this document is accurate and reflects the activities actually planned or accomplished during the program year. Activities planned and accomplished are eligible under applicable statutes and regulations.

**Warning:** If you knowingly make a false statement on this form, you may be subject to civil or criminal penalties under 18 U.S.C 1001. In addition, any person who knowingly and materially violates any required disclosure of information, including intentional disclosure, is subject to a civil money penalty not to exceed \$10,000 for each violation.

## SECTION 1: FIVE YEAR PLAN

The Five Year Plan is intended to cover the Department of Hawaiian Home Lands' (DHHL) long range plans for affordable housing. Each housing plan must contain, for the five-year period beginning with the fiscal year for which the plan is first submitted, the following information.

Five Year Period: 2024 through 2028

### MISSION STATEMENT (NAHASDA § 803(b)(2)(A))

A Mission Statement describes the mission of the DHHL to serve the needs of Native Hawaiian low-income families.

Enter the DHHL's Mission Statement here:

**To manage the Hawaiian Home Lands Trust effectively and to develop and deliver land to native Hawaiians. We will partner with others toward developing self-sufficient and healthy communities.**

### GOALS, OBJECTIVES AND PROGRAMS/ACTIVITIES (NAHASDA § 803(b)(2)(B) and (C))

DHHL must provide a statement of the goals, objectives, and programs/activities planned for the beneficiaries over the five year period. The goals are the intended result of the NHHBG activity and are based on the types of outcomes that the DHHL will report in the APR. The objectives are the means or approach that the DHHL will use to reach the goal. The programs/activities are the specific programs/activities that will be funded in order to achieve the goal and the objective.

#### Goals May Include:

- |  |  |
|--|--|
| (1) Reduce over-crowding                 | (6) Assist affordable housing for college students     |
| (2) Assist renters to become homeowners  | (7) Provide accessibility for disabled/elderly persons |
| (3) Improve quality of substandard units | (8) Improve energy efficiency                          |
| (4) Address homelessness                 | (9) Reduction in crime reports                         |
| (5) Create new affordable rental units   | (10) Other   |

#### Objectives May Include:

- |  |   |
|--|---|
| (1) [RESERVED – DO NOT USE THIS NUMBER]                  | (14) Lending subsidies for homebuyers                 |
| (2) [RESERVED – DO NOT USE THIS NUMBER]                  | (15) Other homebuyer assistance activities            |
| (3) Acquisition of rental housing                        | (16) Rehabilitation assistance to existing homeowners |
| (4) Construction of rental housing                       | (17) Tenant based rental assistance                   |
| (5) Rehabilitation of rental housing                     | (18) Other Housing Service                            |
| (6) Acquisition of land for rental housing development   | (19) Housing Management Services                      |
| (7) Development of emergency shelters                    | (20) Operation and maintenance of NHHBG units         |
| (8) Conversion of other structures to affordable housing | (21) Crime Prevention and Safety                      |
| (9) Other rental housing development                     | (22) Model Activities                                 |
| (10) Acquisition of land for homebuyer unit development  | (23) [RESERVED – DO NOT USE THIS NUMBER]              |
| (11) New construction of homebuyer units                 | (24) Infrastructure to support housing                |
| (12) Acquisition of homebuyer units                      | (25) [RESERVED – DO NOT USE THIS NUMBER]              |
| (13) Downpayment/Closing cost assistance                 |   |



Use the sections below to describe the DHHL's goals, objectives, and programs/activities during the five year period.

|                               |   |
|-------------------------------|---|
| <b>Goal(s)<br/>Number: I.</b> | (2) Assist renters to become homeowners |
|-------------------------------|---|

Select from the goals listed above.

|                                     |  |
|-------------------------------------|--|
| <b>Objective(s)<br/>Number: Ia.</b> | (24) Infrastructure to support housing |
|-------------------------------------|--|

Select from the objectives listed above.

|   |                            |
|---|----------------------------|
| <b>Program/Activity<br/>Description:</b><br>Infrastructure<br>Development (Statewide) | To develop lots statewide. |
|---|----------------------------|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                                |  |
|--------------------------------|--|
| <b>Goal(s)<br/>Number: II.</b> | (5) Create new affordable rental units |
|--------------------------------|--|

Select from the goals listed above.

|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>Objective(s)<br/>Number: IIa.</b> | (4) Construction of rental housing |
|--------------------------------------|------------------------------------|

Select from the objectives listed above.

|   |   |
|---|---|
| <b>Program/Activity<br/>Description:</b><br>Developer Financing | This activity provides NAHASDA funding as part of a capital stack to conduct vertical construction of rental units. |
|---|---|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                                 |   |
|---------------------------------|---|
| <b>Goal(s)<br/>Number: III.</b> | (2) Assist renters to become homeowners |
|---------------------------------|---|

Select from the goals listed above.

|                                       |                                       |
|---------------------------------------|---------------------------------------|
| <b>Objective(s)<br/>Number: IIIa.</b> | (14) Lending subsidies for homebuyers |
|---------------------------------------|---------------------------------------|

Select from the objectives listed above.

|  |  |
|--|--|
| <b>Program/Activity<br/>Description:</b><br>Homeowner Financing<br>(Statewide) | To provide NHHBG-funded home loans to lessee families for new construction or home purchase. |
|--|--|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                                |  |
|--------------------------------|--|
| <b>Goal(s)<br/>Number: IV.</b> | (3) Improve quality of substandard units |
|--------------------------------|--|

Select from the goals listed above.

|                                      |   |
|--------------------------------------|---|
| <b>Objective(s)<br/>Number: IVa.</b> | (16) Rehabilitation assistance to existing homeowners |
|--------------------------------------|---|

Select from the objectives listed above.

|  |   |
|--|---|
| <b>Program/Activity<br/>Description:</b><br>Home Assistance<br>Program (Statewide) | This activity provides three types of assistance: (1) a deferred, no payment loan up to \$100,000; (2) a small repayment loan (up to \$100,000) for costs exceeding the original \$100,000 amount; or (3) a demolition/new build loan for properties where cost to repair exceed the appraised or tax assessed value. |
|--|---|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                               |                          |
|-------------------------------|--------------------------|
| <b>Goal(s)<br/>Number: V.</b> | (4) Address homelessness |
|-------------------------------|--------------------------|

Select from the goals listed above.

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| <b>Objective(s)<br/>Number: Va.</b> | (17) Tenant based rental assistance |
|-------------------------------------|-------------------------------------|

Select from the objectives listed above.

|  |  |
|--|--|
| <b>Program/Activity<br/>Description:</b><br>Waimanalo Kupuna<br>Housing Rental<br>Assistance | The use of NHHBG funds in the project is primarily to supplement tenants rent at the Waimanalo Kupuna Housing so their maximum contribution does not exceed 30% of their gross monthly income. Built in 2002 utilizing Low Income Housing Tax Credits, this subsidy will assist in stabilizing rental increases over the remainder of the project's LIHTC existence. |
|--|--|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                                |                          |
|--------------------------------|--------------------------|
| <b>Goal(s)<br/>Number: VI.</b> | (4) Address homelessness |
|--------------------------------|--------------------------|

Select from the goals listed above.

|  |                                     |
|--|-------------------------------------|
| <b>Objective(s)<br/>Number: VIa-d.</b> | (17) Tenant based rental assistance |
|--|-------------------------------------|

Select from the objectives listed above.

|   |   |
|---|---|
| <b>Program/Activity<br/>Description:</b><br>Rental Vouchers | This activity establishes the use of rental housing vouchers for eligible beneficiaries. Provides financial assistance to families facing eviction, experiencing homelessness or at risk of homelessness. |
|---|---|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                                 |            |
|---------------------------------|------------|
| <b>Goal(s)<br/>Number: VII.</b> | (10) Other |
|---------------------------------|------------|

Select from the goals listed above.

|                                       |                            |
|---------------------------------------|----------------------------|
| <b>Objective(s)<br/>Number: VIIa.</b> | (18) Other Housing Service |
|---------------------------------------|----------------------------|

Select from the objectives listed above.

|  |   |
|--|---|
| <b>Program/Activity<br/>Description:</b><br>Housing Counseling | At minimum, every family that receives NHHBG assistance will be offered financial literacy education; case management assistance; and servicing by housing counseling vendor. |
|--|---|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                                  |            |
|----------------------------------|------------|
| <b>Goal(s)<br/>Number: VIII.</b> | (10) Other |
|----------------------------------|------------|

Select from the goals listed above.

|  |                            |
|--|----------------------------|
| <b>Objective(s)<br/>Number: VIIIa.</b> | (18) Other Housing Service |
|--|----------------------------|

Select from the objectives listed above.

|  |  |
|--|--|
| <b>Program/Activity<br/>Description:</b><br>Homeowner Assistance | This activity is aimed at mitigating financial hardships by providing financial assistance to promote housing stability. |
|--|--|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                                |  |
|--------------------------------|--|
| <b>Goal(s)<br/>Number: IX.</b> | (3) Improve quality of substandard units |
|--------------------------------|--|

Select from the goals listed above.

|                                      |  |
|--------------------------------------|--|
| <b>Objective(s)<br/>Number: IXa.</b> | (24) Infrastructure to support housing |
|--------------------------------------|--|

Select from the objectives listed above.

|  |  |
|--|--|
| <b>Program/Activity<br/>Description:</b><br>Potable Water<br>Development (Statewide) | This activity will support the development and delivery of potable water to new and existing homesteads. |
|--|--|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                               |                          |
|-------------------------------|--------------------------|
| <b>Goal(s)<br/>Number: X.</b> | (4) Address homelessness |
|-------------------------------|--------------------------|

Select from the goals listed above.

|                                     |  |
|-------------------------------------|--|
| <b>Objective(s)<br/>Number: Xa.</b> | (8) Conversion of other structures to affordable housing |
|-------------------------------------|--|

Select from the objectives listed above.

|  |   |
|--|---|
| <b>Program/Activity<br/>Description:</b><br>Housing Conversion | This activity supports the conversion of existing land and structure to affordable housing. |
|--|---|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                                |  |
|--------------------------------|--|
| <b>Goal(s)<br/>Number: XI.</b> | (5) Create new affordable rental units |
|--------------------------------|--|

Select from the goals listed above.

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| <b>Objective(s)<br/>Number: XIa.</b> | (3) Acquisition of rental housing |
|--------------------------------------|-----------------------------------|

Select from the objectives listed above.

|   |  |
|---|--|
| <b>Program/Activity<br/>Description:</b><br>Property Acquisition<br>(Oahu – Priority) | This activity will support the purchase of existing structure(s) for rental housing. |
|---|--|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

|                                 |                          |
|---------------------------------|--------------------------|
| <b>Goal(s)<br/>Number: XII.</b> | (4) Address homelessness |
|---------------------------------|--------------------------|

Select from the goals listed above.

|                                       |   |
|---------------------------------------|---|
| <b>Objective(s)<br/>Number: XIIa.</b> | (20) Operation and maintenance of NHHBG units |
|---------------------------------------|---|

Select from the objectives listed above.

|   |  |
|---|--|
| <b>Program/Activity<br/>Description:</b><br>Operation and<br>Maintenance of<br>NHHBG-Assisted Units | This activity will support the operation and maintenance of NHHBG units. |
|---|--|

Describe the planned program/activity and indicate how it will enable DHHL to meet its mission, goals, and objectives.

# ONE YEAR PLAN & ANNUAL PERFORMANCE REPORT

## SECTION 2: HOUSING NEEDS

(NAHASDA § 803(c)(2)(B))

**(1) Type of Need:** Check the appropriate box(es) below to describe the estimated types of housing needs and the need for other assistance for low-income Native Hawaiian families (columns B and C) and non-low-income Native Hawaiian families, including non-Native Hawaiian essential families [809(a)(2)(B) and (C)] (column D) eligible to be served by DHHL.

| (A)<br>Type of Need                            | Check All That Apply  |   |  |
|--|---|---|--|
|  | (B)<br>Low-Income Native<br>Hawaiian Families on<br>Hawaiian Home Lands | (C)<br>Low-Income Native<br>Hawaiian Families<br>on Wait List | (D)<br>Non-Low-<br>Income Native<br>Hawaiian<br>Families |
| (1) Overcrowded Households                     | <input checked="" type="checkbox"/>                                     | <input checked="" type="checkbox"/>                           | <input type="checkbox"/>                                 |
| (2) Renters Who Wish to Become Owners          | <input type="checkbox"/>  | <input checked="" type="checkbox"/>                           | <input checked="" type="checkbox"/>                      |
| (3) Substandard Units Needing Rehabilitation   | <input checked="" type="checkbox"/>                                     | <input checked="" type="checkbox"/>                           | <input checked="" type="checkbox"/>                      |
| (4) Homeless Households                        | <input type="checkbox"/>  | <input checked="" type="checkbox"/>                           | <input type="checkbox"/>                                 |
| (5) Households Needing Affordable Rental Units | <input type="checkbox"/>  | <input checked="" type="checkbox"/>                           | <input checked="" type="checkbox"/>                      |
| (6) College Student Housing                    | <input checked="" type="checkbox"/>                                     | <input checked="" type="checkbox"/>                           | <input checked="" type="checkbox"/>                      |
| (7) Disabled Households Needing Accessibility  | <input checked="" type="checkbox"/>                                     | <input checked="" type="checkbox"/>                           | <input checked="" type="checkbox"/>                      |
| (8) Units Needing Energy Efficiency Upgrades   | <input checked="" type="checkbox"/>                                     | <input checked="" type="checkbox"/>                           | <input checked="" type="checkbox"/>                      |
| (9) Infrastructure to Support Housing          | <input checked="" type="checkbox"/>                                     | <input checked="" type="checkbox"/>                           | <input type="checkbox"/>                                 |
| (10) Other (specify below)                     | <input type="checkbox"/>  | <input type="checkbox"/>                                      | <input type="checkbox"/>                                 |

**(2) Other Needs.** *(Describe the "Other" needs below. Note: this text is optional for all needs except "Other.")*:

The Hawaiian Homes Commission Act of 1920, as amended, established the Hawaiian Home Lands Trust and defined the population eligible to reside on Hawaiian home lands as those native Hawaiians with no less than 50% Hawaiian blood and their successors or assignees of less than 50% Hawaiian blood. With approximately 9,324 leases on homesteads stretching from Hawaii Island to Kauai, the Department of Hawaiian Home Lands was created at statehood to assist the commission in meeting its fiduciary obligations.

DHHL, through SMS Research, completed its 2020 Beneficiary Survey detailed in the *DHHL Beneficiaries Study Lessee Report, 2020* and the *DHHL Beneficiaries Study Applicant Report, 2020*.

The native Hawaiian subset for the purpose of this plan is determined as follows:

|               |   |
|---------------|---|
| 9,324         | Lessees residing on the DHHL lands — as of December 31, 2024 <sup>1</sup> |
| 29,567        | Unduplicated waitlist as of January 1, 2025 <sup>2</sup>                  |
| 21,399        | Estimated Potential Applicants based on SMS 2019 respondents <sup>3</sup> |
| <b>60,290</b> | <b>Total native Hawaiian individuals/households</b>                       |

The *DHHL Beneficiaries Study Lessee Report, 2020* detailed the following about HUD Median Income: “While the median household income has consistently increased, the percentage of Lessee households classified as earning 80 percent or less of the Department of Housing and Urban Development (HUD) Area Median Income (AMI) has risen. In 2008, 46 percent of Lessee households were considered low income according to the HUD guidelines. By 2014, this had increased to 55 percent. The percentage of Lessee households considered low income stayed about the same at 56 percent in 2020.”

The *DHHL Beneficiaries Study Applicant Report, 2020* noted the following about HUD Income Categories: “In 2020, the percent of applicant households below 80 percent of HUD AMI level is back up to 51 percent.”

|               |  |
|---------------|--|
| 5,222         | Lessees residing on the DHHL Lands – 9,324 x 56%             |
| 15,080        | Applicants – 29,567 x 51%                                    |
| 12,197        | Potential Applicants – 21,399 x 57% (SMS 2019 Study)         |
| <b>32,499</b> | <b>Total native Hawaiian households eligible for NAHASDA</b> |

If we extrapolate and say that the average DHHL turnkey home is \$400,000, then the sufficient funding amount for NAHASDA would look like this:

|        |   |
|--------|---|
| 15,080 | Applicants – 29,567 x 51%   |
| 12,197 | Potential Applicants – 21,399 x 57% (SMS 2019 Study)                    |
| 27,277 | x \$400,000 = <b>\$10,910,800,000.00 sufficient funding for NAHASDA</b> |

#### *Additional Research - 2017 HUD Report*

Some of the key findings of *the Housing Needs of Native Hawaiians: A Report From the Assessment of American Indian, Alaska Native, and Native Hawaiian Housing Needs* prepared for HUD and dated May 2017 include the following:

- Native Hawaiian households tend to be larger. In 2010, the average size of a Native Hawaiian’s household was 4.1 people compared with 2.7 people for residents of Hawaii households.

1 Homestead Services Division, 1/21/25 Commission submittal. Includes lessees residing on residential, agricultural and pastoral lots, one lessee per lease, one house per lease/lot, as applicable. 731 Undivided Interest lessees omitted.

2 *Ibid.*

3 The SMS Hawaii Housing Policy Study, 2019 included a category for native Hawaiians with at least 50% blood quantum and not DHHL lessees or applicants.

- Although improvements were made during the 2000-to-2010 decade, Native Hawaiians living in Hawaii continue to be more economically disadvantaged: they have lower incomes, higher rates of assistance receipt, and higher poverty rates than do other residents of Hawaii.
- Native Hawaiian households also experience higher rates of overcrowding (15 percent) compared with residents of Hawaii households (8 percent).
- Homelessness among Native Hawaiians is prevalent. Although not typically chronically homeless, they are overrepresented in Hawaii's homeless population. Homeless Native Hawaiians often have jobs but cannot afford housing, so they double up (hidden homeless) or live in tents, shelters, cars, or garages.
- HHCA beneficiary households on the waiting list are more economically disadvantaged than are Native Hawaiian households overall, residents of Hawaii households, and Native Hawaiian households living on the home lands.
  - HHCA beneficiary households on the waiting list have the lowest median income of all four groups by a substantial margin: \$48,000 compared with more than \$60,000 for all other groups.
  - HHCA beneficiaries on the waiting list also receive public cash assistance at more than twice the rate of the other groups: about 20 percent of households on the waiting list received public cash assistance compared with about 7 percent of Native Hawaiians and those living on the home lands and 3 percent for residents of Hawaii.
- HHCA beneficiary households on the waiting list face more significant housing challenges across all dimensions than do the other groups.
  - Nearly 40 percent of HHCA beneficiary households on the waiting list were overcrowded compared with only 19 percent of households on sampled Hawaiian home lands, 15 percent of the state's Native Hawaiian households, and 8 percent of residents of Hawaii households.
  - About 10 percent of HHCA beneficiary households on the waiting list lack complete plumbing compared with 1 percent for all other groups.
  - Nearly one-half (46 percent) of HHCA beneficiary households on the waiting list experience cost burden compared with 40 percent of Native Hawaiian households, 42 percent of residents of Hawaii households, and only 21 percent of households on the sampled Hawaiian home lands. The much lower rate of cost burden among home lands households is due, at least in part, to the financial benefits of home lands leases, which reduce monthly housing costs, including minimal lease payments for the land and a 7-year exemption from real estate property tax.

#### *Native Hawaiian Rehabilitation*

The statistics shared in preceding paragraphs are not new to the native Hawaiians. Over 100 years ago, moved by the poor living conditions and low incomes of his people, Prince Jonah Kuhio Kalaniana'ole created the Ahahui Puuhonua o Na Hawaii, an organization comprised of royal men of lesser rank than himself who collectively served as the catalyst toward the chronicling of the despair and destitution of the makaainana (commoner) in 1911.

The work of the Ahahui Puuhonua o Na Hawaii and its members provided Prince Kuhio the much-needed data to create support, both in Hawaii and abroad in Washington, D.C. to pass the HHCA.

Through the Prince's leadership and participation in each of these community endeavors, the legacy of the Prince lives on for us today. This housing plan, a descendant of Kuhio's legacy thru the HHCA, is but a small piece of a much broader articulation of need in the State of Hawaii today. By focusing on housing, this most basic of needs acknowledged in the Western world, the department attempts to participate in the rehabilitation of the Hawaiian people. Should every Hawaiian have a safe, affordable, decent home, with fresh water for bathing and eating and cooking and food grown or gathered nearby, we could claim success. But with nearly \$11 billion in need and as the average 59-year-old applicant dies on the waiting list, it does not seem likely we will be able to make such a claim without immediate and swift monetary assistance in the next few years.

**(3) Planned Program Benefits.** *(Describe below how your planned programs and activities will address the needs of low income families identified above. Also describe how your planned programs will address the various types of housing assistance needs. NAHASDA § 803(c)(2)(B)):*

The planned programs and activities are aimed at assisting as many native Hawaiian households that earn 80% or less of HUD AMI to realize homeownership as part of the ongoing lot awards and production. The 2017 HUD Report noted that "many renters (63 percent) on the HHCA beneficiary waiting list who would prefer to own a home are unable to do so because they cannot afford a downpayment or save enough for a house." Thus, focus will be on homeowner financing and leveraged loans with USDA Rural Housing to provide new awardees with the opportunity for safe, affordable and decent housing.

While the 2017 HUD Report noted that HHCA beneficiary households on the waiting list face more significant housing challenges, lessees, especially in our older homestead communities face aging substandard housing. The 2020 Beneficiary Study Lessee Report identified 2,538 lessees that earn 80% or less of HUD AMI with a house needing either minor or major repairs. The planned home assistance program is geared to addressing this need.

DHHL recognizes the need for increased housing stability for families experiencing financial hardships. The planned rental voucher program is built upon the initial temporary relocation assistance and emergency rental assistance was expanded to assist native Hawaiian families affected by the devastating wildfires and for kupuna (elders) who have been on the waiting list the longest in an effort to provide financial assistance for those at risk of homelessness.

The 2017 HUD Report identified homelessness among Native Hawaiians as a significant problem, but also acknowledged that data is not available for only Native Hawaiians. In an effort to fill this gap, DHHL entered into a Memorandum of Understanding with Partners in Care – Oahu Continuum of Care to understand how pervasive the situation of homelessness might be among its beneficiaries and especially those on its homestead applicant waiting list. The conversion of an existing structure to a transitional housing facility is intended to begin addressing this need, which is expected to be in operation in 2025.

Infrastructure to support housing on land currently under DHHL's jurisdiction is a separate program activity. In addition to existing developments, these areas will likely be expanded to cover lands recently transferred to DHHL in Ewa, Oahu. Water is just as critical to homestead development as land. DHHL secured approved water reservations for DHHL's foreseeable groundwater needs statewide and the potable water infrastructure improvements would allow for improved and



increased potable water service delivery. NAHASDA funding for developer financing will supplement the cost to construct affordable housing.

All NAHASDA assisted activities will be supported by housing counseling for both homeowners and renters.

**(4) Geographic Distribution.** *(Describe below how the assistance will be distributed throughout the geographic area and how this geographic distribution is consistent with the needs of low income families, including the needs for various categories of housing assistance. NAHASDA § 803(c)(2)(B)(i):*

The 2020 Beneficiary Study Applicant Report provided HUD Income Categories by Island as follows:

| 80%<br>or ><br>AMI | Oahu |     | Maui |     | Hawaii |     | Kauai |    | Molokai |    | Lanai |     | Total  |       |
|--------------------|------|-----|------|-----|--------|-----|-------|----|---------|----|-------|-----|--------|-------|
|                    | #    | %   | #    | %   | #      | %   | #     | %  | #       | %  | #     | %   | #      | %     |
|                    | 6824 | 61% | 1282 | 12% | 2048   | 18% | 600   | 5% | 368     | 3% | 36    | .3% | 11,158 | 99.3% |

This distribution is similar to the % of DHHL Applicants by Island:

|       | Oahu | Maui | Hawaii | Kauai | Molokai | Lanai | Total |
|-------|------|------|--------|-------|---------|-------|-------|
| % App | 57%  | 12%  | 21%    | 6%    | 3%      | .3%   | 99.3% |

NAHASDA-Assisted units by island to date align closely to this distribution and is expected to continue, but notes that assistance to neighbor islands is above the percent of households classified as earning 80 percent or less of the HUD AMI:

|            | Oahu | Maui | Hawaii | Kauai | Molokai | Lanai | Total |
|------------|------|------|--------|-------|---------|-------|-------|
| % Assisted | 49%  | 15%  | 19%    | 8%    | 7%      | 2%    | 100%  |

## SECTION 3: PROGRAM DESCRIPTIONS

(NAHASDA § [803(c)(2)(A)], [802(c)], [820(b)], 24 CFR §1006.410(b)(2) and (3))

### Planning and Reporting on Program Year Activities

For the NHHP, the purpose of this section is to describe each program that will be operating during the 12-month fiscal year. Each program must include the eligible activity, its planned outputs, intended outcome, who will be assisted, and types and levels of assistance. Each of the eligible activities has a specific, measurable output. The first column in the table below lists all eligible activities, the second column identifies the output measure for each eligible activity, and the third column identifies when to consider an output as completed for each eligible activity. Copy and paste text boxes 1.1 through 1.10 as often as needed so that all of your planned programs are included.

For the APR, the purpose of this section is to describe your accomplishments, actual outputs, actual outcomes, and any reasons for delays.

#### Eligible Activities May Include (citations below reference sections in NAHASDA)

| Eligible Activity  | Output Measure | Output Completion   |
|--|----------------|---|
| (1) RESERVED – DO NOT USE THIS NUMBER                                |                |   |
| (2) RESERVED – DO NOT USE THIS NUMBER                                |                |   |
| (3) Acquisition of Rental Housing [810(b)(1)]                        | Units          | When recipient takes title to the unit  |
| (4) Construction of Rental Housing [810(b)(1)]                       | Units          | All work completed and unit passed final inspection                           |
| (5) Rehabilitation of Rental Housing [810(b)(1)]                     | Units          | All work completed and unit passed final inspection                           |
| (6) Acquisition of Land for Rental Housing Development [810(b)(1)]   | Acres          | When recipient takes title to the land  |
| (7) Development of Emergency Shelters [810(b)(1)]                    | Households     | Number of households served at any one time, based on capacity of the shelter |
| (8) Conversion of Other Structures to Affordable Housing [810(b)(1)] | Units          | All work completed and unit passed final inspection                           |
| (9) Other Rental Housing Development [810(b)(1)]                     | Units          | All work completed and unit passed final inspection                           |
| (10) Acquisition of Land for Homebuyer Unit Development [810(b)(1)]  | Acres          | When recipient takes title to the land  |
| (11) New Construction of Homebuyer Units [810(b)(1)]                 | Units          | All work completed and unit passed final inspection                           |
| (12) Acquisition of Homebuyer Units [810(b)(1)]                      | Units          | When recipient takes title to the unit  |
| (13) Down Payment/Closing Cost Assistance [810(b)(1)]                | Units          | When binding commitment signed  |
| (14) Lending Subsidies for Homebuyers (Loan) [810(b)(1)]             | Units          | When binding commitment signed  |
| (15) Other Homebuyer Assistance Activities [810(b)(1)]               | Units          | When binding commitment signed  |
| (16) Rehabilitation Assistance to Existing Homeowners [810(b)(1)]    | Units          | All work completed and unit passed final inspection                           |
| (17) Tenant Based Rental Assistance [810(b)(2)]                      | Households     | Count each household once per year  |

|  |               |  |
|--|---------------|--|
| (18) Other Housing Service [810(b)(2)]                             | Households    | Count each household once per year                   |
| (19) Housing Management Services [810(b)(3)]                       | Households    | Count each household once per year                   |
| (20) Operation and Maintenance of NHHBG-Assisted Units [810(b)(3)] | Units         | Number of units in inventory at Fiscal Year End      |
| (21) Crime Prevention and Safety [810(b)(4)]                       | Dollars       | Dollars spent (report in Uses of Funding Table only) |
| (22) Model Activities [810(b)(5)]                                  | Dollars       | Dollars spent (report in Uses of Funding Table only) |
| (23) RESERVED – DO NOT USE THIS NUMBER                             |               |  |
| (24) Infrastructure to Support Housing [810(b)(1)]                 | Improved Lots | All work completed and lot passed final inspection   |
| (25) RESERVED – DO NOT USE THIS NUMBER                             |               |  |

**Outcome May Include:**

|   |   |
|---|---|
| (1) Reduce over-crowding                                | (7) Create new affordable rental units                                  |
| (2) Assist renters to become homeowners                 | (8) Assist affordable housing for college students                      |
| (3) Improve quality of substandard units                | (9) Provide accessibility for disabled/elderly persons                  |
| (4) Improve quality of existing infrastructure          | (10) Improve energy efficiency  |
| (5) Address homelessness                                | (11) Reduction in crime reports   |
| (6) Assist affordable housing for low income households | (12) Other – must provide description in boxes 1.4 (NHHP) and 1.5 (APR) |

**NHHP: PLANNED FISCAL YEAR ACTIVITIES (NAHASDA § 803(c)(2)(A))**

For each planned activity, complete all the non-shaded sections below. It is recommended that for each program name you assign a unique identifier to help distinguish individual programs. This unique number can be any number of your choosing, but it should be simple and clear so that you and HUD can track tasks and results under the program and collect appropriate file documentation tied to this program.

- One way to number your programs is chronologically. For example, you could number your programs 2024-1, 2024-2, 2024-3, etc.
- Or you may wish to number the programs based on type. For example, rental 1, rental 2, homebuyer 1, homebuyer 2, etc. This type of numbering system might be appropriate if you have many programs that last over several years.
- Finally, you may wish to use an outline style of numbering. For example, all programs under your first eligible activity would start with the number 1 and then be consecutively numbered as 1.1, 1.2, 1.3, etc. The programs under the second eligible activity would be numbered as 2.1, 2.2., 2.3, etc.

**APR: REPORTING ON PROGRAM YEAR PROGRESS (NAHASDA § 820(b))**

Complete the shaded section of text below to describe your completed program tasks and actual results. Only report on activities completed during the 12-month fiscal year. Financial data should be presented using the same basis of accounting as the Schedule of Expenditures of Federal Awards (SEFA) in DHHL's annual audit report. For unit accomplishments, only count units when the unit was completed and occupied during the year. For households, only count the household if it received the assistance during the previous 12-month fiscal year.

|   |
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| <p><b>1.1 Program Name and Unique Identifier:</b> 2025 Capital Improvement Projects (AHP I)</p>   |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity develops lots for residential use on Trust Lands statewide.</p>   |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(24) Infrastructure to Support Housing [810(b)(1)]</p>   |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(2) Assist renters to become homeowners</p>  |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>   |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p><input checked="" type="checkbox"/> Low-income NH Households    <input type="checkbox"/> Non-low income NH Households    <input type="checkbox"/> Non-NH Households</p> <p>Undivided interest lessees and applicants meeting the 80% AMI income guidelines will receive vacant or improved lots for new home construction.</p>   |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>This activity covers the cost of the infrastructure for projects, including planning, design, engineering, construction, and construction management services. The level of NAHASDA funding for this activity is expected to continue at the current level because in addition to the existing contract for engineering services in East Kapolei IIC, Oahu, planning is nearly completed for the lands transferred to DHHL in Ewa, Oahu. Other proposed developments may also require infrastructure funding.</p> |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>  |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Improved Lots   | 0  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

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|--|
| <p><b>1.1 Program Name and Unique Identifier:</b> Developer Financing (AHP II)</p>   |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity will provide funding as part of a capital stack for vertical construction of rental housing on Trust Lands statewide.</p>  |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(4) Construction of Rental Housing [810(b)(1)]</p>  |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(7) Create new affordable rental units</p>  |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>  |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p><input checked="" type="checkbox"/> Low-income NH Households    <input type="checkbox"/> Non-low income NH Households    <input type="checkbox"/> Non-NH Households</p> <p>Undivided interest lessees and applicants meeting the 80% AMI income guidelines will have the opportunity to rent or rent with an option to purchase their unit. NAHASDA guidelines for rental projects keep the unit rents at or below 30% of the family's monthly adjusted income.</p>   |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>The assistance being provided will go directly to the developer as part of the capital stack for vertical construction financing of approximately 100 single-family rent with option to purchase units – 30 in the Villages of Lai Opuia, Hawaii Island, 30 in Hanapepe, Kauai, and 40 in Palamanui, Hawaii Island and 92 multifamily rental units in Palamanui, Hawaii Island, 28 of which are designated for kupuna housing and 64 units ranging from one-bedroom to three-bedroom layouts. If the unit purchase price at the end of the rental period is reduced in direct proportion to the amount of NHHBG developer financing provided, then the assistance will be in the form of a grant, otherwise the financing will be in the form of a loan that needs to be repaid. Other proposed developments may also require developer financing.</p> |

**1.8 APR:** (Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):

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**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Units   | 62   |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

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**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

(This area is currently blank for user input.)

**NOTE: Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.**

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|--|
| <p><b>1.1 Program Name and Unique Identifier:</b> Homeowner Financing (AHP III)</p>  |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity provides homeowner financing to eligible NAHASDA families for new construction or home purchase. DHHL is working to identify families in upcoming project areas for direct loans.</p>  |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(14) Lending Subsidies for Homebuyers (Loan) [810(b)(1)]</p>  |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(2) Assist renters to become homeowners</p> <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p> <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p> <input checked="" type="checkbox"/> Low-income NH Households      <input type="checkbox"/> Non-low income NH Households      <input type="checkbox"/> Non-NH Households </p> <p><b>Molokai: 2 families</b></p> <p><b>Maui: 19 families</b></p> <p><b>Hawaii: 3 families</b></p> <p><b>Oahu: 2 families</b></p> <p><b>Kauai: 7 families</b></p> <p><b>Lanai: 2 families</b></p> |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i> Financing for home loans statewide utilizing NHHBG funds up to the appraised value for projects in areas listed in 1.6. Other upcoming project areas may also require direct loans to be available to eligible NAHASDA families.</p>  |



**1.8 APR:** (Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Units   | 20   |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

|   |
|---|
| <p><b>1.1 Program Name and Unique Identifier:</b> Down Payment/Closing Cost Assistance for Non-low Income Native Hawaiian Households (AHP III-A)</p>  |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity provides down payment/closing cost assistance to non-low income Native Hawaiian households to subsidize turn key housing financed with non-NHHBG funds. DHHL is working to identify families in upcoming project areas.</p>   |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(13) Down Payment/Closing Cost Assistance [810(b)(1)]</p>  |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(2) Assist renters to become homeowners</p> <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p> <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p> <input type="checkbox"/> Low-income NH Households     <input checked="" type="checkbox"/> Non-low income NH Households     <input type="checkbox"/> Non-NH Households </p> <p>Undivided interest lessees and applicants whose income exceeds 80% and less than 100% of area median income can use NHHBG funds for the down payment and/or to buy down the interest rate to subsidize turn key housing financed with non-NHHBG funds up to a certain amount of NHHBG funds subject to the applicable useful life/affordability period.</p> |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i> This activity will provide for the down payment and/or to buy down the interest rate to subsidize turn key housing financed with non-NHHBG funds up to a certain amount of NHHBG funds.</p>  |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>  |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Units   | 5  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE: Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.**

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| <p><b>1.1 Program Name and Unique Identifier:</b> Home Assistance Program (HAP) (AHP IV)</p>   |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This program covers the department's attempt to address substandard and/or aging housing on the homelands by providing assistance to low income households to repair their existing homes, including home replacement (demolition &amp; construction), energy retrofit, building code compliance, and home repair.</p>   |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(16) Rehabilitation Assistance to Existing Homeowners [810(b)(1)]</p>   |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(3) Improve quality of substandard units</p>  |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>  |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p><input checked="" type="checkbox"/> Low-income NH Households    <input type="checkbox"/> Non-low income NH Households    <input type="checkbox"/> Non-NH Households</p> <p>Lessee families at or below the 80% AMI income guidelines identified over the past few years are being assisted.</p>   |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>Deferred, no-payment loans, subject to conditional recapture, as defined by HAP will be provided. NAHASDA eligible families will receive \$100,000 to repair their home according to Housing Quality Standards that would prioritize repairs for the home. Those families whose homes have been identified as needing more than \$100,000 to fix repairs are offered 1% loans on the amount that exceeds the first \$100,000, up to an additional \$100,000. A demolition/new build loan is the third option offered for properties where cost to repair exceed the appraised or tax assessed value.</p> |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>   |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Units   | 5  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

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| <p><b>1.1 Program Name and Unique Identifier:</b> Waimanalo Kupuna Housing Rental Assistance (AHP V)</p>   |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity provides funds primarily to supplement tenants rent at the Waimanalo Kupuna Housing so their maximum contribution does not exceed 30% of their monthly adjusted income.</p>  |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(18) Other Housing Service [810(b)(2)]</p>  |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(6) Assist affordable housing for low income households</p>   |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>  |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p> <input checked="" type="checkbox"/> Low-income NH Households      <input type="checkbox"/> Non-low income NH Households      <input type="checkbox"/> Non-NH Households </p> <p>NAHASDA eligible elders whose income is at or below 80% AMI and who are tenants of this rental housing project, with up to 85 units, on Trust Lands in Waimanalo.</p>  |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>This elderly housing project was first occupied in 2002 and constructed with funds from the state's Low Income Housing Trust Fund and Rental Housing Trust Fund along with funds from DHHL and the Office of Hawaiian Affairs. Many of the elderly are living on fixed income and cannot afford current rental rates under Hawaii Housing and Finance Development Corporation (HHFDC) which oversees the project and approves the rates from the developer. The monthly rental amount continues to remain affordable. Nevertheless, the subsidy has recently increased annually to adequately cover the difference between the NAHASDA required 30% cap on tenant's monthly adjusted income and the approved LIHTC rent.</p> |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)).</i></p>   |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Households  | 75   |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE: Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.**

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| <p><b>1.1 Program Name and Unique Identifier:</b> Rental Vouchers for Temporary Relocation (AHP VI-A)</p>   |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity provides funds for rental housing vouchers (first month rent/deposit/emergency rent) for temporary relocation assistance.</p>   |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(17) Tenant Based Rental Assistance [810(b)(2)]</p>  |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(6) Assist Affordable Housing for Low-Income Households</p>  |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>   |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p> <input checked="" type="checkbox"/> Low-income NH Households      <input type="checkbox"/> Non-low income NH Households      <input type="checkbox"/> Non-NH Households </p> <p>Native Hawaiian families eligible to reside on Hawaiian Home Lands whose income is at or below 80% AMI.</p> |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>This activity will provide for temporary relocation assistance for duration of time to construct or repair primary residence.</p>   |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>  |



**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Households  | 5  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE: Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.**

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|---|
| <p><b>1.1 Program Name and Unique Identifier:</b> Emergency Rental and Utilities Assistance Program (AHP VI-B)</p>  |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity provides funds for rental housing vouchers (rent/security deposit) for emergency assistance (rent, rental arrears, utilities, or utility arrears) to native Hawaiian families affected by the devastating wildfires to ensure housing stability.</p>  |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(17) Tenant Based Rental Assistance [810(b)(2)]</p>  |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(5) Address homelessness</p>   |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>   |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p> <input checked="" type="checkbox"/> Low-income NH Households     <input type="checkbox"/> Non-low income NH Households     <input type="checkbox"/> Non-NH Households </p> <p>Native Hawaiian families meeting the 80% AMI income guidelines eligible to reside on Hawaiian Home Lands affected by the devastating wildfires.</p> |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>DHHL has a contract with a service provider to provide emergency rental assistance (rent, rental arrears, utilities, or utility arrears) for a period not to exceed 6 months except that assistance may be provided for an additional period if necessary to ensure housing stability for a household subject to availability of funds.</p>   |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>  |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Households  | 10   |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

**1.1 Program Name and Unique Identifier:** Emergency Rental and Utilities Assistance Program for Non-low Income Native Hawaiian Households (AHP VI-B-1)

**1.2 Program Description** *(This should be the description of the planned program.):*

This activity provides funds for rental housing vouchers (rent/security deposit) for emergency assistance (rent, rental arrears, utilities, or utility arrears) to native Hawaiian families affected by the devastating wildfires to ensure housing stability.

**1.3 Eligible Activity Number** *(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):*

(17) Tenant Based Rental Assistance [810(b)(2)]

**1.4 Intended Outcome Number** *(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):*

(5) Address homelessness

**Describe Other Intended Outcome** *(Only if you selected "Other" above.):*

**1.5 Actual Outcome Number** *(In the APR identify the actual outcome from the Outcome list.):*

**Describe Other Actual Outcome** *(Only if you selected "Other" above.):*

**1.6 Who Will Be Assisted** *(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):*

Low-income NH Households     Non-low income NH Households     Non-NH Households

NHHBG funds may be used to assist Native Hawaiian families eligible to reside on Hawaiian Home Lands whose income is between 80 and 120% of AMI guidelines for homeownership activities that would include short-term rental assistance to displaced homeowners determined to be affected by the Maui Wildfire, a Presidentially Declared Disaster and where there is a need for housing that cannot reasonably be met without NHHBG assistance.

**1.7 Types and Level of Assistance** *(Describe the types and the level of assistance that will be provided to each household, as applicable.):*

DHHL has a contract with a service provider to provide emergency rental assistance (rent, rental arrears, utilities, or utility arrears) for a period not to exceed 6 months except that assistance may be provided for an additional period if necessary to ensure housing stability for a household subject to availability of funds.

**1.8 APR:** (Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Households  | 1  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

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| <p><b>1.1 Program Name and Unique Identifier:</b> DHHL Kupuna Rental Subsidy Program (AHP VI-C)</p>  |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity provides funds for rental housing vouchers (rent/security deposit) for kupuna (elders) who are sixty-two years of age or older and head of household starting with those who have been on DHHL's waiting list the longest to ensure housing stability.</p>   |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(17) Tenant Based Rental Assistance [810(b)(2)]</p>   |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(5) Address homelessness</p>  |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>  |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>  |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p><input checked="" type="checkbox"/> Low-income NH Households    <input type="checkbox"/> Non-low income NH Households    <input type="checkbox"/> Non-NH Households</p> <p>Native Hawaiian kupuna (elders) who are sixty-two years of age or older and head of household starting with those who have been on DHHL's waiting list the longest that are eligible to reside on the Hawaiian Home Lands whose income is at or below 80% AMI.</p> |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>DHHL has a contract with a service provider to provide rental subsidies that will be reviewed on an annual basis subject to availability of funds. The monthly rental subsidy will be the difference between no more than 30% of the household's monthly adjusted income which will be paid by the kupuna (elder) of an eligible household and the Fair Market Rent within the zip code area.</p>  |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>   |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Households  | 150  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

**1.1 Program Name and Unique Identifier:** Rental Vouchers for Units Developed for DHHL (AHP VI-D)

**1.2 Program Description** *(This should be the description of the planned program.):*

This activity provides funds for rental housing vouchers (rent/security deposit) for rental units developed for DHHL currently consisting of rent with option to purchase units in the Villages of Lai Opua upon entering into an agreement with the property management company.

**1.3 Eligible Activity Number** *(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):*

(17) Tenant Based Rental Assistance [810(b)(2)]

**1.4 Intended Outcome Number** *(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):*

(6) Assist Affordable Housing for Low-Income Households

**Describe Other Intended Outcome** *(Only if you selected "Other" above.):*

**1.5 Actual Outcome Number** *(In the APR identify the actual outcome from the Outcome list.):*

**Describe Other Actual Outcome** *(Only if you selected "Other" above.):*

**1.6 Who Will Be Assisted** *(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):*

Low-income NH Households     Non-low income NH Households     Non-NH Households

Native Hawaiian families eligible to reside on Hawaiian Home Lands whose income is at or below 80% AMI and reside in a rental unit developed for DHHL.

**1.7 Types and Level of Assistance** *(Describe the types and the level of assistance that will be provided to each household, as applicable.):*

This activity will provide for rental assistance that will be reviewed on an annual basis subject to availability of funds. The monthly rental assistance will be the difference between no more than 30% of the household's monthly adjusted income which will be paid by the eligible household and the Fair Market Rent within the zip code area.

**1.8 APR:** *(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):*



**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Households  | 5  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

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|---|
| <p><b>1.1 Program Name and Unique Identifier:</b> Housing Counseling (AHP VII)</p>  |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>Independent, expert advice customized to the need of the Native Hawaiian lessee, applicant or household to address housing barriers in order to achieve housing goals through homeownership counseling or rental housing counseling and include the following processes: intake, financial and housing affordability analysis, an action plan, and a reasonable effort to have follow-up communication when possible.</p>   |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(18) Other Housing Service [810(b)(2)]</p>   |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(6) Assist Affordable Housing for Low-Income Households</p>  |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>   |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p> <input checked="" type="checkbox"/> Low-income NH Households      <input type="checkbox"/> Non-low income NH Households      <input type="checkbox"/> Non-NH Households </p> <p>Native Hawaiian lessee, applicants or households meeting the 80% AMI income guidelines who received or are eligible to receive NAHASDA assistance including but not limited to homeowner financing, home repair assistance, rental and homeowner assistance. Native Hawaiian families eligible to reside on Hawaiian Home Lands who utilize non-NHHBG funds for homeowner financing may also access housing counseling.</p>           |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>Families who received NAHASDA assistance will receive either homeownership or rental housing counseling from a HUD-certified Housing Counselor. Homeownership counseling is housing counseling related to homeownership and residential mortgage loans that covers the decision to purchase a home, issues arising during or affecting the period of ownership of a home (including financing, refinancing, default, and foreclosure/lease cancellation, and other financial dispositions), and the sale/transfer or other disposition of a home. Rental housing counseling is counseling related to the rental of residential property, which may include counseling regarding future homeownership opportunities and may also include the</p> |

decision to rent, responsibilities of tenancy, affordability of renting and eviction prevention. At a minimum, initial contact will be made with lessee, applicants or households who received NAHASDA assistance informing them of the availability of housing counseling services.

**1.8 APR:** (Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Households  | 200  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

**1.1 Program Name and Unique Identifier:** Housing Counseling for Non-low Income Native Hawaiian Households (AHP VII-A)

**1.2 Program Description** *(This should be the description of the planned program.):*

Independent, expert advice customized to the need of the Native Hawaiian lessee, applicant or household to address housing barriers in order to achieve housing goals through homeownership counseling and include the following processes: intake, financial and housing affordability analysis, an action plan, and a reasonable effort to have follow-up communication when possible.

**1.3 Eligible Activity Number** *(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):*

(18) Other Housing Service [810(b)(2)]

**1.4 Intended Outcome Number** *(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):*

(2) Assist renters to become homeowners

**Describe Other Intended Outcome** *(Only if you selected "Other" above.):*

**1.5 Actual Outcome Number** *(In the APR identify the actual outcome from the Outcome list.):*

**Describe Other Actual Outcome** *(Only if you selected "Other" above.):*

**1.6 Who Will Be Assisted** *(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):*

Low-income NH Households     Non-low income NH Households     Non-NH Households

NHHBG funds may be used to assist Native Hawaiian families eligible to reside on Hawaiian Home Lands whose income exceeds 80% and less than 100% of area median income and utilize non-NHHBG funds for homeowner financing may also access homeownership housing counseling.

**1.7 Types and Level of Assistance** *(Describe the types and the level of assistance that will be provided to each household, as applicable.):*

Families who received NAHASDA assistance will receive homeownership counseling from a HUD-certified Housing Counselor. Homeownership counseling is housing counseling related to homeownership and residential mortgage loans that covers the decision to purchase a home, issues arising during or affecting the period of ownership of a home (including financing, refinancing, default, and foreclosure/lease cancellation, and other financial dispositions), and the sale/transfer or other disposition of a home. At a minimum, initial contact will be made with lessee, applicants or households who received NAHASDA assistance informing them of the availability of housing counseling services.

**1.8 APR:** (Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Households  | 20   |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE: Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.**

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|---|
| <p><b>1.1 Program Name and Unique Identifier:</b> Homeowner Assistance (AHP VIII)</p>   |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity assists lessees who reside on Hawaiian Home Lands that are unable to pay mortgage arrears; utilities and home energy costs arrears; property taxes; homeowner, hurricane, and/or flood insurance; or association/common area fees to mitigate financial hardships to prevent lease cancellation and promote housing stability.</p>  |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(18) Other Housing Service [810(b)(2)]</p>   |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(6) Assist Affordable Housing for Low-Income Households</p>  |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>   |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p> <input checked="" type="checkbox"/> Low-income NH Households      <input type="checkbox"/> Non-low income NH Households      <input type="checkbox"/> Non-NH Households </p> <p>Native Hawaiian families eligible to reside on Hawaiian Home Lands whose income is at or below 80% AMI. Native Hawaiian families eligible to reside on Hawaiian Home Lands who received NHHBG assistance may receive assistance with homeowner, hurricane, and/or flood insurance.</p>                        |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>DHHL will contract with a service provider to provide homeowner assistance (mortgage arrears; utilities and home energy costs arrears; property taxes; homeowner, hurricane, and/or flood insurance; or association/common area fees) to mitigate financial hardships to prevent lease cancellation and promote housing stability subject to availability of funds. Different options will be considered including but not limited to payment of arrears or principal reduction up to approximately \$30,000, as well as interest rate reduction, refinancing the loan, or a combination of these or other options.</p> |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>  |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Households  | 10   |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE: Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.**

|   |
|---|
| <p><b>1.1 Program Name and Unique Identifier:</b> Existing Potable Water Infrastructure Improvements (AHP IX)</p>   |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity will utilize NHHBG funding for engineering, construction, and construction management services for the Molokai Water System Improvements. These funds will be leveraged with funding from USDA to improve potable water infrastructure for Hoolehua, Molokai.</p>   |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(24) Infrastructure to Support Housing [810(b)(1)]</p>   |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(4) Improve quality of existing infrastructure</p>   |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>   |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a <u>separate</u> program within this section.):</i></p> <p><input checked="" type="checkbox"/> Low-income NH Households      <input type="checkbox"/> Non-low income NH Households      <input type="checkbox"/> Non-NH Households</p> <p>New and existing lessees in homestead areas with approved USDA DHHL applications would be assisted with potable water infrastructure improvements.</p> |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>Improved potable water service delivery and/or new potable water service delivery for lessees in homestead areas with an approved DHHL USDA water application.</p>  |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>  |



**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Improved Lots   | 0  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE: Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.**

|   |
|---|
| <p><b>1.1 Program Name and Unique Identifier:</b> Housing Conversion (AHP X)</p>  |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity involves the conversion of existing structures to transitional or affordable housing.</p>   |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(8) Conversion of Other Structures to Affordable Housing [810(b)(1)]</p>   |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(5) Address homelessness</p>   |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>   |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p><input checked="" type="checkbox"/> Low-income NH Households    <input type="checkbox"/> Non-low income NH Households    <input type="checkbox"/> Non-NH Households</p> <p>Native Hawaiian families eligible to reside on Hawaiian Home Lands whose income is at or below 80% AMI would be assisted through transitional or affordable rental housing.</p> |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>The assistance will provide funding for renovation of the Ulu Ke Kukui multi-family residential housing facility in Maili, Oahu, which will be made available to applicants on DHHL's wait list.</p>  |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>  |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Units   | 39   |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

|   |
|---|
| <p><b>1.1 Program Name and Unique Identifier:</b> Property Acquisition (AHP XI)</p>   |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity provides funds for acquisition of land or existing structure(s) for rental housing subject to satisfaction of all applicable requirements.</p>  |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(3) Acquisition of Rental Housing [810(b)(1)]</p>  |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(7) Create new affordable rental units</p>   |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>   |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p> <input checked="" type="checkbox"/> Low-income NH Households      <input type="checkbox"/> Non-low income NH Households      <input type="checkbox"/> Non-NH Households </p> <p>Native Hawaiian families eligible to reside on Hawaiian Home Lands at or below the 80% AMI income guidelines will be assisted when land or existing structure(s) is acquired and rental units are made available.</p> |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>Land or existing structure(s) will be purchased to provide rental units to increase affordable housing inventory.</p>   |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)):</i></p>  |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Units   | 0  |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

|   |
|---|
| <p><b>1.1 Program Name and Unique Identifier:</b> Operation &amp; Maintenance of NHHBG-Assisted Units (AHP XII)</p>   |
| <p><b>1.2 Program Description</b> <i>(This should be the description of the planned program.):</i></p> <p>This activity provides funds for the operation and maintenance of NHHBG-Assisted Units.</p>   |
| <p><b>1.3 Eligible Activity Number</b> <i>(Select one activity from the Eligible Activity list. Do not combine homeownership and rental housing in one activity, so that when housing units are reported in the APR they are correctly identified as homeownership or rental.):</i></p> <p>(20) Operation and Maintenance of NHHBG-Assisted Units [810(b)(3)]</p>   |
| <p><b>1.4 Intended Outcome Number</b> <i>(Select one outcome from the Outcome list. Each program can have only one outcome. If more than one outcome applies, create a separate program for each outcome.):</i></p> <p>(5) Address homelessness</p>   |
| <p><b>Describe Other Intended Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.5 Actual Outcome Number</b> <i>(In the APR identify the actual outcome from the Outcome list.):</i></p>   |
| <p><b>Describe Other Actual Outcome</b> <i>(Only if you selected "Other" above.):</i></p>   |
| <p><b>1.6 Who Will Be Assisted</b> <i>(Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median should be included as a separate program within this section.):</i></p> <p><input checked="" type="checkbox"/> Low-income NH Households    <input type="checkbox"/> Non-low income NH Households    <input type="checkbox"/> Non-NH Households</p> <p>Native Hawaiians eligible to reside on Hawaiian Home Lands whose income is at or below 80% AMI would be assisted through transitional or affordable rental housing.</p> |
| <p><b>1.7 Types and Level of Assistance</b> <i>(Describe the types and the level of assistance that will be provided to each household, as applicable.):</i></p> <p>DHHL will contract with a service provider to operate and maintain NHHBG-Assisted Units in Kalaeloa, Oahu for homeless native Hawaiian beneficiaries that are on DHHL's applicant wait lists whose income is at or below 80% AMI.</p>   |
| <p><b>1.8 APR:</b> <i>(Describe the accomplishments for the APR in the 12-month fiscal year in accordance with 24 CFR § 1006.410(b)(2) and (3)).</i></p>  |

**1.9: Planned and Actual Outputs for 12-Month Fiscal Year**

| Type of Output to be Completed in Fiscal Year Under this Program.<br>Enter <u>one</u> of following choices in accordance with the Eligible Activity: <b>Units; Households; Improved Lots; Acres</b> | Planned Number of <b>Outputs</b> to be completed in Fiscal Year Under this Program | APR: Actual Number of <b>Outputs</b> Completed in Fiscal Year |
|---|--|---|
| Units   | 18   |   |

**1.10: APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**1.11: APR:** Describe the manner in which DHHL would change its housing plan as a result of its experiences. (24 CFR § 1006.410(b)(4)). NOTE: It is sufficient to provide one response to this item rather than an individual response for each NHHBG-funded program.

**NOTE:** Remember to complete all the text boxes in Section 3 for each NHHBG-funded program. If you are completing an electronic version of this form, you may copy and paste text boxes 1.1 through 1.11 as needed to describe each of your programs. If you are completing this form in hard copy, you may photocopy Section 3 as needed to describe each of your programs.

## SECTION 4: AFFORDABLE HOUSING RESOURCES

This section of the NHP is designed to provide the public with basic background information on the characteristics shaping DHHL's affordable housing programs. Each portion of the text below has several required components that must be discussed. DHHL is encouraged to carefully review the instructions for each section and provide text covering all required elements.

**Housing Market** (NAHASDA § 803(c)(2)(D)(i) and (ii)) *(Describe the key characteristics of the housing market in the State of Hawaii, currently, and in the period of time covered by the plan. Include a description of the availability of housing from other public sources and private market housing, and how this supply of housing affected the DHHL's program/activity choices.):*

The Hawaii Housing Planning Study, 2019 pointed out that the most distinctive characteristic of Hawaii's housing market is high prices. Hawaii also continues to have the highest average rents in the nation, followed by the District of Columbia and New York. For the past decade, Hawaii's median gross rent has consistently been 50 to 55 percent higher than the national median gross rent.

In addition, the Study noted the slowing of residential housing construction. Total housing units grew by about 5,600 units per year (2.2%) between 2009 and 2011. Between 2011 and 2014, growth slowed to 2,800 units per year – half what it was in the previous five years. Between 2014 and 2017, growth slowed further to about 2,675 units per year. In recent years, Hawaii has been building more units that aren't being used for Hawaii families.

The Study also reported that Hawaii has typically been in the top 15 percent of states losing housing units to vacancies. Hawaii ranked 12<sup>th</sup> for percent of total housing units held for seasonal, recreational, and occasional use in 2017. Only two states ranked higher than the counties of Hawaii, Kauai, and Maui with respect to the percent of total units held off the market for seasonal use. Across the State, there were differences in the percent of total housing units counted as housing stock. In Honolulu, 6.8 percent of all units were unavailable. In the other counties, that figure was significantly higher as in 19 percent for Kauai County, 16 percent in the County of Hawaii, and 13 percent for Maui County.

The Study further indicated that one in ten households statewide devotes 30 to 40 percent of their income to shelter costs. For nearly one-quarter of households statewide (23.1%), shelter payments take up more than 40 percent of their income each month. Most disturbing is the evidence that Hawaii's shelter to income ratios are higher than most of the nation. In 2019, the percentage of mortgage holders whose monthly housing cost was greater than 30 percent of monthly income was 40.3 percent, the highest in the nation. The percentage of renters paying more than 30 percent was 55.6 percent, ranking Hawaii third in the nation after Florida (59.0%) and California (57.2%). When you factor Hawaii's Housing Wage (\$36.13) with the average wage of a renter in the state (\$16.16), it is understandable that there are many households with high shelter-to-income. In 2018, Hawaii had the largest shortfall (-\$19.98) between the average renter wage (amount renters earn) and the two-bedroom housing wage (amount required to afford an average two-bedroom rental unit).

Hawaii's crowding rate has long been among the highest in the nation. In 2017, Hawaii was ranked first in crowding for owner-occupied units (6.3%) and second for renter-occupied conditions (12.8%).

The department's NHHBG funded mortgage loans provide single family housing for the same or lower price than a studio in a multi-family high rise built by another housing agency in the urban core.



Without NHHBG funding, the department would be unable to build or finance housing for the 80% AMI or below target population.

**Cooperation** (NAHASDA § 803(c)(2)(D)(iii) *(Describe the structure, coordination, and means of cooperation between DHHL and other relevant partners and organizations [including private nonprofit organizations experienced in the planning and development of affordable housing] in the development, submission, or implementation of its housing plan. In addition, DHHL must indicate if it plans to use loan guarantees under Section 184A of the Housing and Community Development Act of 1992 and any other housing assistance provided by the Federal Government.):*

The department currently partners with a number of housing agencies and organizations either thru subject matter meetings or formal MOUs or agreements.

The Section 184A Loan Guarantee Program, which is similar to the Section 184 Loan Guarantee Program giving Native Americans access to private mortgage financing by providing loan guarantees to lenders, was implemented in 2007. Currently, 1<sup>st</sup> Tribal Lending, American Savings Bank, Bank of Hawai'i, CMG Financial, Cardinal Financial Company, Guardian Lending, DBA of Guardian One, HomeStreet Bank, and MLD Mortgage Inc. dba The Money Store are approved lenders for the Section 184A loan program.

DHHL has been utilizing the FHA 247 loan program since 1987. Over \$537 million in mortgage loans are outstanding through the FHA 247 loan program to lessees on Hawaiian home lands. The Veterans Affairs direct loan, Rural Development (U.S. Department of Agriculture) loan programs, and low-income housing tax credits are other financing options and tools utilized on Hawaiian home lands.

**Demolition and Disposition** (NAHASDA § 803(c)(2)(D)(viii), 24 CFR 1006.101(b)(4)(viii) *(Describe any planned demolition or sale of NHHBG-assisted housing units, or any other demolition or disposition that will be carried out with NHHBG funds. Be certain to include a financial analysis of the proposed demolition, the timetable for any planned demolition or disposition and any other information that is required by HUD with respect to the demolition or disposition.):*

There are no 1937 Act housing on Hawaiian home lands. The DHHL does not anticipate demolishing any units funded by the NHHBG.

**Coordination** (NAHASDA § 803(c)(2)(D)(ix) *(Describe how DHHL will coordinate with partners to promote employment and self-sufficiency opportunities for residents of affordable housing.)*):

The State of Hawai'i Department of Human Services (DHS) administers individual and family financial assistance programs that provide cash payments to help individuals and families meet their basic needs. The programs include Temporary Assistance to Needy Families (TANF), Temporary Assistance to Other Needy Families (TAONF), General Assistance (GA), Aid to the Aged, Blind and Disabled (AABD) and the Food Stamps program. Medical assistance is provided through the Hawai'i QUEST and Medicaid fee-for-services programs. Vocational rehabilitation services are provided to persons with disabilities. Whenever the DHHL staff is made aware of a lessee in need, the families are referred to DHS or to an appropriate non-profit service provider.

**Safety** (NAHASDA § 803(c)(2)(D)(x)) *(Describe how DHHL will promote crime prevention and resident involvement in affordable housing.)*:

The DHHL continues to coordinate efforts with County Police, the Sherriff's Office, the Attorney General's Office—Investigative Division, Department of Transportation – Homeless Coordinator, and the Department of Health – Solid Waste Section to do surveillance and evict offending occupants whenever there is evidence of trespassing or other crimes in homestead areas. DHHL's Enforcement Team and Honolulu Police Department (HPD) District 8, which includes DHHL homesteads in Kapolei, Nanakuli, and Waianae, established a pilot program regarding alleged lease violation investigations aimed at eliminating organized criminal activity in the homesteads with the intention of applying the pilot statewide. As part of this effort, DHHL is engaging beneficiaries/associations/neighborhood security watch programs statewide. If criminal activity is substantiated based on sworn testimony from HPD and written testimony is obtained from associations and NSWs about the effects of this activity, DHHL will initiate a contested case hearing for lease cancellation.

**Capacity** (NAHASDA § 803(c)(2)(D)(xi)) *(Describe the structure, capacity, and key personnel of the entities that will carry out the program/activities of the housing plan.):*

The DHHL was created by the State Legislature in 1964 to administer the Hawaiian home lands program and manage the Hawaiian home lands trust. The DHHL is one of eighteen principal agencies of the Executive Branch of the State of Hawai'i.

The DHHL serves native Hawaiians or individuals of no less than 50% Hawaiian blood, as defined by the Hawaiian Homes Commission Act of 1920, as amended, and their successors and assigns. These native Hawaiians are the beneficiaries of the Hawaiian home lands trust consisting of a land trust of over 200,000 acres, settlement monies from the State for the mismanagement of trust lands, funds received from the State general fund for operating costs, and revenues and earnings from the land leasing program.

The DHHL is governed by a nine-member board of commissioners headed by the Chairman, who also serves as the executive officer of the DHHL. The Governor of the State of Hawai'i appoints each commissioner and Chairman to a four-year term. The terms of the commissioners are staggered.

Currently, there are 143 full time employees in DHHL with six offices statewide. DHHL's main administrative office is located in Kapolei, Oahu and the five (5) district offices are located on neighbor islands. There are two (2) district offices on the Big Island, one in Hilo (East Hawaii) and one in Waimea (West Hawai'i), Hawai'i; one (1) district office in Lihue, Kauai; one (1) district office in Wailuku, Maui; and one (1) district office in Kalamaula, Molokai. DHHL is organized into five offices and three divisions under the Hawaiian Homes Commission and Office of the Chairman. The various offices and divisions are described as follows:

Office of the Chairman (OCH) — 30 staff members

The Office of the Chairman consists of the Chairman of the Hawaiian Homes Commission, who is also the Director of Department of Hawaiian Home Lands; the Deputy to the Chairman, the Executive Assistant; the NAHASDA Government Relations Program Manager, NAHASDA Government Relations Program Assistant Manager, NAHASDA Program Specialist, NAHASDA Compliance Specialist, NAHASDA Construction Specialist, NAHASDA Mortgage Specialist, NAHASDA Planner, NAHASDA Office Assistant, NAHASDA Government Relations Program Specialist; and executive staff.

Administrative Services Office (ASO) – 12 staff members

The Administrative Services Office provides DHHL staff support in the areas of personnel, budgeting, program evaluation, information and communication systems, risk management, facilities management, clerical services and other administrative services.

Fiscal Office (FO) – 11 staff members

The Fiscal Office provides accounting support for DHHL.

Planning Office (PO) – 11 staff members

The Planning Office conducts research and planning studies required in the development of policies, programs, and projects to benefit native Hawaiians. The PO coordinates and develops the Regional Plans, administers the Native Hawaiian Development Program, provides capacity building training for

homestead organizations, and provides community based grants for the implementation of Regional priority projects, community based economic development, and membership development.

Information and Community Relations Office (ICRO) – 4 staff members

The Information and Community Relations Office disseminates information to the public on Department issues, oversees community relations with the various homestead communities and coordinates DHHL's ceremonies. They also publish DHHL's annual reports to the State Legislature.

Homestead Services Division (HSD) – 44 staff members

HSD is composed of three branches: 1) Homestead Applications, 2) District Operations, and 3) Loan Services. HSD is the largest division in DHHL, has staff on all islands, and services more than 25,000 applicants and 10,000 lessees on five islands.

Land Management Division (LMD) – 11 staff members

LMD is responsible for managing Hawaiian home lands that are not used for homestead purposes. Unencumbered lands are managed and disposed of for long and short term uses in order to generate revenues and keep the lands productive while minimizing the occurrence of vegetative overgrowth, squatting or illegal dumping. LMD is responsible for properly managing the lands in DHHL's inventory.

Land Development Division (LDD) – 18 staff members

LDD is charged with the responsibility of developing trust lands for homesteading and income-producing purposes. This is accomplished through the development of properties for residential, agricultural, pastoral, and economic development uses. LDD has three operating branches: 1) Design and Construction – concentrating on the design and construction of off-site and on-site improvements for the various subdivisions; 2) Master-Planned Community – expediting the construction of housing options through partnerships with private sector and exploring other housing opportunities; and, 3) Housing Project—providing turn-key homes and assisting lessees of vacant lots in arranging financing and in contracting with a builder, including self-help and Habitat programs.

The following is a listing of the key personnel responsible for the implementation of DHHL and NAHASDA assisted programs:

Hawaiian Homes Commission (HHC)

Kali Watson, Chairman  
Makai Freitas, West Hawaii Commissioner  
Michael Kaleikini, East Hawaii Commissioner  
Archie Kalepa, Maui Commissioner  
Lawrence Lasua, Molokai Commissioner  
Pauline Namuo, Oahu Commissioner  
Sanoë Marfil, Oahu Commissioner  
Walt Kaneakua, Oahu Commissioner  
Dennis Neves, Kauai Commissioner

Department of Hawaiian Home Lands

Kali Watson, Chairman  
Katie Lambert, Deputy to the Chairman

Richard Hoke, Executive Assistant  
Pearl Teruya, Fiscal Management Officer  
Andrew Choy, Planning Program Manager  
Lehua Kinilau-Cano, NAHASDA Government Relations Program Manager  
Cynthia Rezendes, NAHASDA Government Relations Program Assistant Manager  
Malia Cox, NAHASDA Compliance Specialist  
Jennifer Keomaka, NAHASDA Construction Specialist  
Annie Aarona, NAHASDA Mortgage Loan Specialist  
Shauna Mau, NAHASDA Office Assistant  
Kuupuamaeole Kiyuna, NAHASDA Planner  
Richard Medeiros, NAHASDA Program Specialist  
Oriana Leao, NAHASDA Government Relations Program Specialist  
Juan Garcia, HSD Administrator  
Bryan Jeremiah, East Hawaii Homestead District Supervisor  
James Du Pont, West Hawaii Homestead District Supervisor  
Erna Kamibayashi, Kauai Homestead District Supervisor  
Dean Oshiro, Housing Services Loan Manager  
David Hoke, Enforcement Administrator  
Kalani Fronda, Acting Land Development Division Administrator  
Loida Chun, Labor Compliance Specialist

## SECTION 5: BUDGETS

**(1) Sources of Funding** (NAHASDA § 803(c)(2)(C)(i) and 820(b)(1)) (Complete the *non-shaded* portions of the chart below to describe your estimated or anticipated sources of funding for the 12-month fiscal year. **APR Actual Sources of Funding -- Please complete the shaded portions of the chart below to describe your actual funds received. Only report on funds actually received and under a grant agreement or other binding commitment during the 12-month fiscal year.**)

| SOURCE                  | NHHP  |  |   |   |   | APR  |   |  |  |   |  |
|-------------------------|---|--|---|---|---|--|---|--|--|---|--|
|                         | (A)<br>Estimated amount on hand at beginning of fiscal year | (B)<br>Estimated amount to be received during 12-month fiscal year | (C)<br>Estimated total sources of funds (A + B) | (D)<br>Estimated funds to be expended during 12-month fiscal year | (E)<br>Estimated unexpended funds remaining at end of fiscal year (C minus D) | (F)<br>Actual amount on hand at beginning of fiscal year | (G)<br>Actual amount received during 12-month fiscal year | (H)<br>Actual total sources of funding (F + G) | (I)<br>Actual funds expended during 12-month fiscal year | (J)<br>Actual unexpended funds remaining at end of 12-month fiscal year (H minus I) | (K)<br>Actual unexpended funds obligated but not expended at end of 12-month fiscal year |
| 1. NHHBG Funds          | 30,000,000  | 22,300,000   | 52,300,000                                      | 39,122,500  | 13,177,500  |  |   |  |  |   |  |
| 2. NHHBG Program Income | 0   | 140,000  | 140,000   | 140,000   | 0   |  |   |  |  |   |  |
| <b>LEVERAGED FUNDS</b>  |   |  |   |   |   |  |   |  |  |   |  |
| 3. Other Federal Funds  | 0   | 25,000   | 25,000  | 25,000  | 0   |  |   |  |  |   |  |
| 4. LIHTC                |   |  |   |   |   |  |   |  |  |   |  |
| 5. Non-Federal Funds    |   |  |   |   |   |  |   |  |  |   |  |
| <b>TOTAL</b>            | 30,000,000  | 22,465,000   | 52,465,000                                      | 39,287,500  | 13,177,500  |  |   |  |  |   |  |

**Notes:**

- a. For the NHHP, fill in columns A, B, C, D, and E (non-shaded columns). For the APR, fill in columns F, G, H, I, J, and K (shaded columns).
- b. Total of Column D should match the total of Column N from the Uses Table on the following page.
- c. **Total of Column I should match the Total of Column Q from the Uses Table on the following page.**
- d. For the NHHP, describe any estimated leverage in Line 3 below. For the APR, describe actual leverage in Line 4 below (APR).

**(2) Uses of Funding (NAHASDA § 803(c)(2)(C)(ii))** (Note that the budget should not exceed the total funds on hand (Column C) and insert as many rows as needed to include all the programs identified in Section 3. **Actual expenditures in the APR section are for the 12-month fiscal year.**)

| PROGRAM NAME<br>(tie to program names in Section 3 above) | Unique Identifier | NHHP  |   |   |  | APR   |   |  |
|---|-------------------|---|---|---|--|---|---|--|
|   |                   | (L)<br>Prior and current year NHHBG (only) funds to be expended in 12-month fiscal year | (M)<br>Total all other funds expended in 12-month fiscal year | (N)<br>Total funds to be expended in 12-month fiscal year (L + M) | (O)<br>Total NHHBG (only) funds expended in 12-month fiscal year | (P)<br>Total all other funds expended in 12-month fiscal year | (Q)<br>Total funds expended in 12-month fiscal year (O+P) |  |
| 2025 CIP  | AHP I             | 250,000   |   | 250,000   |  |   |   |  |
| Developer Financing                                       | AHP II            | 7,500,000   |   | 7,500,000   |  |   |   |  |
| Homeowner Financing                                       | AHP III           | 11,612,500  | 165,000   | 11,777,500  |  |   |   |  |
| Down Payment/Closing Cost (NLJ)                           | AHP III-A         | 200,000   |   | 200,000   |  |   |   |  |
| HAP   | AHP IV            | 2,000,000   |   | 2,000,000   |  |   |   |  |
| Waimanalo Kupuna Housing Rental Asst                      | AHP V             | 830,000   |   | 830,000   |  |   |   |  |
| Rental Vouchers   | AHP VI-A          | 125,000   |   | 125,000   |  |   |   |  |
| Emergency Rental  | AHP VI-B          | 300,000   |   | 300,000   |  |   |   |  |
| Emergency Rental (NLJ)                                    | AHP VI-B-1        | 30,000  |   | 30,000  |  |   |   |  |
| Kupuna Rental   | AHP VI-C          | 3,750,000   |   | 3,750,000   |  |   |   |  |
| Rental Vouchers for DHHL Units                            | AHP VI-D          | 125,000   |   | 125,000   |  |   |   |  |
| Housing Counseling  | AHP VII           | 1,000,000   |   | 1,000,000   |  |   |   |  |
| Housing Counseling (NLJ)                                  | AHP VII-A         | 100,000   |   | 100,000   |  |   |   |  |
| Homeowner Assistance                                      | AHP VIII          | 300,000   |   | 300,000   |  |   |   |  |
| Water Infrastructure Improvements                         | AHP IX            | 250,000   |   | 250,000   |  |   |   |  |
| Housing Conversion  | AHP X             | 9,600,000   |   | 9,600,000   |  |   |   |  |
| Property Acquisition                                      | AHP XI            | 0   |   | 0   |  |   |   |  |
| Operation & Maintenance                                   | AHP XII           | 150,000   |   | 150,000   |  |   |   |  |
| Planning and Administration                               |                   | 1,000,000   |   | 1,000,000   |  |   |   |  |
| Loan Repayment – describe in 3 and 4 below.               |                   |   |   |   |  |   |   |  |
| <b>TOTAL</b>  |                   | <b>39,122,500</b>   | <b>165,000</b>  | <b>39,287,500</b>   |  |   |   |  |

**Notes:**

- a. Total of Column L cannot exceed the NHHBG funds from Column C, Row 1 from the Sources Table on the previous page.
- b. Total of Column M cannot exceed the total from Column C, Rows 2-10 from the Sources Table on the previous page.
- c. Total of Column O cannot exceed total NHHBG funds received in Column H, Row 1 from the Sources Table on the previous page.
- d. Total of Column P cannot exceed total of Column H, Rows 2-10 of the Sources Table on the previous page.
- e. Total of Column Q should equal total of Column I of the Sources Table on the previous page.

**(3) Estimated Sources or Uses of Funding** (NAHASDA § 803(c)(2)(C)). *(Provide any additional information about the estimated sources or uses of funding, including leverage (if any). You must provide the relevant information for any planned loan repayment. The text must describe which specific loan is planned to be repaid and the NAHASDA-eligible activity and program associated with this loan):*

The department anticipates \$140,000 in program income. The estimated \$25,000 in other federal funds is the repayment of the NHHBG subsidy when the lessee transfers their interest in the lease to a non-income eligible Native Hawaiian purchaser.

**(4) APR** (NAHASDA § 820(b)(1)) *(Enter any additional information about the actual sources or uses of funding, including leverage (if any)).*



## SECTION 6: OTHER SUBMISSION ITEMS

**(1) Useful Life/Affordability Period(s)** (NAHASDA § 813, 24 CFR § 1006.305) *(Describe your plan or system for determining the useful life/affordability period of the housing assisted with NHHBG funds. A record of the current, specific useful life/affordability period for housing units assisted with NHHBG funds must be maintained in DHHL's files and available for review for the useful life/affordability period.):*

DHHL has established the following affordability periods to describe the term during which DHHL will keep the unit affordable:

| <u>NHHBG Funds Invested</u> | <u>Affordability Period</u> |
|-----------------------------|-----------------------------|
| Less than \$5,000           | 6 months                    |
| \$5,000 to \$50,000         | 5 years                     |
| \$50,001 to \$100,000       | 10 years                    |
| \$100,001 to \$200,000      | 20 years                    |
| \$200,001 and above         | 30 years                    |

The affordability period is based on the total amount of NHHBG funds invested in the housing unit. Resale and recapture provisions will be included as a condition of the Hawaiian homestead lease to enforce the affordability restriction for each assisted housing unit.

**(2) Model Housing and Over-Income Activities** (NAHASDA § 810(b)(5) and 809(a)(2)(B), 24 CFR § 1006.225 and 1006.301(b)) *(If you wish to undertake a model housing activity(ies) or wish to serve non-low-income households during the 12-month fiscal year, those activities may be described here. Each approved model activity must be included as a separate program in Section 3 (Program Descriptions) and the APR portions of Section 3 must be completed in the APR submission for any approved model activity.):*

No model housing activities are planned for the 12-month fiscal year. DHHL anticipates expending no more than 10 percent of its NHHBP budget on Native Hawaiian families eligible to reside on Hawaiian Home Lands between 81 and 100 percent of the area median income for the down payment and/or to buy down the interest rate to subsidize turn key housing financed with non-NHHBG funds up to a certain amount of NHHBG funds subject to the applicable useful life/affordability period. DHHL also intends to utilize regulatory and administrative flexibilities to assist with recovery and relief efforts on behalf of families affected by Presidentially Declared Disasters, specifically the wildfires in Maui County. Finally, DHHL anticipates expending no more than 10 percent of its NHHBP budget on Native Hawaiian families eligible to reside on Hawaiian Home Lands between 81 and 100 percent of the area median income to fund homeownership counseling for those families who utilize non-NHHBG funds for homeowner financing. DHHL understands that HUD approval must be received to serve households above 100 percent of area median income or to spend more than 10 percent of its NHHBP budget to assist households between 81 percent and 100 percent of area median income.

**Native Hawaiian Housing Block Grant (NHHBG)**

Exempt from OMB Approval. 5 CFR 1320.3 (c) (4)

**NHHP/APR**

U.S. Department of Housing and Urban Development

Office of Public and Indian Housing

Office of Native American Programs

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**(3) Anticipated Planning and Administration Expenses (NAHASDA § 802(d), 24 CFR § 1006.230)**

Do you intend to exceed your allowable spending cap for Planning and Administration? Yes  No

If yes, describe why the additional funds are needed for Planning and Administration.

**(4) Actual Planning and Administration Expenses (NAHASDA § 802(d), 24 CFR § 1006.230)**

Did you exceed your spending cap for Planning and Administration? Yes  No

If yes, did you receive HUD approval to exceed your spending cap on Planning and Administration? Yes  No

If you did not receive approval for exceeding your spending cap on Planning and Administration costs, describe the reason(s) for exceeding the cap.

**SECTION 7: NATIVE HAWAIIAN HOUSING PLAN CERTIFICATION OF COMPLIANCE**  
(NAHASDA § 803(c)(2)(E))

By signing the NHHP, you certify that you have all required policies and procedures in place in order to operate any planned NHHBG programs.

- (1) In accordance with applicable statutes, the recipient certifies that it will comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) or with the Fair Housing Act (42 U.S.C. 3601 et seq.) in carrying out the NHHBG program, to the extent that such Acts are applicable, and other applicable federal statutes.

Yes  No

The following certifications will only apply where applicable based on program activities.

- (2) The recipient will require adequate insurance coverage for housing units that are owned and operated or assisted with grant amounts provided under NAHASDA, in compliance with such requirements as may be established by HUD.

Yes  No  Not Applicable

- (3) Policies are in effect and are available for review by HUD and the public governing the eligibility, admission, and occupancy of families for housing assisted with grant amounts provided under NAHASDA.

Yes  No  Not Applicable

- (4) Policies are in effect and are available for review by HUD and the public governing rents charged, including the methods by which such rents or homebuyer payments are determined, for housing assisted with grant amounts provided under NAHASDA.

Yes  No  Not Applicable  and

- (5) Policies are in effect and are available for review by HUD and the public governing the management and maintenance of housing assisted with grant amounts provided under NAHASDA.

Yes  No  Not Applicable

## SECTION 8: SELF-MONITORING

(NAHASDA § 819(b), 24 CFR § 1006.401)

(1) Do you have a procedure and/or policy for self-monitoring?

Yes  No

(2) Did you conduct self-monitoring, including monitoring sub-recipients?

Yes  No

**(3) Self-Monitoring Results.** *(Describe the results of the monitoring activities, including inspections for this program year.):*

## SECTION 9: INSPECTIONS

(NAHASDA § 819(b))

(1) **Inspection of Units** (Use the table below to record the results of inspections of assisted housing.)

| (A)  |                                   | (B)                             | Results of Inspections            |  |
|--|-----------------------------------|---------------------------------|-----------------------------------|--|
| Activity   |                                   | Total number of units inspected | Total number of units (Inventory) |  |
| <b>NAHASDA-Assisted Units:</b><br>Running inventory as of Fiscal Year Beginning (July 1) a 12-month total. |                                   |                                 |                                   |  |
| a.   | New Construction Completed        |                                 |                                   |  |
| b.   | Rehab/Repair Completed            |                                 |                                   |  |
| c.   | Rental Assistance (if applicable) |                                 |                                   |  |
| d.   | Other                             |                                 |                                   |  |
| <b>Total</b>   |                                   |                                 |                                   |  |

(2) Did you comply with your inspection policy: Yes  No:

(3) If no, why not:

## SECTION 10: AUDITS

(24 CFR § 1006.375(d))

This section is used to indicate whether an audit is required in accordance with the Single Audit Act and 2 CFR part 200, subpart F, based on a review of your financial records.

Did you expend \$750,000 or more in total Federal awards during the APR reporting period?

Yes  No

If Yes, an audit is required to be submitted to the Federal Audit Clearinghouse

If No, an audit is not required.

**SECTION 11: PUBLIC AVAILABILITY**

(NAHASDA § 820(d), 24 CFR § 1006.410(c))

**(1)** Did you make this APR available to the beneficiaries of the Hawaiian Homes Commission Act before it was submitted to HUD?

Check one:    Yes     No

**(2)** If you answered "No" to question #1, provide an explanation as to why not and indicate when you will do so.

**(3)** Summarize any comments received from the beneficiaries (NAHASDA § 820(d)(2)).

**SECTION 12: JOBS SUPPORTED BY NAHASDA**  
 (NAHASDA § 820)

Use the table below to record the number of jobs supported with NHHBG funds each year (including DHHL staff, Subrecipient staff, Contractors, etc.).

| <b>Native Hawaiian Housing Block Grant Assistance (NHHBG)</b> |  |
|---|--|
| <b>(1) Number of Permanent Jobs Supported</b>                 |  |
| <b>(2) Number of Temporary Jobs Supported</b>                 |  |

**(3) Narrative (optional):**

| <b>Section 3 of the HUD Act of 1968 Reporting Requirements:</b>   |  |
|---|--|
| <b>Reporting of Labor Hours for Section 3 Projects (Section 3 of the HUD Act of 1968)</b><br>(24 CFR § 1006.375(e); § 75.25(a)) |  |
| <b>(1) Total Number of Labor Hours Worked</b>   |  |
| <b>(2) Total Number of Labor Hours Worked by Section 3 Workers</b>  |  |
| <b>(3) Total Number of Labor Hours Worked by Targeted Section 3 Workers</b>   |  |

| <b>List Qualitative Efforts Made if Section 3 Benchmarks Are Not Met</b><br>(24 CFR §§ 75.23, 75.25(b)) |  |
|---|--|
|   |  |
|   |  |
|   |  |



**SECTION 13: NHHP WAIVER REQUESTS**

(NAHASDA § 802(b)(2), 24 CFR 1006.20(b))

THIS SECTION IS ONLY REQUIRED IF DHHL IS REQUESTING A WAIVER OF A NHHP SECTION. Fill out the form below if you are requesting a waiver of one or more sections of the NHHP. **NOTE:** This is NOT a waiver of the NHHBG program requirements but rather a request to waive some of the NHHP submission items because DHHL cannot comply due to circumstances beyond its control.

**(1)** List below the sections of the NHHP where you are requesting a waiver.  
*(List the requested waiver sections by name and section number):*

**(2)** Describe the reasons that you are requesting this waiver *(Describe completely why you are unable to complete a particular section of the NHHP.):*

**(3)** Describe the actions you will take in order to ensure that you are able to submit a complete NHHP in the future. *(This section should completely describe the procedural, staffing or technical corrections that you will make in order to submit a complete NHHP in the future.):*

|  |  |
|--|--|
| <b>(4)</b> Recipient:                            |  |
| <b>(5)</b> Authorized Official's Name and Title: |  |
| <b>(6)</b> Authorized Official's Signature:      |  |
| <b>(7)</b> Date (MM/DD/YYYY):                    |  |

**SECTION 14: NHHP AMENDMENTS**

(24 CFR § 1006.101(d))

**Use this section for NHHP amendments only.**

Fill out the text below to summarize your NHHP amendment. Copy and paste Section 14 for each amendment. This amendment is only required to be submitted to the HUD Office of Native American Programs when the recipient is adding a new activity that was not described in the current One-Year Plan that has been determined to be in compliance by HUD. All other amendments will be reflected in the APR and do not need to be submitted to HUD.

NOTE: A Cover Page is strongly recommended but not required with a NHHP Amendment submission.

**APR: REPORTING ON PROGRAM YEAR PROGRESS (NAHASDA § 820(b))**

Complete the shaded section of text below to describe your completed program tasks and actual results. Only report on activities completed during the 12-month fiscal year. Financial data should be presented using the same basis of accounting as the Schedule of Expenditures of Federal Awards (SEFA) in the annual audit. For unit accomplishments, only count units when the unit was completed and occupied during the year. For households, only count the household if it received the assistance during the previous 12-month fiscal year.

|  |
|--|
| <p><b>(1) Program Name and Unique Identifier:</b></p>  |
| <p><b>(2) Program Description</b> (<i>This should be the description of the planned program.</i>):</p>   |
| <p><b>(3) Eligible Activity Number</b> (<i>Select one activity from the Eligible Activities list in Section 3. Do not combine homeownership and rental housing in one activity, so that when units are reported in the APR they are correctly identified as homeownership or rental.</i>):</p> |

**(4) Intended Outcome Number** (Select one Outcome from the Outcome list in Section 3.):

**Describe Other Intended Outcome** (Only if you selected "Other" above.):

**(5) Actual Outcome Number** (Select one Outcome from the Outcome list in Section 3.):

**Describe Other Actual Outcome** (Only if you selected "Other" above.):

**(6) Who Will Be Assisted** (Describe the types of households that will be assisted under the program. Please note: assistance made available to families whose incomes exceed 80 percent of the median income should be included as a separate program within this Section.):

Low-income NH Households       Non-low income NH Households       Non-NH Households

**(7). Types and Level of Assistance** (Describe the types and the level of assistance that will be provided to each household, as applicable.):

**(8). APR:** (Describe the accomplishments for the APR in the 12-month fiscal year. In accordance with 24 CFR § 1006.410(b)(2) and (3), provide an analysis and explanation of cost overruns or high unit costs.):

**(9). Planned and Actual Outputs for 12-Month Fiscal Year**

| Planned Number of <b>Units</b> to be Completed in Year Under this Program | Planned Number of <b>Households</b> To Be Served in Year Under this Program | Planned Number of <b>Acres</b> To Be Purchased in Year Under this Program | APR: Actual Number of <b>Units</b> Completed in Fiscal Year | APR: Actual Number of <b>Households</b> Served in Fiscal Year | APR: Actual Number of <b>Acres</b> Purchased in Fiscal Year |
|---|---|---|---|---|---|
|   |   |   |   |   |   |

**(10). APR:** If the program is behind schedule, explain why. (24 CFR § 1006.410(b)(2))

**(11) Amended Sources of Funding (NAHASDA § 803(c)(2)(C)(i))** (Complete the non-shaded portions of the chart below to describe your estimated or anticipated sources of funding for the 12-month fiscal year. **APR Actual Sources of Funding -- Please complete the shaded portions of the chart below to describe your actual funds received. Only report on funds actually received and under a grant agreement or other binding commitment during the 12-month fiscal year.**)

| SOURCE                  | NHHP  |  |   | APR   |   |  |   |  |  |   |  |
|-------------------------|---|--|---|---|---|--|---|--|--|---|--|
|                         | (A)<br>Estimated amount on hand at beginning of fiscal year | (B)<br>Estimated amount to be received during 12-month fiscal year | (C)<br>Estimated total sources of funds (A + B) | (D)<br>Estimated funds to be expended during 12-month fiscal year | (E)<br>Estimated unexpended funds remaining at end of fiscal year (C minus D) | (F)<br>Actual amount on hand at beginning of fiscal year | (G)<br>Actual amount received during 12-month fiscal year | (H)<br>Actual total sources of funding (F + G) | (I)<br>Actual funds expended during 12-month fiscal year | (J)<br>Actual unexpended funds remaining at end of 12-month fiscal year (H minus I) | (K)<br>Actual unexpended funds obligated but not expended at end of 12-month fiscal year |
| 6. NHHBG Funds          |   |  |   |   |   |  |   |  |  |   |  |
| 7. NHHBG Program Income |   |  |   |   |   |  |   |  |  |   |  |
| <b>LEVERAGED FUNDS</b>  |   |  |   |   |   |  |   |  |  |   |  |
| 8. Other Federal Funds  |   |  |   |   |   |  |   |  |  |   |  |
| 9. LIHTC                |   |  |   |   |   |  |   |  |  |   |  |
| 10. Non-Federal Funds   |   |  |   |   |   |  |   |  |  |   |  |
| <b>TOTAL</b>            |   |  |   |   |   |  |   |  |  |   |  |

**Notes:**

- a. For the NHHP, fill in columns A, B, C, D, and E (non-shaded columns). For the APR, fill in columns F, G, H, I, J, and K (shaded columns).
- b. Total of Column D should match the total of Column N from the Uses Table on the following page.
- c. Total of Column I should match the Total of Column Q from the Uses Table on the following page.



**(13) Estimated Sources or Uses of Funding** (NAHASDA § 803(c)(2)(C)). (Provide any additional information about the estimated sources or uses of funding, including leverage (if any). You must provide the relevant information for any planned loan repayment listed in the Uses Table on the previous page. The text must describe which specific loan is planned to be repaid and the NAHASDA-eligible activity and program associated with this loan):

**(14) APR** (NAHASDA § 820(b)(1)) (Enter any additional information about the actual sources or uses of funding, including leverage (if any). You must provide the relevant information for any actual loan repayment listed in the Uses Table on the previous page. The text must describe which loan was repaid and the NAHASDA-eligible activity and program associated with this loan.):

|   |  |
|---|--|
| <b>(15)</b> Recipient:                            |  |
| <b>(16)</b> Authorized Official's Name and Title: |  |
| <b>(17)</b> Authorized Official's Signature:      | I certify that all other sections of the NHHP approved on _____ are accurate and reflect the activities planned. |
| <b>(18)</b> Date (MM/DD/YYYY):                    |  |



STATE OF HAWAI'I  
DEPARTMENT OF HAWAIIAN HOME LANDS

March 17 – March 18, 2025

To: Chairman and Members, Hawaiian Homes Commission  
From: David Hoke, Administrator, Enforcement Unit  
Subject: For Information Only – Monthly Enforcement Unit Efforts and Statistics (February 10, 2025 – March 9, 2025)

**RECOMMENDED ACTIONS:** None. For information only.

**DISCUSSION:**

Total requests received since last submittal: 5

- Oahu: 0
- Maui: 0
- Kauai: 0
- East Hawaii: 2
- West Hawaii: 1
- Molokai: 0
- Lanai: 0
- LMD: 1
- OCH: 0
- Directly to EU: 1

Total requests received in 2025: 20

Official notices sent to beneficiaries related to EU investigations since the last submittal: 16

Events and Operations:

- Six property inspections with the State Department of Health

Beneficiary Engagement:

- Monthly email to associations, NSW, and other POCs (3/10/25, 65 total recipients)
- Kauluokahai NSW
- Keaukaha Panaewa Farmer's Association NSW
- Ahapuaa O Nanakuli Homestead Association
- Kahikinui Association
- SCHHA

Interagency Collaboration:

- County Police:
  - o HPD – D8 Narco/Vice, Community Policing Team, D5 CRU
  - o HCPD – Community Policing Team
  - o MPD – Community Policing Team
  - o KPD – Patrol, Records Division
- State of Hawaii Department of Law Enforcement – Director Mike Lambert
- State of Hawaii Sheriff Division
- State of Hawaii Attorney General Investigators
- State of Hawaii Emergency Management
- State of Hawaii Department of Health
- Honolulu Fire Department
- Kauai Fire Department

Hawaiian Homes Commission Meeting Packet  
March 17 & 18, 2025  
Waimea, Hawai'i

**D ITEMS**

**HOMESTEAD SERVICES DIVISION  
AGENDA**

**March 17-18, 2025**

| DIVISION           | ITEM NO. | SUBJECT  |
|--------------------|----------|--|
| ODO/APPL.<br>LOANS | D-1      | HSD Status Reports<br>Exhibits:<br>A - Homestead Lease & Application Totals and Monthly Activity Reports<br>B - Delinquency Report |
| LOANS              | D-2      | Approval of Consent to Mortgage (see exhibit)  |
|                    | D-3      | Approval of Streamline Refinance of Loans  |
| APPL               | D-4      | Approval of Homestead Application Transfers / Cancellations (see exhibit)  |
|                    | D-5      | Approval to Certify Applications of Qualified Applicants for the month of February 2025 (see exhibit)                              |
|                    | D-6      | Commission Designation of Successors to Application Rights – Public Notice 2022, 2023 (see exhibit)                                |
| ODO                | D-7      | Approval of Assignment of Leasehold Interest (see exhibit)   |
|                    | D-8      | Approval of Amendment of Leasehold Interest (see exhibit)  |
|                    | D-9      | Approval to Issue Non-Exclusive Licenses for Rooftop Photovoltaic Systems for Certain Lessees (see Exhibit)                        |
|                    | D-10     | Commission Designation of Successor – <b>KEAWE K. WILHELM</b> , Residential Lease No. 11700, Lot No. 18508, Kanehili, Oahu         |
| MoDO               | D-11     | Cancellation of Lease – <b>LUCY L. K. WHITING</b> , Agricultural Lease No. 6082, Lot 170, Kalamaula, Molokai                       |
| WHDO               | D-12     | Approval to Amend the Lease Commencement Date for the Pu'ukapu Pastoral Leases   |

Sample Footer 12pt. Aptos  
(Without Exhibit)

**ITEM NO. D-1**

(With Exhibit)

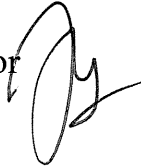
**ITEM NO. D-1**  
**EXHIBIT A**

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOMELANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission

FROM: Juan Garcia, HSD Administrator  
Homestead Services Division



SUBJECT: **Homestead Services Division Status Reports**

RECOMMENDED MOTION ACTION

None

DISCUSSION

The following reports are for information only:

EXHIBIT A: Homestead Lease and Application Totals and Monthly Activity Reports

EXHIBIT B: Delinquency Reports

March 17, 2025

SUBJECT: Homestead Lease and Application Totals and Monthly Activity Reports

LEASE ACTIVITY REPORT

Month through February 28, 2025

|              | As of<br>1/31/25 | Add       | Cancel   | As of<br>2/28/25 |
|--------------|------------------|-----------|----------|------------------|
| Residential  | 8,512            | 0         | 0        | 8,512            |
| Agricultural | 1,110            | 30        | 0        | 1,140            |
| Pastoral     | 438              | 0         | 0        | 438              |
| <b>Total</b> | <b>10,060</b>    | <b>30</b> | <b>0</b> | <b>10,090</b>    |

The cumulative number of Converted Undivided Interest Lessees represents an increase of 578 families moving into homes. Their Undivided Interest lease was converted to a regular homestead lease.

|           | As of<br>1/31/25 | Converted | Rescinded/<br>Surrendered/<br>Cancelled/ | As of<br>2/28/25 |
|-----------|------------------|-----------|--|------------------|
| Undivided | 731              | 0         | 0  | 731              |

Balance as of 2/28/2025:

|                    |            |
|--------------------|------------|
| Awarded            | 1,434      |
| Relocated to UNDV  | 7          |
| Reinstated to UNDV | 1          |
| Rescinded          | 123        |
| Surrendered        | 6          |
| Cancelled          | 4          |
| Converted          | <u>578</u> |
| Balance to Convert | <b>731</b> |

Lease Report For the Month Ending February 28, 2025

|                          | RESIDENCE    |          |          | AGRICULTURE  |              |           | PASTURE  |              |            | TOTAL LEASES |          |               |
|--------------------------|--------------|----------|----------|--------------|--------------|-----------|----------|--------------|------------|--------------|----------|---------------|
|                          | Last Month   | Add      | Cancel   | TOTAL        | Last Month   | Add       | Cancel   | TOTAL        | Last Month | Add          | Cancel   | TOTAL         |
| <b>OAHU</b>              |              |          |          |              |              |           |          |              |            |              |          |               |
| Kakaina                  | 43           | 0        | 0        | 43           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 43            |
| Kalawahine               | 90           | 0        | 0        | 90           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 90            |
| Kanehili                 | 399          | 0        | 0        | 399          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 399           |
| Kapolei                  | 173          | 0        | 0        | 173          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 173           |
| Kauloakahai              | 155          | 0        | 0        | 155          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 155           |
| Kaupea                   | 323          | 0        | 0        | 323          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 323           |
| Kaupuni                  | 19           | 0        | 0        | 19           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 19            |
| Kewalo                   | 248          | 0        | 0        | 248          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 248           |
| Kumuhau                  | 51           | 0        | 0        | 51           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 51            |
| Lualualei                | 149          | 0        | 0        | 149          | 30           | 0         | 0        | 30           | 0          | 0            | 0        | 179           |
| Malu'ohai                | 225          | 0        | 0        | 225          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 225           |
| Nanakuli                 | 1,045        | 0        | 0        | 1,045        | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 1,045         |
| Papakolea                | 64           | 0        | 0        | 64           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 64            |
| Princess Kahanu Estates  | 268          | 0        | 0        | 268          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 268           |
| Waiahole                 | 0            | 0        | 0        | 0            | 16           | 0         | 0        | 16           | 0          | 0            | 0        | 16            |
| Waianae                  | 421          | 0        | 0        | 421          | 12           | 0         | 0        | 12           | 0          | 0            | 0        | 433           |
| Waimanalo                | 711          | 0        | 0        | 711          | 2            | 0         | 0        | 2            | 0          | 0            | 0        | 713           |
| <b>TOTAL</b>             | <b>4,384</b> | <b>0</b> | <b>0</b> | <b>4,384</b> | <b>60</b>    | <b>0</b>  | <b>0</b> | <b>60</b>    | <b>0</b>   | <b>0</b>     | <b>0</b> | <b>4,444</b>  |
| <b>MAUI</b>              |              |          |          |              |              |           |          |              |            |              |          |               |
| Hikina                   | 31           | 0        | 0        | 31           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 31            |
| Kahikinui                | 0            | 0        | 0        | 0            | 0            | 0         | 0        | 0            | 100        | 0            | 0        | 100           |
| Keokea                   | 0            | 0        | 0        | 0            | 64           | 0         | 0        | 64           | 0          | 0            | 0        | 64            |
| Leialii                  | 103          | 0        | 0        | 103          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 103           |
| Paukukalo                | 178          | 0        | 0        | 178          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 178           |
| Waiehu 1                 | 39           | 0        | 0        | 39           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 39            |
| Waiehu 2                 | 109          | 0        | 0        | 109          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 109           |
| Waiehu 3                 | 113          | 0        | 0        | 113          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 113           |
| Waiehu 4                 | 98           | 0        | 0        | 98           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 98            |
| Waiohuli                 | 590          | 0        | 0        | 590          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 590           |
| <b>TOTAL</b>             | <b>1,261</b> | <b>0</b> | <b>0</b> | <b>1,261</b> | <b>64</b>    | <b>0</b>  | <b>0</b> | <b>64</b>    | <b>100</b> | <b>0</b>     | <b>0</b> | <b>1,425</b>  |
| <b>EAST HAWAII</b>       |              |          |          |              |              |           |          |              |            |              |          |               |
| Discovery Harbour        | 3            | 0        | 0        | 3            | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 3             |
| Kamaoa                   | 0            | 0        | 0        | 0            | 0            | 0         | 0        | 0            | 25         | 0            | 0        | 25            |
| Honomu                   | 0            | 0        | 0        | 0            | 5            | 10        | 0        | 15           | 0          | 0            | 0        | 15            |
| Kaunama                  | 47           | 0        | 0        | 47           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 47            |
| Keaukaha                 | 473          | 0        | 0        | 473          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 473           |
| Kurtistown               | 3            | 0        | 0        | 3            | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 3             |
| Makuu                    | 0            | 0        | 0        | 0            | 120          | 20        | 0        | 140          | 0          | 0            | 0        | 140           |
| Panaewa                  | 13           | 0        | 0        | 13           | 275          | 0         | 0        | 275          | 0          | 0            | 0        | 288           |
| Piihonua                 | 17           | 0        | 0        | 17           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 17            |
| Puueo                    | 0            | 0        | 0        | 0            | 11           | 0         | 0        | 11           | 0          | 0            | 0        | 11            |
| University Heights       | 4            | 0        | 0        | 4            | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 4             |
| Waiakea                  | 283          | 0        | 0        | 283          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 283           |
| <b>TOTAL</b>             | <b>843</b>   | <b>0</b> | <b>0</b> | <b>843</b>   | <b>411</b>   | <b>30</b> | <b>0</b> | <b>441</b>   | <b>25</b>  | <b>0</b>     | <b>0</b> | <b>1,309</b>  |
| <b>WEST HAWAII</b>       |              |          |          |              |              |           |          |              |            |              |          |               |
| Honokaia                 | 0            | 0        | 0        | 0            | 0            | 0         | 0        | 0            | 24         | 0            | 0        | 24            |
| Humuula                  | 0            | 0        | 0        | 0            | 0            | 0         | 0        | 0            | 5          | 0            | 0        | 5             |
| Kamoku                   | 0            | 0        | 0        | 0            | 0            | 0         | 0        | 0            | 16         | 0            | 0        | 16            |
| Kaniohale                | 223          | 0        | 0        | 223          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 223           |
| Kawaihae                 | 192          | 0        | 0        | 192          | 0            | 0         | 0        | 0            | 1          | 0            | 0        | 193           |
| Laiopua                  | 274          | 0        | 0        | 274          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 274           |
| Lalamio                  | 30           | 0        | 0        | 30           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 30            |
| Nianie                   | 0            | 0        | 0        | 0            | 0            | 0         | 0        | 0            | 21         | 0            | 0        | 21            |
| Puukapu/Waimea/Kuhio VII | 118          | 0        | 0        | 118          | 111          | 0         | 0        | 111          | 218        | 0            | 0        | 447           |
| Puupulehu                | 33           | 0        | 0        | 33           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 33            |
| <b>TOTAL</b>             | <b>870</b>   | <b>0</b> | <b>0</b> | <b>870</b>   | <b>111</b>   | <b>0</b>  | <b>0</b> | <b>111</b>   | <b>285</b> | <b>0</b>     | <b>0</b> | <b>1,266</b>  |
| <b>KAUAI</b>             |              |          |          |              |              |           |          |              |            |              |          |               |
| Anahola                  | 553          | 0        | 0        | 553          | 46           | 0         | 0        | 46           | 0          | 0            | 0        | 599           |
| Hanapepe                 | 47           | 0        | 0        | 47           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 47            |
| Kekaha                   | 116          | 0        | 0        | 116          | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 116           |
| Puu Opae                 | 0            | 0        | 0        | 0            | 0            | 0         | 0        | 0            | 1          | 0            | 0        | 1             |
| <b>TOTAL</b>             | <b>716</b>   | <b>0</b> | <b>0</b> | <b>716</b>   | <b>46</b>    | <b>0</b>  | <b>0</b> | <b>46</b>    | <b>1</b>   | <b>0</b>     | <b>0</b> | <b>763</b>    |
| <b>MOLOKAI</b>           |              |          |          |              |              |           |          |              |            |              |          |               |
| Hoolehua                 | 152          | 0        | 0        | 152          | 346          | 0         | 0        | 346          | 21         | 0            | 0        | 519           |
| Kalamaula                | 167          | 0        | 0        | 167          | 69           | 0         | 0        | 69           | 3          | 0            | 0        | 239           |
| Kapaakea                 | 47           | 0        | 0        | 47           | 0            | 0         | 0        | 0            | 3          | 0            | 0        | 50            |
| Moomomi                  | 0            | 0        | 0        | 0            | 3            | 0         | 0        | 3            | 0          | 0            | 0        | 3             |
| One Alii                 | 27           | 0        | 0        | 27           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 27            |
| <b>TOTAL</b>             | <b>393</b>   | <b>0</b> | <b>0</b> | <b>393</b>   | <b>418</b>   | <b>0</b>  | <b>0</b> | <b>418</b>   | <b>27</b>  | <b>0</b>     | <b>0</b> | <b>838</b>    |
| <b>LANAI</b>             |              |          |          |              |              |           |          |              |            |              |          |               |
| Lanai                    | 45           | 0        | 0        | 45           | 0            | 0         | 0        | 0            | 0          | 0            | 0        | 45            |
| <b>TOTAL</b>             | <b>45</b>    | <b>0</b> | <b>0</b> | <b>45</b>    | <b>0</b>     | <b>0</b>  | <b>0</b> | <b>0</b>     | <b>0</b>   | <b>0</b>     | <b>0</b> | <b>45</b>     |
| <b>STATEWIDE TOTAL</b>   | <b>8,512</b> | <b>0</b> | <b>0</b> | <b>8,512</b> | <b>1,110</b> | <b>30</b> | <b>0</b> | <b>1,140</b> | <b>438</b> | <b>0</b>     | <b>0</b> | <b>10,090</b> |

**Statewide Lease Application and Applicant Totals  
as of March 1, 2025**

| ISLAND   | AC                      | AREA / TYPE                | 2/1/2025                  |               |           | 3/1/2025      |                |                                 |            |            |         |
|----------|-------------------------|----------------------------|---------------------------|---------------|-----------|---------------|----------------|---------------------------------|------------|------------|---------|
|          |                         |                            | TOTALS                    | ADDS          | DELETES   | TOTALS        |                |                                 |            |            |         |
| O'ahu    | 113                     | Nānākuli Res               | 151                       | 1             | 2         | 150           | 0.96%          | <b>O'AHU APP TYPE TOTALS</b>    |            |            |         |
|          | 123                     | Papakōlea / Kewalo Res     | 63                        | 0             | 2         | 61            | 0.40%          |                                 |            |            |         |
|          | 133                     | Waimānalo Res              | 514                       | 4             | 7         | 511           | 3.26%          | <b>Agr</b>                      | <b>Pas</b> | <b>Res</b> | =       |
|          | 143                     | Wai'anae Res               | 132                       | 0             | 0         | 132           | 0.84%          | 26.89%                          | 0.00%      | 73.11%     |         |
|          | 191                     | O'ahu Islandwide Agr       | 4,231                     | 3             | 1         | 4,233         | 26.87%         |                                 |            |            |         |
|          | 193                     | O'ahu Islandwide Res       | 10,656                    | 8             | 9         | 10,655        | 67.67%         |                                 |            |            |         |
|          |                         | <b>Total O'ahu Apps</b>    | <b>15,747</b>             | <b>16</b>     | <b>21</b> | <b>15,742</b> | <b>100.00%</b> |                                 |            |            |         |
| Maui     | 213                     | Paukūkalo Res              | 50                        | 0             | 1         | 49            | 0.52%          | <b>MAUI APP TYPE TOTALS</b>     |            |            |         |
|          | 221                     | Kula Agr                   | 4                         | 0             | 0         | 4             | 0.04%          |                                 |            |            |         |
|          | 222                     | Kula Pas                   | 3                         | 0             | 0         | 3             | 0.03%          | <b>Agr</b>                      | <b>Pas</b> | <b>Res</b> | =       |
|          | 291                     | Maui Islandwide Agr        | 4,842                     | 6             | 6         | 4,842         | 51.21%         | 51.19%                          | 6.61%      | 42.19%     |         |
|          | 292                     | Maui Islandwide Pas        | 623                       | 0             | 0         | 623           | 6.59%          |                                 |            |            |         |
|          | 293                     | Maui Islandwide Res        | 3,944                     | 3             | 12        | 3,935         | 41.61%         |                                 |            |            |         |
|          |                         | <b>Total Maui Apps</b>     | <b>9,466</b>              | <b>9</b>      | <b>19</b> | <b>9,456</b>  | <b>100.00%</b> |                                 |            |            |         |
| Hawai'i  | 313                     | Keaukaha / Waiākea Res     | 65                        | 1             | 1         | 65            | 0.42%          | <b>HAWAII APP TYPE TOTALS</b>   |            |            |         |
|          | 321                     | Pana'ewa Agr               | 12                        | 0             | 0         | 12            | 0.08%          |                                 |            |            |         |
|          | 333                     | Kawaihae Res               | 15                        | 0             | 0         | 15            | 0.10%          | <b>Agr</b>                      | <b>Pas</b> | <b>Res</b> | =       |
|          | 341                     | Waimea Agr                 | 9                         | 0             | 0         | 9             | 0.06%          | 47.74%                          | 13.11%     | 39.15%     |         |
|          | 342                     | Waimea Pas                 | 45                        | 0             | 3         | 42            | 0.27%          |                                 |            |            |         |
|          | 343                     | Waimea Res                 | 44                        | 0             | 0         | 44            | 0.28%          |                                 |            |            |         |
|          | 391                     | Hawai'i Islandwide Agr     | 7,396                     | 13            | 35        | 7,374         | 47.60%         |                                 |            |            |         |
|          | 392                     | Hawai'i Islandwide Pas     | 1,989                     | 1             | 2         | 1,988         | 12.83%         |                                 |            |            |         |
|          | 393                     | Hawai'i Islandwide Res     | 5,935                     | 10            | 4         | 5,941         | 38.35%         |                                 |            |            |         |
|          |                         |                            | <b>Total Hawai'i Apps</b> | <b>15,510</b> | <b>25</b> | <b>45</b>     | <b>15,490</b>  | <b>100.00%</b>                  |            |            |         |
| Kaua'i   | 511                     | Anahola Agr                | 3                         | 0             | 0         | 3             | 0.07%          | <b>KAUAI APP TYPE TOTALS</b>    |            |            |         |
|          | 512                     | Anahola Pas                | 19                        | 0             | 0         | 19            | 0.43%          |                                 |            |            |         |
|          | 513                     | Anahola Res                | 39                        | 0             | 0         | 39            | 0.88%          | <b>Agr</b>                      | <b>Pas</b> | <b>Res</b> | =       |
|          | 523                     | Kekaha Res                 | 8                         | 0             | 0         | 8             | 0.18%          | 52.69%                          | 7.76%      | 39.55%     |         |
|          | 532                     | Pu'u 'Ōpae Pas             | 7                         | 0             | 0         | 7             | 0.16%          |                                 |            |            |         |
|          | 591                     | Kaua'i Islandwide Agr      | 2,326                     | 0             | 0         | 2,326         | 52.62%         |                                 |            |            |         |
|          | 592                     | Kaua'i Islandwide Pas      | 317                       | 0             | 0         | 317           | 7.17%          |                                 |            |            |         |
|          | 593                     | Kaua'i Islandwide Res      | 1,701                     | 1             | 1         | 1,701         | 38.48%         |                                 |            |            |         |
|          |                         | <b>Total Kaua'i Apps</b>   | <b>4,420</b>              | <b>1</b>      | <b>1</b>  | <b>4,420</b>  | <b>100.00%</b> |                                 |            |            |         |
| Moloka'i | 613                     | Kalama'ula Res             | 3                         | 0             | 0         | 3             | 0.14%          | <b>MOLOKA'I APP TYPE TOTALS</b> |            |            |         |
|          | 621                     | Ho'olehua Agr              | 16                        | 0             | 1         | 15            | 0.69%          |                                 |            |            |         |
|          | 622                     | Ho'olehua Pas              | 1                         | 0             | 0         | 1             | 0.05%          | <b>Agr</b>                      | <b>Pas</b> | <b>Res</b> | =       |
|          | 623                     | Ho'olehua Res              | 7                         | 0             | 0         | 7             | 0.32%          | 52.63%                          | 9.33%      | 38.04%     |         |
|          | 633                     | Kapa'akea Res              | 6                         | 0             | 0         | 6             | 0.28%          |                                 |            |            |         |
|          | 643                     | One Ali'i Res              | 1                         | 1             | 1         | 1             | 0.05%          |                                 |            |            |         |
|          | 691                     | Moloka'i Islandwide Agr    | 1,126                     | 1             | 2         | 1,125         | 51.94%         |                                 |            |            |         |
|          | 692                     | Moloka'i Islandwide Pas    | 201                       | 1             | 1         | 201           | 9.28%          |                                 |            |            |         |
| 693      | Moloka'i Islandwide Res | 807                        | 1                         | 1             | 807       | 37.26%        |                |                                 |            |            |         |
|          |                         | <b>Total Moloka'i Apps</b> | <b>2,168</b>              | <b>4</b>      | <b>6</b>  | <b>2,166</b>  | <b>100.00%</b> |                                 |            |            |         |
| Lāna'i   | 713                     | Lāna'i Res                 | 71                        | 0             | 0         | 71            | 100.00%        | <b>LĀNA'I APP TYPE TOTALS</b>   |            |            |         |
|          |                         | <b>Total Lāna'i Apps</b>   | <b>71</b>                 | <b>0</b>      | <b>0</b>  | <b>71</b>     | <b>100.00%</b> |                                 |            |            |         |
|          |                         |                            |                           |               |           |               | <b>Agr</b>     | <b>Pas</b>                      | <b>Res</b> | =          |         |
|          |                         |                            |                           |               |           |               | 0.00%          | 0.00%                           | 100.00%    |            | 100.00% |

| STATEWIDE TOTALS |           |           |               | STATEWIDE APP TYPE TOTALS |              |               |
|------------------|-----------|-----------|---------------|---------------------------|--------------|---------------|
| 2/1/2025         | Adds      | Deletes   | 3/1/2025      | Agr                       | Pas          | Res           |
| <b>47,382</b>    | <b>55</b> | <b>92</b> | <b>47,345</b> | <b>19,943</b>             | <b>3,201</b> | <b>24,211</b> |



## DHHL Applicant Summary as of March 1, 2025

|   |               |                |
|---|---------------|----------------|
| Individuals with only <b>RESIDENTIAL</b> applications:                    | 6,419         | 21.71%         |
| Individuals with only <b>AGRICULTURAL</b> applications:                   | 4,618         | 15.62%         |
| Individuals with only <b>PASTORAL</b> applications:                       | 745           | 2.52%          |
| Individuals with <b>RESIDENTIAL</b> and <b>AGRICULTURAL</b> applications: | 15,325        | 51.84%         |
| Individuals with <b>RESIDENTIAL</b> and <b>PASTORAL</b> applications:     | 2,456         | 8.31%          |
|   | <hr/>         | <hr/>          |
| <b>*Total Number of DHHL APPLICANTS:</b>                                  | <b>29,563</b> | <b>100.00%</b> |

\* The number of applicants in each category is determined by a "unique identifier" (i.e., SSN) which ensures that each applicant is counted only once even if the individual holds the maximum two lease applications and appears twice on the DHHL waitlist.

DELINQUENCY REPORT - STATEWIDE

March 17, 2025

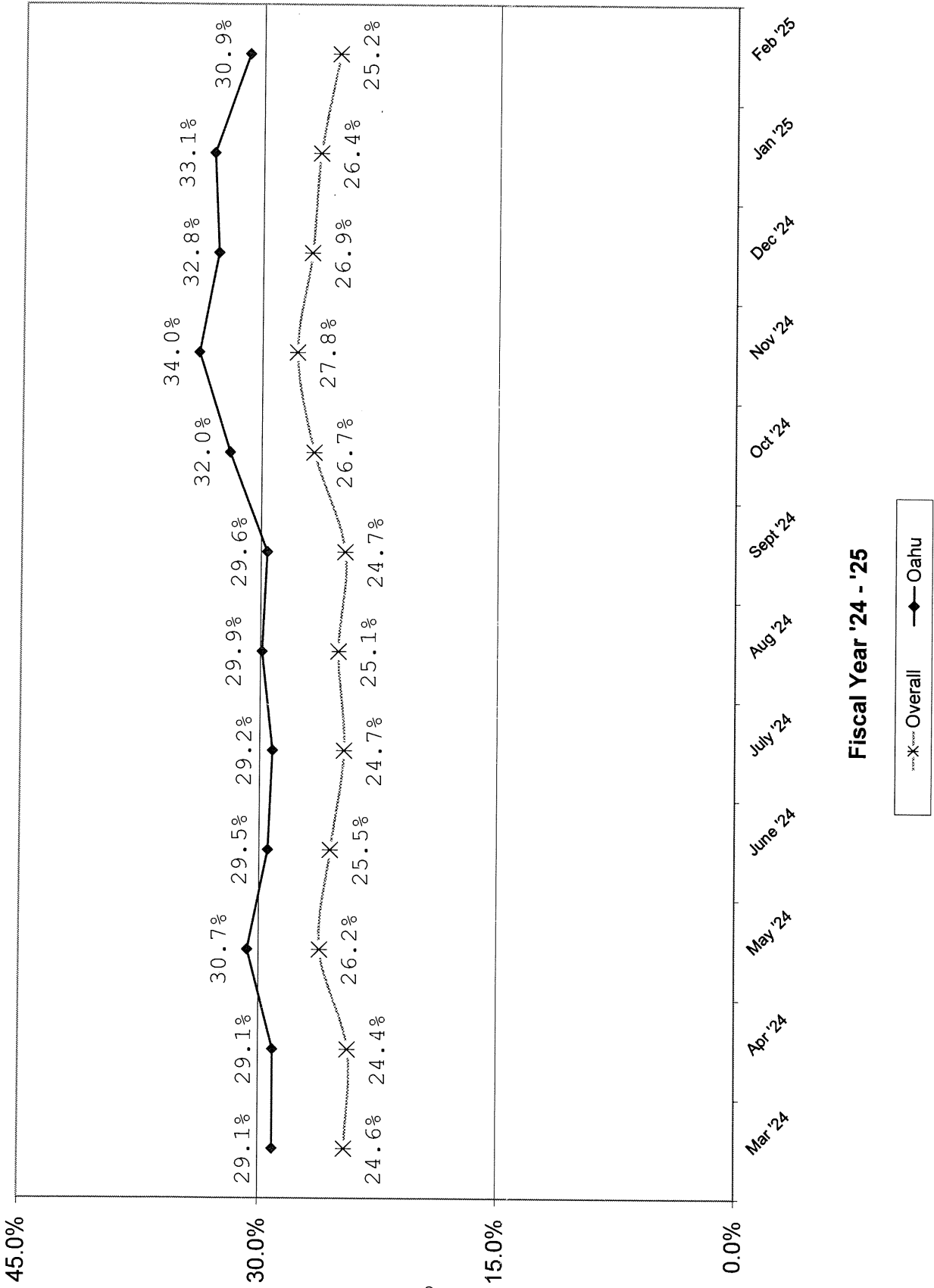
(\$Thousands)

| DIRECT LOANS                                  | R I S K           |                |        |                   |               |        |               |              |        |                  |              |        | % of Totals<br>2/28/2025 |                |      |              |                   |      |              |     |              |        |
|---|-------------------|----------------|--------|-------------------|---------------|--------|---------------|--------------|--------|------------------|--------------|--------|--------------------------|----------------|------|--------------|-------------------|------|--------------|-----|--------------|--------|
|   | Total Outstanding |                |        | Total Delinquency |               |        | 30 Days (low) |              |        | 60 Days (Medium) |              |        |                          | 90 Days (High) |      |              | 180 Days (Severe) |      |              |     |              |        |
|   | No.               | Amt.           | (000s) | No.               | Amt.          | (000s) | No.           | Amt.         | (000s) | No.              | Amt.         | (000s) |                          | No.            | Amt. | (000s)       | No.               | Amt. | (000s)       | No. | Amt.         | (000s) |
| OAHU  | 347               | 35,394         |        | 102               | 10,945        |        | 12            | 1,314        |        | 2                | 144          |        | 12                       | 1,344          |      | 76           | 8,142             |      | 29.4%        | \$  | 30.9%        |        |
| EAST HAWAII                                   | 181               | 10,725         |        | 48                | 3,502         |        | 2             | 168          |        | 1                | 85           |        | 5                        | 250            |      | 40           | 3,000             |      | 26.5%        |     | 32.7%        |        |
| WEST HAWAII                                   | 76                | 7,693          |        | 15                | 1,330         |        | 7             | 629          |        | 5                | 479          |        | 1                        | 70             |      | 2            | 152               |      | 19.7%        |     | 17.3%        |        |
| MOLOKAI                                       | 75                | 6,405          |        | 10                | 516           |        | 1             | 137          |        | 0                | 0            |        | 1                        | 7              |      | 8            | 373               |      | 13.3%        |     | 8.1%         |        |
| KAUAI   | 90                | 8,242          |        | 16                | 1,160         |        | 2             | 139          |        | 1                | 165          |        | 5                        | 413            |      | 8            | 443               |      | 17.8%        |     | 14.1%        |        |
| MAUI  | 111               | 15,171         |        | 27                | 3,624         |        | 3             | 85           |        | 2                | 303          |        | 5                        | 444            |      | 17           | 2,792             |      | 24.3%        |     | 23.9%        |        |
| <b>TOTAL DIRECT</b>                           | <b>880</b>        | <b>83,631</b>  |        | <b>218</b>        | <b>21,076</b> |        | <b>27</b>     | <b>2,472</b> |        | <b>11</b>        | <b>1,176</b> |        | <b>29</b>                | <b>2,528</b>   |      | <b>151</b>   | <b>14,901</b>     |      | <b>24.8%</b> |     | <b>25.2%</b> |        |
|   | <b>100.0%</b>     |                |        | <b>24.8%</b>      |               |        | <b>3.1%</b>   |              |        | <b>1.3%</b>      |              |        | <b>3.3%</b>              |                |      | <b>17.2%</b> |                   |      |              |     |              |        |
| <b>Advances (including RPT)</b>               | <b>233</b>        | <b>5,896</b>   |        | <b>233</b>        | <b>5,896</b>  |        | <b>0</b>      | <b>0</b>     |        | <b>0</b>         | <b>0</b>     |        | <b>233</b>               | <b>5,896</b>   |      | <b>100%</b>  |                   |      |              |     | <b>100%</b>  |        |
| <b>DHHL LOANS &amp; Advances</b>              | <b>1,113</b>      | <b>89,527</b>  |        | <b>451</b>        | <b>26,972</b> |        | <b>27</b>     | <b>2,472</b> |        | <b>11</b>        | <b>1,176</b> |        | <b>262</b>               | <b>8,424</b>   |      | <b>151</b>   | <b>14,901</b>     |      | <b>40.5%</b> |     | <b>30.1%</b> |        |
| <b>i. LOAN GUARANTEES as of June 30, 2024</b> |                   |                |        |                   |               |        |               |              |        |                  |              |        |                          |                |      |              |                   |      |              |     |              |        |
| SBA   | 2                 | 67             |        | 0                 | 0             |        | 0             | 0            |        | 0                | 0            |        | 0                        | 0              |      | 0            | 0                 |      | 0.0%         |     | 0.0%         |        |
| USDA-RD                                       | 274               | 35,831         |        | 43                | 6,613         |        | 0             | 0            |        | 0                | 0            |        | 43                       | 6,613          |      | 16           | 429               |      | 15.7%        |     | 18.5%        |        |
| Habitat for Humanity                          | 32                | 893            |        | 16                | 429           |        | 0             | 0            |        | 0                | 0            |        | 16                       | 429            |      | 0            | 0                 |      | 50.0%        |     | 48.0%        |        |
| Maui County                                   | 5                 | 74             |        | 0                 | 0             |        | 0             | 0            |        | 0                | 0            |        | 0                        | 0              |      | 0            | 0                 |      | 0.0%         |     | 0.0%         |        |
| Nanakuli NHS                                  | 1                 | 7              |        | 1                 | 7             |        | 0             | 0            |        | 0                | 0            |        | 1                        | 7              |      | 0            | 0                 |      | 100.0%       |     | 100.0%       |        |
| City & County                                 | 10                | 204            |        | 10                | 204           |        | 0             | 0            |        | 0                | 0            |        | 10                       | 204            |      | 0            | 0                 |      | 100.0%       |     | 100.0%       |        |
| FHA Interim                                   | 9                 | 2,446          |        | 0                 | 0             |        | 0             | 0            |        | 0                | 0            |        | 0                        | 0              |      | 2            | 323               |      | 0.0%         |     | 0.0%         |        |
| OHA   | 20                | 2,084          |        | 2                 | 323           |        | 0             | 0            |        | 0                | 0            |        | 2                        | 323            |      | 0            | 0                 |      | 10.0%        |     | 15.5%        |        |
| <b>TOTAL GUARANTEE</b>                        | <b>353</b>        | <b>41,606</b>  |        | <b>72</b>         | <b>7,576</b>  |        | <b>0</b>      | <b>0</b>     |        | <b>0</b>         | <b>0</b>     |        | <b>72</b>                | <b>7,576</b>   |      | <b>89</b>    | <b>10,262</b>     |      | <b>20.4%</b> |     | <b>18.2%</b> |        |
| PMI Loans                                     | 112               | 14,564         |        | 1                 | 85            |        | 0             | 0            |        | 0                | 0            |        | 1                        | 85             |      | 89           | 10,262            |      | 0.9%         |     | 0.6%         |        |
| <b>HUD REASSIGNED for Recovery</b>            | <b>111</b>        | <b>11,987</b>  |        | <b>92</b>         | <b>10,457</b> |        | <b>1</b>      | <b>54</b>    |        | <b>0</b>         | <b>0</b>     |        | <b>2</b>                 | <b>141</b>     |      | <b>89</b>    | <b>10,262</b>     |      | <b>82.9%</b> |     | <b>87.2%</b> |        |
| FHA Insured Loans                             | 2,914             | 531,231        |        | 207               | 33,895        |        | 0             | 0            |        | 0                | 0            |        | 207                      | 33,895         |      | 89           | 10,262            |      | 7.1%         |     | 6.4%         |        |
| <b>TOTAL INS. LOANS</b>                       | <b>3,137</b>      | <b>557,782</b> |        | <b>300</b>        | <b>44,437</b> |        | <b>1</b>      | <b>54</b>    |        | <b>0</b>         | <b>0</b>     |        | <b>210</b>               | <b>34,121</b>  |      | <b>240</b>   | <b>25,163</b>     |      | <b>9.6%</b>  |     | <b>8.0%</b>  |        |
| <b>OVERALL TOTALS(EXC Adv/RPT's)</b>          | <b>4,370</b>      | <b>683,019</b> |        | <b>590</b>        | <b>73,089</b> |        | <b>28</b>     | <b>2,525</b> |        | <b>11</b>        | <b>1,176</b> |        | <b>311</b>               | <b>44,225</b>  |      | <b>240</b>   | <b>25,163</b>     |      | <b>13.5%</b> |     | <b>10.7%</b> |        |
| <b>ADJUSTED TOTALS</b>                        | <b>4,603</b>      | <b>688,915</b> |        | <b>823</b>        | <b>78,985</b> |        | <b>28</b>     | <b>2,525</b> |        | <b>11</b>        | <b>1,176</b> |        | <b>544</b>               | <b>50,121</b>  |      | <b>240</b>   | <b>25,163</b>     |      |              |     | <b>11.5%</b> |        |

Note: HUD 184A loan program has 517 loans, with a total outstanding principal balance of \$110,117,159 as of June 30, 2024. 10 Loans, totaling \$2,402,108 are delinquent.

The deferred interest for 396 loans comes out to \$1,913,405.21 as of 2/28/2025.

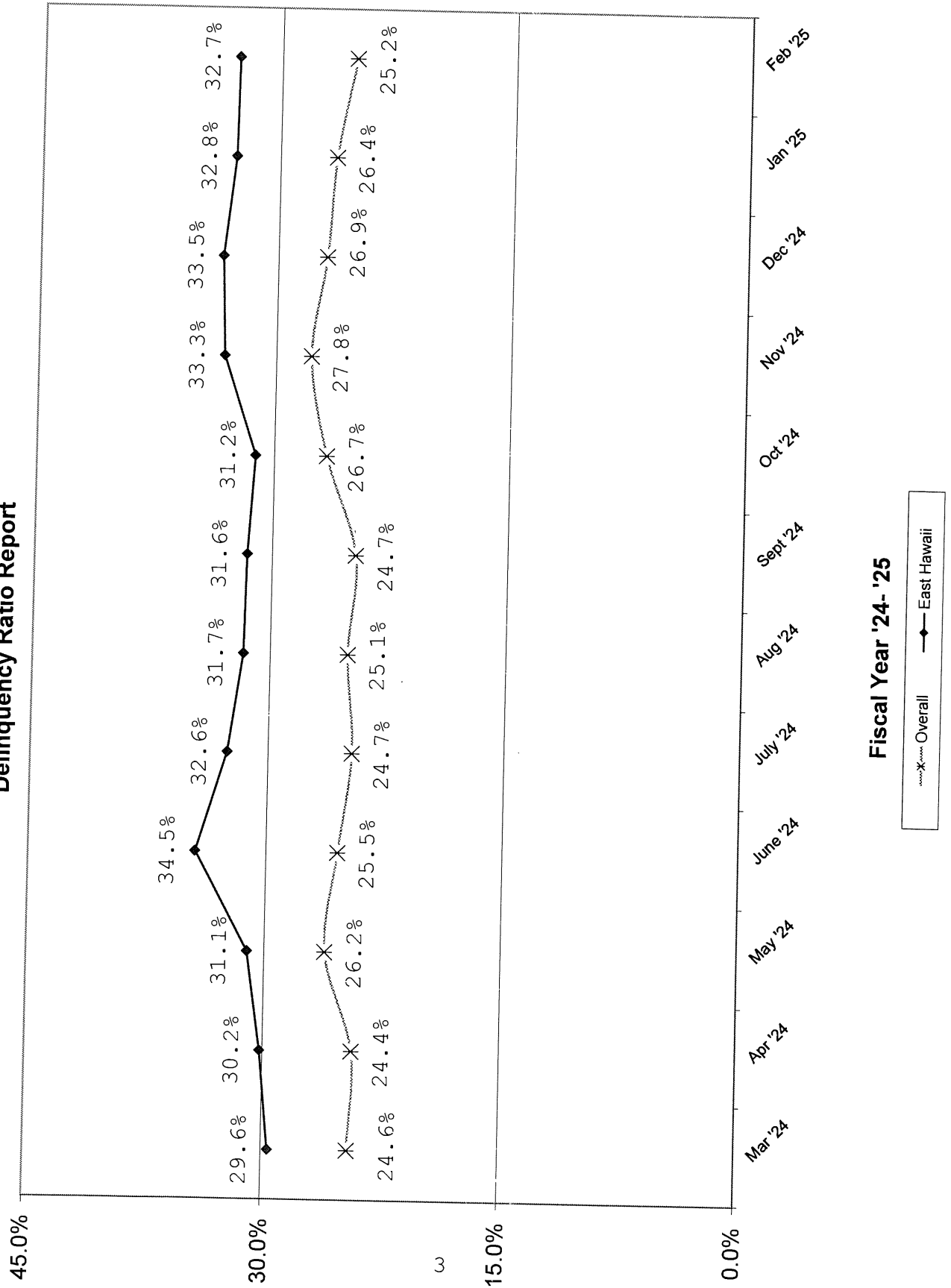
OAHU  
Direct Loans  
Delinquency Ratio Report



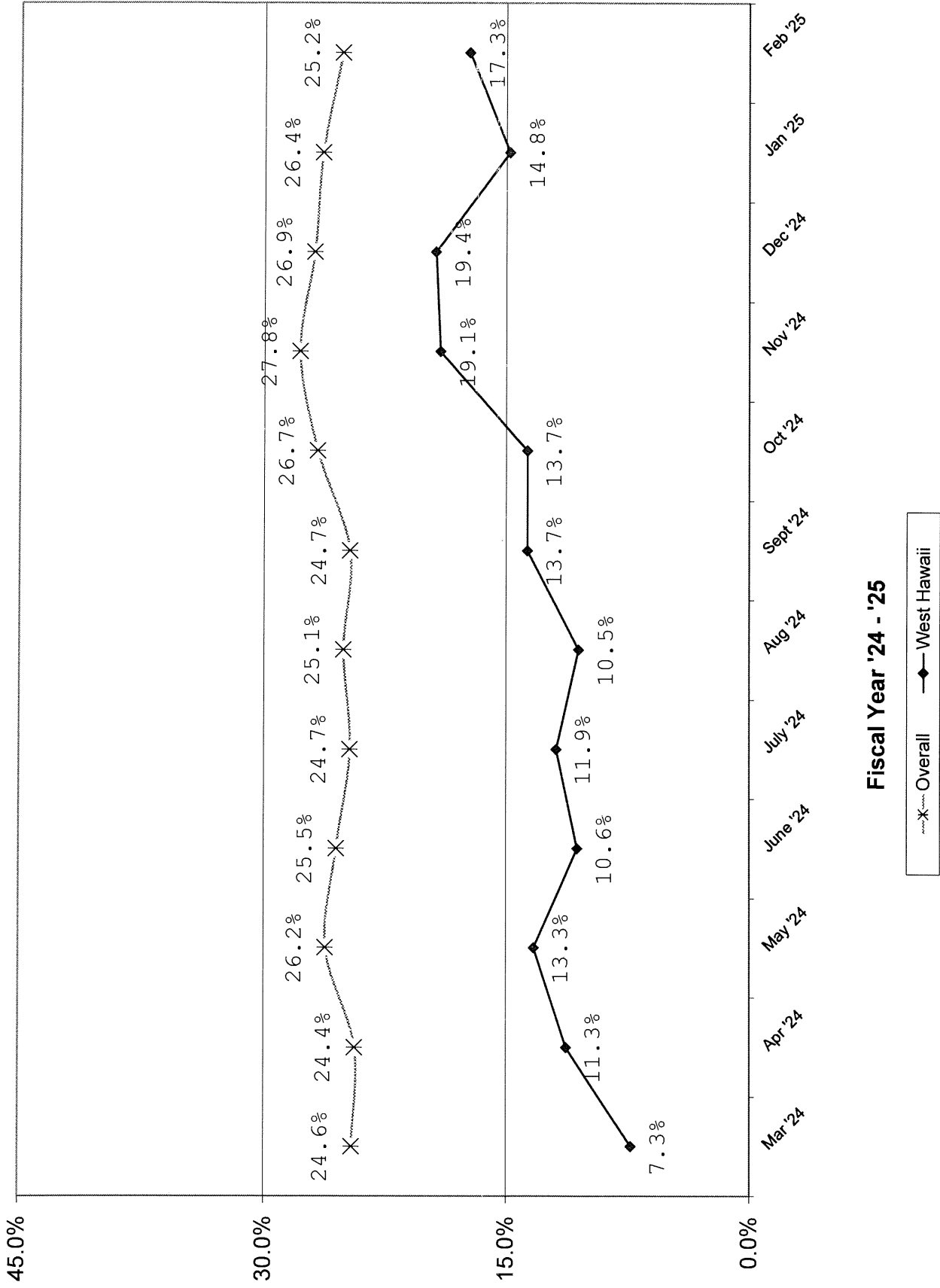
Fiscal Year '24 - '25

Overall Oahu

**EAST HAWAII  
Direct Loans  
Delinquency Ratio Report**



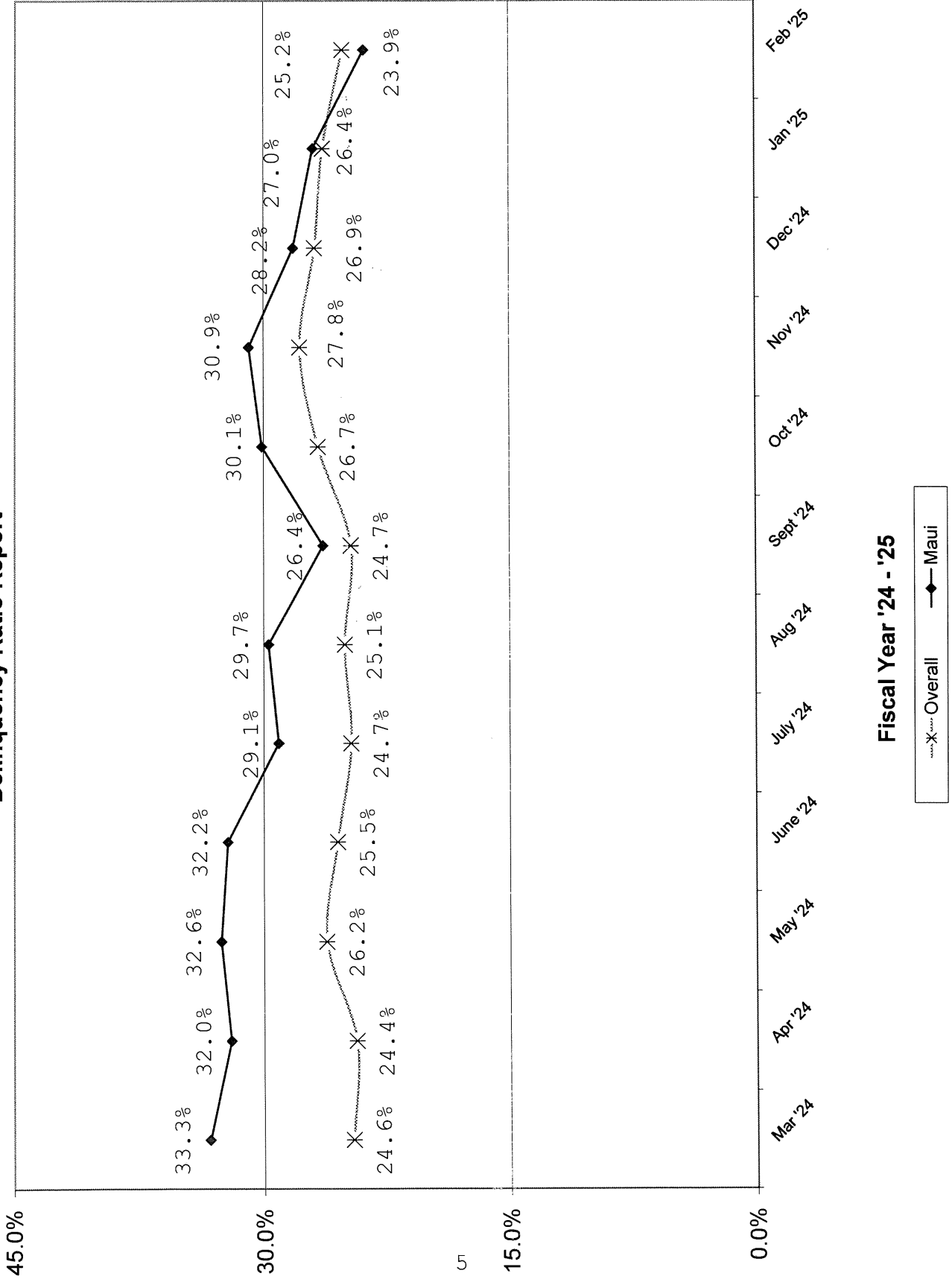
**WEST HAWAII  
Direct Loans  
Delinquency Ratio Report**



**Fiscal Year '24 - '25**

---x--- Overall    —◆— West Hawaii

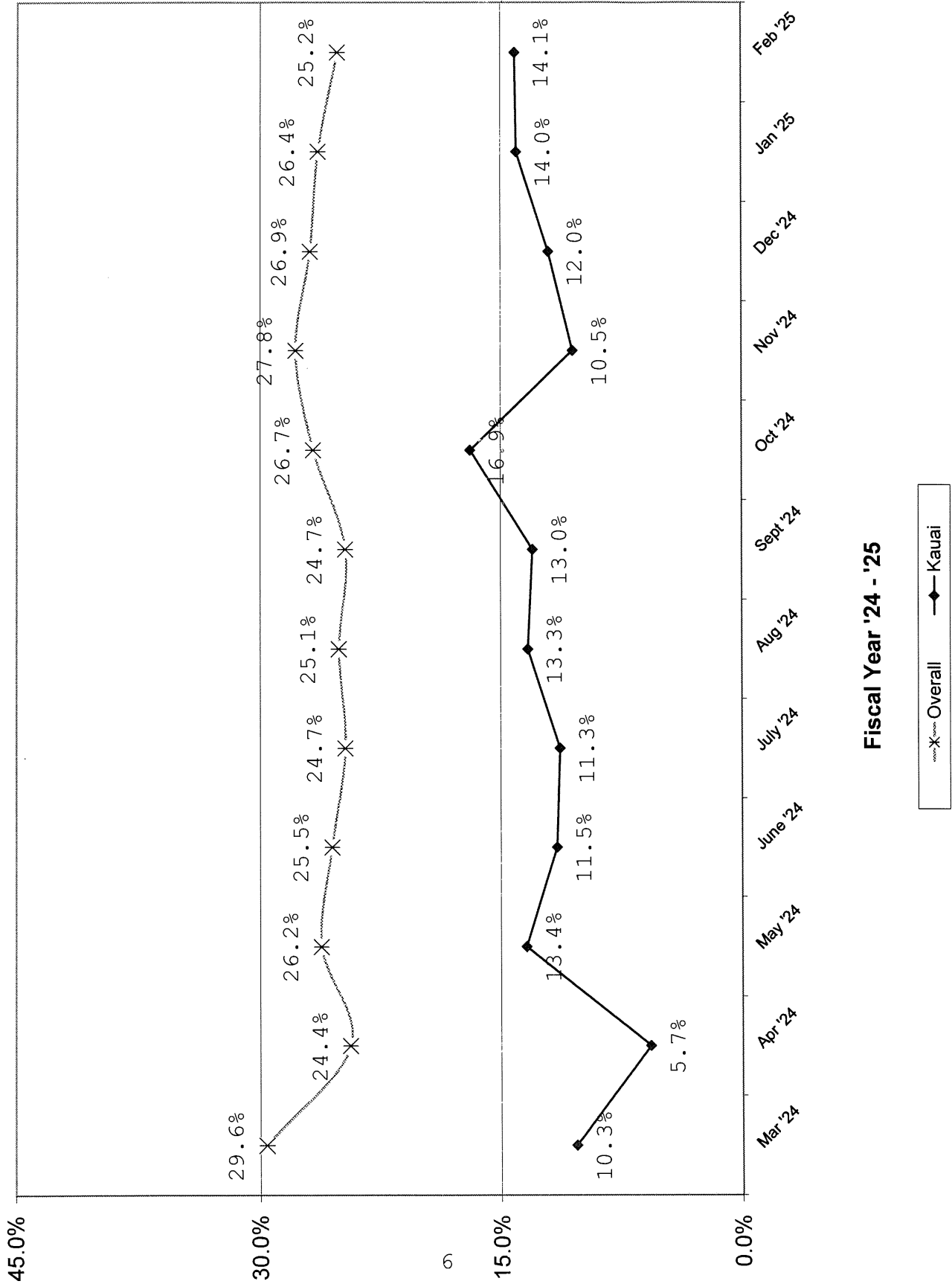
**MAUI  
Direct Loans  
Delinquency Ratio Report**



**Fiscal Year '24 - '25**

.....X..... Overall      —◆— Maui

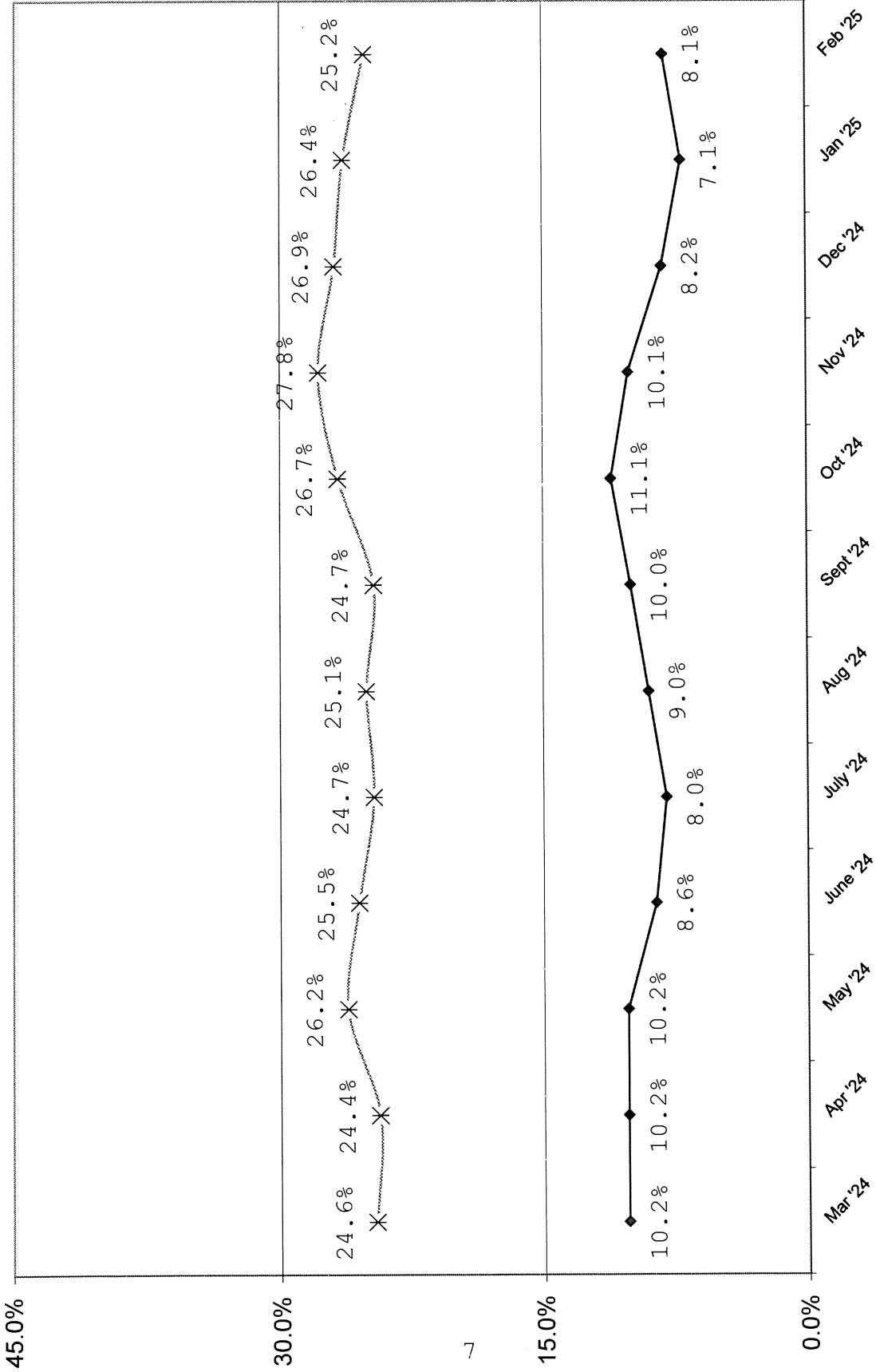
**KAUAI**  
**Direct Loans**  
**Delinquency Ratio Report**



**Fiscal Year '24 - '25**

---x--- Overall    —◆— Kauai

**MOLOKAI  
Direct Loans  
Delinquency Ratio Report**



**Fiscal Year '24 - '25**

.....x..... Overall    —◆— Molokai



STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission

THROUGH: Juan Garcia, HSD Administrator  
Homestead Services Division

FROM: Dean Oshiro, Loan Services Manager

SUBJECT: **Approval of Consent to Mortgage**



RECOMMENDED MOTION/ACTION

To approve the following consents to mortgages for Federal Housing Administration (FHA) insured loans, Department of Veterans Affairs (VA) loans, United States Department of Agriculture, Rural Development (USDA, RD) guaranteed loans, United States Housing and Urban Development (HUD 184A) guaranteed loans and Conventional (CON) loans insured by private mortgage insurers.

DISCUSSION

| <u>PROPERTY</u>                                   | <u>LESSEE</u>  | <u>LENDER</u>                               | <u>LOAN AMOUNT</u> |
|---|--|---|--------------------|
| <u>OAHU</u>                                       |  |   |                    |
| Nanakuli<br>Lease No. 3806<br>TMK: 1-8-9-009:054  | KAAWA,<br>Stalysha<br>Preciouslee<br>(Purchase/Rehab)<br>USDA-RD | ServiceMac,<br>LLC                          | \$ 400,855         |
| Nanakuli<br>Lease No. 506<br>TMK: 1-8-9-002:043   | MAUNAKEA,<br>Chani K.C.<br>(Purchase)184A                        | Bank of<br>Hawaii                           | \$ 310,000         |
| Kumuhau<br>Lease No. 11285<br>TMK: 1-4-1-040:018  | VIERRA,<br>Philip K.(Rate and<br>Term Refi)VA                    | Department<br>of Veterans<br>Affairs        | \$ 209,000         |
| Kanehili<br>Lease No. 12505<br>TMK: 1-9-1-153:188 | HIGASHI,<br>Jandie-Lee(Cash-out<br>Refi)FHA                      | SecurityNat-<br>ional Mortg-<br>age Company | \$ 600,000         |

MOLOKAI

|   |   |              |            |
|---|---|--------------|------------|
| Hoolehua<br>Lease No. 10258<br>TMK: 2-5-2-030:048 | DUDOIT,<br>Dustin Keakahi<br>(Purchase)184A | CMG Mortgage | \$ 232,300 |
|---|---|--------------|------------|

MAUI

|   |   |   |            |
|---|---|---|------------|
| Waiehu 2<br>Lease No. 9456<br>TMK: 2-3-2-022:018  | YUEN,<br>Stanley R. (Cash-out<br>Refi)FHA | Guild<br>Mortgage<br>Company, LLC           | \$ 88,268  |
| Waiohuli<br>Lease No. 7622<br>TMK: 2-2-2-027:066  | KEUNG,<br>Ashley<br>(Assumption)FHA       | PennyMac<br>Loan<br>Services,<br>LLC        | \$ 146,725 |
| Puuhona<br>Lease No. 10594<br>TMK: 2-3-5-044:045  | GARCES,<br>Evans (Purchase)FHA            | Central<br>Pacific Bank                     | \$ 662,000 |
| Puuhona<br>Lease No. 13098<br>TMK: 2-3-5-044:066  | KEKONA,<br>Shirley Ann<br>(Purchase)FHA   | Central<br>Pacific Bank                     | \$ 645,000 |
| Puuhona<br>Lease No. 13111<br>TMK: 2-3-5-044:145  | WONG,<br>Curtis (Purchase)FHA             | Central<br>Pacific Bank                     | \$ 710,870 |
| Waiohuli<br>Lease No. 10324<br>TMK: 2-2-2-034:009 | KEAHI,<br>Bruce (Permanent)FHA            | SecurityNat-<br>ional Mortg-<br>age Company | \$ 575,000 |

KAUAI

|  |  |   |            |
|--|--|---|------------|
| Anahola<br>Lease No. 13008<br>TMK: 4-4-8-022:099 | RUSSELL,<br>Brian K. (Cash-out<br>Refi)FHA | SecurityNat-<br>ional Mortg-<br>age Company | \$ 365,000 |
| Anahola<br>Lease No. 11144<br>TMK: 4-4-8-022:139 | NAIHE,<br>Mahiai R.<br>(Permanent)FHA      | SecurityNat-<br>ional Mortg-<br>age Company | \$ 375,000 |

| <u>RECAP</u>      | <u>NO.</u> |    | <u>FHA</u><br><u>AMOUNT</u> |  | <u>NO.</u> | <u>VA</u><br><u>AMOUNT</u> |
|-------------------|------------|----|-----------------------------|--|------------|----------------------------|
| FY Ending 6/30/24 | 88         | \$ | 32,647,026                  |  | 23         | \$ 6,684,116               |
| Prior Months      | 79         | \$ | 31,164,664                  |  | 8          | \$ 3,451,257               |
| This Month        | <u>9</u>   |    | <u>4,167,863</u>            |  | <u>1</u>   | <u>209,000</u>             |
| Total FY '24-25   | 88         | \$ | <u>35,332,527</u>           |  | <u>9</u>   | \$ <u>3,660,257</u>        |

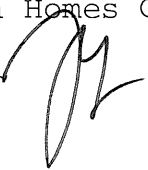
|                   |          |    | <u>HUD 184A</u><br><u>AMOUNT</u> |          | <u>USDA-RD</u><br><u>AMOUNT</u> |
|-------------------|----------|----|----------------------------------|----------|---------------------------------|
| FY ENDING 6/30/24 | 18       | \$ | 7,258,802                        | 3        | \$ 1,380,787                    |
| Prior Months      | 10       | \$ | 4,014,073                        | 2        | \$ 910,454                      |
| This Month        | <u>2</u> |    | <u>542,300</u>                   | <u>1</u> | <u>400,855</u>                  |
| Total FY '24-25   | 12       | \$ | <u>4,556,373</u>                 | <u>3</u> | \$ <u>1,311,309</u>             |


STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 18, 2025

TO: Chairman and Members, Hawaiian Homes Commission

THROUGH: Juan Garcia, HSD Administrator  
Homestead Services Division 

FROM: Dean Oshiro, Loan Services Branch Manager 

SUBJECT: **Approval of Streamline Refinance of Loans**

RECOMMENDED MOTION/ACTION

To approve the refinancing of loans from the Hawaiian Home General Loan Fund.

DISCUSSION

The following lessees have met the "Streamline/Interest rate reduction loan" criteria, which was approved by the Hawaiian Homes Commission at its August 19, 2013 meeting. This criteria includes twelve (12) consecutive monthly payments, borrower's current interest rate is higher than the current DHHL interest rate, current with their Homeowners Insurance, Real Property Tax, Lease Rent, county sewer/refuse fees, and does not have any advances made by DHHL on the borrowers behalf.

HSD's recommendation for approval is based on actual payment history, over the past twelve (12) months and the review of the above-mentioned criteria. Streamline/Interest Rate Loan refinancing will provide lessees a chance to simply reduce their interest rate and payments without DHHL having to credit and/or income qualify the borrower.

The following lessee(s) has met the aforementioned criteria and is recommended for Streamline/Interest rate reduction loan refinance program:

| <u>LESSEE</u>            | <u>LEASE NO. &amp; AREA</u> | <u>REFINANCING LOAN TERMS</u>  |
|--------------------------|-----------------------------|--|
| Leialoha, Bradford<br>J. | 6321, Keaukaha              | NTE \$122,500 @4% interest<br>per annum, NTE \$584<br>monthly, repayable over 30<br>years. |

Loan Purpose: Refinance Contract of Loan No. 17052.  
Original loan amount of \$107,400 at  
8.25% per annum, \$807 monthly,  
repayable over 30 years. Deferred  
COVID interest of \$18,335. A Contested  
Case Hearing was not held for this  
account.


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STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission

THROUGH: Juan Garcia, HSD Administrator 

FROM: Chloe K. M. Urabe, Application Officer   
Homestead Services Division

SUBJECT: **Approval of Homestead Application Transfers/Cancellations**

RECOMMENDED MOTION/ACTION

To approve the transfers and cancellations of applications from the Application Waiting Lists for reasons described below:

DISCUSSION

1. Requests of Applicants to Transfer

WAIMANALO AREA / OAHU ISLANDWIDE RESIDENTIAL LEASE LIST

|                      |            |        |     |            |
|----------------------|------------|--------|-----|------------|
| YANAGIDA, Theresa D. | 01/02/1976 | HAWAII | RES | 10/04/2024 |
|----------------------|------------|--------|-----|------------|

MAUI ISLANDWIDE RESIDENTIAL LEASE LIST

|                        |            |        |     |            |
|------------------------|------------|--------|-----|------------|
| BRIGHT, Albert P., Jr. | 12/15/2005 | HAWAII | RES | 10/25/2024 |
|------------------------|------------|--------|-----|------------|

HAWAII ISLANDWIDE AGRICULTURAL LEASE LIST

|                   |            |      |     |            |
|-------------------|------------|------|-----|------------|
| HEWETT, Emma D.W. | 07/07/1998 | OAHU | AGR | 12/23/2024 |
|-------------------|------------|------|-----|------------|

HAWAII ISLANDWIDE RESIDENTIAL LEASE LIST

|                     |            |      |     |            |
|---------------------|------------|------|-----|------------|
| HANOHANO, Quincy K. | 10/29/2021 | OAHU | RES | 10/29/2024 |
|---------------------|------------|------|-----|------------|



HAWAII ISLANDWIDE RESIDENTIAL LEASE LIST

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BEE-MANNERS, Darlene Assigned Residential Lease #12969, Lot 43 in Kauluokahai, Oahu dated 06/07/2022. Remove application dated 06/13/1994.

ENGLAND, Sholan K.K.K. Assigned Residential Lease #10728, Lot UNDV102 in Laiopua, Hawaii dated 03/01/2023. Remove application dated 08/26/2019.

MAKUA, Nelson H. Assigned Residential Lease #4805, Lot 36 in Waiakea, Hawaii dated 03/23/2005. Remove application dated 03/08/2002.

MAKUAKANE-JARRELL, Joni Mae L. Assigned Residential Lease #10374, Lot UNDV077 in Waiohuli, Maui dated 12/07/2017. Remove application dated 06/04/1987.

TOLENTINO, Jamie-Anne K. Assigned Residential Lease #7172, Lot 155 in Kawaihae, Hawaii dated 02/01/2019. Remove application dated 03/10/2011.

WILSON, Barbara J. Assigned Residential Lease #3594, Lot 78 in Waimanalo, Oahu dated 07/28/2006. Remove application dated 07/13/1987.

4. Native Hawaiian Qualification

NONE FOR SUBMITTAL

5. Voluntary Cancellation

NONE FOR SUBMITTAL



6. Successorship

OAHU ISLANDWIDE RESIDENTIAL LEASE LIST

BUNDA, Roberta L.H. Succeeded to Oahu Islandwide Residential application of Parent, Jacob K. Hueu dated 10/24/2000. Remove application dated 05/10/2006.

SPENCER, Zebediah P. Succeeded to Hawaii Islandwide Residential application of Uncle, Samuel Keliihoomalu, Jr. dated 07/06/1984. Remove application dated 11/29/2023.

MAUI ISLANDWIDE AGRICULTURAL LEASE LIST

MAIO, Joseph K., Jr. Succeeded to Maui Islandwide Agricultural application of Parent, Maude L. Maio dated 03/20/1986. Remove application dated 03/27/1986.

HAWAII ISLANDWIDE PASTORAL LEASE LIST

PACHECO, Jason Kaaha Succeeded to Hawaii Islandwide Agricultural application of Parent, Matthew F. Pacheco dated 08/01/1985. Remove application dated 05/21/2021.

HAWAII ISLANDWIDE RESIDENTIAL LEASE LIST

MAKANEOLE, Christian E. Succeeded to Hawaii Islandwide Residential application of Parent, Kawelo K.S. Makaneole dated 09/29/1981. Remove application dated 03/10/1995.

7. Additional Acreage

NONE FOR SUBMITTAL

8. HHC Adjustments

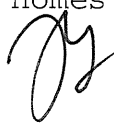

NONE FOR SUBMITTAL

|   |            |
|---|------------|
| Last Month's Transaction Total                                | 25         |
| Last Month's Cumulative FY 2024-2025 Transaction Total        | 601        |
| Transfers from Island to Island                               | 4          |
| Deceased  | 2          |
| Cancellations:  |            |
| Awards of Leases  | 9          |
| NHQ   | 0          |
| Voluntary Cancellations                                       | 0          |
| Successorship   | 5          |
| Additional Acreage  | 0          |
| HHC Adjustments   | 0          |
| This Month's Transaction Total                                | 20         |
| <b>This Month's Cumulative FY 2024-2025 Transaction Total</b> | <b>621</b> |

STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission  
THROUGH: Juan Garcia, HSD Administrator   
FROM: Chloe K. M. Urabe, Application Officer   
Homestead Services Division  
SUBJECT: **Approval to Certify Applications of Qualified Applicants  
for the month of February 2025**

RECOMMENDED MOTION/ACTION

To approve the certification of applications of qualified applicants for the month of February 2025. The Department has verified the native Hawaiian blood quantum requirement of each applicant according to section 10-3-2 of the Hawaii Administrative Rules.

DISCUSSION

At its October 2020 regular meeting, the Hawaii Homes Commission adopted the recommendation of the HHC Investigative Committee on the Native Hawaiian Qualification Process to recall to the HHC, pursuant to Hawaii Administrative Rules § 10-2-16(a), the authority to accept the Native Hawaiian Quantum (NHQ) determination for an individuals as a function requiring the exercise of judgement or discretion. The recommendation included a process to implement the Commission's review and acceptance of NHQ determinations. These applicants have been deemed by the Department to have met the native Hawaiian blood quantum requirement through the kumu 'ohana process.

PAPAKOLEA / KEWALO AREA / OAHU ISLANDWIDE RESIDENTIAL LEASE LIST

|                    |            |
|--------------------|------------|
| HOOPII, William K. | 10/16/1947 |
| CASPERSON, Betty   | 01/09/1964 |

WAIMANALO AREA / OAHU ISLANDWIDE RESIDENTIAL LEASE LIST

|                           |            |
|---------------------------|------------|
| ESPIRITU, Lynette K.      | 06/14/1957 |
| HIROKANE, Rose H.         | 12/05/1961 |
| KAHOALII, Charles K., Jr. | 04/23/1962 |
| ISHIHARA, Wilbert S.      | 06/15/1962 |
| KAHEIKI, Steven           | 07/23/1971 |
| KAIKAINAHAOLE, Seth       | 06/13/1972 |
| DIAZ, Edward T.           | 07/28/1972 |

WAIANAE AREA / OAHU ISLANDWIDE RESIDENTIAL LEASE LIST

|                      |            |
|----------------------|------------|
| ENRIQUEZ, Robert Jr. | 08/08/1974 |
|----------------------|------------|

OAHU ISLANDWIDE AGRICULTURAL LEASE LIST

|                        |            |
|------------------------|------------|
| BREDE, William A.K.    | 09/16/2024 |
| JERVES, Royal K.E.P.O. | 09/17/2024 |
| PARKER, Arthur M.      | 09/19/2024 |
| PERREIRA, Ana M.       | 10/04/2024 |
| LEBLANC, Roselani S.   | 10/09/2024 |

OAHU ISLANDWIDE RESIDENTIAL LEASE LIST

|                        |            |
|------------------------|------------|
| BENNETT, Stephanie     | 06/23/1978 |
| SABEY, Isaiah K.       | 01/11/1993 |
| HAKUOLE, Stacie K.     | 07/26/1993 |
| BREDE, William A.K.    | 09/16/2024 |
| MEYERS, Bushrod G.     | 09/16/2024 |
| JERVES, Royal K.E.P.O. | 09/17/2024 |
| MAKA, Scott K.         | 09/19/2024 |

|                      |            |
|----------------------|------------|
| PARKER, Arthur M.    | 09/19/2024 |
| PERREIRA, Ana M.     | 10/04/2024 |
| LEBLANC, Roselani S. | 10/09/2024 |
| ALCON, Chaice K.     | 10/29/2024 |
| KWAN, Brenette I.    | 10/29/2024 |

MAUI ISLANDWIDE AGRICULTURAL LEASE LIST

|                  |            |
|------------------|------------|
| SABEY, Isaiah K. | 01/11/1993 |
|------------------|------------|

PAUKUKALO AREA / MAUI ISLANDWIDE RESIDENTIAL LEASE LIST

|                      |            |
|----------------------|------------|
| FONTANILLA, Maile M. | 06/05/1964 |
|----------------------|------------|

MAUI ISLANDWIDE RESIDENTIAL LEASE LIST

|                      |            |
|----------------------|------------|
| RECOPUERTO, Venus K. | 06/05/1986 |
| DE PRUE, Rennie K.   | 10/07/2024 |
| LAIMANA, Albert K.   | 12/24/2024 |

HAWAII ISLANDWIDE AGRICULTURAL LEASE LIST

|                        |            |
|------------------------|------------|
| KAHALEWAI, Rian E.K.K. | 09/17/2024 |
| KUAMOO, Louis K., IV   | 09/17/2024 |
| NIHOA, Aliiloa V.G.    | 10/31/2024 |

HAWAII ISLANDWIDE PASTORAL LEASE LIST

|                         |            |
|-------------------------|------------|
| JOHN, Alex Alika K.A.K. | 09/17/2024 |
| MAKA, Scott K.          | 09/19/2024 |

KEAUKAHA / WAIAKEA AREA / HAWAII ISLANDWIDE RESIDENTIAL LEASE LIST

|                 |            |
|-----------------|------------|
| BROWN, Elson K. | 10/26/1962 |
|-----------------|------------|

HAWAII ISLANDWIDE RESIDENTIAL LEASE LIST

|                        |            |
|------------------------|------------|
| KAHALEWAI, Rian E.K.K. | 09/17/2024 |
| KUAMOO, Louis K., IV   | 09/17/2024 |
| NIHOA, Aliihoa V.G.    | 10/31/2024 |

KAUAI ISLANDWIDE AGRICULTURAL LEASE LIST

|                     |            |
|---------------------|------------|
| HAKUOLE, Stacie K.  | 07/26/1993 |
| RECTOR, Artlyn I.P. | 09/16/2024 |
| LAIMANA, Albert K.  | 12/24/2024 |

KAUAI ISLANDWIDE PASTORAL LEASE LIST

|                   |            |
|-------------------|------------|
| RIVERA, Eric W.M. | 09/19/2024 |
| KAUI, Tiani H.    | 10/17/2024 |

KAUAI ISLANDWIDE RESIDENTIAL LEASE LIST

|                   |            |
|-------------------|------------|
| RIVERA, Eric W.M. | 09/19/2024 |
| KAUI, Tiani H.    | 10/17/2024 |

MOLOKAI ISLANDWIDE AGRICULTURAL LEASE LIST

|                               |            |
|-------------------------------|------------|
| POEPOE, Teaho N.              | 09/27/2024 |
| KAHOLOAA, Jonah Kekaipoi K.P. | 10/08/2024 |
| RAWLINS, Mililani K.          | 10/10/2024 |
| ALCON, Chaice K.              | 10/29/2024 |

KAPAAKEA AREA / MOLOKAI ISLANDWIDE RESIDENTIAL LEASE LIST

|                      |            |
|----------------------|------------|
| KAHOOHULI, George P. | 04/04/1963 |
|----------------------|------------|

MOLOKAI ISLANDWIDE RESIDENTIAL LEASE LIST

---

|                      |            |
|----------------------|------------|
| POEPOE, Teaho N.     | 09/27/2024 |
| RAWLINS, Mililani K. | 10/10/2024 |

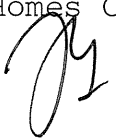
|   |            |
|---|------------|
| Previous Cumulative Total for Current FY      | 381        |
| Current Month's Total                         | 55         |
| <b>Fiscal Year Total: July 2024-June 2025</b> | <b>436</b> |


STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission

THROUGH: Juan Garcia, HSD Administrator 

FROM: Chloe K. M. Urabe, Application Officer   
Homestead Services Division

SUBJECT: **Commission Designation of Successors to Application Rights - Public Notice November 2022 & 2023**

RECOMMENDED MOTION/ACTION

1. To designate the following individuals as successors to the application rights of deceased applicants who did not name a qualified successor.

2. To approve the certification of applications to successorship rights of qualified successors. The Department has verified the native Hawaiian blood quantum requirement of each prospective successor according to section 10-3-2 of the Hawaii Administrative Rules.

DISCUSSION

The following qualified applicants passed away on or after October 26, 1998, without naming qualified successors. Pursuant to 10-3-8(c) of the *Hawaii Administrative Rules*, a public notice listing the names of deceased applicants and calling for possible successors to their application rights was published in the Honolulu Star-Advertiser, The Maui News, Hawaii Tribune Herald, West Hawaii Today, and The Garden Island on the last two consecutive Sundays of November for the year the Department received notification. Requests to succeed to the decedents' application rights were submitted within the required 180 days following the last date of publication. Prospective successors were the sole respondents and are deemed by the Department to have met the requirements of successorship according to section 10-3-8(b) of the *Hawaii Administrative Rules*. HSD recommends approval of the following designees:



1. Deceased Applicant: Samuel Keliioomalu Jr.  
 Date of death: March 14, 2021  
 Successor to app rights: Zebadiah P. Spencer  
 Relationship to decedent: Nephew  
 Island: Hawaii  
 Type: Islandwide Residential  
 Date of Application: July 6, 1984  
 Date of Public Notice: November 2023

2. Deceased Applicant: Matthew F. Pacheco  
 Date of death: February 24, 2013  
 Successor to app rights: Jason Kaaha Pacheco  
 Relationship to decedent: Child  
 Island: Hawaii  
 Type: Islandwide Agricultural  
 Date of Application: August 8, 1985  
 Date of Public Notice: November 2023

3. Deceased Applicant: Stephanie A. Ahai  
 Date of death: August 16, 2006  
 Successor to app rights: Teri K. Ho  
 Relationship to decedent: Child  
 Island: Oahu  
 Type: Islandwide Residential  
 Date of Application: November 3, 2000  
 Date of Public Notice: November 2022

|   |           |
|---|-----------|
| Previous Cumulative Total for Current FY      | 49        |
| Current Month's Total                         | 3         |
| <b>Fiscal Year Total: July 2024-June 2025</b> | <b>52</b> |

STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission

THROUGH: Juan Garcia, Administrator  
Homestead Services Division



FROM: Ross K. Kapeliela, ODO Supervisor  
Homestead Services Division



SUBJECT: **Approval of Assignment of Leasehold Interest**

RECOMMENDED MOTION/ACTION

1. To approve the assignment of the leasehold interest, pursuant to Section 208, Hawaiian Homes Commission Act, 1920, as amended, and subject to any applicable terms and conditions of the assignment, including but not limited to the approval of a loan.

2. To approve and accept that the transferees are of no less than the required 25% or 50% Hawaiian ancestry as appropriate pursuant to Section 208, Hawaiian Homes Commission Act, 1920, as amended.

DISCUSSION

Ten (10) assignments of lease.

1. Lessee Name: Michael S. Aweau & Michael S. Aweau, Jr.  
Res. Lease No. 4552, Lot No. 59  
Lease Date: 6/1/1978  
Area: Nanakuli, Oahu  
Property Sold & Amount: No, N/A  
Improvements: 4 bedroom, 2 bath dwelling

Transferee Name: Michael S. Aweau, Michael S. Aweau, Jr. & Clint W. M. K. Hew-Len  
Relationship: Lessees & None  
Loan Assumption: No  
Applicant: No

Reason for Transfer: "Other."

2. Lessee Name: Dancetta M. Feary  
Pas. Lease No. 8026, Lot No. 51  
Lease Date: 02/01/1991  
Area: Puukapu, Hawaii  
Property Sold & Amount: Yes, \$150,000.00  
Improvements: Fenced on all sides

Transferee Name: Charish K. E. Miller  
Relationship: None  
Loan Assumption: No  
Applicant: Yes, Hawaii IW Pas., 5/27/2009

Reason for Transfer: "Selling because I'm 71 years old, single with no children and want another Hawaiian family to be able to make use and work the land." Special Condition: Transferee to obtain funds to pay purchase price.

3. Lessee Name: John I. Haa  
Agr. Lease No. 6215, Lot No. 39-A  
Lease Date: 11/1/1985  
Area: Panaewa, Hawaii  
Property Sold & Amount: No, N/A  
Improvements: Farmers quarters

Transferee Name: Albert K. Haa, III & Crystal H. Haa  
Relationship: Brother & Sister  
Loan Assumption: No  
Applicant: No

Reason for Transfer: "Giving lease to relative."

4. Lessee Name: Kevin F. Kealoha  
Res. Lease No. 7095, Lot No. 39  
Lease Date: 10/1/1999  
Area: Kawaihae, Hawaii,  
Property Sold & Amount: No, N/A  
Improvements: 3 bedroom, 1 bath dwelling

Transferee Name: Archer Akau, Jr.  
Relationship: Son  
Loan Assumption: No  
Applicant: No

Reason for Transfer: "Giving lease to relative."

5. Lessee Name: Karen L. Lee  
Res. Lease No. 9084, Lot No. 175-B-1  
Lease Date: 4/1/1991  
Area: Keaukaha, Hawaii  
Property Sold & Amount: No, N/A  
Improvements: 3 bedroom, 2 bath dwelling

Transferee Name: Desmond J. H. Lewi, Jr.  
Relationship: Grandson  
Loan Assumption: No  
Applicant: No

Reason for Transfer: "Giving lease to relative."

6. Lessee Name: Lois N. Pualoa-Ubando  
Res. Lease No. 9393, Lot No. 80  
Lease Date: 12/1/2000  
Area: Kaniohale, Hawaii  
Property Sold & Amount: Yes, \$73,943.00  
Improvements: 3 bedroom, 1 bath dwelling

Transferee Name: Terry K. Pualoa  
Relationship: Daughter  
Loan Assumption: No  
Applicant: No

Reason for Transfer: "Giving lease to relative." Special  
Condition: Transferee to obtain funds to pay purchase  
price.

7. Lessee Name: Joanne P. Ramos  
Res. Lease No. 3117, Lot No. 91  
Lease Date: 12/13/1957  
Area: Waimanalo, Oahu  
Property Sold & Amount: No, N/A  
Improvements: 3 bedroom, 1-1/2 bath dwelling

Transferee Name: Jake K. Ramos  
Relationship: Son  
Loan Assumption: No  
Applicant: No

Reason for Transfer: "Giving lease to relative."

8. Lessee Name: Louella W. Albino  
Agr. Lease No. 575, Lot No. 190  
Lease Date: 4/24/1934  
Area: Hoolehua, Molokai  
Property Sold & Amount: No, N/A  
Improvements: None

Transferee Name: Genella K. Albino  
Relationship: Daughter  
Loan Assumption: No  
Applicant: No

Reason for Transfer: "Giving lease to relative."

9. Lessee Name: Gerard M. Mahi  
Pas. Lease No. 8097, Lot No. 123  
Lease Date: 2/1/1991  
Area: Puukapu, Hawaii  
Property Sold & Amount: Yes, \$205,000.00  
Improvements: None

Transferee Name: Henry B. M. Keliikuli-Grace  
Relationship: None  
Loan Assumption: No  
Applicant: Yes, Hawaii Pas., 2/19/2008

Reason for Transfer: Financial reasons." Special Condition:  
Transferee to obtain funds to pay purchase price.

10. Lessee Name: Nathalie Ann K. Taylor-Hilongo  
Res. Lease No. 6381, Lot No. 9  
Lease Date: 10/1/1985  
Area: Waiakea, Hawaii  
Property Sold & Amount: No, N/A  
Improvements: None

Transferee Name: Theodora P. Auwae  
Relationship: None  
Loan Assumption: No  
Applicant: No

Reason for Transfer: "Moving off island."


|  |            |
|--|------------|
| Assignments for the Month of March `25 | 10         |
| Previous FY '24 - '25 balance          | <u>127</u> |
| FY '24 - '25 total to date             | 137        |
| Assignments for FY '23 - '24           | 107        |


STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission

THROUGH: Juan Garcia, Administrator   
Homestead Services Division

FROM: Ross K. Kapeliela, ODO Supervisor   
Homestead Services Division

SUBJECT: **Approval of Amendment of Leasehold Interest**

RECOMMENDED MOTION/ACTION

To approve the amendment of the leasehold interest listed below.

DISCUSSION

Five (5) amendments of lease.

1. Lessee: Louella W. Albino  
Agr. Lease No.: 575  
Lot No., Area, Island: 190, Hoolehua, Molokai  
Amendment: To amend the lease to extend the lease term to an aggregate term of 199 years, and to incorporate the currently used terms, conditions, and covenants to the lease.  
(Transfer)

2. Lessee: Gregory K. Camara  
 Res. Lease No.: 4928  
 Lot No., Area, Island: 61-B, Kuhio Village, Hawaii  
 Amendment: To amend the lease tenancy to reflect tenant in severalty due to the death of joint tenant and to incorporate the currently used terms, conditions, and covenants to the lease. (Successorship)
3. Lessee: George E. Dole  
 Res. Lease No.: 4433  
 Lot No., Area, Island: 137, Waianae, Oahu  
 Amendment: To amend the lease to update the property description and to incorporate the currently used terms, conditions, and covenants to the lease. (Successorship)
4. Lessee: Albert K. Haa, Jr.  
 Agr. Lease No.: 6215  
 Lot No., Area, Island: 39-A, Panaewa, Hawaii  
 Amendment: To amend the lease to update the property description. (Successorship)
5. Lessee: Joanne P. Ramos  
 Res. Lease No.: 3117  
 Lot No., Area, Island: 91, Waimanalo, Oahu  
 Amendment: To amend the lease to extend the lease term to an aggregate term of 199 years, and to incorporate the currently used terms, conditions, and covenants to the lease. (Transfer)


|                                       |           |
|---------------------------------------|-----------|
| Amendments for the Month of March '25 | 5         |
| Previous FY '24 - '25 balance         | <u>94</u> |
| FY '24 - '25 total to date            | 99        |
| Amendments for FY '23 - '24           | 66        |


STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission

THROUGH: Juan Garcia, Administrator   
Homestead Services Division

FROM: Ross K. Kapeliela, ODO Supervisor   
Homestead Services Division

SUBJECT: **Approval to Issue a Non-Exclusive License for Rooftop  
Photovoltaic Systems for Certain Lessees**

RECOMMENDED MOTION/ACTION

To approve the issuance of a non-exclusive license to allow the Permittee to provide adequate services related to the installation, maintenance, and operation of a photovoltaic system on the premises leased by the respective Lessees.

The non-exclusive license is necessary as the Lessee can not issue his/her own licenses.

DISCUSSION

Eleven (11) non-exclusive licenses.

1. Lessee: Kent M. Ahue  
Res. Lease No.: 8784  
Lot No., Area, Island: 20, Waimanalo, Oahu  
Permittee: Sunrun Installation Services, Inc.
  
2. Lessee: Justina M. Anderson  
Res. Lease No.: 4545  
Lot No., Area, Island: 100, Nanakuli, Oahu  
Permittee: Holu Hou Energy, LLC



3. Lessee: May L. Andresen  
Res. Lease No.: 8201  
Lot No., Area, Island: 53, Waimanalo, Oahu  
Permittee: Sunrun Installation Services, Inc.
  
4. Lessee: Zandee Dudoit  
Res. Lease No.: 12272  
Lot No., Area, Island: 72, Waiehu 4, Maui  
Permittee: Sunrun Installation Services, Inc.
  
5. Lessee: John Lance Duque  
Res. Lease No.: 8459  
Lot No., Area, Island: 168, PKE, Oahu  
Permittee: Sunrun Installation Services, Inc.
  
6. Lessee: Dana M. Kahele  
Res. Lease No.: 11892  
Lot No., Area, Island: 18610, Kanehili, Oahu  
Permittee: Sunnova Sunsafe Solar
  
7. Lessee: John Guy King  
Res. Lease No.: 4537  
Lot No., Area, Island: 84, Nanakuli, Oahu  
Permittee: Sunrun Installation Services, Inc.
  
8. Lessee: Kamaile M. Kunipo  
Res. Lease No.: 8426  
Lot No., Area, Island: 135, PKE, Oahu  
Permittee: Sunrun Installation Services, Inc.
  
9. Lessee: Wendy M. Mitravich  
Res. Lease No.: 8182  
Lot No., Area, Island: 43, Waimanalo, Oahu  
Permittee: Sunrun Installation Services, Inc.

10. Lessee: Wyomie N. K. Pilor  
 Res. Lease No.: 2042  
 Lot No., Area, Island: 74, Kewalo, Oahu  
 Permittee: Sunrun Installation Services, Inc.
11. Lessee: Andaline K. Simon  
 Res. Lease No.: 12296  
 Lot No., Area, Island: 13, Hikina, Maui  
 Permittee: Sunrun Installation Services, Inc.

|  |            |
|--|------------|
| Non-Exclusive License for the Month of March '25 | 11         |
| Previous FY '24 - '25 balance                    | <u>114</u> |
| FY '24 - '25 total to date                       | 125        |
| Non-Exclusive License for FY '23 - '24           | 279        |

STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission

THROUGH: Juan Garcia, Administrator  
Homestead Services Division



FROM: Ross K. Kapeliela, ODO Supervisor  
Homestead Services Division



SUBJECT: **Commission Designation of Successor -  
KEAWE WILHELM, Residential Lease No. 11700,  
Lot No. 18508, Kanehili, Oahu**

RECOMMENDED MOTION/ACTION

1. To approve the designation of Carol P. N. Wilhelm (Carol) as successor to Residential Lease No. 11700, Lot No. 18508, Kanehili, Oahu (Lease), for the remaining term of the Lease;

2. To approve and accept that Carol is of no less than the required 25% Hawaiian ancestry and is therefore a qualified successor pursuant to Section 209 of the Hawaiian Homes Commission Act, 1920, as amended;

3. To stipulate that Carol's successorship right and interest in the Lease do not vest until Carol has signed that: (i) Transfer Through Successorship of Lease; (ii) Lease Addendum; and such necessary and appropriate instruments; and that if Carol does not sign all such documents on or before **May 31, 2025** (the Deadline), that the Commission's selection of Carol as successor is automatically revoked;

4. To authorize the Department to extend the Deadline up to 60 days for good cause; and

5. To declare that if Carol's selection as successor is revoked; then under Section 209(a) of the Hawaiian Homes Commission Act, 1920, as amended, "...the land subject to the lease shall resume its status as unleased Hawaiian home lands and the

department is authorized to lease the land to a native Hawaiian as provided by the Act.”

#### DISCUSSION

Keawe K. Wilhelm (Decedent) received the Lease by way of an Assignment of Lease and Consent dated April 25, 2012.

On August 22, 2022, the Decedent passed away and the Department received his death certificate on February 7, 2023.

The Decedent did not name an eligible successor to the subject lease prior to his passing.

Accordingly, pursuant to Administrative Rule 10-3-63, the Department published legal notices in the Honolulu Star-Advertiser, Hawaii Tribune Herald, West Hawaii Today, Maui News, and The Garden Island newspapers on December 6, 13, 20, and 27, 2023, to notify all interested, eligible and qualified heirs of the Decedent to submit their successorship claims to the Lease.

On January 4, 2024, the Department received a successorship claim from the Decedent’s surviving wife, Laverne Myrna Kehaulani McDonald-Wilhelm, who was determined to be of less than 25% Hawaiian ancestry and was thus ineligible to succeed to the Lease.

On April 3, 2024, the Department received a successorship claim from the Decedent’s daughter, Carol Puanani Natsuyo Wilhelm, who was determined to be of at least 25% Hawaiian ancestry and is thus eligible for successorship to the Lease.

Pursuant to Section 209 of the Hawaiian Homes Commission Act of 1920, as amended (Act), when a lessee fails to designate a successor, the commission is authorized to terminate this lease or to continue the lease by designating a successor. Section 209 states in part that the department may select from only the following qualified relatives of the decedent:

1. Husband or wife; or
2. If there is no husband or wife, then the children; or
3. If there is no husband, wife, or child, then the grandchildren; or

4. If there is no husband, wife, child, or grandchild, then the brothers or sisters; or
5. If there is no husband, wife, child, grandchild, brother, or sister, then from the following relatives of the lessee who are native Hawaiian: father and mother, widows or widowers of the children, widows or widowers of the brothers and sisters, or nieces and nephews.

Improvements to the homestead lot consist of a 4-bedroom and 3-bath, single-family dwelling, which was constructed in 2012. The Decedent's widow, Laverne M. K. McDonald-Wilhelm, is presently residing in the house and is aware that she will have to vacate the premises when the successorship is completed.

There is an outstanding January 11, 2013, loan issued by Bank of Hawaii in the amount of \$236,472 which is noted as delinquent in the September 2024 HUD report, however, the exact amount presently owed is unknown.

The lease rent account reports a credit balance of \$85.00. Real property tax due on March 31, 2025, is \$157.56.

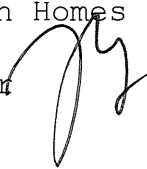
The Department requests approval of its recommendation.

STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission

THROUGH: Juan Garcia, HSD Administrator   
Homestead Services Division

FROM: David Bush, Acting District Supervisor  
Molokai District Office  
Homestead Services Division

SUBJECT: **Cancellation of Lease - Lucy L. K. Whiting  
Agricultural Lease No. 6082, Lot 170,  
Kalamaula, Molokai**

RECOMMENDED MOTION / ACTION

To approve the cancellation of Agricultural Lot Lease 6082, Lot 170, Kalamaula, Molokai (Lease), pursuant to the Hawaiian Homes Commission Act of 1920, as amended, as there was no successor claimant to the Lease interest.

DISCUSSION

Lucy L. K. Whiting (Decedent) was awarded the Lease commencing on October 1, 1985, further amended to February 28, 1996.

On September 12, 2023, Decedent passed away.

In compliance with the Administrative Rules 10-3-63, the Department published legal ads in the Honolulu Star Advertiser, The Hawaii Tribune Herald, West Hawaii Today, The Maui News and the Garden Island newspapers on June 6, 13, 20, and 27, 2024, to notify all interested, eligible and qualified heirs of the Decedent, to submit their lease successorship claims.

Pursuant to Section 209 of the Hawaiian Homes Commission Act of 1920 (Act), as amended, when a lessee fails to designate a successor, the commission is authorized to terminate the lease or to continue the lease by designation a successor.

Section 209 states in part that the department may select from only the following qualified relatives in priority order:

1. Husband or wife; or
2. If there is no husband or wife, then the children; or
3. If there is no husband, wife or child, then the grandchildren; or
4. If there is no husband, wife, child or grandchild, then brothers or sisters; or
5. If there is no husband, wife child, grandchild, brother, or sister, then from the following relatives of the lessee who are native Hawaiian: father and mother, widows or widowers of the children, widows, or widowers of the brothers and sisters, or nieces and nephews.

No successorship claim was received by the Department before the closing of the Public Notice to succeed to the Lease.


Pursuant to Section 209 of the Hawaiian Homes Commission Act of 1920, as amended, "the land subject to the lease shall resume as unleased Hawaiian Home Lands and the Department is authorized to lease to another qualified native Hawaiian as provided in the Act."

There are no improvements to this homestead lot as it remains undeveloped. The real property tax is not being assessed, and the lease rent is current.

The Department request approval of its recommendation.

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS

March 17, 2025

TO: Chairman and Members, Hawaiian Homes Commission  
THRU: Juan Garcia, Administrator   
Homestead Services Division  
FROM: James W. DuPont, District Operation Manager  
Homestead Services Division  
SUBJECT: **Approval to Amend the Lease Commencement Date for Pu'ukapu  
Pastoral Leases Awarded in 1990**

RECOMMENDED MOTION/ACTION

To approve the amendment of the lease commencement date from February 1, 1991, to June 1, 2025, to reflect access roads built to a standard acceptable to the department.

DISCUSSION

The main purpose of the recommendation is for the Department of Hawaiian Homes Lands (Department) to address the safety concerns related to the County of Hawaii, Police and Fire Departments and their ability to address emergency response situations.

On Tuesday, February 25, 2025, the Hawaiian Homes Lands West Hawaii District Office and West Hawaii Commissioner met with the County of Hawaii Departments of Public Works, Fire, Planning and Police. The purpose of the meeting was to discuss the county's ability to respond to emergencies and current Pu'ukapu access roads. The consensus of the county staff was that they have been and will continue to provide emergency response services using the existing roads.

Each county department commented on various improvements that they would like to see to make their response more effective. The easiest and most significant improvement is related to assigning physical addresses to each homestead lot. Emergency response staff would be better able to identify the location of the caller and/or incident if addresses were assigned and clearly visible to emergency responders.

The Fire Department commented on the 2021 Pu'ukapu Wildfire and their experience with available water sources and road conditions. The current Fire Tank design and locations provide an inefficient method of gravity flow to HFD tankers and trucks. Not



every piece of equipment can draw water from the tanks. In addition, not all vehicles have the right sized hose and fittings to attach to the standpipes. They suggested pressurizing the lines using pumps to push the water to the equipment.

During the last wildfire event, HFD was driving from the pastoral lots to the DHHL farm lots to get water out of fire hydrants. The advantage was the pressurized lines. The disadvantage was the time to get there and back. They would like to see roads paved to decrease travel time.

The other suggestion for consideration is that each homestead have a separate storage tank strictly for firefighting purposes. That would provide HFD with another source of water on site should it be needed by their staff. The capacity and design require further discussion.

The Department of Public Works suggested using cold-plane recycled asphalt on roads. Further discussions with DHHL related to material, labor and equipment costs should be arranged.

The main recommendation from Police was assignment of physical addresses. It would help if the location of the driveway or proposed driveway along with crossroads is included to identify the recommended access to each property. Another recommendation would require residents to comply with county guidelines on the posting of addresses, including the size of lettering and the location of address signs on each homestead. Address kits are available for about \$20.00 from various vendors.

The Planning Department stated that a letter from DHHL requesting physical addresses for each lot that has an assigned tax map key (TMK) number would be sufficient for this process to be initiated. This would make it more effective for locating a caller in case of an emergency.

The Planning Department provided a letter generally explaining the Agricultural Subdivision Process. The subject DHHL pastoral lots (Nienie, Kamoku, and Pu'ukapu) were created using the Pre-existing Lot of Record process. The Pre-existing Lot of Record determination letter from the County of Hawai'i acknowledging the Pu'ukapu Pastoral Lots was dated August 2009. Based on this determination letter, the County created new tax plat maps and assigned individual tax map key (TMK) numbers to the one-hundred and eighty-four parcels. Determining pre-existing lots does not generally include the same requirements for infrastructure (roads, water, electricity, sidewalks and drainage) as a standard subdivision approval may require (Exhibit A).

For agricultural subdivisions, agricultural road standards require a 50-foot-wide right-of-way, with 20-foot wide pavement and sufficient thickness of gravel. Road right-of-way widths could include shoulders that do not require a gravel base as compared

to the standard 20-foot-wide pavement. County staff indicated that ag standard roads, regardless of the approval process, are not dedicable to the County because they are not built to County dedicable roadway standards. Unless a roadway is dedicated, the County would not accept responsibility for road repairs and maintenance.

The final requirement to complete formal notification to the county would be the assignment of a lease commencement date in 2025. The DHHL Route Slip would provide lease and lessee contact information for each lot.

At present, most of the lots list Hawaiian Home Lands as the Landowner. There is no information about the lease or lessee. There are a few lessees who have been paying real property taxes. The lease commencement date determines the seven (7) year real property tax exemption allowed for new leases.

The Department recognizes and acknowledges the opposition to amending the lease commencement date. The opinion is that the standard for acceptance of the road design and construction is unsafe. The solution depends primarily on funding for road and infrastructure improvements. Estimates exceed \$100 million. Sources of funding have not been identified. The likelihood of the Commission and Department dedicating this level of financial resources to Pu'ukapu and, specifically the one hundred eighty-two lots, is undetermined.

The County has identified two options at this time related to the lease commencement date amendment. If the current commencement date of February 1, 1991, is considered, lessees would start paying real property taxes in the 2026 Tax Year. If a lease commencement date in 2025 is agreeable, each lessee would be granted a seven-year real property tax exemption. Taxes would not be assessed until the 2032 Tax Year.

Lessees have been using their homestead since the early 1990s. Some of them applied for and obtained building permits from the county. They have been accessing their homesteads using existing Pu'ukapu roads. Access roads to all homesteads were completed in 1998.

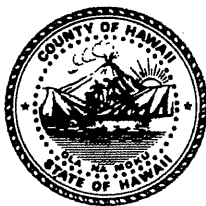
Some lessees have expressed a desire to build on their homesteads. Some have requested physical addresses for their respective lots. Providing a lease commencement date in 2025 will allow these individuals to move ahead with their plans. At a bare minimum, all lessees will have physical addresses assigned to their respective lots.

The Department requests approval of its recommendation.

C. Kimo Alameda, Ph.D.  
Mayor

William V. Brillhante Jr.  
Managing Director

West Hawai'i Office  
74-5044 Ane Keohokālole Hwy  
Kailua-Kona, Hawai'i 96740  
Phone (808) 323-4770  
Fax (808) 327-3563



## County of Hawai'i PLANNING DEPARTMENT

Jeffrey W. Darrow  
Director

Michelle S. Ahn  
Deputy Director

East Hawai'i Office  
101 Pauahi Street, Suite 3  
Hilo, Hawai'i 96720  
Phone (808) 961-8288  
Fax (808) 961-8742

February 24, 2025

James W. DuPont, Manager  
District Operations Branch  
Department of Hawaiian Homelands  
P.O. Box 125  
Kamuela, HI 96743

Dear James W. DuPont:

**SUBJECT: RESPONSE TO REQUEST FOR INFORMATION**  
**RE: PL-INT-2025-009880, PU'UKAPU PASTORAL LOTS**  
**TMK: (3) 6-4-035 to 6-4-038, various parcels**

This is in response to your correspondence dated February 12, 2025, requesting information on the County's subdivision process and associated road requirements. The Pu'ukapu Pastoral Lots are situated within the State Land Use Agricultural district and the County's Agricultural (A-40a) zoning district.

### **Subdivision Process and Associated Infrastructure Requirements**

The Subdivision process and associated infrastructure requirements are regulated by Hawai'i County Code (HCC), Chapter 23 (Subdivision). For lands zoned A-40a, minimum road requirements are determined by section 23-87(a) & (b) which states [emphasis added]:

- (a) *A street serving areas zoned for lots of three acres and over shall have a six-inch minimum fine select borrow base course with surface treatment acceptable to the director of public works and director. Preparation of the surface, application of surface and utilization of equipment shall conform to standards adopted by and on file in the department of public works, subject to the condition that a portion of a roadway where the grade is eight percent or greater shall be built to paved requirements of this chapter. Pavement widths shall conform to the agricultural standards as set forth under section 23-34.\* Where a subdivision street connects with a State highway, the standards of the pavement within the*

James W. DuPont, Manager  
District Operations Branch  
Department of Hawaiian Homelands  
PL-INT-2025-009880  
February 24, 2025  
Page 2

*State highway right-of-way shall conform to standards adopted by the State department of transportation.*

*(b) A street meeting only the minimum requirements of this section **shall not be dedicable.***

To receive final subdivision approval, the subdivider has only to meet the minimum road requirements of the subdivision code, with exception (i.e change of zone and other land use permits may have specific conditions). The subdivider may opt to build any roadways to the dedicable standard as defined in HCC, Section 23-86. For any roadways associated with a subdivision approval, construction must comply with the Department of Public Works (DPW) standard details which are generally align with the HCC road requirements. Whether a road is built to a dedicable or non-dedicable standard, the dedication process itself is processed through the DPW and the Hawai'i County Council.

### **Pre-Existing Lots**

In regard to Pu'ukapu Pastoral Lots, these lots were not created through the typical subdivision application process but by the recognition of "pre-existing lots." Pre-existing lots are not necessarily subject to HCC requirements because they are generally defined as lots that were created prior to or outside of the context of the subdivision code requirements. Therefore, having pre-existing lots with pre-existing infrastructure, no new infrastructure requirements are generally imposed as with a typical subdivision application process, with exception.

### **Department of Hawaiian Home Lands (DHHL)**

Considering that the properties in question are managed by the Department of Hawaiian Homelands (DHHL), and that the DHHL has authority and autonomy over the lands that they manage, it is ultimately DHHL's prerogative to provide the type of infrastructure (roads, water, wastewater, etc.) necessary to meet the needs of its developments, whether dedicable or not. Please note that the Planning Department's Pre-Existing Lot of Record letter dated August 4, 2009, specifically mentioned that the recognition of pre-existing lots was with the understanding that DHHL was working with the respective agencies to provide road and water infrastructure.

Ultimately, the Hawai'i County Council has the authority to accept the dedication of roadways. Additionally, the Department of Water Supply and the Water Board have the authority to accept water systems that meet their standards. Therefore, the Planning Department defers to those agencies for infrastructure dedications.

James W. DuPont, Manager  
District Operations Branch  
Department of Hawaiian Homelands  
PL-INT-2025-009880  
February 24, 2025  
Page 3

If you have any questions, please feel free to contact the Planning Department at [planning@hawaiiicounty.gov](mailto:planning@hawaiiicounty.gov).

Sincerely,

*Jeffrey W. Darrow*

Jeffrey W. Darrow (Feb 24, 2025 11:52 HST)

**JEFFREY W. DARROW**  
Planning Director

HS:cn

\\hawaiiicounty.gov\depts\PL\PL\planning\public\Admin Permits Division\General Inquiries\PL-INT-2025-009880 PD response to DHHL 02-24-25.doc

Hawaiian Homes Commission Meeting Packet  
March 17 & 18, 2025  
Waimea, Hawai'i

**E ITEMS**



HAWAIIAN HOME LANDS  
HAWAIIAN HOMES COMMISSION · DEPARTMENT OF HAWAIIAN HOME LANDS

# **West Hawai'i Project Updates**

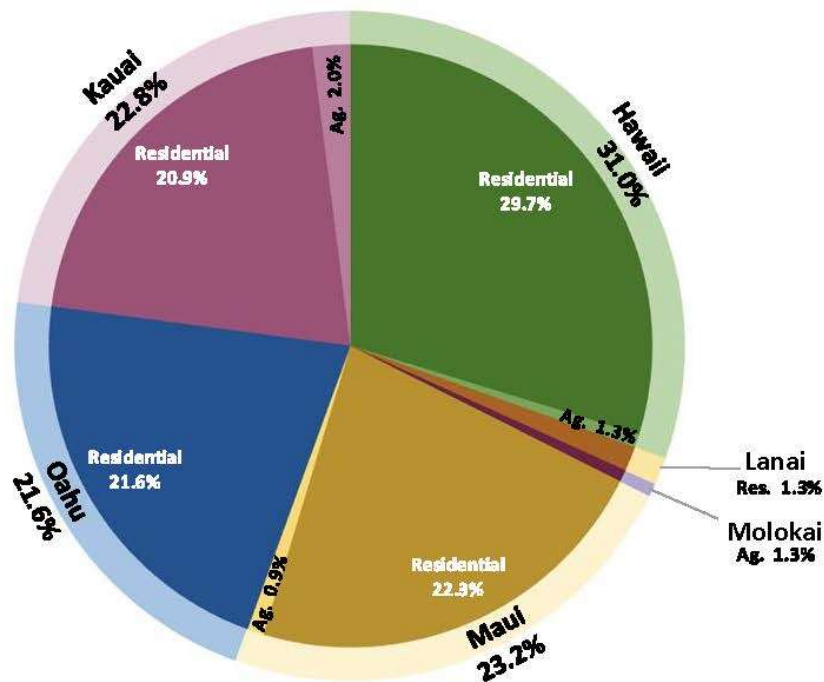
**ITEM E-1 - For Information Only**

March 17 - 18, 2025



# ACT 279 UPDATE

Development by Island and Type – Pie Chart



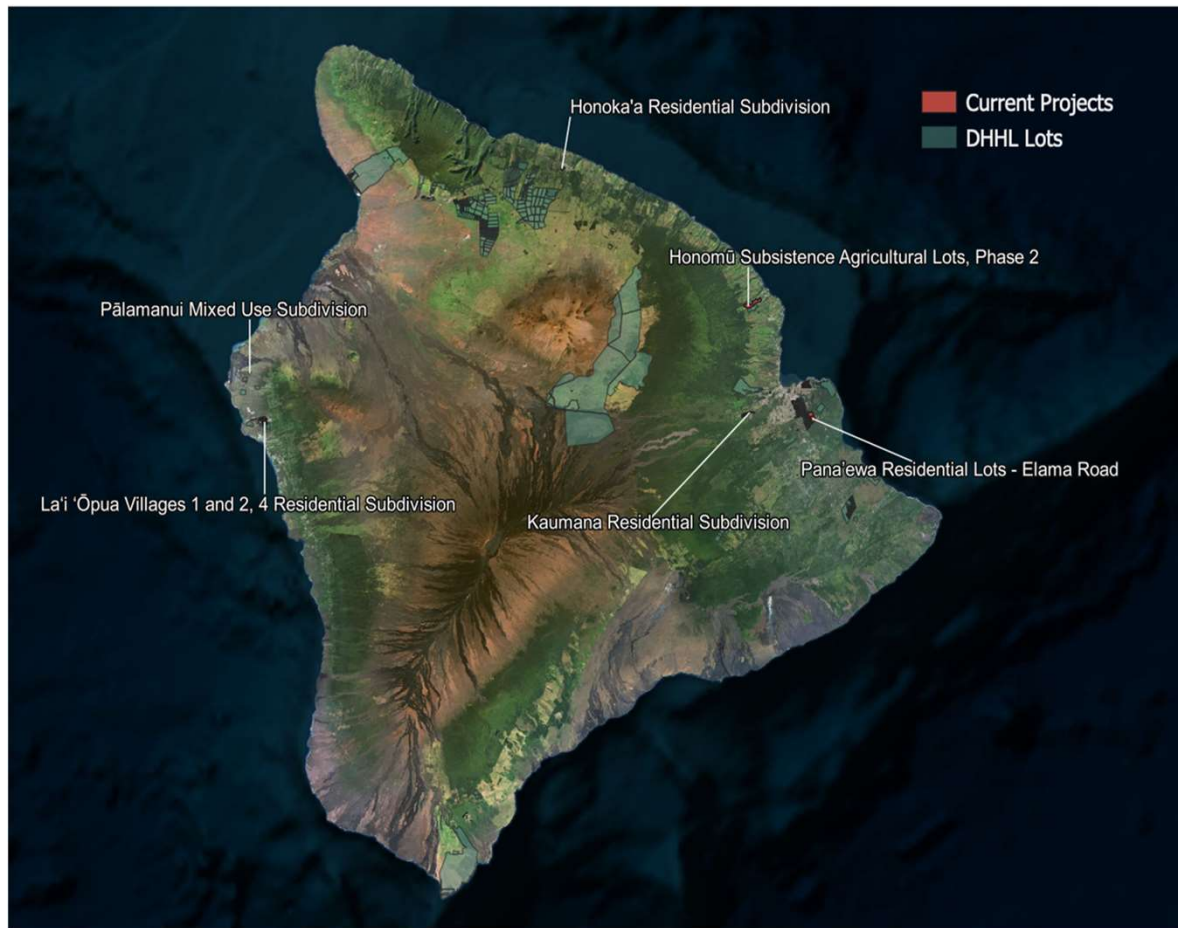
•**Past 100 Years:** DHHL delivered approximately **10,000 leases**.

•**Next 10 Years:** DHHL is on track to **reduce the waitlist by approximately 6,000**.

•**Since Act 279 Passage:** More than **\$600 million** obligated to **develop 29 projects**.



# ACT 279 UPDATE – COUNTY OF HAWAII



DHHL is advancing 29 projects statewide under **Act 279**, with a \$554 million investment to produce approximately 6,000 homestead lots across all four counties:

**\*County of Hawaii: 7 projects | \$75M | infrastructure & site development**

# CURRENT DEVELOPMENT VILLAGES OF LA'I 'ŌPUA , KEALAKEHE, HAWAI'I

## La'i 'Ōpua Rent with Option to Purchase (RWOTP)

- Village 4 Akau.
- 84 rentals completed.
- 32 rentals. Offer June 2025.

## La'i 'Ōpua Village 4 Hema

- Infrastructure completed.
- 125 homes. Orientation FY25.

## La'i 'Ōpua Village 5

- 42 Turnkey occupied.
- 20 Habitat homes occupied.
- 45 homes. Orientation FY25.
- 10 Self-Help.



# Rent with Option to Purchase at Village 4 'Akau

- Subdivision of 116 Residential Lots
- Infrastructure Cost: \$10,346,493.00

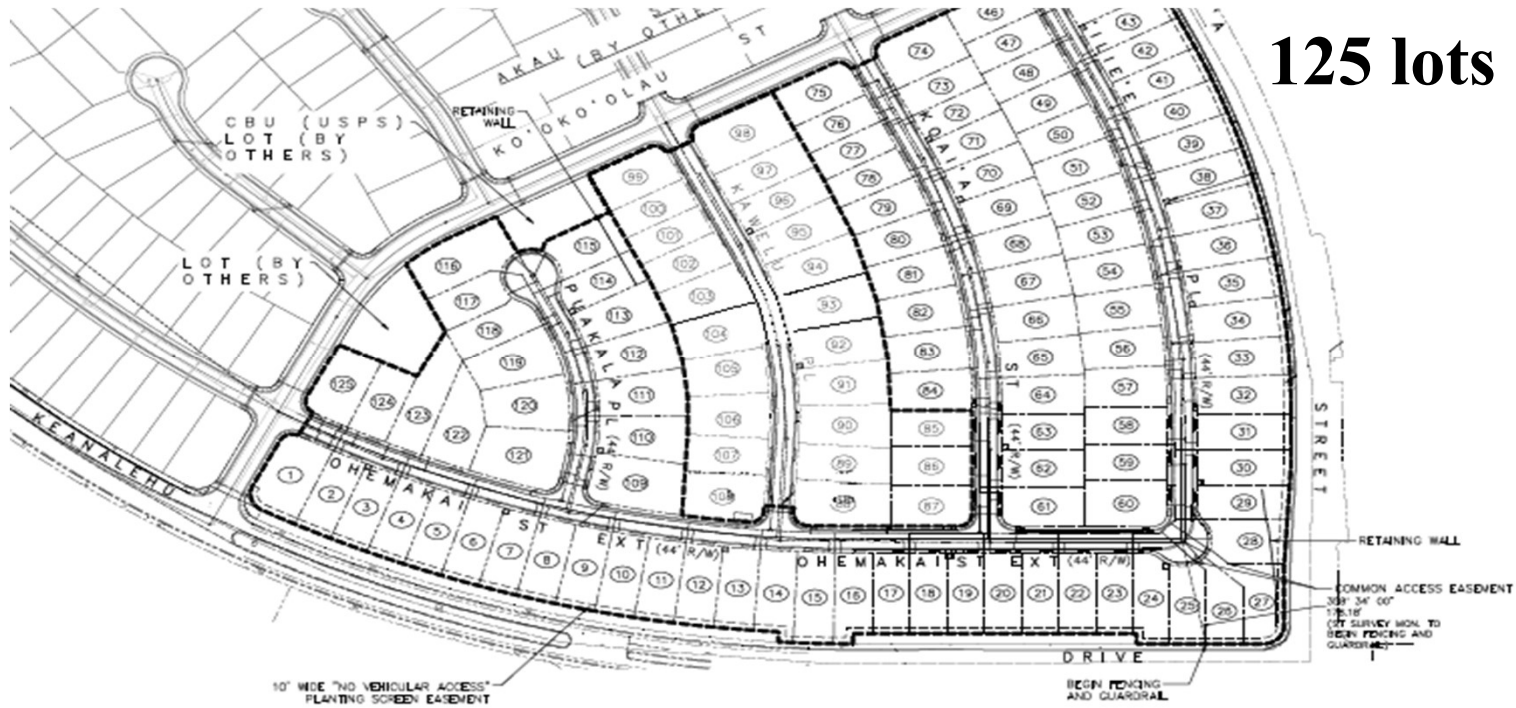
ikaika 'ohana



- Housing Developer: Ikaika 'Ohana (construction by Coastal Construction)
- Rent with Option to Purchase program for 30%, 40% and 60% Area Median Income qualifying families
- 15 year rental compliance period
- Phase 1: 60 homes – Occupied early 2022
- Phase 2: 24 homes – Occupied in 2023
- Phase 3: 32 homes – Offer May 24, 2025



# La'i 'Ōpua Village 4, Phase 2 - Hema Subdivision Layout



125 lots

**KALANIANA'OLE DEVELOPMENT**

636 Laumaka Street • Honolulu, Hawai'i 96813

Email. [info@kalanidev.com](mailto:info@kalanidev.com) | Tel. 808.464.7084 | [www.kalanianaoledevelopment.org](http://www.kalanianaoledevelopment.org)

DEPARTMENT OF HAWAIIAN HOME LANDS - LAND DEVELOPMENT DIVISION

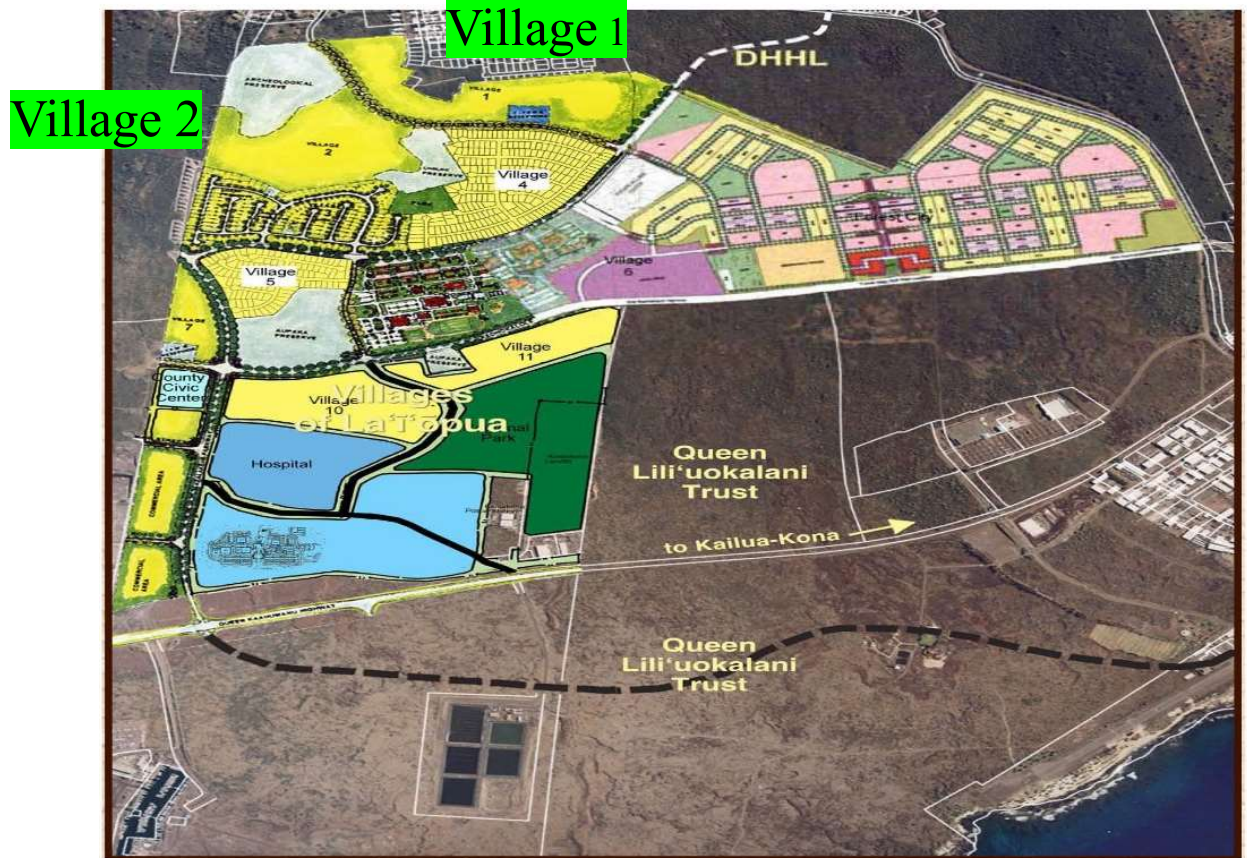
# Future La'i 'Ōpua Residential Development

## La'i 'Ōpua Village 2

- Started Environmental Compliance and Engineering Designs, subject to funding
- Approximately 200 lots

## La'i 'Ōpua Village 1

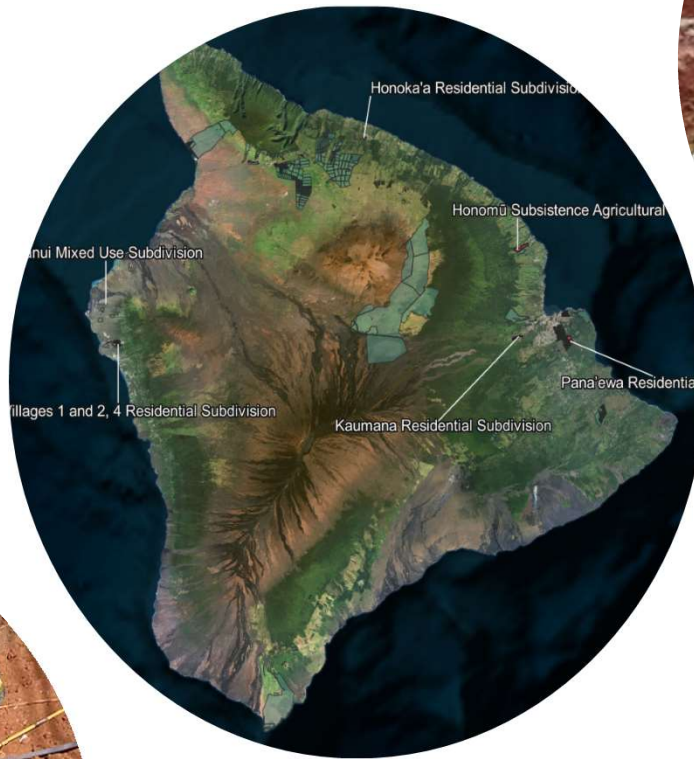
- Started Environmental Compliance and Engineering Designs, subject to funding
- Approximately 200 lots





# West Hawaii Water Development

- Develop water system to service DHHL's West Hawaii development projects (specifically La'i 'Ōpua)





# Kailapa - Kawaihae



- Kailapa Homestead:  
22 Vacant Lots
- Housing Developer:  
Kalaniana'ole  
Development



## KALANIANA'OLE DEVELOPMENT

636 Laumaka Street • Honolulu, Hawai'i 96813

Email: [info@kalanidev.com](mailto:info@kalanidev.com) | Tel. 808.464.7084 | [www.kalanianaoledevelopment.org](http://www.kalanianaoledevelopment.org)

# ➤ LĀLĀMILO PHASE 1: Renovation of 2 existing houses







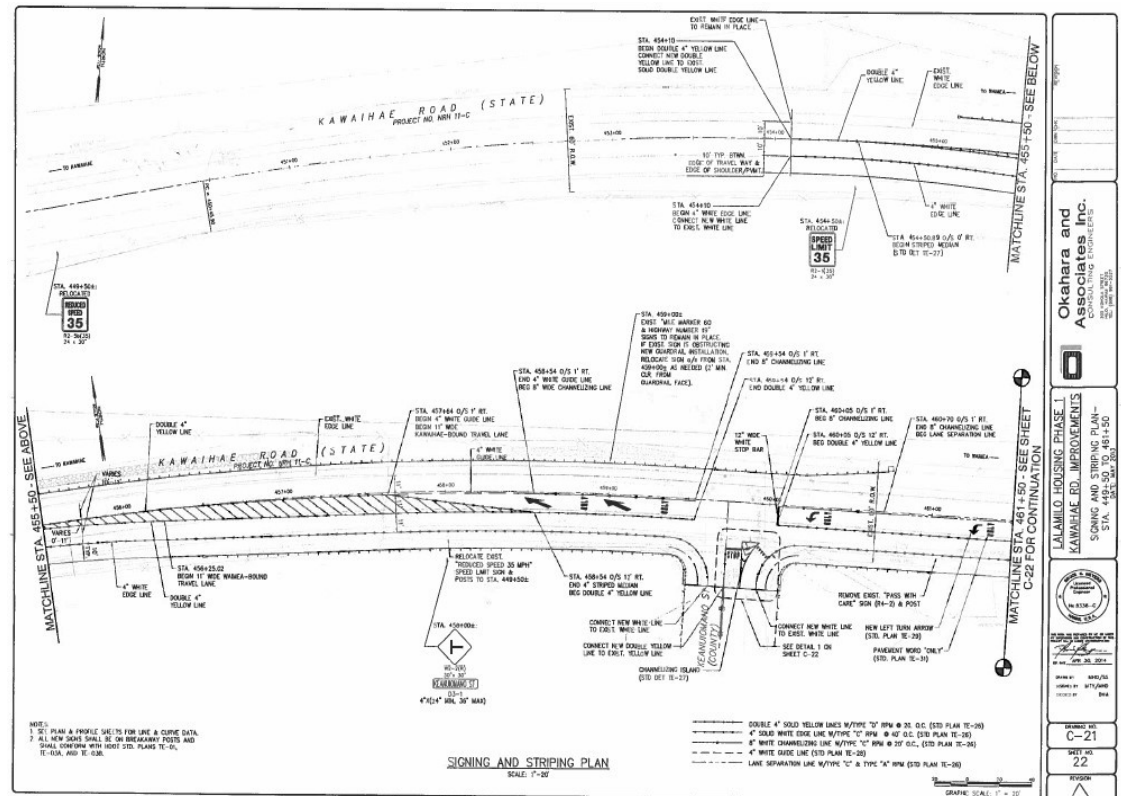
# LĀLĀMILO PHASE 1: Vacant Lots





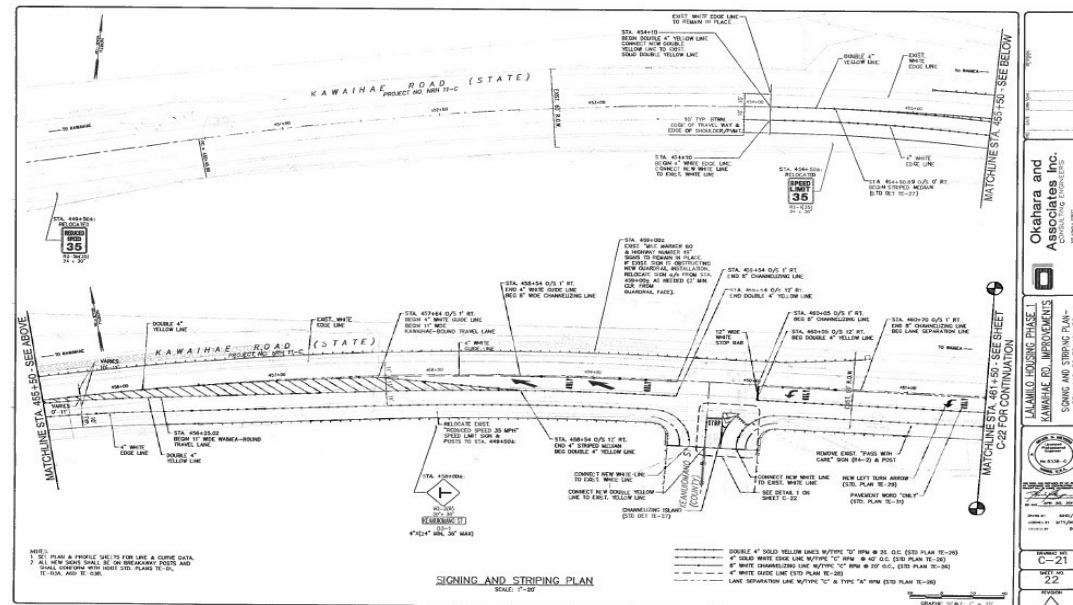
# Lālāmilo Phase 1 – Kawaihae Road

## KAWAIHAE ROAD IMPROVEMENTS AT KEANUIOMANU ST. INGRESS/EGRESS REASSESSMENT OF CONSTRUCTION CONTRACT



# LĀLĀMILO PHASE I - KAWAIHAE ROAD IMPROVEMENTS

- USACE CONTRACT WITH HGL TO CONTINUE SURVEY FOR UXO AT ENTRANCE
- RELOCATION OF HAWAIIAN TELCOM POLES BEING NEGOTIATED
- CONTRACT WITH GOODFELLOW BROS. LLC HAS BEEN ON HOLD SINCE 2014
- DELAY CLAIMS BY CONTRACTOR TO BE NEGOTIATED



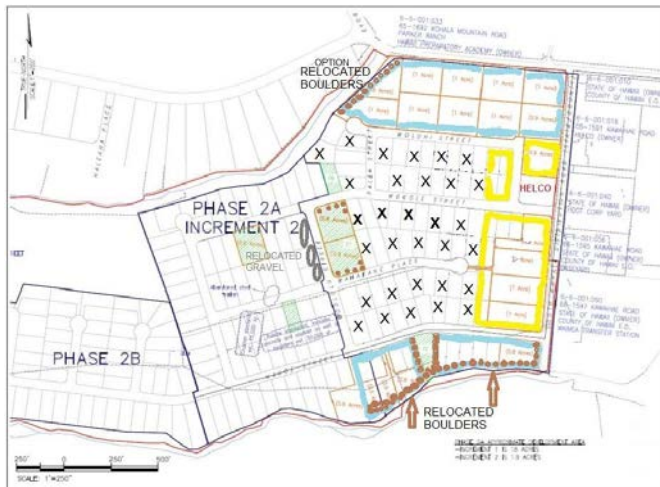
# LĀLĀMILO PHASE 2 – UXO SURVEYS

- USACE Contract with ERRG is complete with SDOH-HEER presenting a CNFA letter to DHHL for most of TMK: (3) 6-6-001:077 with excep for the streams marked in pink.
- Contract with HGL to return week of May 20, 2024 to continue follow-up on remnant areas along the streams.
- The DRAFT UXO Part 2 Survey Report done by HGL will be presented to DOH and public RAB meeting on May 22, 2024.



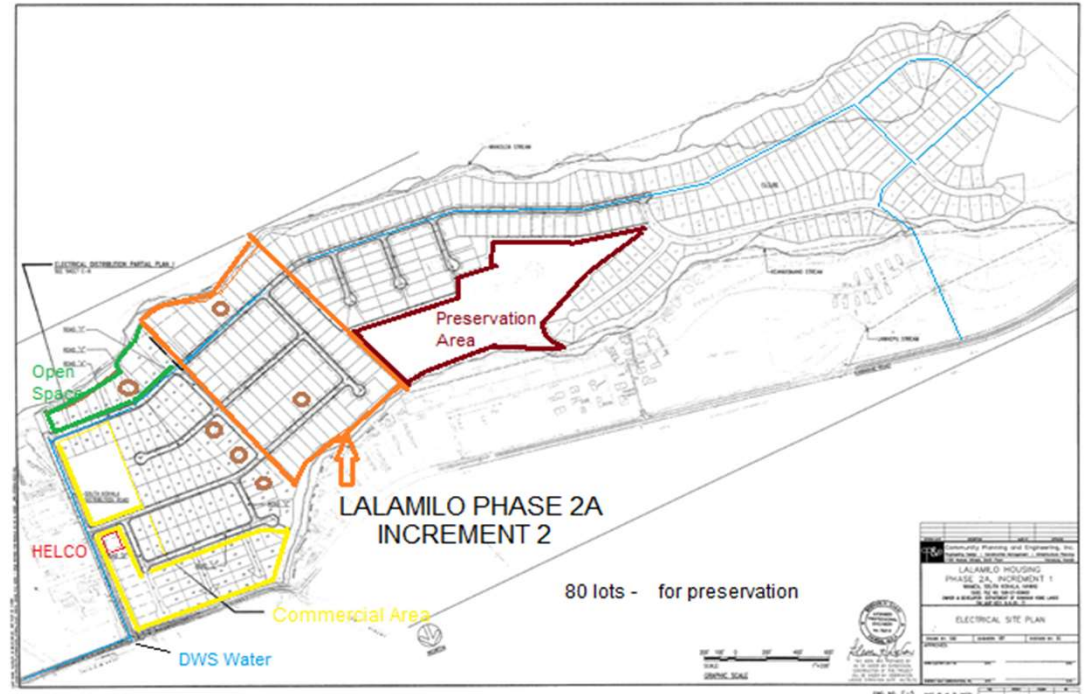
# LĀLĀMILO PHASE 2 – INCREMENT 1

- LĀLĀMILO SOIL TESTING COMPLETED BY ELEMENT ENVIRONMENTAL
- LAB RESULTS REVIEWED BY DOH-HEER AND CLEARED RESIDENTIAL LOTS RESULTS INDICATE NO SIGNIFICANT CONTAMINANTS
- NEGOTIATIONS WITH GOODFELLOW BROS., LLC WILL BE SCHEDULED SOON
- COMMERCIAL AREAS TO BE DEVELOPED BY LMD



# LĀLĀMILO PHASE 2 – INCREMENT 2

- LĀLĀMILO PHASE 2A – INCREMENT 2 WILL START THE DESIGN PHASE WITH CONSULTANT – CPE (Community Planning and Engineering, Inc.)
- INCREMENT 2 PLANS FOR ABOUT 80 RESIDENTIAL LOTS (APPROX. 10,000 SQ. FT.) WITH 2 PRESERVATION LOTS
- USACE to provide signs to warn the public of UXO areas





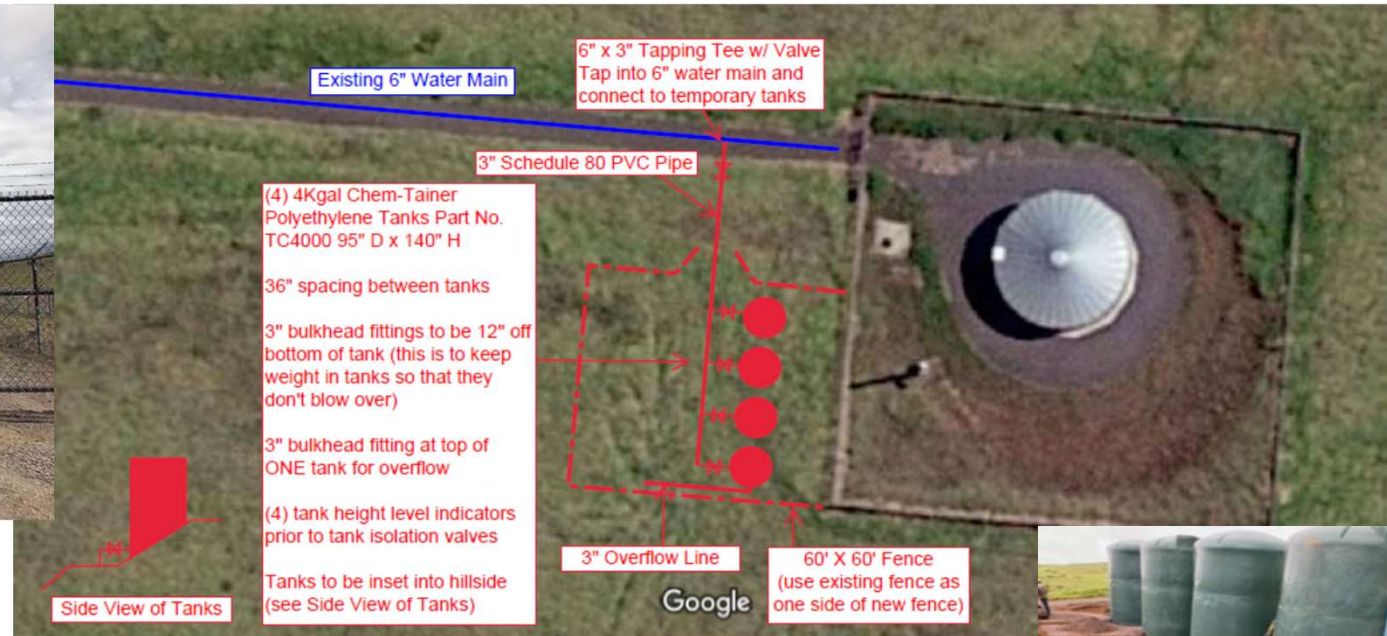
# PU'UKAPU NON-POTABLE WATER SYSTEM

REPAIRS/IMPROVEMENTS TO DIESEL PUMP, SOLAR PV AND TANK 3 LINER AND BYPASS TANK ARRAY.



## System Assessment by Rider Levett Bucknall:

- Tank 1 bypass array and liner replacement scheduled for 1/28/25 completion
- Tank 2 bypass array and liner replacement scheduled for 3/4/25 completion



- Resolve PV setback requirements
- Tank 3 Liner replacement in progress
  - Bypass tanks completed
- Procure additional liners for other tanks.





# HONOKA'A



**\$10M**

**HAWAI'I COUNTY:**  
Honoka'a

**HAWAI'I:**  
Residential  
(6,031 Waitlist)

| PHASES                            | UNITS (296) |
|-----------------------------------|-------------|
| Acquisition & Preliminary Studies | 296         |





# PROJECT LEASES



- **March 15:** Project Lease Orientation @ Hilton Waikaloa
- **April 12:** Project Lease Offer – 390 project leases



# Mahalo



DEPARTMENT OF HAWAIIAN HOME LANDS

[www.dhhl.hawaii.gov](http://www.dhhl.hawaii.gov)

Hawaiian Homes Commission Meeting Packet  
March 17 & 18, 2025  
Waimea, Hawai'i

**F ITEMS**

STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17-18, 2025

To: Chairman and Members, Hawaiian Homes Commission

Thru: Linda Chinn, Acting Administrator *LC*  
Land Management Division

R. Kalani Fronda, Acting Administrator  
Land Development Division ~~RF~~

From: Peter "Kahana" Albinio, Jr., General Professional VI  
Land Management Division *KA*

Subject: Approval to Amend Land Management Division's FY 2025 Budget for  
acquisition of 787 Isenberg Street property, Island of Oahu, TMK No. (1) 2-7-  
011:052

RECOMMENDED MOTION/ACTION

That the Hawaiian Homes Commission approve the allocation of \$800,000 from the Hawaiian Home Lands Trust Fund (T-902) to allow for the Land Management Division (LMD) to pursue the acquisition of 787 Isenberg Street, Honolulu (TMK No. (1) 2-7-011:052, See Exhibit "A" attached). This acquisition is an opportunity to enhance the development potential of the area for future homestead use.

DISCUSSION

LMD seeks to increase its FY 2025 Budget to be funded through HHL Trust Fund (T-902) in the amount of \$800,000.00 to complete the purchase of real property identified as TMK No. (1) 2-7-011:052 in Moiliili, Oahu.

LMD currently has approximately \$500,000 remaining in the budget from the previous purchase of the adjacent KS property (highlighted in green on Exhibit "A"). Based on a 2024 appraisal report conducted by John Child & Company Appraisers & Consultants, LMD offered \$915,000 in January 2025 for the property, but the seller in February 2025 countered with \$1,020,000.

To cover the balance of the purchase price and anticipated closing costs, LMD is requesting an additional \$800,000 to complete the transaction. Escrow will be opened with Title Guaranty Escrow, and the closing is expected within 90 days after the offer or counteroffer is accepted.

If the recommendation as proposed is approved by the Hawaiian Homes Commission, the acquisition of this 2,205-square-foot property will play a key role in the development of adjacent

Hawaiian home lands. Its strategic location presents a valuable opportunity to support future homestead development.

The lot is intended for a multi-tenant unit development, like the Bowl-O-Drome Project. This purchase aligns with DHHL's development strategy by consolidating this parcel with adjacent properties acquired from KS in 2020. The consolidation will create a more functional and efficient site for future homestead housing projects.

**JUSTIFICATION:**

Acquiring this parcel at a higher-than-market price will:

- Square off the development site, making it more practical for future construction.
- Ensure a viable, contiguous area for development, avoiding irregular or inefficient land use.
- Support DHHL's mission by expanding rental housing opportunities for applicants on the waitlist.

Impact if the Purchase is Not Made:

- Potential delays in the proposed development due to an irregular site layout.
- Missed opportunity to create a cohesive, well-planned housing project.
- Increased costs and complications in the future if DHHL has to work around the unpurchased lot.

Development Timeline & Alternatives:

- If the lot is not purchased now, the development timeline may be delayed, but further analysis is needed to determine the exact impact.
- Condemnation is not applicable in this case, so purchasing the lot is the best alternative to ensure the success of the project.

Acquisition Details:

- Offer presented: \$915,000
- Counter-offer received: \$1,020,000
- Available funds from a previous land acquisition: ~\$500,000
- ***Additional funding requested: \$800,000***
- Escrow will be opened with Title Guaranty Escrow, with closing anticipated within 90 days of offer acceptance.

Approval of this request will allow LMD to proceed with due diligence, negotiations, and acquisition efforts to secure the property.

**REASON FOR REQUEST:**

Strategic Land Use & Housing Expansion

- Acquiring this parcel supports the expansion of homestead development by maximizing the use of adjacent Hawaiian home lands.
- The acquisition enables an increase of 50+ additional affordable housing units, improving

financial sustainability and ensuring long-term housing opportunities for beneficiaries.

#### Enhancing Development Efficiency

- This parcel allows for a more efficient site layout, optimizing infrastructure, access, and parking solutions to support future development.
- A two-story parking structure (75 stalls per floor, totaling 150 stalls) can be incorporated, eliminating the need for costly underground or off-site parking solutions.

#### Financial Justification

- The \$100,000 increase in acquisition cost represents just 0.1% of the total \$100M+ project, a minimal impact compared to the overall investment.
- Leveraging LIHTC equity, RHRF, and government subsidies will ensure that acquisition costs are efficiently absorbed into the overall project financing.
- Increasing the unit count enhances project valuation, strengthens long-term financial feasibility, and improves return on investment.

### **CHAPTER 343 – ENVIRONMENTAL ASSESSMENT:**

Triggers:        Use of State lands

In accordance with Hawaii Administrative Rule Sections 11-200.1 and the revised Exemption List for the Department of Hawaiian Home Lands reviewed and concurred by the Environmental Council on April 6, 2021, (See Exhibit “B”) the subject request is exempt from the preparation of an environmental assessment pursuant to **Part I: De Minimis Activities, Exemption Type #9: (pg. 24 of 24) Acquisition of land and existing structures, including single or multi-unit dwelling units, for the provision of affordable housing, involving no material change of use beyond previously existing uses, and for which the legislature has appropriated or otherwise authorized funding.**

None

### **RECOMMENDATION:**

Land Management Division respectfully requests approval of the motion/action as stated.

**Exhibit "A"**  
**Item No. F-1**

Subject Parcel  
DHL Parcels



37'





**Exhibit "B"**  
**Item No. F-1**

# FILE COPY

concurred upon by the Environmental Council on April 06, 2021

Re-organization of June 30, 2015 Comprehensive EXEMPTION LIST  
FOR THE STATE OF HAWAI'I DEPARTMENT OF HAWAIIAN HOME LANDS  
Submitted for review to the Environmental Council on  
March 3, 2021

The Department of Hawaiian Home Lands (DHHL) is comprised of the following divisions and offices:

- Office of the Chairman (OCH)
- Planning Office (PO)
- Administrative Services Office (ASO)
- Fiscal Office (FO)
- Information and Community Relations (ICRO)
- Homestead Services Division (HSD)
- Land Development Division (LDD)
- Land Management Division (LMD)

## HISTORICAL NOTE

The current exemption list for the Department of Hawaiian Home Lands was reviewed and concurred upon by the Environmental Council on June 30, 2015. The 2015 list supersedes the previous list that was reviewed and concurred upon by the Environmental Council on October 18, 1982.

## GENERAL NOTE

Chapter 343, HRS authorizes the Environmental Council to establish procedures to exempt specific types of actions from the need to prepare an environmental assessment because the actions will have minimal or no significant effect on the environment. If DHHL determines, through its judgment and experience, that a proposed action will individually and cumulatively probably have minimal or no significant effects, and the action is one that is eligible for exemption under HAR 11-200.1, subchapter 8, DHHL may prepare an exemption notice in accordance with subchapter 8. An action shall be determined to have a significant effect on the environment and will not be exempt, if it may

- 1) Irrevocably commit a natural, cultural, or historic resource;
- 2) Curtail the range of beneficial uses of the environment;
- 3) Conflict with the State's environmental policies or long-term environmental goals established by law;

- 4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;
- 5) Have a substantial adverse effect on public health;
- 6) Involve adverse secondary impacts, such as population changes or effects on public facilities;
- 7) Involve a substantial degradation of environmental quality;
- 8) Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;
- 9) Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat;
- 10) Have a substantial adverse effect on air or water quality or ambient noise levels;
- 11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;
- 12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or
- 13) Require substantial energy consumption or emit substantial greenhouse gases.

Actions declared exempt from the preparation of an EA by DHHL are not exempt from complying with any other applicable statutes or rules.

Pursuant to HAR §11-200.1-8, all exemptions under Subchapter 8 are inapplicable when the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment.

#### **Part I: De Minimis Activities**

Pursuant to HAR §11-200.1-16, DHHL considers activities listed in Part I to be routine and ordinary functions within its jurisdiction and that by their nature do not have the potential to individually or cumulatively adversely affect the environment more than negligibly. Examples of routine activities and ordinary functions may include, among others: routine repair, routine maintenance, purchase of supplies, and continuing administrative activities involving personnel only, nondestructive data collection, installation of routine signs

and markers, financial transactions, personnel-related matters, construction or placement of minor structures accessory to existing facilities; interior alterations involving things such as partitions, plumbing, and electrical conveyances. DHHL does not consider these activities to rise to the level of requiring chapter 343, HRS, environmental review. Part I activities are exempt from the preparation of an EA and the requirements of HAR §11-200.1-17 because the activities are considered de minimis.

**Type 1. Operations, repairs or maintenance of existing structures, facilities, equipment or topographical features, involving negligible or no expansion or change of use beyond that previously existing.**

1. Fertilizing, sprinkling, mowing, weeding, trimming, brush cutting, clearing, grubbing, aerating, road clearing and patching, sweeping, removal of debris and other routine maintenance of the following agency maintained lands and facilities:
  - a. Ditches, channels, and common areas
  - b. Streets, roads, highways, bike paths, pedestrian ways, trails, parking lots and appurtenances
  - c. Flood-control, erosion-control, and drainage facilities
  - d. Parks
  - e. Landscaped areas
  - f. Beach accesses
  - g. Beaches
  - h. Cemeteries
2. Operation, maintenance, repairing, repainting, reroofing, cleaning, polishing, greasing, oiling, and servicing of the following facilities, structures, and equipment:
  - a. Existing buildings, offices and community facilities
  - b. Repairs to existing homestead homes
  - c. Structures required for essential utilities, including, but not limited to:
    - i. Water system components such as pumps, valves and controls, pipes and channels, water storage tanks, wells and other water sources
    - ii. Water and sewage handling and treatment systems
    - iii. Sanitary sewage systems
    - iv. Drainage systems
    - v. Electrical systems
    - vi. Communication systems
    - vii. Irrigation systems
    - viii. Gas systems

**Exemption Type #8: Continuing administrative activities**

1. Acquisition and leasing of land and facilities/improvements acquired for continued use, provided that the Department conduct a site assessment
2. Acquisition, but not improvement of property, for DHHL use (including easements) and minor subdivision and consolidation of parcels for acquisition of property for DHHL use (including rounding corners and minor street widening)
3. Acquisition of lands for drainage purposes where there is a natural, existing drainage watercourse

**Exemption Type #9: Acquisition of land and existing structures, including single or multi-unit dwelling units, for the provision of affordable housing, involving no material change of use beyond previously existing uses, and for which the legislature has appropriated or otherwise authorized funding**

NONE

**Exemption Type #10: New construction of affordable housing, where affordable housing is defined by the controlling law applicable for the state or county proposing agency or approving agency, that meets the following:**


- (A) Has the use of state or county lands or funds or is within Waikiki as the sole triggers for compliance with chapter 343, HRS;
- (B) As proposed conforms with the existing state urban land use classification;
- (C) As proposed is consistent with the existing county zoning classification that allows housing; and
- (D) As proposed does not require variances for shoreline setbacks or siting in an environmentally sensitive area, as stated in section 11-200.1-13(b)(11).


NONE

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS

March 17-18, 2025

To: Chairman and Members, Hawaiian Homes Commission

Through: Linda Chinn, Acting Administrator  
Land Management Division 

From: Kalei Young, Supervising Land Agent  
Land Management Division 

Subject: Approval to Issue a Revocable Permit to E-Opala Corporation, Lot 3, Shafter Flats Industrial Subdivision, Moanalua, Island of Oahu, TMK No. (1) 1-1-064:033

APPLICANT:  
E-Opala Corporation

LOCATION:  
Hawaiian Home Lands in Moanalua, Island of Oahu. TMK No. (1) 1-1-064:033  
Address: 2669 Kilihau St, Honolulu, Hawaii (see exhibit "A")

AREA:  
Approximately 12,116 *sf* of warehouse & mezzanine space, & 22,964 *sf* of land

RECOMMENDED MOTION/ACTION: That the Hawaiian Homes Commission (HHC) authorize the issuance of a Revocable Permit (RP) to E-Opala Corporation (E-Opala) covering the subject area as identified and described to store & operate a computer recycling business on DHHL property in Shafter Flats, Oahu.

The approval to the issuance of this RP shall be subject to the following conditions:

1. The term shall be month-to-month, effective April 1, 2025, not to exceed twelve (12) months, subject to renewal by the HHC.
2. The Premises shall be used for industrial warehouse as permitted under the current City & County of Honolulu Zoning Code I-2, Intensive Industrial District. Permittee shall use the Premises to store used computer equipment, salvage parts and other related activities related to operating a computer recycling business. No other use shall be allowed without DHHL's prior written approval.
3. The monthly permit fee shall be \$2,000 per month, or \$24,000 annually. Permitter reserves the right to increase the permit fee upon renewal or with 30 days advance written notice.
4. Permittee shall pay non-refundable processing and documentation fees totaling \$175.00.

5. Permittee is required to place a security deposit equal to two months of permit fee i.e. \$4,000. Permittee shall not earn any interest on the security deposit. If upon vacating the Premises and if permittee is in full compliance with the terms and conditions of the permit to be issued the security deposit shall be refund, less any amount deducted for non-compliance issue, if any.
6. This RP shall conform to Federal, State, and County (government agencies) standards. Permittee shall obtain applicable permits and approvals from government agencies prior to the commencement of any work on the property that requires such permits and approvals. Any construction or alteration of the permit area shall require DHHL approval.
7. Permittee accepts the property in as-is condition. Permittee is aware that this property is notorious for having trespassers, vandals, vagrants and other criminal activities.
8. All utilities and waste removal services shall be paid for by the Permittee. Permittee is responsible for all repairs and maintenance of the property.
9. No residential use shall be permitted, including temporary overnight camping. However, if security services is necessary, Permittee is allowed to provide a shelter for that watchperson or guard.
10. DHHL reserves the right to have Permittee do an Environmental Assessment (EA) if Staff feels an EA is warranted.
11. The RP document shall be subject to other standard terms and conditions of similar RPs issued by DHHL.
12. Review and approval by the State of Hawaii, Department of the Attorney General; and
13. Such other terms and conditions deemed prudent and reasonable by the Chairman of the Hawaiian Homes Commission (HHC) and/or the HHC to serve the best interests of the trust and its Beneficiaries.

DISCUSSION:

This Lot 3 was under an existing RP 580 issued to Akana Brothers Construction. Akana Bros. had voluntarily surrendered this Lot because the amount of trespassing and other criminal activities are too overwhelming. E Opala is very familiar with the problems surrounding this property because it currently has a long-term General Lease on a DHHL warehouse approximately 30 yards away from this location (at 2627 Kilihau St). E-Opala plans to bring electric power from its general leased property to power security systems & lighting to this Lot 3. E Opala conducted a detailed assessment of the property and has the resources to restore the property up to usable standards.

Staff is recommending approval of this month-to-month revocable permit to E-Opala because:

1. A review of E-Opala’s financial records determines that this business has a history of success and is financially sound.
2. Allowing this tenant to occupy the property prevents trespassers from further damaging/devaluing our property as well as generate a modest income (same rate as Akana Bros. Construction was paying).

PLANNING AREA:

TMK No. (1) 1-1-064:031, Moanalua, Oahu (see exhibit “B”)

LAND USE DESIGNATION:

Industrial– see Oahu Island Plan (2014) handout page. 1 (See Exhibit “B”)

CHARACTER OF USE:

City & County Zoning Code I-2 Intensive Industrial District

CHAPTER 343 – ENVIRONMENTAL ASSESSMENT:

Triggers:

Use of State Lands

Exemption Class No. & Description:

Part I: De Minimis Activities

Exemption Type 1: “Operations, repairs or maintenance of existing structures, facilities, equipment... no expansion or change of use beyond that previously existed.”

CONSISTENCY WITH DHHL PLANS, POLICIES AND PROGRAMS

**DHHL General Plan (2002)**

The recommended disposition is consistent with the General Plan goals and objectives.

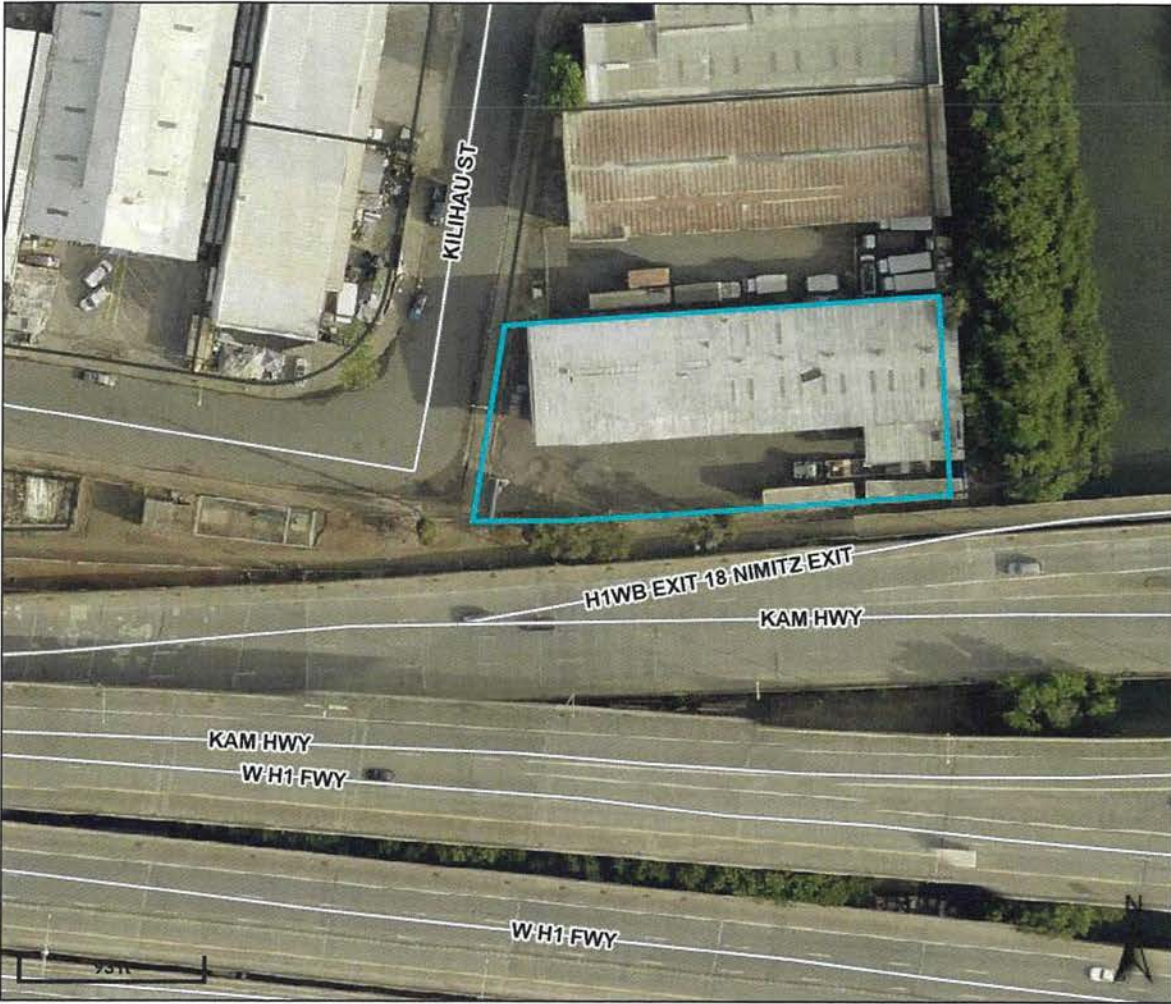
**Oahu Island Plan (2014)**

The recommended disposition is consistent with the following elements of the Oahu Island Plan:

RECOMMENDATION:

Land Management Division (LMD) respectfully recommends approval of the motion as stated.





**Overview**



**Legend**

- Roads
- Parcels

|                               |   |                                      |             |                     |              |               |             |
|-------------------------------|---|--------------------------------------|-------------|---------------------|--------------|---------------|-------------|
| <b>Parcel ID</b> 110640330000 | <b>Situs/Physical Address</b> 2669 KILIHOU ST | <b>Assessed Land Value</b>           | \$3,400,100 | <b>Last 2 Sales</b> |              |               |             |
| <b>Acreage</b> 0.5272         |   | <b>Assessed Building Value</b>       | \$739,300   | <b>Date</b>         | <b>Price</b> | <b>Reason</b> | <b>Qual</b> |
| <b>Class</b> INDUSTRIAL       |   | <b>Total Property Assessed Value</b> | \$4,139,400 | n/a                 | 0            | n/a           | n/a         |
|                               |   | <b>Total Property Exemptions</b>     | \$4,139,400 | n/a                 | 0            | n/a           | n/a         |
|                               |   | <b>Total Net Taxable Value</b>       | \$0         |                     |              |               |             |

**Brief Tax Description** LOT 3 SHAFTER FLATS INDUSTRIAL DEVELOPMENT  
 (Note: Not to be used on legal documents)

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**O'AHU ISLAND PLAN  
DEPARTMENT OF HAWAIIAN HOME LANDS**

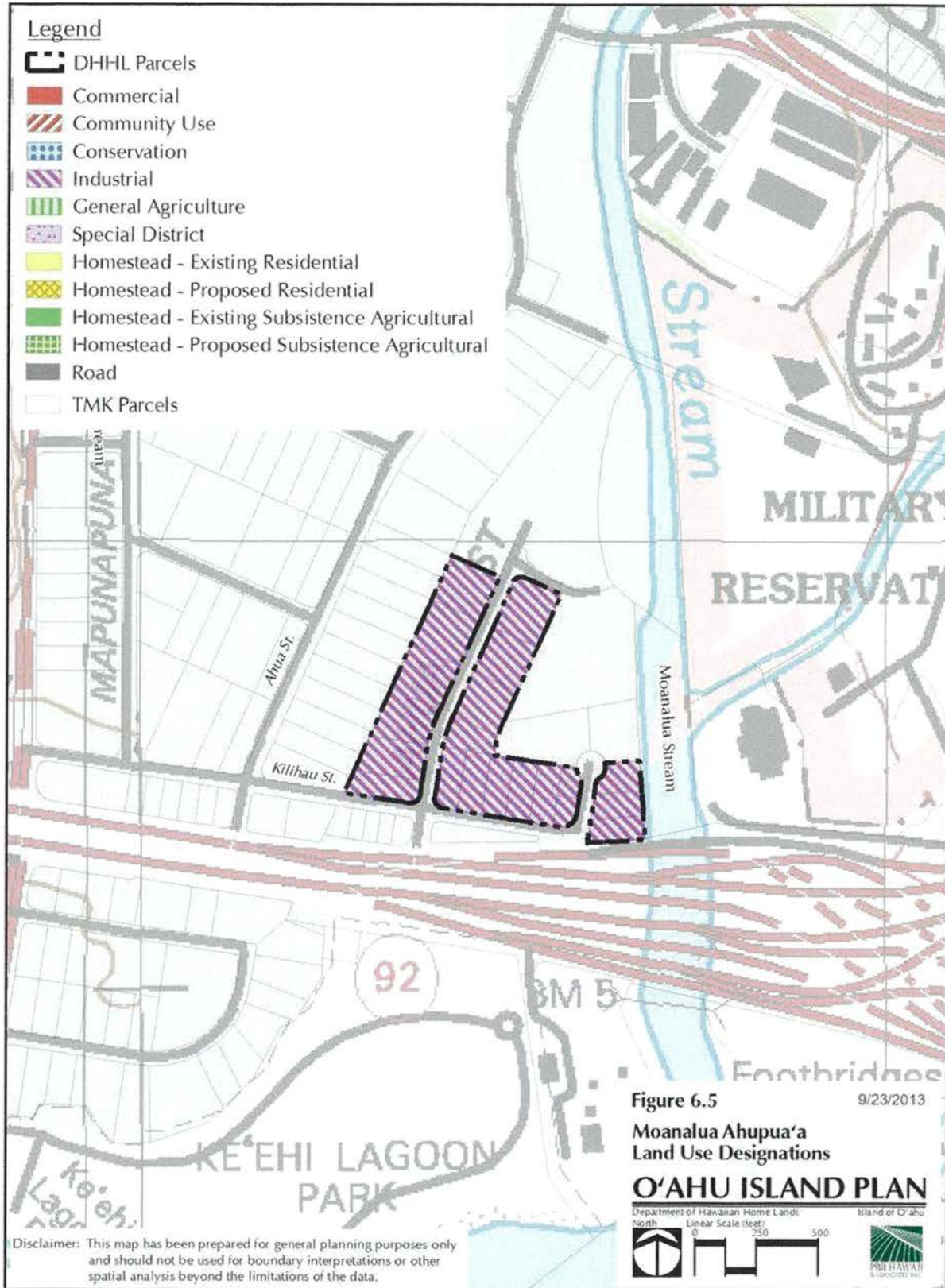


Figure 6-5 Moanalua Ahupua'a Land Use Designations

STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17-18, 2025

To: Chairman and Members, Hawaiian Homes Commission

Through: Linda Chinn, Acting Administrator  
Land Management Division

Kalei Young, Supervising Land Agent  
Land Management Division



From: Shelly Carreira, Land Agent  
Land Management Division



Subject: Approval to Issue Right of Entry Permit to Kula No Na Po'e Hawaii, Puowaina, Honolulu, Oahu Island, TMK: (1) 2-2-005:035 (por.)

APPLICANT:

Kula No Na Po'e Hawaii "PERMITTEE"

RECOMMENDED MOTION/ACTION:

That the Hawaiian Homes Commission (HHC) grant its approval to issue a Right of Entry (ROE) permit to the Kula No Na Po'e Hawaii for approximately 7.25 acres (more or less) of Hawaiian home lands TMK: (1) 2-2-005:035 (portion) for the purpose of conducting due diligence studies including but not limited to project master plan, business plan, and related Chapter 343, HRS compliance requirements and Chapter 6E, HRS compliance requirements.

1. Authorize the issuance of a Right of Entry permit to PERMITTEE covering the subject area under the terms and conditions cited below, which are by this reference incorporated herein and further subject to the following:
  - A. The standard terms and conditions of the most current right of entry permit form, as may be amended from time to time;
  - B. The term of the Right of Entry shall be month to month for up to thirty-six (36) months, commencing upon execution, with the option for two additional twelve (12) month extensions at the sole discretion of PERMITTOR;
  - C. The fee for the term of this ROE shall be gratis;
  - D. PERMITTEE shall submit a Master Plan. Master plan shall include but not be limited to:

- i. Narrative description that clearly articulates permittee’s project goals for the project area and detailed description of each proposed programmatic element and land use by the permittee.
  - ii. Narratively and graphically describe characteristics of the project area including topography, portions of the project area susceptible to natural disaster events, location of known sensitive or unique natural and cultural resources, water resources, access points for vehicle and pedestrian ingress and egress, identification of level of infrastructure improvements required and location of improvements.
  - iii. Site plan drawing at scale of the project area depicting conceptual size and location of proposed improvements and programmatic use of the project area.
  
- E. PERMITTEE shall submit a Project Business Plan. The Project Business Plan shall include a description of expense and income budget (start-up/initial costs, operating budget, reserve fund, fundraising campaign). Business plan shall identify rough order of magnitude (ROM) cost for all capital improvements proposed by permittee to the premises including off-site infrastructure. Business plan shall include ROM cost for operation and maintenance expenses. Business plan shall include ROM for programmatic expenses including but not limited to staff salary and compensation. Business plan shall identify potential revenue sources and reasonably justified estimated revenue projections from each of these sources.
  
- F. PERMITTEE shall consult with and work closely with PERMITTOR on completing HRS Chapter 343 and HRS Chapter 6E compliance documentations and studies. If HRS Chapter 343 Environmental Assessment study or Environmental Impact Study is required, approval of these studies is subject to the approval of the Hawaiian Homes Commission. Chapter 6E compliance is subject to the approval/concurrence of the Department of Land Natural Resources State Historic Preservation Division.
  
- G. As part of the PERMITTOR’s regular review of PERMITTEE activities, and in exchange for gratis base rent, lessee shall submit a bi-annual progress report to the PERMITTOR every six months starting from the ROE permit commencement date. The bi-annual progress reports shall document the PERMITTEE’s activities of the previous period and shall include but not be limited to the following:
  - i. Timeline and schedule to complete due diligence studies as described in Sections D thru G, as stated above. Timeline and schedule should identify major milestones in the completion of due diligence studies.
  - ii. Description of major activities related to the project timeline and schedule that were conducted and/or completed in the six-month period.
  - iii. Progress report shall also include description of circumstances that may affect the permittee’s timeline and schedule for completion of due diligence studies.
  - iv. Progress report shall identify any professional service provider or third-party assisting the permittee in the completion of due diligence studies.
  
- H. The documentation and processing fee shall be waived;

- I. Such other terms and conditions as may be prescribed by the Hawaiian Homes Commission to best serve the interest of the Hawaiian Home Lands Trusts;
2. Declare that, after considering the potential effects of the proposed disposition as provided by Chapter 343, HRS, and Chapter 11-200, HAR this project will probably have minimal or no significant effect on the environment.

LOCATION:

Portions of Hawaiian home lands situated in Puowaina, Honolulu, Oahu Island, identified as a portion of TMK: (1) 2-2-005:035 and further shown in Exhibit "A"

AREA:

7.25 Acres (more or less)

BACKGROUND/DISCUSSION

The Kula no na Po'e Hawaii (Kula) is a 501(c)3 community-based native Hawaiian beneficiary serving organization that promotes cultural, educational, environmental, and health equity for all through education and health services offered to homestead residents at the Papakolea Community Center . Kula serves to decrease the health disparities of native Hawaiian families by providing culturally acceptable education, health and cultural programs and services addressing the social determinants of health to achieve health equity. Kula reports that it has successfully implemented over 50 programs and secured \$15M in grant funding in over 30 years of service to the Papakolea region.

The Kula submitted a non-profit land use application to the Department of Hawaiian Home Lands (DHHL) for approximately 7.25 acres (more or less) of a portion of Hawaiian home lands TMK: (1) 2-2-005:035 located in the Papakolea region of Honolulu for the development of its proposed Hawaiian Homestead Kupuna Support Living Center (Center), see Exhibit "B".

The Center is listed as the Priority Project #3 in the Papakolea Regional Plan dated 2020, see Exhibit "C". The objective of this priority project is to allow kupuna to age safely in place within the Hawaiian homestead community. The Center will give kupuna the ability to stay connected to their community while receiving the care and support needed as they age.

Kula's project stakeholders include: (1) The Queens Health Systems; (2) The University of Hawaii – John A. Burns School of Medicine, Department of Native Hawaiian Health; (3) King Lunalilo Trust; (4) Queens Medical Center.

Issuance of a right of entry to Kula for due diligence purposes will allow Kula to conduct studies necessary to determine project feasibility, land suitability, and strengthen partnerships for the proposed development of the Hawaiian Homestead Kupuna Support Center.

CONSISTENCY WITH DHHL PLANS, POLICIES AND PROGRAMS

The recommended disposition is consistent with the following plans, policies, and programs:

1) DHHL General Plan Update (Final Draft, November 2022) goals:

Goal HC-2: Establish livable, sustainable, resilient, and healthy communities on Hawaiian home lands that provide space for or access to the amenities that serve the daily needs of its residents.

Goal HC-2A: Partner with homestead communities, non-profits, government agencies, and ali'i trusts to provide needed services to communities.

2) Oahu Island Plan, July 2014

- Land Use Designation: Special District, March 7, 2014, Figure 6.3, Honolulu Ahupua'a Land Use Designation, see Exhibit "D"

3) Papakolea Regional Plan, September 2020

- Priority Project #3: Hawaiian Homestead Kupuna Supportive Living Center

#### CHAPTER 343 – ENVIRONMENTAL ASSESSMENT:

In accordance with the Department of Hawaiian Home Lands Comprehensive Exemption List as Reviewed and Concurred Upon by the Environmental Council on April 6, 2021, the Right of Entry permit request is exempt from the preparation of an environmental assessment pursuant to Part I: De Minimis Activities, Exemption Class Type 5, "Basic data collection, research, experimental management, and resource evaluation activities which do not result in serious or major disturbances to an environmental resource."

#### AUTHORITY

Hawaii Revised Statutes, Section 171-55 Permits.

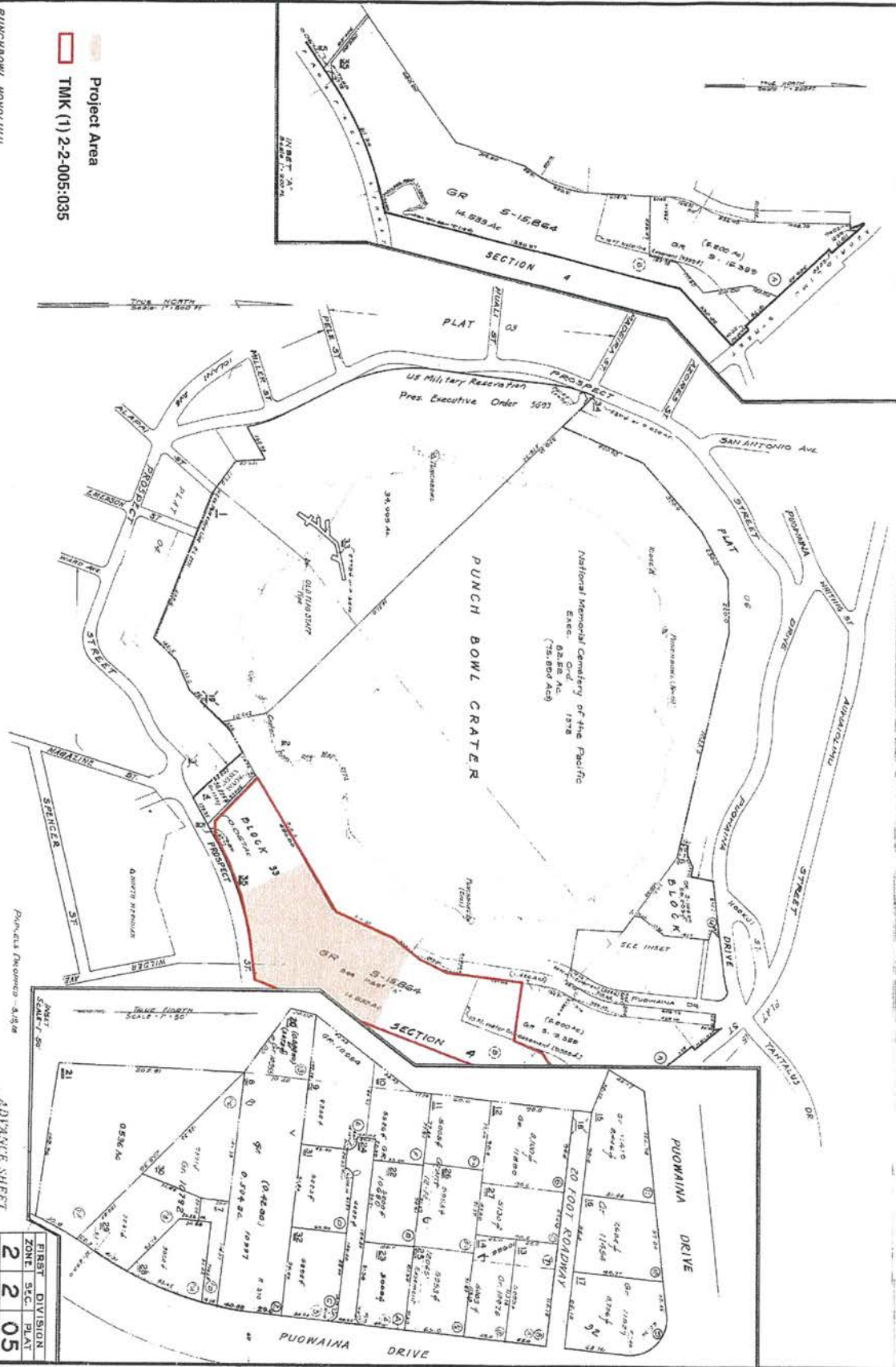
#### RECOMMENDATION

Land Management Division respectfully recommends approval of the requested motion/action as stated.

Day No. 1307  
 By: S.A.E. March 6, 1933  
 Source: Survey Dept.

PUNCHBOWL, HONOLULU

Project Area  
 TMK (1) 2-2-005:035



ADVANCE SHEET  
 SUBJECT TO CHANGE

| FIRST DIVISION | ZONE | SEC. | PLAT | PARCELS |
|----------------|------|------|------|---------|
| 2              | 2    | 2    | 05   |         |

Department of Hawaiian Home Lands  
**NON-PROFIT ORGANIZATION APPLICATION FOR LONG-TERM USE OF DHHL LANDS**  
**Application**  
**INSTRUCTIONS**

**APPLICATION PROCESS ESTIMATED TIMEFRAME**

| Application Step  | Timeframe   | Responsible Entity   |
|---|---|----------------------|
| 1. DHHL receives pre-application packet and notifies applicant if pre-application packet is complete  | Up to 30 days   | LMD                  |
| 2. DHHL reviews completed project proposal and schedules review meeting with applicant to review questions, concerns, staff may have  | Up to 90 days   | PO & LMD             |
| 3. DHHL schedules beneficiary consultation meeting if project is <u>not</u> a regional plan priority project.<br><br>The applicant's pre-application will be placed on the DHHL Land Management Division webpage for public review. | Meeting scheduled 3 months before on island HHC meeting. For example, if you are applying for DHHL land on Kauai, the beneficiary consultation meeting would be scheduled 3 months before the HHC meeting on Kauai.<br><br>HHC meeting calendar go to:<br><br><a href="http://dhhl.hawaii.gov/hhc/">http://dhhl.hawaii.gov/hhc/</a> | PO & Applicant       |
| 4. HHC ROE approval for due diligence   | 3 months after beneficiary consultation meeting   | LMD & HHC            |
| 5. Conduct due diligence studies*   | 12-24 months  | Applicant*           |
| 6. HHC approves FONSI   | TBD   | PO & HHC             |
| 7. HHC approves long-term disposition   | TBD   | LMD & HHC            |
| 8. Monitoring and reporting   | TBD   | Applicant & PO & LMD |

[To be signed by person identified in Pre-Application Form Question #1] I hereby acknowledge that I have read and understand the above application instructions. I understand that this form is being submitted electronically and my typed name on the signature line will qualify as my signature for purposes of the above certification.

Signature: Adrienne Y. Dillard, PhD Date: 7/15/23  
 Printed Name: Adrienne Y. Dillard, PhD Title: CEO  
 Organization: Kula no na Po`e Hawaii o Papakolea, Kewalo, Kalawahine



Department of Hawaiian Home Lands

**NON-PROFIT ORGANIZATION APPLICATION FOR LONG-TERM USE OF DHHL  
LANDS PRE-APPLICATION FORM**

APPLICANT INFORMATION

**Name of Organization:** Kula no na Po'e Hawaii o Papakōlea, Kewalo Kalāwahine  
**Date of Incorporation:** November 1992      **IRS Tax-Exempt #:** 99-0305781

**1. Please identify one individual who will be the point of contact for this application:**

**Contact Name:** Bridget K. Kekauoha. (Puni)      **Title:** Sr. Vice-President  
**Email Address:** punikekauoha@gmail.com      **Phone:** 808-358-6732

**2. What is the mission/vision of your organization?**

*Kula no na Po'e Hawai'i o Papakōlea, Kewalo, Kalāwahine (KULA) is a native Hawaiian beneficiary-serving organization that exists to promote cultural, educational, environmental, and health equity for all.*

KULA provides families of the Papakōlea Hawaiian Homestead region access to culturally relevant services and programs from a social determinant of health perspective. The social determinants of health approach recognize the health, cultural, educational, and environmental conditions that impact overall well-being.

Since 1992, KULA has been serving the residents of Papakōlea, Kewalo, and Kalāwahine Hawaiian Homesteads, working to build a healthy, resilient, and thriving community, providing services and resources that address the holistic needs of our community from keiki to kūpuna.

The legacy of aloha' aina is essential to everything in this community. Our deep respect toward the contributions of Papakōlea's founding kūpuna and recognition of our community's history continues to strengthen individuals and their ohana. Papakōlea's foundation is based upon its shared values of aloha, lokahi, laulima, mālama, and kokua.

**3. Please describe the history of your organization.**

KULA was formed in 1992 by a group of concerned kūpuna wahine to improve the educational skills of Papakōlea keiki and strengthen relationships between parents and the public school system. KULA supports the academic achievement of community keiki and opio in our neighboring public schools, President Abraham Lincoln and Pauoa Elementary schools, Robert Louis Stevenson Middle, and President Theodore Roosevelt High School

The organization officially acquired its 501(c)3 status in 1993 as Kula no na Po'e Hawai'i. Community volunteers shaped the philosophy, mission, objectives, and programs for a community-based organization dedicated to education. Building on the

cultural belief that health should be approached holistically, KULA's approach to well-being pursues health equity from a social determinant of health perspective.

Today, KULA operates out of the Papakōlea Community Center with a staff of twenty. (20). KULA has successfully implemented over 50 programs and secured approximately \$15m in grant funding over 30 years to serve the Papakōlea Region.

**4. How has your organization previously served beneficiaries of the Hawaiian Homes Commission Act?**

KULA directly serves the native Hawaiian Homestead lessees and beneficiaries of Papakōlea, Kewalo, and Kalāwahine, also known as the Papakōlea Region. The founders of KULA were all Hawaiian homestead lessees of the Papakōlea region. Today, fifty-seven percent of KULA's board of directors are Hawaiian homestead lessees.

Throughout our 30 years, KULA has actively engaged with the Department of Hawaiian Home Lands (DHHL) and other beneficiary-serving organizations to fully support and advance self-sufficiency for native Hawaiians and self-determination of native Hawaiians in the administration of the Hawaiian Homes Commission Act and, most importantly the preservation of the values, traditions, and culture of native Hawaiians.

KULA has worked with numerous beneficiary-serving organizations such as the Kewalo Hawaiian Homestead Community Association, Kalāwahine Streamside Association, Papakōlea Community Association, the State Council of Hawaiian Homestead Associations (SCHHA), Papakōlea Community Development Corporation, Kapolei Community Development Corporation, Waimanalo Hawaiian Homestead Association, Waianae Valley Hawaiian Homestead Association, Kailapa Community Association, Princess Kahanu Estates, Waimea Nui Community Development Corporation and La'i Opua 2020.

KULA has annually contributed a "Year in Review" report to the DHHL Commission and Papakōlea residents in attendance at DHHL's Annual Community Meeting in Papakōlea. Additionally, KULA participated in DHHL's community consultations related to DHHL's Oahu Island Plan in 2014 and DHHL's General Plan in 2022. KULA also attended DHHL's Puwalu in Hilo, HI, and Wailuku, Maui.

KULA also participated in and contributed to developing the Papakōlea Regional Plans in 2009 and updated in 2020. KULA mobilizes homestead beneficiaries to engage in all DHHL beneficiary consultations via its community newsletter, website, and other social media platforms.

See Exhibit A – Kula no na Po`e Hawaii, Papakōlea Community Report 2019

Papakōlea Visioning Project - A Vision for the Future 1997

KULA was one of three homestead organizations responsible for the Papakōlea Visioning Project- A Vision for the Future. The expressed needs from over 200 beneficiaries created a 25-year road map with clear direction and intent.

In 1998, KULA received a 5-year grant from Hawaii Community Foundation's Agenda for Building Community (ABC) to support the development and start-up resources needed to establish Papakōlea's 2nd non-profit and begin to address the needs and desires expressed in the Papakōlea Community Visioning Report.

Established in 1999, Papakōlea Community Development Corporation (PCDC), a 501(c)3 non-profit organization, was established to serve as a steward of the Papakōlea Community Park and Center and to provide the residents of Papakōlea with a full range of comprehensive services. A License Agreement from DHHL to manage and operate the Papakōlea Community Park and Center was acquired in June 2002. In July 2022, PCDC received a 20-year extension to its license agreement for managing and operating the Papakōlea Community Park and Center.

KULA currently leases facility space from PCDC to conduct its business and plan and disseminate all KULA programs. We are currently facing a challenge in accommodating staff and conducting programs from the community center. With a staff of 20, KULA has significantly outgrown our space at the community center. KULA plans to relocate our administration, research division, and operations to Puowaina. Until then, KULA seeks temporary office space within or close to this homestead region. KULA programs will continue to be held at Papakōlea Community Center.

**5. Describe past experiences, projects, or programs in the last five years that illustrate consistency with your organization's mission/vision statement.**

Kukalahale Learning Project (KLP)

The Kukalahale Learning Project (KLP) coordinates programs and services for K-12 students and young adults in partnership with Abraham Lincoln Elementary, Pauoa Elementary, Robert Louis Stevenson Middle School, and Theodore Roosevelt High School. The primary goals of KLP are to increase coordinated "wrap around" services, academic knowledge/skills, career/vocational skills & employment rates, and Native Hawaiian cultural knowledge. The US DOE-Native Hawaiian Education Program funded KLP from 2015-2018. KLP participants fulfilled or exceeded its 24 program objectives. See KULA Community Report 2019 for more information. KULA has received Community Project Funding to support the continuance of KLP beginning in August 2023.

Community-based Participatory Research (CBPR)

Kula has participated in Community-based Participatory Research (CBPR) with academic partners from various local universities for 20 years. These partnerships have provided the opportunity to recognize the impact of communities that do not have relevant data specific to their communities to help pursue health equity. CBPR is an approach that places community and academics on equal footing

throughout the research process. CBPR is inherently a strengths-based approach to research, which recognizes community assets and resources and builds on these to improve health and well-being. CBPR can lead to more effective practices and programs and help provide resources for community-based programs. A key feature of CBPR is building a community's overall capacity. Community capacity is a community's ability to identify problem areas, determine solutions, and plan, implement, evaluate, and sustain solutions. Utilizing CBPR principles and practices reduces the social determinants of health to build Hawaiian homestead communities' capacity to identify and address their cardiometabolic health concerns.

#### *Hawaiian Homestead Health Survey 2014 – present*

In 2014, the Hawaiian Homestead Health Survey was developed through a partnership between 1) Kula no na Po'e Hawaii, 2) the Department of Native Hawaiian Health at UH-JABSOM (UH-DNHH), and 3) University of Hawaii Cancer Center (UHCC). The Homestead Health Survey aims to understand better the issues related to the health and well-being of our homestead communities by identifying health behaviors, health status, and related factors of our homestead beneficiaries.

To date, the Hawaiian Homestead Health Survey has been conducted in the Papakōlea Region (2015), Kailapa and Na Pua Ka 'Ilima (2017, D.Kanealii, Pres), Hale Makana o Nanakuli (2019, A. AuHoon, Property Mgr), Maluohai, Kaupea, Kanehili, and Ka`uluokaha'i (2020, S. Abrigo, Pres KCDC) Wai'anae Valley Homestead Assn (2021, J. Jury, Pres) and Waimanalo Hawaiian Homestead Association (2022, K. Ho, Pres). KULA will begin this project with the Paukukalo Hawaiian Homes Community Association in the fall of 2023. Funding has been made possible through grants from local funders, foundations, and contracts with Papa Ola Lokahi.

KULA also hired and trained Community Health Workers (CHW) for the Kapolei and Waianae homesteads to address their survey findings.

Impact: Results of this project are enabling partnering homestead associations with opportunities to build their capacity to address their findings and advance their community development efforts.

See Exhibit B – 2023 Community Report, Waimanalo Homestead Health Survey

#### *Native Hawaiian Health Survey. 2022 - current*

In July 2022, an adaptation of an online version of the Homestead Health Survey was completed to gain additional health data from Native Hawaiians living on the mainland and in non-Hawaiian homestead communities in Hawaii. The Native Hawaiian Health Survey is now available online to Native Hawaiians residing in Alaska and across the lower forty-eight (48) and non-homestead Native Hawaiians living in Hawaii. The Native Hawaiian Health Survey project is led by KULA and funded by Papa Ola Lokahi.

### Kūpuna Community Care Network (2017-2023)

The Kūpuna Community Care Network (KCCN) provides Papakōlea kūpuna 55 years of age and over and their caregivers with educational resources, cultural programming, clinical experiences, and training. The program is designed for participants to have increased access to information and services in the community and to empower families to support their kūpuna to safely “age-in-place.” KCCN was awarded \$1.2m by the U.S. Department of Health and Human Services/ACF; Administration for Native Americans (ANA), (No. 90NA-09317), project period 9/30/17-9/29/20.

The Papakōlea Kūpuna Community Care Network II focuses on kūpuna health and human services by increasing access through technology, providing education and training for kūpuna and their caregivers, and ensuring community and home safety. KCCN II was awarded \$1.2m from U.S. DHHS/ACF-ANA (No. 90NA-08396), project period 9/30/20-9/29/23.

KULA currently serves a total of three-hundred fifty-four (354) KCCN kūpuna. Sixty-eight (68) kūpuna are caregivers, along with twenty-five (25) caregivers under the age of 55. Kūpuna meet weekly at the Papakōlea Community Center and Park for physical exercise (Tai-Chi), health education, computer classes, and cultural programs (kanikapila and hula). Kūpuna has also received workshops on Advanced Care Planning (I Kua Na`u), Home Retention (Wahi Ho`omalū), SAVVY Caregiver Training, and Hula for delayed onset of Dementia (‘Ike Kūpuna). The impact of KCCN over six years has significantly empowered kūpuna and ohana caregivers with the knowledge, skills, and resources to care for their kūpuna and enable kūpuna to live well and age safely in place.

See Exhibit C – Kūpuna Community Care Network II, Annual Community Report, Sept. 2020- - Sept. 2021

### COVID-19 Response, Resiliency and Recovery

KULA focused its pandemic response efforts on three key areas: food security, public health, and community safety. As a result, we focused on supportive services needed to assist Papakōlea kūpuna, caregivers, and their families. In food security, local small businesses, local CBO, and state and county agencies supported kūpuna with weekly lunches, USDA food boxes, and Grab n Go Meals from Hawaii's Meals on Wheels program. In public health, kūpuna and the residents of Papakōlea received a series of COVID-19 Drive Thru Testing events, monthly COVID- 19 Vaccination drives, and four Flu Vaccination drive-thru events. Nursing and social work students conducted home visits to homebound kūpuna and their caregivers weekly, building on long-time partnerships with Nursing, Social Work, and Public Health Programs at the University of Hawaii and Hawaii Pacific University.

### Native Hawaiian & Pacific Islander Hawaii COVID-19 Response, Recovery and Resilience Team - (NHPI 3R)

As a result of KULA's immediate response to the State's mandatory shutdown in March 2020, KULA became one of sixty community groups and service agencies to serve on the Native Hawaiian & Pacific Islander Hawai'i COVID-19 Response, Recovery and Resilience Team (NHPI 3R). Participation in this team was critical to accessing information to determine how KULA staff approached planned activities and needed

support to kūpuna and the community at large.

**6. Please provide references (name and contact information) and/or Letters of Support for this application for non-homestead use of Hawaiian Home Lands.**

Not applicable. This application is for homestead community use of Hawaiian Home Lands.

**7. If you are developing your project in partnership with another organization(s), please describe the roles and responsibilities of each organization during project development, implementation, and long-term management.**

As indicated in the 2009 and 2020 Papakōlea Regional Plans, the Kūpuna Supportive Living Center project includes many significant community partners who, for the past 14 years, have remained steadfast and supportive of our vision for our kūpuna and their families.

Since its inception in 2009, the kuleana to develop the Hawaiian Homestead Kūpuna Supportive Living Center was under the responsibility of Papakōlea Community Development Corporation (PCDC). PCDC was charged to develop two projects on the 14.5 acres of Puowaina designated as a Special District / Community Use land. The two (2) priority projects identified in 2009 were the Native Hawaiian Cultural Learning Center and the Hawaiian Homestead Supportive Living Center. Both projects were supported again in 2020 as two of five priority projects.

In July 2022, KULA requested PCDC's support to transfer the development of the Hawaiian Homestead Kūpuna Supportive Living Center to KULA. KULA requested permission and support to divide the property (14.5 ac) and allow KULA to assume all responsibility to develop and manage the Hawaiian Homestead Supportive Living Center. After six months, KULA sent a second request (Jan 2023) to the Board of Directors of PCDC and respective parties at DHHL. A formal response to KULA's request was received in May 2023.

See Exhibit D – Letter of Support from Papakōlea CDC

KULA has received strong support from its partners, colleagues, elected officials, and, most importantly, the kūpuna of the Papakōlea region.

See Exhibit E – Petition supporting KULA to Develop the Hawaiian Homestead Supportive Living Center.

In addition to providing kūpuna with a supportive living residence, we envision a Hawaiian Homestead Health Innovation Center on Kūpuna Aging, an *Indigenous Campus of Knowledge, Health and Well-being* for Native Hawaiian kūpuna residents' and families living in the Papakōlea Homestead region along with Native Hawaiians in urban Honolulu and across our pae 'aina.

Key stakeholders and community partners include:

1 – The Queens Health Systems (Dr. Naleen Andrade, Executive Vice President of Native Hawaiian Health and Diversity, Equity, Inclusion, and Social Justice)

Kuleana: conduct the required feasibility studies, surveys, and assessments and ascertain QHS board approval and resources to build the QHS – Community Health Center at Puowaina.

The community health center will provide quality primary health care services to Native Hawaiian kūpuna residents' and beneficiaries residing in the Papakōlea Hawaiian Homestead Region along with homestead beneficiaries living on Oahu and across our pae aina.

2 – The University of Hawaii-John A. Burns School of Medicine, Department of Native Hawaiian Health, Dr. J. Keawe`aimoku Kaholokula, Director and Papa Ola Lokahi, Sheri Daniels, CEO

Kuleana: To support the development of the Hawaiian Homestead Health Innovation Center on Kūpuna Aging and the Native Hawaiian Research Institute.

The purpose will be to advance the health and well-being of kūpuna safely aging in place and to increase the capacity of CBPR in Papakōlea and partnering Hawaiian homestead communities.

3 – King Lunalilo Trust (Dr. Keolamaikalani Dean, Esq., CEO)

Kuleana: To support the operation of a Kūpuna Day Care Center at Puowaina

KULA plans to establish a kūpuna daycare center to support families living in Papakōlea and neighboring communities needing kūpuna daycare. This center will provide kūpuna with an opportunity to get out of the house and receive both mental and social stimulation and the continuing care they need. Additionally, the center can give family caregivers a much-needed break from work, address personal needs, or rest and relax.

4 -- Queens Medical Center, Dr. Scott Kuwada, Chief of Staff, MMS Faculty

Kuleana: Develop a Native Hawaiian Health Career Workforce Development Center.

Plans are to create a healthcare career pipeline program for Native Hawaiian students pursuing a healthcare career. The program will focus on Stevenson Middle School and Roosevelt High School students. This center will also include our service-learning program, Kokua Na`auao. The goal will be to support the educational and career advancement of Native Hawaiian students seeking careers in medicine, research, and allied healthcare professions.

\*\*\*\*\*

Additional community partners supportive of our Hawaiian Homestead Supportive Living Center include:

- University of Hawaii –John A. Burns School of Medicine (UH-JABSOM), Hawaii Pacific Basin - Area Health Education Center (AHEC), Kathy Withy MD, Ph.D., AHEC Director
- UH-JABSOM, Department of Geriatric Medicine, Kamal Masaki MD, Professor and Chair
- UH-JABSOM, Native Hawaiian Center of Excellence, Dr. Winona K. Lee, MD, Principal Investigator

- University of Hawaii at Manoa (UHM)– Nancy Atmospera-Walch School of Nursing, Dr. Clementina Ceria-Ulep, Dean
- UHM - Thompson School of Social Work and Public Health, Ha Kūpuna- National Resource Center for Native Hawaiian Elders, Kathryn Braun Ph.D., Principal Investigator
- Hawaii Pacific University – College of Liberal Arts, School of Social Work, Danielle Giroux, Principal Investigator
- Hawaii Pacific University, Dept. of Computer Science & Engineering, Yi Zhu Ph.D., Associate Professor, Computer Science.
- Chaminade University, School of Natural Sciences and Math, Rylan Chong Ph.D., Director, Data Science,
- Council of Native Hawaiian Advancement (CNHA), J. Kuhio Lewis, CEO
- Hawaii Alliance for Community-Based Economic Development (HACBED), Brent Kakesako, E/D
- Roosevelt High School, RHS Health Career Academy, Sean Wong, Principal
- Stevenson Middle School, Laurie Luczak, Principal
- Lt. Governor Sylvia Luke
- Senator Carol Fukunaga, District 11
- Representative Della Au Belatti, District 24
- Representative Jenna Takenouchi, District 27
- Councilman Tyler Dos Santos-Tam, District 6

#### PROJECT INFORMATION

8. Describe the project. What are your project goals and objectives? What kinds of activities, programs, and/or services will you provide? Describe the need for your project and how it will benefit the DHHL trust, homestead lessees, and/or waitlist applicants.

*[Please provide your typed responses on a separate page]*

#### *Project Description*

*Since most Papakōlea homes are built on steep slopes and only have stairway access, the lack of safe housing conditions is a significant concern. The Kūpuna Supportive Living Center is envisioned as a kauhale or village for kūpuna to age safely in the community.*

*In addition to providing kūpuna with an assisted care residence, the project would provide a friendly gathering place for social, cultural, and wellness activities that encourage multi-generational support for Papakōlea ohana.*

*2020 Papakōlea Regional Plan*

KULA fully supports the above description of our project and is strongly committed to developing this worthy and long-awaited project.

In addition to providing kūpuna with a supportive care residence, this project will include the Hawaiian Homestead Health Innovation Center on Kūpuna Aging, an Indigenous Campus of Knowledge, Health, and Well-being for Native Hawaiian kūpuna residents' and families living in Papakōlea and across the island of Oahu and our pae aina.

This indigenous campus will include a Community Health Center, a Kūpuna Day Care Center, a Native Hawaiian Research Institute, and a Native Hawaiian Health Career Workforce Development Center. Additionally, KULA plans to build offices for our



administrative and operations personnel. KULA program delivery, rooted in the community, will continue out of the Papakōlea Community Center.

Goal/Objective:

- Allow kūpuna to age safely in place within the Papakōlea Homestead Region.
- Provide kūpuna access to primary health care on the property,
- Increase the number of beneficiaries and Native Hawaiians receiving primary medical care,
- Provide kūpuna and caregivers access to a Kūpuna Day Care Center in Papakōlea.
- Support the educational advancement and professional development of Native Hawaiians seeking careers in health care professions.
- Increase NH Research capacities in Papakōlea and other Hawaiian homestead communities.

Need for Project

Papakōlea has unique challenges due to our location and landscape. Located at the base of the Koolau mountain range, most Papakōlea homes are built against the mountainside. Homes built particularly on Tantalus Drive average well over thirty stairs from the street to the entrance.

In 2007 and again in 2018, Papakōlea kūpuna undertook a Home Environmental Scan process that provided KULA with information about the condition of existing homes and what environmental challenges may interfere with our kūpuna being able to safely age in place, such as the number of stairs taken to enter and exit their homes. In 2018, 140 kūpuna responded to the environmental scan. Twenty-nine homes or 17% had 20-50 stairs from the street to the entrance; 13 homes (7%) had more than 50 steps from the street to the entrance. Data from 2007 and 2018 indicate the need for kūpuna from the Papakōlea region to be able to have safe access to enter their place of residence.

See Exhibit F – Kula no na Po`e Hawaii, Home Environmental Scan 2007 & 2018 Data Summary

Currently, no facilities provide care for kūpuna as they age within the region. Kūpuna, which requires permanent assisted living care, cannot remain in the region. The Hawaiian Homestead Supportive Living Center will give kūpuna the ability to stay connected to their community while receiving the care and support they need as they grow older.

9. Please share your current thinking about the following project elements:

Once the Hawaiian Homes Commission approves site control via a Right of Entry permit through the pre-application process, KULA will:

- Conduct all **due diligence requirements** specified by the Department of Hawaiian Home Lands: including preliminary site assessment research such as a biological review and archaeological review needed to prepare a Master Plan/Special Area Plan and Environmental Assessment.

Kula is fully cognizant of the historical and cultural significance of this “Special District” and the need to conduct additional planning due to the sensitive nature of this site. KULA will conduct additional studies as the State and consultants recommend providing archaeological studies to ensure the long-term protection and preservation of sensitive areas located on the site and to address how programmatic elements will guide interaction with those areas throughout future site use.

- Complete the ***Master Plan/ Business Plan / Environmental Assessment and Special District Plan***.

KULA acknowledges that the scale and number of programs we envision will depend on the findings identified by the Special District Plan.

Concurrently, KULA will:

- Conduct a ***series of community engage Pre-development Project Planning sessions,***
- Formalize a ***private-public partnership to develop the Papakōlea Kūpuna Supportive Living Center on Puowaina,***
- Develop the project's ***Community Social Economic Development Strategy (CEDS)*** necessary to support the economic viability and sustainability of the project.

- a. The planning process and your efforts to include beneficiaries.

KULA and beneficiaries of the Papakōlea region will *establish a community-defined planning process for all work related to the development of our Kūpuna Supportive Living Center*. KULA will contract an independent planning and design consulting firm to facilitate the planning and execution of this project phase.

- b. Beneficiary involvement throughout the duration of the project.

Beneficiary involvement throughout the project is crucial to our success. KULA will ensure beneficiaries are informed and updated and will encourage active engagement throughout the project. KULA has established a network of community residents who have expressed their desire to participate in the planning and execution of this project. Through various means of communication, KULA will keep the entire community, stakeholders, and supporters updated on the project's status as we progress.

The project's success will weigh heavily upon developing and implementing a strong, sound Community Economic Development Strategy(ies) or CEDS. Beneficiary participation and support in this area will be crucial to the project's economic viability. A well-designed CEDS will not only help to sustain the project but can also help to create and support local businesses and create job opportunities for area residents.

- c. Design and construction cost for major improvements (if any).

Design and construction costs are not currently available.  
Costs will be determined during the project's pre-construction phase and included in the Master Plan.

- d. Long-term management and operation of project facilities and the requested land area.

The long-term management and operation of project facilities and the requested land area will be provided in the Master Plan and be within the conditions of the long-term License or Lease approved by the Hawaiian Homes Commission.

- e. Long-term maintenance and repairs.

To be identified in the Master Plan.

10. Is the project a Regional Plan Priority Project?    **YES [ X ].**    NO [ ]

11. How do you intend to secure funding and other needed resources for the project?

KULA has begun to seek financial resources and support for the project.

**PROJECT LOCATION**

12. Identify the parcel(s) of land your organization is requesting.

Tax Map Key (s): 2-2-0-050-350-000    Acres: 7.25 ac of 14.5 ac (portion of)  
Homestead Area: Papakōlea    Regional Plan Area: Papakōlea

Island Plan Use Designation: check all that apply below

**Community Use.** [**X**]. General Agriculture [. ] Conservation. [. ]. **Special District.** [**X**].  
Other. [. ]

13. Please attach a map that marks the boundaries of the area of land you are requesting. Please also identify on a separate map the conceptual layout and siting of proposed uses.

See attached map.

A conceptual layout of the project will be determined by community members engaged in our pre-development planning phase.

14. What are the existing uses in the surrounding area? Please describe how your proposed use is consistent with the existing surrounding uses.

This site is directly adjacent to the National Cemetery of the Pacific (Punchbowl), a private condominium (Bella Vista), Stevenson Middle School, and private residential homes. The kūpuna residences' in and of itself will add to the existing community of mixed residential properties. The community health center will make primary care available to all within our region. Our healthcare pipeline program will support students' education and health career aspirations attending Stevenson and Roosevelt schools.

The development of our Hawaiian Homestead Kūpuna Supportive Living Center will bring to fruition Papakōlea's combined efforts to build the first Hawaiian Homestead Health Innovation Center on Kūpuna Aging and the first Indigenous Campus of Knowledge, Health and Well-being for Native Hawaiian kūpuna and their families on Hawaiian Homestead Land.

We believe the execution of a robust and highly engaged community planning process will result in a project that will benefit all stakeholders, our beneficiaries, their families, and surrounding communities and future generations.

15. Why do you want to implement your project at this site? Describe the characteristics of the site and surrounding area that make it an ideal location for your project.

We find it most befitting to build the Kūpuna Supportive Living Center on Puowaina and within the region of Papakōlea. The community's staunch support of this Puowaina project enables us to keep our kūpuna safe and in the community. Allowing them to age in place in Papakōlea safely is our why.

KULA will recognize and honor the founding kūpuna of Papakōlea, Kewalo, and Kalāwahine. We acknowledge and are forever grateful for the sacrifices, dedication, and diligence of our founding kūpuna, who, through years of tenacity and God-strengthened purpose, advocated for the inclusion of the areas of Auwailimu, Kewalo, and Kalāwahine into the Hawaiian Homes Commission Act, 1920. Their collective efforts made it possible for their families and future generations of beneficiaries to live and thrive in the place we call home, Papakōlea. We dedicate this project in honor of Papakōlea's founding kūpuna.

This project will also honor our alii, Prince Jonah Kuhio Kalanianaʻole, Queen Emma, and King Kamehameha IV, for without their foresight, diligence, and love, we would not have this opportunity to pursue such an ambitious and worthy project.

We are purposed to build a safe, nurturing, and caring environment for our kūpuna, their families, and future generations of our lahui. Eo Papakōlea. Mahalo for this opportunity.

## TIMEFRAME

16. What is the general timeframe for implementing the project) estimated years)? Please identify major benchmarks and phases.

See Exhibit G – Hawaiian Homestead Kūpuna Supportive Living Center at Puowaina – Estimated Timeline

## Objectives

The objective of this priority project is to:

- **Design and construct a community center.** The creation of spaces and facilities that can better meet the current and future spatial and programmatic needs of the community as it grows are vital.

## Implementation Action Steps

This project is for redevelopment of an existing Community Use facility under license to PCDC. The project champion will need to work closely with DHHL to implement this project. The action steps include:

1. **Complete a needs assessment.** Complete a new or utilize an existing needs assessment to describe the needs and uses for this facility. This assessment would address questions such as: What are the existing programs, and program needs? What are the future programs envisioned, for what types of needs?
2. **Complete planning studies.** These studies would be used to determine feasibility such as potential funding for construction and ongoing operations and maintenance, and conceptual design.
3. **Meet HRS Chapter 343 compliance.** The findings of both the needs assessment and the planning studies will determine if additional environmental studies are needed in order to comply with HRS Chapter 343, or if an exemption to the requirement to prepare an environmental assessment (EA) can be issued. If an EA or environmental impact statement (EIS) is needed, it will need to be prepared and published, and HHC will need to issue the Finding of No Significant Impact (FONSI).
4. **Permitting and other entitlements.** The Applicant will secure all necessary permits and approvals as determined by DHHL in consultation with the appropriate agencies.
5. **Site Preparation and Construction.** All Best Management Practices (BMP's) and mitigation measures as outlined in the Final EA, EIS or EA Exemption are to be followed during site preparation and construction.
6. **Operations and Maintenance.** The project is to be operated and maintained as described in the Master Plan/Special Area Plan, Business Plan and Final EA, EIS or EA Exemption.
7. **Monitoring & Reporting.** This includes site visits and periodic reporting of site use.

3. Hawaiian Homestead Kūpuna Supportive Living Center (to be combined with Priority Project #1)

## Project Description

Since the majority of Papakōlea homes are built on steep slopes and only have stairway access, the lack of safe housing conditions is a significant concern. The Kūpuna Supportive Living Center is envisioned as a kauhale or village for kūpuna to age safely in the community. In addition to providing kūpuna with an assisted care residence, the project would provide a friendly gathering place for social, cultural, and wellness activities that encourage multi-generational support for Papakōlea 'ohana. This project would provide service-learning opportunities for native Hawaiian health professionals as well as allied health providers. The project would

ITEM NO. F-3  
EXHIBIT "C"

also provide opportunities for native Hawaiian business developments which support kūpuna living such as a community market, restaurant, and Hawaiian medical and traditional healing practices.

### Past Actions

- **2009.** This project idea was selected by the community during the beneficiary consultation process for the Papakōlea Regional Plan (DHHL 2009). Funding was needed to begin the planning and design stages of development.
- **2012.** Kūlia I Ka Nu‘u grant distribution to PCDC. Funds used to secure a consultant for preliminary planning and design assistance.
- **2019.** Land Use Request Form submitted to DHHL Land Management Division for a Restoration & Stewardship Project on the Pūowaina Special District parcel. PCDC secured funds to support planning initiatives.

### Community Input

There is a need for kūpuna from the Papakōlea region to be able to age safely in place. There should be appropriate facilities near the homesteads where kūpuna who are no longer able to live independently can move to a more supportive living center that can better cater to their medical needs. Currently, there are no permanent assisted living care facilities near the homesteads, and this project would address that need.

### Objectives

The objective of this priority project is to:

- **Allow kūpuna to age safely in place within the Hawaiian homestead community.** This supportive living center will help to achieve the vision of serving as a place of growth for generations, including the kūpuna generation. Currently, there are no facilities to provide care for kūpuna as they age. Kūpuna that require a permanent assisted living care are not able to remain in the region. The Hawaiian Homestead Supportive Living Center will give kūpuna the ability to stay connected to their community and this place, while receiving the care and support that they need as they grow older.

### Implementation Action Steps

This priority project will follow the “Non-Profit Organization Application for Long-Term Use of DHHL Lands” process which is designed to implement the “Master Planning and Land Development Process” on Hawaiian Home Lands. This process is designed for non-profit entities that are applying for long-term dispositions for use of Hawaiian Home Lands. During the master planning and design process, this project will be combined with Priority Project #1, “Native Hawaiian Education & Culture Community Center”.

1. **DHHL review of Island Plan Land Use Designation.** DHHL will review the project to ensure that the uses are consistent with the O‘ahu Island Plan land use designation of the Pūowaina parcel as Special District.
2. **Pre-application process.** A project proposal and an application for a Right of Entry permit for the Pūowaina Special District parcel will be submitted to DHHL for review. This project proposal will include a description of the Applicant organization, the project, benefits to beneficiaries and DHHL, project implementation and potential timeline for implementation. Since the Pūowaina parcel is designated as Special District, additional planning is required due to the sensitive nature of the site. Further planning studies are needed in order to ensure the long-term protection and preservation of the sensitive areas located on the site and to address how programmatic elements will guide interaction with those areas throughout future site use.

3. **HHC approves Right of Entry permit.** This approval is for a one-year Right of Entry permit for due diligence, including: preliminary site assessment research such as a biological review, archaeological review, etc. This information is needed for the preparation of a Master Plan/Special Area Plan and an Environmental Assessment.
4. **Master Plan/Special District Plan & Environmental Assessment prepared.** The Applicant will prepare due diligence studies of the site, including a master plan and an environmental assessment. The environmental assessment will be published based on HRS Chapter 343 requirements.
5. **HHC approves FONSI; and then long-term disposition.** The Hawaiian Homes Commission will review the Final EA, issue a Finding of No Significant Impact, and approve the license or lease.
6. **Permitting and other entitlements.** The Applicant will secure all necessary permits and approvals as determined by DHHL in consultation with the appropriate agencies.
7. **Site Preparation and Construction.** All Best Management Practices (BMP's) and mitigation measures as outlined in the Final EA, EIS or EA Exemption are to be followed during site preparation and construction.
8. **Operations and Maintenance.** The project is to be operated and maintained as described in the Master Plan/Special Area Plan, Business Plan and Final EA, EIS or EA Exemption.
9. **Monitoring & Reporting.** This includes site visits and periodic reporting of site use.

#### 4. Care Home for Kūpuna

##### Project Description

The community envisions a care home for kūpuna within the region that will provide kūpuna care services to families who need assistance. This project would provide short-term services for eligible adults and would be located within the homestead community. Care would include adult day-care, respite care services and specialized care for adults with dementia. Families who are balancing the needs of their day-to-day lives and the added care needs of their kūpuna would have a safe and qualified place within their community that is able to help provide supplemental services and care.

##### Past Actions

No past action.

##### Community Input

The balance of meeting day-to-day needs and providing care for kūpuna can be a struggle for families, especially working families that are living in the Papakōlea region. This care home is needed in order to provide additional care and services to better support native Hawaiian families who aim to keep their kūpuna at home for as long as they are able.

##### Objectives

The objective of this priority project is to:



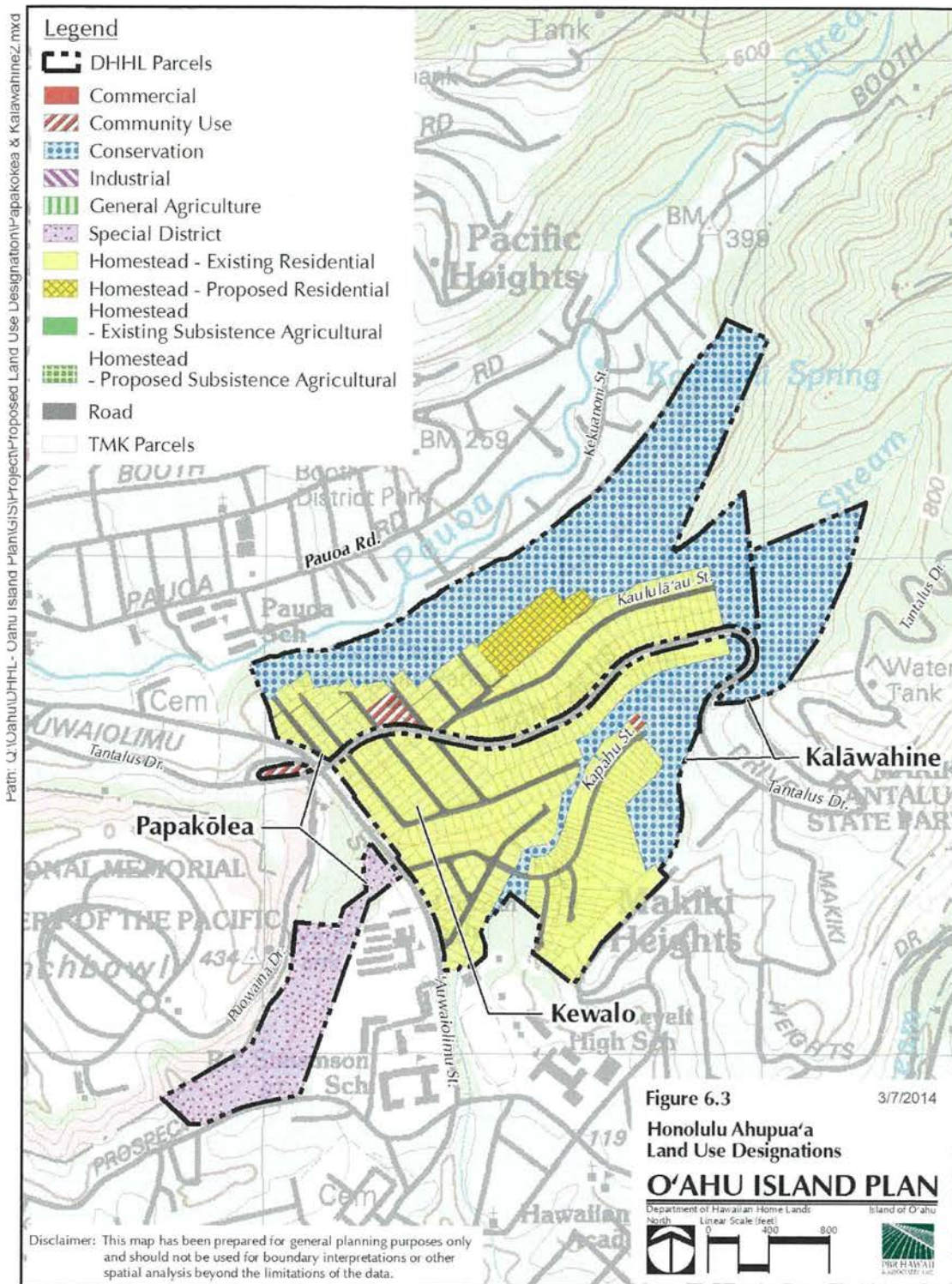


Figure 6-3 Honolulu Ahupua'a Land Use Designations


ITEM NO. F-3  
EXHIBIT "D"


STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17-18, 2025

To: Chairman and Members, Hawaiian Homes Commission

Thru: Linda Chinn, Acting Administrator  
Land Management Division 

From: Kalei Young  Supervising Land Agent  
Land Management Division

Subject: Approval to Issue three (3) Revocable Permits (RP) to a) Centerscale Automation Hawaii, Inc, b) HBR Builders Corp., c) Marihi LLC dba Hawaii State Construction, Lot 2, Shafter Flats Industrial Subdivision, Moanalua, Island of Oahu. TMK No. (1) 1-1-064:035

APPLICANTS

- a) Centerscale Automation Hawaii, Inc.
- b) HBR Builders Corp.
- c) Marihi LLC dba Hawaii State Construction

LOCATION:

Hawaiian Home Lands in Moanalua, Island of Oahu. TMK No. (1) 1-1-064:035, Lot 2  
Address: 2632 Kilihau St, Honolulu, Hawaii (see exhibit "A" attached)

AREA:

Approximately 10,153 *sf* of industrial land and warehouse space.

RECOMMENDED MOTION/ACTION: That the Hawaiian Homes Commission (HHC) authorize the issuance of Revocable Permits to the three businesses a) Centerscale Automation Hawaii, Inc, b) HBR Builders Corp., c) Marihi LLC dba Hawaii State Construction to continue to conduct their operations at this location of DHHL property in Shafter Flats, Oahu.

The approval to issue three Revocable Permits (RPs) shall be subject to the following conditions:

1. The term shall be month-to-month, effective March 12, 2025, not to exceed twelve (12) months, subject to renewal by the HHC.
2. The Premises shall be used for industrial warehouse purposes as permitted under the current City & County of Honolulu Zoning Code I-2, Intensive Industrial District. Permittees shall continue to use the premises for light industrial usage such as storing construction equipment, machine repair equipment, and storage of business-related vehicles.

3. The monthly permit fee shall be their current rate that they're paying to CLU Investments, General Lessee under General Lease No. S-4291, whose lease with DHHL expired on March 11, 2025. All 3 subtenants term with CLU Investments also expired on March 11, 2025. Land Management Division is recommending that we keep the rates the same for the recommended month-to-month agreements:
  - a) Centerscale Automation Hawaii, Inc, \$3,486 for 1,850 *sf*
  - b) HBR Builders Corp., \$3,062 for 1,950 *sf*
  - c) Hawaii State Construction, \$2,565 for 2,450 *sf*

*note: total from 3 tenants will be \$9,114 per month*
4. Permitter reserves the right to increase or decrease rent with the HCC approval.
5. Permittee(s) shall pay non-refundable processing and documentation fees totaling \$175.00.
6. Permittee(s) is required to place a security deposit equal to two months of permit fees. Permittees shall not earn any interest on the security deposit. If upon vacating the Premises and if permittee is in full compliance with the terms and conditions of the permit to be issued the security deposit shall be refund, less any amount deducted for non-compliance issue, if any.
7. This RP shall conform to Federal, State, and County (government agencies) standards. Permittee shall obtain applicable permits and approvals from government agencies prior to the commencement of any work on the property that requires such permits and approvals. Any construction or alteration of the permit area shall require DHHL approval.
8. All utilities and waste removal services shall be paid for by the Permittees. Any repairs and maintenance of utility services shall be paid for by Permittees.
9. No residential use shall be permitted, including temporary overnight camping. However, if security services are required, Permittee is allowed to provide watchmen shelter.
10. DHHL reserves the right to have Permittees do an Environmental Assessment (EA) if Staff feels an EA is warranted.
11. The RP document shall be subject to other standard terms and conditions of similar RPs issued by DHHL.
12. Review and approval by the State of Hawaii, Department of the Attorney General; and
13. Such other terms and conditions deemed prudent and reasonable by the Chairman of the Hawaiian Homes Commission (HHC) and/or the HHC to serve the best interests of the trust and its Beneficiaries.

DISCUSSION:

The warehouse located at 2632 Kilihau Street was leased to CLU Investments (CLU) since March 12, 1970. The lease term ended on March 11, 2025. CLU's sub tenants are interested in remaining in their current warehouse spaces during the approximate 9-month period that it will take for the Land Management Division (LMD) to put this property through the General Leasing bidding process.

Staff is recommending approval for these month-to-month revocable permits because:

1. CLU Investments recommends that we allow them to remain tenants during the stated period because these are good tenants and in compliance.
2. This area, located next to the airport viaduct, is notorious for violent crime & homeless squatters who destroy property and property values. Allowing the tenants to occupy the property prevents trespassers from further damaging/devaluing our property as well as generating a modest income.

PLANNING AREA:

TMK No. (1) 1-1-064:035, Moanalua, Oahu (See Exhibit "B")

LAND USE DESIGNATION:

Industrial– see Oahu Island Plan (2014) handout\_(See Exhibit "B")

CHARACTER OF USE:

City & County Zoning Code I-2 Intensive Industrial District

CHAPTER 343 – ENVIRONMENTAL ASSESSMENT:

Triggers:

Use of State Lands

Exemption Class No. & Description:

Part I: De Minimis Activities

Exemption Type 1: "Operations, repairs or maintenance of existing structures, facilities, equipment... no expansion or change of use beyond that previously existed."

CONSISTENCY WITH DHHL PLANS, POLICIES AND PROGRAMS

**DHHL General Plan (2002)**

The recommended disposition is consistent with the General Plan.

March 17-18, 2025

**Oahu Island Plan (2014)**

The recommended disposition is consistent with the Oahu Island Plan.

**RECOMMENDATION:**

Land Management Division (LMD) respectfully requests approval of the motion as stated.



**Overview**



**Legend**

- Roads
- Parcels

|                               |  |                                      |             |                     |              |               |             |
|-------------------------------|--|--------------------------------------|-------------|---------------------|--------------|---------------|-------------|
| <b>Parcel ID</b> 110640350000 | <b>Situs/Physical Address</b> 2632 KILHAU ST | <b>Assessed Land Value</b>           | \$1,644,800 | <b>Last 2 Sales</b> |              |               |             |
| <b>Acreage</b> 0.2331         |  | <b>Assessed Building Value</b>       | \$285,400   | <b>Date</b>         | <b>Price</b> | <b>Reason</b> | <b>Qual</b> |
| <b>Class</b> INDUSTRIAL       |  | <b>Total Property Assessed Value</b> | \$1,930,200 | n/a                 | 0            | n/a           | n/a         |
|                               |  | <b>Total Property Exemptions</b>     | \$0         | n/a                 | 0            | n/a           | n/a         |
|                               |  | <b>Total Net Taxable Value</b>       | \$1,930,200 |                     |              |               |             |

**Brief Tax Description** CERTAIN UNRECORDED GENERAL LEASE NO. S-4291 POR OF FILLED LAND OF MOANALUA FISHERY 10,153 SF DES  
 (Note: Not to be used on legal documents)

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**O'AHU ISLAND PLAN**  
**DEPARTMENT OF HAWAIIAN HOME LANDS**

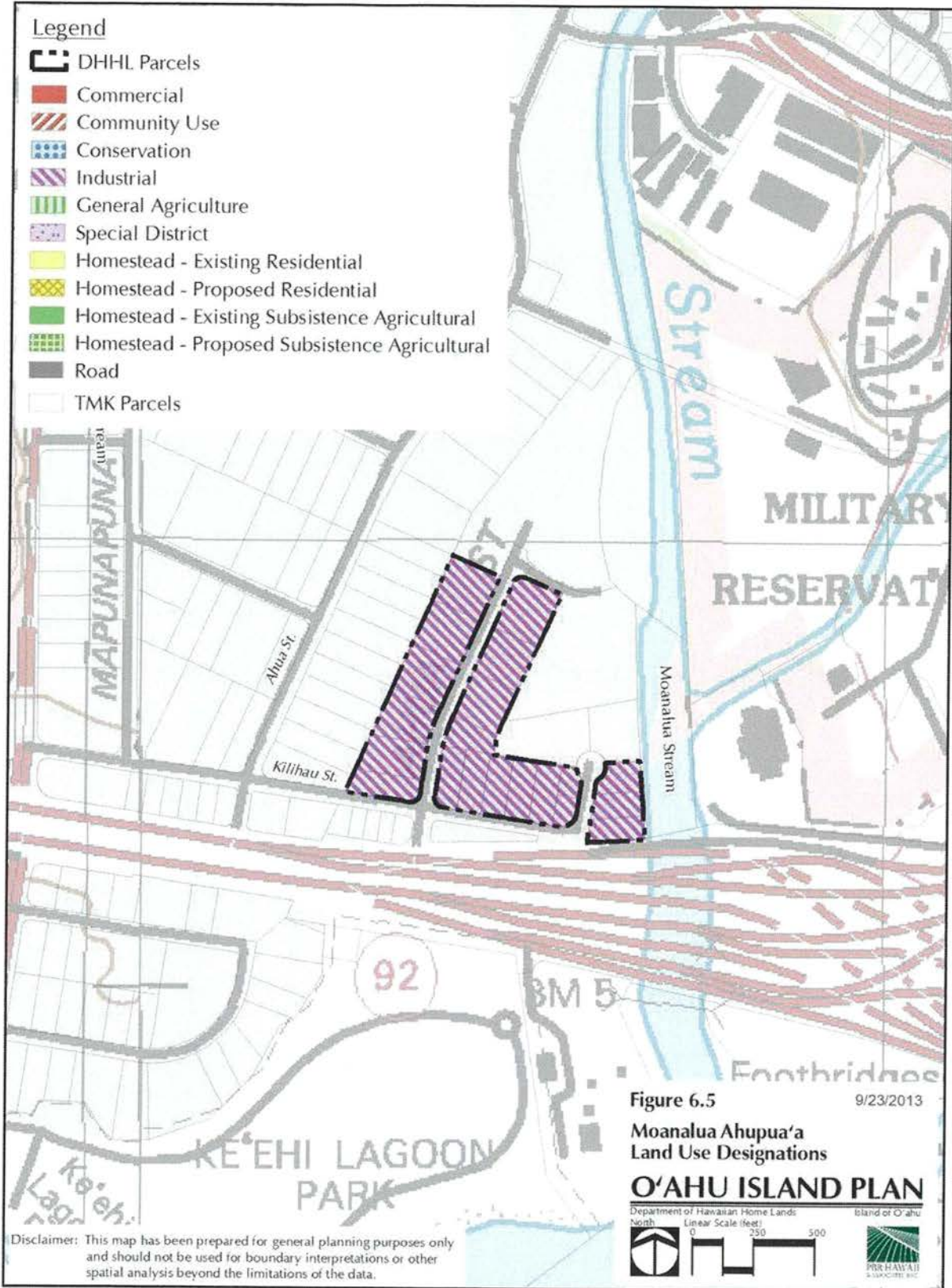


Figure 6-5 Moanalua Ahupua'a Land Use Designations

Hawaiian Homes Commission Meeting Packet  
March 17 & 18, 2025  
Waimea, Hawai'i

**G ITEMS**



STATE OF HAWAI'I  
DEPARTMENT OF HAWAIIAN HOME LANDS

March 17-18, 2025

To: Chairman and Members, Hawaiian Homes Commission  
Thru: Andrew Choy, Planning Program Manager *AC*  
From: Lillie Makaila, Planner *lljm*  
Subject: Approval of a Temporary Water Bill Subsidy for  
Kailapa Homestead Lessees on the DHHL Kawaihae  
Water System

Recommended Action

That the Hawaiian Homes Commission (HHC) approve the  
Temporary Water Bill Subsidy for Kailapa Homestead  
Lessees on the DHHL Kawaihae Water System.

Discussion

The Kawaihae Regional Plan Update was adopted by  
this Commission at its July 2024 regular meeting. This  
Regional Plan Update included five priority projects,  
the top priority project is the Water - Wai Ola Project  
which aims to address critical water challenges facing  
our Kawaihae beneficiaries. In adopting this Regional  
Plan, the HHC accepted the implementation action steps  
which articulated how to address each issue the  
priority project aims to solve. The Water - Wai Ola  
Project includes implementation action steps that  
create short-term, mid-term and long-term actions for  
the Department to take to fully implement each measure.  
This item aims to address the short-term actions  
required to target water affordability and address the  
water rate disparity that is impacting our  
beneficiaries in Kailapa homestead. *\*An excerpt of the  
Kawaihae Regional Plan Update, Water - Wai Ola Priority  
Project is included as Exhibit A.*

WATER - WAI OLA PRIORITY PROJECT & WATER RATES

It is important to understand the water rate schedule in order to fully grasp the current impact of the water rates on homesteaders in Kailapa. The Hawaiian Homes Commission approved new service rates in 2018, increasing water service fees for residential lessees each year on July 1<sup>st</sup> for a period of 10-years, from 2019 to 2029. These water rates were set in an effort for the Department to "break even", as for years the Department had been spending approximately \$1M per year of Trust funds to provide subsidies to water users on all three of its water systems, including the Kawaihae Unit #1 water system. This "break-even" includes the accumulation of "reserve funds" from billings to users to total \$400,000 over the course of the 10-year water rates schedule period.

Water users in Kailapa are billed as follows:

1. A residential lessee meter service (base) fee, a flat rate billed bimonthly (for a 60-day period), and
2. A residential lessee service delivery (usage) fee, a fee calculated based on total gallons used per month, charged per 1,000 gallons, and calculated using the residential lessee service delivery (usage) tiers below. Currently, water users on DHHL's Kawaihae water system are being charged based on the FY25 rates in the tables below, with that amount set to increase again on July 1, 2025.

At the time that this water rate schedule was adopted, the position of DHHL was that the end goal for the water rates was to "break even", where the billing collections for water users should equal the expenses for operation and maintenance of the system. Though Kawaihae water rates are the highest of the three water rate schedules by far, the water policy in general was meant to address all three of the water systems owned by DHHL and any amendments to the water rate schedule should consider all of the other systems, its water users, and the potential expense to the Hawaiian Home Lands Trust. A water rate schedule should be equitably applied to all three water systems and their users, to the extent possible. And adverse impacts should be addressed quickly to avoid undue hardship on homesteaders and the Trust.

Unlike other water purveyors, DHHL does have other funding sources besides bill collection, like commercial and industrial lease rents, the HHL Trust, and the annual operating budget, and options to receive legislative funds or grant funding that could be utilized to offset the cost of

the water system and its operation, repair and maintenance. The concept of a "reserve" is understandable, however the idea that 164 users of the DHHL water system are responsible to be the source of fundraising \$400,000 over the course of 10 years to cover future costs of repair and maintenance has had huge adverse impacts on the well-being of our homesteaders that have been carrying this burden.

In Hawai'i Administrative Rules Chapter 10-4.1-31(a) regarding Water Service Rates, the rules state that "The department shall conduct a cost of service study annually, based upon enterprise accounting, and a water service rates analysis at least every three years." To date, no cost of service studies or water service rates analysis have been conducted for the Kawaihae water system since the water service rates were approved in 2018. This is an oversight that should be corrected. Budget was included for the Planning Office to complete these studies.

The Implementation Action Steps included in the Kawaihae Regional Plan Update (2024) include implementation action steps such as "Re-assess the DHHL water rate schedule to provide more affordable potable water to Kailapa homesteads on the DHHL Kawaihae water system." Amendments to Administrative Rules have an average timeframe of approximately two (2) years. When this timeframe and process was shared with participants at BC#3, beneficiaries clearly communicated that this solution should not be considered a short-term solution, but a long-term solution. And, beneficiaries stated that more immediate relief is needed for Kailapa homesteaders while the reassessment and amendment to the water rate schedule takes place. This Commission approved the concept of a temporary subsidy in its July 2024 meeting. This item is meant to implement this approval.

The following table shows the current water rate schedule:

KAWAIHAE WATER SYSTEM SERVICE RATES  
APPROVED ON MAY 15, 2018

**Residential Lessee Service Rates:**

Residential lessee meter service (base) fees:

| Meter size (inches)<br>Bi-Monthly | FY 19   | FY 20   | FY 21   | FY 22   | FY 23    | FY 24    | FY 25    | FY 26    | FY 27    | FY 28    |
|-----------------------------------|---------|---------|---------|---------|----------|----------|----------|----------|----------|----------|
| 5/8"                              | \$49.07 | \$63.37 | \$77.70 | \$92.06 | \$106.46 | \$120.90 | \$135.37 | \$149.88 | \$164.42 | \$179.01 |

Residential lessee service delivery (usage) tiers:

|        | Gallons Bi-Monthly |
|--------|--------------------|
| Tier 1 | 0 - 10,000         |
| Tier 2 | 10,001 - 30,000    |
| Tier 3 | 30,001 - 80,000    |
| Tier 4 | Over 80,000        |

Residential lessee service delivery (usage) fees:

| Per 1,000 gallons | FY 19  | FY 20   | FY 21   | FY 22   | FY 23   | FY 24   | FY 25   | FY 26   | FY 27   | FY 28   |
|-------------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Tier 1            | \$3.67 | \$4.73  | \$5.81  | \$6.88  | \$7.95  | \$9.03  | \$10.11 | \$11.20 | \$12.28 | \$13.37 |
| Tier 2            | \$4.92 | \$6.35  | \$7.79  | \$9.23  | \$10.68 | \$12.12 | \$13.58 | \$15.03 | \$16.49 | \$17.95 |
| Tier 3            | \$6.89 | \$8.90  | \$10.92 | \$12.94 | \$14.96 | \$16.99 | \$19.02 | \$21.06 | \$23.10 | \$25.15 |
| Tier 4            | \$8.30 | \$10.73 | \$13.15 | \$15.58 | \$18.02 | \$20.46 | \$22.91 | \$25.37 | \$27.83 | \$30.30 |

\*yellow is the current water rate; red shows the water rate that will be eff. July 2025.

In order to make this water rate schedule more tangible, it is important to understand what other water users in the same region, and other beneficiaries are paying for potable water. Included below are excerpts from the County of Hawai'i Department of Water Supply Water Rates Brochure.

By comparison, the County rates are approximately **\$29.97 for a monthly meter fee**, whereas the DHHL Kailapa rate is **\$135.37 bimonthly or \$68.69 per month**. And, the County rates are approximately **\$3.74** per 1,000 gallons of use (k-gal) for the first block or 5,000 gallons used per month and **\$5.35** per k-gal for the next block of 10,000 gallons used in one month. The DHHL Kailapa rate is **\$10.11** per k-gal for the first tier or 10,000 gallons used bimonthly and **\$13.58** per k-gal for the second tier or the next 20,000 gallons used bimonthly. **A difference of approximately 4.5X the monthly meter fee, 2.7X the water rate for the first tier, and 2.5X the water for the second tier.**

**A. MONTHLY STANDBY CHARGES\***

All meter connections shall be subject to a monthly standby charge as follows:

| Meter Size (inches) | Effective July 1, 2023 | Effective July 1, 2024 |
|---------------------|------------------------|------------------------|
| 5/8"                | \$ 27.37               | \$ 29.97               |
| 1"                  | 58.26                  | 63.79                  |
| 1-1/2"              | 108.39                 | 118.69                 |
| 2"                  | 169.36                 | 185.45                 |
| 3"                  | 310.27                 | 339.75                 |
| 4"                  | 510.80                 | 559.33                 |
| 6"                  | 1,012.11               | 1,108.26               |
| 8"                  | 1,615.04               | 1,768.47               |
| 10"                 | 2,330.42               | 2,551.81               |
| 12"                 | 4,064.69               | 4,450.84               |

\*Standby charge is a minimum monthly charge.

**B. GENERAL USE RATES (per 1,000 gallons)**

In addition to standby, power cost, and energy CIP charges, a consumption charge will be applied to all general use customers as follows:

|                       | Effective July 1, 2023 | Effective July 1, 2024 |
|-----------------------|------------------------|------------------------|
| 1 <sup>st</sup> Block | \$ 1.25                | \$ 1.37                |
| 2 <sup>nd</sup> Block | 2.72                   | 2.98                   |
| 3 <sup>rd</sup> Block | 4.78                   | 5.23                   |
| 4 <sup>th</sup> Block | 6.35                   | 6.95                   |

**BLOCK THRESHOLDS (gallons per month)**

The threshold for the rate blocks vary with the size of the water meter as follows:

| Meter Size (inches) | 1st Block | 2nd Block      | 3rd Block       | 4th Block |
|---------------------|-----------|----------------|-----------------|-----------|
| 5/8"                | 5,000     | 5,001 - 15,000 | 15,001 - 40,000 | > 40,000  |

It is also important to note that the Kawaihae Unit #1 water rate schedule, effective for the Kailapa homestead is not the only potable water rate schedule established for homesteaders and a comparison to other DHHL potable water systems is critical to understand the disparity, and to best grasp the urgent need for a temporary subsidy to provide relief until the overall issues of the water rates schedule can be resolved with an update to the administrative rules.

**J. POWER COST CHARGES (per 1,000 gallons)**

All water use shall be subject to the imposition of a Power Cost Charge in addition to consumption, standby, and energy CIP charges. The Department shall calculate the rate based on actual power costs and consumption every two months or for the period since the last revision to the power cost charge. Current and historic power cost charges are as follows:

| Effective Date    | Power Cost Charges |
|-------------------|--------------------|
| February 1, 2025  | \$2.32             |
| September 1, 2024 | \$3.04             |
| May 1, 2024       | \$2.77             |
| February 1, 2024  | \$2.37             |
| September 1, 2023 | \$2.64             |

**K. ENERGY CIP CHARGES (per 1,000 gallons)**

All water use shall be subject to the imposition of an Energy CIP Charge in addition to consumption, standby, and power cost charges. The rate shall be adjusted annually in order to fund projects designed to improve the Department's energy efficiency. The current energy CIP charge is as follows:

| Effective Date | Energy CIP Charge |
|----------------|-------------------|
| July 1, 2016   | \$0.05            |

Below is the Ho'olehua, Moloka'i water rates schedule for residential water users:

HOOLEHUA WATER SYSTEM SERVICE RATES  
APPROVED ON APRIL 17, 2018

**Lessee Service Rates:**

Lessee water service delivery (usage) tiers:

|        | <b>Gallons<br/>Bi-Monthly</b> |
|--------|-------------------------------|
| Tier 1 | 0 - 10,000                    |
| Tier 2 | 10,001 - 25,000               |
| Tier 3 | Over 25,000                   |

Residential lessee meter service (base) fees:

| <b>Meter size<br/>(inches)<br/>Bi-Monthly</b> | FY 19    | FY 20    | FY 21    | FY 22    | FY 23    | FY 24    | FY 25    | FY 26    | FY 27    | FY 28    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 5/8"  | \$6.21   | \$6.82   | \$7.43   | \$8.04   | \$8.65   | \$9.26   | \$9.87   | \$10.48  | \$11.09  | \$11.70  |
| 3/4"  | \$7.76   | \$8.53   | \$9.29   | \$10.05  | \$10.82  | \$11.58  | \$12.34  | \$13.10  | \$13.87  | \$14.63  |
| 1"  | \$12.75  | \$14.01  | \$15.26  | \$16.51  | \$17.77  | \$19.02  | \$20.27  | \$21.53  | \$22.78  | \$24.04  |
| 1 1/2"  | \$24.40  | \$26.80  | \$29.19  | \$31.59  | \$33.99  | \$36.39  | \$38.79  | \$41.18  | \$43.58  | \$45.98  |
| 2"  | \$33.27  | \$36.54  | \$39.81  | \$43.08  | \$46.35  | \$49.62  | \$52.89  | \$56.16  | \$59.43  | \$62.70  |
| 3"  | \$66.54  | \$73.08  | \$79.62  | \$86.16  | \$92.70  | \$99.24  | \$105.78 | \$112.32 | \$118.86 | \$125.40 |
| 4"  | \$121.99 | \$133.98 | \$145.97 | \$157.96 | \$169.95 | \$181.94 | \$193.93 | \$205.92 | \$217.91 | \$229.90 |
| 6"  | \$216.26 | \$237.51 | \$258.77 | \$280.02 | \$301.28 | \$322.53 | \$343.79 | \$365.04 | \$386.30 | \$407.55 |
| 8"  | \$332.70 | \$365.40 | \$398.10 | \$430.80 | \$463.50 | \$496.20 | \$528.90 | \$561.60 | \$594.30 | \$627.00 |

Residential lessee water service delivery (usage) fees:

| <b>Per 1,000<br/>gallons</b> | FY 19  | FY 20  | FY 21  | FY 22  | FY 23  | FY 24  | FY 25  | FY 26  | FY 27  | FY 28  |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Tier 1                       | \$1.53 | \$1.65 | \$1.76 | \$1.87 | \$1.99 | \$2.10 | \$2.22 | \$2.33 | \$2.44 | \$2.56 |
| Tier 2                       | \$2.06 | \$2.22 | \$2.37 | \$2.52 | \$2.67 | \$2.83 | \$2.98 | \$3.13 | \$3.29 | \$3.44 |
| Tier 3                       | \$2.43 | \$2.61 | \$2.79 | \$2.97 | \$3.15 | \$3.33 | \$3.51 | \$3.69 | \$3.87 | \$4.05 |

By comparison, Ho'olehua residential users pay **\$9.87 for a bimonthly meter fee**, compared to Kailapa's rate of **\$135.37**. Ho'olehua residential users pay **\$2.22** per k-gal for the first 10,000 gallons used bimonthly compared to Kailapa's rate of **\$10.11** per k-gal for the same amount. And, Ho'olehua residents pay **\$2.98** per k-gal for the next 15,000 gallons used, whereas Kailapa's rate is **\$13.58** per k-gal for the next 20,000 gallons used bimonthly. **A difference of 13.7X the monthly meter fee, 4X the water rate for the first tier, and 4.5X the water rate for the second tier.**

The DHHL Anahola water rate schedule services residential water users in Anahola, Kaua'i. Below is the water rate schedule also approved in 2018.

ANAHOLA WATER SYSTEM SERVICE RATES  
APPROVED ON AUGUST 21, 2018

**Residential Lessee Service Rates:**

Residential lessee meter service (base) fees:

| Meter size (inches) | FY 20    | FY 21    | FY 22    | FY 23    | FY 24    | FY 25    | FY 26    | FY 27      | FY 28      | FY 29      |
|---------------------|----------|----------|----------|----------|----------|----------|----------|------------|------------|------------|
| 5/8"                | \$28.08  | \$32.16  | \$36.24  | \$40.32  | \$44.40  | \$48.48  | \$52.56  | \$56.64    | \$60.72    | \$64.80    |
| 3/4"                | \$37.44  | \$42.88  | \$48.32  | \$53.76  | \$59.20  | \$64.64  | \$70.08  | \$75.52    | \$80.96    | \$86.40    |
| 1"                  | \$58.50  | \$67.00  | \$75.50  | \$84.00  | \$92.50  | \$101.00 | \$109.50 | \$118.00   | \$126.50   | \$135.00   |
| 1 1/2"              | \$105.30 | \$120.60 | \$135.90 | \$151.20 | \$166.50 | \$181.80 | \$197.10 | \$212.40   | \$227.70   | \$243.00   |
| 2"                  | \$175.50 | \$201.00 | \$226.50 | \$252.00 | \$277.50 | \$303.00 | \$328.50 | \$354.00   | \$379.50   | \$405.00   |
| 4"                  | \$514.80 | \$589.60 | \$664.40 | \$739.20 | \$814.00 | \$888.80 | \$963.60 | \$1,038.40 | \$1,113.20 | \$1,188.00 |

Residential lessee water service delivery (usage) tiers:

| METER SIZE | TIER 1             | TIER 2                 | TIER 3             |
|------------|--------------------|------------------------|--------------------|
|            | Gallons Bi-monthly | Gallons Bi-monthly     | Gallons Bi-monthly |
| 5/8"       | 0 – 20,000         | 20,001 – 40,000        | > 40,000           |
| 3/4"       | 0 – 70,000         | 70,001 – 140,000       | > 140,000          |
| 1"         | 0 – 200,000        | 200,001 – 400,000      | > 400,000          |
| 1 1/2"     | 0 – 600,000        | 600,001 – 1,200,000    | > 1,200,000        |
| 2"         | 0 – 1,200,000      | 1,200,001 – 2,400,000  | > 2,400,000        |
| 4"         | 0 – 6,000,000      | 6,000,001 – 12,000,000 | > 12,000,000       |

Residential lessee water service delivery (usage) fees:

| Per 1,000 gallons | FY 20  | FY 21  | FY 22  | FY 23  | FY 24  | FY 25  | FY 26  | FY 27   | FY 28   | FY 29   |
|-------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| Tier 1            | \$3.23 | \$3.70 | \$4.17 | \$4.64 | \$5.11 | \$5.58 | \$6.04 | \$6.51  | \$6.98  | \$7.45  |
| Tier 2            | \$3.74 | \$4.29 | \$4.83 | \$5.38 | \$5.92 | \$6.46 | \$7.01 | \$7.55  | \$8.10  | \$8.64  |
| Tier 3            | \$5.27 | \$6.03 | \$6.80 | \$7.56 | \$8.33 | \$9.09 | \$9.86 | \$10.62 | \$11.39 | \$12.15 |

By comparison, Anahola residential users pay **\$48.48 for a bimonthly meter fee**, compared to Kailapa's rate of **\$135.37**. Anahola residential users pay **\$5.58** per k-gal for the first 20,000 gallons used bimonthly compared to Kailapa's rate of **\$10.11** per k-gal for the same amount. And, Anahola residents pay **\$6.46** per k-gal for the next 20,000 gallons used, whereas Kailapa's rate is **\$13.58** per k-gal for the next 20,000 gallons used bimonthly. **A difference of 2.8X the monthly meter fee, 1.8X the water rate for the first tier, and 2.1X the water rate for the second tier.**

Also of interest, is the matter of the Kailapa Community Association pavilion. This site is used for community meetings and events, including DHHL community meetings at no cost to the Department. Kailapa Community Association (KCA) is a beneficiary-led, non-profit entity and is responsible for covering the costs of the of the operation and maintenance of the pavilion. Like the homesteaders, the KCA Pavilion is subject to very high water rates, these high water rates limit KCA's ability to serve its homesteaders. The water rates schedule for KCA is included below.

**Kailapa Community Association Service Rates:**

Kailapa Community Association meter service (base) fees:

| Meter size (inches)<br>Bi-Monthly | FY 19   | FY 20   | FY 21   | FY 22   | FY 23    | FY 24    | FY 25    | FY 26    | FY 27    | FY 28    |
|-----------------------------------|---------|---------|---------|---------|----------|----------|----------|----------|----------|----------|
| 5/8"                              | \$49.07 | \$63.37 | \$77.70 | \$92.06 | \$106.46 | \$120.90 | \$135.37 | \$149.88 | \$164.42 | \$179.01 |

Kailapa Community Association water service delivery (usage) tier:

|        | Gallons<br>Bi-Monthly |
|--------|-----------------------|
| Tier 1 | 9,999,999             |

Kailapa Community Association water service delivery (usage) fees:

| Per 1,000 gallons | FY 19   | FY 20   | FY 21   | FY 22   | FY 23   | FY 24   | FY 25   | FY 26   | FY 27   | FY 28   |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Tier 1            | \$11.41 | \$14.73 | \$18.06 | \$21.40 | \$24.75 | \$28.11 | \$31.47 | \$34.84 | \$38.22 | \$41.61 |

By comparison, KCA pays **\$135.37 for a bimonthly meter fee**, the same as the Kailapa rate for homesteaders. KCA pays **\$31.47** per k-gal as a flat rate for all water usage compared to Kailapa's rate of **\$22.91** per k-gal for the highest tier.

The below table expresses the expenses to the Department for the on-going operation, maintenance and repair as well as the cost of water purchased from Kohala Ranch Water System. According to this table, **the expense to the Department to operate the Kawaihae Unit #1 water system was \$244,544.38**. For that same fiscal year, the DHHL Fiscal Office recorded **billings to users totaling \$286,589.13, a difference of \$42,044.74**. A note that the goal of the water rate schedule as adopted in 2017 by the Commission was to "break-even". Based on the figures above, the water rates schedule has achieved break-even for the system, and is currently billing in excess of the operating expenses. It is for this reason,



that the temporary subsidy is necessary and should be implemented ahead of the scheduled rate increases in July of this year.

Expenses Table (in USD):

| MONTH For FY23    | KOHALA RANCH WATER SYSTEM | PURAL Distribution Operations | PURAL Replacement Items (meters, valves, etc) | HAWAIIAN ELECTRIC (Radio transmitter and lights) | HAWAIIAN ELECTRIC (3 pumps and lights) |
|-------------------|---------------------------|-------------------------------|---|--|--|
| July              | 15637.14                  | 4190.00                       | 0.00  | 51.35  | 1483.70                                |
| August            | 17746.15                  | 4190.00                       | 0.00  | 51.28  | 1384.46                                |
| September         | 16298.46                  | 4190.00                       | 193.43  | 51.28  | 1412.52                                |
| October           | 15822.38                  | 4190.00                       | 0.00  | 51.28  | 1414.28                                |
| November          | 15887.71                  | 4190.00                       | 0.00  | 51.28  | 1271.99                                |
| December          | 15385.49                  | 4190.00                       | 0.00  | 51.28  | 1325.24                                |
| January           | 12623.34                  | 4190.00                       | 0.00  | 51.28  | 1246.27                                |
| February          | 14155.96                  | 4190.00                       | 0.00  | 51.33  | 1130.20                                |
| March             | 13455.38                  | 4190.00                       | 0.00  | 51.33  | 1345.79                                |
| April             | 12107.40                  | 4190.00                       | 0.00  | 51.33  | 1198.89                                |
| May               | 13348.99                  | 4190.00                       | 1800.36                                       | 51.94  | 1170.61                                |
| June              | 13515.95                  | 4190.00                       | 0.00  | 55.23  | 1282.10                                |
| <b>TOTAL</b>      | <b>175984.35</b>          | <b>50280.00</b>               | <b>1993.79</b>                                | <b>620.19</b>                                    | <b>15666.05</b>                        |
| <b>FY23 TOTAL</b> | <b>\$244,544.38</b>       |                               |   |  |  |

PROPOSED TEMPORARY SUBSIDY

The Regional Plan Update included detailed implementation action steps with language that effectuated the short-term, mid-term and long-term solutions to the water-related issues identified in the priority project. This item is before the HHC today to fulfill step 1 of the short-term action steps. The proposed subsidy is as follows:

- Temporary subsidy to cover in full the bimonthly base rate for meter service for all residential users and the Kailapa Community Association pavilion until the water rates schedule can be amended.
- The source of this subsidy proposes the use of DHHL Trust funds from revenue generated from land dispositions in the Kawaihae Region. According to the 2023 DHHL Annual Report this revenue totaled \$642,032 for the DHHL Trust.

Below is an excerpt of the short-term action steps to be implemented:

**SHORT-TERM: Provide a temporary subsidy for Kailapa homesteaders until the water rate schedule can be updated.**

As the timeframe for updates to the water rate schedule will likely take approximately two (2) years to complete, a temporary subsidy should be implemented for Kailapa homesteaders to provide immediate relief for the high water rates they are facing and make water more in the interim.

1. Go to HHC for approval of a subsidy for users of the Kawaihae Water System in Kailapa.
  - The subsidy for users should cover the base rate for meter service, currently at \$120.90 and scheduled to increase to \$139.37 as of July 1, 2024. This amount is approximately \$138,000 for 164 users for FY24 and \$148,000 for 164 users for FY25.
  - The source of the subsidy could come from a variety of sources including:
    - A portion of the revenue generated from commercial/industrial and pastoral land dispositions in the Kawaihae Region.
    - DHHL land dispositions in Kawaihae generated \$604,521.64 in revenue in 2022.
    - Less than 25% of the annual revenue generated in Kawaihae could subsidize the basic meter fee for Kailapa homesteaders.
    - Currently, DHHL homesteads in Kawaihae have no community benefit agreements and receive 0% of revenue generated from land dispositions in the region.
  - HHL Trust Funds.
  - Other.
2. Continue working on long-term solutions to ensure the subsidy is only necessary as a short-term solution.
3. Upon revision of the water rate schedule, terminate the temporary subsidy and effectuate the water rate schedule as revised.

In light of the data which shows that current billing rates exceed the expenses incurred for the system, in addition to the above, we also propose **stabilization of the existing water usage rates for tier 1 and tier 2 water usage for residential users**. This would provide stabilization of the water rates for residential users, excluding the KCA Pavilion, who use less than 30,000 bimonthly, or 15,000 per month. Those users whose usage is in excess of these amounts would be required to follow the water rates schedules as adopted. By subsidizing the first two tiers, and not subsidizing the remaining two tiers, that ensures that conservation of water is encouraged and excessive use is discouraged and will help to ensure we do not see excessive overuse following the implementation of this temporary subsidy.

PROPOSED WATER RATE STABILIZATION FOR TIERS 1 & 2:  
*\*only for residential users*

Residential lessee service delivery (usage) fees:

| Per 1,000 gallons | FY 19  | FY 20   | FY 21   | FY 22   | FY 23   | FY 24   | FY 25   | FY 26   | FY 27   | FY 28   |
|-------------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Tier 1            | \$3.67 | \$4.73  | \$5.81  | \$6.88  | \$7.95  | \$9.03  | \$10.11 | \$10.11 | \$10.11 | \$10.11 |
| Tier 2            | \$4.92 | \$6.35  | \$7.79  | \$9.23  | \$10.68 | \$12.12 | \$13.58 | \$13.58 | \$13.58 | \$13.58 |
| Tier 3            | \$6.89 | \$8.90  | \$10.92 | \$12.94 | \$14.96 | \$16.99 | \$19.02 | \$21.06 | \$23.10 | \$25.15 |
| Tier 4            | \$8.30 | \$10.73 | \$13.15 | \$15.58 | \$18.02 | \$20.46 | \$22.91 | \$25.37 | \$27.83 | \$30.30 |

Water usage for all users in Kailapa on the Kawaihae Unit #1 water system totaled approximately 18MG for fiscal year 2023. Water credits for County of Hawai'i estimate 400 gallons per day for domestic users, with one water credit per unit. At this rate, 400 gallons per day multiplied by 164 metered connections totals 65,600 gallons per day or 23,944,000 gallons per year, a difference of nearly 6M gallons. This reflects Kailapa users proclivity for water conservation, with each user using an average of around 18 k-gal per user bimonthly. Total water usage following the implementation of this proposed temporary subsidy will be monitored closely for adverse effects.

IMPACTS:

The proposed subsidy is recommended to take effect on July 1, 2025. This will allow the Department staff an appropriate amount of time to implement new procedures for billings to account for this subsidy.

| YEAR | TIER 1 USAGE FEE PER USER BIMONTHLY | TIER 1 USAGE FEE TOTAL BIMONTHLY<br><small>est. 10 k-gal per user</small> | TIER 2 USAGE FEE PER USER BIMONTHLY | TIER 2 USAGE FEE TOTAL BIMONTHLY<br><small>est. 8 k-gal per user</small> | ANTICIPATED TOTAL BILLINGS BIMONTHLY | ANTICIPATED TOTAL BILLINGS ANNUALLY |
|------|-------------------------------------|---|-------------------------------------|--|--------------------------------------|-------------------------------------|
| FY26 | 10.11                               | 16,580.40   | 13.58                               | 17,816.96  | 34,397.36                            | 206,384.16                          |
| FY27 | 10.11                               | 16,580.40   | 13.58                               | 17,816.96  | 34,397.36                            | 206,384.16                          |

| YEAR | KCA PAVILION USAGE FEE BIMONTHLY | KCA PAVILION USAGE FEE TOTAL BILLINGS<br><small>Est. 30 k-gal usage bimonthly</small> | KCA PAVILION USAGE FEE TOTAL BILLINGS ANNUALLY |
|------|----------------------------------|---|--|
| FY26 | 34.84                            | 1,045.20  | 6,271.30                                       |
| FY27 | 38.22                            | 1,146.60  | 6,879.60                                       |

Based on the estimated average of 18 k-gal usage per user bimonthly, totaling 18MG per year as recorded by the DHHL Fiscal Office, we estimate that billings for water use in FY26 will total approximately \$212,655.46 and FY27 will total

approximately \$213,263.76, taking into account the proposed temporary subsidy.

The subsidy is projected to cover the following amounts in billings (in USD):

| YEAR | BASE FEE<br>SUBSIDY<br>PER USER<br>BIMONTHLY | BASE FEE<br>SUBSIDY<br>TOTAL<br>BIMONTHLY<br>164 USERS | BASE FEE<br>SUBSIDY<br>TOTAL<br>ANNUALLY<br>164 USERS | TIER 1&2<br>USAGE FEE<br>SUBSIDY<br>PER USER<br>BIMONTHLY<br>Est. 18 k-<br>gal per user | TIER 1&2<br>USAGE FEE<br>SUBSIDY<br>TOTAL<br>BIMONTHLY<br>Est. 18 k-<br>gal per user | TIER 1&2<br>USAGE FEE<br>SUBSIDY<br>TOTAL<br>ANNUALLY | ANTICIPATED<br>TOTAL<br>SUBSIDY<br>ANNUALLY |
|------|--|--|---|---|--|---|---|
| FY26 | 149.88                                       | 24,580.32  | 147,481.92  | 22.50   | 3,690.00   | 22,140.00   | 169,621.92                                  |
| FY27 | 164.42                                       | 26,964.88  | 161,789.28  | 44.98   | 7,376.72   | 44,260.32   | 206,049.60                                  |

| YEAR | KCA PAVILION BASE FEE<br>SUBSIDY BIMONTHLY | ANTICIPATED TOTAL<br>SUBSIDY ANNUALLY |
|------|--|---------------------------------------|
| FY26 | 149.88                                     | 899.28                                |
| FY27 | 164.42                                     | 986.52                                |

\*yellow is the subsidy per user per bimonthly bill  
\*orange is the anticipate annual subsidy provided total

This anticipated total subsidy amounts to less than 33% or 1/3 of the annual revenue generated within the Kawaihae region. Keep in mind that the subsidy is covering the scheduled billing increases, and does not correlate to the actual cost of operation and maintenance of the water system, which is about \$245,000 per year based on FY2023.

NEXT STEPS

Planning staff will continue to work on the mid-term and long-term solutions identified in the Water - Wai Ola priority project including:

- Completing the cost-of-service study and water rates analysis study.
- Updating the water rates schedule in the administrative rules, and terminating the temporary subsidy.
- Identifying a new water source for potable water and non-potable water for Kawaihae.

Recommended Motion Action:

That the Hawaiian Homes Commission (HHC) approve the Temporary Water Bill Subsidy for Kailapa Homestead Lessees on the DHHL Kawaihae Water System as stated.

## 1. Water – Wai Ola

### PROJECT DESCRIPTION

Beneficiaries who attended the beneficiary consultations in Kawaihae for the update to the Regional Plan expressed that their highest priority is addressing the critical need for affordable water in Kawaihae. This project is comprised of three primary components:

- Provide affordable potable water to Kawaihae homesteads.
- Provide options for non-potable water to be used for agricultural or irrigation purposes.
- Find a new water source for the water system currently supplying potable water to Kailapa.

The Kailapa Homestead, where the majority of Kawaihae beneficiaries live, is currently served by the Kawaihae Unit #1 Water System which is a potable water system and provides water to each homestead lot in Kailapa and the community space located at 61-4016 Kai'ōpae Place. Kailapa relies on this potable water system as it is the only water system available to the homestead. The Kawaihae makai homesteads are serviced by the County of Hawai'i Department of Water Supply (DWS), and do not have an option for non-potable water either.

The potable water for the DHHL Kawaihae Unit #1 water system is supplied by Kohala Ranch Water Company (KRWC) from their groundwater well sources located on Kohala Ranch lands. The KRWC also provides potable water to Kohala subdivisions, like the Kohala Estates subdivision and Kohala by the Sea, located to the north of DHHL's Kawaihae lands. Water that is used by Kailapa homesteaders is pumped from the KRWC groundwater wells and piped south to DHHL's Kawaihae lands. The water passes through an interconnection point with DHHL's water system, and then travels from there in DHHL-owned water transmission lines to the Kailapa homestead. DHHL purchases potable water from KRWC at the metered interconnection point at a rate of \$7.03366 per 1,000 gallons of water. In addition to the water usage rate, DHHL is also charged a Power Cost Adjustment rate of \$2.2074 per 1,000 gallons of water. A flat rate maintenance fee of \$300 is also included in KRWC's monthly billings to DHHL. DHHL maintains a temporary water commitment with KRWC, which can be terminated by either party with two years notice.

At present, there are a total of 164 users of the DHHL water system including homestead lots and the community parcel. The operation and maintenance of the DHHL Kawaihae Unit #1 water system is contracted to Pural Water Specialty Company (PWSC), who handles the day-to-day operation as well as any repair and maintenance needed for the system. In addition to maintenance and repair, PWSC also provides meter readings to the DHHL West Hawai'i District Office (WHDO) for individual bimonthly billings for each water user on the system. DHHL's WHDO staff is tasked with handling the individual billing invoices for each user of the Kawaihae Unit #1 water system.

The Hawaiian Homes Commission approved new service rates in 2018, increasing water service fees for residential lessees each year over the next decade, from 2019 to 2029. These water rates were set in an effort for the Department to break even, as for years the Department had been spending millions of Trust funds on providing subsidies to water users all three of its water systems, including the Kawaihae Unit #1 water system. Water users in Kailapa are charged as follows:

1. A residential lessee meter service (base) fee, a flat rate billed bimonthly (for a 60-day period), and
2. A residential lessee service delivery (usage) fee, a fee calculated based on total gallons used per month, charged per 1,000 gallons, and calculated using the residential lessee service delivery (usage) tiers below. Currently, water users on DHHL's Kawaihae water system are being charged based on the FY24 rates in the tables below.

At the time that this water rate policy was adopted, the position of DHHL was that the end goal for the water rates was to “break even”, where the billing collections for water users should equal the expenses for operation and maintenance of the system. Though Kawaihae water rates are the highest, this water policy addresses all three of the water system’s owned by DHHL and any amendments to the water rate schedule should be inclusive of the other systems, its water users, and the potential expense to the Home Lands Trust. A water rate schedule should be equitably applied to all three water systems and its users, to the extent possible. Unlike other water purveyors, DHHL does have other funding sources besides bill collection, like commercial and industrial lease rents, that could be utilized to offset the cost of the water system and operation.

It has been more than five years since the rate increases began taking effect, enough time to assess the impact the 2018 rate increases have had on Kailapa residential lessees. Below is a comparison of DHHL Kawaihae water system delinquency rates compared to other municipal systems in Hawai‘i.

KAWAIHAE WATER SYSTEM SERVICE RATES  
APPROVED ON MAY 15, 2018

**Residential Lessee Service Rates:**

Residential lessee meter service (base) fees:

| Meter size (inches)<br>Bi-Monthly | FY 19   | FY 20   | FY 21   | FY 22   | FY 23    | FY 24    | FY 25    | FY 26    | FY 27    | FY 28    |
|-----------------------------------|---------|---------|---------|---------|----------|----------|----------|----------|----------|----------|
| 5/8"                              | \$49.07 | \$63.37 | \$77.70 | \$92.06 | \$106.46 | \$120.90 | \$135.37 | \$149.88 | \$164.42 | \$179.01 |

Residential lessee service delivery (usage) tiers:

|        | Gallons Bi-Monthly |
|--------|--------------------|
| Tier 1 | 0 - 10,000         |
| Tier 2 | 10,001 - 30,000    |
| Tier 3 | 30,001 - 80,000    |
| Tier 4 | Over 80,000        |

Residential lessee service delivery (usage) fees:

| Per 1,000 gallons | FY 19  | FY 20   | FY 21   | FY 22   | FY 23   | FY 24   | FY 25   | FY 26   | FY 27   | FY 28   |
|-------------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Tier 1            | \$3.67 | \$4.73  | \$5.81  | \$6.88  | \$7.95  | \$9.03  | \$10.11 | \$11.20 | \$12.28 | \$13.37 |
| Tier 2            | \$4.92 | \$6.35  | \$7.79  | \$9.23  | \$10.68 | \$12.12 | \$13.58 | \$15.03 | \$16.49 | \$17.95 |
| Tier 3            | \$6.89 | \$8.90  | \$10.92 | \$12.94 | \$14.96 | \$16.99 | \$19.02 | \$21.06 | \$23.10 | \$25.15 |
| Tier 4            | \$8.30 | \$10.73 | \$13.15 | \$15.58 | \$18.02 | \$20.46 | \$22.91 | \$25.37 | \$27.83 | \$30.30 |

Water usage data for households is not readily available for Hawai'i Island users, though it is available for O'ahu Island households. According to the Honolulu Board of Water Supply, on O'ahu the Average Water User uses 9,000 gallons per month, the Median Water User uses 6,000 gallons per month, and the High Water User uses 35,000 gallons per month. Despite Kailapa residents reporting higher water consumption during beneficiary consultations, paying approximately \$600 monthly, a statewide average will serve as the benchmark for comparing costs between Kailapa and County of Hawai'i rates. Based on this average usage, a Kailapa homesteader with a similar water usage on the DHHL system can expect to be billed in FY24:

- \$120.90 per bill for the base fee for meter service for 60-days of service.
- \$187.26 per bill for 18,000 gallons of water used over 60-days of service.

**A total of \$308.16 per bill** for 60-days of service based on the Average Water User of 9,000 gallons per month or 18,000 gallons for 60-days of service.

In comparison, a monthly water bill for customers on the County of Hawai'i DWS water system who use 9,000 gallons monthly is \$69.88 per month or \$139.76 for a 60-day billing period. Homesteaders in Kailapa are paying more than double what County water users are charged for a comparable service, and the DHHL water rates are scheduled to increase year after year. Based on the water system service rates approved by the HHC for Kawaihae, in four years a homesteader in Kailapa with the same water usage will be billed \$456.31 a 48% increase of what homesteaders are currently paying. At these rates, some homesteaders may not be able to afford water for their homes.

The County of Hawai'i DWS as of January 2024 has a delinquency rate of 12% for customers on their system who are delinquent over 90 days. For Honolulu's Board of Water Supply (BWS) in 2021, the delinquency rate for their system was 11%. For Maui County Department of Water Supply, the average for Fiscal Year 2023 was 8.13%, and the average for the first six months of 2024 is 8.8%. In 2023, a first notice of delinquency was sent out to 57 of the 164 users of the Kawaihae Unit #1 water system, a delinquency rate of 34.75%. One month later, a second notice of delinquency was sent out to 27 of the 164 users of the system, which is 16.46% of the system users. Shut off notices went out nearly two months after the second notices were sent to 17 users who had yet to remit payment or make arrangements for a payment plan with DHHL, which is 10% of the system users. The initial delinquency rate, prior to DHHL issuing delinquency notices is extremely high in comparison to these other major water purveyors in the State. A cause of the higher delinquency rate on the DHHL Kawaihae system compared to other municipal water purveyors can be partly attributed to the high water rates charged to homestead users.

Kawaihae homesteaders have asked for water rates that align with the rates paid by residential water users in the rest of the County. They would also like to see any options for affordable agricultural/irrigation water. If there were an option for agricultural/irrigation water available to homesteaders in Kailapa, they could reduce their use of potable water for non-potable uses, which would conserve precious potable water and decrease their water bill for potable water. As KRWC's water rates for DHHL are some of the highest water rates in the State, another way to decrease the cost of water for Kailapa homesteaders is to find another water source to supply the potable water system. A water source that costs less than \$7.03366 per 1,000 gallons would allow for lowered water usage rates to be passed along to Kailapa homesteaders.

### New Water Source Development

In 2015, DHHL commissioned a water source development feasibility study, conducted by R.M. Towill Corp. The purposed of the study was to identify potential potable water source development options for the Kawaihae lands.

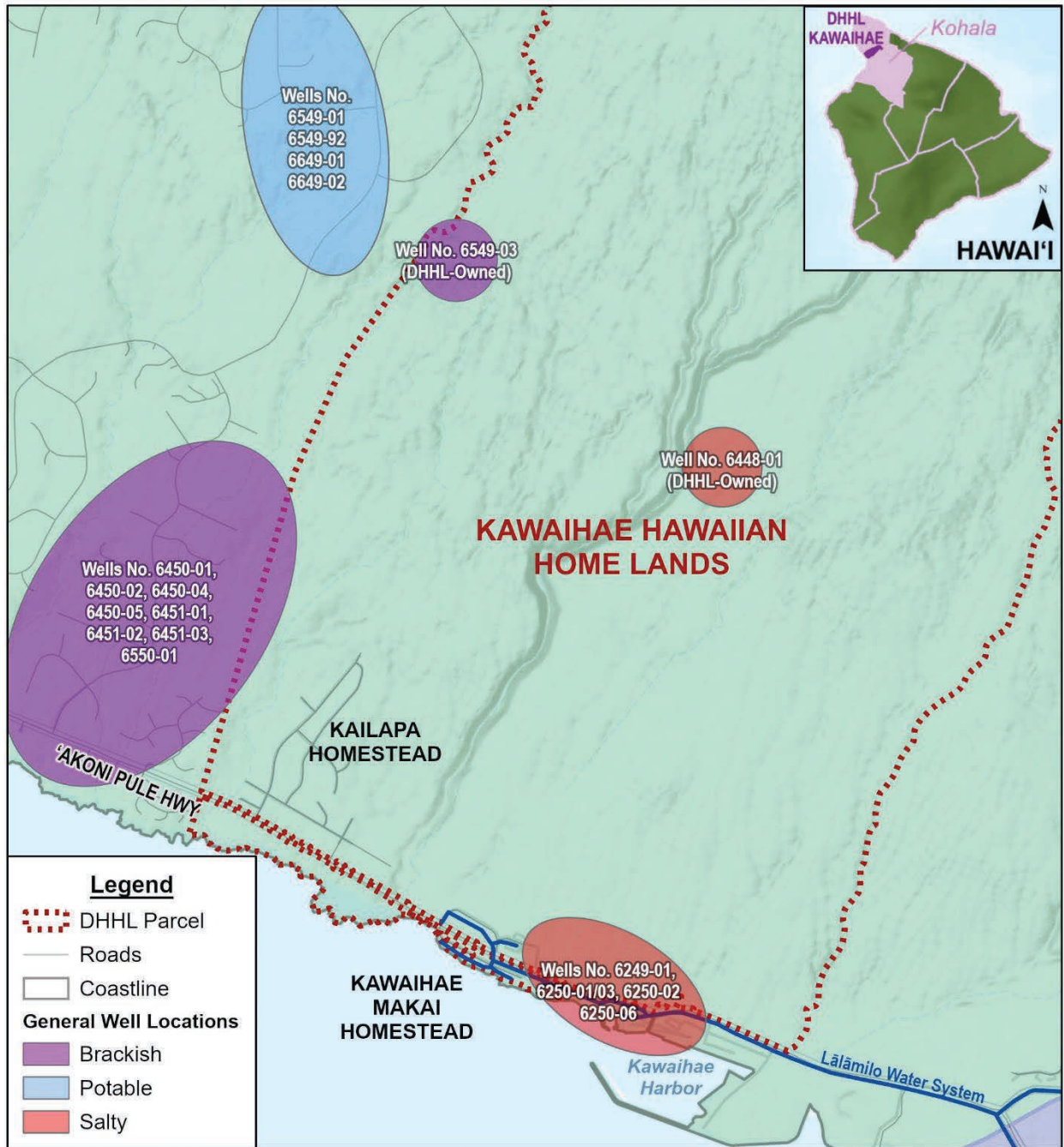
| <b>Option</b>   | <b>Description</b>   | <b>Cost (2013 dollars)</b>                        |
|---|--|---|
| Develop existing exploratory well on DHHL land  | An existing exploratory well is located at higher elevation on DHHL lands. But, water produced from the well is near the upper limit of salinity levels and desalinization would be required   | \$14.9M   |
| Develop existing exploratory well on DHHL land and connect to Kohala Ranch Water System | Similar to the above option, but involves connecting to the Ranch system and expanding the Ranch's service area. However, water rates would still be controlled by the Ranch and desalinization may still be required to connect to the Ranch system. The Ranch has not indicated any interest in this option.                                 | \$6.6M  |
| Capture Surface Water from Kehena Ditch   | Kehena Ditch is located mauka of the DHHL Kawaihae tract and traverses through DLNR and private property. The source is not constant. Improvements needed include transmission lines, 60 MG open reservoir, treatment facility, and 0.50 MG tank. DHHL would need approvals from CWRM and also enter into agreements with Kahua Ranch.         | \$27M   |
| Extend DWS System Along Akoni Pule Hwy.   | DWS system ends near the DHHL industrial lots south of the Kailapa Homestead Subdivision. Extension of the County system would have to go through Honokoa Gulch and additionally County has indicated a new well would need to be developed. Easements through private property may also be needed to extend the County line to DHHL property. | \$18.5M to \$28.1M not including land acquisition |
| Development of Kawamata Well and transmission lines                                     | The well is located 8 miles from the Kailapa subdivision on private property. The well is drilled and cased but has not been pump tested. DHHL would need to purchase the well and develop transmission lines to DHHL property.  | \$24M not including land acquisition costs        |

Source: Water Development Options 2015 R.M. Towill Study

In addition to sustaining residential and community needs, securing adequate water resources is essential for fire hazard mitigation to ensure the safety of the Kawaihae homesteads. Between 2003 and 2022, there have been 10 recorded wildfires in the general vicinity. Most recently, Kailapa residents were evacuated from their homes in August 2023 due to the threat of an adjacent wildfire. A subsequent wildfire occurred nearby in December 2023; fortunately, it did not pose a threat to any structural properties.



FIGURE 23. AQUIFERS, WELLS, AND DWS WATER SYSTEM MAP



**Kawaihæ Regional Plan Update  
AQUIFERS, WELLS &  
DWS WATER SYSTEM**

March 2024

This graphic has been prepared for general planning purposes only and should not be used for boundary interpretation or other spatial analysis.



## PAST ACTIONS

- 1990 – An exploratory well (Well No. 6448-01) was drilled at the 1,400 ft elevation on the south side of Honokoa Gulch.
  - It was determined that this well could never produce potable quality water.
  - At most, this well could potentially produce brackish water suitable to irrigate salt tolerant plants and grasses.
- 1992 – A second exploratory well (Well No. 6549-03) was drilled at the 1,650 ft elevation near DHHL’s north property boundary.
  - Chloride levels were found to be at the upper limit of acceptability for drinking water in Hawai’i.
- 2013 – Tom Nance Water Resource Engineering completed an assessment of water supply alternatives for DHHL’s Kawaihae property.
  - Recommendation: develop a water system using existing Well No. 6549-03.
- 2015 – A Kawaihae Water Assessment Study by R.M. Towill Corporation outlined water resource development options for DHHL.
  - Recommendation: develop Well No. 6549-03 and an accompanying storage and distribution system. Total cost was projected to be approximately \$14.9 million.
  - Disadvantage: additional desalination treatment of Well No. 6549-03 is recommended.
- 2022 – DHHL awarded the Kailapa Community Association a grant to explore the potential for desalination of water from an existing DHHL groundwater well. The studies being conducted under the grant are still in progress.

## COMMUNITY INPUT

Attendees of beneficiary consultations #1, #2, and #3 unequivocally expressed that affordable access to water was their number one priority; every discussion consistently circled back to the pressing need for water. One beneficiary highlighted that water has always been an issue in Kawaihae, noting that even the name Kawaihae, meaning “water of wrath,” originated from a dispute over water. Kawaihae homesteaders have been challenged by the lack of accessible/affordable water throughout their entire time living in Kawaihae and are ready for improvements.

To further underscore the community’s sentiment regarding water, the “Water – Wai Ola” project received nearly three times as many votes as the next closest project during the priority project voting. Furthermore, among the 40 written comments received during the voting process, 31 of them emphasized the immediate need for affordable water. A few of the comments are listed below:

- “We want to pay county rate for water like the rest of the homesteaders!”
- “Water rates have soared and currently we have no alternate water source besides Kohala Ranch Wells. Our water source could be discontinued at any time.”
- “Although water is available at Kailapa, the rates we pay are ridiculous. Bring the water down from mauka...so we don’t have to be dependent on Kohala Ranch and so that it supplies the ag/ranch land above Kailapa. We currently cannot even provide our own sustainment or take care of landscaping needs.”

Additional comments were provided in beneficiary consultation #3; a selection of them is listed below:

- How much does our water/water system cost DHHL? We want to see some transparency.
- DHHL is responsible for providing water. Why give the land to us? We didn’t agree to the highest water rate in the State when we accepted our awards.

- No residents voted in support for the DHHL increase in water rates, and nobody knew about it before it happened.
- "I'm being punished for using water."
- "I've been here for 2 years; you can hear the pain in their voices for those who have been here for years. As I'm looking at past actions, we're just going in circles like a washing machine."
- "I cannot even grow a mango tree; it's too expensive."
- "Please help Kailapa get reliable, affordable water so native Hawaiians can grow native Hawaiian plants on native Hawaiian lands."
- "Our service charges are increasing and the concerns for the future are the compromise between food on the table and/or running water in our homes. Our families and majority of our community's economic means will not be able to keep up with these rising costs."
- "I pay \$200 [per month] for water, and I don't even live on property."
- Why should residents pay so much for water? "We don't even drink the water."
- Kailapa water meters and pipes are breaking down and leaking, DHHL should look into smart meters which can also test the quality of the water.
- The water fee is split into two parts: a service fee and a usage fee. DHHL should pay the service fees as a short-term solution.
- "With so much revenue being generated from Kailapa, the industrial/commercial and agricultural, please consider allocating a portion to subsidizing water costs until a permanent solution for affordable water can be found."
- The Land Management Division should review the commercial/industrial lease rates since they are 30 years old.
- Desalination technology has become more advanced and cost effective. Kailapa could use desalination on the water from the brackish wells.
- "The most viable, long-term option for affordable water for Kailapa is county water."

## OBJECTIVE

This project aligns with all the community values of Kawaihae. Water, being essential for life, is indispensable for the community's survival and prosperity. It is a vital resource for cultivating food and without it, Kawaihae cannot achieve self-sufficiency in its agricultural endeavors. Traditional land stewardship, or mālama 'āina, requires water to restore the natural environment of Kawaihae. The proposed community garden at the Kailapa Resource Center, intended to foster community connections, would be impracticable without access to water. Similarly, the construction of the Resource Center, which would provide educational opportunities for keiki to kūpuna, would be impossible without water access. Finally, water is essential for Kawaihae beneficiaries to transmit ancestral knowledge through daily activities such as food cultivation.

## IMPLEMENTATION ACTION STEPS

The following are the proposed solutions to addressing the issues identified in this priority project:

- Provide a temporary subsidy for Kailapa homesteaders until the water rate schedule can be updated.
- Re-assess DHHL water billing rates to provide more affordable potable water to Kailapa homesteads on the DHHL Kawaihae water system.
- Find a new water source for the water system currently supplying potable water to Kailapa.
- Provide options for non-potable water to be used for agricultural or irrigation purposes.

As this priority project has various components, the implementation action steps articulated here will address each proposed solution separately. These proposed solutions are ordered as short-term, mid-term and long-term solutions.

**SHORT-TERM: Provide a temporary subsidy for Kailapa homesteaders until the water rate schedule can be updated.**

As the timeframe for updates to the water rate schedule will likely take approximately two (2) years to complete, a temporary subsidy should be implemented for Kailapa homesteaders to provide immediate relief for the high water rates they are facing and make water more in the interim.

1. Go to HHC for approval of a subsidy for users of the Kawaihae Water System in Kailapa.
  - The subsidy for users should cover the base rate for meter service, currently at \$120.90 and scheduled to increase to \$139.37 as of July 1, 2024. This amount is approximately \$138,000 for 164 users for FY24 and \$148,000 for 164 users for FY25.
  - The source of the subsidy could come from a variety of sources including:
    - A portion of the revenue generated from commercial/industrial and pastoral land dispositions in the Kawaihae Region.
    - DHHL land dispositions in Kawaihae generated \$604,521.64 in revenue in 2022.
    - Less than 25% of the annual revenue generated in Kawaihae could subsidize the basic meter fee for Kailapa homesteaders.
    - Currently, DHHL homesteads in Kawaihae have no community benefit agreements and receive 0% of revenue generated from land dispositions in the region.
  - HHL Trust Funds.
  - Other.
2. Continue working on long-term solutions to ensure the subsidy is only necessary as a short-term solution.
3. Upon revision of the water rate schedule, terminate the temporary subsidy and effectuate the water rate schedule as revised.

**MID-TERM: Provide affordable potable water to Kawaihae homesteads.**

- Re-assess the water rate schedule approved by the HHC in 2018.
  1. Go to HHC to seek budget approval to do update cost of service and water rate studies for the Kawaihae water system. Study should also identify potential solutions to lower the rates for water users in Kailapa homestead and should determine potential annual cost to DHHL trust to subsidize rates to match County rates.
  2. Conduct the analysis.
  3. Present results to HHC.
  4. Based on results, create Draft Rules Version #1, prepared by DHHL staff based on the analysis.
  5. Go to HHC with draft rules for approval to proceed.
  6. Conduct a beneficiary consultation for input on draft rules.
  7. Revise draft rules based on beneficiary input & create Draft Rules Version #2.
  8. Send Draft Rules Version #2 for external review:
    - Legislative Reference Bureau
    - Attorney General
    - Small Business Regulatory Review Board
  9. Go to HHC for approval of Draft Rules Version #2.

10. Seek Governor approval of a Public Hearing Request.
11. Conduct Public Notice & Hearing.
12. Prepare Final Rules based on input from Public Hearing.
13. Go to HHC for adoption of Final Rules.
14. Seek external approvals:
  - Attorney General
  - Small Business Regulatory Review Board
  - Governor
15. Filing and publication of Final Rules.

\*As a note, the average timeframe for updates to Administrative Rules is approximately two (2) years and this potential timeframe should be taken into account when reviewing the above implementation action steps.

**LONG-TERM: Find a new water source for the water system currently supplying potable water to Kailapa.**

- Develop a new potable water source.
  1. Revisit 2015 feasibility study options for providing potable water to Kawaihae.
  2. Schedule consultations with the community to select a preferred option for DHHL to pursue.
    - Meeting 1 – review the options discussed, share information & updates on water sources, water development, and review water matrix.
    - Meeting 2 – discuss & prioritize the options for water source development.
    - Meeting 3 – select a preferred option for water source development for DHHL to pursue.
  3. Water Source development steps
    - Secure funding
    - Due diligence
    - Water credit agreement (if needed)
    - Design & construction
    - Agreement for long-term operation

**LONG-TERM: Provide options for non-potable water to be used for agricultural or irrigation purposes.**

- Develop a new non-potable water source.
  1. Feasibility study on potential water supply options
    - Desalination
    - Water catchment
    - Kehena Ditch
  2. Schedule meetings with the community to select a preferred option for DHHL to pursue.
    - Meeting 1 – review the options discussed, share information & updates on water sources, water development, and review water matrix.
    - Meeting 2 – discuss & prioritize the options for water source development.
    - Meeting 3 – select a preferred option for water source development for DHHL to pursue.
  3. Water Source development steps
    - Secure funding
    - Due diligence
    - Design & construction
    - Agreement for long-term operation

STATE OF HAWAI`I

DEPARTMENT OF HAWAIIAN HOME LANDS

March 17-18, 2025

To: Chairman and Members, Hawaiian Homes Commission  
Thru: Andrew Choy, Planning Program Manager *AC*  
From: Lillie Makaila, Planner *lljm*  
Subject: Declare a Finding of No Significant Impact (FONSI) for the North Kona Wells Project - Gianulias Well Site Final Environmental Assessment, North Kona, Island of Hawai'i  
TMK No. (3)-7-5-014:00

Recommended Action

That the Hawaiian Homes Commission (HHC) issue a Finding of No Significant Impact (FONSI) declaration based on the Final Environmental Assessment (FEA) for the North Kona Wells Project - Gianulias Well Site; North Kona, Island of Hawai'i  
TMK No. (3)-7-5-014:001.

Discussion

In both the 2009 and 2020 Regional Plans for Kealakehe/La'i 'Ōpua, water source development to support water supply for DHHL lands in North Kona was identified as a priority project for the region. These regional plans were developed through a regional planning process with beneficiaries and the plans were approved by the Hawaiian Homes Commission. The priority project, called "North Kona Water Source Development and Storage" focuses on working collaboratively with various stakeholders in the region to develop additional water sources in order to meet the needs of the Department to provide water for development of its lands in the region.

Currently, DHHL has approximately 1,400 acres in the North Kona Region. After the completion of La'i 'Ōpua Village 4 Phases I and II, DHHL will have exhausted its available water credits (equivalent units) on the County DWS water system to provide potable water, and will need additional credits to provide potable water for all planned future development in the region.

Additional water credits are critical in order for DHHL to proceed with any of its planned development that requires water infrastructure in North Kona, including the construction of homesteads, community spaces, the expansion of existing community uses, etc. The unmet water demand for DHHL in North Kona is estimated to be 3.398 million gallons per day (MGD). In 2015, the Commission on Water Resource Management (CWRM) approved a water reservation for this need, 3.398 MGD, for North Kona. This water reservation is a kapu of water for DHHL's use, but does not mean immediate access to "wet water" to supply development.

The County DWS has advised DHHL that in order to access this water reservation, DHHL must develop additional groundwater well sources. It will likely take 3-4 groundwater wells with a capacity of 1MGD to supply the necessary water needed to fully develop the Department's lands in North Kona. County DWS has verbally told DHHL that it would give DHHL the "full amount" of water from groundwater well sources developed in the region. A groundwater well that has the capacity to pump 1MGD will pump that amount over the course of the 24-hour period. Best practices are to "rest" a well for an 8-hour period, or one-third of the pumping time. The County water credit allocation formula for a 1MGD well is as follows:

- 1,000,000 gallons x two-thirds = 666,666 gallons per day (this assumes that the well will not be pumping 24-hours, but will rest for 8-hours)
- 666,666 gallons per day/one water credit or 600 gallons per day = 1,111 water credits
- 1 water credit = 1 housing unit = 1 residential homestead

Therefore, a 1MGD well source can potentially supply 1,111 residential homesteads.

DHHL's existing lands in North Kona do not overlay a reliable water source, and the lands that are located mauka of the Kaloko-Honokōhau National Park are located within the National Park Service's area of concern for water source development. This area of concern is described as the four ahupua'a in the vicinity of the park where studies indicate that groundwater well development will negatively impact the park resources and the traditional and customary native practices that rely on the groundwater sources in this area (See Figure 1 below). For these reasons, DHHL has been tasked to look for potential groundwater well sites off DHHL lands.

DHHL has identified two potential groundwater well locations in the Kona region that could supply the necessary potable water needed (See Figure 1). One site is currently owned by the Kamehameha Schools Bishop Estate and located in Keauhou. The second site is referred to as the Gianulias property, and is currently owned by Cannery Commercial, LLC and AKT Kona Investors, LLC and leased to Cancino Family Farms, LLC for use as a commercial coffee farm in Wai'aha.

The Gianulias property is approximately 130 acres and is mauka of Māmalahoa Highway. It is located at the same elevation as an existing County DWS well, and has been identified as a good location to site a groundwater well. The current land use on the property is coffee farming, and the appraised value for the property according to an appraisal completed in September 2022 is \$10.5M (Exhibit B).

Negotiations for the acquisition of this parcel have been on-going since 2018. Beneficiaries in the Kona Region have encouraged the Department to move forward with land acquisition and water source development of this property throughout the on-going negotiations with the current landowners. Here is a table of the major milestones in the acquisition process:

| Action                       | Date  |
|------------------------------|---|
| Letter of Intent signed      | June 2023   |
| Due diligence studies        | On-going  |
| Purchase and Sales Agreement | In progress   |
| Projected closing            | June 2025; depending upon completion of HRS Chapter 343 compliance and Ka Pa'akai Framework |

### III. PURCHASE AND SALES AGREEMENT

The purchase and sales agreement (PSA) is a legally binding document between the current landowners of the Gianulias property as the potential sellers and DHHL as the potential buyer. This document outlines the terms and conditions that will guide the sale of the property. The HHC approved the PSA for the property earlier this year at its January meeting. (Exhibit A).

Per guidance from the State Attorney General's Office, one of the conditions included in the PSA to close on the purchase of this property is the completion of an HRS Chapter 343 EA.





**NORTH KONA WATER  
POTENTIAL SOURCE DEVELOPMENT SITES**

**LEGEND**

- DHHL Lands
- Ahupua'a
- Kaloko-Honokōhau National Historical Park
- Gianulias Site
- KS Well Site



Figure 1

IV. DRAFT ENVIRONMENTAL ASSESSMENT

A Draft Environmental Assessment (EA) has been prepared to study the affected environment, assess potential environmental and socio-economic impacts, and propose measures to mitigate potential impacts. The following table summarizes the findings and mitigation measures from the Draft EA:

| Affected Resource              | Short-term Impacts             | Long-term Impacts  | Cumulative Impacts   | Mitigation Measures  |
|--------------------------------|--------------------------------|--|--|--|
| Land Use                       | None Anticipated               | None Anticipated   | None Anticipated, all future growth resulting from the Proposed Action and other developments are within designated growth areas | Final well location will be outside areas classified as Agricultural Lands of Importance to the State of Hawai'i   |
| Geology, Topography, and Soils | Clearing, grading and grubbing | None Anticipated   | None Anticipated   | Grading, Grubbing and Stockpiling permits per Hawai'i County Code, Chapter 10-Erosion and Sediment Control; soil loss and erosion Best Management Practices (BMPs)                                     |
| Hydrologic Resources           | None Anticipated               | Greater groundwater withdrawal from the Keauhou Aquifer System Area within the aquifer's sustainable yield | Greater groundwater withdrawal from the Keauhou Aquifer System Area within the aquifer's sustainable yield                       | Soil loss and erosion BMPs; Well Construction and Pump Installation Permits; Engineering Report compliant with HAR §11- 20-29; NPDES permit, siting the wells outside the floodplain of Wai'aha Stream |

| Affected Resource                      | Short-term Impacts  | Long-term Impacts | Cumulative Impacts | Mitigation Measures   |
|--|---|-------------------|--------------------|---|
| Biological Resources                   | Potential spread of invasive species; Temporary displacement of fauna species during construction phase | None Anticipated  | None Anticipated   | Invasive species control measures; fauna avoidance and impact reduction BMPs; biological resource training for crews; fauna resource buffers  |
| Archaeological and Historic Properties | None Anticipated  | None Anticipated  | None Anticipated   | Cultural resource training for construction crews; archaeological monitoring during construction; notify SHPD if cultural or historic resources are identified during construction; cease work immediately and contact SHPD, coroner and police if iwi kūpuna are identified during construction activities, and develop reinternment plan as appropriate |

|   |                         |                         |                         |   |
|---|-------------------------|-------------------------|-------------------------|---|
| <p>Cultural Resources and Practices</p> | <p>None Anticipated</p> | <p>None Anticipated</p> | <p>None Anticipated</p> | <p>DHHL will uphold its mandates as prescribed by law; site water source development within the same ahupua'a as it will be consumed whenever possible; implement efficiency and conservation measures in transportation, storage and consumption in areas that are importing water; water recycling efforts; water conservation collaboration/partnership in public awareness campaign; culturally informed research, studies and monitoring to inform mitigation; appropriate thresholds identified and upheld; regional monitoring program with benchmarks and actions tied to those benchmarks; propose management options if the trend is towards detrimental effects; frequent, meaningful, and accessible updates regarding research, studies and monitoring practices should be available to stakeholders; DHHL will consider the formation of a hui open to stakeholders to advise water-related decision-making and aid in outreach to stakeholders at large; DHHL will make efforts to encourage</p> |
|---|-------------------------|-------------------------|-------------------------|---|

|  |  |  |   |
|--|--|--|---|
|  |  |  | <p>more beneficiaries and members of the native Hawaiian community to be involved in the Boards of Water Supply meetings and to be members on the Boards of Water Supply so these important stakeholders are able to have more authority over water use; DHHL should commit financially and administratively to supporting community-managed water resource management; DHHL will advocate for and participate in the update of the Water Use and Development Plan for Hawai'i County; DHHL will support and advocate for Commission on Water Resource Management (CWRM) analysis of water availability and revised sustainable yields, including a process that has substantial opportunity for public input; DHHL will advocate for CWRM to share more rigorous summaries of existing state of knowledge as published; DHHL will advocate for and participate in the update of the Statewide Framework for Updating the Hawaii Water Plan (Framework); DHHL</p> |
|--|--|--|---|

|  |  |  |   |
|--|--|--|---|
|  |  |  | <p>will aid in funing mālama 'āina/watershed management efforts in affected ahupua'a to increase water recharge and to allow for mālama of places and areas critical for the continuation of native practices; DHHL will create a clear pathway for long-term access for native rights and customary practices on DHHL's lands and will look into its current ROE/land disposition process for activities such as mālama 'āina and stewardship; DHHL will collaborate with stakeholders in the creation of a preservation plan for Kealakowaa, the protection of cultural, historical and natural resources associated with the Kona field system, and stewardship of the Kona upland forests. These efforts include contributions or resources in other areas or in the project parcel itself, towards the restoration of these valued resources in collaboration with cultural practitioners, lineal descendants, native tenants, beneficiaries, etc.</p> |
|--|--|--|---|

| Affected Resource                        | Short-term Impacts                                    | Long-term Impacts | Cumulative Impacts   | Mitigation Measures  |
|--|---|-------------------|--|--|
| Scenic and Aesthetics                    | None Anticipated                                      | None Anticipated  | None Anticipated   | None Required  |
| Air Quality                              | Fugitive dust and construction related air pollutants | None Anticipated  | None Anticipated   | Air pollution control BMPs   |
| Socioeconomics and Environmental Justice | None Anticipated                                      | None Anticipated  | Positively benefiting Native Hawaiian and low-income families by creating increased access to housing and economic opportunities | None Required  |
| Acoustic Environment                     | Noise generated during construction                   | None Anticipated  | None Anticipated   | Community Noise permit; noise reduction BMPs; public informational meeting |
| Transportation and Traffic               | Minor increase in traffic during construction phase   | None Anticipated  | Secondary impacts combined with reasonably foreseeable developments could result in increased traffic around La'i 'Opua          | None Required  |
| Natural Hazards                          | None Anticipated                                      | None Anticipated  | None Anticipated   | Final well location will be outside the Special Flood Hazard Zone          |
| Public Facilities and Infrastructure     | None Anticipated                                      | None Anticipated  | Secondary impacts combined with reasonably foreseeable developments could  | None Required  |

| Affected Resource | Short-term Impacts | Long-term Impacts | Cumulative Impacts   | Mitigation Measures |
|-------------------|--------------------|-------------------|--|---------------------|
|                   |                    |                   | increase demand on Keauhou Aquifer System Area, public facilities and infrastructure |                     |

The following sections highlight the key environmental findings and recommended mitigation measures from the Draft EA:

**Hydrologic Resources**

The Proposed Action would not change the Project Site’s potential exposure to rainfall or impact rainfall levels in the area. The Proposed Action would have no impacts on wetland features, as none occur in the Project Site. Those in the vicinity are mauka of the site and Māmalahoa Highway and would not be affected by the Proposed Action.

Wai’aha Stream crosses through the northwestern portion of the Project Site however, the Proposed Action would not impact this surface water source. The wells will be sited in a location away from the stream, and in an area that produces the least amount of ground disturbance to reduce potential impacts. BMPs like those described in Section 3.3.3 would be used during excavation and grading activities to minimize soil loss and erosion preserving existing surface and coastal water conditions. Permanent sediment control measures will be used once construction is complete. The exact amount of ground disturbance for the Proposed Action will be dependent on the topography and ground conditions of where the wells are sited. The total area disturbed will likely exceed one acre, and a NPDES permit will be obtained for the Proposed Action. Prior to Phase I, Well Construction and Pump Installation Permits will be obtained for the Proposed Action. While the two final production wells will be closer than the DWS preferred 0.25 miles, during Phase I the well will be tested to ensure it can support the desired water quantity to be produced collectively between the two final production wells. Testing will ensure there would be minimal interference between the two wells. During Phase I testing, if the water quality or quantity is insufficient or there is interference with nearby wells the Proposed Action would not continue to Phase II.



Upon installation and operation of Phase II, pumping by the Proposed Action will result in lowering groundwater levels in the project area. The Proposed Action is anticipated to withdraw a maximum of 2 mgd. This is within CWRM's approximately 3.4 mgd DHHL ground water reservation amount and is approximately five percent of the KASA's 38 mgd sustainable yield. If the Proposed Action and other additional proposed wells are developed, the future and existing wells would require an approximate total of 28 mgd (County of Hawai'i, Department of Water Supply, 2017). This is about 73 percent of the KASA's sustainable yield as determined by the CWRM, which is within the 90 percent sustainable yield limit. Thus, the Proposed Action would have minimal impact on the KASA or its long-term sustainability.

The DOH has strict requirements for new public drinking water sources. As such, the Proposed Action will comply with HAR §11-20-29 Rules Relating to Public Water Systems. An engineering report will be submitted to the DOH and approved before placing the Proposed Action online within the DWS's North Kona Water System. The report will identify all potential sources of contamination, evaluate alternative controls which could be implemented to reduce or eliminate contamination potential, and include a water quality analysis for all regulated contaminants.

### **Biological Resources**

The Project Site is an altered landscape composed primarily of two vegetation types: landscaped vegetation and cultivated fields. No federally and/or state-listed threatened, endangered, or candidate plant species or rare Native Hawaiian plants were observed during the survey effort.

The Project Site directly abuts the Wai'aha Springs Forest Reserve, which is part of the National Audubon Society's Kona Forests Important Bird Area (IBA). The IBAs Program is a global effort to identify and conserve locations that are vital to birds and other species to ensure ongoing biodiversity. The Kona Forests IBAs has no legal distinction or ability to directly impact land uses but is instead intended to enhance conservation by providing sites for Native Hawaiian fauna species to breed and/or forage.

Fauna observed during the survey consisted primarily of common avian species found in and around disturbed areas on the Island of Hawai'i. Of the 13 avian species observed onsite, one was the 'Io, or Hawaiian hawk (*Buteo solitarius*), which is an endemic and state-listed endangered species. While not detected during the survey effort, within the Project Site there is suitable foraging and

nesting habitat for the federally threatened and state-listed endangered nēnē, or Hawaiian goose (*Branta sandvicensis*). Additionally, no Hawaiian seabirds were detected during the survey but there is the potential for them to traverse the Project Site at night during the breeding, nesting and fledging seasons (March 1 to December 15).

The feral pig (*Sus scrofa*) was the only mammal detected however, the Asian mongoose (*Herpestes javanicus*), rat (*Rattus* spp.) and mouse (*Mus musculus*) are expected to occur. Additionally, present within the Project Site is suitable foraging and roost habitat for the federally and state-listed endangered 'ōpe'ape'a, or Hawaiian hoary bat (*Lasiurus cinereus semotus*). While not detected during the survey effort, suitable habitat indicates the potential presence of this species onsite. No native invertebrates were observed.

The Project Site does not contain any designated or proposed critical habitat for any threatened or endangered fauna species and is not expected to support any other listed species beyond those previously discussed.

The Proposed Action will adhere to BMPs during construction and operation to minimize impacts to flora and fauna resources found at the Project Site. Construction will be implemented in phases to control erosion and no landscape alterations will occur within the Flood Zone AE area or along Wai'aha Stream. No impacts are anticipated for aquatic resources, however in the extremely unlikely event that accidental discharges occur the Department of Land and Natural Resources, Division of Aquatic Resources will be notified immediately.

Due to the prevalence of weedy, non-native plant species within the Project Site the following mitigation measures would be implemented as applicable to prevent the unintentional spread or introduction of new invasive species to the site:

- All construction equipment and vehicles would be washed and inspected before first entering the Project Site;
- Regularly washing and inspection of all construction equipment, vehicles and materials at a designated location for the presence of invasive or harmful non-native species by a qualified botanist or entomologist prior to entering the Project Site;
- Regularly clearing equipment, materials and personnel of excess soils and debris;
- Purchasing raw construction materials (e.g. fill) from on-

- island suppliers to avoid introducing non-native species;
- Maximizing use of native plant species or non-invasive species for landscaping and erosion control; and
- Sterilizing gear such as work boots, cutting tools, and vehicle tires to prevent the spread of fungal pathogens.

Potential impacts to fauna species are anticipated to be short-term and limited to the construction phases of the Proposed Action, which could temporarily displace individuals from the Project Site. However, suitable foraging, nesting and roosting habitat within the Wai'aha Springs Forest Reserve is directly adjacent to the site and could be used by displaced individuals until construction is completed. To further reduce any potential impacts to biological resources, the following avoidance and mitigation measures would be used during the construction and operation of the Proposed Action:

- Conduct biological resource training as a component of safety training for project personnel before working onsite that identifies special-status species and measures to be taken by crews if found during construction or operation;
- Appropriate speed limits would be posted and implemented within the Project Site to avoid potential impacts to nēnē;
- Any nēnē found onsite during construction or operation would be avoided;
- Nesting bird surveys of the Project Site and areas directly adjacent would be conducted by a qualified biologist within 72 hours prior to initiating construction, tree trimming or tree removal activities or after three (3) or more consecutive days of inactivity;
- If a nēnē nest is found within a 150-foot radius of the Proposed Action, or a previously undiscovered nest is located within said radius after construction has started, all work would cease immediately, and the U.S. Fish and Wildlife Service would be contacted for further guidance;
- No vegetation clearing or construction activities would occur within 1,600 feet of any active 'Io nests until the nest is determined inactive by a qualified biologist;
- Trees containing confirmed active or inactive 'Io nests would not be trimmed or removed, as nests may be re-used for consecutive breeding seasons;
- Active nesting sites of other Migratory Bird Treaty Act protected species would be avoided until the nest is determined inactive by a qualified biologist;
- Nighttime construction work would be avoided during seabird fledging season (September 15 to December 15);
- External light fixtures would be downfacing and shielded to

- prevent disruption of seabirds in flight;
- Where applicable, automatic motion-controlled sensors would be used for external light fixtures;
- Trimming and removal of vegetation greater than 15 feet tall would be avoided during
- 'ōpe'ape'a birthing and pupping season (June 1 and September 15); and
- Barbless materials would be used for any construction or operation fencing to avoid entanglement of 'ōpe'ape'a.

No additional short- or long-term impacts are anticipated. Therefore, no additional mitigation measures are required.

### **Archaeological Resources and Historic Properties**

As required by HRS §343, HRS §6E-8, HAR §13-275 and HAR §13-276, an investigation was conducted to determine if any historic, cultural, or archaeological resources are present within the Project Site. Investigations were focused on approximately five (5) acres of the Project Site as shown in Figure 3-13: Focused Survey Area for LRFI / AIS.

The following is a chronological record of the investigations conducted by Cultural Surveys Hawai'i to identify and evaluate the potential of any historic, cultural, or archaeological resources being found onsite within the focused 5-acre study area:

- February 2019, the final Archaeological Literature Review and Field Inspection (LRFI) report was completed;
- May 2019, as part of the HRS §6E-8 process the State of Hawai'i, Department of Land and Natural Resources, SHPD concurred with DHHL's request to conduct an Archaeological Inventory Survey (AIS) based on the findings of the LRFI.
- August 2019, a final Cultural Impact Assessment (CIA) and summary report was completed;
- August 2020, an AIS was conducted following continued consultation with SHPD to determine the level of subsurface testing and a summary report was drafted; and
- December 2024, a Ka Pa'akai Framework Analysis Report was completed to ensure DHHL is in compliance with Article VII, Section 7 of the Hawai'i State Constitution, which places an affirmative duty on the State and its agencies to preserve and protect the reasonable exercise of customary and traditional native Hawaiian rights to the extent feasible and make an assessment of the impacts on these practices.

Three historic properties were identified during the LRFI and

analyzed during the AIS. The Proposed Action will adhere to BMPs during construction and operation to minimize impacts to the historic property resources found at the Project Site. Construction will be implemented in phases and the final well site will avoid these resources, if feasible.

If the final siting of the Proposed Action is outside the previously surveyed 5-acre focused area, coordination with SHPD will be resumed and additional investigations will be conducted as necessary to avoid or minimize impacts to historic, cultural or archaeological resources that may potentially be within the Project Site.

If the Proposed Action is sited within the focused survey area, the AIS will be finalized with SHPD prior to starting construction. The three historic properties identified during LRFI were adequately documented in the AIS. Thus, upon concurrence with SHPD, no further archaeological documentation or mitigation regarding the properties is required.

Regardless of the final siting location, the following mitigation measures would be implemented to prevent or minimize potential impacts on historic, cultural or archaeological resources:

- Conduct cultural resource training as a component of safety training for project personnel before working onsite. Training should include informing crews of the potential for inadvertent cultural finds including archaeological deposits and iwi kūpuna, or human remains.
- Conduct archaeological monitoring during ground disturbance activities during construction phase.
- If any cultural or historic resources are identified during construction activities, all work will cease in that area and the SHPD will be notified pursuant to HAR §13-280-3. A cultural preservation plan for proper cultural protocol, curation and long-term maintenance should be developed as appropriate.
- If iwi kūpuna are identified during construction activities, all work will cease immediately in that area and be cordoned off while the SHPD, coroner and the police department are notified pursuant to HAR §13-300-40. A reinternment plan should be developed as appropriate. As DHHL lands are recognized as tribal lands under the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, any discovery iwi kūpuna must also follow NAGPRA protocols and statutory requirements.

Any additional mitigation measures established during the Section

106 consultation process would be implemented to further avoid or minimize potential impacts on any historic, cultural or archaeological resources that occur or may potentially be found within the Project Site. No additional short- or long-term impacts are anticipated. Therefore, no additional mitigation measures are required.

### **Cultural Resources and Cultural Practices**

An investigation into cultural resources and practices was conducted as two-pronged approach in order to comply with HRS §343 and HAR §11-200.1 as well as Article VII, Section 7 of Hawai'i's State Constitution which "places an affirmative duty on the State and its agencies to preserve and protect traditional and customary native Hawaiian rights and confers upon the State and its agencies the power to protect these rights and to prevent any interference with the exercise of these rights" (Ka Pa'akai O Ka 'Āina v. Land Use Commission, 2000). As such, a Cultural Impact Assessment (CIA) and a separate Ka Pa'akai Framework Analysis were conducted to fulfill the statutory and constitutional obligations of DHHL in considering the Proposed Action.

#### *Ka Pa'akai Framework Analysis*

The court case Ka Pa'akai o Ka 'Āina v. State of Hawai'i Land Use Commission (2000) established the fiduciary responsibility of state agencies to preserve and protect traditional and customary native Hawaiian rights pursuant to Article VII, Section 7 of the State of Hawai'i Constitution. The case upheld that the state and its agencies are obligated to protect the reasonable exercise of customary and traditional native Hawaiian rights to the extent feasible and are obligated to make an assessment of the impacts of these practices. The assessment must be independent of the developer or applicant and must include the following three factors, known as the 'Ka Pa'akai' framework:

***(1) What are the valued cultural, historical, or natural resources in the project area and the extent to which traditional and customary native Hawaiian rights are exercised in the area?***

The Ka Pa'akai Analysis acknowledges that it is unreasonable to assume it is possible to inventory all traditional and customary native Hawaiian rights being exercised in a single area. To address the challenges of assembling an inventory of customs and valued resources in an area, and to relieve the burden from the community to come forward in a tight timeframe and under the assumption of un-requited knowledge sharing, the analysis, approaches the inventory through: (1) early and meaningful consultation; (2) primary source research; (3) the understanding that if a resource

exists or can be restored then the right or practice exists; (4) consultation is an ongoing process that agencies compiling with Ka Pa'akai will continue to engage in. The inventory findings with respect to the practices and associated resources in and around the Gianulias study area are organized under the following themes:

- Bird Catching
- Forestry and Hana Wa'a
- Mahi 'ai 'ana - Cultivation
- Trails and Connectivity
- Lawai'a & Wa'a (Paddling, Sailing, Voyaging)
- Kilo and Weather - Environmental Indicators
- Mea Wai - Water Resources and Collection
- Other Practices, including Hana No'eau, Beliefs, and Spirituality (not already included above)

The full inventory is included in Ka Pa'akai Framework Analysis Report.

***(2) What is the extent to which those resources - including traditional and customary native Hawaiian rights - will be affected or impaired by the proposed action?***

Hawaiian culture and traditional practices are rooted in an understanding that 'ohana (family) encompasses the natural world and there is no separation between the people and the land (Nohopapa, 2024). Because the land is part of the ohana, traditional Hawaiian customs and practices emphasize respect and care the 'āina (land) and surrounding resources (Forman and Serrano, 2012 from Nohopapa, 2024). As such, traditional and customary practices often rely on resources - whether cultural, historical or natural - and it is important to understand that impacts these resources may also result in cultural impacts. Overall, interview participants feel that the current methods for water development do not allow for the continued care of resources, the traditional and customary Native Hawaiian practice of caring for wai (water) and Mālama 'Āina.

The Gianulias parcel sits in the area identified in research as Kealakowaa, it was a staging place for Koa and other la'au brought down from the uplands above the study area. In archival records this place, specific to Kahului Ahupua'a and the region of the study area was where ceremonies were held, a heiau and spring was located specifically for the process of harvesting koa, transporting them, and crafting them into wa'a. As noted in the Ka Pa'akai Analysis Framework Report, Kealakowaa is the only area in all of Kona identified for this use. Although hana wa'a and voyaging are not active practices on the site, development may

impact access and use of this culturally and historically significant area.

Bird catching was extensively referenced in and above the study areas, caves, trails, springs and even specific forests, woods, and a`a areas were discussed. Bird catching was for food and for hulu used in many hana no`eau. Although bird catching is not viable now as a practice because of the scarcity of native bird species, the practice of Mālama `Āina so that resources are there when needed could be impacted.

Many springs, waterholes, and caves were referenced in consultation, and many were named in archival research through land testimonies and some mo`olelo. It is likely that some of these resources are located in the study areas and water source development may impact the downslope water features near the coast or offshore. Ma uka to ma kai connectivity of water was also a common theme in the analysis. Impacts could also include access for kanaka to gather wai from the study area or the uplands above for ho`okupu and other traditional uses.

Historic records from the Boundary Commission also identified a family's burial cave in the uplands. Because one was named, there is a potential that more burials exist in the vicinity. It is a traditional practice not to speak of one's ancestors with strangers and many burial locations have been forgotten in `ohana or intentionally un-shared. No burials were identified through AIS for this project, however access to caves above the study area may be an impact.

***(3) What feasible action(s), if any, to be taken to reasonably protect any identified cultural, historical, or natural resources, and exercise of traditional and customary native Hawaiian rights in the affected area?***

Feasible actions by DHHL to protect Native Hawaiian rights include the following:

- DHHL will uphold its mandates as prescribed by law.
- DHHL will site water source development within the same ahupua`a as it will be consumed whenever possible.
- DHHL and its beneficiaries want to support other Kona communities in their water independence. Efficiency and conservation measures in areas that are importing water are critical in appropriately valuing the resource and respecting the communities that are exporting water.



- o Conservation & efficiency measures for transportation, storage and consumption.
  - o Water recycling.
  - o Water conservation collaboration/partnership in public awareness campaign.
- Research, studies and monitoring should be planned for and funded that will be used to inform mitigation. Research and studies should be culturally informed. Appropriate thresholds should be identified and upheld.
  - o Regional monitoring program with benchmarks and actions tied to those benchmarks.
  - o The design of monitoring plans and the identification of benchmarks and actions should be culturally and community informed.
  - o Propose management options if the trend is towards detrimental effects.
- Frequent, meaningful, and accessible updates regarding research, studies and monitoring practices should be available to stakeholders. DHHL will consider the formation of a hui open to stakeholders to advise water-related decision-making and aid in outreach to stakeholders at large.
- DHHL will make efforts to encourage more beneficiaries and members of the native Hawaiian community to be involved in the Boards of Water Supply meetings and to be members on the Boards of Water Supply so these important stakeholders are able to have more authority over water use.
- DHHL should commit financially and administratively to supporting community-managed water resource management.
- DHHL will advocate for and participate in the update of the Water Use and Development Plan for Hawai'i County.
- DHHL will support and advocate for Commission on Water Resource Management (CWRM) analysis of water availability and revised sustainable yields, including a process that has substantial opportunity for public input.
- DHHL will advocate for CWRM to share more rigorous summaries of existing state of knowledge as published.
- DHHL will advocate for and participate in the update of the Statewide Framework for Updating the Hawaii Water Plan (Framework). The Framework was developed to provide guidance in the integration of the various components of the Hawaii Water Plan and to give additional direction to the various agencies responsible for the preparation of its constituent

parts. This Framework was created in 2000 and is in need of update and revision.

- DHHL will aid in funding mālama 'āina/watershed management efforts in affected ahupua'a to increase water recharge and to allow for mālama of places and areas critical for the continuation of native practices.
- DHHL will create a clear pathway for long-term access for native rights and customary practices on DHHL's lands and will look into its current ROE/land disposition process for activities such as mālama 'āina and stewardship.
- DHHL will collaborate with stakeholders in the creation of a preservation plan for Kealakowaa, the protection of cultural, historical and natural resources associated with the Kona field system, and stewardship of the Kona upland forests. These efforts include contributions or resources in other areas or in the project parcel itself, towards the restoration of these valued resources in collaboration with cultural practitioners, lineal descendants, native tenants, beneficiaries, etc.

With consideration of the Ka Pa'akai Framework Analysis and by implementing mitigation measures to ensure the protection of traditional and cultural rights and practices, the Proposed Action is not anticipated to have a significant impact on cultural resources and practices.

Considering the resources and practices present and potential effects identified in the Ka Pa'akai Framework Analysis, DHHL should implement the mitigation measures above to ensure the protection of traditional and customary native Hawaiian rights and practices within the project area.

#### **Public Facilities and Infrastructure**

The Proposed Action is not anticipated to substantially impact the demand for public facilities or infrastructure. The Proposed Action is intended to develop additional potable water supply sources from within the North Kona region to allow for the continued development of La'i 'Ōpua. Water from the Proposed Action will connect to the existing 16- inch transmission lines along Māmalahoa Highway, which are sufficient to accommodate the potential daily maximum withdrawal of 2.0 mgd. This amount combined with the other DHHL production well discussed in Section 3.4.5 would be sufficient for future proposed residential, commercial and community uses within La'i 'Ōpua. Completion of the Proposed Action will positively impact the resiliency of the North Kona Water System by creating a

redundant source of water in the case of pump failures at other nearby wells.

During construction of the Proposed Action, a portable sanitary toilet will be located onsite with secondary containment measures and serviced per provider recommendations. During operation, the control building and pumps will be unmanned and not require a permanent or temporary sanitary waste disposal system.

Use of BMPs and Occupational Safety and Health Administration (OSHA) worksite safety requirements will be used during construction of the Proposed Action to minimize any potential impacts on local fire, police and medical facilities.

Solid waste generated by the Proposed Action is anticipated to be minimal as the wells will be sited in an area where no buildings will be demolished, and any excess soil produced from excavation activities will remain onsite. Any solid waste generated during construction of the Proposed Action would be taken to Pu'uanahulu (West Hawai'i) Landfill. As the control building and pumps will be unmanned during operation, no solid waste services are required to operate the Proposed Action.

During Phase I, electric needs will be provided by generators onsite. During Phase II, permanent electrical features to supply power to the pumps, control building and other accessory structures would be provided by tying into the existing distribution lines onsite or via new distribution lines connected to the existing overheads along Māmalahoa Highway. Power demands created by the Proposed Action would exceed the existing conditions, however they are anticipated to be within HELCO's capacity without adversely affecting service to other customers.

Therefore, the Proposed Action would have no short or long-term adverse impacts on public infrastructure or utilities and no additional mitigation measures are required.

#### CONSISTENCY WITH DHHL PLANNING PROGRAM

The DEA addresses the proposed project for consistency with existing plans and applicable land use policies. Specifically, the DEA addresses the DHHL General Plan, the Hawaiian Homes Commission Water Policy Plan, the DHHL Hawai'i Island Plan, the Kealakehe-La'i 'Ōpua Regional Plan update.

The proposed project is based on the need for additional water sources to service DHHL's planned future homestead development at

La'i 'Ōpua. The Proposed Action would develop the additional water sources needed, while falling within the approved water reservations in the Keauhou Aquifer System Area in alignment with the goals and policies of the DHHL General Plan and HHC Water Policy Plan. DHHL will also be developing the wells and transmission lines up to County standards in order to dedicate the infrastructure to the County and obtain additional water credits from the County of Hawai'i.

The DHHL Hawai'i Island Plan designated development of the residential land holdings within the Villages of La'i 'Ōpua as a priority and the Proposed Action will support this by developing the water resources and connect to infrastructure necessary to develop homesteads and other DHHL lands in the region. The development of additional water supply from sources within the region is also included as a priority project in the Kealakehe-La'i 'Ōpua Regional Plan and as such, implementation of the project directly aligns with the vision and objectives of the Regional Plan.

#### FINDINGS AND DETERMINATION

Based on the criteria set forth in HAR §11-200.1-13 and discussed below, the Proposed Action would not have a significant effect on the environment. Therefore, through its review of every phase of the action, and evaluation of the overall impacts and proposed mitigation measures, DHHL is recommending that the Hawaiian Home Commission declare a Finding of No Significant Impact (FONSI) for the Proposed Action.

***(1) Irrevocably commits a natural, cultural, or historic resource.***

The Proposed Action would not irrevocably commit a natural, cultural, or historic resource. It is consistent with existing conditions and the surrounding environment, and would not adversely affect the Keauhou Aquifer System Area (KASA) that services the North Kona region as discussed in Section 3.4.7. Contractors will adhere to mitigation measures described in Section 3.5.3 to avoid any potential impacts to federal- or state-listed species should they occur at the Project Site.

HRS §6E consultation with SHPD has been initiated by DHHL and will be completed prior to the start of construction. Mitigation measures discussed in Section 3.6.4 and any proposed by SHPD would be implemented to avoid or minimize impacts to any cultural resources or historic properties identified in the Project Site.

**(2) Curtail the range of beneficial uses of the environment.**

The Proposed Action would not curtail the range of beneficial uses of the environment. The wells will be sited in an area within the Project Site that produces the least amount of impacts on the site's environment. While it will result in reducing the amount of groundwater available within the KASA, the extraction rate would not cause the aquifer to exceed its sustainable yield as discussed in Sections 3.4.7. Nor would the Proposed Action contribute cumulatively to long-term adverse impacts on the KASA, as discussed in Section 3.14.2.

**(3) Conflict with the State's environmental policies or long-term environmental goals established by law.**

The Proposed Action would not conflict with the State's environmental policies or long-term environmental goals established by law as discussed in Chapter 4 Federal, State, and County Land Use and Environmental Policies and Permits Required. BMPs and other mitigation measures discussed throughout Chapter 3 would be implemented to avoid or minimize potential impacts associated with the Proposed Action during its construction and operation.

**(4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State.**

The Proposed Action would not have direct substantial adverse effects on the economic welfare, social welfare or cultural practices of the community and State. It would create secondary positive impacts on the State's social and economic welfare by establishing a new potable water source for the development of La'i 'Ōpua. This would allow DHHL to provide over 1,000 single family homes, 300 multi-family units, multiple park spaces, a hospital, and commercial centers for native Hawaiian families. Thus, creating a long-term positive effect on the economic and social welfare of the community and State. However, these positive impacts would not be substantial enough to have a direct effect on the level of commerce in Kailua-Kona, the primary commerce center for the region.

The Proposed Action will not substantially impact traditional cultural practices. As discussed in Section 3.7, there are no traditional cultural properties onsite but there are cultural practices and associated resources in the vicinity of the Project Site. Mitigation measures discussed in Section 3.7.2 shall be implemented to avoid or reduce any potential impacts to cultural or historic resources that may occur and protect the exercise of traditional and customary native Hawaiian rights in the Project Site.

**(5) Have a substantial adverse effect on public health.**

The Proposed Action would not have a substantial adverse effect on public health. A Well Construction and Pump Implementation Permit will be obtained for the Proposed Action prior to construction. An engineering report will be submitted to and approved by the DOH CWB before placing the Proposed Action online within the DWS's North Kona Water System. The report will identify all potential sources of contamination, evaluate alternative controls which could be implemented to reduce or eliminate contamination potential, and include a water quality analysis for all regulated contaminants. Short-term impacts to noise levels and air quality would be minimized by phasing construction of the wells and implementing BMPs to maintain compliance with applicable County and State policies and regulations as discussed in Sections 3.10.2 and 3.8.2, respectively.

**(6) Involve adverse secondary impacts, such as population changes or effects on public facilities.**

The Proposed Action would not result in adverse secondary impacts to the social environment or on public facilities. The Proposed Action would facilitate the development of La'i 'Ōpua with approximately 1,000 single family homes and 300 multi-family units for DHHL beneficiaries. This would result in secondary impacts such as potentially increasing the population within the Kealakehe Census Tract, which contains La'i 'Ōpua.

As discussed within the Kealakehe-La'i 'Ōpua Regional Plan , the areas proposed for La'i 'Ōpua are consistent with the State Land Use Districts, County General Plan designations, and County Zoning Code. Where there may be land use inconsistencies, DHHL may preempt these pursuant to Hawaiian Homes Commission Act Section 204. Further, the areas are located within the North Kona CDP's Urban Area, where the CDP directs Kona's future growth. Therefore, secondary population change associated with the Proposed Action would be the result of planned and orderly development consistent with land use planning policies and ordinances.

The Proposed Action would positively affect the North Kona Water System by creating a redundant water source in case of pump failures at other nearby wells and would not impact other public facilities. As discussed in Section 3.14.1.4 of the DEA, the future development of La'i 'Ōpua would not adversely affect public facilities and infrastructure.

**(7) Involve a substantial degradation of environmental quality.**

The Proposed Action would not degrade environmental quality at the Project Site or surrounding area. The wells will be sited within the Project Site in an area that produces the least amount of impacts. Mitigation measures proposed throughout Chapter 3 would be implemented to avoid or minimize impacts on the site's environment. While the Proposed Action will result in reducing the amount of groundwater available within the KASA, the extraction rate would not cause the aquifer to exceed its sustainable yield as discussed in Section 3.4.7 of the DEA. Nor would it contribute cumulatively to long-term adverse impacts on the KASA as discussed in Section 3.14.2 of the DEA.

**(8) Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions.**

The Proposed Action will not contribute cumulatively to substantial adverse effects upon the environment, as discussed in Section 3.14.2. While the Proposed Action is intended to develop a new water source that would result in the future development of La'i 'Ōpua, one third of the resulting groundwater would be used by the DWS for municipal uses in the North Kona Water System. Additionally, water use within La'i 'Ōpua has been accounted for in the Hawai'i Water Plan as discussed in Section 6.2.4. Thus, the Proposed Action would facilitate but does not involve a commitment for larger actions.

**(9) Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat.**

The Proposed Action would not have a substantial adverse effect on rare, threatened, or endangered species or their habitats. No critical habitat occurs within the Project Site, and mitigation measures and BMPs discussed in Section 3.5.3 would be implemented during construction and operation of the Proposed Action to minimize impacts to species observed or with the potential to occur at the Project Site.

**(10) Have a substantial adverse effect on air or water quality or ambient noise levels.**

The Proposed Action would not have a substantial adverse effect on air or water quality or ambient noise levels. The Proposed Action will be constructed over two phases and a Well Construction and Pump Installation Permit will be obtained prior to construction. During Phase I, a single exploratory well will be drilled and then tested to ensure its water quality meets HAR §11-20-29 Rules Relating to Public Water Systems standards. If the quality and

quantity of sampled water are satisfactory, then the Proposed Action will proceed to Phase II. Additional mitigation measures discussed in Section 3.4.7 would be implemented to avoid impacts on water quality during construction and operation of the Proposed Action.

Short-term impacts to noise levels and air quality would be minimized by phasing construction of the wells, implementing BMPs and obtaining a Community Noise Permit and Noise Variant Permit, if applicable, to maintain compliance with relevant County and State policies and regulations as discussed in Sections 3.10.2 and 3.8.2, respectively.

***(11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.***

As discussed in Sections 3.3, 3.4 and 3.12, the Proposed Action will not have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive or naturally hazardous area. The Project Site is located approximately 2.6 miles inland, outside the coastal zone, sea level rise exposure area and tsunami zone. While Wai'aha Stream passes through the Project Site, the wells will be sited in a location away from the stream in an area that produces the least amount of ground disturbance and outside the SFHA designated within the site. Although the proximity to Wai'aha Stream may pose a risk of flooding during extreme events, no substantial risk is anticipated under normal conditions.

The entire island of Hawai'i, including the Project Site, is located within the International Building Code (IBC) Seismic Zone 4 which have the highest potential for seismic induced ground movement. Therefore, the Proposed Action will comply with IBC Seismic Zone 4 building standards to reduce potential impacts created by earthquakes or seismic induced ground disturbances.

***(12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in County or State plans or studies.***

The Proposed Action would not have a substantial adverse effect on scenic vistas or viewplanes surrounding the Project Site. As discussed in Section 3.7, the Project Site is not in or near visually sensitive areas or areas of high scenic value. The tallest feature of the Proposed Action is approximately 40 feet in height and would be surrounded by rows of coffee trees limiting its



visibility mauka of the Project Site.

**(13) Require substantial energy consumption or emit substantial greenhouse gases.**

The Proposed Action will not require substantial amounts of energy during construction or operation, nor will it emit substantial amounts of greenhouse gases. As discussed in Section 3.12.6, the Proposed Action may require between 537 and 4,540 kWh per day of operation which is anticipated to be within HELCO's capacity without adversely affecting service to other customers. Assuming 43 percent of this energy requirement is provided by renewable sources, the Proposed Action could potentially generate between 107 and 908 metric tons of CO2 per year. This is close to the same amount as powering between 14 and 121 single-family homes during that same timeframe. However, this amount of CO2 per year will likely be reduced over time as the county continues transitioning to a renewable energy resource portfolio standard to reach "net-negative" by 2045. Thus, the Proposed Action may generate little to no CO2 within the project's lifespan.

V. PARTIES CONSULTED

As a requirement of HAR §11-200.1-18, this chapter identifies agencies, citizen groups, and individuals solicited in the preparation of the Draft and Final EA. Consultation with various government agencies, officials, and community members were undertaken to obtain information on agency requirements and comments about potential community issues so that they could be addressed in this Final EA. The consultation involved distributing a pre-assessment consultation letter and notice of availability of the Draft EA in the State Office of Planning and Sustainable Development, Environmental Review Program's (ERP) The Environmental Notice for public comment. These consultations are summarized below:

| Agency/Organization Consulted                                   | Comments Received |          |
|---|-------------------|----------|
|   | Pre-Consultation  | Draft EA |
| U.S. Fish and Wildlife Service                                  | X                 | X        |
| National Parks Service  | X                 |          |
| State Senate District 3, Senator Dru Mamo                       |                   |          |
| State Senate District 4, Senator Herbert M. "Tim" Richards, III |                   |          |
| State House District 7, Representative Nicole E. Lowen          |                   |          |
| State House District 6, Representative Kirstin Kahaloa          |                   |          |
| Department of Agriculture                                       |                   |          |

| Agency/Organization Consulted   | Comments Received |          |
|---|-------------------|----------|
|   | Pre-Consultation  | Draft EA |
| Department of Business, Economic Development & Tourism                    |                   |          |
| Office of the Governor - West Hawai'i Representative                      |                   |          |
| Office of the Hawaiian Affairs  |                   |          |
| Department of Health (DOH)  |                   |          |
| DOH, Clean Air Branch   |                   | X        |
| Department of Transportation  | X                 | X        |
| Department of Land and Natural Resources (DLNR)                           |                   |          |
| DLNR Commission on Water Resource Management                              | X                 |          |
| DLNR State Historic Preservation Division - Hawai'i Island Burial Council |                   |          |
| DLNR Po'o o Moku Keawe  |                   |          |
| DLNR Division of Forestry and Wildlife                                    |                   |          |
| Hawai'i County Fire Department  |                   |          |
| County of Hawai'i Council   |                   |          |
| County of Hawai'i Planning Department                                     |                   |          |
| County of Hawai'i Department of Public Works                              |                   |          |
| County of Hawai'i Department of Water Supply                              |                   |          |
| Hawai'i County Police Department  | X                 | X        |
| County Council District 7, Councilmember Rebecca Villegas                 |                   |          |
| County Council District 8, Councilmember Dr. Holeka Goro Inaba            |                   |          |
| La'i 'Ōpua Community Association  |                   |          |
| Hawai'i Gas   |                   |          |
| Hawaiian Electric Company   | X                 |          |
| Hawaiian Telecom  |                   |          |
| Spectrum / Charter Communications   |                   |          |
| Hui Mālama I Nā Kūpuna O Hawai'i Nei                                      |                   |          |
| Royal Hawaiian Foundation   |                   |          |
| Te 'Ahā Mauliauhonua  |                   |          |
| Dave Lucas, Koa Realty  |                   | X        |
| Lois Modesitt   |                   | X        |

COMMENTS RECEIVED DURING THE 30-DAY PUBLIC COMMENT PERIOD

| Agency/Organization/Individual | Date Received | Comment  | Response  |
|--------------------------------|---------------|--|---|
| Dave Lucas, Koa Realty         | 1/28/2025     | In the Environmental Assessment filed January 14, 2025 there is a rather large error in the published map. | Thank you for catching this. It appears to be a graphics error on our end - the |

| Agency/<br>Organization/<br>Individual          | Date<br>Received | Comment  | Response   |
|---|------------------|--|--|
|   |                  | <p>I have attached the correct project location map from the Hawaii County online parcel locator. This is the link. Note in your assessment you have the property straddling the Mamalahoa Hwy. when in fact it is entirely mauka of the Mamalahoa Hwy. This is the County link. I have attached maps.</p>                           | <p>boundary in Figure 1-1 is projected incorrectly, as you've noted. After reviewing the other figures, it looks like only Figure 1-1 was projected incorrectly.</p> <p>Your comment will be documented in the Final EA and the Figure 1-1 project location map will be revised to show the correct location mauka of Māmalahoa Hwy.</p> |
| Lois Modesitt                                   | 1/28/2025        | <p>The "Figure 1-1: Project Location Map" shows an inaccurate location of the project location denoted by the red lines. The figure shows the TMK stretching across the Mamalahoa highway when in fact the TMK is all mauka of Mamalahoa highway. The red line also shown in Figure 1-1 is north of the actual TMK 750140010000.</p> | <p>Thank you for catching this. It appears to be a graphics error on our end - the boundary in Figure 1-1 is projected incorrectly, as you've noted.</p> <p>Your comment will be documented in the Final EA and the Figure 1-1 project location map will be revised to show the correct location mauka of Māmalahoa Hwy.</p>             |
| Hawai'i State<br>Department of<br>Health, Clean | 2/7/2025         | Thank you for allowing us to review the DHHL North Kona Wells Project - Gianulias Well Site  | Acknowledged   |

| Agency/<br>Organization/<br>Individual  | Date<br>Received | Comment   | Response     |
|---|------------------|---|--------------|
| Air Branch  |                  | published in the January 23rd edition of TENS. Please go to the Clean Air Branch (CAB) website to download and utilize our Standard Comments for Land Use Reviews. The link is included below.  |              |
| Hawai'i Police Department   | 2/13/2025        | Thank you for the information you provided regarding the project. I wanted to check in and see if there's anything on the Police Department's side that you would need assistance with in relation to this project, or if it was simply for our information. Please let me know how we can support you moving forward.  | Acknowledged |
| State of Hawai'i Department of Transportation, Statewide Transportation Planning Office | 2/24/2025        | <p>Thank you for your letter, dated January 24, 2025, requesting the Hawaii Department of Transportation's (HDOT) review and comments on the subject Draft EA. HDOT understands that the DHHL is proposing to develop a new water source to convey water to the residents of the Villages of Lai Opuu.</p> <p>The HDOT's position remains the same as stated in our pre-consultation letter STP 8.2834 dated January 21, 2020. Based on the project description and location, the project does not appear to have any significant impacts to State highway facilities. Therefore, the HDOT has no comments.</p> <p>Please submit any subsequent land use entitlement-related requests for review or correspondence to the HDOT Land Use Intake email address, DOT.LandUse@hawaii.gov.</p> | Acknowledged |
| U.S. Fish and Wildlife Service, Pacific   | 2/28/2025        | The US Fish and Wildlife Service (Service) has received the draft EA for the DHHL North Kona Wells  | Acknowledged |

| Agency/<br>Organization/<br>Individual | Date<br>Received | Comment  | Response |
|--|------------------|--|----------|
| Islands Fish and<br>Wildlife Office    |                  | <p>project. Thank you for including conservation measures to minimize the potential impacts to listed species.</p> <p>The Service has updated how we process technical assistance. The very first step in our updated technical assistance process is to obtain an Official Species List (OSL) in our new Information for Planning and Consultation (IPaC) online tool by accessing this link:<br/> <a href="https://ipac.ecosphere.fws.gov/">https://ipac.ecosphere.fws.gov/</a>.</p> <p>Please see the attached pdf with detailed directions on how you obtain an OSL in IPaC.</p> |          |

VI. NEXT-STEPS

Here are the anticipated next-steps for water source development following acquisition of the property:

- HHC approvals for the determination of FONSI for the Final Environmental Assessment.
- Finalize acquisition of the property (June 2025).
- Obtain CWRM well construction and pump installation permit
- Design & construct test well
- Confirm test well results
- Design & construct production well, storage and transmission improvements required by the County
- HHC approval for a water agreement regarding the long-term licensing, operation and maintenance of the well and other appurtenances.

VII. RECOMMENDED MOTION ACTION

That the Hawaiian Homes Commission (HHC) issue a Finding of No Significant Impact (FONSI) declaration based on the Final Environmental Assessment (FEA) for the North Kona Wells Project - Gianulias Well Site; North Kona, Island of Hawai'i TMK No. (3)-7-5-014:001.

# DHHL NORTH KONA WELLS PROJECT – GIANULIAS WELL SITE

TMK: [3] 7-5-14:001

Moku of Kona, Island of Hawai'i

## FINAL ENVIRONMENTAL ASSESSMENT

March 2025



**Proposing Agency/Determining Agency:**

State of Hawai'i  
Department of Hawaiian Home Lands  
91-5420 Kapolei Parkway  
Kapolei, Hawai'i 96707



**Prepared by:**

Bowers + Kubota Consulting, Inc.  
2153 North King Street, Suite 200  
Honolulu, Hawai'i 96819

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**DHHL NORTH KONA WELLS PROJECT –  
GIANULIAS WELL SITE**

TMK: [3] 7-5-14:001

Moku of Kona, Island of Hawai'i

**FINAL ENVIRONMENTAL ASSESSMENT**

March 2025

Proposing Agency/Determining Agency:



State of Hawai'i

Department of Hawaiian Home Lands

91-5420 Kapolei Parkway

Kapolei, Hawai'i 96707

Prepared by:



Bowers + Kubota Consulting, Inc.

2153 North King Street, Suite 200

Honolulu, Hawai'i 96819



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## PROJECT SUMMARY TABLE

This Final Environmental Assessment (EA) has been prepared in accordance with the requirements of Chapter 343, Hawai'i Revised Statutes (HRS) and Hawai'i Administrative Rules (HAR) Title 11-200.1 Environmental Impact Statement Rules.

|  |   |
|--|---|
| <b>Project Name:</b>                   | DHHL North Kona Wells Project – Gianulias Well Site   |
| <b>Proposing Agency:</b>               | State of Hawai'i<br>Department of Hawaiian Home Lands<br>91-5420 Kapolei Parkway<br>Kapolei, Hawai'i 96707<br>Contact: Lilliane Makaila, Planner  |
| <b>Determining Agency:</b>             | Hawaiian Homes Commission<br>91-5420 Kapolei Parkway<br>Kapolei, Hawai'i 96707<br>Contact: Kali Watson, Chairperson   |
| <b>Authorized Agent (EA Preparer):</b> | Bowers & Kubota Consulting, Inc.<br>2153 N King Street, Suite 200<br>Honolulu, Hawai'i 96819<br>Contact: Malachi Krishok, Planning Project Manager<br>Phone: (808) 836-7787   |
| <b>HRS §343 Trigger:</b>               | HRS §343-5(a)(1), use of State funds.   |
| <b>Project Location:</b>               | Ahupua'a of Kahului 2, moku of Kona, island of Hawai'i, Hawai'i   |
| <b>Project Size:</b>                   | 128 acres (approx.) parcel; 3 acres (approx.) project area  |
| <b>Tax Map Key(s):</b>                 | [3] 7-5-014:001   |
| <b>Landowner:</b>                      | Cannery Commercial, LLC and AKT Kona Investors, LLC   |
| <b>Existing Use on Project site:</b>   | The Project site is primarily used for agriculture, with mature coffee trees interspersed with landscaped grass, some trees and shrubs. One single-family home is present on the Project site. The existing coffee farm and accessory uses will continue after the installation of wells. |
| <b>State Land Use District:</b>        | Agriculture   |
| <b>County of Hawai'i Zoning:</b>       | Agricultural District A-1a and Agricultural District A-5a   |
| <b>Special Management Area (SMA):</b>  | Outside of SMA  |
| <b>Flood Zone:</b>                     | Zone X (Area outside the 500-year floodplain)   |

|   |   |
|---|---|
| <p><b>Proposed Action:</b></p>                              | <p>The Department of Hawaiian Home Lands is proposing to develop a new potable water source with the installation of two new wells near the Kealakehe – La’i ‘Ōpua Planning Area in the North Kona District. The wells will be developed on a portion of the privately owned parcel identified above. The new wells will convey water to residents of the Villages of La’i ‘Ōpua, a DHHL master planned community, and support the community’s continued development as outlined in the DHHL Kealakehe – La’i ‘Ōpua Regional Plan (Final 2020). The proposed action supports DHHL’s mission and vision of creating vibrant and self-sufficient homestead communities by developing and delivering lands and homes to more native Hawaiian families.</p> <p>The wells will be installed in two phases. During Phase I, one exploratory well will be drilled and tested to determine its sustainable capacity and water quality. If the quantity and quality of sampled water is satisfactory, the project will proceed to Phase II. During Phase II, the exploratory well will be converted to a production well, a second production well will be drilled, a concrete storage tank will be installed, and ancillary structures necessary for well operations will be constructed at the Project Site.</p> |
| <p><b>Permits and Approvals Needed for the Project:</b></p> | <p>HRS §343 Review;<br/> HRS §6E Review;<br/> Community Noise Permit and Noise Variance Permit;<br/> National Pollutant Discharge Elimination System Permit (NPDES);<br/> Well Construction Permit; Pump Installation Permit; and<br/> Grading, Grubbing and Stockpiling Permits</p>  |
| <p><b>Determination:</b></p>                                | <p>Anticipated Finding of No Significant Impact (AFONSI)</p>  |

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## LIST OF ACRONYMS

---

|               |  |
|---------------|--|
| <b>AIS</b>    | Archaeological Inventory Survey                      |
| <b>ALFRI</b>  | Archeological Literature Review and Field Inspection |
| <b>amsl</b>   | above mean sea level                                 |
| <b>APE</b>    | Area of Potential Effect                             |
| <b>BMP</b>    | Best Management Practice                             |
| <b>CIA</b>    | Cultural Impact Assessment                           |
| <b>CWRM</b>   | Commission on Water Resources Management             |
| <b>CZM</b>    | Coastal Zone Management                              |
| <b>DHHL</b>   | Department of Hawaiian Home Lands                    |
| <b>DOH</b>    | State of Hawai'i, Department of Health               |
| <b>DWS</b>    | County of Hawai'i, Department of Water Supply        |
| <b>EA</b>     | Environmental Assessment                             |
| <b>EPA</b>    | Environmental Protection Agency                      |
| <b>FCL</b>    | Formally Classified Lands                            |
| <b>FEMA</b>   | Federal Emergency Management Agency                  |
| <b>FIRM</b>   | Flood Insurance Rate Map                             |
| <b>FONSI</b>  | Finding of No Significant Impact                     |
| <b>HAR</b>    | Hawai'i Administrative Rules                         |
| <b>HELCO</b>  | Hawaiian Electric Light Company                      |
| <b>HRS</b>    | Hawai'i Revised Statutes                             |
| <b>IAL</b>    | Important Agricultural Lands                         |
| <b>IBA</b>    | Important Bird Area                                  |
| <b>KASA</b>   | Keauhou Aquifer System Area                          |
| <b>KFS</b>    | Kona Field System                                    |
| <b>mgd</b>    | Millions of gallons per day                          |
| <b>NEPA</b>   | National Environmental Policy Act                    |
| <b>NPDES</b>  | National Pollutant Discharge Elimination System      |
| <b>RD RUS</b> | Rural Development Rural Utilities Service            |
| <b>SFHA</b>   | Special Flood Hazard Area                            |
| <b>SHPD</b>   | State Historic Preservation Division                 |
| <b>State</b>  | State of Hawai'i                                     |
| <b>USDA</b>   | United States Department of Agriculture              |
| <b>USGS</b>   | United States Geological Survey                      |

## 1.0 PROJECT DESCRIPTION

### 1.1 BACKGROUND

The Department of Hawaiian Home Lands (DHHL) is proposing to develop a new potable water source with the installation of two new wells near the Kealakehe – La‘i ‘Ōpua Planning Area in the North Kona District, island and County of Hawai‘i on a privately owned parcel identified as TMK [3] 7-5-14:001 (the “Project Site”). See Figure 1-1. The new wells will convey water to residents of the Villages of La‘i ‘Ōpua, a DHHL master planned community, and support the community’s continued development as outlined in the DHHL Kealakehe – La‘i ‘Ōpua Regional Plan (2020). The proposed action supports DHHL’s mission and vision of creating vibrant and self-sufficient homestead communities by developing and delivering lands and homes to more native Hawaiian families.

The wells will be installed in two phases. During Phase I, one exploratory well will be drilled and tested to determine its sustainable capacity and water quality. If the quantity and quality of sampled water is satisfactory, the project will proceed to Phase II. During Phase II, the exploratory well will be converted to a production well, a second production well will be drilled, a concrete storage tank will be installed, and ancillary structures necessary for well operations will be constructed at the Project Site.

### 1.2 PURPOSE FOR ENVIRONMENTAL ASSESSMENT

Chapter 343 (Environmental Impact Statements), Hawai‘i Revised Statutes (HRS), establishes a system of environmental review at the State and County levels to ensure that environmental concerns are given appropriate consideration in decision-making along with economic and technical considerations. The State of Hawai‘i, Office of Planning and Sustainable Development’s (OPSD) Environmental Review Program facilitates the environmental review process in Hawai‘i.

This project triggers the State’s environmental review process under HRS Chapter 343, as amended, and Title 11, Chapter 200.1 (Environmental Impact Statement Rules) of the State Department of Health’s Hawai‘i Administrative Rules (HAR), as amended (State of Hawai‘i, 2019) because the action involves:

1. *Use of State Funds.* State funds would be used for the construction of the new well, tanks, and transmission lines.

DHHL is seeking federal financing assistance from the United States Department of Agriculture (USDA) Rural Development (RD) Rural Utilities Services (RUS) for Phase II of the project. In 2017, the USDA confirmed that the region is eligible for funding. The project aligns with USDA’s program objectives, which are summarized below:

“USDA, Rural Development is a mission area that includes three federal agencies – Rural Business-Cooperative Service, Rural Housing Service, and Rural Utilities Service. The agencies have in excess of 50 programs that provide financial assistance and a variety of technical and educational assistance to eligible rural and tribal populations, eligible communities, individuals, cooperatives, and other entities with a goal of improving the quality of life, sustainability, infrastructure, economic opportunity, development, and security in rural America. Financial assistance can include direct loans, guaranteed loans, and grants in order to accomplish program objectives (USDA RD).”

As such, this Final Environmental Assessment (Final EA) document has being prepared in accordance with both Hawai‘i Revised Statutes (HRS) Chapter 343 (HRS §343) and the National Environmental



**Project Description**

Policy Act of 1969, as amended (NEPA). Pre-assessment consultation comments received as part of the preparation of this EA document are included in **Appendix F**.

**Applicant Background**

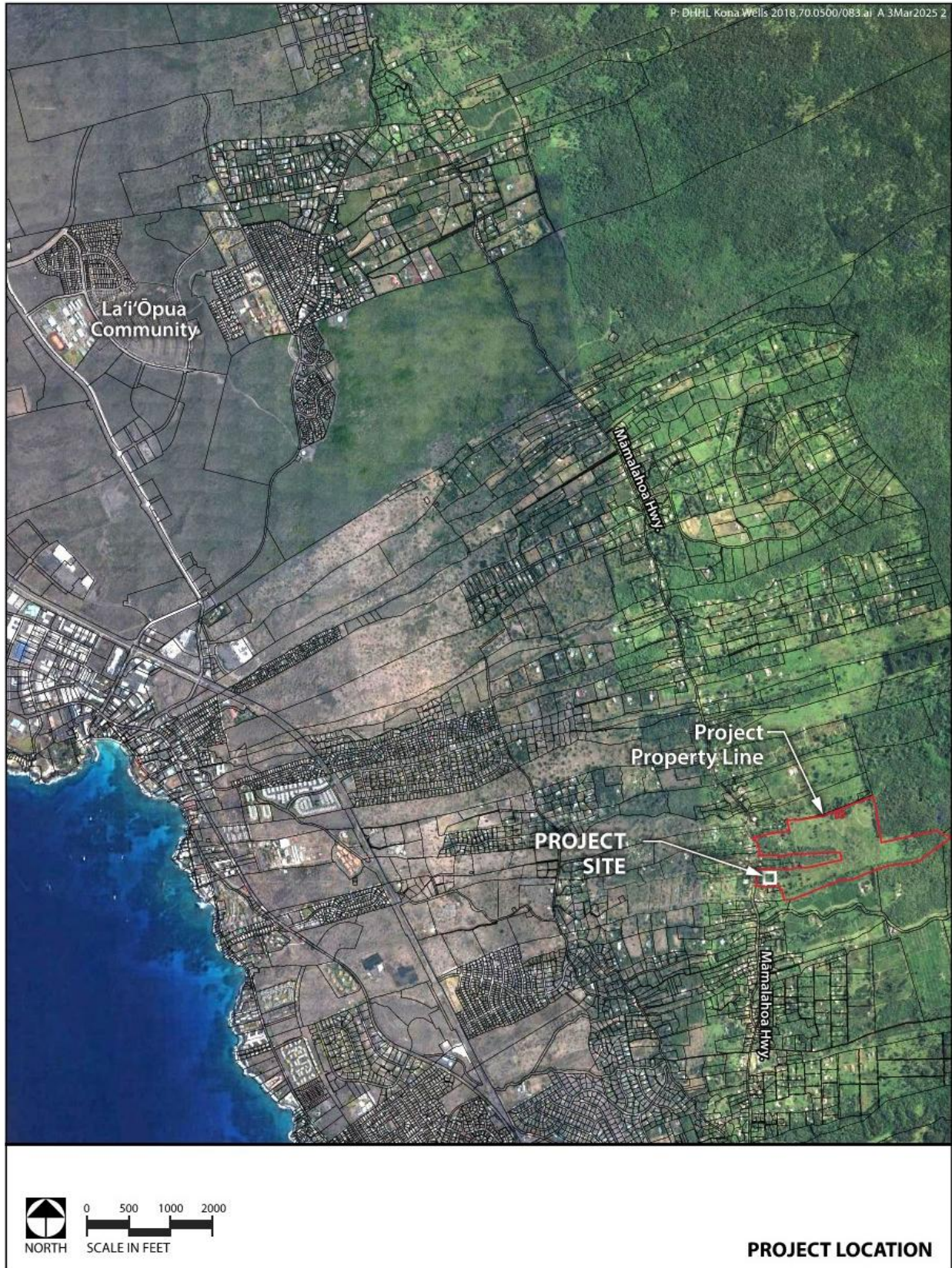
The Department of Hawaiian Home Lands is governed by the Hawaiian Homes Commission Act of 1920 (HHCA), enacted by the U.S. Congress to protect and improve the lives of native Hawaiians (defined as individuals having at least 50 percent Hawaiian blood). The HHCA created a Hawaiian Homes Commission to administer certain public lands, called Hawaiian home lands, for homesteads. The Act was incorporated as a provision in the State Constitution in 1959 when Hawai'i was granted statehood and responsibility for the Commission and the Hawaiian home lands was transferred to the State. In 1960, the State Legislature created the Department of Hawaiian Home Lands (DHHL) to manage Hawaiian home lands and administer the provisions of the HHCA. The primary responsibilities of DHHL are to implement the HHCA and the programs, policies, and direction established by the HHC on behalf of the native Hawaiian beneficiaries of the Trust.

The significance of water to the success of the HHCA has been recognized since the passage of the Act. Under HHCA §221 and Hawai'i Revised Statutes §174C-49, the State Commission on Water Resource Management (CWRM) shall "reserve" water for future DHHL needs when issuing water licenses, based on DHHL projections. DHHL last provided its current and future water needs projections to CWRM for approval in 2017, which includes project water demand for the Villages of La'i 'Ōpua and is included in the Department of Land and Natural Resources (DLNR) 2020 State Water Project Plan Update. Furthermore, in 1991 the state Legislature passed what became Act 325, which recognized that, "[s]ince the passage of the Hawaiian Homes Commission Act in 1921, the shortage of available water has been one of the primary reasons for the failure of Administrators to settle native Hawaiians on Hawaiian homesteads..." As a result, Act 325 modified other state laws regarding water further increasing the rights of water to the Hawaiian Home Lands Trust.

In 2014, the HHC approved the first DHHL Water Policy Plan, which is the first policy on managing the water kuleana of DHHL since the passage of the HHCA. The Water Policy Plan's mission is "to ensure the availability of adequate, quality water to fully support self-sufficiency and self-determination in the administration of the HHCA, and the preservation of Hawaiian values, traditions, and culture."

The DHHL has also implemented its own planning system consisting of a General Plan, Island Plans, Regional Plans, Program Plans, and Special Area Plans, which are discussed in relation to the Proposed Action in Section 4.3.

Figure 1-1: Project Location Map



## Project Description

**Determining Agency**

The project is an “Agency Action” under the State’s environmental review regulations because the project involves the use of State land and funds. The Hawaiian Homes Commission will serve as the “Approving Agency” for the processing of this environmental assessment document and currently anticipates a Finding of No Significant Impact (FONSI) determination.

Bowers + Kubota Consulting, Inc. (B+K) is serving as the “Authorized Agent” on behalf of DHHL (Applicant) in the preparation of this Final EA. This Final EA was prepared pursuant to Chapter 343, Environmental Impact Statements, HRS, as amended and the State Department of Health’s Title 11, Chapter 200.1, HAR (Environmental Impact Statement Rules) (State of Hawai‘i, 2019).

**1.3 PROJECT PURPOSE AND NEED**

The purpose of the Proposed Action is to develop additional potable water supply sources from within the North Kona region to allow for the continued development of La‘i ‘Ōpua. By securing additional supply sources, DHHL can then secure the water credits needed for future residential, community and commercial uses. These uses would provide more homes for DHHL beneficiaries, as well as parks, recreation spaces and create economic opportunities supporting the La‘i ‘Ōpua community’s vision for their homestead’s future in the decades to come.

The need for the Proposed Action is based on limited water resources in and around the La‘i ‘Ōpua area. Limited water resources stem from the region’s arid climate, limiting potable water supply available from the County of Hawai‘i, Department of Water Supply (DWS). This limited supply has led DWS to require water entitlements through developer agreements, where the developer can install a well and/or other necessary infrastructure to be dedicated to DWS in exchange for a set allocation of water for the future development (the “water credits”) (Department of Water Supply, County of Hawai‘i, Hawai‘i Water Use and Development Plan, 2017). One water credit is equivalent to 600 gallons per day or one housing unit (Kealakehe-La‘i ‘Ōpua Regional Plan Update, 2020).

The result of these limitations is that following the completion of La‘i ‘Ōpua Village 4 Phase I ‘Ākau and Phase II Hema, DHHL will not have enough water credits available from DWS for future homestead or commercial development at La‘i ‘Ōpua from now into the foreseeable future (Kealakehe-La‘i ‘Ōpua Regional Plan Update, 2020). Therefore, DHHL needs to establish an additional water source to receive water credits from DWS for future development.

Developing additional water sources for the continued development of La‘i ‘Ōpua has been identified as a priority project for DHHL and stakeholders in both the 2009 and 2019 Kealakehe – La‘i ‘Ōpua Regional Plans as the North Kona Water Source Development Project (Kealakehe-La‘i ‘Ōpua Regional Plan Update, 2020). In November 2014, DHHL submitted a water reservation request to the Commission on Water Resources Management (CWRM) (Department of Water Supply, County of Hawai‘i, Hawai‘i Water Use and Development Plan, 2017). In August 2015, CWRM approved the water reservation for 3.398 mgd in the Keauhou Aquifer System Area (ASYA) that services the North Kona region. The water request amount should meet the water demands needed for the full build-out of La‘i ‘Ōpua.

While a water reservation credit safeguards DHHL’s access to potable water, it neither identifies a location of the water source nor includes how the water will be transmitted. DHHL owned lands in North Kona are not suitable for potable water wells. Therefore, they must partner with other landowners to develop water sources in more suitable locations.

In establishing a suitable location to install the wells, DHHL had to locate areas at high enough elevations a minimum of 0.25 miles away from existing DWS well sites to reduce pressure on groundwater resources and interference between wells. Further, the DWS prefers areas containing

**Project Description**

“high-level” groundwater that meets federal and state drinking water standards and is not subject to saltwater intrusion. The areas must then have sufficient capacity to support a production well. Upon finding a suitable location, DHHL then needs to secure a water source development agreement with the landowner.

The Project Site is one of four potential well sites where DHHL could establish a water credit agreement with a landowner and DWS, while meeting the location and groundwater quality needs. A water credit agreement and source development partnership between the Landowners, DHHL and DWS will need to be finalized prior to well site development. Because of the costs associated with the proposed developments in Phase II, DHHL is seeking financial assistance from the USDA RD RUS.

## 1.4 REGIONAL SETTING AND PROJECT SITE

The Project Site (TMK [3] 7-5-014:001) is located within the Kona moku on the leeward, western slope of the Hualālai Volcano approximately 2.5 miles inland from the coast. The Project Site elevation is between 1,500-1,600 feet above mean sea level (amsl). Although modern mapping sources place the Project Site in the ahupua‘a of Pua‘a, older maps and lineal descendant interviews place the site in the ahupua‘a of Kahului (Spencer and Hammatt, 2019). The area surrounding the Project Site has historically been used for agricultural production, and currently much of the area is active coffee farms and coffee retail shops.

The Project Site is approximately 128 acres and owned by the Cannery Commercial, LLC and AKT Kona Investors, LLC (the “Landowners”). The site currently operates as an active coffee farm and will continue to after the installation of the wells. The Project Site is located near the town of Hōlualoa outside the designated Rural Transportation Oriented Design (TOD) boundary on the mauka, or upland, side of Māmalahoa Highway (Route 180) between mile markers four (4) and five (5). As shown in Figure 1-2, the Wai‘aha Springs State Forest Reserve abuts the mauka edge of the property. It is approximately six (6) miles south of the Villages of La‘i ‘Ōpua, three (3) miles east of Kailua-Kona, and ten (10) miles north of Kealakekua Bay.

### 1.4.1 Villages of La‘i ‘Ōpua

The Villages of La‘i ‘Ōpua (La‘i ‘Ōpua) is a 980-acre master planned community that consists of fourteen villages that will include single and multifamily residential units, recreational and community facilities, parks and preserves, and neighborhood- commercial complexes. La‘i ‘Ōpua was initially planned by the Housing and Community Development Corporation of Hawai‘i in the early 1990’s as an affordable housing project using State land. In 1997, a total of 572 acres was transferred from the State to DHHL and the remaining 408 acres are currently owned by various other landowners. Along with the acreage, a total of 241 units in water commitments were transferred to DHHL for future development (Kealakehe-La‘i ‘Ōpua Regional Plan Update, 2020).

As part of the regional planning process, a vision statement was crafted based on DHHL beneficiary feedback during the 2020 Kealakehe-La‘i ‘Ōpua Regional Plan update. This vision is reflective of what the community sees for the future of their homestead in the decades to come:

“Kealakehe – La‘i ‘Ōpua is a community with a strong sense of aloha, pride in their homestead and appreciation for the place. The community and DHHL support its people by promoting education, self-sufficiency, and providing additional homesteading opportunities for more native Hawaiian families in the Kealakehe – La‘i ‘Ōpua region.”

La‘i ‘Ōpua includes lands designated for residential, community, commercial and conservation uses. There are over 260-acres of residential, 33-acres of community, 50- acres of commercial and 950-acres of conservation lands within the villages. The majority of the lands designated for residential

Project Description

use occur within Villages 1 through 6 and Village 10, and include development of single and multi-family homes. La'i 'Ōpua is one of two communities within the planning area that have lands designated for community uses, which include spaces for parks and recreation, cultural activities, community-based economic development and other public amenities.

To date, Village 3 and the Community Hale have been completed. A total buildout of the remaining villages would potentially provide over 1,000 single family homes, 300 multi-family units, multiple park spaces, a hospital, and commercial centers. As shown in Figure 1-3, Villages 4 and 5 are proposed for the next phase of development, followed by Villages 1 and 2 (Kealakehe-La'i 'Ōpua Regional Plan Update, 2020).

Figure 1-2: Current Conditions in La'i 'Ōpua



*Photo facing west showing road with several completed houses in La'i 'Ōpua*



*Photo facing north-west showing fully developed residences*



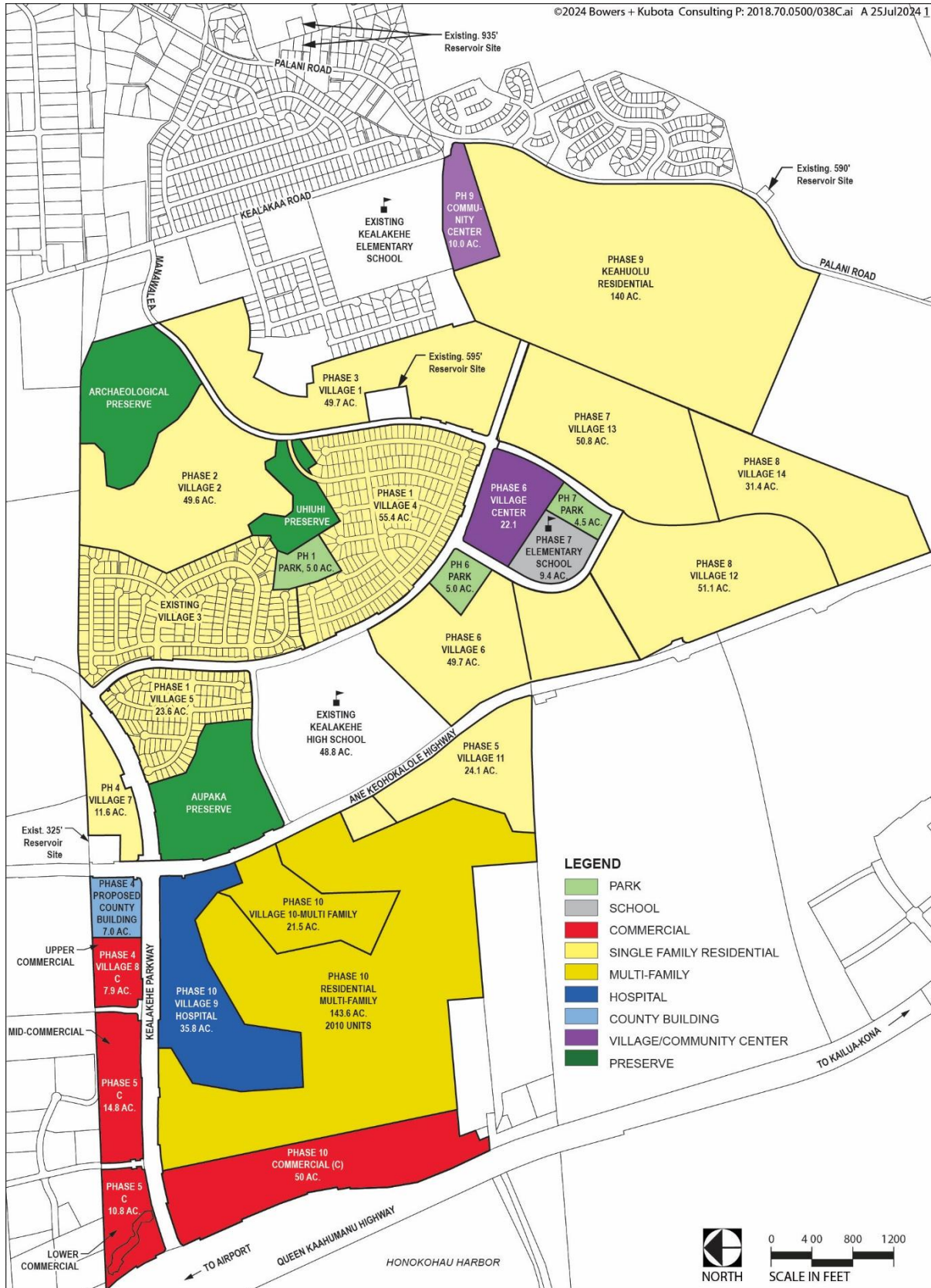
*Photo facing north of existing road infrastructure within La'i 'Ōpua*



*Photo facing north-west showing a portion of community under construction*

Project Description

Figure 1-3: Villages of La'i 'Ōpuua Full Build Out



## Project Description

## 1.5 DESCRIPTION OF THE PROPOSED ACTION

DHHL has entered into negotiation for an agreement with the Landowners to develop up to three (3) acres of the Project Site to install two new production wells and appurtenant site improvements accessory to the maintenance and operation of the wells, including a two (2) million-gallon reinforced concrete storage tank, pump control building, electrical lines and lighting, access road improvements, chain-link fencing, and water transmission lines (the “Proposed Action”). The wells will comply with the CWRM Hawai‘i Well Construction & Pump Installation Standards (rev. 2004) and DWS standards.

The exact siting of the wells within the Project Site are still being finalized by DHHL and the Landowners. As the intent of an EA is to analyze impacts as early as possible in the planning process, constraints and sequences of events likely to result in narrowing the future options for site placement will be analyzed to ensure the Proposed Action has no adverse impacts on the resources found onsite.

The wells will be installed in two phases. During Phase I, a single exploratory well and corresponding well casing approximately 20-22 inches in diameter will be drilled. The well will then be tested to determine its water quality to ensure it meets HAR §11-20- 29 Rules Relating to Public Water Systems standards and the findings will be submitted to the State of Hawai‘i, Department of Health (DOH), Clean Water Branch. The well’s capacity to operate as a production well will also be tested to ensure it can produce up to two million gallons per day and nearby existing wells will be monitored to ensure the aquifer can support the additional wells. If the quality and quantity of sampled water are satisfactory, then the Proposed Action will proceed to Phase II.

Phase II consists of converting the exploratory well to a permanent production well; drilling and installing the second production well; and constructing the other site improvements accessory to the wells. Each well will be operated with a 700 gallon per minute pump with a submersible motor, and new electrical features will be installed to power the pumps. Under the original proportional share agreement, DHHL would retain two-thirds of the water produced and DWS would retain the remaining one- third for municipal use (Department of Water Supply, 2017).

As depicted in Figure 1-4, in addition to the wells, a two (2) million-gallon storage tank will be constructed to receive and store the extracted groundwater. The tank will be designed to comply with International Building Code Seismic Zone 4 and is anticipated to be approximately 105 feet in diameter and 40 feet high. A new dry well will be installed near the storage tank to capture any potential overflow through a discharge line. A single-story control building will be constructed to house the well’s electrical and chlorination systems.

During the installation of these features, excavation work will be conducted in compliance with Hawai‘i County Code, Chapter 10—Erosion and Sedimentation Control. Grading, grubbing and stockpiling permits will be obtained as applicable, depending on the conditions of the wells final siting.

Access to the Project Site is available via existing private roadways from Māmalahoa Highway. However, improvements to the existing private roadways or the construction of new private access roads within the Project Site may be needed based upon the final siting of the wells and accessory structures. Any roadway improvements or construction within the Project Site will comply with County development standards for private roadways.

Upon completing the construction of the storage tank and control building, the tank will be connected to the DWS main line located along Māmalahoa Highway via a new 16-inch transmission line. It is anticipated the new transmission line would be placed under the access road within the Project Site before connecting with the DWS main line. The transmission line will comply with DWS Rule 4 – Rules Regulating Water and Water System Requirements of Developments. The DWS Wai‘aha Water System – Transmission Improvements Project was completed in June 2020, and upgraded

## Project Description

transmission waterlines from an 8-inch to 16-inch under Māmalahoa Highway near the Project Site (Consultation with County of Hawai'i DWS on 08/11/2021). These upgrades will ensure sufficient capacity to transmit potable water from the Project Site to DWS North Kona Water System for use throughout the region and La'i 'Ōpua. The Proposed Action is the Preferred Alternative because it meets the purpose and need, while being financially and technically achievable.

## 1.6 PRELIMINARY PROJECT COST AND TIMELINE

Phase 1 of the project will take approximately 18 months to complete. Phase 2 will require approximately 30 months to complete, beginning upon completion of Phase I well testing and approval.

Phase 1 is estimated to cost \$9 Million and Phase 2 is estimated to cost \$15 million.

## 1.7 APPROVALS AND PERMITS

The Proposed Action will be subject to the following list of permits and approvals to be completed prior to the start of construction.

**Table 1-1: Approvals and Permits**

| Permits/Approvals                         | Approving Agency                           |
|---|--|
| <i>Federal</i>                            |  |
| NEPA                                      | USDA RD RUS                                |
| Section 7 Consultation                    | U.S. Fish and Wildlife Service             |
| NHPA, §106 Review                         | DLNR, State Historic Preservation Division |
| <i>State of Hawai'i</i>                   |  |
| HRS, §343 Review                          | DHHL; Hawaiian Homes Commission            |
| HRS, §6E Review                           | DLNR, State Historic Preservation Division |
| Community Noise Permit and Noise Variance | DOH, Indoor and Radiological Health Branch |
| Well Construction Permit                  | CWRM                                       |
| Pump Installation Permit                  | CWRM                                       |
| <i>County of Hawai'i</i>                  |  |
| Grading, Grubbing and Stockpiling permits | Department of Public Works                 |





**ALTERNATIVES CONSIDERED**

## 2.0 ALTERNATIVES CONSIDERED

As a requirement of HAR §11-200.1-18 (2019), this chapter identifies and considers alternatives to achieve the Purpose and Need of the Proposed Action. These alternatives are described in this section and include a No-Action Alternative.

### 2.1 ALTERNATIVE 1: NO-ACTION

Under the No Action Alternative, the Project Site's existing conditions would remain. No new water wells would be built, thereby leaving DHHL and DWS without a new water source. DHHL would run out of water credits upon completing La'i 'Ōpua Village 4 Phases I and II and would be unable to complete the build out the remainder of La'i 'Ōpua. With the No Action Alternative, the Project Site would continue to operate as a coffee plantation with no short-or long-term impacts on the existing resources found on the Project Site.

However, this alternative fails to meet the purpose and need of the Proposed Action, which is to develop additional potable water supply sources within the North Kona region to support the continued development of La'i 'Ōpua. Further, it fails to meet DHHL's mission and vision of creating vibrant and self-sufficient homestead communities by developing and delivering lands and homes to more native Hawaiian families. Because of its failure to meet the purpose and need and DHHL's vision and mission, it is not a feasible alternative and was dismissed.

### 2.2 ALTERNATIVE 2: DELAYED ACTION

Developing additional water sources for the continued development of La'i 'Ōpua has been identified as a priority project for DHHL and stakeholders in both the 2009 and 2019 Kalakehe—La'i 'Ōpua Regional Plans. Additional water sources are needed to achieve DHHL's vision of creating a vibrant and self-sufficient community in the area and continuing to delay action would not meet DHHL's vision. Additionally, there are no existing activities or conditions in the Project Site or its vicinity that make delaying the Proposed Action more beneficial or reduce potential impacts. Because continuing to delay the Proposed Action would not meet DHHL's vision or the purpose and need, this alternative is not feasible and was dismissed.

### 2.3 ALTERNATIVE 3: ALTERNATIVE LOCATION

The lack of a suitable well site within existing DHHL land holdings and the need to partner with other landowners for the Proposed Action has been a constraint since 2009. DHHL has been working for over a decade to locate suitable sites for the Proposed Action and secure a water source development partnership. The Project Site is one of two locations where DHHL has committed resources to develop partnerships and is suitable for the Proposed Action. As such, it is uncertain DHHL would be able to identify another location and secure a development agreement without continuing to delay or prevent the Proposed Action. Therefore, an alternative location would not meet the purpose and need and was dismissed.

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## **3.0 AFFECTED ENVIRONMENT, LIKELY IMPACTS, AND MINIMIZATION MEASURES**

As a requirement of HAR §11-200.1 and NEPA Section 102 (42 U.S.C. §4332(2)(C)), an EA must include a description of the affected environment, identify and analyze potential impacts, and propose mitigation measures to minimize potential impacts. This chapter describes the Project Site's geographical and environmental setting, identifies potential impacts produced by the Proposed Action, and discusses mitigation measures for each affected resource to minimize or eliminate any adverse effects.

### **3.1 SUMMARY OF IMPACTS**

Table 3-1 provides a summary of the affected environment, potential impacts, and proposed mitigation measures. Short-term impacts are those anticipated during construction, and long-term impacts are those anticipated during operation of the Proposed Action. Cumulative impacts are those resulting from the development of La'i 'Ōpua, which is a secondary action of the Proposed Action, combined with other housing development projects proposed or under development within the Keauhou Aquifer System Area and North Kona District.

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**Table 3-1: Summary of Potential Impacts**

| <b>Affected Resource</b>       | <b>Short-term Impacts</b>   | <b>Long-term Impacts</b>   | <b>Cumulative Impacts</b>  | <b>Mitigation Measures</b>  |
|--------------------------------|---|--|--|---|
| Land Use                       | None Anticipated  | None Anticipated   | None Anticipated, all future growth resulting from the Proposed Action and other developments are within designated growth areas | Final well location will be outside areas classified as Agricultural Lands of Importance to the State of Hawai'i  |
| Geology, Topography, and Soils | Clearing, grading and grubbing  | None Anticipated   | None Anticipated   | Grading, Grubbing and Stockpiling permits per Hawai'i County Code, Chapter 10—Erosion and Sediment Control; soil loss and erosion Best Management Practices (BMPs)                                    |
| Hydrologic Resources           | None Anticipated  | Greater groundwater withdrawal from the Keauhou Aquifer System Area within the aquifer's sustainable yield | Greater groundwater withdrawal from the Keauhou Aquifer System Area within the aquifer's sustainable yield                       | Soil loss and erosion BMPs; Well Construction and Pump Installation Permits; Engineering Report compliant with HAR §11-20-29; NPDES permit, siting the wells outside the floodplain of Wai'aha Stream |
| Biological Resources           | Potential spread of invasive species; Temporary displacement of fauna species during construction phase | None Anticipated   | None Anticipated   | Invasive species control measures; fauna avoidance and impact reduction BMPs; biological resource training for crews; fauna resource buffers  |

**Chapter 3**  
**Affected Environment, Potential Impacts, and**  
**Minimization Measures**

**DHHL North Kona Wells Project**  
**Gianulias Well Site**  
**Final Environmental Assessment**

| <b>Affected Resource</b>                 | <b>Short-term Impacts</b>                             | <b>Long-term Impacts</b> | <b>Cumulative Impacts</b>  | <b>Mitigation Measures</b>  |
|--|---|--------------------------|--|---|
| Archaeological and Historic Properties   | None Anticipated                                      | None Anticipated         | None Anticipated   | Cultural resource training for construction crews; archaeological monitoring during construction; notify SHPD if cultural or historic resources are identified during construction; cease work immediately and contact SHPD, coroner and police if iwi kūpuna are identified during construction activities, and develop reinternment plan as appropriate |
| Cultural Resources and Practices         | None Anticipated                                      | None Anticipated         | None Anticipated   | Feasible actions by DHHL to protect Native Hawaiian rights are discussed and listed in section 3.7.2.   |
| Scenic and Aesthetics                    | None Anticipated                                      | None Anticipated         | None Anticipated   | None Required   |
| Air Quality                              | Fugitive dust and construction related air pollutants | None Anticipated         | None Anticipated   | Air pollution control BMPs  |
| Socioeconomics and Environmental Justice | None Anticipated                                      | None Anticipated         | Positively benefiting Native Hawaiian and low-income families by creating increased access to housing and economic opportunities | None Required   |
| Acoustic Environment                     | Noise generated during construction                   | None Anticipated         | None Anticipated   | Community Noise permit; noise reduction BMPs; public informational meeting  |

**Chapter 3**  
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**DHHL North Kona Wells Project**  
**Gianulias Well Site**  
**Final Environmental Assessment**

| <b>Affected Resource</b>             | <b>Short-term Impacts</b>                           | <b>Long-term Impacts</b> | <b>Cumulative Impacts</b>  | <b>Mitigation Measures</b>  |
|--------------------------------------|---|--------------------------|--|---|
| Transportation and Traffic           | Minor increase in traffic during construction phase | None Anticipated         | Secondary impacts combined with reasonably foreseeable developments could result in increased traffic around La'i 'Opua  | None Required   |
| Natural Hazards                      | None Anticipated                                    | None Anticipated         | None Anticipated   | Final well location will be outside the Special Flood Hazard Zone |
| Public Facilities and Infrastructure | None Anticipated                                    | None Anticipated         | Secondary impacts combined with reasonably foreseeable developments could increase demand on Keauhou Aquifer System Area, public facilities and infrastructure | None Required   |

## 3.2 LAND USE

### 3.2.1 Existing Land Use

The existing land uses within the Project Site primarily consist of private agriculture. Linear rows of mature coffee trees interspersed with grass, some landscaped trees and shrubs cover most of the site. One single-family home is present on the property. Figure 3-1 includes site photographs.

**Figure 3-1: Site Photos**



### 3.2.2 General Land Use Classifications

Figure 3-2 identifies the Project Site as within the State Land Use Commission Agricultural District . Figure 3-3 identifies the makai portions of the Project Site as Hawai'i County Code Agriculture District A-1a (minimum building site of one acre) Zone and the mauka portions as Agriculture District A-5a (minimum building site of five acres) Zone.



Figure 3-2: State Land Use

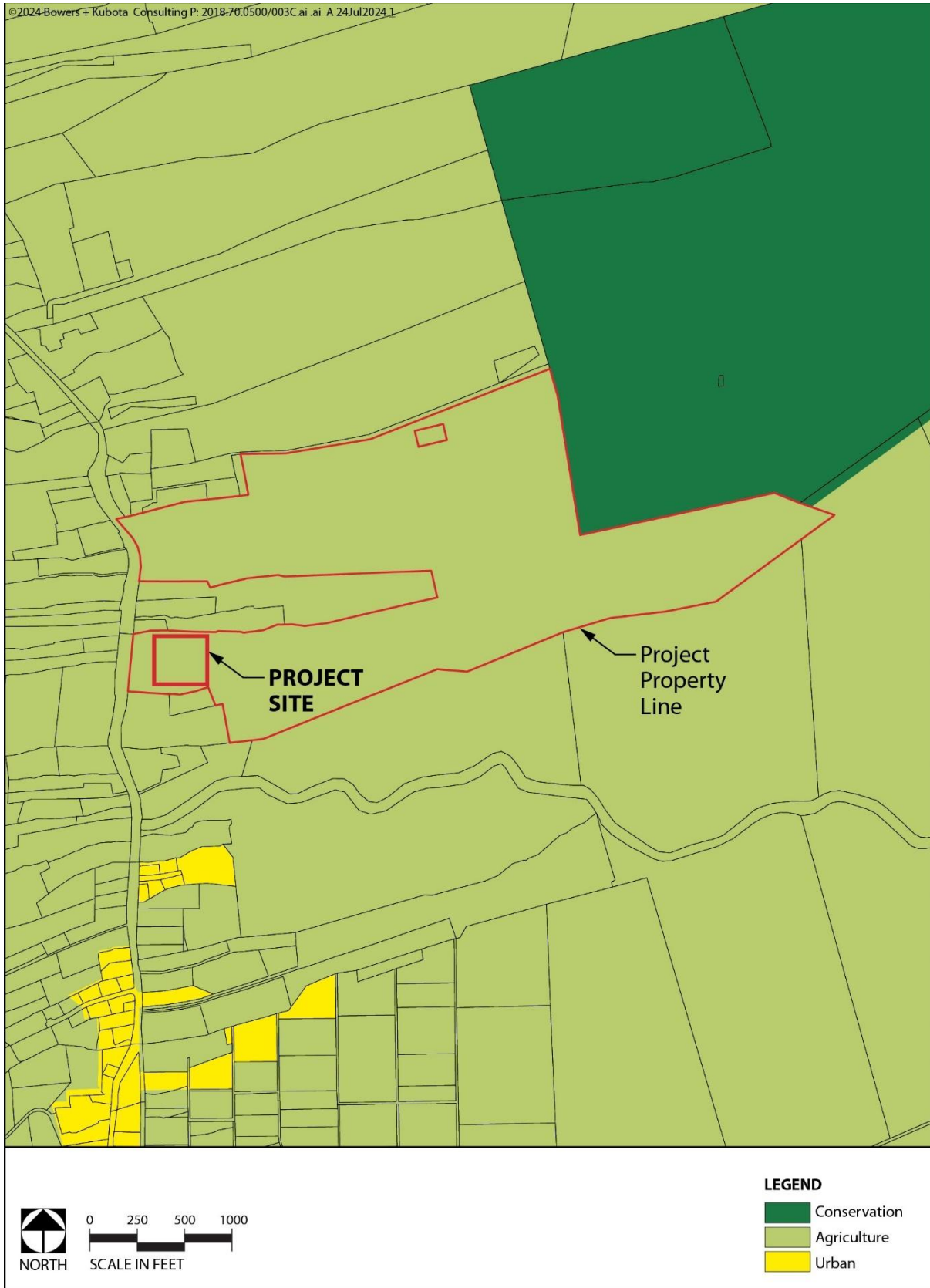
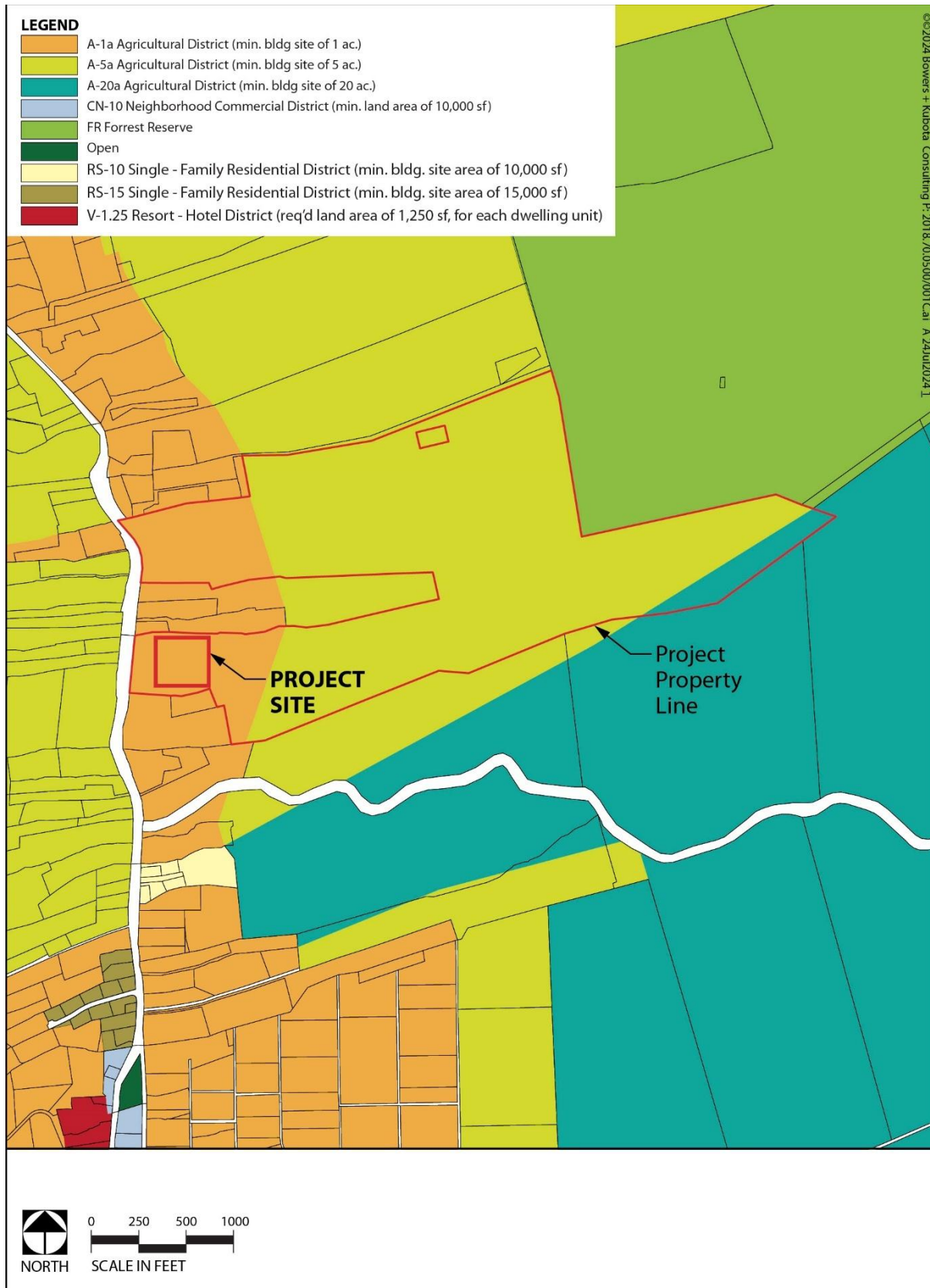


Figure 3-3: County Zoning Map



### 3.2.3 Agriculture Lands and Farm Lands

#### ***AGRICULTURAL LANDS OF IMPORTANCE TO THE STATE OF HAWAII***

The Hawai'i State Department of Agriculture, Soil Conservation Service (SCS), USDA, and University of Hawai'i have created a classification system to identify Agricultural Lands of Importance to the State of Hawai'i (ALISH). The system has three ratings for agricultural lands that correspond to the SCS's national equivalents<sup>3</sup>:

*"Prime Agricultural Land"* which is best suited for the production of food, feed, forage, and fiber crops. The land has the soil quality, growing season, and moisture supply needed to sustain high yields of crops economically when treated and managed according to modern farming methods.

*"Unique Agricultural Land"* which indicates agricultural land other than Prime that is valued for its unique high-value crops. In Hawai'i, some examples of high-value crops are coffee, taro, rice, watercress, and non-irrigated pineapple;

*"Other Important Agricultural Land"* is any land other than "Prime or Unique Agriculture Land" that is of state-wide or local importance for the production of food, feed, fiber and forage crops.

As shown in Figure 3-4, approximately 7.8 acres of Other Important Agricultural Land is present within the Project Site on the mauka corner of the parcel.

#### ***IMPORTANT AGRICULTURAL LANDS***

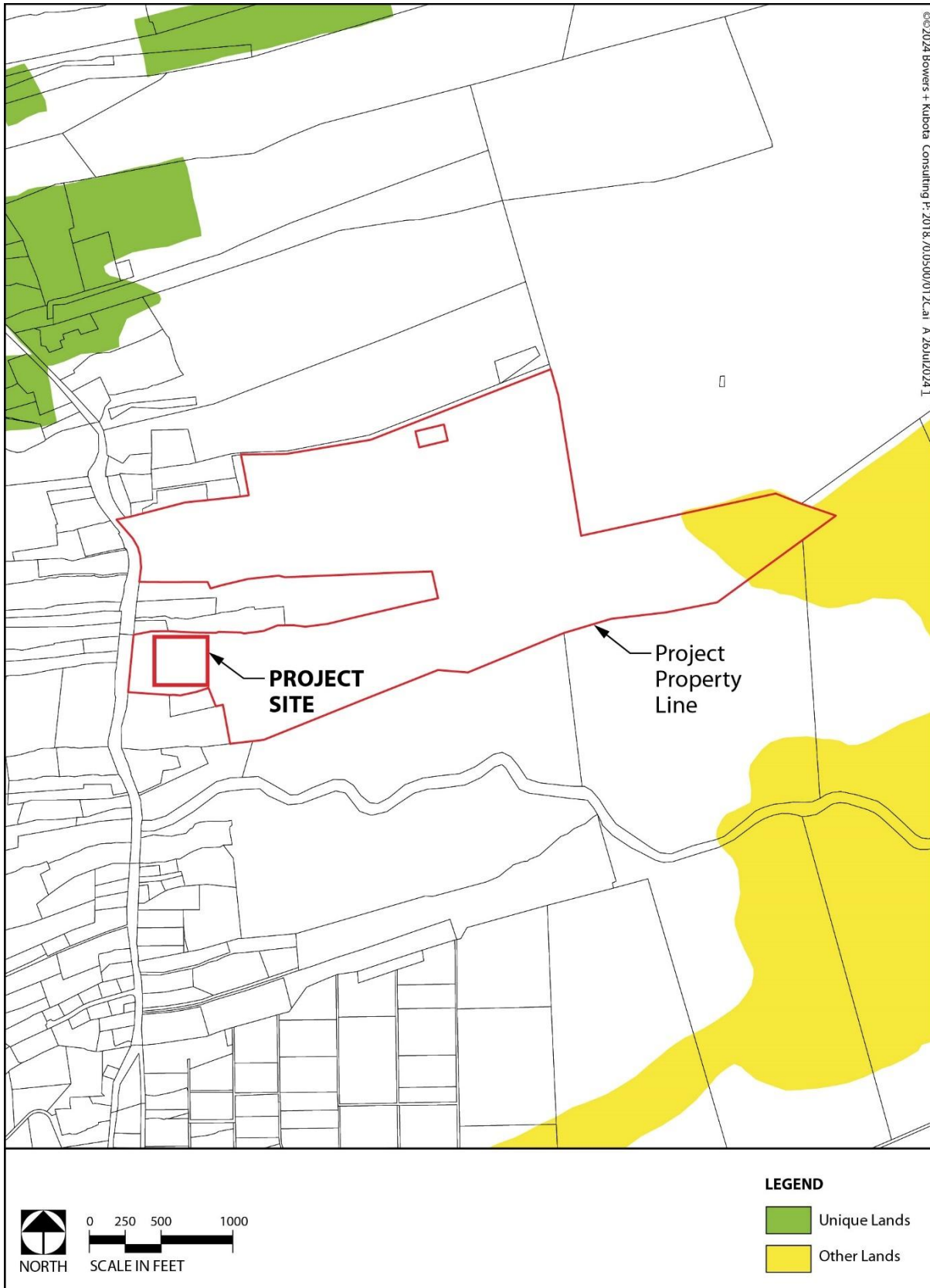
Important Agricultural Lands (IAL) is a voluntary program where landowners can apply to the State Land Use Commission to designate their lands as IAL (HRS 205-44). IAL are intended to promote, conserve and protect agricultural lands, and assure the future availability of suitable agricultural lands. No IAL are present within or around the Project Site, as the only IALs present on Hawai'i Island are located in South Kohala.

### 3.2.4 Formally Classified Lands

Formally Classified Lands (FCL) are "properties that are administered either by Federal, State, or local agencies, or have been given special protection through formal legislative designation" (USDA-RD). Examples of FCL include the National Park System, National Monuments, Coastal Zones, National Wildlife Refuges, and areas of state or local interest.

The Project Site directly abuts the Wai'aha Springs Forest Reserve, which is part of the State of Hawai'i's Forest Reserve System. Forest Reserves are multi-use land areas that are managed by the State of Hawai'i to provide a variety of ecosystem services and public uses and benefits. While not directly adjacent to the Project Site, the Kaloko-Honokōhau National Historic Park is approximately six miles northwest of the project area.

Figure 3-4: ALISH Lands Map



### **Land Use Impacts and Mitigation Measures**

Water storage tanks and associated accessory structures are permitted within the State Agricultural District and by the Hawai'i County Code Chapter 25—Zoning, so long as they do not pose a hazard or danger to the surrounding area and are approved by the Director of the Hawai'i County Planning Department (Section 25-4-11(a)(b)(c)). The Proposed Action will be installed in compliance with all relevant building codes to prevent any hazards to the surrounding area and construction would not begin prior to plan approval.

There will be no direct impacts to IAL or FCL, as neither land use occurs onsite. Additionally, DHHL would site the wells to avoid any impacts to Wai'aha Springs Forest Reserve. The Proposed Action is located approximately six miles away from Kaloko- Honokōhau National Historic Park and would therefore have no impact on the Park. However, the National Park Service previously had concerns regarding other groundwater resource uses near the Kaloko-Honokōhau National Historic Park. These concerns are discussed in Section 3.4.5.

The Proposed Action would affect approximately one to three acres of agricultural lands within the 128-acre Project Site. To avoid any impacts to the ALISH Other Important Agricultural Lands present, DHHL would site the wells outside of these areas so that no ALISH lands would be lost. Therefore, no short- or long-term adverse impacts to agricultural lands, IAL or FCLs are anticipated during construction or operation of the Proposed Action and no additional mitigation measures are required.

## **3.3 GEOLOGY, TOPOGRAPHY AND SOILS**

### **3.3.1 Geology**

Hawai'i Island is home to five volcanoes and is associated with volcanic eruptions and earthquakes. The Project Site is located on the western slope of the Hualālai Volcano, which last erupted between 1800-1801 and is now considered dormant. Flows from this last eruption originated on the northwestern ridge of the volcano at around 6,000 feet (the Ka'ūpūlehu flow) and at 1,500 feet (the Hu'ehu'e flow). These historic Hualālai flows extended from west of Kīholo Bay to Kaumo'o Point and much of the lava in this area has been since colonized by hardy vegetation and used for agriculture lands (Macdonald, GA., Abbot, A.T., and Peterson, F.L., 1983).

The U.S. Geological Survey (USGS) has developed a Lava-Flow Hazard Zones map and divided the island into zones based on the probability of coverage from future lava flows, with Zone 1 having the greatest risk and Zone 9 the least. The Project Site is located within Zone 4. While Hualālai Volcano is now considered dormant, its historic flows have typically covered large areas including the Project site.

### **3.3.2 Topography**

The Project Site is located between 1,500-1,600 feet (amsl). The site slopes moderately west towards the ocean. Decades of coffee production has altered the existing landscape and topography of the Project Site, and there is evidence of bulldozing and other past earthwork within the site limits.

### **3.3.3 Soils**

Figure 3-5 displays the USDA National Resources Conservation Services, Web Soil Survey and the Project Site has a mix of soils with two predominate soil types: Hua-Honuau complex and Honaunau hydrous silt. The Honuau series are formed in volcanic ash and used mostly for coffee and pasture lands (Bautista, O.M., Wilkenson, S., Hammatt, H.H., 2019). The majority of the site is composed of

Hua-Honuauulu complex, which is characterized by 20 to 40 percent slopes and is moderately well draining with low runoff properties. Honaunau hydrous silt is characterized by 10 to 20 percent slopes and is also moderately well-draining with low runoff properties.

The Land Study Bureau at the University of Hawai'i has developed a soils agricultural productivity rating system with the USDA. The system ranks soils within the State from A to E in terms of their over-all quality for agricultural productivity, with A being "very good" and E being "not suitable." As shown in Figure 3-6, most of the soil within the Project Site has been rated "C," which is midrange for agricultural productivity. There are a few small portions of "D" rated soil on the mauka edges of the site.

The National Earthquake Hazard Reduction Program has developed a soil classification system defining five soil types that help identify areas that will be most significantly affected by an earthquake. Earthquakes associated with tectonic or volcanic activity occur frequently in Hawai'i County, although many are too small to cause noticeable effects. "A" ranked soils represent hard rock that are able to reduce ground motions or shaking from earthquakes and "E" represent soft soils that amplify and magnify ground shaking and increase building damages and loss (State of Hawai'i 2023 Hazard Mitigation Plan). NEHRP has identified the Project Site as having "C" soils, which are very dense soils and soft rock that experience a moderate amount of ground shaking.

#### **Geology, Topography, and Soils Potential Impacts and Mitigation Measures**

The Proposed Action would not change the Project Site's potential exposure to geological hazards or prevent the use of any significant geological resources in the area. It will be constructed in accordance with County requirements and building codes relating to the onsite seismic conditions, and the appropriate American Water Works Association and American Concrete Institute standards. The entire island of Hawai'i, including the Project Site, are located within the International Building Code (IBC) Seismic Zone 4 which have the highest potential for seismic induced ground movement. The Proposed Action will comply with IBC Seismic Zone 4 building standards to reduce potential impacts created by earthquakes or seismic induced ground disturbances.

The Proposed Action would preclude between one to three acres of the Project Site from its current agricultural use for coffee production. However, it would not impact any A "very good" or B "good" ranked soils or prime agricultural soils or other agricultural uses in the area. Construction of the Proposed Action will require clearing, grubbing, and grading and the necessary permits will be obtained per Hawai'i County Code, Chapter 10—Erosion and Sediment Control. The exact amount of ground disturbance for the Proposed Action will be dependent on the topography and ground conditions of where the wells are sited and short-term. Efforts will be made to site the wells in a location on the Project Site that produces the least amount of ground disturbance.

Further, implementing construction of the Proposed Action in two phases will reduce surface disturbance and all excavation and grading activities will be regulated by the applicable provisions of the County's grading ordinances and any SHPD requirements for archaeological monitoring. Excavation and grading activities will incorporate best management practices (BMPs) to minimize soil loss and erosion to preserve existing conditions of nearby surface waters, such as:

- Silt fences;
- Dust fences;
- Slope stabilization;
- Temporary sediment basins;
- Temporary diversion berms and swales to intercept runoff;

- Use of compost filter socks;
- Truck wash down areas; and
- Slope protection.

Permanent sediment control measures will be used once construction is complete. No long-term adverse impacts to soils are anticipated during construction or operation of the Proposed Action and no additional mitigation measures are required.

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Figure 3-5: USDA Soils Map

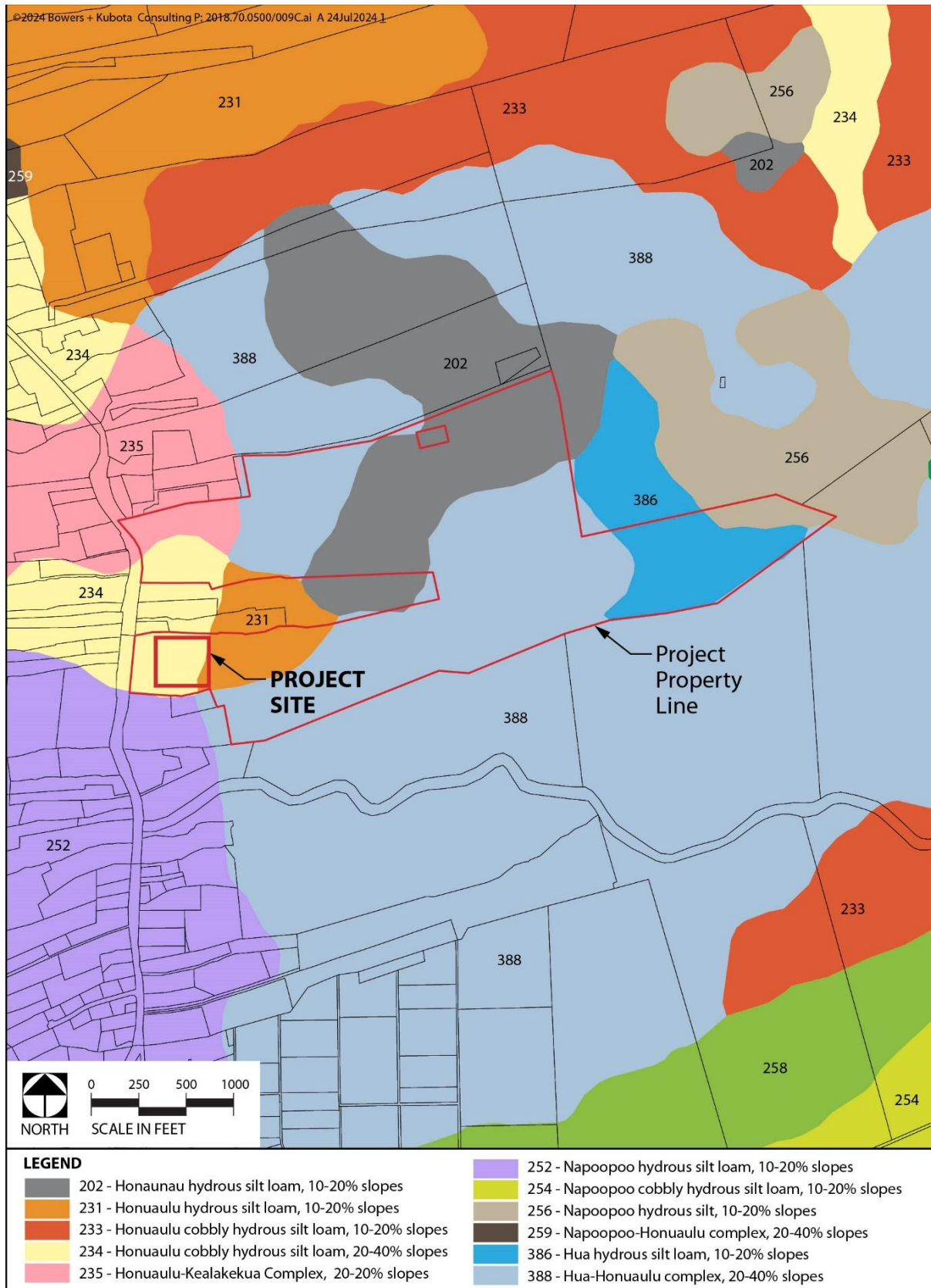
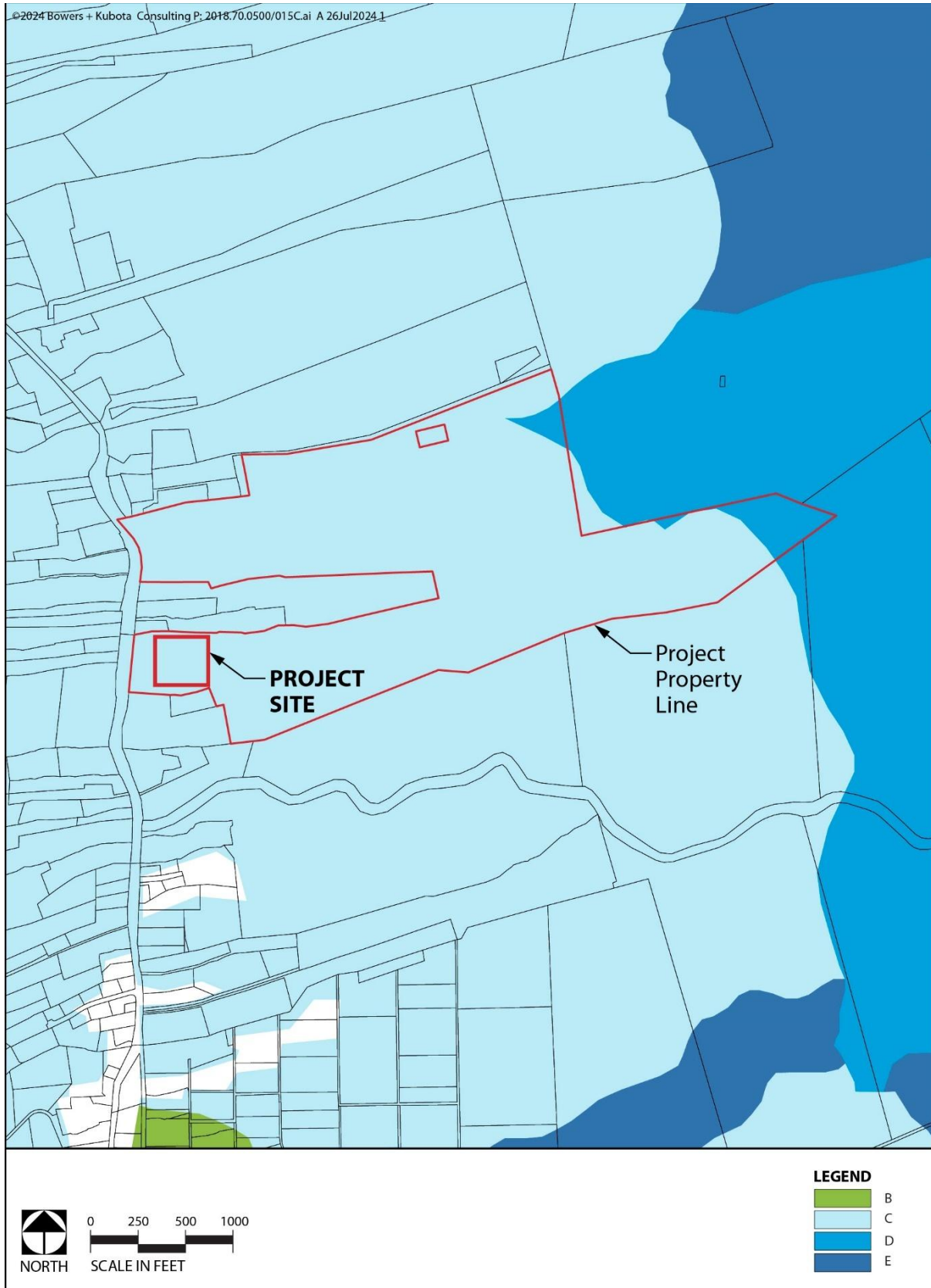




Figure 3-6: LSB Soils Map



## 3.4 HYDROLOGIC RESOURCES

### 3.4.1 Rainfall

On the North Kona coast, rainfall is generally between 20 inches at lower elevations and over 80 inches per year at higher elevations as shown in Figure 3-7. Mean annual rainfall near the Project Site is approximately 48 inches with rainfall amounts typically highest in August and September and lowest in July (SWCA Environmental Consultants, 2019).

### 3.4.2 Watershed, Surface Waters and Floodplain

The Project Site is located within the Wai'aha watershed, which covers an area of 15.8 square miles. As shown in Figure 3-8, land uses within the watershed are primarily agricultural (67.5 percent), conservation (27.9 percent), urban (4.5 percent) and rural (0.1 percent) (Hawai'i Division of Aquatic Resources, 2008).

Surface water in the North Kona region is extremely limited and Wai'aha Stream is the only perennial surface water in the watershed, due to its high permeability of basaltic lava flows from Mauna Loa and Hualālai Volcanos (County of Hawai'i, Department of Water Supply, 2017). Wai'aha Stream crosses through the upper northeastern corner of the Project Site.

Wai'aha Stream is 16.2 miles long ending one mile inland from the coast with most of its length within the stream's headwaters (County of Hawai'i, Department of Water Supply, 2017). The stream is classified as a Class 2 Inland Water per HAR §11-54 Water Quality Standards. Class 2 Inland Waters are "for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies". According to the Atlas of Hawaiian Watershed and their Aquatic Resources, of the five assessments conducted on the stream's aquatic life, none deemed it worthy of protection (Hawai'i Division of Aquatic Resources, 2008). There are eight declared diversions along the stream for agricultural or industrial purposes, with one diversion occurring in the vicinity of the Project Site (County of Hawai'i, Department of Water Supply, 2017).

### 3.4.3 Wetlands

According to the U.S. Fish and Wildlife Service, National Wetlands Inventory Online Wetlands Mapper, no wetland features occur within the Project Site. As shown in Figure 3-9. The closest wetland feature, a freshwater pond, is approximately 0.7 miles mauka.

### 3.4.4 Coastal Waters

The Project Site is located approximately 2.6 miles inland from the nearest coastline at an elevation of approximately 1,500 feet to 1,600 feet amsl. Wai'aha Stream, which crosses through the Project Site, does not flow directly into the Pacific Ocean. Instead, the stream ends approximately one mile inland from the coast and has no direct connection or impact on coastal waters.

Figure 3-7: Rainfall on Hawai'i Island

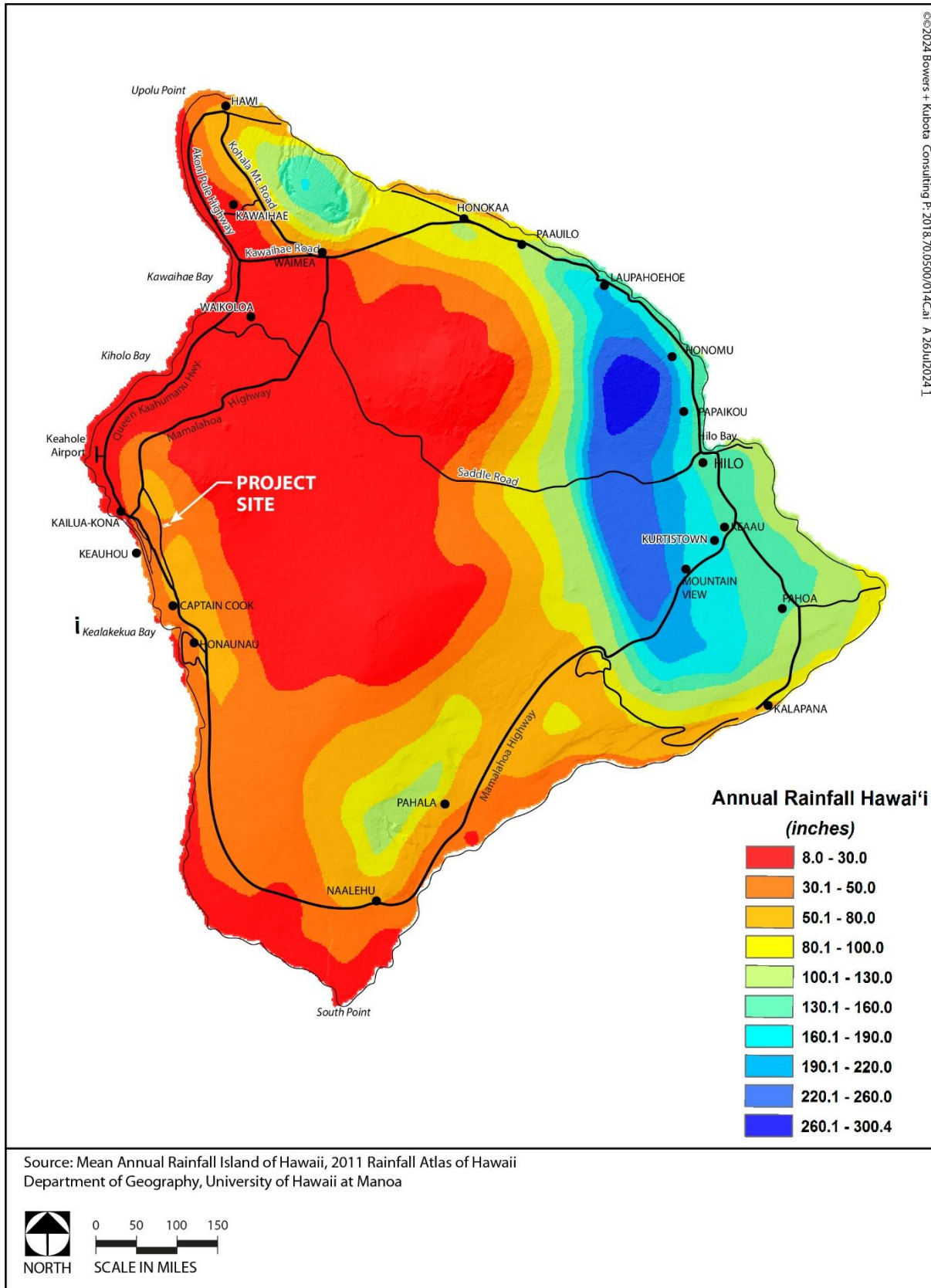


Figure 3-8: Watershed and Project Location Map

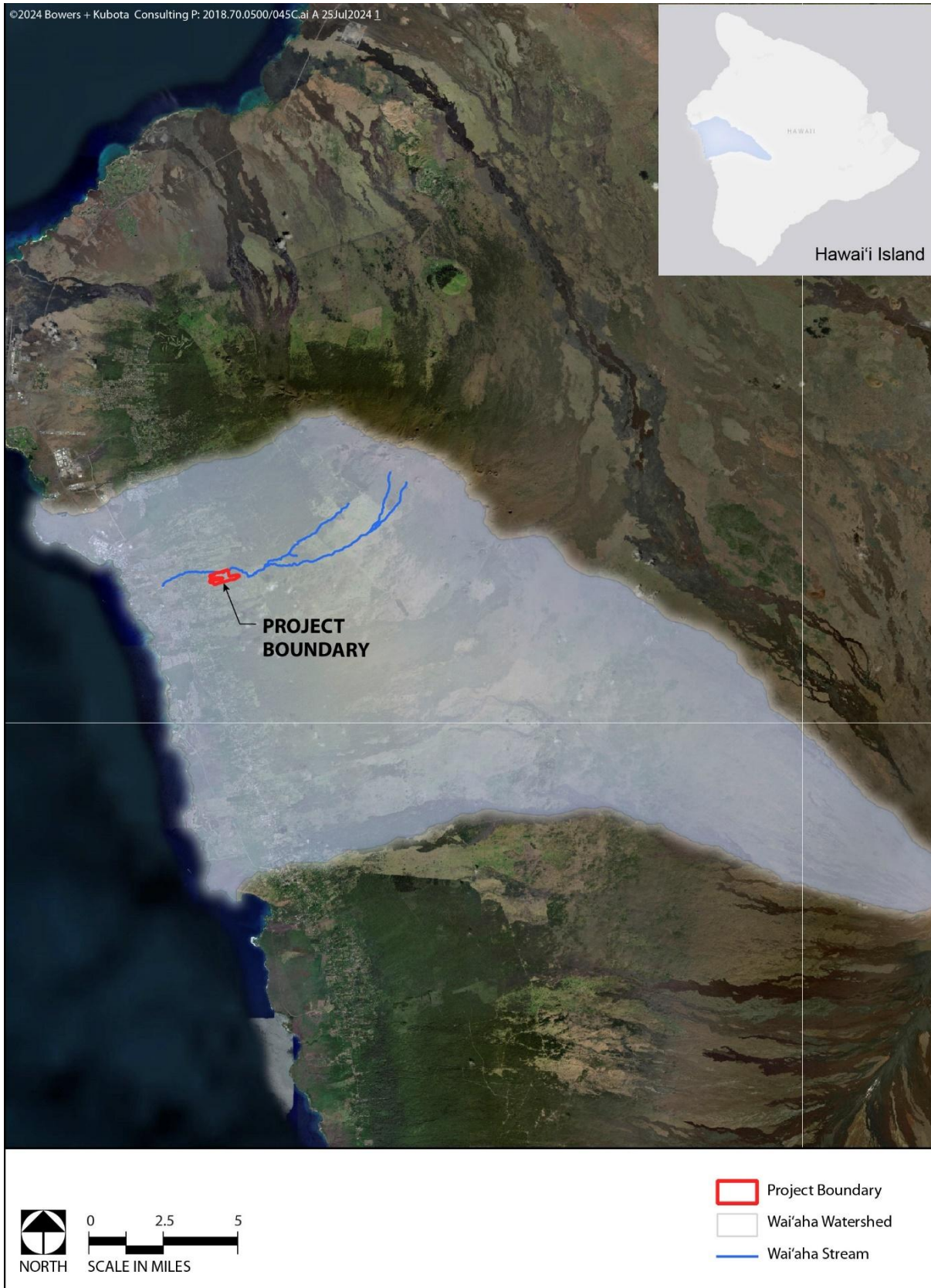


Figure 3-9: Wetlands Map



NORTH



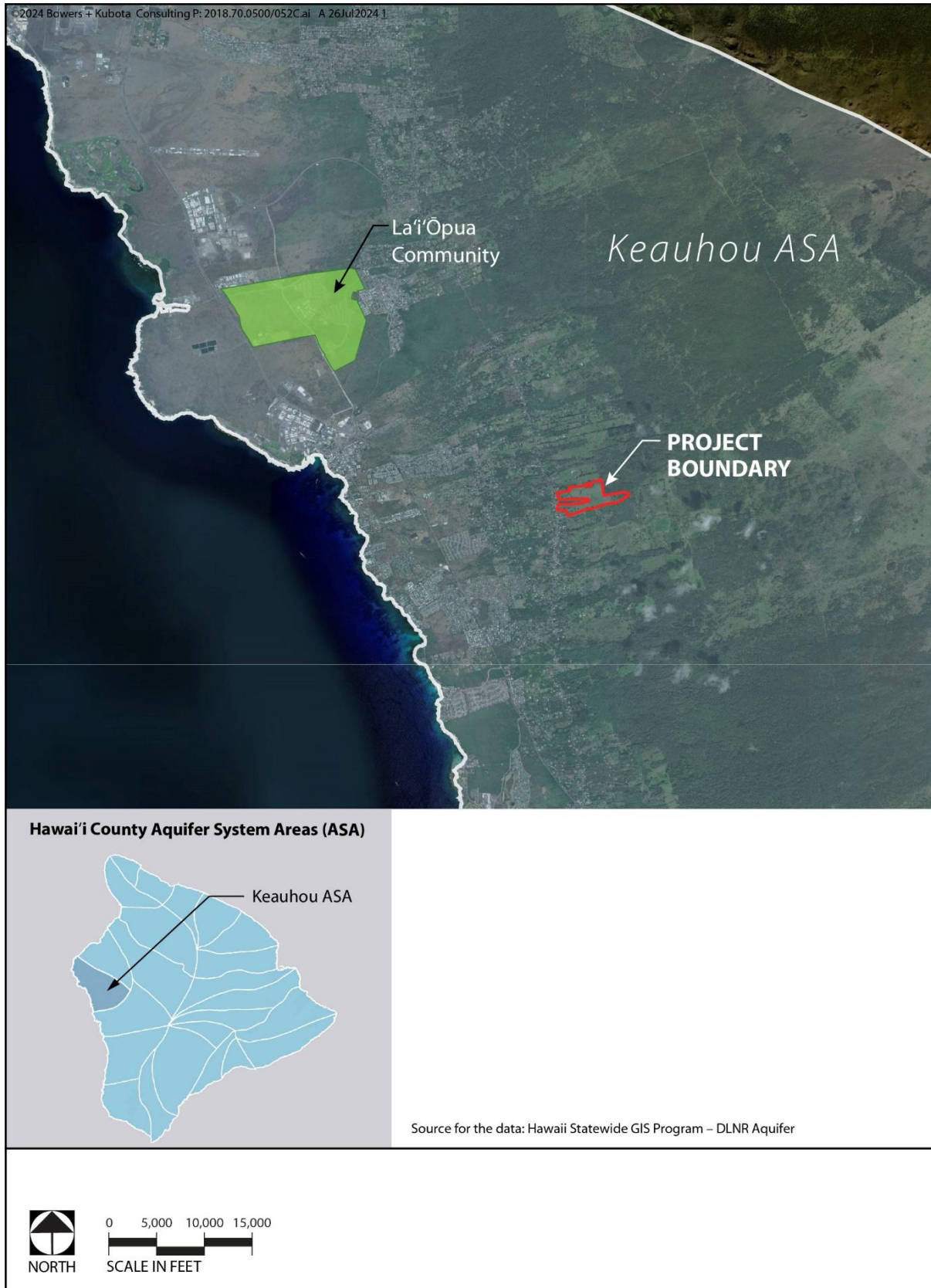
This map is for general reference only. The US Fish and Wildlife Service and the State of Hawaii Office of Planning responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

**WETLANDS**



Freshwater Pond

Figure 3-10: Hawai'i County Aquifer System Areas



### 3.4.5 Aquifer System

The Project Site is located within the Hualālai Aquifer Sector - Keauhou Aquifer System Area (KASA) as shown in Figure 3-10. The KASA extends over the western and southwestern flank of Hualālai Volcano and along the entire coastline from Mahai'ula to Keikiwaha point.

According to The Rainfall Atlas of Hawai'i, rainfall on the western slopes of Hualālai Volcano is the principal source of groundwater recharge in the area and in Hawai'i County groundwater is the primary source of drinking water. Within the KASA, two types of groundwater are present: basal and high-level groundwater. Basal groundwater is freshwater that "floats" on top of deeper seawater. High-level groundwater is a freshwater source that is contained in the island's volcanic rock layers by relatively impermeable geologic structures, like clay soils or less permeable volcanic rock (Giambelluca et. al., 2016). Basal groundwater extends 1.5 to 4.5 miles inland from the coast, while high-level groundwater is restricted to mauka of Māmalahoa Highway from Lalaoa to Ke'ei (Natural Energy Laboratory of Hawai'i Authority, 2018). High-level groundwater is considered pristine in quality, largely from the lack of saltwater intrusion like basal sources, with a chloride content ranging between 3 and 10 milligrams per liter. Chloride content is a measurement of freshness of Hawai'i's groundwater and this range is similar the chloride content of high elevation rainfall.

Following the discovery of high-level groundwater during the 1990's, DWS has shifted their priority to developing wells that use this groundwater type. Placement of wells utilizing high-level groundwater in the region range from 730 to 1,760 feet amsl with depths from approximately 1,000 to 1,780 feet, suggesting compartmentalization of this water source throughout the KASA area (Natural Energy Laboratory of Hawai'i Authority, 2018). DWS encourages development of future high-level wells in areas generally between 1,500 and 1,800 feet mauka of Māmalahoa Highway with a minimum of 0.25 miles between well sites. This reduces drawdown and interference between wells, creating greater water sustainability within the KASA region.

During the development of the Hawai'i County Water Use and Development Plan update, the National Park Service noted concerns regarding lower groundwater levels and increased pond salinity resulting from wells in the area intercepting groundwater and reducing flow through Kaloko-Honokōhau National Historic Park (County of Hawai'i, Department of Water Supply, 2017). The Kaloko-Honokōhau National Historic Park is an important natural and cultural resource located approximately six miles northwest of the Project Site. During pre-consultation for the Proposed Action, the National Park Service commented they did not believe groundwater withdrawal from the Project Site would impair or impact cultural or natural resources within the park.

According to the Commission on Water Resource Management's (CWRM) Water Resource Protection Plan 2019 Update, the KASA has a sustainable yield of 38 mgd (State of Hawai'i, Commission on Water Resource Management, 2019). Sustainable yield is the limit established by the CWRM for groundwater withdrawal from an aquifer without negatively impacting its long-term sustainability from the source. The CWRM adopted reservations of 3.398 mgd of water from the KASA for DHHL per its authority under HRS 174C-101. The water reservations may be used for various purposes in the planned development of DHHL's 1.51 acres of land occurring in the KASA, including the development of homesteads like La'i 'Opua under Section 221 of the Hawaiian Homes Commission Act.

#### ***EXISTING WELLS***

The Proposed Action occurs within the DWS North Kona Water System, which depends heavily on groundwater wells as a water source. According to Hawai'i Water Use and Development Plan, Keauhou Aquifer System, the KASA has 47 production wells in the system area including 16 for municipal purposes, 12 for irrigation, one industrial, five agricultural and 13 drilled but unused

(County of Hawai‘i, Department of Water Supply, 2017). The wells use both groundwater types and current pumping rates are approximately 15 mgd. The Proposed Action is anticipated to have a maximum daily demand of 1.1 mgd with the capacity to pump up to 2.0 mgd (Department of Hawaiian Home Lands, 2006).

Table 3-2 lists the municipal wells supplying potable water within five miles of the Project Site. Figure 3-11 shows the locations of the existing wells within the KASA. Wai‘aha Well A is the closest operating well, located approximately 0.3 miles north of the Project Site.

**Table 3-2: Existing Groundwater Wells\***

| <b>Well No.</b> | <b>Well Name</b>                      | <b>Approx. Distance to the Project Site (miles)</b> |
|-----------------|---------------------------------------|---|
| 3857-04         | Wai‘aha Well A                        | 0.3   |
| 3657-01         | Hōlualoa (Deepwell)                   | 1.2   |
| 3957-01         | Keopu Pu‘uhonua Well (Keopu Deepwell) | 1.6   |
| 4057-01         | Keakuolū Well No. 1 (QLT)             | 2.8   |
| 3557-01         | Kahalu‘u Wells A                      | 3.5   |
| 3557-02         | Kahalu‘u Wells B (Standby)            | 3.5   |
| 3557-03         | Kahalu‘u Wells C                      | 3.5   |
| 3557-04         | Kahalu‘u Wells D                      | 3.5   |
| 3557-05         | Kahalu‘u Shaft                        | 3.5   |
| 4158-02         | Honokōhau Well                        | 3.5   |
| 4258-03         | Hualālai Well                         | 5.0   |

\*Source: County of Hawai‘i, Department of Water Supply. *Hawai‘i County Water Use and Development Plan Update, Hawai‘i Water Plan, Keauhou Aquifer System*. March 2017.

***FUTURE WELLS***

There are four future wells planned within the KASA, including the Proposed Action. One of the planned wells, the KS Well, is another of the sites selected for the future development of La‘i‘Ōpua as discussed in Chapter 1.2.

The KASA has a sustainable yield of 38 mgd and projected future water demands for the KASA indicate that by 2035 pumping rates will reach approximately 23 mgd, or around 60 percent of the aquifer’s sustainable yield (County of Hawai‘i, Department of Water Supply, 2017). Table 3-3 lists the future planned municipal wells within the vicinity of the Proposed Action. The closest of these wells, Wai‘aha Well B, is over one mile from the Project Site.

**Table 3-3: Proposed Potable Wells**

| <b>Well Name</b>       | <b>Estimated Pump Capacity (mgd)</b> | <b>Distance to Project (miles)</b> |
|------------------------|--------------------------------------|------------------------------------|
| <b>Proposed Action</b> | 2                                    | N/A                                |
| <b>KS Well IIA</b>     | 1                                    | 5.25                               |
| <b>Wai‘aha Well B</b>  | 1                                    | 1.35                               |
| <b>Ota Well</b>        | 1                                    | 2.31                               |



### **3.4.6 Groundwater Contamination**

Potential sources for groundwater contamination include untreated stormwater runoff and wastewater. Stormwater runoff can occur anywhere within the watershed and is a source of water pollution. Wastewater is often generated as a byproduct of agricultural or industrial activities or from Individual Wastewater Systems and Underground Injection Control sites.

No large-scale commercial agricultural or livestock operations, which may use substantial quantities of pesticides and herbicides that can be picked up in stormwater runoff, occur mauka of the Project Site. Groundwater recharge of the KASA occurs primarily on the slopes of Hualālai Volcano, mauka of the Project Site, and the area consists predominately of undeveloped land covered with shrub and forest vegetation.

Directly mauka of the Project Site is Wai‘aha Springs State Forest Reserve and land uses surrounding the site consist mostly of rural residential homes, small-scale agriculture and vacant land. Within the Project Site, land uses include coffee cultivation and one single-family residence. None of these land uses produce measurable amounts of potential contaminants. There are six (6) National Pollution Discharge Elimination System (NPDES) permitted facilities that discharge to Wai‘aha Stream, but these are all located makai of the Project Site. See Figure 3-12.

The County of Hawai‘i does not have a sanitary wastewater collection system in the uplands of North Kona or along Māmalahoa Highway. As a result, wastewater disposal near the Project Site is primarily within Individual Wastewater Systems which have historically been cesspools. There is one cesspool present within the Project Site and five in the vicinity (Wai Wastewater and Alternative Innovations, n.d.). In 2017, Act 125 was passed by the Hawai‘i State Legislature requiring all cesspools to be upgraded, converted, or connected to a sewer system by 2050.

The Project Site is located approximately 1.5 miles mauka of the Underground Injection Control line established by the DOH. The Injection Control line marks areas of the island where there are limits on the types of injection wells that can be installed, and the Project Site’s location mauka of the line indicates no new injection wells can be installed nearby. Injection wells are typically used by individual wastewater treatment facilities to dispose of treated wastewater effluent into ground pits.

Figure 3-11: Groundwater Wells Map

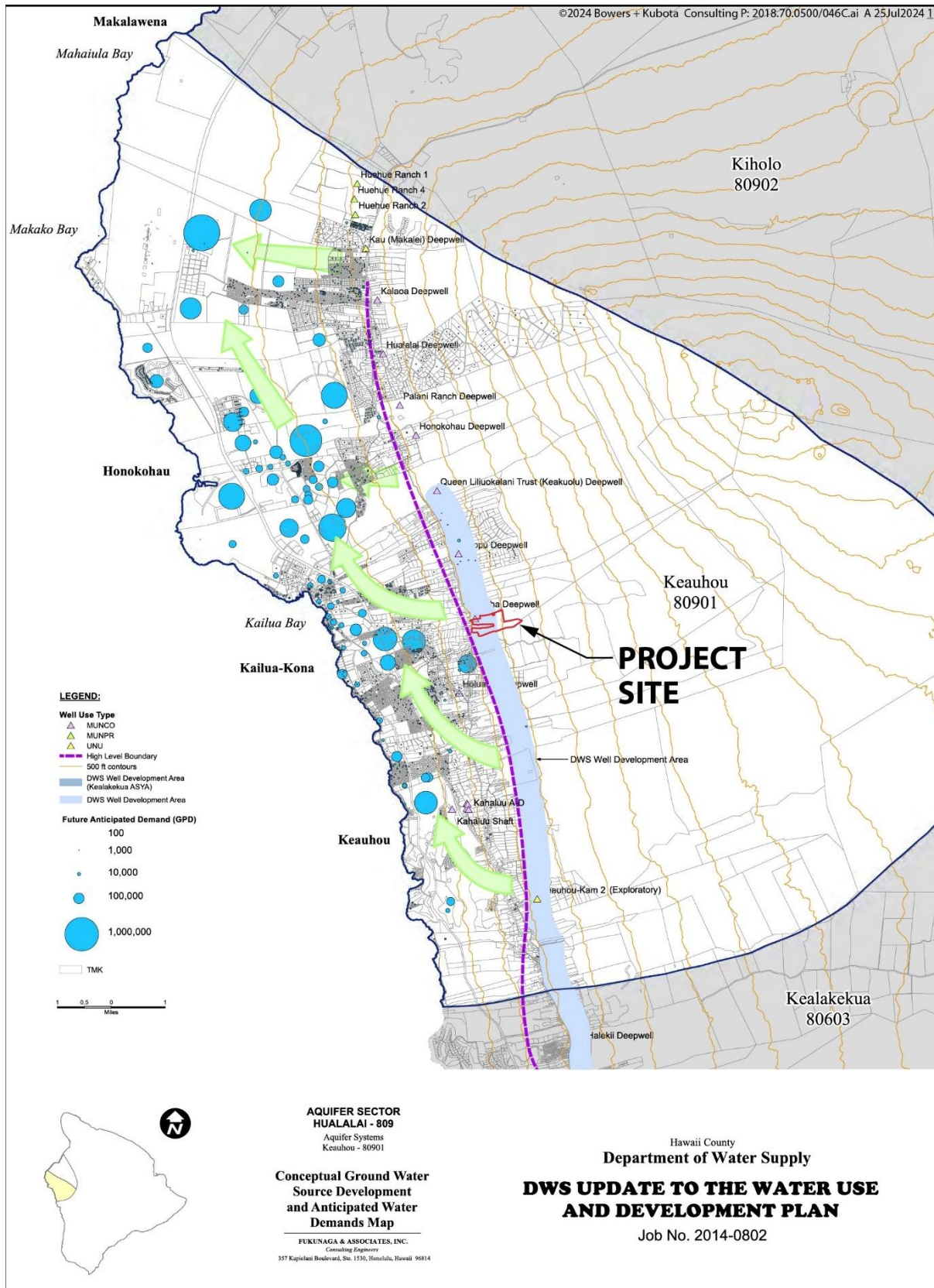
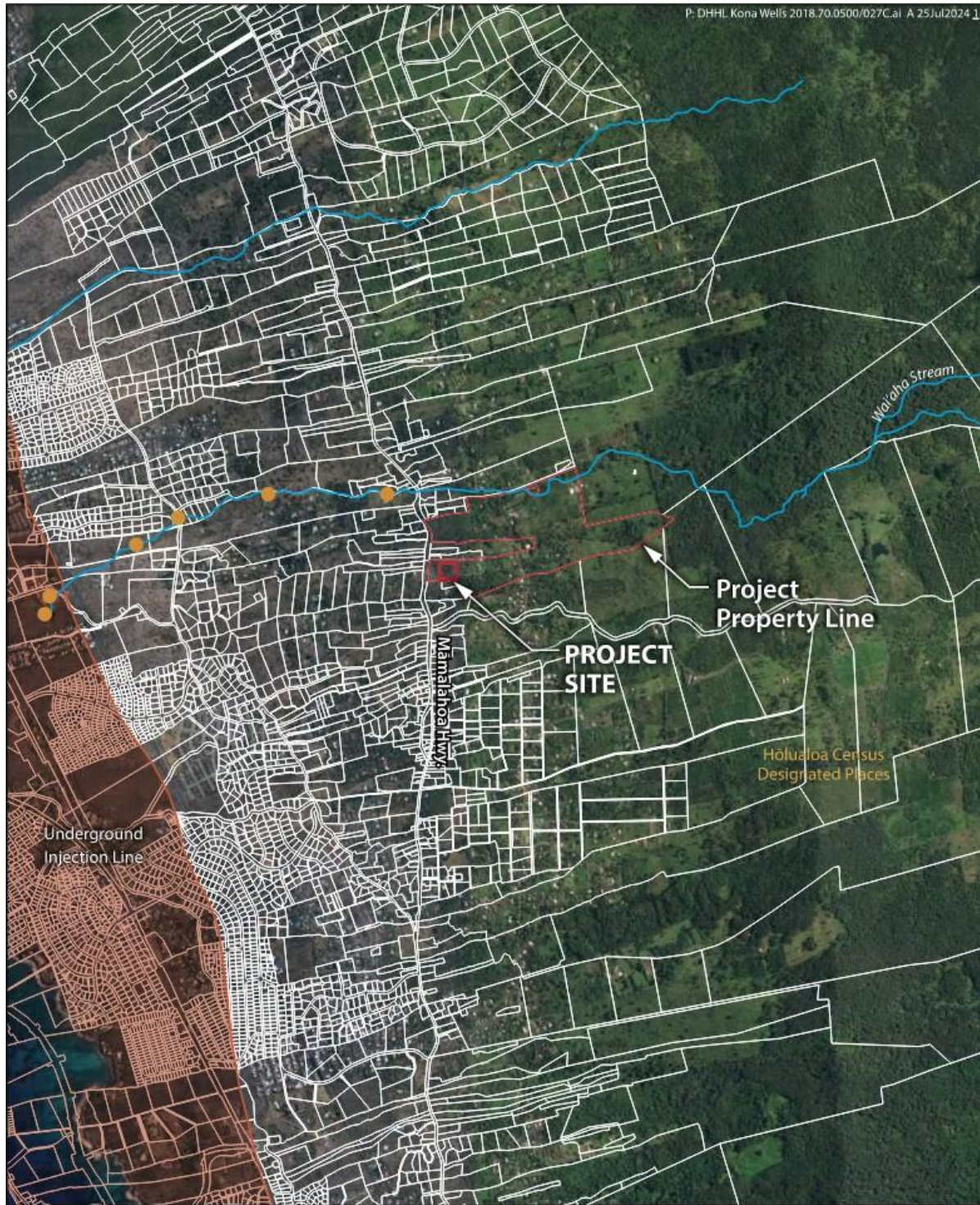


Figure 3-12: NPDES Contamination Injection Map



**LEGEND**  
● NPDES Permitted Facilities that discharge to water

### Hydrologic Resources Impacts and Mitigation Measures

The Proposed Action would not change the Project Site's potential exposure to rainfall or impact rainfall levels in the area. The Proposed Action would have no impacts on wetland features, as none occur in the Project Site. Those in the vicinity are mauka of the site and Māmalahoa Highway and would not be affected by the Proposed Action.

Wai'aha Stream crosses through the northwestern portion of the Project Site however, the Proposed Action would not impact this surface water source. The wells will be sited in a location away from the stream, and in an area that produces the least amount of ground disturbance to reduce potential impacts. BMPs like those described in Section 3.3.3 would be used during excavation and grading activities to minimize soil loss and erosion preserving existing surface and coastal water conditions. Permanent sediment control measures will be used once construction is complete. The exact amount of ground disturbance for the Proposed Action will be dependent on the topography and ground conditions of where the wells are sited. The total area disturbed will likely exceed one acre, and a NPDES permit will be obtained for the Proposed Action.

Prior to Phase I, Well Construction and Pump Installation Permits will be obtained for the Proposed Action. While the two final production wells will be closer than the DWS preferred 0.25 miles, during Phase I the well will be tested to ensure it can support the desired water quantity to be produced collectively between the two final production wells. Testing will ensure there would be minimal interference between the two wells. During Phase I testing, if the water quality or quantity is insufficient or there is interference with nearby wells the Proposed Action would not continue to Phase II.

Upon installation and operation of Phase II, pumping by the Proposed Action will result in lowering groundwater levels in the project area. The Proposed Action is anticipated to withdrawal a maximum of 2 mgd. This is within CWRM's approximately 3.4 mgd DHHL ground water reservation amount and is approximately five percent of the KASA's 38 mgd sustainable yield. If the Proposed Action and other additional proposed wells are developed, the future and existing wells would require an approximate total of 28 mgd (County of Hawai'i, Department of Water Supply, 2017). This is about 73 percent of the KASA's sustainable yield as determined by the CWRM, which is within the 90 percent sustainable yield limit. Thus, the Proposed Action would have minimal impact on the KASA or its long-term sustainability.

The DOH has strict requirements for new public drinking water sources. As such, the Proposed Action will comply with HAR §11-20-29 Rules Relating to Public Water Systems. An engineering report will be submitted to the DOH and approved before placing the Proposed Action online within the DWS's North Kona Water System. The report will identify all potential sources of contamination, evaluate alternative controls which could be implemented to reduce or eliminate contamination potential, and include a water quality analysis for all regulated contaminants.

## 3.5 BIOLOGICAL RESOURCES

A flora and fauna survey was conducted for the Proposed Action on December 6, 2018, by SWCA Environmental Consultants and is attached as **Appendix A**. The following is a summary of the findings. The survey area was focused on approximately five (5) acres of the Project Site; however, conditions and current land use (see Section 3.2.1) are consistent enough throughout the site that the survey's findings and mitigation measures can be applied across the entire area.

### 3.5.1 Flora

The Project Site is an altered landscape composed primarily of two vegetation types: landscaped vegetation and cultivated fields. Landscaped vegetation includes common ornamental species like Cuban royal palm (*Roystonea regia*) and weedy herbaceous species like maile honohono (*Ageratum conyzoides*) and artillery plant (*Pilea microphylla*). Cultivated fields cover most of the survey area and consist of cultivated coffee (*Coffea arabica*) with an understory of low-growing herbaceous species like artillery plant, maile honohono and kūkaepua'a (*Digitaria setigera*), a common native species. The vegetation types and species identified are not considered unique. No federally and/or state-listed threatened, endangered, or candidate plant species or rare Native Hawaiian plants were observed during the survey effort.

### 3.5.2 Fauna

The Project Site directly abuts the Wai'aha Springs Forest Reserve, which is part of the National Audubon Society's Kona Forests Important Bird Area (IBA). The IBAs Program is a global effort to identify and conserve locations that are vital to birds and other species to ensure ongoing biodiversity. The Kona Forests IBAs has no legal distinction or ability to directly impact land uses but is instead intended to enhance conservation by providing sites for Native Hawaiian fauna species to breed and/or forage.

Fauna observed during the survey consisted primarily of common avian species found in and around disturbed areas on the Island of Hawai'i. Of the 13 avian species observed onsite, one was the 'Io, or Hawaiian hawk (*Buteo solitarius*), which is an endemic and state-listed endangered species. Two individuals were observed flying above and through the Project Site, apparently using the area for foraging. The survey was conducted outside the 'Io's breeding season (March 1 through September 30); however, habitat onsite is unlikely to support nesting. The 'Io, as well as the cattle egret (*Bubulcus ibis*), house finch (*Haemorhous mexicanus*) and northern cardinal (*Cardinalis cardinalis*) observed during the survey are all protected by the Migratory Bird Treaty Act.

While not detected during the survey effort, within the Project Site there is suitable foraging and nesting habitat for the federally threatened and state-listed endangered nēnē, or Hawaiian goose (*Branta sandvicensis*). Additionally, no Hawaiian seabirds were detected during the survey but there is the potential for them to traverse the Project Site at night during the breeding, nesting and fledging seasons (March 1 to December 15).

The feral pig (*Sus scrofa*) was the only mammal detected however, the Asian mongoose (*Herpestes javanicus*), rat (*Rattus spp.*) and mouse (*Mus musculus*) are expected to occur. Additionally, present within the Project Site is suitable foraging and roost habitat for the federally and state-listed endangered 'ōpe'ape'a, or Hawaiian hoary bat (*Lasiurus cinereus semotus*). While not detected during the survey effort, suitable habitat indicates the potential presence of this species onsite. No native invertebrates were observed.

The Project Site does not contain any designated or proposed critical habitat for any threatened or endangered fauna species and is not expected to support any other listed species beyond those previously discussed.

### **Biological Resources Impacts and Mitigation Measures**

The Proposed Action will adhere to BMPs during construction and operation to minimize impacts to flora and fauna resources found at the Project Site. Construction will be implemented in phases to control erosion and no landscape alterations will occur within the Flood Zone AE area or along Wai'aha Stream. No impacts are anticipated for aquatic resources, however in the extremely unlikely

event that accidental discharges occur the Department of Land and Natural Resources, Division of Aquatic Resources will be notified immediately.

Due to the prevalence of weedy, non-native plant species within the Project Site the following mitigation measures would be implemented as applicable to prevent the unintentional spread or introduction of new invasive species to the site:

- All construction equipment and vehicles would be washed and inspected before first entering the Project Site;
- Regularly washing and inspection of all construction equipment, vehicles and materials at a designated location for the presence of invasive or harmful non-native species by a qualified botanist or entomologist prior to entering the Project Site;
- Regularly clearing equipment, materials and personnel of excess soils and debris;
- Purchasing raw construction materials (e.g. fill) from on-island suppliers to avoid introducing non-native species;
- Maximizing use of native plant species or non-invasive species for landscaping and erosion control; and
- Sterilizing gear such as work boots, cutting tools, and vehicle tires to prevent the spread of fungal pathogens.

Potential impacts to fauna species are anticipated to be short-term and limited to the construction phases of the Proposed Action, which could temporarily displace individuals from the Project Site. However, suitable foraging, nesting and roosting habitat within the Wai'aha Springs Forest Reserve is directly adjacent to the site and could be used by displaced individuals until construction is completed. To further reduce any potential impacts to biological resources, the following avoidance and mitigation measures would be used during the construction and operation of the Proposed Action:

- Conduct biological resource training as a component of safety training for project personnel before working onsite that identifies special-status species and measures to be taken by crews if found during construction or operation;
- Appropriate speed limits would be posted and implemented within the Project Site to avoid potential impacts to nēnē;
- Any nēnē found onsite during construction or operation would be avoided;
- Nesting bird surveys of the Project Site and areas directly adjacent would be conducted by a qualified biologist within 72 hours prior to initiating construction, tree trimming or tree removal activities or after three (3) or more consecutive days of inactivity;
- If a nēnē nest is found within a 150-foot radius of the Proposed Action, or a previously undiscovered nest is located within said radius after construction has started, all work would cease immediately, and the U.S. Fish and Wildlife Service would be contacted for further guidance;
- No vegetation clearing or construction activities would occur within 1,600 feet of any active 'Io nests until the nest is determined inactive by a qualified biologist;
- Trees containing confirmed active or inactive 'Io nests would not be trimmed or removed, as nests may be re-used for consecutive breeding seasons;

- Active nesting sites of other Migratory Bird Treaty Act protected species would be avoided until the nest is determined inactive by a qualified biologist;
- Nighttime construction work would be avoided during seabird fledging season (September 15 to December 15);
- External light fixtures would be downfacing and shielded to prevent disruption of seabirds in flight;
- Where applicable, automatic motion-controlled sensors would be used for external light fixtures;
- Trimming and removal of vegetation greater than 15 feet tall would be avoided during
- ‘ope‘ape‘a birthing and pupping season (June 1 and September 15); and
- Barbless materials would be used for any construction or operation fencing to avoid entanglement of ‘ope‘ape‘a.

No additional short- or long-term impacts are anticipated. Therefore, no additional mitigation measures are required.

### 3.6 ARCHAEOLOGICAL RESOURCES AND HISTORIC PROPERTIES

As required by HRS §343, HRS §6E-8, HAR §13-275 and HAR §13-276, an investigation was conducted to determine if any historic, cultural, or archaeological resources are present within the Project Site. Investigations were focused on approximately five (5) acres of the Project Site as shown in Figure 3-13: Focused Survey Area for LRFI / AIS.

The following is a chronological record of the investigations conducted by Cultural Surveys Hawai‘i to identify and evaluate the potential of any historic, cultural, or archaeological resources being found onsite within the focused 5-acre study area:

- February 2019, the final Archaeological Literature Review and Field Inspection (LRFI) report was completed (see **Appendix B**);
- May 2019, as part of the HRS §6E-8 process the State of Hawai‘i, Department of Land and Natural Resources, SHPD concurred with DHHL’s request to conduct an Archaeological Inventory Survey (AIS) based on the findings of the LRFI.
- August 2019, a final Cultural Impact Assessment (CIA) and summary report was completed (see **Appendix C**), which is discussed in Section 3.7; and
- August 2020, an AIS was conducted following continued consultation with SHPD to determine the level of subsurface testing and a summary report was drafted (see **Appendix D**).

The following is a summary of the findings from these investigations.

#### 3.6.1 Archaeological Literature Review and Field Inspection

The LRFI consisted of historical, cultural, and archaeological background research and a field inspection of the Project Site on November 20, 2018, to determine the likelihood of archaeological historic properties being affected by the Proposed Action.

Because of land uses during the pre-European Contact, Historic and post-European Contact periods, multiple archaeological studies conducted near the Project Site have documented the presence of

archaeological historic properties consistent with the region's agricultural past. Figure 3-14 shows the Project Site in relation to these past studies.

Table 3-4 provides a list of the previous archaeological studies and a summary of their findings. The proximity of these studies and their evidence of past agricultural and settlement use indicates there is potential for subsurface archaeological deposits to be present onsite.

The field inspection confirmed the Project Site has been completely altered by the development of the existing coffee plantation and associated driveway. Background research indicated no previously recorded historic properties are present, although the Project Site is located within the known limits of the Kona Field System (SIHP # 50-10-32- 06601). It is likely prior development of the Project Site disturbed any surface features associated with the Kona Field System and/or subsequent historic-era land use. While the Project Site has been heavily impacted by coffee development, four potential historic properties were located within the margins of the focused survey area during the field inspection as shown in Figure 3-15. The four identified sites were surface features including walls, a retaining wall, and possible berm that may represent historic and/or historically modified pre-European agricultural, habitation or animal husbandry sites.

In 2019, DHHL initiated consultation with SHPD and requested confirmation in determining if an AIS was required based on the LRFI's findings. In a letter dated May 14, 2019, SHPD concurred with DHHL's request to conduct an AIS to identify and document historic properties present within the Project Site and provide mitigation measures.

### 3.6.2 Archaeological Inventory Survey

In consultation with the SHPD, an AIS investigation was conducted to fulfill the requirements of HAR §13-276 to identify, document and assess any historic properties for integrity and site significance in accordance with HAR §13-275-6. The AIS involved background research, consultation with community members, agencies and Native Hawaiian Organizations, and field work.

The fieldwork component of the AIS was conducted intermittently between November 2019 and February 2020. It included a 100 percent pedestrian coverage of the Project Site, GPS data collection and subsurface testing. Subsurface testing was conducted at 13 test units to assess the potential for subsurface archaeological features, including but not limited to buried cultural deposits and or/culturally modified lava tubes. Test units were selected based on the presence of cultural materials detected during the LRFI. The number of test excavations chosen was based on consultation with SHPD and amended as appropriate during fieldwork efforts. **Appendix D** includes additional details on the survey and laboratory methodologies used to complete the AIS.

During the field work effort, three new historic properties were identified within the Project Site and are shown in Figure 3-16. Due to the characterization of soil deposition and prior ground disturbance within the Project Site, any large, intact subsurface deposits of cultural materials not associated with the surface features were not expected or located. The cultural materials encountered during subsurface testing were consistent with previous land use in the Project Site.

Some traditional lithic materials were encountered, including a piece of basalt adze, but no marine shell middens were present. The findings support the area was part of a pre- European Contact agricultural site with agricultural work activities and domestic artifacts found. Table 3-5 includes an overview summary of the AIS's findings.



**Table 3-4: Summary of Previous Archaeological Studies**

| Reference                  | Type of Study                | Location   | Results (SIHP # 50-10-37**** unless otherwise noted)  |
|----------------------------|------------------------------|--|---|
| Allen 1984                 | AIS                          | 600+ acres in Puapua'a and Hōlualoa, TMKs: [3] 7-5-015:002 and 102 and 7-6-002:001 and 014 | Documented 19 sites and site complexes associated with Kona Field System and cattle ranching (no State Inventory of Historic Places (SIHP) numbers assigned); majority recommended for no further work  |
| Walsh and Hammatt 1995     | AIS                          | 5.9 acres in Hōlualoa 1 and 2, TMKs: [3] 7-6-009:014, 016, and 023                         | Documented six previously unidentified sites (SIHP #s -19662 through 19667) associated with Kona Field System and historic habitation, agriculture, ranching, and transportation; all sites recommended for data recovery                             |
| Haun and Henry 2001        | AIS                          | 87 acres in Kahalui 1 and 2, TMKs: [3] 7-5-016:015, 016, 017, and 029                      | Documented 27 sites comprised of 349 features, representing wide variety of feature types associated with pre-Contact to historic agriculture, habitation, ranching, and transportation   |
| Moore and Kennedy 2002     | Archaeological Data Recovery | Hōlualoa 1 and 2, TMK: [3] 7-6-009:014   | Data recovery conducted within portion of SIHP # -19667 indicated historic-era construction and modification of most features within site previously described as remnants of Kona Field System   |
| Haun et al. 2003           | Archaeological Data Recovery | 87 acres in Kahalui 1 and 2, TMKs: [3] 7-5-016:015, 016, 017, and 029                      | Data recovery indicated SIHP # - 22764 (platform) constructed between AD 1440- 1650; excavations at SIHP # -22780 yielded evidence of pre-Contact to modern use   |
| Desilets and Rechtman 2004 | AIS                          | 800-m-long corridor in Hōlualoa 1 and 2, TMK: [3] 7-6-008:005 por.                         | Survey identified one new historic property, SIHP # -24211, a rock wall-lined road that encompasses entire project area; background research indicates road constructed in late 1890s, presumably to provide grant recipients access to their parcels |
| Hammatt and Shideler 2006  | LRFI                         | Cesspool Improvement Project at nine DOE schools, Kona School District                     | Study noted for Hōlualoa vicinity that many surface features found in inland areas were first constructed, heavily modified, or destroyed by historic use of land for cattle pasture and coffee cultivation   |
| Wilkinson and Hammatt 2009 | Archaeological Monitoring    | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002, 037; 7-6-005:015              | No historic properties identified   |

| Reference             | Type of Study             | Location  | Results (SIHP # 50-10-37**** unless otherwise noted)   |
|-----------------------|---------------------------|---|--|
| Rechtman 2013         | AIS                       | 29 acres in Hōlualoa 1-2, TMKs: [3] 7-6-008:005, 008, and 030                 | Identified 24 historic properties, including previously documented SIHP # -24211 (historic road) and newly documented SIHP #s - 29700 through -29722 associated with late pre-Contact through late historic agriculture, habitation, and ranching; data recovery and/or preservation recommended for four sites  |
| Bautista et al. 2014  | Archaeological Monitoring | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002, 037; 7-6-005:015 | No historic properties identified  |
| Haun and Henry 2014   | AIS                       | 2.313 acres in Hōlualoa 1-2, TMK: [3] 7-6-010:005                             | Documented 14 newly identified sites (SIHP #s -30050 through - 30063) comprising 145 features associated with pre-Contact through historic agriculture, habitation, ranching, burial, rock art, and transportation; preservation recommended for burial (SIHP # -30060) and petroglyph (SIHP # -30061); data recovery recommended for SIHP # -30063 (pre-Contact/historic agricultural complex); monitoring of ground disturbance also recommended |
| Wilkinson et al. 2014 | Archaeological Monitoring | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002 and 7-6-005:015   | Identified SIHP # -29888, a modified lava tube located beneath the school  |

**Table 3-5: Newly Identified Historic Properties**

| SIHP #<br>(50-10-28) | CSH Site # | Function                   | Formal Type | Number of Features | Age                                       |
|----------------------|------------|----------------------------|-------------|--------------------|---|
| -31124               | 1          | Agriculture/<br>Habitation | Complex     | 13                 | Pre- European Contact<br>through Historic |
| -31125               | 3          | Transportation             | Causeway    | 1                  | Historic                                  |
| -31126               | 4          | Agriculture                | Terrace     | 1                  | Pre-European Contact<br>through Historic  |

Figure 3-13: Focused Survey Area for LRFI/AIS

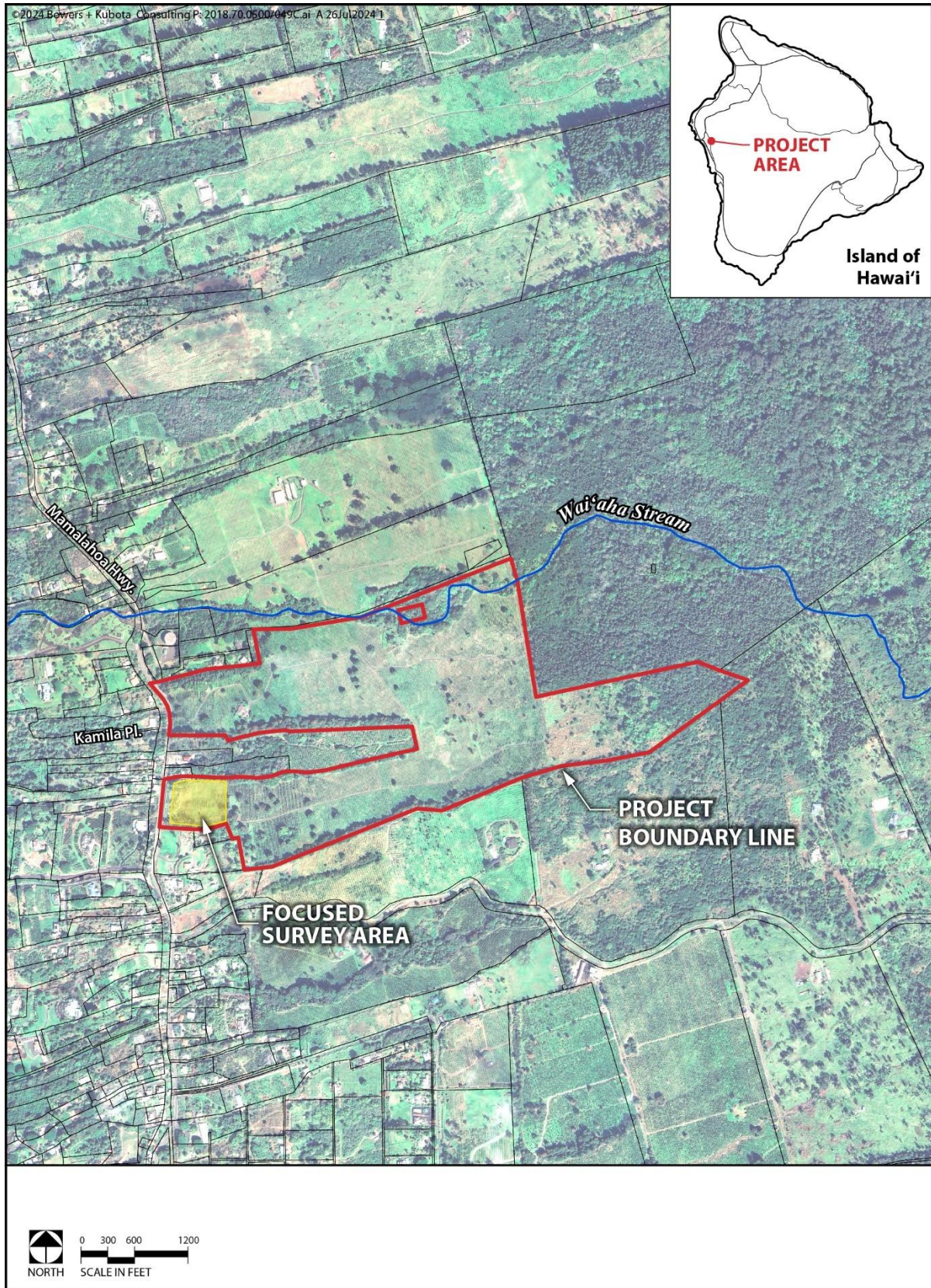
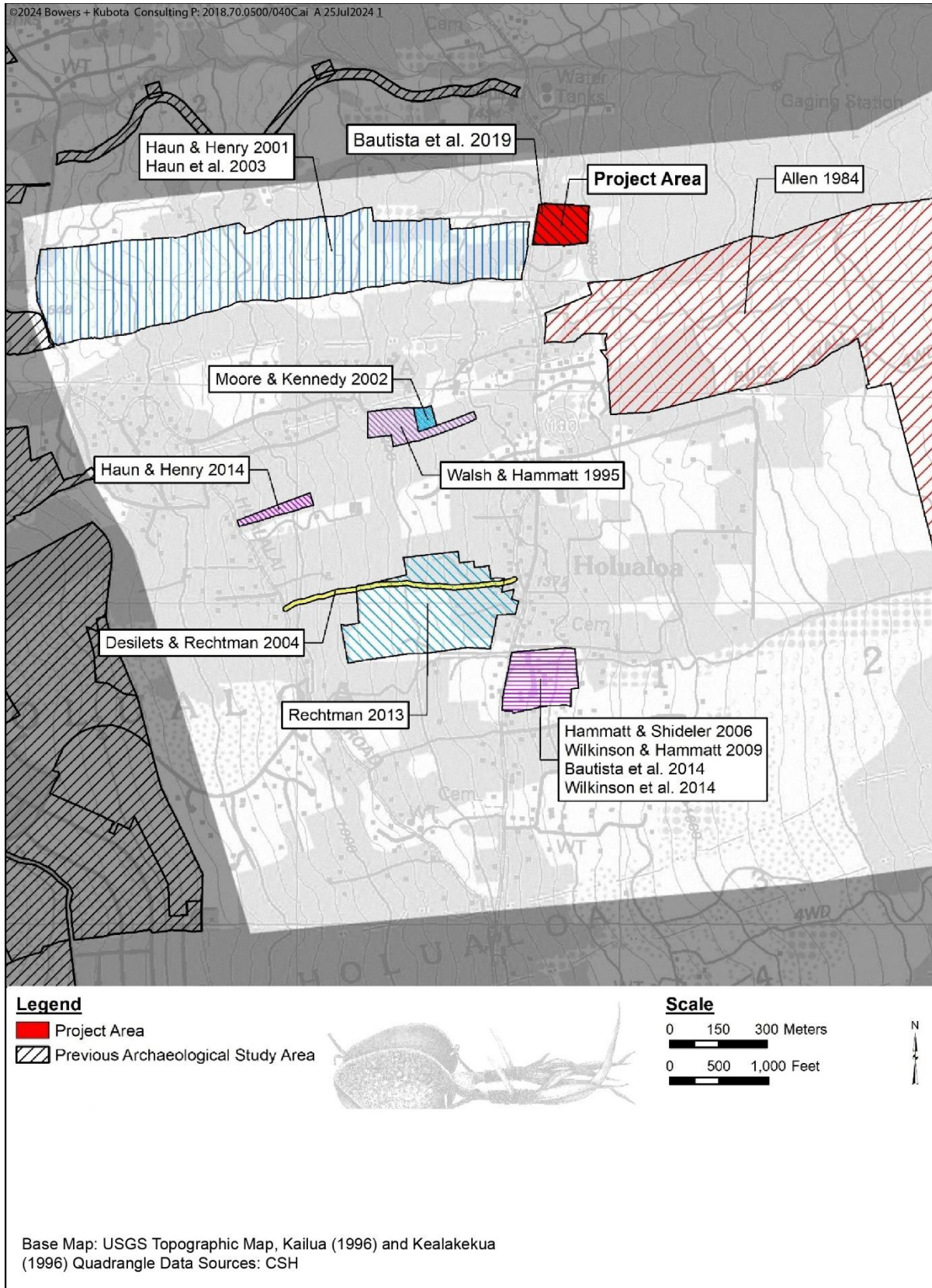


Figure 3-14: Locations of Previous Archaeological Studies Map



**Archaeological Resources and Historic Properties Impacts and Mitigation Measures**

Three historic properties were identified during the LRFI and analyzed during the AIS. The Proposed Action will adhere to BMPs during construction and operation to minimize impacts to the historic property resources found at the Project Site. Construction will be implemented in phases and the final well site will avoid these resources, if feasible.

If the final siting of the Proposed Action is outside the previously surveyed 5-acre focused area, coordination with SHPD will be resumed and additional investigations will be conducted as necessary to avoid or minimize impacts to historic, cultural or archaeological resources that may potentially be within the Project Site.

If the Proposed Action is sited within the focused survey area, the AIS will be finalized with SHPD prior to starting construction. The three historic properties identified during LRFI were adequately documented in the AIS. Thus, upon concurrence with SHPD, no further archaeological documentation or mitigation regarding the properties is required.

Regardless of the of the final siting location, the following mitigation measures would be implemented to prevent or minimize potential impacts on historic, cultural or archaeological resources:

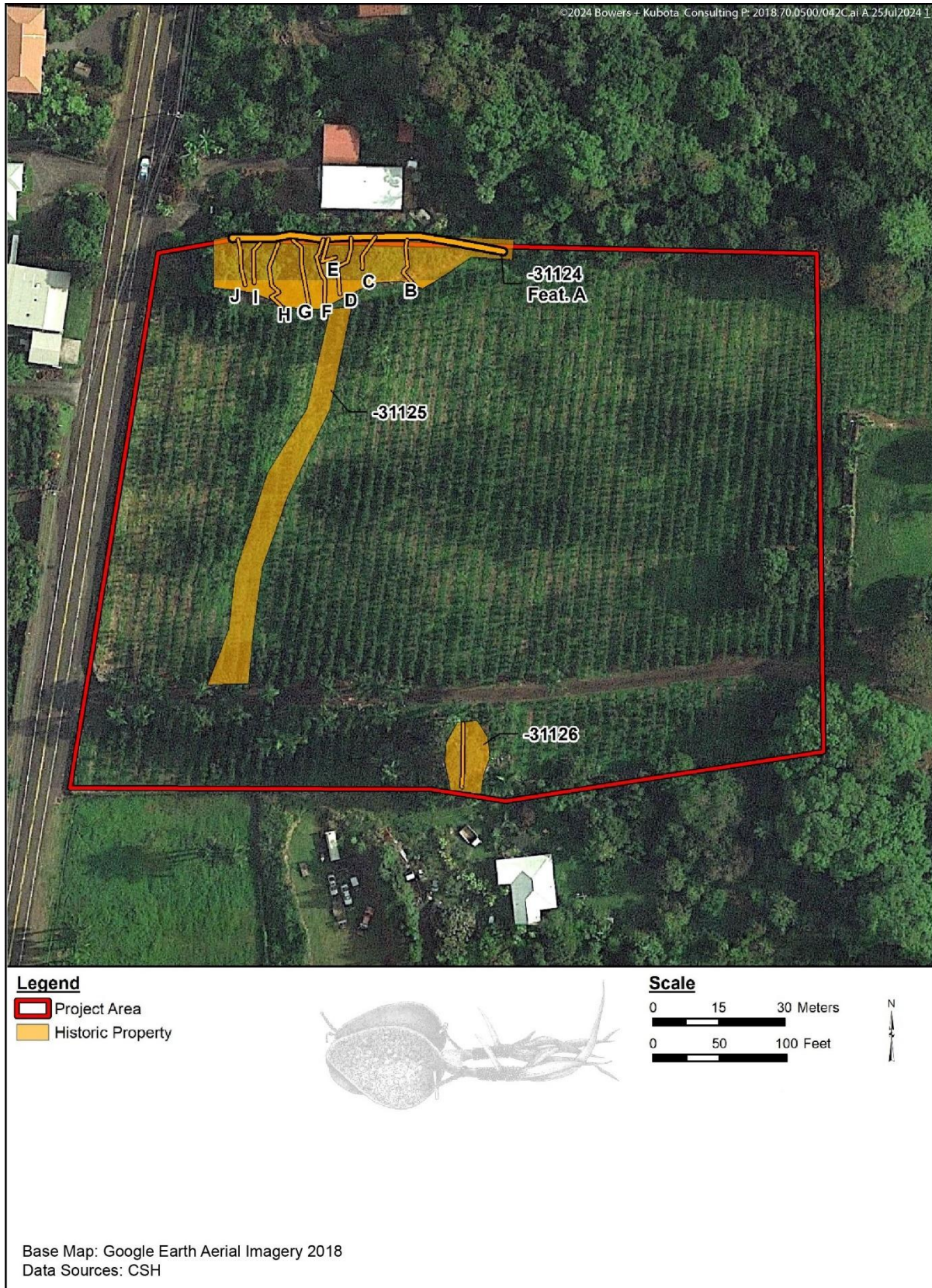
- Conduct cultural resource training as a component of safety training for project personnel before working onsite. Training should include informing crews of the potential for inadvertent cultural finds including archaeological deposits and iwi kūpuna, or human remains.
- Conduct archaeological monitoring during ground disturbance activities during construction phase.
- If any cultural or historic resources are identified during construction activities, all work will cease in that area and the SHPD will be notified pursuant to HAR §13-280-3. A cultural preservation plan for proper cultural protocol, curation and long-term maintenance should be developed as appropriate.
- If iwi kūpuna are identified during construction activities, all work will cease immediately in that area and be cordoned off while the SHPD, coroner and the police department are notified pursuant to HAR §13-300-40. A reinternment plan should be developed as appropriate. As DHHL lands are recognized as tribal lands under the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, any discovery iwi kūpuna must also follow NAGPRA protocols and statutory requirements.

Any additional mitigation measures established during the Section 106 consultation process would be implemented to further avoid or minimize potential impacts on any historic, cultural or archaeological resources that occur or may potentially be found within the Project Site. No additional short- or long-term impacts are anticipated. Therefore, no additional mitigation measures are required.

Figure 3-15: Potential Historic Properties



Figure 3-16: Newly Identified Historic Properties



### 3.7 CULTURAL RESOURCES AND PRACTICES

An investigation into cultural resources and practices was conducted as two-pronged approach in order to comply with HRS §343 and HAR §11-200.1 as well as Article VII, Section 7 of Hawai'i's State Constitution which “places an affirmative duty on the State and its agencies to preserve and protect traditional and customary native Hawaiian rights and confers upon the State and its agencies the power to protect these rights and to prevent any interference with the exercise of these rights” (Ka Pa‘akai O Ka ‘Āina v. Land Use Commission, 2000). As such, a Cultural Impact Assessment (CIA) and a separate Ka Pa‘akai Framework Analysis were conducted to fulfill the statutory and constitutional obligations of DHHL in considering the Proposed Action.

#### 3.7.1 Cultural Impact Assessment

A CIA was produced for this project by Cultural Surveys Hawai'i, Inc. in August 2019. The CIA involved background research of historic sources, maps, ka‘ao (legends), wahi pana (storied places), ‘ōlelo no‘eau, oli, mele (songs), and traditional mo‘olelo (stories). It also involved consultation with community members, agencies and Native Hawaiian Organizations to share their mana‘o (thoughts/opinions) and ‘ike (knowledge). These research and consultation efforts were redoubled through a separate Ka Pa‘akai Framework Analysis, which was completed in 2024 in order to more fully understand the valued cultural, historical, or natural resources present and traditional and customary practices exercised within the Project Site or surrounding area. **Appendix C** contains the CIA and **Appendix E** contains the Ka Pa‘akai Framework Analysis Report.

#### *HISTORICAL OVERVIEW*

The Project Site is located within the moku (district) of North Kona. Modern mapping places the Project Site within the Kahului 2 ahupua‘a (traditional land division), but older maps place it within the Pua‘a ahupua‘a. Pua‘a is commonly translated to mean “pig” but is also defined as “banks of fog or clouds, often as gathered over a mountain summit, a sign of rain and believed to be the cloud forms of Kama-pua‘a” (Pukui, M.K. and Elbert, S., 1986).

During the pre-European Contact and early post-European Contact periods, Kona was known to support a relatively large population, was the residence of chiefs, and the center of political consolidations. The traditional Hawaiian political authority was centered in the Kailua-Keauhou area from at least the 15th century until the reign of Kamehameha I. This is consistent with many traditional mo‘olelo, mele and ka‘ao associating great Hawaiian chiefs with the region.

The Pua‘a ahupua‘a was part of a multi-zone cultivation area known as the Kona Field System (KFS) that ran mauka to makai from Kailua to Kealakekua. The KFS was the largest of the pre-European Contact Hawaiian agricultural systems and estimated to have covered approximately 54 square miles. One characteristic feature of the KFS was the kuaīwi walls, which were long, low linear mounds or “walls” used to form rectangular mauka/makai field boundaries. Scattered habitation sites and ceremonies took place throughout the larger field system, which was linked to coastal settlements by trails. Four heiau were recorded within the Pua‘a ahupua‘a, but none are within or adjacent to the Project Site.

The KFS' rectangular fields enabled native Hawaiians to maximize crop production by exploiting the altitude, temperature, and soil types in each segment. Thus, the KFS consisted of different zones—the kula, kalulu, ‘āpa‘a, and ‘ama‘u zones—that allowed for a variety of plants and trees to be cultivated. Foreign accounts of the KFS suggest that this elevational style of cultivation was not a technique commonly used on other Hawaiian Islands. The Project Site is located in the former kula zone, which was the lowest, most makai zone. Historic accounts of the kula zone characterize it as



open pasture lands planted with thatching grasses, 'uala (sweet potatoes), sugarcane, 'ulu (breadfruit), kō (sugarcane), and wauke (paper mulberry).

Following European Contact, the Kona region changed rapidly. The Kailua-Keauhou region gradually lost its importance as a political center as Hawai'i's native population there declined dramatically, and the capital was moved to Lahaina then Honolulu. By the 1820's, the first missionaries arrived in Kona. Their presence and affiliation with Hawaiian royalty had significant influence on traditional religious practices and structures. In 1823, Reverends Thurston and Bishop were given land by Queen Ka'ahumanu to establish missions and later to build the first mission schools in the region. By the mid-1800s, the region's population decline led to a shift from subsistence farming to a market economy with the introduction of cash crops like coffee and pineapple, and cattle ranching.

Following the Māhele in the late 1840s and the Kuleana Act of 1850, there were several Land Commission Awards granted near the Project Site. However, as shown in Figure 3-19 there are no Land Commission Awards granted within or directly adjacent to the Project Site. This is likely due to Pua'a being under dual ownership by Lot Kamehameha and the government at that time rendering the land unavailable for claim. Between 1852 and 1853, there are records of approximately 530-acres of government land sold to private land owners in the Kahalului 1, Pua'a 2 and Pua'a 3 ahupua'a. In 1855, a Royal Patent was given to Asa Thurston for the entire ahupua'a of Wai'aha 1 as well as the land to the just south of the Project Site.

Maps produced by Emerson around the turn of the 20th century show that the Project Site remained undeveloped, and land use in proximity to the site consisted primarily of rural settlements and agriculture. In the early 1900s, the Project Site appears to have been part of a sugar plantation and the area around the site continued to slowly grow over the years with most of the land used for agriculture, ranching or rural settlements. Aerial photographs of the Project Site from the late 1970s show the continued use of the site and surrounding area for agriculture and ranching with scattered small-scale housing. This pattern of land use continues today.

#### ***TRADITIONAL OR CUSTOMARY PRACTICES AND TRADITIONAL CULTURAL PROPERTIES***

Hawaiian oral traditions are passed down through word of mouth from one generation next and record details of Hawaiian history such as the people's connection to the land, their lifestyle, and traditional land tenure. These traditions can come in the form of songs, proverbs, sayings, stories, genealogies, or historic newspaper articles. The following mo'olelo, or stories, reference the area's water features and cultural practices.

The Ka Pa'akai Analysis Framework highlights the traditional and customary practices noted to occur within the project area ahupua'a and the larger landscape of Kona Akau that have originated from the select mo'olelo and ka'ao detailed in the report. The summary is framed by the last stanza of the ancient Hawaiian mele (chant), He Mele no Kāne, which is about the Hawaiian God Kāne, who shape shifts into water as one of his forms – "he wai e ola! Water is life. From this framing, the traditional and customary practices and traditional cultural properties are discussed and organized by the many manifestations of water sources that surfaced when analyzing the select mo'olelo and ka'ao presented in the report (See **Appendix E** for the full stories and context). A brief summary is included below:

- Cloud Formations – From the mo'olelo and 'ōlelo no'eau reviewed, several practices are revealed to occur in the study area: of nānā ao (observing clouds) or kilokilo (to observe and forecast), 'uala cultivation, and specifically, makawela method of cultivation.
- Forest and Streams – From the mo'olelo and 'ōlelo no'eau reviewed, water in the form of streams, as well as drinking water derived from the niu grove of Helani come to surface.

Practices associated with these accounts convey that the practice of gathering freshwater, agricultural practices, mai'a cultivation, and kalo cultivation occurred in the study areas.

- Rains - The recollection of inoa ua (rain names) detail that the Palahī Pua'a, Kēhau, Nāulu, 'Awa, 'Awa'awa, Kualau, Nahunahu, and Noe rains sources of wai ua that belong to the study areas and broader Kona Moku, each with various characteristics and qualities. In the account detailed by Malo, the Nāulu rain is associated with agricultural practices of 'uala cultivation (Malo in Akana and Gonzales 2015:206; Kamakau 1869:1 from Nohopapa, 2024).
- Springs - From the mo'olelo reviewed, it is recorded that freshwater springs are significant features associated with the study area—the pūnāwai found in the uplands of Kahului, the spring associated with Helani in Kahalu'u, the Waiku'i spring at Kahalu'u, and the Waiakekea spring near Wai'aha and Kahului.
- Additional Practices: Agriculture and Fishing - Mo'olelo and historical accounts demonstrate that agricultural practices and religious ceremonies associated with agriculture were significant traditions that occurred in Kona. Regarding fishing practices, 'Eka is a named wind of Kona whose presence is an environmental indicator telling of signs optimal for fishing.
- Additional Practices: Recreation - Ka-Miki's mo'olelo tells a story of a game known by the name Hinakahua, and is said to be located in the Kahelo plains of Puapua'a Ahupua'a. The games associated with Hinakahua and therefore the broader ahupua'a of Puapua'a are maika (bowling), mokomoko (wrestling and boxing), le'ale'a (pleasurable pastimes), and ho'opāpā (contest of wit and strength), (Maly 1999:11 from Nohopapa, 2024).
- Additional Resources - Mo'olelo reveals that several were available in the area, which is telling of the potential of associated practices that may have occurred in the study area. The resources mentioned include: 'alā stones, loulu palms, and kauila trees.

The Ka Pa'akai Framework Analysis additionally includes Boundary Commission Testimony from all of the ahupua'a that the project area spans as well as Land Commission Awards granted in those ahupua'a. As noted in the previous section, no Land Commission Awards were granted within or directly adjacent to the Project Site. However, as the traditional or customary practices noted indicate, the resources of the project area may have been accessed and associated with practices. A section of the Ka Pa'akai Framework Analysis includes select excerpts from the Māhele Awards Books, including Native Testimony, Native Register and Land Commission Awards.

### ***COMMUNITY CONSULTATION***

On April 18, 2024, a kick-off meeting was held at the Kamehameha Schools Kahalu'u Manowai (Ma Kai) site to share information about the Ka Pa'akai Framework Analysis for the proposed DHHL water source development project. Twenty-five individuals attended the public meeting and shared their contact information for future project updates. Between July and October 2024, individual consultation efforts were conducted to gather and summarize community mana'o and data regarding local resources and customary practices. For this individual consultation effort, thirty-four individuals were contacted with thirteen committing to an interview. Interview format options included in-person, phone calls, or online interviews. Eleven individuals were unable to participate in the consultation process. Findings from the community consultation process have been anonymized and it is important to note that intellectual property shared through the process cannot and should not be reproduced, applied to other projects or studies, or utilized without free, prior, and informed consent are included in **Appendix E** and summarized in the Ka Pa'akai Framework Analysis section below.

Interview participants were prompted with three questions to fit the Ka Pa‘akai Framework. The questions are as follows:

- 1) What are the valued cultural, historical, or natural resources in the project area and the extent to which traditional and customary native Hawaiian rights are exercised in the area?
- 2) What is the extent to which those resources – including traditional and customary native Hawaiian rights – will be affected or impaired by the proposed action?
- 3) What feasible action(s), if any, to be taken to reasonably protect any identified cultural, historical, or natural resources, and exercise of traditional and customary native Hawaiian rights in the affected area?

The framing of community consultation in alignment with the Ka Pa‘akai Framework allowed for the mana‘o documented, including potential impacts and mitigation recommendations, to be integrated into the analysis below.

### 3.7.2 Ka Pa‘akai Framework Analysis

The court case *Ka Pa‘akai o Ka ‘Āina v. State of Hawai‘i Land Use Commission (2000)* established the fiduciary responsibility of state agencies to preserve and protect traditional and customary native Hawaiian rights pursuant to Article VII, Section 7 of the State of Hawai‘i Constitution. The case upheld that the state and its agencies are obligated to protect the reasonable exercise of customary and traditional native Hawaiian rights to the extent feasible and are obligated to make an assessment of the impacts of these practices. The assessment must be independent of the developer or applicant and must include the following three factors, known as the ‘Ka Pa‘akai’ framework:

- 1) What are the valued cultural, historical, or natural resources in the project area and the extent to which traditional and customary native Hawaiian rights are exercised in the area?
- 2) What is the extent to which those resources – including traditional and customary native Hawaiian rights – will be affected or impaired by the proposed action?
- 3) What feasible action(s), if any, to be taken to reasonably protect any identified cultural, historical, or natural resources, and exercise of traditional and customary native Hawaiian rights in the affected area?

In 2024, a Ka Pa‘akai Framework Analysis was conducted by Nohopapa Hawai‘i, LLC for the Proposed Action. This analysis is summarized below and the full report is included as **Appendix E**.

**1) WHAT ARE THE VALUED CULTURAL, HISTORICAL, OR NATURAL RESOURCES IN THE PROJECT AREA AND THE EXTENT TO WHICH TRADITIONAL AND CUSTOMARY NATIVE HAWAIIAN RIGHTS ARE EXERCISED IN THE AREA?**

The Ka Pa‘akai Analysis acknowledges that it is unreasonable to assume it is possible to inventory all traditional and customary native Hawaiian rights being exercised in a single area. To address the challenges of assembling an inventory of customs and valued resources in an area, and to relieve the burden from the community to come forward in a tight timeframe and under the assumption of unrequited knowledge sharing, the analysis, approaches the inventory through: (1) early and meaningful consultation; (2) primary source research; (3) the understanding that if a resource exists or can be restored then the right or practice exists; (4) consultation is an ongoing process that agencies compiling with Ka Pa‘akai will continue to engage in.

The inventory findings with respect to the practices and associated resources in and around the Gianulias study area are organized under the following themes:

- Bird Catching
- Forestry and Hana Wa'a
- Mahi 'ai 'ana – Cultivation
- Trails and Connectivity
- Lawai'a & Wa'a (Paddling, Sailing, Voyaging)
- Kilo and Weather – Environmental Indicators
- Mea Wai - Water Resources and Collection
- Other Practices, including Hana No'eau, Beliefs, and Spirituality (not already included above)

The full inventory is included in **Appendix E**.

**2) *WHAT IS THE EXTENT TO WHICH THOSE RESOURCES – INCLUDING TRADITIONAL AND CUSTOMARY NATIVE HAWAIIAN RIGHTS – WILL BE AFFECTED OR IMPAIRED BY THE PROPOSED ACTION?***

Hawaiian culture and traditional practices are rooted in an understanding that 'ohana (family) encompasses the natural world and there is no separation between the people and the land (Nohopapa, 2024). Because the land is part of the ohana, traditional Hawaiian customs and practices emphasize respect and care the 'āina (land) and surrounding resources (Forman and Serrano, 2012 from Nohopapa, 2024). As such, traditional and customary practices often rely on resources – whether cultural, historical or natural – and it is important to understand that impacts these resources may also result in cultural impacts. Overall, interview participants feel that the current methods for water development do not allow for the continued care of resources, the traditional and customary Native Hawaiian practice of caring for wai (water) and Mālama 'Āina.

The Gianulias parcel sits in the area identified in research as Kealakowaa, it was a staging place for Koa and other la'au brought down from the uplands above the study area. In archival records this place, specific to Kahului Ahupua'a and the region of the study area was where ceremonies were held, a heiau and spring was located specifically for the process of harvesting koa, transporting them, and crafting them into wa'a. As noted in the Ka Pa'akai Analysis Framework Report, Kealakowaa is the only area in all of Kona identified for this use. Although hana wa'a and voyaging are not active practices on the site, development may impact access and use of this culturally and historically significant area.

Bird catching was extensively referenced in and above the study areas, caves, trails, springs and even specific forests, woods, and a'a areas were discussed. Bird catching was for food and for hulu used in many hana no'eau. Although bird catching is not viable now as a practice because of the scarcity of native bird species, the practice of Mālama 'Āina so that resources are there when needed could be impacted.

Many springs, waterholes, and caves were referenced in consultation, and many were named in archival research through land testimonies and some mo'olelo. It is likely that some of these resources are located in the study areas and water source development may impact the downslope water features near the coast or offshore. Ma uka to ma kai connectivity of water was also a common theme in the analysis. Impacts could also include access for kanaka to gather wai from the study area or the uplands above for ho'okupu and other traditional uses.

Historic records from the Boundary Commission also identified a families burial cave in the uplands. Because one was named, there is a potential that more burials exist in the vicinity. It is a traditional practice not to speak of one's ancestors with strangers and many burial locations have been forgotten in 'ohana or intentionally un-shared. No burials were identified through AIS for this project, however access to caves above the study area may be an impact.

**3) *WHAT FEASIBLE ACTION(S), IF ANY, TO BE TAKEN TO REASONABLY PROTECT ANY IDENTIFIED CULTURAL, HISTORICAL, OR NATURAL RESOURCES, AND EXERCISE OF TRADITIONAL AND CUSTOMARY NATIVE HAWAIIAN RIGHTS IN THE AFFECTED AREA?***

Feasible actions by DHHL to protect Native Hawaiian rights include the following:

- DHHL will uphold its mandates as prescribed by law.
- DHHL will site water source development within the same ahupua‘a as it will be consumed whenever possible.
- DHHL and its beneficiaries want to support other Kona communities in their water independence. Efficiency and conservation measures in areas that are importing water are critical in appropriately valuing the resource and respecting the communities that are exporting water.
  - Conservation & efficiency measures for transportation, storage and consumption.
  - Water recycling.
  - Water conservation collaboration/partnership in public awareness campaign.
- Research, studies and monitoring should be planned for and funded that will be used to inform mitigation. Research and studies should be culturally informed. Appropriate thresholds should be identified and upheld.
  - Regional monitoring program with benchmarks and actions tied to those benchmarks.
  - The design of monitoring plans and the identification of benchmarks and actions should be culturally and community informed.
  - Propose management options if the trend is towards detrimental effects.
- Frequent, meaningful, and accessible updates regarding research, studies and monitoring practices should be available to stakeholders. DHHL will consider the formation of a hui open to stakeholders to advise water-related decision-making and aid in outreach to stakeholders at large.
- DHHL will make efforts to encourage more beneficiaries and members of the native Hawaiian community to be involved in the Boards of Water Supply meetings and to be members on the Boards of Water Supply so these important stakeholders are able to have more authority over water use.
- DHHL should commit financially and administratively to supporting community-managed water resource management.
- DHHL will advocate for and participate in the update of the Water Use and Development Plan for Hawai‘i County.
- DHHL will support and advocate for Commission on Water Resource Management (CWRM) analysis of water availability and revised sustainable yields, including a process that has substantial opportunity for public input.
- DHHL will advocate for CWRM to share more rigorous summaries of existing state of knowledge as published.
- DHHL will advocate for and participate in the update of the Statewide Framework for Updating the Hawaii Water Plan (Framework). The Framework was developed to provide guidance in the integration of the various components of the Hawaii Water Plan and to give additional direction to the various agencies responsible for the preparation of its constituent parts. This Framework was created in 2000 and is in need of update and revision.

- DHHL will aid in funding mālama ‘āina/watershed management efforts in affected ahupua‘a to increase water recharge and to allow for mālama of places and areas critical for the continuation of native practices.
- DHHL will create a clear pathway for long-term access for native rights and customary practices on DHHL’s lands and will look into its current ROE/land disposition process for activities such as mālama ‘āina and stewardship.
- DHHL will collaborate with stakeholders in the creation of a preservation plan for Kealakowaa, the protection of cultural, historical and natural resources associated with the Kona field system, and stewardship of the Kona upland forests. These efforts include contributions or resources in other areas or in the project parcel itself, towards the restoration of these valued resources in collaboration with cultural practitioners, lineal descendants, native tenants, beneficiaries, etc.

With consideration of the Ka Pa‘akai Framework Analysis and by implementing mitigation measures to ensure the protection of traditional and cultural rights and practices, the Proposed Action is not anticipated to have a significant impact on cultural resources and practices.

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Figure 3-17: Kona Field Diagram

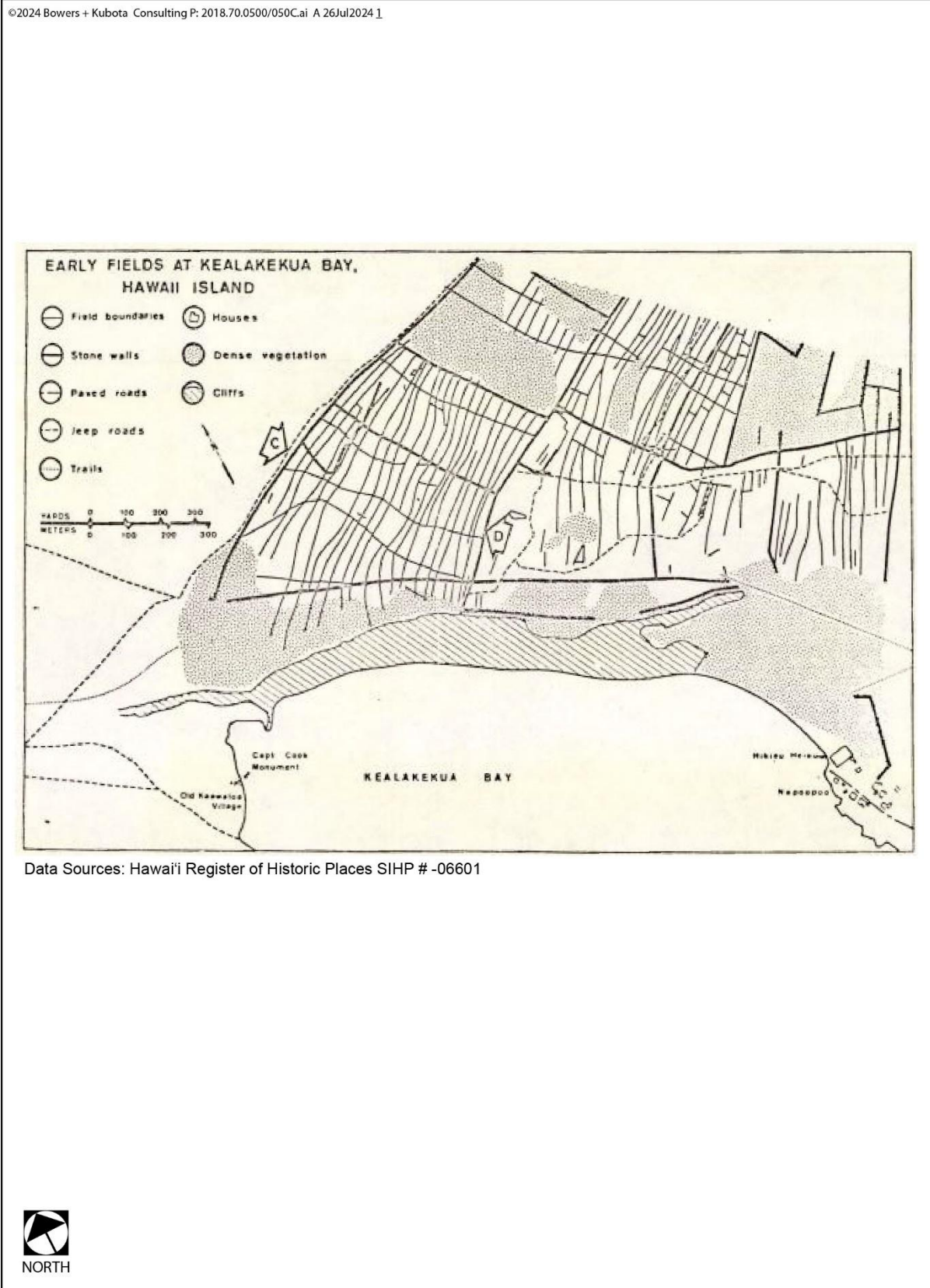
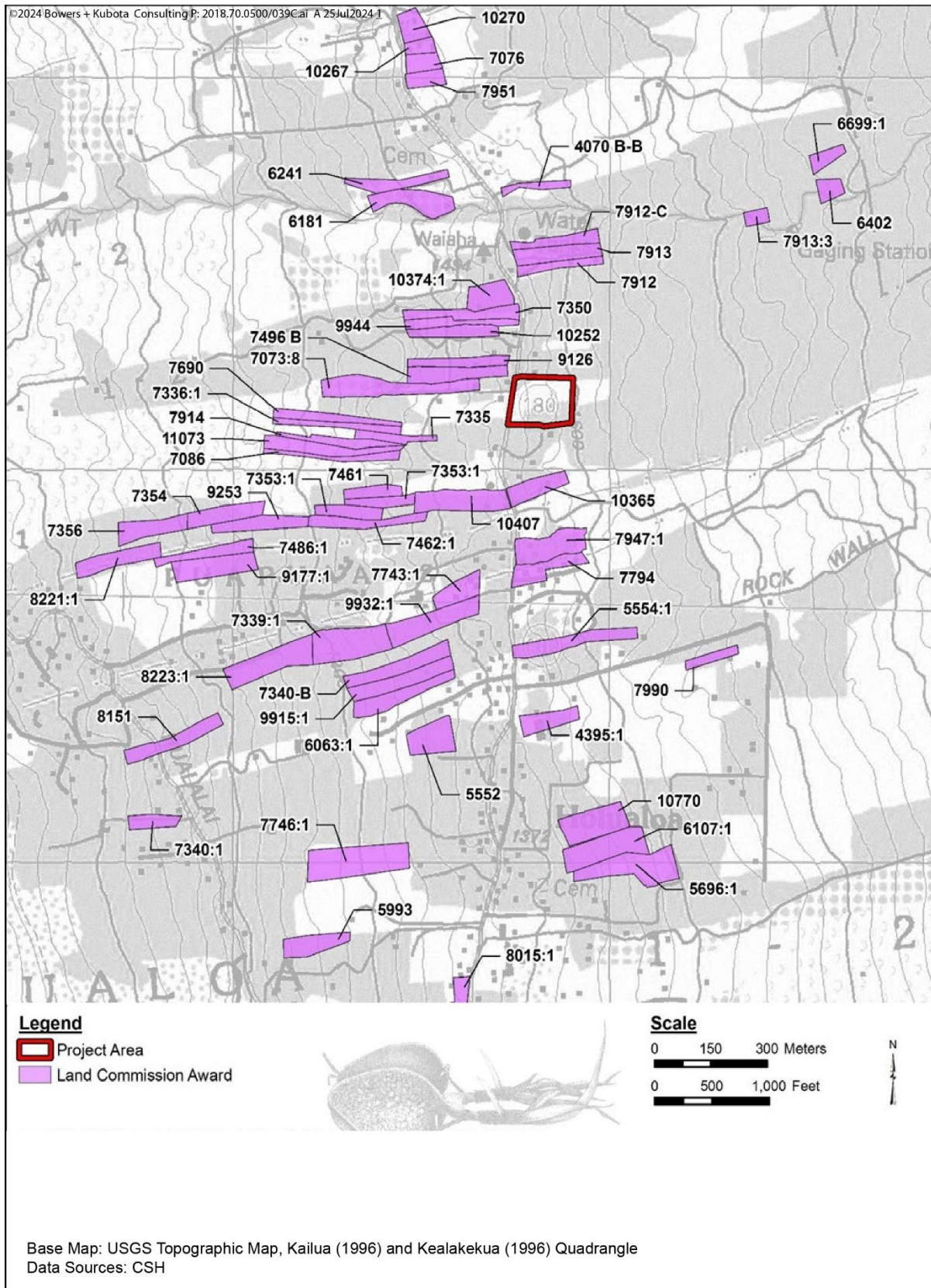


Figure 3-18: Land Commission Awards Map





### 3.8 SCENIC AND AESTHETIC RESOURCES

The Project Site is not in or near visually sensitive areas or areas of high scenic values. At present, when standing along Māmalahoa Highway and looking mauka, the predominate view consists of rows of well-kept coffee trees with Hualālai volcano forming the backdrop. As shown in Figure 3-20, in the upper elevation of the Project Site, when looking makai, the view consists of the Pacific Ocean, Kailua town, and buildings scattered in a landscaped setting.

Figure 3-19: Mauka and Makai Photos



*Mauka view of slopes upland of project site from existing access road*



*Mauka view of the proposed tank location from the Māmalahoa Highway*



*Makai view of the proposed tank location from north side of property*



*Makai view of project site from existing access road*

#### **Scenic and Aesthetic Resources Impacts and Mitigation Measures**

The Proposed Action would not have substantial adverse impacts on visual resources. The proposed water storage tank is the tallest proposed structure, with a maximum height of approximately 40 feet. The storage tank will require cutting into the slope and grading, which will limit its visibility from a viewing position mauka of the final well-siting location. The final location of the Proposed Action would also be surrounded by rows of coffee trees consistent with the existing conditions to further minimize any potential visual impact. Therefore, no short- or long-term impacts are anticipated, and no additional mitigation measures are required.

### 3.9 AIR QUALITY

The current land use at the Project Site is a coffee farm and small-scale agriculture surrounds the area. The use of vehicles and agricultural equipment emit dust and other air pollutants. There are generally not more than a few vehicles operating at any given time, therefore air pollution generated by the current conditions is minor.

During volcanic eruptions, volcanic fog or “vog” may appear over the Kona coast. Vog produces emissions that include carbon dioxide, particulate matter and sulfur dioxide which can cause health related problems. The last volcanic eruption ended in 2018. Generally, the effects of vog are noticeable but do not generally exceed state and federal air quality standards near the Project Site. The nearest air quality monitoring station to the Project Site is in Kailua-Kona and air quality in the region is generally good (State of Hawai‘i, Department of Health, n.d.).

#### **Air Quality Impacts and Mitigation Measures**

The Proposed Action is not expected to have adverse effects on air quality or impact potential for volcanic eruptions. During the construction phase, vehicles, machinery, and earthwork may emit fugitive dust and air pollutants. Emissions generated during construction would be short-term, temporary, and confined to the Project Site. To minimize any potential impacts, construction activities will implement BMPs to contain fugitive dust to the Project Site per HAR §11-60.1 Air Pollution Control. BMPs may include:

- Watering of exposed soils or stockpiles;
- Rapid covering or landscaping of bare areas, including slopes; and
- Using dust mats or constructing dust barriers or fencing.

No noxious odors are anticipated during the construction of the Proposed Action. If any were inadvertently produced, they would be consistent with the operation of construction vehicles and machinery.

At the end of construction, air quality would revert to baseline conditions as the operation of wells and pumps will be powered by electricity which does not directly produce air pollutants. In the event of a power outage, an on-site diesel-powered generator will supply electricity. The use of backup generators would lead to limited and short-term air pollution, confined to the Project Site. Use of diesel-powered generators in this capacity is anticipated to be infrequent and for a short duration of time only. Following the completion of the Proposed Action, no adverse effects are anticipated. Therefore, no additional mitigation measures are required.

### 3.10 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

This section assesses the Proposed Action’s potential effects on socioeconomics and environmental justice, as established by EO 12898 – Federal Actions to Address Environmental Justice. The data used for this assessment is from the U.S. Census Bureau American Community Survey (ACS) 2015-2019.

As discussed in Sections 3.2 and 3.6, the Project Site and surrounding land area have been used predominately for residential and small-scale farm purposes. Table 3-6 provides details on the population and socioeconomic characteristics of the Kealakehe and Hualālai Census Tracts, which include La‘i ‘Ōpua and the Project Site respectively, and Hawai‘i County as shown in Figure 3-21.

Kealakehe Census Tract 215.04 includes La‘i ‘Ōpua and other DHHL owned lands, and unsurprisingly has a substantially higher percentage of Native Hawaiian and Pacific Islander residents compared to Hualālai Census Tract and the County. The tract also has a higher percentage of residents under 18,

which may correspond as to why it has a lower rate of residents with higher education. Kealakehe Census Tract has lower median household incomes and higher unemployment compared to the other two areas. Hualālai Census Tract 215.02 has a greater share of white residents, skews older in median age, and has a higher median income compared to Kealakehe Census Tract and the County. Both census tracts have lower rates of people living in poverty than the County.

Currently, the Project Site operates as a coffee farm. The nearest cluster of retail businesses are located approximately ½ mile south of the Project Site along Māmalahoa Highway. There are currently little to no economic opportunities within La’i ‘Ōpua, as only the Community Center and a single residential phase have been completed and the remainder of the community is still undeveloped. A few small-scale farms and vacation rentals are approximately two (2) miles north of the community. The primary businesses center for the greater region is in Kailua-Kona Town, located approximately four (4) miles west of the Project Site and La’i ‘Ōpua.

**Table 3-6: Socio-Economic Profiles at Kealakehe and Hualālai Census Tracts**

| <b>Census Designation</b>                      |   |  |                       |
|--|---|--|-----------------------|
|  | <b>Kealakehe Census Tract (215.04) La’i ‘Ōpua</b> | <b>Hualālai Census Tract (215.02) Project Site</b> | <b>Hawai’i County</b> |
| <b>Resident Population</b>                     | 5,932   | 3,876  | 200,629               |
| <b>Median age (years)</b>                      | 34.1  | 46.7   | 44.3                  |
| <b>Population under 18</b>                     | 31.0%   | 19.1%  | 20.9%                 |
| <b>Population over 65</b>                      | 14.4%   | 24.2%  | 23.2%                 |
| <b>White+</b>                                  | 40.0%   | 46.1 %   | 56.1%                 |
| <b>Native Hawaiians and Pacific Islanders+</b> | 57.2%   | 28.6%  | 34.1%                 |
| <b>Asian+</b>                                  | 36.5%   | 53.6%  | 41.1%                 |
| <b>Civilian unemployment rate</b>              | 4.9%  | 3.7%   | 2.1%                  |
| <b>People below the poverty level</b>          | 20.8%   | 9.0%   | 10.4%                 |
| <b>Language other than English</b>             | 40.4%   | 16.0%  | 23.1%                 |
| <b>Speaks English less than very well</b>      | 12.4%   | 7.2%   | 6.3%                  |
| <b>Median household income</b>                 | \$84,222  | \$81,540   | \$72,560              |
| <b>Housing units</b>                           | 1,935   | 1,997  | 90,673                |
| <b>Owner occupied</b>                          | 46.8%   | 59.6%  | 73.8%                 |
| <b>Average household size (persons)</b>        | 3.69  | 2.78   | 2.72                  |
| <b>Median value of owner-occupied unit</b>     | \$439,700   | \$884,900  | \$535,600             |
| <b>Bachelor’s degree or higher</b>             | 17.3%   | 28.6%  | 32.1%                 |

Source: US Census Bureau (2023). Hawai’i Demographic Profiles and DHC Data, 2020 Decennial Census; Hawai’i 2018-2022 ACS 5-Year Estimates by Census Tracts (US Census); US Census Bureau Hawai’i Population Characteristics 2019; + alone or in combination

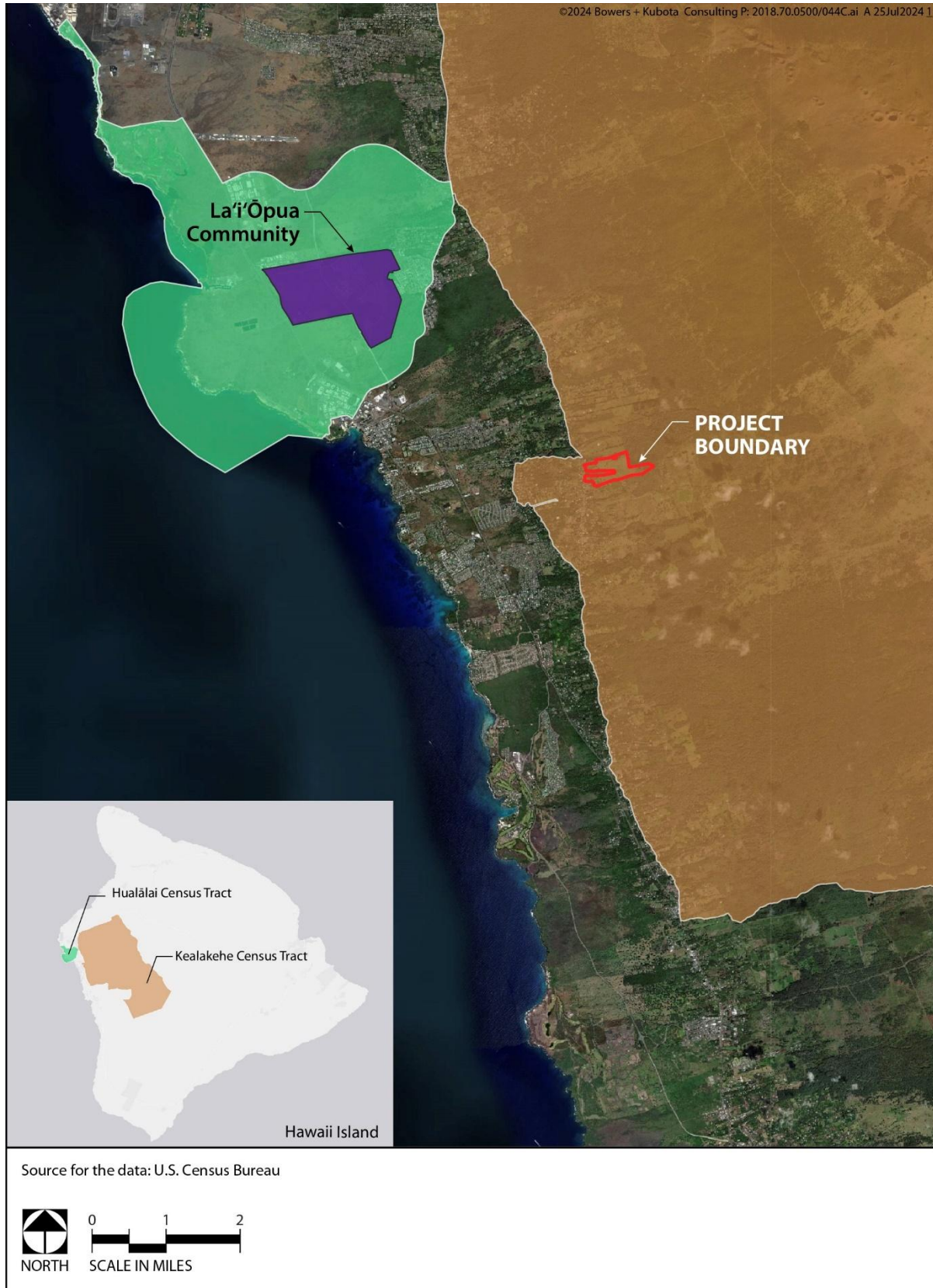
**Socioeconomics and Environmental Justice Impacts and Mitigation Measures**

The Proposed Action will not have a direct impact on population change at the Project Site, however, the water credits produced may impact population change in the Kealakehe Census Tract. North Kona has been designated within the County of Hawai'i's General Plan as an area that can accommodate additional population growth and La'i 'Ōpua's proposed residential, community and commercial lots are consistent with the General Plan's Urban Expansion and Low-Density Urban designations (Department of Hawaiian Home Lands, Kealakehe-La'i 'Ōpua Regional Plan Update, 2020). See Section 3.14.1 for further discussion on the socioeconomic and environmental justice impacts as a result of developing La'i 'Ōpua.

The Proposed Action is an allowable land use (see Section 3.2) and is unlikely to alter the socioeconomic profiles in or around the Project Site, aside from temporary and relatively minor construction employment and expenditures. Up to three (3) acres of the 128-acre Project Site will be converted for the Proposed Action; the remainder of the site will continue to operate as a coffee farm during construction and operation. Thus, no mitigation measures are required.

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Figure 3-20: Census Tracts and Project Site/ La'i 'Ōpua Map



### 3.11 ACOUSTIC ENVIRONMENT

The acoustic environment surrounding the Project Site is consistent with agricultural and single-family residential land uses. Most of the noise in the area comes from automotive traffic on Māmalahoa Highway that borders the makai portion of the site. Additional noise may be generated by onsite and nearby agricultural activities. Much of the land in the vicinity of the Project Site is open space or small-scale farming which do not generate substantial amounts of noise.

The DOH requires contractors engaged in construction activities to comply with HAR §11- 46 Community Noise Control, which defines the maximum permissible sound levels that can be produced during construction depending on the surrounding land use as shown in Table 3-7. The Project Site falls within Class C and acceptable stationary noise levels are 70 dBA. This is comparable to the sound levels produced by a residential vacuum cleaner.

**Table 3-7: Hawai'i Administration Rules §11-46 Noise Limits**

| Zoning District   | Noise Limit (in dBA)*    |                            |
|---|--------------------------|----------------------------|
|   | Daytime<br>(07:00-22:00) | Nighttime<br>(22:00-07:00) |
| <b>Class A:</b> Areas equivalent to lands zoned residential, conservation, preservation, public space, open space, or similar type.             | 55                       | 45                         |
| <b>Class B:</b> All areas equivalent to lands zoned for multifamily dwellings, apartment, business, commercial, hotel, resort, or similar type. | 60                       | 50                         |
| <b>Class C:</b> All areas equivalent to lands zoned agriculture, country, industrial, or similar type.  | 70                       | 70                         |

\* dBA stands for A-weighted sound levels. This measures the frequencies of sound a human ear can hear, not the level of volume from a sound.

#### **Acoustic Environment Impacts and Mitigation Measures**

The Proposed Action would have short-term impacts on the acoustic environment of the Project Site. Noise created would vary according to the action type (e.g. well drilling, accessory structure construction, grading and grubbing, well operations, etc.) and project phase, and is expected to exceed the property line noise limits.

To minimize impacts from noise, a Community Noise Permit would be obtained for the Proposed Action prior to initiating construction activities. The contractor would work with the DOH Indoor and Radiological Health Branch in accordance with the provisions of HAR §11-46 to develop and implement mitigation measures to reduce noise generated during the Proposed Action as part of the permit process. Possible mitigation measures may include:

- Noise-attenuating equipment, such as mufflers or silencing equipment;
- Insulating or enclosing motors during use;
- Installing portable noise barriers;
- Restricting hours of operation;
- Activity restrictions during night work; and/or
- Using the smallest size power equipment practicable during construction.

Well drilling may require at times a 24-hour operation schedule, and this may exceed nighttime sound levels set by HAR §11-46. A public informational meeting would be held for the affected residents and property owners and a noise variance will be sought from the DOH following consultation with neighboring residents if necessary.

Periodic inspections and maintenance work are expected to occur during operation of the Proposed Action, however any noise generated from this would be consistent with the existing conditions onsite. Noise generated by the pumps is expected to be minimal as they are electrically operated and located at the bottom of the encased production wells. The other accessory structures are expected to emit little to no additional noise. Therefore, no long-term impacts to the acoustic environment are anticipated after completion of the Proposed Action and no additional mitigation measures are required.

### **3.12 TRANSPORTATION AND TRAFFIC**

Access to the Project Site would be from an existing driveway off Māmalahoa Highway (Route 180). Māmalahoa Highway is a two-lane state highway, and one of two highways in the area connecting Kailua-Kona with Waimea. The maximum traveling speed on Māmalahoa Highway is 30 or 35 miles per hour (mph) at the Project Site and traffic volumes on the road are categorized as low. The highway has wide shoulder lanes on both sides and lacks pedestrian lanes or crossings. There are no fixed bus routes along Māmalahoa Highway. Access within the Project Site will be via an existing private road, or one developed for the Proposed Action.

#### **Impacts and Mitigation Measures**

During construction activities, there would be a short-term increase in traffic on Māmalahoa Highway created by 1) construction workers commuting to/from the project site, 2) delivery of materials and equipment, and 3) removal of construction equipment, waste or debris. During construction, the number of vehicle trips associated with the Proposed Action are anticipated to be low and likely spread throughout the day to avoid crews entering or exiting the site during peak traffic hours. During operation of the production wells, traffic would return to the existing conditions as only a monitoring technician may make daily inspections to the Project Site and a maintenance crew would visit periodically to make repairs or manage landscaping.

During construction, intermittent delivery or removal of large equipment and materials may result in traffic delays along the highway. These kinds of deliveries and removals would be infrequent, and delays are anticipated to be brief. Adequate space exists within the Project Site so vehicle parking associated with the Proposed Action would not impact traffic on Māmalahoa Highway during construction or operation activities. Therefore, neither construction or operation of the Proposed Action would result in adverse effects on traffic and no additional mitigation measures are required.

### **3.13 NATURAL HAZARDS**

#### **3.13.1 Flooding**

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) as shown in Figure 3-22, the majority of the Project Site is designated as Flood Zone X, which is defined as having a minimal risk of flooding. The portion of the Project Site that borders Wai'aha Stream is designated as Flood Zone AE and is considered a Special Flood Hazard Area (SFHA).

The Project Site is located approximately 2.6 miles inland and outside the 3.2-foot and 6-foot sea level rise exposure areas.

### 3.13.2 Earthquakes and Volcanoes

Hawai'i Island is home to five volcanoes and is associated with volcanic eruptions and earthquakes. The Project Site is located on the western slope of the Hualālai Volcano, which last erupted between 1800-1801 and is now considered dormant (UHM SOEST, 2013). The U.S. Geological Survey has developed a Lava-Flow Hazard Zones map and divided the island into zones based on the probability of coverage from future lava flows, with Zone 1 having the greatest risk and Zone 9 the least. The Project Site is located within Zone 4. While Hualālai Volcano is now considered dormant, its historic flows have typically covered large areas including the Project site. Section 3.3 provides additional information relating to risk from earthquakes and volcanoes and applicable mitigation measures.

### 3.13.3 Tsunami

The Project Site is located approximately 2.6 miles inland and outside the tsunami evacuation zone.

### 3.13.4 Hurricanes and Tropical Storms

Records of hurricanes affecting the Hawaiian Islands show that these events are relatively rare. Since the 1950s, only one hurricane has affected Hawai'i County while storms with strong winds that are not classified as a hurricane or tropical storm are more common (Businger, S., 1998). Due to prevailing weather patterns in the region, most impacts from these storms have been on the leeward, or eastern, side of Hawai'i island and the Project Site is located on the windward, or western side.

### 3.13.5 Climate Change

According to the Intergovernmental Panel on Climate Change (IPCC), climate change impacts are affecting every region on earth in a variety of ways. This includes rising temperatures, intensification of the water cycle and changing rainfall patterns (IPCC, 2021). These changes are already being seen in Hawai'i. Statewide temperatures have been rising and 2019 was the hottest summer in recorded history. Additionally, rainfall has decreased over the past 35 years and may decrease an additional 10 percent by the end of the century (Frazier, A.G., et al., 2016). The IPCC have confirmed that climate change impacts are the result of human produced greenhouse gas (GHG) emissions, which include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and sulfur oxides (Frazier, A.G., et al., 2016).

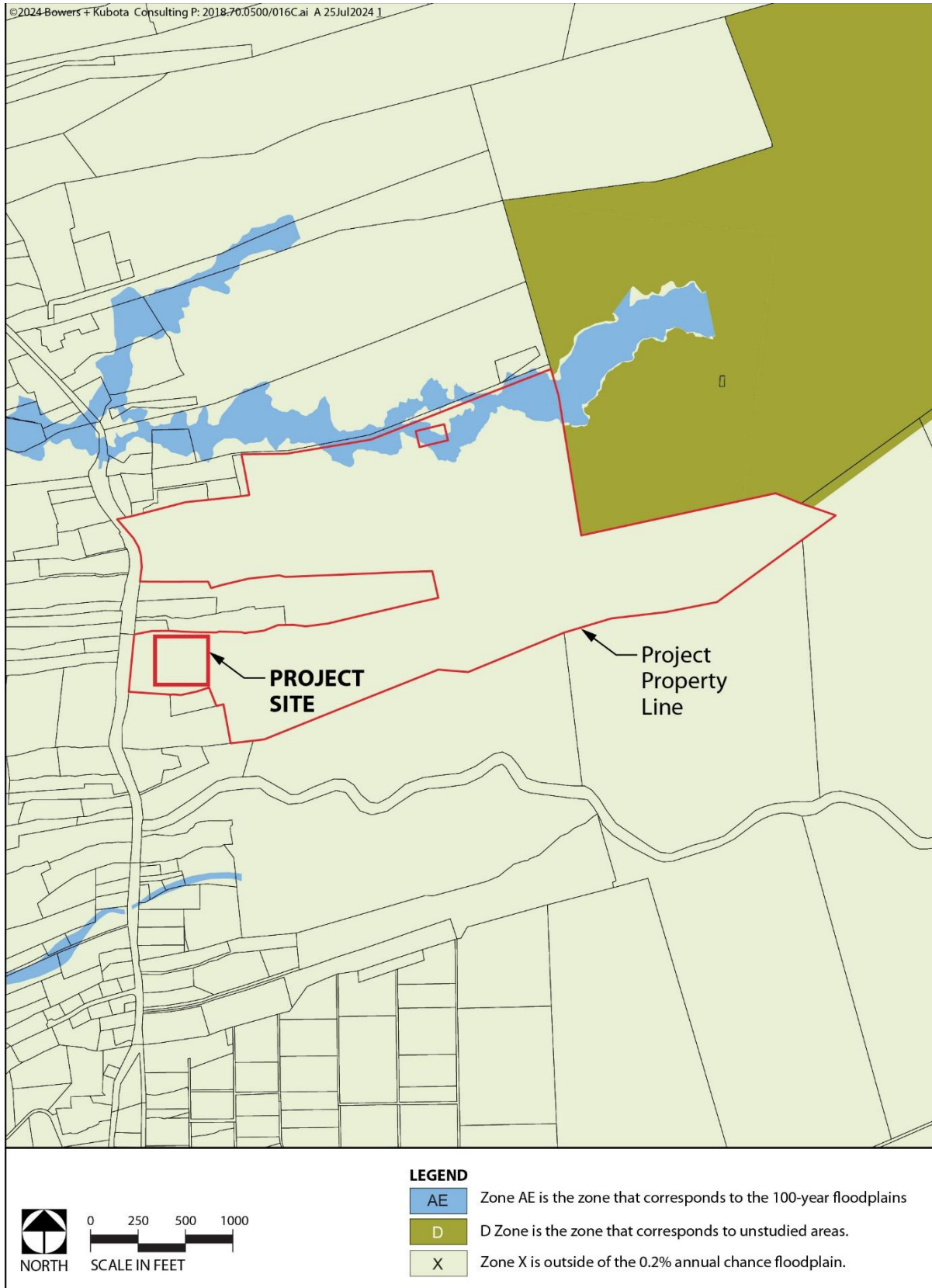
Current land uses at the Project Site include a single-family home and small-scale coffee farming operation; neither land use generates substantial amounts of GHG emissions. According to the EPA, the amount of energy used by single-family home in the U.S. generates on average 7.5 metric tons of CO<sub>2</sub> annually.<sup>1</sup> A study on coffee production at the farm level found coffee farming produces less than one pound of CO<sub>2</sub> equivalents per acre with lower levels of production producing higher levels of GHG emissions due to carbon sequestration of the coffee and soils (Maina, et.al., 2015). Thus, coffee farming at the Project Site could potentially generate between 0.3 to 9 pounds of CO<sub>2</sub> annually.

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<sup>1</sup> A single-family home using 10,649 kWh/yr using EPA online greenhouse gas equivalence calculator Based on a single-family home using 10,649 kWh/yr using EPA online greenhouse gas equivalence calculator



Figure 3-21: FEMA FIRM Map



**Natural Hazards Impacts and Mitigation Measures**

Impacts and mitigation measures relating to natural hazards like earthquakes and volcanoes are discussed in Section 3.3.3. The Project Site's inland location is outside the tsunami evacuation and impact zones, and the control building and storage tank will be constructed in compliance with Hawai'i County Chapter 5A—Building Code to withstand wind speeds associated with hurricanes or tropical storms.

Although the proximity to Wai'aha Stream may pose a risk of flooding during extreme events, no substantial risk is anticipated under normal conditions. However, to reduce the risk of flooding, the portion of the Project Site that is designated as Flood Zone AE or directly adjacent to the SFHA will be avoided when selecting a site for the Proposed Action. To further prevent potential impacts from flooding, the Proposed Action will be constructed to minimize any potential infiltration of flood waters into the well system.

Climate change may result in water supplies becoming less reliable or resilient in the future. One of the guiding principles of La'i 'Ōpua is to create a self-sustainable homestead community, including renewable energy and water conservation initiatives. If the Proposed Action and other additional proposed wells are developed, the future and existing wells would require an approximate total of 28 mgd or about 73 percent of the KASA's sustainable yield. If rainfall is reduced by 10 percent, the future total need would be approximately 81 percent of the KASA's sustainable yield and if the USGS recharge rates are accurate, future and existing well use would be even less. Thus, the Proposed Action would have minimal impact on the KASA or its long-term sustainability even with rainfall reductions created by climate change.

The Proposed Action will not directly release any GHG emissions, however, its construction and operation will generate GHG emissions. GHG emissions generated during construction of the Proposed Action are anticipated to be relatively minor. Emission sources from construction would primarily be from equipment during the site clearing and well drilling actions. The amount of ground disturbance will be approximately three acres, and construction is anticipated to be periodic in nature lasting approximately 18 months for Phase I and 12 to 15 months for Phase II.

During the operation of the Proposed Action, electricity will be required to pump water from the wells. The amount of GHG emissions generated by electricity varies by the energy source type. In Hawai'i County, oil and renewables (e.g. solar, wind, hydroelectric, and biomass) are the primary energy sources. According to Hawaiian Electric, within Hawai'i County 43 percent of electricity is generated from renewable sources which produce zero or very small amounts of GHG emissions (Hawaiian Electric Company, 2021). The remaining 57 percent is generated from oil, which produces an average of 2.13 pounds of CO<sub>2</sub> per kilowatt hour (lbs CO<sub>2</sub>/kWh) (U.S. Energy Information Administration, 2021).

Depending on the depth and pumping efficiency, a groundwater well may require between 537 and 2,270 kWh per million gallons pumped (Griffiths-Sattenspiel, B., Wilson, W., 2009). The Proposed Action is expected to pump 1.1 mgd with a maximum capacity of 2.0 mgd per day. It could therefore potentially require between 537 and 4,540 kWh per day of operation. Assuming 43 percent of this energy requirement is provided by renewable sources, the Proposed Action could potentially generate between 107 and 908 metric tons of CO<sub>2</sub> per year. This is roughly the same amount of CO<sub>2</sub> generated by powering between 14 and 121 single-family homes for one year.

GHG emissions generated by the Proposed Action's operation will be reduced over time as the county continues transitioning to renewable energy resource portfolio standard. Act 15 (2018) set the goal of making the state carbon "net-negative" by 2045, and HRS §269-91 requires electric utilities to meet 100 percent of net sales through renewable sources also by 2045. There are currently seven

renewable energy projects under development for Hawai'i County that will assist in reaching this goal, and operation of the Proposed Action may generate little to no CO<sub>2</sub> within the project's lifespan.

The Proposed Action will use gravity fed transmission lines that do not require additional energy to pump the water to La'i 'Ōpua. Because high-level groundwater is considered pristine in quality, little to no water treatment is anticipated further reducing the amount of indirect GHG emissions produced by the Proposed Action.

Therefore, neither construction nor operation of the Proposed Action would result in adverse effects contributing to climate change impacts or other natural hazards and no additional mitigation measures are required.

### **3.14 PUBLIC FACILITIES AND INFRASTRUCTURE**

#### **3.14.1 Water Transmission**

The Project Site is located within the North Kona Water System that consists of high, mid, and shaft-level groundwater wells; storage tanks; and an integrated transmission system that services DWS customers from Keāhole to Keauhou. As part of 2006 Water Master Plan, DWS recently completed the 16" *Wai'aha Water System Transmission Improvements Project* which upgraded the 8-inch transmission waterlines along Māmalahoa Highway between Water Pipe Road and Kamila Place, which includes the Project Site. Transmission waterlines along Māmalahoa Highway where the Proposed Action will be tied into the North Kona Water System are now 16-inches.

#### **3.14.2 Sanitary Wastewater**

The County of Hawai'i does not have a wastewater collection system in the uplands of North Kona or along Māmalahoa Highway. As a result, wastewater disposal near the Project Site is primarily within Individual Wastewater Systems which have historically been cesspools. There is one cesspool present within the Project Site.

#### **3.14.3 Police, Fire Protection, Medical and Educational Facilities**

The Project Site is located within the Hawai'i County Police Department's Kona District. The Kona Police Station is the nearest substation and is located approximately eight miles from the Project Site.

Hawai'i County Fire Department provides fire protection services for the county. Keauhou Fire Station (Engine 12) is the closest station located approximately five miles from the Project Site. The station provides fire, emergency medical services (EMS), and rescue capabilities. Additionally, there are full-time fire stations with EMS services located in Makalei, Captain Cook and Kona and on-call volunteer services operated out of Kalaoa.

Kona Community Hospital is the closest hospital, located approximately nine miles from the Project Site. The hospital is full-service, with 24-hour emergency services and an intensive care unit.

The Project Site is located within the Hawai'i State Department of Education's Kealakehe Complex which includes the Kealakehe Elementary, Intermediate and High Schools, Hōlualoa Elementary School, and Waikoloa Elementary and Middle Schools. The Complex also includes three public charter schools: Innovations, Kanu o ka 'Āina, and West Hawai'i Explorations (Hawai'i State Department of Education, 2021). Additionally, there are two private schools in the vicinity of the Project Site, Makua Lani Christian Academy and Kuleana Education Academy. Makua Lani Christian Academy provides educational services for elementary through high school students and Kuleana Education Academy serves elementary through middle school students.

### 3.14.4 Solid Waste

Solid waste services are provided by Hawai'i County Department of Environmental Management in some urban areas of the county. The closest facility to accept residential, commercial, government, and construction and demolition generated solid waste is the Pu'uana'hulu (West Hawai'i) Landfill, which is located approximately 29 miles from the site. Where collection services are not provided by the County, waste may be self-hauled or collected by private companies and taken to Pu'uana'hulu Landfill. Self-hauled waste is generally residential and can be taken to County operated transfer stations in Kailua, Keauhou, Ke'ei, Wailea and Miloli'i.

### 3.14.5 Electricity

Hawai'i Electric (HELCO) Keahuolu Substation provides electricity through 12.5 volt overhead lines along Māmalahoa Highway and distribution lines to portions of the Project Site.

#### **Public Facilities Impacts and Mitigation Measures**

The Proposed Action is not anticipated to substantially impact the demand for public facilities or infrastructure. The Proposed Action is intended to develop additional potable water supply sources from within the North Kona region to allow for the continued development of La'i 'Ōpua. Water from the Proposed Action will connect to the existing 16- inch transmission lines along Māmalahoa Highway, which are sufficient to accommodate the potential daily maximum withdrawal of 2.0 mgd. This amount combined with the other DHHL production well discussed in Section 3.4.5 would be sufficient for future proposed residential, commercial and community uses within La'i 'Ōpua. Completion of the Proposed Action will positively impact the resiliency of the North Kona Water System by creating a redundant source of water in the case of pump failures at other nearby wells.

During construction of the Proposed Action, a portable sanitary toilet will be located onsite with secondary containment measures and serviced per provider recommendations. During operation, the control building and pumps will be unmanned and not require a permanent or temporary sanitary waste disposal system. Mitigation measures discussed in Section 3.4.7 would also be used to prevent impacts from the single cesspool onsite.

Use of BMPs and Occupational Safety and Health Administration (OSHA) worksite safety requirements will be used during construction of the Proposed Action to minimize any potential impacts on local fire, police and medical facilities.

Solid waste generated by the Proposed Action is anticipated to be minimal as the wells will be sited in an area where no buildings will be demolished, and any excess soil produced from excavation activities will remain onsite. Any solid waste generated during construction of the Proposed Action would be taken to Pu'uana'hulu (West Hawai'i) Landfill. As the control building and pumps will be unmanned during operation, no solid waste services are required to operate the Proposed Action.

During Phase I, electric needs will be provided by generators onsite. During Phase II, permanent electrical features to supply power to the pumps, control building and other accessory structures would be provided by tying into the existing distribution lines onsite or via new distribution lines connected to the existing overheads along Māmalahoa Highway. Power demands created by the Proposed Action would exceed the existing conditions, however they are anticipated to be within HELCO's capacity without adversely affecting service to other customers.

Therefore, the Proposed Action would have no short or long-term adverse impacts on public infrastructure or utilities and no additional mitigation measures are required.

### 3.15 SECONDARY AND CUMULATIVE IMPACTS

HAR §11-200 defines secondary or indirect impacts as “Effects which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable,” while it defines cumulative impacts as “The impact on the environment which results from incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” The context for analyzing these impact types is defined by actions within the “reasonably foreseeable future”; in this case developments seeking entitlements within the previous five years that would be constructed in the same timeframe as La’i ‘Ōpua. The following section is a discussion of the potential secondary and cumulative impacts resulting from the Proposed Action and other planned development in the area.

#### 3.15.1 Secondary Impacts

##### *SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE*

The Proposed Action would facilitate the development of La’i ‘Ōpua and approximately 1,000 single family homes and 300 multi-family units for DHHL beneficiaries, supporting the agency’s vision of creating vibrant and self-sufficient homestead communities by developing and delivering lands and homes to more native Hawaiian families. Kealakehe Census Tract, which contains La’i ‘Ōpua, has a nearly 20 percent higher rate of Native Hawaiian and Pacific Islander residents compared to the entire County who could positively benefit from its development through access to more housing options and economic opportunities.

The Proposed Action could positively alter the socio-economic profile of Kealakehe Census Tract. La’i ‘Ōpua is one of two communities within DHHL’s landholdings with lands designated for community and commercial uses, which include community-based economic development and other public amenities. La’i ‘Ōpua has a combined total of 83 acres designated for community and commercial purposes. Creating economic development opportunities alongside residential uses would support the community’s vision for self-sufficiency and provide them a chance to work close to home as Hawai’i County’s average commute time is longer than the national average (County of Hawai’i Draft General Plan, 2023).

Therefore, the Proposed Action is anticipated to have positive impacts on the socioeconomics of the region and environmental justice by assisting DHHL beneficiaries in achieving home ownership and providing them economic opportunities. While this amount of land would assist the community in establishing economic self-sufficiency, it is not substantial enough to have a direct effect on the level of commerce in Kailua-Kona, the primary commerce center for the region.

##### *HYDROLOGIC RESOURCES*

The Proposed Action is anticipated to withdrawal a maximum of 2.0 mgd of high-level groundwater, which is approximately five percent of the KASA’s 38 mgd sustainable yield. If the Proposed Action and other additional proposed wells are developed, the future and existing wells would require an approximate total of 28 mgd (County of Hawai’i, Department of Water Supply, 2017). This is about 73 percent of the KASA’s sustainable yield as determined by the CWRM, which is within the 90 percent sustainable yield limit. If the sustainable yield is greater based on the USGS recharge rates, future and existing well use would be even less of the KASA’s sustainable yield. Thus, the Proposed Action would have minimal impact on the KASA or its long-term sustainability.

***TRANSPORTATION AND TRAFFIC***

Traffic generation resulting from La'i 'Ōpua would be gradual and increase in response to each phase of development. During the environmental review process for each of the subsequent phases of development, traffic patterns and generation would be analyzed and mitigated at that time as necessary.

***PUBLIC FACILITIES AND INFRASTRUCTURE***

Hawai'i County's sewer system is currently in place within La'i 'Ōpua, with County operated gravity main lines present under existing roadways in the community as shown in Figure 3-23. Lateral lines from future development would be connected to the gravity main lines at that time and sanitary wastewater would be pumped to Kealakehe Wastewater Treatment Plant (the "Plant") for treatment. As of February 2021, the Plant has the capacity to treat up to 5.3 million gallons of wastewater per day and receives an average of 1.8 million gallons per day with approximately 1,700 active connections (County of Hawai'i, Department of Water Supply, 2017).

Upon full buildout of La'i 'Ōpua, approximately 1,000 single family homes and 300 multi-family units for DHHL beneficiaries would be connected to the sewer system. These new connections could potentially generate a maximum of 0.68 million gallons of residential wastewater per day (County of Hawai'i Planning Department, Final Environmental Assessment, Makalapua Project District, 2019). This would bring the daily total of wastewater produced throughout the region to around 2.5 million gallons per day, which is within the operational capacity of the Kealakehe Wastewater Treatment Plant.

Development of La'i 'Ōpua will result in additional individuals and families living in the community, which could potentially increase the number of school-aged children within the Kealakehe public school system complex and impact local fire, police and medical facilities.

Most of the land designated for residential use occurs within Villages 1 through 6 and Village 10. To date, only Village 3 has been completed and Villages 4 and 5 are scheduled for the next phase of development. Thus, continued development of La'i 'Ōpua will occur in phases over time and a substantial increase in the number school-aged children in the short-term because of the Proposed Action is not anticipated.

An increase in the number of school-aged children in the future is possible, however the County's population is expected to increase by 50 percent by 2040 with or without the development of La'i 'Ōpua (County of Hawai'i Planning Department, Final Environmental Assessment, Makalapua Project District, 2019). It is likely that the public school system would expand during that timeframe and could accommodate an increase in school-aged children associated with La'i 'Ōpua as the community is developed. This expansion could be achieved through school impact fees which the State of Hawai'i, Department of Education (DOE) has the authority to collect via Act 245. In 2010, a West Hawai'i School Impact Fee District was adopted and while efforts to implement fee collection were suspended that same year, the DOE may resume efforts to collect these fees in the future. It is assumed services provided by other the public utilities would also be expanded by 2040 in response to the expected future population growth. Phasing development of La'i 'Ōpua over time would reduce the potential impacts on these other facilities.

Development of La'i 'Ōpua will result in additional individuals and families living in the community, but these may include residents already residing within other areas of Hawai'i County. With the closure of Hilo Landfill in 2019, all solid waste generated within the County is now taken to Pu'uana'hulu Landfill. As of January 2020, Pu'uana'hulu Landfill is anticipated to have 50 to 100 more years of operational capacity based on existing solid waste generation of roughly 600 tons per day

and onsite conditions (Hawai'i Public Radio, 2020). Thus, development of La'i 'Ōpua would have minimal impact on the Landfill.

The full development of La'i 'Ōpua will likely require around 23 Megawatts (MW) per day to power all the new residential development.<sup>2</sup> Currently, HELCO produces around 370 MW of energy per day using a variety of traditional and renewable energy sources and is working towards fully renewable energy production as discussed in Section 3.12.6 (Hawaiian Electric Company, 2021). Full buildout of the community would require approximately six percent of the existing power produced daily by HELCO, and approximately seven percent using only renewable energy sources currently operating and those approved for development to meet the 2045 renewable energy mandate (Hawaiian Electric Company, 2021). This would not adversely affect HELCO's ability to serve other customers.

These requirement percentages are assuming no renewable energy initiatives are implemented within the community or additional renewable projects are pursued by HELCO over the course of the community's full development. As part of their vision and values, La'i 'Ōpua outlined their desire to incorporate renewable energy sources to ensure their self-sufficiency. HRS §196-7 permits the installation of residential photovoltaic systems. Thus, the energy requirements from La'i 'Ōpua would likely be lower as the community would not be fully reliant on HELCO for power.

### 3.15.2 Cumulative Impacts

There are two housing projects proposed for development in the reasonably foreseeable future and one under construction within the North Kona District in vicinity of the Project Site: Makalapua Project District, Kaloko Heights and Kamakana Villages at Keahuolū.

The proposed Makalapua Project District is a an approximately 67-acre site located in Kailua-Kona approximately three miles south of the La'i 'Ōpua. The project is intended to be a mixed-use development including residential, hotel, commercial, and civic/community uses, creating approximately 300 residential units and 220 hotel rooms developed over the next 15 years. Kaloko Heights is a proposed affordable housing project intended to develop up to 111 residential units and a community center located approximately three miles north of the La'i 'Ōpua. Phase I of the project, which includes construction of roughly 80 units, is anticipated to be completed within the next two years.

Kamakana Villages at Keahuolū is a mixed-use, master planned community across 272-acres that includes development of up to 2,330 homes, school facilities and a neighborhood center. Kamakana Villages is located within one mile of La'i 'Ōpua and its development is planned to occur over the next 20 years. The first homes were made available to the public in 2018, and presently 170 apartments have been completed with approximately 250 residents occupying the site. The housing and surrounding infrastructure are all Silver LEED certified.

Cumulative impacts from developing La'i 'Ōpua, facilitated by the Proposed Action, and the other housing projects are potential increases in the demand on the KASA aquifer and public facilities and infrastructure through increased population. The Proposed Action and additional housing developments and their water use demands have been accounted for in the Hawai'i County Water Use and Development Plan Update, Hawai'i Water Plan, Keauhou Aquifer System and are within the estimated 28 mgd future demand total . See Figure 3-25. This future demand total is about 73 percent

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<sup>2</sup> Based on HELCO evaluation that their average residential utility consumer used 518kWh per month, times the number of units and converted from kWh to MW. Accessed September 20201.  
<https://view.hawaiianelectric.com/2019-2020-sustainability-report/page/4-5>

of the KASA's sustainable yield as determined by the CWRM, which is within the 90 percent sustainable yield limit. Therefore, they would not adversely affect the KASA aquifer if all were fully developed.

Existing infrastructure, improvements and mitigations associated with the proposed projects would support the potential increase in population and the corresponding increase in demand on public facilities and infrastructure like roads, schools, medical facilities, and fire and police departments. Further, tax revenues generated from the housing developments would support improving and potentially expanding these County resources to better serve an increased population. Therefore, full development of the La'i 'Ōpua and the other projects would not adversely affect these resources.

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Figure 3-22: County Sewer Line Map

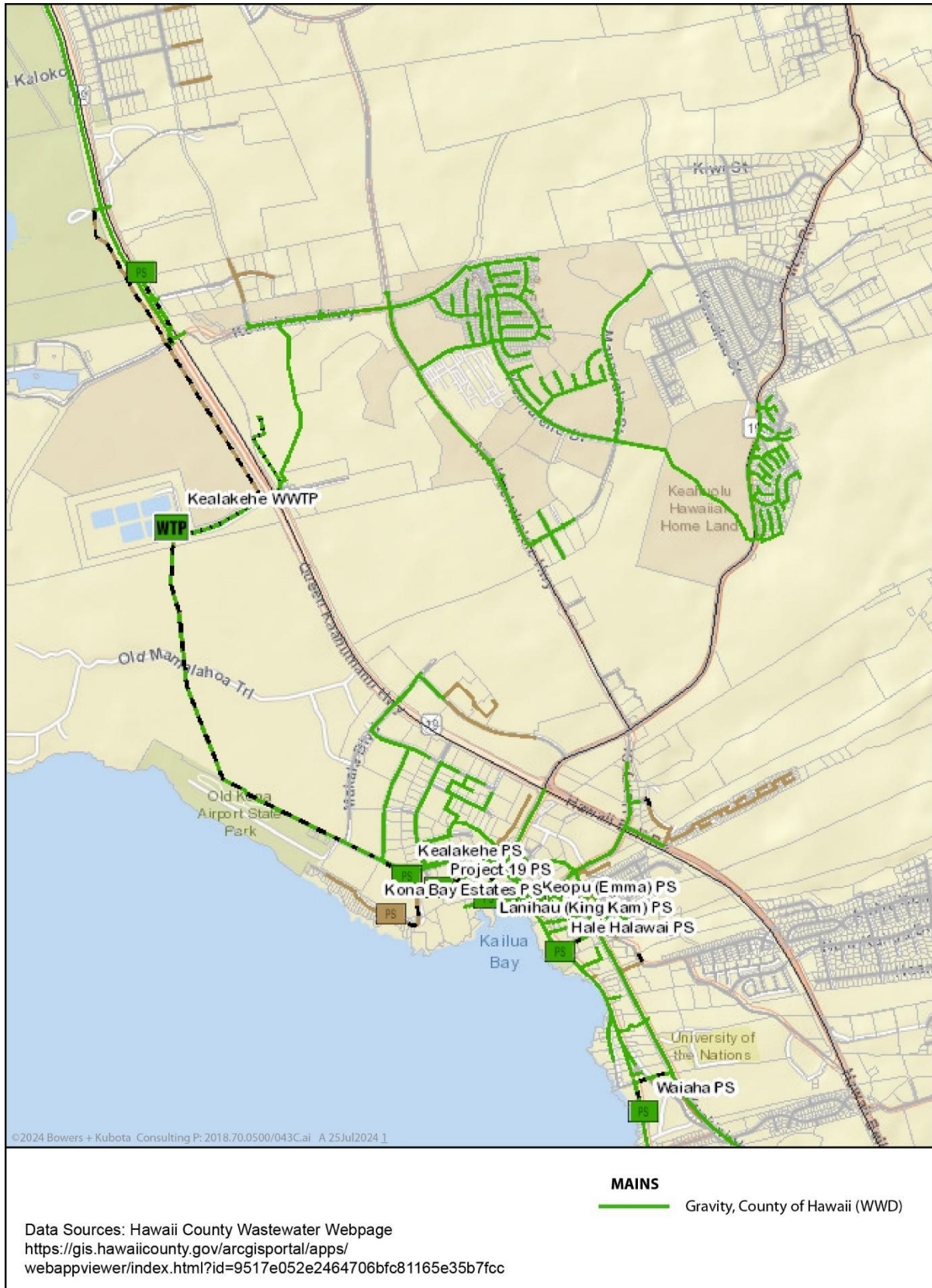
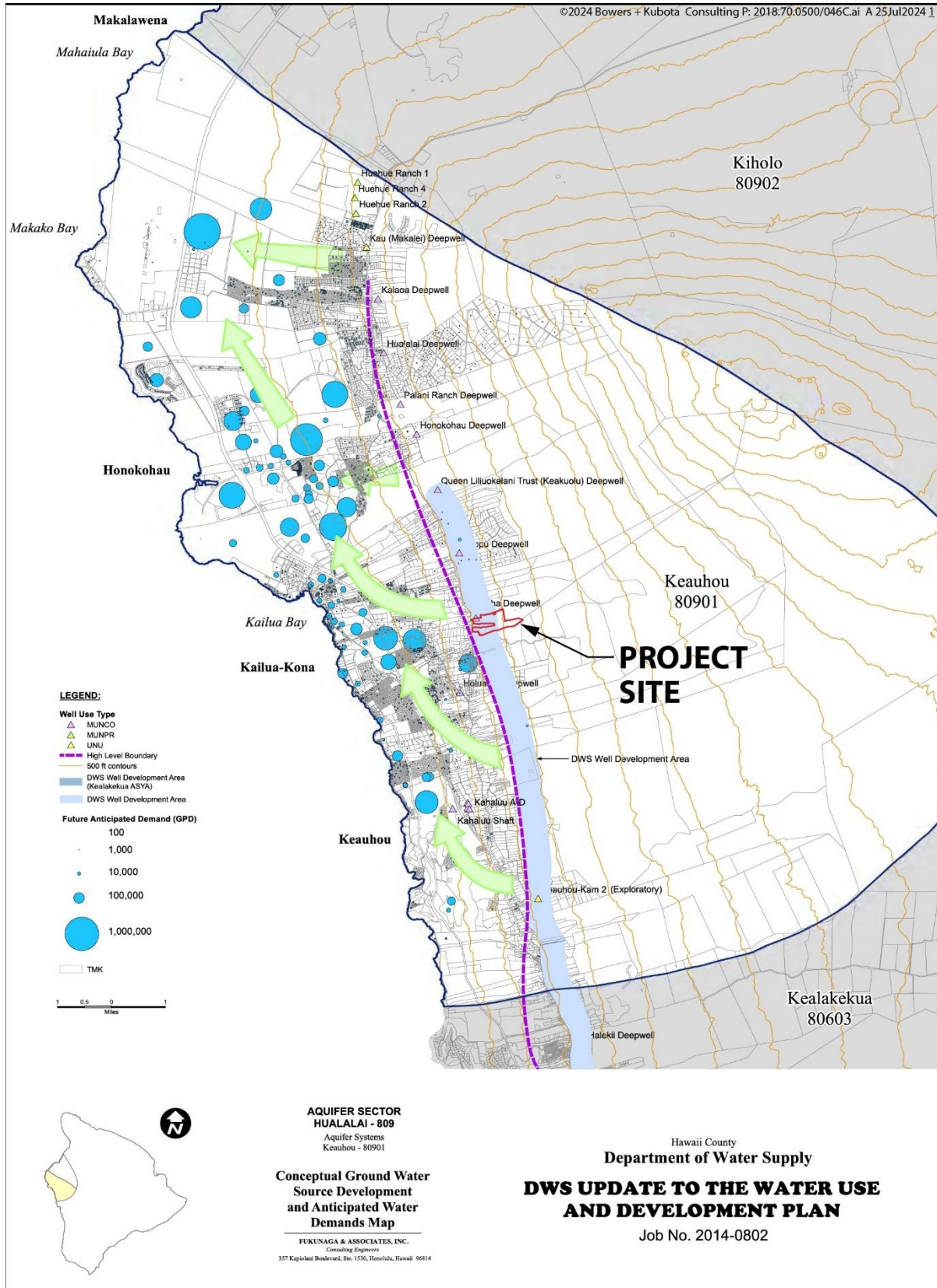


Figure 3-23: HDWS Update to Water Use Plan



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## RELATIONSHIP TO PLANS AND POLICIES

## 4.0 RELATIONSHIP TO FEDERAL, STATE AND COUNTY LAND USE AND ENVIRONMENTAL POLICIES

This chapter provides a description of the relationship and compatibility of the Proposed Action to land use plans and policies. This chapter discusses the proposed project's conformance with pertinent Federal, State and County land use plans and policies, which include the National Environmental Policy Act (42 U.S.C. §4321), State Land Use District regulations, State Environmental Policy (Chapter 344, HRS), and the regulations, policies, and goals set forth by the County's General Plan, and Special Management Area (Chapter 205A, HRS).

### 4.1 FEDERAL LAWS

#### 4.1.1 National Environmental Policy Act (42 U.S.C. §4321)

The purpose of the National Environmental Policy Act of 1969 (NEPA) was to create "a national policy which will encourage the productive and enjoyable harmony between man and his environment (Section 2)." NEPA covers all Federal agencies and actions, including projects where there is federal jurisdiction, land use, permitting, or funding, and requires NEPA be incorporated into federal decision making. Its primary legal mandates are:

- To require a consideration of environmental impacts related to federal projects and in the formation of federal rules and regulations (Section 102(2)(C));
- Agency cooperation between all levels of government and with other concerned public and private organizations (Section 101(a) and 102(2)(C)(D),(G)); and
- The federal government "use all practicable means and measures... to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of America (Section 101(a) and (204(4))."

#### **Discussion:**

As discussed in Chapter 1, DHHL is seeking federal financing assistance from the USDA RD RUS for Phase II of the project. In 2017, the USDA confirmed that the region is eligible for funding. As such, the Proposed Action is subject to environmental review pursuant to both HRS §343 and NEPA.

The Proposed Action is compliant with the purpose and legal mandates required by NEPA. Potential short-term, long-term and cumulative impacts on the affected environment resulting from the Proposed Action have been analyzed and mitigation measures detailed throughout Chapter 3 would allow for this development without adversely affecting the existing or future environments, thus supporting a productive and enjoyable harmony between man and his environment. Additionally, government agencies and concerned parties were consulted as part of the environmental review process. Copies of the comments received are attached as **Appendix F**.

#### 4.1.2 The Farmland Protection Policy Act of 1981 (7 U.S.C. §4201 et seq.)

The Farmland Protection Policy Act of 1981 (FPPA) aims to minimize the extent that federal programs contribute to the unnecessary conversion of agricultural land to other uses. The FPPA

stipulates that federal programs be compatible with state, local and private efforts to protect farmland. The USDA Natural Resources Conservation Service administers and provides oversight on the FPPA.

**Discussion:**

The FPPA does not apply to the Proposed Action because the Project Site does not contain any prime farmland, unique farmland, and land of statewide or local importance, as discussed in Sections 3.2.5.

#### 4.1.3 The Endangered Species Act of 1973 (16 U.S.C. §1531 et seq.)

The purpose of the Endangered Species Act of 1973 (ESA) is to protect and recover imperiled species and the ecosystems upon which they depend. The ESA achieves this by prohibiting the “take” of species listed as threatened or endangered, except under Federal permit. It prohibits federal actions that are likely to jeopardize the continued existence of listed species or adversely modify designated critical habitat. Section 7 of the ESA requires federal agencies to consult with the USFWS and National Marine Fisheries Service to ensure that actions they authorize, fund or carry out are not likely to result in take or jeopardize the continued existence of listed species.

**Discussion:**

The USDA will consult with the USFWS per ESA Section 7 requirements prior to initiation of the Proposed Action. Mitigation measures discussed in Section 3.5.3 were developed with input from the USFWS during pre-consultation and would be implemented to minimize any impacts to listed species observed or anticipated to occur within the Project Site.

#### 4.1.4 The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§703–712)

The purpose of the Migratory Bird Treaty Act of 1918 (MBTA) is to ensure sustainable populations of protected migratory bird species through prohibiting take of a protected species without prior authorization by the USFWS. Section 10.12 of the MBTA defines “take” as “to pursue, hunt, shoot, wound, kill, trap, capture or collect or attempt to pursue, hunt, shoot, wound, kill, trap, capture or collect.” The MBTA applies only to migratory bird species that are native to the U.S. or U.S. territories, and native migratory bird species are defined as those present as a result of natural biological or ecological process. Nonnative and human-introduced species are not protected by the MBTA.

**Discussion:**

No taking of any species protected by the MBTA occurring within the Project Site is anticipated during the construction or operation of the Proposed Action. Mitigation measures discussed in Section 3.5.3 would be used to ensure there are no impacts of any protected bird species observed or expected to occur within the Project Site.

#### 4.1.5 Executive Order 13112 - Invasive Species

Executive Order (EO) 13112 – Invasive Species was signed by President Clinton in 1999 to prevent the introduction of invasive species, provide for their control and minimize the economic, ecological, and human health impacts that invasive species can cause. EO 13112 requires all federal agencies whose actions may affect the status of invasive species to identify such actions; prevent the introduction and spread of invasive species; and not authorize, fund, or carry out actions it believes are likely to cause or promote the introduction or spread of invasive species within the U.S. or elsewhere.

**Discussion:**

No introduction or spread of invasive species is anticipated during the construction or operation of the Proposed Action. Mitigation measures discussed in Section 3.5.3 would be implemented as applicable to prevent the unintentional spread or introduction of new invasive species to the Project Site. Therefore, the Proposed Action is compliant with EO 13112.

**4.1.6 National Historic Preservation Act of 1966 (16 U.S.C. §470)**

The National Historic Preservation Act of 1966 (NHPA) establishes the role of the federal government, in partnership with state and local governments, Native Hawaiian organizations and Indian Tribes, and private organizations and individuals in encouraging productive harmony between modern society and historic uses. This is achieved by Section 106 of the NHPA, which requires federal agencies to consider the effects of their activities on historic properties. Section 106 applies to federal construction projects, plans to manage or develop federally owned lands, and any federal approval of non-federal actions such as grants, licenses and permits. In addition, NHPA is applicable to any action that has the potential to affect properties listed on or are eligible for listing on the National Register of Historic Places.

**Discussion:**

As DHHL is seeking federal financing, the Proposed Action is considered a federal undertaking as defined in 36 CFR 800.16(y) and is subject to compliance with Section 106 of the National Historic Preservation Act. As such, the USDA will be responsible for initiating and coordinating the Section 106 process with the State Historic Preservation Division prior to initiating the Proposed Action. Any additional mitigation measures established during the Section 106 process would be implemented to avoid or minimize potential impacts on any historic, cultural or archaeological resources that occur or may potentially be found within the Project Site.

**4.1.7 The Clean Water Act of 1972 (33 U.S.C. §1251, et seq.)**

The objective of the Clean Water Act is to restore and maintain the physical, chemical and biological integrity of the nation's waters. Under the Clean Water Act, the Environmental Protection Agency (EPA) has implemented pollution control programs such as setting industry water quality and wastewater standards for all surface water contaminants. The EPA has delegated authority to the State of Hawai'i DOH Clean Water Branch (CWB) to administer the National Pollutant Discharge Elimination System (NPDES) program and to issue NPDES permits that are used to regulate impacts on surface waters.

**Discussion:**

A NPDES permit will be obtained for the Proposed Action. Additional mitigation measures discussed in Section 3.4.7 would be implemented to prevent contaminants from potentially entering and impacting surface or groundwater resources during construction or operation of the Proposed Action. Therefore, the Proposed Action is compliant with the Clean Water Act.

**4.1.8 The Coastal Zone Management Act of 1972 (16 U.S.C. §1456) and Hawai'i Coastal Zone Management Act Chapter HRS §205A**

The Coastal Zone Management (CZM) Act of 1972 authorizes states to develop and operate their own coastal management programs. In 1973, the State of Hawai'i Legislature passed Act 164 and in 1977 enacted HRS §205A, the Hawai'i CZM Program. The regulatory reach of HRS §205A is the entire state, including coastal waters out to the limit of the State's police and regulatory authority.

Unique to Hawai'i, each county has regulatory authority over Special Management Areas (SMAs) which are designated areas of concern that represent the most sensitive area of the coastal zone. The Hawai'i Coastal Zone Management Act focuses on ten policy objectives including recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, beach protection and marine resources.

**Discussion:**

The Project Site is located approximately 2.75 miles inland from the nearest coastline and outside of the SMA and coastal areas. As discussed in Section 3.4.4, Wai'aha Stream, which crosses through the Project Site, does not flow directly into the Pacific Ocean. Instead, the stream ends approximately one mile inland from the coast and has no direct connection or impact on coastal waters. Therefore, HRS §205A does not apply to the Proposed Action.

#### 4.1.9 The Safe Water Drinking Act of 1974 (42 U.S.C. §300)

The Safe Drinking Water Act of 1974 was passed to protect public health by regulating the nation's public drinking water and its sources (e.g. rivers, lakes, reservoirs, springs, and ground water wells). The Safe Drinking Water Act authorizes the EPA to set national-based standards to protect against both naturally occurring and man-made contaminants that may be found in drinking water. The EPA works with states and water municipalities to ensure water quality standards are met. The CWB administers and enforces the Safe Drinking Water Act by regulating, permitting and enforcing federal and state standards for public drinking water sources.

**Discussion:**

No impacts to groundwater sources are anticipated during the construction or operation of the Proposed Action. Mitigation measures discussed in Section 3.4.7 would be implemented to prevent any impacts to drinking water developed as part of the Proposed Action and ensure compliance with all federal and state standards relating to public water systems. Therefore, the Proposed Action is compliant with and actively supports the Safe Drinking Water Act.

#### 4.1.10 The Clean Air Act of 1970 (42 U.S.C. §7401 et seq.)

The Clean Air Act of 1970 regulates air emissions from stationary and mobile sources. The Clean Air Act authorizes the EPA to establish National Ambient Air Quality Standards to protect public health and welfare by regulating emissions of hazardous air pollutants. The State DOH Clean Air Branch (CAB) administers and enforces the Clean Air Act within the state by implementing air pollution control through permitting, monitoring air quality, and enforcing federal and state standards.

**Discussion:**

Mitigation measures discussed in Section 3.9.2 would be implemented to minimize impacts to air quality during construction and operation of the Proposed Action and ensure compliance with all federal and state standards relating to air pollution control. Therefore, the Proposed Action is compliant with the Clean Air Act.

#### 4.1.11 Noise Control Act of 1972 (42 U.S.C. §7901)

The Noise Control Act of 1972 (Act) establishes a national policy to promote an environment free from noise that jeopardizes the health and welfare of the general public. Primary responsibility for noise control rests with state and local governments, but federal action is necessary for dealing with

major noise sources. The Act authorizes the establishment of noise emission standards for nearly all sources of noise.

**Discussion:**

Mitigation measures discussed in Section 3.11.2 would be implemented and a Community Noise Permit pursuant to HAR §11-46 would be obtained prior to initiating construction activities of the Proposed Action. Thus, the Proposed Action is compliant with the Noise Control Act and other state noise regulations.

#### 4.1.12 Executive Order 12898, Environmental Justice

EO 12898 – Federal Actions to Address Environmental Justice (EJ) in Minority Populations Low-Income Populations. directs federal agencies to promote nondiscrimination in federal actions by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority populations and low-income populations in the United States and its territories and possessions. EO 12898 aims to provide improved access to public information or public participation for minority and low-income communities in matters relating to human health or the environment.

The Council of Environmental Quality (CEQ) guidance states that minority populations should be identified when the percentage of minority residents in the affected area exceeds 50 percent or is meaningfully greater than the percentage of minority residents in the general population (CEQ, 1997).

**Discussion:**

As discussed in Sections 3.10 and 3.15.1, the Proposed Action would result in secondary positive impacts on native Hawaiian residents with the development of La'i 'Ōpua. The population of Native Hawaiian and Pacific Islanders residing in Kealakehe Census Tract, where La'i 'Ōpua will be developed, is 55 percent of the tract's population. The purpose of the Proposed Action is to develop additional potable water supply sources from within the North Kona region to allow for the continued development of La'i 'Ōpua. Without the development of the Proposed Action, DHHL would not have enough water credits to develop La'i 'Ōpua in the foreseeable future.

By securing additional water supply sources, DHHL can then secure the water credits needed for future residential, community and commercial uses. These uses would provide not only more homes for DHHL beneficiaries, but also parks, recreation spaces and economic opportunities towards fulfilling La'i 'Ōpua's vision of what the community sees for their homestead's future in the decades to come. Therefore, the Proposed Action is compliant with EO 12898.

## 4.2 STATE OF HAWAI'I PLANS AND POLICIES

### 4.2.1 The State Land Use Law (HRS §205)

The Hawai'i State Legislature adopted the State Land Use Law in 1961 to protect Hawai'i's valuable lands from development that resulted in short-term gains for a few and long-term losses to the income and growth potential of the State's economy. Accordingly, the Legislature established an overall framework of land use management. HRS §205 placed all lands within the State in one of four land use districts: Urban, Agricultural, Conservation, or Rural (the Rural District was added in 1963) and established the State Land Use Commission to administer the designated land use districts.



Relationship to Plans and Policies

**Discussion:**

The Project Site is located within the Agriculture District. As discussed in Section 3.2.5, the Proposed Action is permitted within the State Agricultural District and by the Hawai'i County Code Chapter 25—Zoning, so long as it does not pose a hazard or danger to the surrounding area and is approved by the Director of the Hawai'i County Planning Department. The Proposed Action will be installed in compliance with all relevant building codes to prevent any hazards to the surrounding area and construction would not begin prior to plan approval. Thus, the Proposed Action is compliant with HRS §205.

**4.2.2 Hawai'i State Plan (HRS §226)**

The Hawai'i State Plan, HRS Chapter 226, as amended, is a broad policy document that guides all activities, programs and decisions made by State and local agencies by establishing a set of themes, goals, objectives, and policies meant to guide the State's long-term growth and development. The purpose of the plan is to: (1) improve the planning process; (2) increase the effectiveness of government and private actions; (3) improve coordination among agencies and levels of government; (4) provide for the use of Hawai'i's resources; and (5) guide the future development of the state.

Part I of the Plan references Overall Theme, Goals, Objectives and Policies and Part III references the Priority Guidelines; because Part II pertains primarily to internal government affairs it is not applicable to the Proposed Action and was not addressed. Of the 107 sections that comprise the HRS §226, six are directly applicable to the Proposed Action and discussed in the table below.

| <b>Table 4-1<br/>Hawai'i State Plan Objectives and Policies</b>  |          |          |            |
|--|----------|----------|------------|
| <b>HAWAII STATE PLAN, CHAPTER 226, HRS<br/>(Key: C = Consistent, I = Inconsistent, N/A = Not Applicable)</b>   | <b>C</b> | <b>I</b> | <b>N/A</b> |
| <b>PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES</b>   |          |          |            |
| <b>HRS § 226-1: Findings and Purpose</b>   |          |          |            |
| <b>HRS § 226-2: Definitions</b>  |          |          |            |
| <b>HRS § 226-3: Overall Theme.</b>   |          |          |            |
| <b>HRS § 226-4: State Goals.</b>   |          |          |            |
| <i>In order to ensure, for present and future generations, those elements of choice and mobility that ensure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve:</i>  |          |          |            |
| <i>(1) A strong, viable economy, characterized by stability, diversity and growth that enables fulfillment of the needs and expectations of Hawai'i's present and future generations.</i>  | <b>X</b> |          |            |
| <i>(2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.</i>  | <b>X</b> |          |            |
| <i>(3) Physical, social and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring and of participation in community life.</i>  | <b>X</b> |          |            |
| <b>Discussion:</b> The Proposed Action provides the potable water resources required to enable the development of DHHL's Villages of La'i 'Ōpua. The Proposed Action will provide necessary resources to help create a community that provides native Hawaiian beneficiaries housing and homestead leases that may be passed on to future generations. The Proposed Action will also provide the water resource necessary to develop a master planned community that will create opportunities for individuals and groups to improve their economic, social and physical well-being. |          |          |            |
| <b>HRS § 226-5: Objectives and policies for population.</b>  |          |          |            |
| <b>§226-6 Objectives and policies for the economy--in general.</b>   |          |          |            |

Relationship to Plans and Policies

| <b>Table 4-1<br/>Hawai'i State Plan Objectives and Policies</b>  |          |   |          |
|--|----------|---|----------|
| HAWAI'I STATE PLAN, CHAPTER 226, HRS<br>(Key: C = Consistent, I = Inconsistent, N/A = Not Applicable)  | C        | I | N/A      |
| <b>§226-7 Objectives and policies for the economy--agriculture.</b>  |          |   |          |
| <b>§226-8 Objective and policies for the economy--visitor industry.</b>  |          |   |          |
| <b>§226-9 Objective and policies for the economy--federal expenditures.</b>  |          |   |          |
| <i>(a) Objective: Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawai'i's economy.</i>   |          |   |          |
| <i>(b) To achieve the population objective, it shall be the policy of this State to:</i>   |          |   |          |
| <i>(1) Encourage the sustained flow of federal expenditures in Hawai'i that generates long-term government civilian employment;</i>  | <b>X</b> |   |          |
| <i>(2) Promote Hawai'i's supportive role in national defense, in a manner consistent with Hawai'i's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawai'i's economy;</i>  |          |   | <b>X</b> |
| <i>(3) Promote the development of federally supported activities in Hawai'i that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai'i's environment;</i>   | <b>X</b> |   |          |
| <i>(4) Increase opportunities for entry and advancement of Hawai'i's people into federal government service;</i>   |          |   | <b>X</b> |
| <i>(5) Promote federal use of local commodities, services, and facilities available in Hawai'i;</i>  |          |   | <b>X</b> |
| <i>(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai'i; and</i>   |          |   | <b>X</b> |
| <i>(7) Pursue the return of federally controlled lands in Hawai'i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.</i>  |          |   | <b>X</b> |
| <b>Discussion:</b> For Phase II of the Proposed Action, DHHL is seeking federal funding from the USDA RD RUS. The Proposed Action is intended to develop a new potable water source for the development of La'i'Ōpua, providing DHHL beneficiaries with more lands and homes. The federal funds would be used in a manner respecting statewide economic concerns that are sensitive to the native Hawaiian community needs and would not result in adverse impacts on resources affected by the Proposed Action as discussed in Chapter 3. |          |   |          |
| <b>§226-10 Objective and policies for the economy--potential growth and innovative activities.</b>   |          |   |          |
| <b>§226-10.5 Objectives and policies for the economy--information industry.</b>  |          |   |          |
| <b>§226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources.</b>  |          |   |          |
| <b>§226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources.</b>  |          |   |          |
| <b>§226-13 Objectives and policies for the physical environment--land, air, and water quality.</b>   |          |   |          |
| <i>(a) Objectives: Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:</i>  |          |   |          |
| <i>(1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.</i>  | <b>X</b> |   |          |
| <i>(2) Greater public awareness and appreciation of Hawai'i's environmental resources.</i>   | <b>X</b> |   |          |
| <i>(b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:</i>  |          |   |          |
| <i>(1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.</i>   |          |   | <b>X</b> |
| <i>(2) Promote the proper management of Hawai'i's land and water resources.</i>  | <b>X</b> |   |          |

Relationship to Plans and Policies

| <b>Table 4-1<br/>Hawai'i State Plan Objectives and Policies</b>  |          |          |            |
|--|----------|----------|------------|
| <b>HAWAI'I STATE PLAN, CHAPTER 226, HRS<br/>(Key: C = Consistent, I = Inconsistent, N/A = Not Applicable)</b>  | <b>C</b> | <b>I</b> | <b>N/A</b> |
| <i>(3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters.</i>   | <b>X</b> |          |            |
| <i>(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.</i>   |          |          | <b>X</b>   |
| <i>(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.</i>   |          |          | <b>X</b>   |
| <i>(6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.</i>   | <b>X</b> |          |            |
| <i>(7) Encourage urban developments in close proximity to existing services and facilities.</i>  | <b>X</b> |          |            |
| <i>(8) Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.</i>  | <b>X</b> |          |            |
| <b>Discussion:</b> The Proposed Action is intended to develop a new potable water source for the development of La'i 'Ōpua. The Proposed Action has been included in the Hawai'i County Water Use and Development Plan update and would be within the sustainable yield of the area's underlying aquifer system, supporting proper management of Hawai'i's land and water resources. During construction, any potential impacts to air and water quality will be minimized using BMPs and project phasing. |          |          |            |
| <b>§226-14 Objective and policies for facility systems--in general.</b>  |          |          |            |
| <i>(a) Objective: Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, sustainable development, climate change adaptation, sea level rise adaptation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.</i>  |          |          |            |
| <i>(b) To achieve the general facility systems objective, it shall be the policy of this State to:</i>   |          |          |            |
| <i>(1) Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.</i>  | <b>X</b> |          |            |
| <i>(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.</i>   | <b>X</b> |          |            |
| <i>(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.</i>   | <b>X</b> |          |            |
| <i>(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.</i>  | <b>X</b> |          |            |
| <i>(5) Identify existing and planned state facilities that are vulnerable to sea level rise, flooding impacts, and natural hazards.</i>  |          |          | <b>X</b>   |
| <i>(6) Assess a range of options to mitigate the impacts of sea level rise to existing and planned state facilities.</i>   |          |          | <b>X</b>   |
| <b>Discussion:</b> The Proposed Action fully supports the objectives and policies of HRS §226-14. The Proposed Action is intended to develop a new potable water source for the development of La'i 'Ōpua, which will allow DHHL to accommodate the needs of their beneficiaries. It is designed to promote prudent use of groundwater resources and its operation is within the region's aquifer's long-term sustainable capacity.  |          |          |            |
| <b>§226-15 Objectives and policies for facility systems--solid and liquid wastes.</b>  |          |          |            |
| <b>§226-16 Objective and policies for facility systems--water.</b>   |          |          |            |
| <i>(a) Objective: Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.</i>  |          |          |            |

## Relationship to Plans and Policies

| <b>Table 4-1<br/>Hawai'i State Plan Objectives and Policies</b>   |          |          |            |
|---|----------|----------|------------|
| <b>HAWAI'I STATE PLAN, CHAPTER 226, HRS<br/>(Key: C = Consistent, I = Inconsistent, N/A = Not Applicable)</b>   | <b>C</b> | <b>I</b> | <b>N/A</b> |
| <i>(b) To achieve the facility systems water objective, it shall be the policy of this State to:</i>  |          |          |            |
| <i>(1) Coordinate development of land use activities with existing and potential water supply.</i>  | <b>X</b> |          |            |
| <i>(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.</i>  | <b>X</b> |          |            |
| <i>(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.</i>  |          |          | <b>X</b>   |
| <i>(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.</i>   | <b>X</b> |          |            |
| <i>(5) Support water supply services to areas experiencing critical water problems.</i>   | <b>X</b> |          |            |
| <i>(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.</i>   |          |          | <b>X</b>   |
| <b>Discussion:</b> The Proposed Action is intended to develop a new potable water source for the development of La'i 'Ōpua. The Proposed Action has been included in the Hawai'i County Water Use and Development Plan update and would be within the sustainable yield of the area's underlying aquifer system. In August 2015, CWRM approved the water reservation for 3.398 MGD in the Keauhou Aquifer System Area (ASYA) that services the North Kona region. The water request amount should meet the water demands needed for the full build-out of La'i 'Ōpua. |          |          |            |
| <b>§226-17 Objectives and policies for facility systems--transportation.</b>  |          |          |            |
| <b>§226-18 Objectives and policies for facility systems--energy.</b>  |          |          |            |
| <b>§226-18.5 Objectives and policies for facility systems--telecommunications.</b>  |          |          |            |
| <b>§226-19 Objectives and policies for socio-cultural advancement--housing.</b>   |          |          |            |
| <i>(a) Objective: Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:</i>  |          |          |            |
| <i>(1) Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more rental and for sale affordable housing is made available to extremely low-, very low-, lower-, moderate-, and above moderate-income segments of Hawai'i's population.</i>                                  | <b>X</b> |          |            |
| <i>(2) The orderly development of residential areas sensitive to community needs and other land uses.</i>   | <b>X</b> |          |            |
| <i>(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.</i>   | <b>X</b> |          |            |
| <i>(b) o achieve the housing objectives, it shall be the policy of this State to:</i>   |          |          |            |
| <i>(1) Effectively accommodate the housing needs of Hawai'i's people.</i>   | <b>X</b> |          |            |
| <i>(2) Stimulate and promote feasible approaches that increase affordable rental and for sale housing choices for extremely low-, very low-, lower-, moderate-, and above moderate-income households.</i>   | <b>X</b> |          |            |
| <i>(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.</i>  | <b>X</b> |          |            |
| <i>(4) Promote appropriate improvement, rehabilitation, and maintenance of existing rental and for sale housing units and residential areas.</i>  |          |          | <b>X</b>   |
| <i>(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.</i>   | <b>X</b> |          |            |

Relationship to Plans and Policies

| <b>Table 4-1<br/>Hawai'i State Plan Objectives and Policies</b>   |          |          |            |
|---|----------|----------|------------|
| <b>HAWAI'I STATE PLAN, CHAPTER 226, HRS<br/>(Key: C = Consistent, I = Inconsistent, N/A = Not Applicable)</b>   | <b>C</b> | <b>I</b> | <b>N/A</b> |
| <i>(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.</i>  |          |          | <b>X</b>   |
| <i>(7) Foster a variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods that reflect the culture and values of the community.</i>  | <b>X</b> |          |            |
| <i>(8) Promote research and development of methods to reduce the cost of housing construction in Hawai'i.</i>   |          |          | <b>X</b>   |
| <b>Discussion:</b> Without the Proposed Action, DHHL will not have enough water credits available from DWS for future homestead or commercial development at La'i 'Ōpua from now into the foreseeable future. Therefore, DHHL needs to establish an additional water source to receive water credits from DWS. This would allow DHHL to provide over 1,000 single family homes, 300 multi-family units, multiple park spaces, a hospital, and commercial centers at La'i 'Ōpua. La'i 'Ōpua will provide housing for native Hawaiian residents ranging from low-, very low-, lower-, moderate- and above moderate-income segments and the community is planned to reflect the culture and values traditional to Hawai'i. |          |          |            |
| <b>§226-20 Objectives and policies for socio-cultural advancement--health.</b>  |          |          |            |
| <b>§226-21 Objective and policies for socio-cultural advancement--education.</b>  |          |          |            |
| <b>§226-22 Objective and policies for socio-cultural advancement--social services.</b>  |          |          |            |
| <b>§226-23 Objective and policies for socio-cultural advancement--leisure.</b>  |          |          |            |
| <b>§226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being.</b>  |          |          |            |
| <b>§226-25 Objective and policies for socio-cultural advancement--culture.</b>  |          |          |            |
| <b>§226-26 Objectives and policies for socio-cultural advancement--public safety.</b>   |          |          |            |
| <b>§226-27 Objectives and policies for socio-cultural advancement--government.</b>  |          |          |            |
| <b>§226-101 Purpose.</b> The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.  |          |          |            |
| <b>§226-102 Overall direction.</b> The State shall strive to improve the quality of life for Hawai'i's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.   |          |          |            |
| <b>§226-103 Economic priority guidelines.</b>   |          |          |            |
| <b>§226-104 Population growth and land resources priority guidelines.</b>   |          |          |            |
| <b>§226-105 Crime and criminal justice.</b>   |          |          |            |
| <b>§226-106 Affordable housing.</b>   |          |          |            |
| <b>§226-107 Quality education.</b>  |          |          |            |
| <b>§226-108 Sustainability.</b>   |          |          |            |
| <i>Priority guidelines and principles to promote sustainability shall include:</i>  |          |          |            |
| <i>(1) Encouraging balanced economic, social, community, and environmental priorities;</i>  | <b>X</b> |          |            |
| <i>(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;</i>   | <b>X</b> |          |            |
| <i>(3) Promoting a diversified and dynamic economy;</i>   | <b>X</b> |          |            |
| <i>(4) Encouraging respect for the host culture;</i>  | <b>X</b> |          |            |
| <i>(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;</i>  | <b>X</b> |          |            |

## Relationship to Plans and Policies

| <b>Table 4-1<br/>Hawai'i State Plan Objectives and Policies</b>   |          |          |            |
|---|----------|----------|------------|
| <b>HAWAI'I STATE PLAN, CHAPTER 226, HRS<br/>(Key: C = Consistent, I = Inconsistent, N/A = Not Applicable)</b>   | <b>C</b> | <b>I</b> | <b>N/A</b> |
| <i>(6) Considering the principles of the ahupua'a system; and</i>   | <b>X</b> |          |            |
| <i>(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawai'i</i>  | <b>X</b> |          |            |
| <p><b>Discussion:</b> The Proposed Action is intended to develop a new potable water source for the development of La'i 'Ōpua. La'i 'Ōpua values the natural resources of the area and one of the community's visions includes self-sufficiency and increasing and conserving water resources is considered pivotal for the community's continued success.</p> <p>Further, the Proposed Action is a long-planned initiative intended to sustainably balance the needs of La'i 'Ōpua and the greater Kona District within the limits of the region's water resources. Thus, the Proposed Action is consistent with the provisions of the Hawai'i State Plan.</p> |          |          |            |

### 4.2.3 The State Environmental Policy (HRS §344)

HRS §344 establishes an environmental policy that (1) encourages productive and enjoyable harmony between people and their environment, (2) promotes efforts that will prevent or eliminate damage to the environment and biosphere, (3) stimulates the health and welfare of humanity, and (4) enriches the understanding of the ecological systems and natural resources important to the people of Hawai'i.

HRS §344-3(1) states it shall be the policy of the State, through its programs, authorities, and resources to:

*Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which humanity and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawai'i.*

**Discussion:**

The Proposed Action would require a maximum daily limit of 2 mgd of groundwater, which is within the long-term sustainable yield for the region's aquifer system. Thus, it would not detrimentally effect water resources in the North Kona District. Further, the Proposed Action is intended to develop a new potable water source for the development of La'i 'Ōpua, which would allow DHHL to develop and deliver more lands and homes to native Hawaiian families fulfilling the social, economic and other requirements of the people of Hawai'i. Mitigation measures discussed throughout Chapter 3 would be implemented to avoid or eliminate impacts to the resources affected. Therefore, the Proposed Action is consistent with the purpose and objectives established by HRS §344.

### 4.2.4 The Hawai'i State Water Code (HRS §174C)

The State Water Code, HRS §174C, was enacted to protect Hawai'i's water resources. It is intended to address problems of water supply and conservation, and establishes the Hawai'i Water Plan as the guide for implementing this policy. The Hawai'i Water Plan consists of five constituent parts:

**Relationship to Plans and Policies**

1. Water Resource Protection Plan: The plan is prepared by the CWRM and serves to protect and sustain statewide ground-and surface-water resources, watersheds, and natural stream environments.
2. State Water Projects Plan: The plan is prepared by the DLNR Engineering Division and provides a framework for planning and implementing water development programs to meet projected water demands for state projects.
3. Water Quality Plan: The plan is prepared by the DOH and serves to protect public health and sensitive ecological systems by preserving, protecting, restoring and enhancing the quality of ground and surface waters throughout the state.
4. Agricultural Water Use and Development Plan: The plan is prepared by the State Department of Agriculture and develops a long-range management plan that assesses state and private agricultural water use, supply and irrigation systems.
5. County Water Use and Development Plans: These plans are prepared separately by each county. They set forth the allocation of water based on proposed land uses to meet projected county-specific demands.

**Discussion:**

The most relevant of the Hawai'i Water Plan's five constituent plans to the Proposed Action are the Water Resource Protection Plan Update (2019), State Water Projects Plan Update (2020), and the Hawai'i Water Use and Development Plan Update—Keauhou Aquifer System (2017).

The Water Resource Protection Plan Update (2019) inventoried water resources of the State to determine their sustainable yields based on available data and recommend means of conserving and augmenting these resources. The Proposed Action is anticipated to require a maximum daily limit of 2 mgd. This is within the long-term sustainable yield for the Keauhou Aquifer System, which is not classified a Groundwater Management Area. Further, mitigation measures discussed in Section 3.4.7 would be implemented to ensure the Proposed Action does not create any adverse impacts on water resources.

The Proposed Action is intended to develop a new potable water source for the development of La'i 'Ōpua and the projected requirements are accounted for within the State Water Projects Plan Update (2020). The Proposed Action does not directly or indirectly impact other proposed State projects, but it would positively impact the resiliency of the North Kona Water System by creating a redundant source of water in case of pump failures at other nearby wells.

The County of Hawai'i, Water Use and Development Plan Update (2010) implemented a broad, uniform island-wide approach to evaluate conservatively the County's land use policies set forth in the County General Plan and Zoning Code. The plan provides scenarios for low, medium and high growth rates and estimated public water needs for the island for years in the future. The update identified two aquifer sectors to be considered for further evaluation and detailed assessment. One of the sectors identified was the Hualālai Aquifer Sector, Keauhou Aquifer System which would be directly impacted by the Proposed Action.

Per CWRM, the update consisted of two phases. Phase I refined the plan's water demand scenarios and projections. Phase II created source development strategies and scenarios; addressed how proposed source strategies may impact cultural uses and rights or other public trust purposes; and identified appropriate mitigation measures for potential impacts or alternative strategies. The Hawai'i Water Use and Development Plan Update—Keauhou Aquifer System (2017) combines the findings of the two phases into a single plan.

As discussed in Section 3.4, the Proposed Action is consistent with the Hawai'i Water Use and Development Plan Update—Keauhou Aquifer System (2017) plan. The maximum daily amount is accounted for in the plan's refined water demand scenarios and projections and would not adversely impact groundwater resources within the Keauhou Aquifer System. Nor would it adversely affect in any way cultural uses and rights or other public trust purposes. Instead, it would help facilitate the development of La'i 'Ōpua, which is designed to promote cultural education, self-sufficiency, and provide additional homesteading opportunities for more native Hawaiian families. Thus, the Proposed Action is consistent with the Hawai'i Water Plan and HRS §174C.

### 4.3 DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL) PLANS

DHHL's planning system includes three tiers. The first tier (Tier 1) is the General Plan, which identifies statewide goals and policies to guide land management and programs. Tier 2 includes Strategic Program Plans, which focus on statewide programs and policies, as well as Island Plans with longer-term, island-specific land use goals based on the General Plan. Tier 3 includes Regional Plans and Area Development Plans, which identify and address issues and opportunities relative to existing homestead communities and future development in that region.

#### 4.3.1 DHHL General Plan

The DHHL General Plan Update was adopted in 2022 as an update of the DHHL General Plan, which was initially adopted in 2002. The DHHL General Plan sets the vision and establishes goals and policies to guide the discussions and decision-making of the Hawaiian Homes Commission and the DHHL plans, programs, and policies for the next 20 years, taking the Trust to the planning horizon of 2040. The DHHL General Plan Update includes seven (7) priority topic areas under which goals, policies and monitoring and evaluation metrics are identified. The priority topic areas include:

- Land Use and Water Resources
- Infrastructure
- Housing
- Food Production
- Healthy Communities
- Natural and Cultural Resource Management
- Revenue Generation and Economic Development

The following section includes discussion of the Proposed Action's consistency with applicable goals and policies in the DHHL General Plan Update:

**Goal WR-1:** Implement water planning and management strategies that meet current needs and protect water resources for the future.

Policy:

- **WR-1A:** Implement the goals and policies from the DHHL Water Policy Plan.
- **WR-1B:** Incorporate watershed protection, water conservation, and recharge considerations in the use of groundwater and other water resources.



**Relationship to Plans and Policies**

**Goal IN-1:** Provide and maintain infrastructure for homestead communities within resource limitations.

Policy:

- **IN-1A:** Design infrastructure to County standards and transfer systems to the Counties whenever possible for development within Residential, Commercial, and Industrial areas.
- **IN-1B:** Establish agreements with the Counties around infrastructure standards and licensing processes on Trust lands.

**Discussion:**

As discussed in Section 1.3 the Proposed Action is based on the need for additional water sources to service DHHL's planned future homestead development at La'i 'Ōpua. The Proposed Action would develop the additional water sources needed, while falling within the approved water reservations in the Keauhou Aquifer System Area in alignment with the goals and policies of the DHHL General Plan and HHC Water Policy Plan. DHHL will also be developing the wells and transmission lines up to County standards in order to dedicate the infrastructure to the County and obtain additional water credits from the County of Hawai'i.

**4.3.2 Hawaiian Homes Commission Water Policy Plan**

Program Plans fall under the second tier of DHHL's planning system and are statewide plans that inform or carry out general plan policies and priorities for specific functional areas, including water resource management. In 2014, the Hawaiian Homes Commission adopted the first policy on managing the water kuleana of DHHL since the passage of the Hawaiian Homes Commission Act. The Water Policy Plan's includes the following vision:

Our vision is that there will be adequate amounts of water and supporting infrastructure so that homestead lands will always be usable and accessible, to enable us to return to our lands to fully support our self-sufficiency and self-determination in the administration of the Hawaiian Homes Commission Act (HHCA), and the preservation of our values, traditions, and culture.

To achieve this, the Water Policy Plan establishes four priority goals:

1. Affirmatively communicate with beneficiaries regarding water decisions, performance, and water rights on a regional and annual basis.
2. Aggressively, proactively, consistently, and comprehensively advocate for the kuleana of the beneficiaries, DHHL, and HHC to water before all relevant agencies and entities.
3. Develop and manage a Water Assets Inventory (WAI).
4. Support watershed protection and restoration on DHHL lands and source areas for DHHL water.

**Discussion:**

The Proposed Action aligns with the vision and priority goals of the HHC Water Policy Plan. Primarily, the Proposed Action supports the vision of providing adequate water and supporting infrastructure to enable native Hawaiian beneficiaries to return to Hawaiian Home Lands in La'i 'Ōpua. Furthermore, by securing additional water supply sources and water credits needed for future residential, community and commercial uses, the Proposed Action is demonstrating DHHL's commitment to advocating for beneficiaries, DHHL and HHC water rights in coordination with CWRM and the County of Hawai'i Department of Water. The Proposed Action is included in the Hawai'i

County Water Use and Development Plan update (2017) and within the sustainable yield of the area's underlying the Keauhou Aquifer System Area as approved by CWRM. Without the Proposed Action, DHHL will not have any water credits available from the County DWS to develop additional homesteading in the North Kona region.

### 4.3.3 Hawai'i Island Plan

Island Plans also are included under the second tier of DHHL's planning system. The Hawai'i Island Plan was last updated in 2002 and provides DHHL with a comprehensive assessment of its lands on Hawai'i Island and aims to assess and recommend future uses for Hawaiian home lands on Hawai'i Island. The plan is organized by regions and identifies DHHL land tracts within those regions for priority development. The Proposed Action is located in the West Hawai'i Region and would provide water service to the high priority residential development of Kealakehe.

#### Discussion

The DHHL Hawai'i Island Plan designated development of the residential land holdings within the Villages of La'i 'Ōpua as a priority and the Proposed Action will support this by developing the water resources and connect to infrastructure necessary to develop homesteads and other DHHL lands in the region.

### 4.3.4 Kealakehe- La'i 'Ōpua Regional Plan

The third tier of the DHHL planning system includes Regional Plans, which assess land use development factors, identify issues and opportunities, and identify the region's top priority projects slated for implementation within the next five years. The Kealakehe-La'i 'Ōpua Regional Plan update was approved by HHC in 2020, which updates the previous 2009 Regional Plan. The *North Kona Water Source Development and Storage* priority project is included in the 2020 Regional Plan Update and includes four objectives:

- Develop additional water supply from sources within the region. In order to meet the various needs of the community, additional water credits must be secured for the desired expansion of the region. DHHL currently has enough water credits to complete its on-going development projects in the area (Village 4 'Ākau and Hema). In order to achieve the community's vision for the region, DHHL will need to secure additional water credits to support these development projects.
- Support Community Economic Development Projects. DHHL has identified lands that would be suitable for commercial uses in order to increase the economic self-sufficiency of the homesteads within the region. In order for these lands to be utilized for economic development projects, there must be appropriate allocation of water credits for these projects. As DHHL currently does not have any additional water credits available for development projects within this region, it is important that DHHL pursue actions to secure additional water credits to support these potential development projects.
- Build more homes for beneficiaries. DHHL has enough water credits to complete the Village 4 'Ākau and Hema developments. The remaining Villages illustrated in the Villages of La'i 'Ōpua Master Plan do not currently have water credits available for development. The community identifies providing additional homesteading opportunities for more native Hawaiian families in the Kealakehe-La'i 'Ōpua region as a priority in the vision for the region. In order for DHHL and the community to reach this vision, DHHL must secure additional water credits to support these developments.

**Relationship to Plans and Policies**

- Develop Community Facilities to support the homesteads. Recent community input has identified a concern that a vibrant and thriving community requires more than just homes and infrastructure. The community wants to ensure that area for parks and recreation are included in the desired expansion of the region. In order to provide appropriate recreational spaces for the community, DHHL must secure additional water credits to support these needs. The Implementation Action Steps identified below concentrate on actions needed to develop wells on the property of the two private landowners.

**Discussion:**

The Proposed Action is consistent with the Kealahou-La'i 'Ōpua Regional Plan. The Proposed Action is included as a priority project and as such implementation of the project directly aligns with the vision and objectives of the Regional Plan.

**4.4 COUNTY OF HAWAI'I PLANS AND POLICIES****4.4.1 County of Hawai'i General Plan**

The County of Hawai'i General Plan (General Plan) is the County's long-range comprehensive plan that guides the pattern of future developments for the island. It provides a sound growth strategy that directs future opportunities related to land use, zoning amendments and capital expenditures. The General Plan was last updated and adopted by ordinance in 2005, and is organized into 13 elements, with policies, objectives, standards and principles for each element. The County of Hawai'i is in the process of updating the General Plan through 2045, and the revised version the Draft General Plan 2045 was released for public comment in September 2023. The public comment period closed, however the Final Revised General Plan Update is still pending final approval from the County Council. As such, the Proposed Action must address its consistency with the current 2005 amended version of the County of Hawai'i General Plan. Table 4-2 assesses the Proposed Action's consistency with relevant goals and policies of the presently adopted General Plan.

**Table 4-2: Proposed Action's Conformance to the General Plan**

| Policy Description           |   |
|------------------------------|---|
| <b>Economic</b>              |   |
| <b>Goal (b)</b>              | Economic development and improvement shall be in balance with the physical, social, and cultural environments of the island of Hawai'i. |
| <b>Goal (c)</b>              | Strive for diversity and stability in the economic system.  |
| <b>Environmental Quality</b> |   |
| <b>Goal (b)</b>              | Maintain and, if feasible, improve the existing environmental quality of the island.  |
| <b>Goal (c)</b>              | Control pollution.  |
| <b>Policy (a)</b>            | Take positive action to further maintain the quality of the environment.  |
| <b>Policy (c)</b>            | Advise the public of environmental conditions and research undertaken on the island's environment.                                      |

## Relationship to Plans and Policies

| Policy Description                        |  |
|---|--|
| <b>Flooding and Other Natural Hazards</b> |  |
| <b>Goal (e)</b>                           | Reduce surface water and sediment runoff.  |
| <b>Policy (q)</b>                         | Consider natural hazards in all land use planning and permitting.  |
| <b>Historic Sites</b>                     |  |
| <b>Policy (c)</b>                         | Require both public and private developers of land to provide historical and archaeological surveys and cultural assessments, where appropriate, prior to the clearing or development of land when there are indications that the land under consideration has historical significance.      |
| <b>Policy (g)</b>                         | Collect and distribute historic sites information of public interest and keep an inventory of sites.   |
| <b>Policy (h)</b>                         | Aid in the development of a program of public education concerning historic sites.   |
| <b>Public Utilities – Water</b>           |  |
| <b>Policy (a)</b>                         | Water system improvements shall correlate with the County's desired land use development pattern.  |
| <b>Policy (b)</b>                         | All water systems shall be designed and built to Department of Water Supply standards.   |
| <b>Policy (c)</b>                         | Improve and replace inadequate systems.  |
| <b>Policy (d)</b>                         | Water sources shall be adequately protected to prevent depletion and contamination from natural and man-made occurrences or events.  |
| <b>Policy (e)</b>                         | Water system improvements should be first installed in areas that have established needs and characteristics, such as occupied dwellings, agricultural operations and other uses, or in areas adjacent to them if there is need for urban expansion.   |
| <b>Policy (f)</b>                         | A coordinated effort by County, State and private interests shall be developed to identify sources of additional water supply and be implemented to ensure the development of sufficient quantities of water for existing and future needs of high growth areas and agricultural production. |
| <b>Policy (k)</b>                         | Promote the use of ground water sources to meet State Department of Health water quality standards.  |
| <b>Land Use – Agriculture</b>             |  |
| <b>Policy (i)</b>                         | Designate, protect and maintain important agricultural lands from urban encroachment.  |
| <b>Policy (j)</b>                         | Ensure that development of important agricultural land be primarily for agricultural use.  |

**Relationship to Plans and Policies**

The General Plan identifies actions to implement these policies in the North Kona District and specifically directs DWS to:

- Continue to pursue groundwater source investigation, exploration, and development in areas that would provide for anticipated growth and that would provide for an efficient and economic system operation.

**Discussion:**

As discussed in Section 1.5, the Proposed Action will construct two new potable water wells and ancillary improvements that will provide the DWS North Kona Water System with a new source of drinking water. The construction of the wells will have little direct impact on the General Plan's goals and policies, however, the secondary impacts from creating a new water source may provide new opportunities for economic development for the County, specifically in the La'i 'Ōpua development, where the native Hawaiian population may stand to benefit.

Prior to the construction of the Proposed Action, BMPs will be implemented to protect the environment from drainage, runoff, and noise, which includes applying for NPDES, noise, and grading, grubbing and stockpiling permits. An LRFI, cultural impact assessment, flora and fauna surveys were conducted in addition to the Division of Forestry and Wildlife (DOFAW) and SHPD being consulted with in preparation of this EA. Thus, the Proposed Action is consistent with the General Plan.

**4.4.2 The Kona Community Development Plan – Amended 2019**

The Kona Community Development Plan (CDP) was adopted by the County in September 2008 and amended in 2019. It expands on the broad development patterns set out in the General Plan and provides goals and actions for public facilities, infrastructure, and community services. The vision of the CDP is “a more sustainable Kona characterized by a deep respect for the culture and the environment and residents that responsively and responsibly accommodate change through an active and collaborative community.”

**Discussion:**

The Proposed Action will be incorporated into the North Kona Water System and as a utility will support the planned growth of Kona as provided in the County's General Plan Land Use Allocation Pattern Guide and the Kona CDP's Official Kona Land Use Map. The Proposed Action is intended to develop a water source for the future development of La'i 'Ōpua, which is located within the Kona Urban Area where the CDP directs Kona's future development. Therefore, the Proposed Action is consistent and actively supports the CDP.

## 5.0 FINDINGS AND DETERMINATION

### 5.1 DETERMINATION

The purpose of this Final EA is to identify and consider the significance of primary, secondary, cumulative, and short and long-term effects of the Proposed Action on the environment. HAR §11-200.1-2 defines “significant effect” as the sum of effects on the quality of the environment. The Proposing Agency’s review and evaluation of the proposed action’s effect on the environment would result in a determination whether: 1.) the action would have a significant impact on the environment and an Environmental Impact Statement Preparation Notice should be issued, or 2.) the action would not have a significant impact on the environment warranting a Finding of No Significant Impact (FONSI).

Based on the criteria set forth in HAR §11-200.1-13 and discussed in Section 5.2, the Proposed Action would not have a significant effect on the environment. Therefore, through its review of every phase of the action, and evaluation of the overall impacts and proposed mitigation measures, DHHL is filing a FONSI for the Proposed Action.

### 5.2 SIGNIFICANCE CRITERIA FINDINGS

The Proposed Action was assessed in accordance with the 13 Significance Criteria set forth in HAR §11-200.1-13. The Proposed Action’s relationship to each criterion is discussed below:

#### **(1) Irrevocably commits a natural, cultural, or historic resource.**

The Proposed Action would not irrevocably commit a natural, cultural, or historic resource. It is consistent with existing conditions and the surrounding environment and would not adversely affect the Keauhou Aquifer System Area (KASA) that services the North Kona region as discussed in Section 3.4.7. Contractors will adhere to mitigation measures described in Section 3.5.3 to avoid any potential impacts to federal- or state-listed species should they occur at the Project Site.

HRS §6E consultation with SHPD has been initiated by DHHL and will be completed prior to the start of construction. Mitigation measures discussed in Section 3.6.4 and any proposed by SHPD would be implemented to avoid or minimize impacts to any cultural resources or historic properties identified in the Project Site.

#### **(2) Curtail the range of beneficial uses of the environment.**

The Proposed Action would not curtail the range of beneficial uses of the environment. The wells will be sited in an area within the Project Site that produces the least amount of impacts on the site’s environment. While it will result in reducing the amount of groundwater available within the KASA, the extraction rate would not cause the aquifer to exceed its sustainable yield as discussed in Sections 3.4.7. Nor would the Proposed Action contribute cumulatively to long-term adverse impacts on the KASA, as discussed in Section 3.14.2.

#### **(3) Conflict with the State’s environmental policies or long-term environmental goals established by law.**

The Proposed Action would not conflict with the State’s environmental policies or long-term environmental goals established by law as discussed in Chapter 4 Federal, State, and County Land Use and Environmental Policies and Permits Required. BMPs and other mitigation measures discussed throughout Chapter 3 would be implemented to avoid or minimize potential impacts associated with the Proposed Action during its construction and operation.

**(4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State.**

The Proposed Action would not have direct substantial adverse effects on the economic welfare, social welfare or cultural practices of the community and State. It would create secondary positive impacts on the State's social and economic welfare by establishing a new potable water source for the development of La'i 'Ōpua. This would allow DHHL to provide over 1,000 single family homes, 300 multi-family units, multiple park spaces, a hospital, and commercial centers for native Hawaiian families. Thus, creating a long-term positive effect on the economic and social welfare of the community and State. However, these positive impacts would not be substantial enough to have a direct effect on the level of commerce in Kailua-Kona, the primary commerce center for the region.

The Proposed Action would not substantially impact traditional cultural practices. As discussed in Section 3.7, there are no traditional cultural properties onsite but there are cultural practices and associated resources in the vicinity of the Project Site. Mitigation measures discussed in Section 3.7.2 would be implemented to avoid or reduce any potential impacts to cultural or historic resources that may occur and protect the exercise of traditional and customary native Hawaiian rights in the Project Site.

**(5) Have a substantial adverse effect on public health.**

The Proposed Action would not have a substantial adverse effect on public health. A Well Construction and Pump Implementation Permit will be obtained for the Proposed Action prior to construction. An engineering report will be submitted to and approved by the DOH CWB before placing the Proposed Action online within the DWS's North Kona Water System. The report will identify all potential sources of contamination, evaluate alternative controls which could be implemented to reduce or eliminate contamination potential, and include a water quality analysis for all regulated contaminants.

Short-term impacts to noise levels and air quality would be minimized by phasing construction of the wells and implementing BMPs to maintain compliance with applicable County and State policies and regulations as discussed in Sections 3.10.2 and 3.8.2, respectively.

**(6) Involve adverse secondary impacts, such as population changes or effects on public facilities.**

The Proposed Action would not result in adverse secondary impacts to the social environment or on public facilities. The Proposed Action would facilitate the development of La'i 'Ōpua with approximately 1,000 single family homes and 300 multi-family units for DHHL beneficiaries. This would result in secondary impacts such as potentially increasing the population within the Kealakehe Census Tract, which contains La'i 'Ōpua.

As discussed within the Kealakehe-La'i 'Ōpua Regional Plan, the areas proposed for La'i 'Ōpua are consistent with the State Land Use Districts, County General Plan designations, and County Zoning Code. Where there may be land use inconsistencies, DHHL may preempt these pursuant to Hawaiian Homes Commission Act Section 204. Further, the areas are located within the North Kona CDP's Urban Area, where the CDP directs Kona's future growth. Therefore, secondary population change associated with the Proposed Action would be the result of planned and orderly development consistent with land use planning policies and ordinances.

The Proposed Action would positively affect the North Kona Water System by creating a redundant water source in case of pump failures at other nearby wells and would not impact other public facilities. As discussed in Section 3.14.1.4, the future development of La'i 'Ōpua would not adversely affect public facilities and infrastructure.

**(7) Involve a substantial degradation of environmental quality.**

The Proposed Action would not degrade environmental quality at the Project Site or surrounding area. The wells will be sited within the Project Site in an area that produces the least amount of impacts. Mitigation measures proposed throughout Chapter 3 would be implemented to avoid or minimize impacts on the site's environment.

While the Proposed Action will result in reducing the amount of groundwater available within the KASA, the extraction rate would not cause the aquifer to exceed its sustainable yield as discussed in Section 3.4.7. Nor would it contribute cumulatively to long-term adverse impacts on the KASA as discussed in Section 3.14.2.

**(8) Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions.**

The Proposed Action will not contribute cumulatively to substantial adverse effects upon the environment, as discussed in Section 3.14.2. While the Proposed Action is intended to develop a new water source that would result in the future development of La'i 'Ōpua, one third of the resulting groundwater would be used by the DWS for municipal uses in the North Kona Water System. Additionally, water use within La'i 'Ōpua has been accounted for in the Hawai'i Water Plan as discussed in Section 6.2.4. Thus, the Proposed Action would facilitate but does not involve a commitment for larger actions.

**(9) Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat.**

The Proposed Action would not have a substantial adverse effect on rare, threatened, or endangered species or their habitats. No critical habitat occurs within the Project Site, and mitigation measures and BMPs discussed in Section 3.5.3 would be implemented during construction and operation of the Proposed Action to minimize impacts to species observed or with the potential to occur at the Project Site.

**(10) Have a substantial adverse effect on air or water quality or ambient noise levels.**

The Proposed Action would not have a substantial adverse effect on air or water quality or ambient noise levels. The Proposed Action will be constructed over two phases and a Well Construction and Pump Installation Permit will be obtained prior to construction. During Phase I, a single exploratory well will be drilled and then tested to ensure its water quality meets HAR §11-20-29 Rules Relating to Public Water Systems standards. If the quality and quantity of sampled water are satisfactory, then the Proposed Action will proceed to Phase II. Additional mitigation measures discussed in Section 3.4.7 would be implemented to avoid impacts on water quality during construction and operation of the Proposed Action.

Short-term impacts to noise levels and air quality would be minimized by phasing construction of the wells, implementing BMPs and obtaining a Community Noise Permit and Noise Variant Permit, if applicable, to maintain compliance with relevant County and State policies and regulations as discussed in Sections 3.10.2 and 3.8.2, respectively.

**(11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.**

As discussed in Sections 3.3, 3.4 and 3.12, the Proposed Action will not have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive or naturally hazardous area. The Project Site is located approximately 2.6 miles inland, outside the coastal zone,



**Findings and Determination**

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sea level rise exposure area and tsunami zone. While Wai'aha Stream passes through the Project Site, the wells will be sited in a location away from the stream in an area that produces the least amount of ground disturbance and outside the SFHA designated within the site. Although the proximity to Wai'aha Stream may pose a risk of flooding during extreme events, no substantial risk is anticipated under normal conditions.

The entire island of Hawai'i, including the Project Site, is located within the International Building Code (IBC) Seismic Zone 4 which have the highest potential for seismic induced ground movement. Therefore, the Proposed Action will comply with IBC Seismic Zone 4 building standards to reduce potential impacts created by earthquakes or seismic induced ground disturbances.

**(12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in County or State plans or studies.**

The Proposed Action would not have a substantial adverse effect on scenic vistas or viewplanes surrounding the Project Site. As discussed in Section 3.7, the Project Site is not in or near visually sensitive areas or areas of high scenic value. The tallest feature of the Proposed Action is approximately 40 feet in height and would be surrounded by rows of coffee trees limiting its visibility mauka of the Project Site

**(13) Require substantial energy consumption or emit substantial greenhouse gases.**

The Proposed Action will not require substantial amounts of energy during construction or operation, nor will it emit substantial amounts of greenhouse gases. As discussed in Section 3.12.6, the Proposed Action may require between 537 and 4,540 kWh per day of operation which is anticipated to be within HELCO's capacity without adversely affecting service to other customers. Assuming 43 percent of this energy requirement is provided by renewable sources, the Proposed Action could potentially generate between 107 and 908 metric tons of CO<sub>2</sub> per year. This is close to the same amount as powering between 14 and 121 single-family homes during that same timeframe. However, this amount of CO<sub>2</sub> per year will likely be reduced over time as the county continues transitioning to a renewable energy resource portfolio standard to reach "net-negative" by 2045. Thus, the Proposed Action may generate little to no CO<sub>2</sub> within the project's lifespan.

## 6.0 AGENCIES AND ORGANIZATIONS CONSULTED

As a requirement of HAR §11-200.1-18, this chapter identifies agencies, citizen groups, and individuals solicited in the preparation of the Draft and Final EA. Consultation with various government agencies, officials, and community members were undertaken to obtain information on agency requirements and comments about potential community issues so that they could be addressed in this Final EA. The consultation involved distributing a pre-assessment consultation letter and notice of availability of the Draft EA in the State Office of Planning and Sustainable Development, Environmental Review Program's (ERP) *The Environmental Notice* for public comment. These consultations are summarized in this chapter.

### 6.1 PRE-ASSESSMENT CONSULTATION

Consultation involved distributing a pre-assessment consultation letter with supporting documentation to various parties requesting their written comments. A listing of those parties consulted is below and those providing written responses have been identified with an "✓" symbol.

Copies of written comments received and responses to these comments are included in **Appendix F**.

#### Federal Agencies

- ✓ U.S. Fish and Wildlife Service
- ✓ National Parks Service
- United States Department of Agriculture – Rural Development

#### State Legislature

State Senate District 3, Senator Dru Mamo  
State House District 7, Representative Nicole E. Lowen

#### State Agencies

- Department of Agriculture
- Department of Business, Economic Development & Tourism
- Office of the Hawaiian Affairs
- Office of the Governor – West Hawai'i Representative
- Department of Health (DOH) – Office of the Director
- DOH Office of Environmental Quality Control
- ✓ Department of Transportation
- Department of Land and Natural Resources (DLNR) – Board of Land and Natural Resources
- ✓ DLNR Commission on Water Resource Management

#### State Agencies (cont.)

DLNR State Historic Preservation Division – Administrator  
DLNR State Historic Preservation Division – Hawai'i Island Burial Council  
DLNR Po'o o Moku Keawe  
DLNR Division of Forestry and Wildlife

#### County Agencies

- Hawai'i County Fire Department
- County of Hawai'i Council
- Planning Department
- Department of Public Works
- Department of Water Supply
- ✓ Hawai'i County Police Department

#### Other Interested Parties

- La'i 'Ōpua Community Association
- Hawai'i Gas
- ✓ Hawaiian Electric Company
- Hawaiian Telecom
- Spectrum / Charter Communications

**Agencies and Organizations Consulted****6.2 DRAFT EA COMMENTS**

Consultations with agencies and other interest parties were conducted to obtain comments on the Draft EA. Notice of availability of the Draft EA for the project was published in the January 23, 2025 issue of the State Office of Planning and Sustainable Development, ERP's *The Environmental Notice* for public comment. The publication of the Draft EA initiated a 30-day public comment period that ended on February 24, 2025.

Notice of availability of the EA was also distributed via email to the agencies and other interested parties listed below. The notice contained a weblink to access the electronic version of the Draft EA hosted on the ERP website. Hardcopies of the EA along with a copy of the notice were also delivered to the Kailua-Kona Public Library and Hawai'i State Library to be made available to the public and recorded by the Hawai'i Documents Center.

A listing of those parties consulted is below and those providing written responses have been identified with an "✓" symbol.

A summary table and copies of written comments received are included in **Appendix G**.

**Federal Agencies**

- ✓ U.S. Fish and Wildlife Service
- National Parks Service
- United States Department of Agriculture – Rural Development

**State Legislature**

- State Senate District 3, Senator Dru Mamo
- State Senate District 4, Senator Herbert M. "Tim" Richards, III
- State House District 7, Representative Nicole E. Lowen
- State House District 6, Representative Kirstin Kahaloa

**State Agencies**

- Department of Agriculture
- Department of Business, Economic Development & Tourism
- Office of the Hawaiian Affairs
- Office of the Governor – West Hawai'i Representative
- Department of Health (DOH)
- ✓ DOH, Clean Air Branch
- ✓ Department of Transportation
- Department of Land and Natural Resources (DLNR)

**State Agencies (cont.)**

- DLNR State Historic Preservation Division – Hawai'i Island Burial Council
- DLNR Po'o o Moku Keawe
- DLNR Division of Forestry and Wildlife

**County Agencies**

- Hawai'i County Fire Department
- County of Hawai'i Council Planning Department
- Department of Public Works
- Department of Water Supply
- ✓ Hawai'i County Police Department

**County Council**

- County Council District 7, Councilmember Rebecca Villegas
- County Council District 8, Councilmember Dr. Holeka Goro Inaba

**Other Interested Parties**

- Hui Mālama I Nā Kūpuna O Hawai'i Nei
- Royal Hawaiian Foundation
- Te 'Ahā Mauliauhonua
- ✓ Dave Lucas, Koa Realty
- ✓ Lois Modesitt

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# APPENDICES



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## **APPENDIX A**

Flora and Fauna Survey Report

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# Gianulias Property Flora and Fauna Survey Report

FEBRUARY 4, 2019

PREPARED FOR

**Belt Collins Hawaii LLC**

PREPARED BY

**SWCA Environmental Consultants**



# **GIANULIAS PROPERTY FLORA AND FAUNA SURVEY REPORT**

Prepared for

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SWCA Project No. 49757.00

February 4, 2019



## EXECUTIVE SUMMARY

Belt Collins Hawaii LLC requested that SWCA Environmental Consultants (SWCA) conduct a terrestrial flora and fauna biological resources survey for the proposed Gianulias property well site in North Kona, on the island of Hawai'i.

This report summarizes the findings of the biological resources survey conducted for the project by SWCA Botanist Alex Lau and SWCA Wildlife Biologist James Breeden on December 6, 2018. The flora and fauna survey area is approximately 5 acres of a larger 130-acre property (TMK (3)-7-5-014-001) located in the town of Holualoa. All vascular plant species (and their relative abundance), vegetation types, and wildlife species were recorded.

The vegetation types and plant species identified during the survey are not considered unique. A total of 52 plant species were recorded. Only one indigenous plant species observed—kūkaepua'a (*Digitaria setigera*) is considered common. Two of the species found—ti (*Cordyline fruticosa*), and coconut (*Cocos nucifera*) — were introduced by Polynesians prior to European contact. One of the species found—yellow wood sorrel (*Oxalis corniculata*)—was introduced, or possibly introduced, by Polynesians prior to European contact (Wagner et al. 1999). These species are not considered rare and are not federally or state-listed as threatened or endangered species, species proposed for listing, or candidate species. No federally or state-listed endangered plant species were observed in or near the survey area. Therefore, the proposed project is not expected to have a significant, adverse effect on terrestrial vegetation.

No federally or state-listed endangered birds were observed in the survey area. Thirteen bird species in total were observed in the survey area; only one of the bird species was native, and the rest are common, non-native introduced species. Four of the species—Hawaiian hawk (*Buteo solitarius*)—Cattle egret (*Bubulcus ibis*)—House finch (*Haemorhous mexicanus*) — and the northern cardinal (*Cardinalis*)—are protected under the Migratory Bird Treaty Act. No federally or state-listed endangered wildlife species were observed in or near the survey area; however, potential roosting trees for the Hawaiian hoary bat (*Lasiurus cinereus semotus*), a federally and state-listed endangered mammal, exist in the surrounding areas but were not recorded during the survey. Mitigation recommendations to address potential roosting habitat are outlined in the report. The survey area does not overlap critical habitat of any listed terrestrial faunal species. For these reasons, the proposed project is not expected to have a significant, adverse effect on terrestrial wildlife.



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## **1 INTRODUCTION**

Belt Collins Hawaii requested that SWCA Environmental Consultants (SWCA) conduct a terrestrial flora and fauna biological resources survey for the proposed well site at the Gianulias property in North Kona on the Island of Hawai‘i. The proposed project by the Department of Hawaiian Home Lands (DHHL) is a potential water source development site to provide water for North Kona residents.

This report summarizes the findings of the flora and fauna survey conducted for the project by SWCA Botanist Alex Lau and Wildlife Biologist James Breeden on December 6, 2018. The flora and fauna survey area is 5 acres on an agricultural property off Māmalahoa Highway.

## **2 DESCRIPTION OF THE SURVEY AREA**

The survey area is on the west end of the island of Hawaii, on Māmalahoa Highway in the town of Holualoa. The flora and fauna survey focused on a 5-acre area within a larger 130-acre agricultural property Tax Map Key (TMK) (3)-7-5-014-001 (Figure 1). The property consists primarily of cultivated coffee fields and landscaped vegetation. The survey area is private agricultural land currently being farmed for coffee production. Decades of coffee production has altered the landscape and replaced the natural habitat with coffee fields and landscaping.

Mean annual rainfall for the survey area is approximately 48 inches (1,225 millimeters [mm]). Rainfall is typically highest in August and September and lowest in July (Giambelluca et al. 2013).

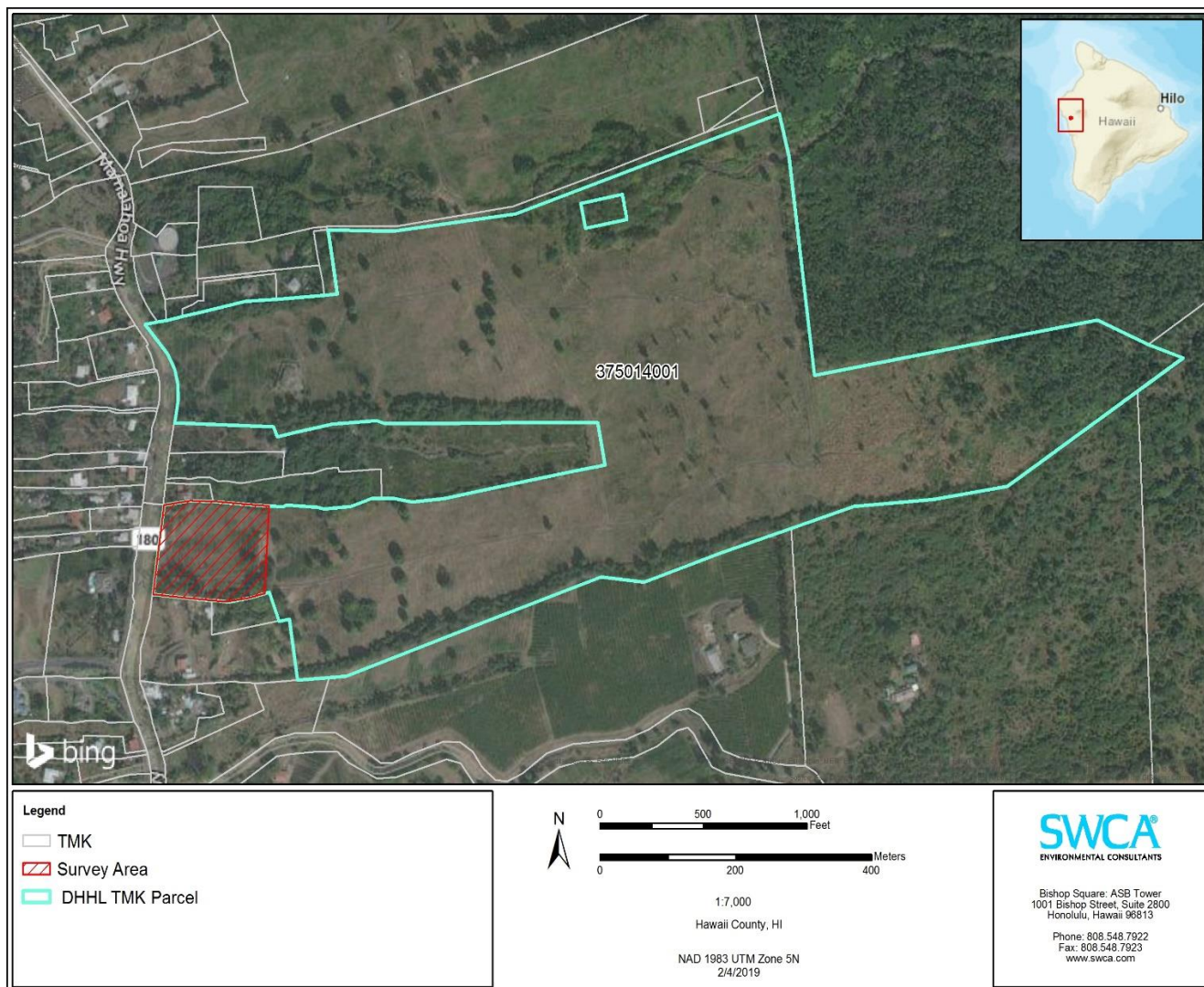


Figure 1. Survey area.

### 3 METHODS

SWCA reviewed available scientific and technical literature regarding natural resources in and near the survey area. This literature review encompassed a thorough search of referenced scientific journals, technical journals and reports, environmental assessments, environmental impact statements, relevant government documents, U.S. Fish and Wildlife Service (USFWS) online data, and unpublished data that provide insight into the area's natural history and ecology. SWCA also reviewed available geospatial data, aerial photographs, and topographic maps of survey area.

## 3.1 Flora

SWCA conducted a pedestrian flora (botanical) survey to document all vascular plant species and vegetation types present in the survey area. Areas more likely to support native plants (e.g., rocky outcrops, gulches, and shady areas) were more intensively examined.

Plants recorded during the survey are indicative of the season (rainy versus dry) and the environmental conditions at the time of the survey. It is likely that additional surveys conducted at a different time of the year would result in minor variations in the species and abundances of plants observed.

## 3.2 Fauna

Fauna surveys comprised of a meandering pedestrian (foot) ground survey of the survey area. Ground surveys were conducted on December 6, 2018, and consisted of visual observations (aided by 10 × 42–mm binoculars) and auditory vocalization identifications. All birds, mammals, reptiles, amphibians, fish, and invertebrate species seen or heard, and any sign (scat or tracks), were noted. Field surveys for the endangered Hawaiian hoary bat, or ‘ope‘ape‘a (*Lasiurus cinereus semotus*), were conducted by noting areas of suitable foraging and roosting habitat as indicators of potential presence; acoustic surveys were not conducted.

# 4 RESULTS

## 4.1 Flora

No federally and state-listed threatened, endangered, or candidate plant species or rare native Hawaiian plant species were observed in the survey area. In all, 52 plant species were recorded in the survey area, one of which is native to the Hawaiian Islands (Appendix A). The native species is kūkaepua‘a (*Digitaria setigera*), and it is common. Two of the species found—ti (*Cordyline fruticosa*), and coconut (*Cocos nucifera*) — were introduced by Polynesians prior to European contact. One of the species found—yellow wood sorrel (*Oxalis corniculata*)—was introduced, or possibly introduced, by Polynesians prior to European contact (Wagner et al. 1999). Appendix A provides a list of all plant species observed by an SWCA botanist during the December 6, 2018, survey.

The vegetation in the survey area consists of two vegetation types: landscaped vegetation and cultivated fields.

### 4.1.1 Landscaped Vegetation

Landscaped areas in the survey area consisted primarily of a row of Cuban royal palm (*Roystonea regia*) along the entrance road. These palms are typically 40 feet tall or taller. The understory in this area consisted of herbaceous weedy species such as maile honohono (*Ageratum conyzoides*) and artillery plant (*Pilea microphylla*).

### 4.1.2 Cultivated Fields

The majority of the survey area consisted of cultivated coffee (*Coffea arabica*). Most of the coffee plants were between 5 and 12 feet tall, maintained in rows. Portions of the site are used for growing papaya (*Carica papaya*). The canopy in these areas is entirely occupied by coffee, with a low-growing understory of diverse herbaceous weeds (Figures 2 and 3), including artillery plant, kūkaepua‘a, maile honohono, and hairy honohono (*Commelina benghalensis*).



Figure 2. Landscaped vegetation.



Figure 3. Cultivated coffee fields.

## 4.2 Fauna

The fauna observed in the survey area includes species that are endemic, and nonnative introductions. The endemic species often require specific niche habitats and are frequently locally abundant where they occur. The nonnative introduced species tend to be more generalist and often occupy a broad range of habitats.

### 4.2.1 Avifauna

The birds observed in the survey area are species commonly found in around disturbed areas 3 feet (1 meters[m]) above sea level on the island of Hawai‘i. In all, 13 bird species were documented, four of which are protected by the Migratory Bird Treaty Act (MBTA) (Table 1). Of these 13 species, one species is endemic, and 12 are nonnative introductions (see Table 1). The Hawaiian hawk or Io (*Buteo solitarius*) is a federally and state-listed endangered bird that was detected during ground surveys. One Hawaiian hawk was observed soaring over the survey area, and one Hawaiian hawk was observed flying approximately 10 feet (3.1 meters [m]) above the ground through the survey area. Forage and nest habitat for the Hawaiian goose or nēnē (*Branta sandvicensis*) is present in the survey area. The federally and state-listed species are discussed in more detail in Section 4.2.5.



**Table 1. Birds Observed by SWCA in and near the Survey Area**

| Common Name           | Scientific Name             | Status*   | MBTA-Protected |
|-----------------------|-----------------------------|-----------|----------------|
| Cattle egret          | <i>Bubulcus ibis</i>        | NN        | X              |
| Common myna           | <i>Acridotheres tristis</i> | NN        |                |
| Feral chicken         | <i>Gallus</i>               | NN        |                |
| Hawaiian hawk         | <i>Buteo solitarius</i>     | E         | X              |
| House finch           | <i>Haemorhous mexicanus</i> | NN        | X              |
| Japanese white-eye    | <i>Zosterops japonicus</i>  | NN        |                |
| Kalij pheasant        | <i>Lophura leucomelanos</i> | NN        |                |
| Northern cardinal     | <i>Cardinalis</i>           | NN        | X              |
| Saffron finch         | <i>Sicalis flaveola</i>     | NN        |                |
| Spotted dove          | <i>Spilopelia chinensis</i> | NN        |                |
| Wild turkey           | <i>Meleagris gallopavo</i>  | NN        |                |
| Yellow-fronted canary | <i>Crithagra mozambica</i>  | NN        |                |
| Zebra dove            | <i>Geopelia striata</i>     | NN        |                |
|                       | <b>Total species</b>        | <b>13</b> | <b>4</b>       |

\*Status: E = endangered and endemic, NN = nonnative permanent resident.

## 4.2.2 Mammals

The feral pig (*Sus scrofa*) was the only mammal detected during the surveys. No other mammals were observed during the ground surveys, although small Asian mongoose (*Herpestes javanicus*), rat (*Rattus* spp.), and mouse (*Mus musculus*) are expected to occur.

The potential for the presence of Hawaiian hoary bat was assessed based on the presence of suitable habitat and vegetation types; no acoustic survey was conducted. Hawaiian hoary bats forage and roost in pastures, croplands, orchards, forests, and developed lands such as golf courses, urban areas, and suburban yards. Hawaiian hoary bats are solitary and roost in exotic and native woody vegetation. They could forage throughout the survey area and roost in the trees of the survey area's 5 acres. The birthing and pup-rearing season typically occurs between June 1 and September 15. It is common for adult females to leave flightless young unattended in "nursery" trees and shrubs while foraging.

## 4.2.3 Terrestrial Reptiles and Amphibians

No terrestrial reptiles or amphibians are native to Hawai'i, and no reptiles or amphibians were detected during the surveys.

## 4.2.4 Insects and Other Invertebrates

Fifteen invertebrate individuals were observed during the survey, and 12 were identified to the genus or species level. All invertebrates observed are non-native introductions. The species observed include: yellow crazy ant (*Anoplolepis gracilipes*), an unidentified black ant, double spotted spiny spider (*Thelacantha brevispina*), honey bee (*Apis* sp.), citrus swallowtail (*Papilio xuthus*), passion butterfly (*Agraulis vanillae*), monarch butterfly (*Danaus plexippus*), cabbage white butterfly (*Pieris rapae*), one unidentified yellow butterfly, one unidentified gray butterfly, aedes mosquito (*Aedes* sp.), common pillbug (*Armadillidium vulgare*), an unidentified black and white wasp (*Vespidae*), Hawaiian garden

spider (*Argiope appensa*), and leaf-footed bug (*Euthochtha* sp.). All are common on the island of Hawai‘i.

## **4.2.5 Special-Status Fauna**

Special-status fauna refers to wildlife species listed by the USFWS and the State of Hawai‘i as threatened, endangered, or candidate. The survey area does not encompass any designated or proposed critical habitat for threatened or endangered fauna species. The following section discusses the special-status species observed in the survey area and the special-status species that have the potential to occur in the survey area based on historical records, and available habitat.

### **4.2.5.1 HAWAIIAN HAWK**

One special-status species—Hawaiian hawk—was detected during the field surveys. One was observed soaring over the survey area, and one was observed flying through the survey area approximately 10 feet (3.1 m) above the ground. The Hawaiian hawk is the only broad-winged hawk that breeds on the Big Island of Hawai‘i (U.S. Fish and Wildlife Service [USFWS] 2012). They can be found from sea level to above 8,990 feet (2,740 m) (Pyle and Pyle 2009). Surveys in 2007 indicated that approximately 3,085 Hawaiian hawks inhabited the Big Island (Gorresen et al. 2008). These hawks construct their nests approximately 2 months before laying eggs, and the nests may be used for several years as the hawks add new material. Nest trees are typically 32.81 to 78.74 feet (10.0–24.0 m) in height, and the nests are typically located 11.48 to 59.06 feet (3.5–18.0 m) above the ground. Nest trees have a diameter at breast height averaging 19.68 inches (50 centimeters [cm]), although some trees with a diameter at breast height of 4.02 inches (10.2 cm) are used. Nests are constructed on stable platforms such as on top of birds-nest ferns (*Asplenium nidus*), in the crotches of tree trunks, on branches 7.87 to 19.67 inches (20–50 cm) in diameter, and at the intersections of the trunks and branches smaller than 7.87 inches (20 cm) in diameter (Griffin et al. 1998).

### **4.2.5.2 HAWAIIAN GOOSE**

The Hawaiian goose is known to occupy various habitat types ranging from beach strand, shrubland, and grassland to lava rock at elevations ranging from coastal lowlands to alpine areas (Banko 1988; Banko et al. 1999). The Hawaiian goose has an extended breeding season, with eggs reported from all months except May, June, and July, although most of the birds in the wild nest during the rainy (winter) season between October and March (Banko et al. 1999; Kear and Berger 1980). Hawaiian geese nest on the ground in a shallow scrape in the dense shade of a shrub or other vegetation. During molt, adults are flightless for a period of 4 to 6 weeks. Molt occurs after hatching of eggs, such that the adults generally attain their flight feathers at about the same time as their offspring. When flightless, goslings and adults are extremely vulnerable to predators such as dogs, cats, and mongoose. From June to September, family groups join others in post-breeding aggregations (flocks), often far from nesting areas.

### **4.2.5.3 HAWAIIAN HOARY BAT**

Hawaiian hoary bats are known to occur in native, non-native, agricultural, and developed landscapes (U.S. Department of Agriculture 2009; USFWS 1998). Hawaiian hoary bats forage in open, wooded, and linear habitats with a wide range of vegetation types. These animals are insectivores and are regularly observed foraging over streams, reservoirs, and wetlands up to 300 feet (100 m) offshore (U.S. Department of Agriculture 2009). Hawaiian hoary bats typically roost in trees greater than 16 feet (5 m) with dense canopy foliage or in subcanopy when canopy is sparse, with open access for launching into flight (Gorresen et al. 2013; U.S. Department of Agriculture 2009). Hawaiian hoary bats have been documented roosting in avocado (*Persea Americana*) Chinese banyan (*Ficus microcarpa*) trees. These

and trees similar in structure provide suitable Hawaiian hoary bat roost habitat in the landscaped vegetation and cultivated fields vegetation types within the survey area. Suitable Hawaiian hoary bat forage habitat is present, and foraging may occur over the landscaped vegetation and cultivated field vegetation types within the survey area.

## **5 POTENTIAL IMPACTS**

### **5.1 Hawaiian Hawk**

Because nesting was not detected and is unlikely in the survey area, impacts to nesting individuals, chicks, and eggs are unlikely. Foraging hawks may be temporarily displaced from the survey area during construction because of the presence of human noise and activity. However, because the area is residential, it is likely that local hawks are habituated to human noise and may not be greatly affected. The surrounding area provides a relatively large area of homogeneous habitat suitable for Hawaiian hawk foraging. Because of this, it is likely that sufficient prey would be available nearby until construction is completed. After construction, birds are expected to return to the survey area to forage.

### **5.2 Hawaiian Goose**

Direct impacts to the Hawaiian goose could occur during vegetation removal if a nest is damaged or goslings are separated from adults. However, direct impacts are unlikely to occur because conservation measures would be implemented as described in Section 6.2.2.

In the short term, the human noise and disturbance associated with construction activities could temporarily displace the Hawaiian goose from nesting and/or foraging habitats. Displacement from available nesting and/or foraging habitat could impact the health of these individuals; however, because a small amount of foraging habitat would be removed, it would not likely affect nest success or population growth. Furthermore, foraging and nesting habitat is available adjacent to the survey area, into which the Hawaiian goose could move.

### **5.3 Hawaiian Hoary Bat**

Direct effects to bats would occur only if a juvenile bat that is too small to fly but too large to be carried by a parent was present in a tree that was cut down. Construction work will be limited to approximately 1 acre for the installation of a ground water well, and trees may be cut down to make room for the water wells. However, direct impacts are unlikely to occur because conservation measures would be implemented as described in Section 6.2.3.

## **6 AVOIDANCE AND MINIMIZATION MEASURES**

### **6.1 Flora**

Overall, the vegetation in the survey area has been disturbed from previous and current land use activities. The vegetation types and species identified are not considered unique. One of the observed plant species is native to the Hawaiian Islands and is commonly found. No plants listed as threatened or endangered were found during the survey, and no designated plant critical habitat occurs in the area. Therefore, the proposed project is not expected to have a significant adverse effect on flora (botanical) resources.

Weedy, nonnative plant species are common in the survey area. Most of these weedy species are widespread in Hawai‘i, and their control is not expected to result in a significant decrease in their number or distribution. However, construction activities are known to spread invasive species to new areas through the movement of vehicles and materials. For this reason, SWCA recommends the following invasive species minimization measures to avoid the unintentional introduction or transport of new invasive plant species to Hawai‘i Island and/or the survey area:

- All construction equipment and vehicles should be washed and inspected before entering the survey area.
- Construction materials should also be washed and/or visually inspected (as appropriate) for excessive debris, plant materials, and invasive or harmful non-native species (plants, amphibians, reptiles, and insects).
- Inspection and cleaning activities should be conducted at a designated location. The inspector should be a qualified botanist and/or entomologist who is able to identify invasive species that are of concern relevant to the point of origin of the equipment, vehicle, or material.
- When possible, raw materials (e.g., fill and construction materials) should be purchased from a local supplier to avoid introducing non-native species not present on the island.

If landscaping occurs as part of the project, native Hawaiian plants or non-invasive plants should be used to the maximum extent possible. If native plants do not meet landscaping objectives, plants with a low risk of becoming invasive could be substituted. Additional information on selecting appropriate plants for landscaping can be obtained from the following online sources:

- Plant Pono: <http://www.plantpono.org/>
- Native Plants Hawai‘i: <http://nativeplants.hawaii.edu/>

## **6.2 Fauna**

Regular on-site staff should be trained to identify special-status species that have the potential to occur on-site and should know the appropriate measures to be taken if they are present. To minimize potential impacts to fauna, measures should be followed, as detailed in the following sections. The measures can also be found at <https://www.fws.gov/pacificislands/articles.cfm?id=1494897>.

### **6.2.1 *Hawaiian Hawk***

- If work must be conducted during the March 1 through September 30 Hawaiian hawk breeding season, have a qualified biologist conduct a nest search of the survey area and surrounding areas immediately prior to the start of construction activities.
- Pre-construction surveys for Hawaiian hawk are valid for 14 days. If disturbance for the survey area does not occur within 14 days of the survey, an additional survey is required.
- No vegetation clearing or construction activities should occur within 1,600 feet of any active Hawaiian hawk nest until the chicks have fledged.
- No trimming or cutting trees containing an active or inactive Hawaiian hawk nest is allowed, as nests may be re-used for consecutive breeding seasons.

### **6.2.2     *Hawaiian Goose***

- Hawaiian geese should not be approached, fed, and/or disturbed.
- If Hawaiian geese are observed loafing or foraging within the survey area during the Hawaiian geese breeding season (September through April), a qualified biologist should survey for nests in and around the survey area prior to the resumption of any work. Surveys should be repeated after any subsequent delay of work of 3 or more days.
- If a nest is found within a 150-foot (46-m) radius of proposed work, or a previously undiscovered nest is found within said radius after work begins, all work should cease immediately and the USFWS should be contacted for further guidance.
- In areas where Hawaiian geese are known to occur, speed limits should be posted and implemented, and project personnel should be notified of their presence.

### **6.2.3     *Hawaiian Hoary Bat***

- If felling of standing trees occurs during the bat breeding season, direct impacts could occur to juvenile bats that are too small to fly but too large to be carried by a parent. To minimize this impact, no trees taller than 15 feet (4.6 m) should be trimmed or removed between June 1 and September 15.
- The use of barbless wire is recommended for all fence construction to avoid entanglement of Hawaiian hoary bats.

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**APPENDIX A**  
**Survey Plant List**





Table A-1 provides an inventory checklist of plant species observed by SWCA on December 6, 2018, in the survey area for the Gianulias property flora and fauna survey. The plant names are arranged alphabetically by family and then by species in three groups: dicots, monocots, and pteridophytes. The taxonomy and nomenclature are in accordance with Wagner et al. (1999), Wagner and Herbst (2003), and Staples and Herbst (2005). Recent name changes are those recorded in Wagner et al. (2012).

**Table A-1. Checklist of Native Plants Observed in the Survey Area of the Gianulias property proposed well site on December 6, 2018.**

| Family          | Scientific Name and Authorship  | Hawaiian and/or Common Name                        | Status |
|-----------------|---|--|--------|
| <b>DICOTS</b>   |   |  |        |
| Anacardiaceae   | <i>Schinus terebinthifolius</i> Raddi   | Christmas berry, wilelaiki, nani o Hilo (Moloka'i) | X      |
| Araliaceae      | <i>Schefflera actinophylla</i> (Endl.) Harms  | octopus tree, umbrella tree                        | X      |
| Asteraceae      | <i>Ageratum conyzoides</i> L.   | maile hohono, maile honohono, maile kula           | X      |
| Asteraceae      | <i>Bidens alba</i> var. <i>radiata</i> (Sch.Bip.) Ballard ex Melchert                                   | Spanish needle, beggartick                         | X      |
| Asteraceae      | <i>Conyza canadensis</i> var. <i>pusilla</i> (Nutt.) Cronquist  | horseweed, lani wela, ilioha, 'awī'awī, pua mana   | X      |
| Asteraceae      | <i>Pseudelephantopus spicatus</i> (B.Juss. ex Aubl.) C.F.Baker  | elephant's-foot                                    | X      |
| Asteraceae      | <i>Sigesbeckia orientalis</i> L.  | small yellow crown-beard                           | X      |
| Asteraceae      | <i>Synedrella nodiflora</i> (L.) Gaertn.  | nodeweed   | X      |
| Begoniaceae     | <i>Begonia hirtella</i> Link  |  | X      |
| Bignoniaceae    | <i>Jacaranda mimosifolia</i> D.Don  | jacaranda  | X      |
| Bignoniaceae    | <i>Pyrostegia venusta</i> (Ker Gawl.) Miers   |  | X      |
| Bignoniaceae    | <i>Spathodea campanulata</i> P.Beauv.   | African tulip tree, fountain tree                  | X      |
| Buddlejaceae    | <i>Buddleja asiatica</i> Lour.  | huelo 'ilio, dog tail, butterfly bush              | X      |
| Caricaceae      | <i>Carica papaya</i> L.   | papaya, mīkana, hē'i, milikana, papaia, pawpaw     | X      |
| Caryophyllaceae | <i>Drymaria cordata</i> var. <i>pacifica</i> M.Mizush.  | pipili, pilipili                                   | X      |
| Convolvulaceae  | <i>Ipomoea alba</i> L.  | moon flower, koali pehu                            | X      |
| Convolvulaceae  | <i>Ipomoea obscura</i> (L.) Ker Gawl.   | morning glory                                      | X      |
| Euphorbiaceae   | <i>Euphorbia hirta</i> L.   | hairy spurge, garden spurge, koko kahiki           | X      |
| Euphorbiaceae   | <i>Phyllanthus tenellus</i> Roxb.   |  | X      |
| Fabaceae        | <i>Chamaecrista nictitans</i> subsp. <i>patellaria</i> var. <i>glabrata</i> (Vogel) H.S.Irwin & Barneby | partridge pea, lauki                               | X      |

| Family          | Scientific Name and Authorship  | Hawaiian and/or Common Name  | Status |
|-----------------|---|--|--------|
| Fabaceae        | <i>Mimosa pudica</i> var. <i>unijuga</i> (Duchass. & Walp.) Griseb.         | sensitive plant, sleeping grass, pua hilahila                        | X      |
| Fabaceae        | <i>Neonotonia wightii</i> (Wight & Arn.) Lackey                             |  | X      |
| Lamiaceae       | <i>Hyptis pectinata</i> (L.) Poit.  | comb hyptis  | X      |
| Lauraceae       | <i>Persea americana</i> Mill.   | avocado, alligator pear  | X      |
| Malvaceae       | <i>Sida rhombifolia</i> L.  |  | X      |
| Melastomataceae | <i>Clidemia hirta</i> var. <i>hirta</i>                                     | Koster's curse   | X      |
| Moraceae        | <i>Ficus microcarpa</i> L.f.  | Chinese banyan, Malayan banyan                                       | X      |
| Myrtaceae       | <i>Psidium guajava</i> L.   | common guava, kuawa, kuawa ke'oke'o, kuawa lemi, kuawa momona, puawa | X      |
| Oxalidaceae     | <i>Oxalis comiculata</i> L.   | yellow wood sorrel, 'ihi 'ai, 'ihi 'awa, 'ihi maka 'ula, 'ihi mākole | P?     |
| Passifloraceae  | <i>Passiflora edulis</i> Sims   | passion fruit, purple granadilla, purple water lemon, liliko'i       | X      |
| Plantaginaceae  | <i>Plantago lanceolata</i> L.   | narrow-leaved plantain, English plantain, buckhorn                   | X      |
| Rosaceae        | <i>Eriobotrya japonica</i> (Thunb.) Lindl.                                  |  | X      |
| Rubiaceae       | <i>Coffea arabica</i> L.  | Arabian coffee   | X      |
| Rutaceae        | <i>Citrus reticulata</i> Blanco   | Mandarin orange, tangerine   | X*     |
| Urticaceae      | <i>Pilea microphylla</i> (L.) Liebm.  | artillery plant, rockweed  | X      |
| <b>MONOCOTS</b> |   |  |        |
| Agavaceae       | <i>Cordyline fruticosa</i> (L.) A.Chev.                                     | kī, ti   | P      |
| Arecaceae       | <i>Archontophoenix alexandrae</i> (F.Muell.) H.Wendl. & Drude               | king palm  | X      |
| Arecaceae       | <i>Cocos nucifera</i> L.  | niu, lolani, coconut   | P      |
| Arecaceae       | <i>Livistona chinensis</i> (Jacq.) R.Br. ex Mart.                           | Chinese fan palm, fountain palm                                      | X      |
| Arecaceae       | <i>Roystonea regia</i> (Kunth) O.F.Cook                                     |  | X      |
| Commelinaceae   | <i>Commelina benghalensis</i> L.  | hairy honohono, dayflower  | X      |
| Cyperaceae      | <i>Cyperus rotundus</i> L.  | nut grass, kili'o'opu, mau'u mokae                                   | X      |
| Cyperaceae      | <i>Kyllinga brevifolia</i> Rottb.   | kili'o'opu, kaluhā, manunēnē, mau'u mokae                            | X      |
| Cyperaceae      | <i>Kyllinga nemoralis</i> (J.R.Forst. & G.Forst.) Dandy ex Hutch. & Dalziel | kili'o'opu, mau'u mokae  | X      |
| Poaceae         | <i>Axonopus compressus</i> (Sw.) P.Beauv.                                   |  | X      |
| Poaceae         | <i>Digitaria setigera</i> Roth  | kūkaepua'a, mau'u kūkaepua'a, itchy crabgrass                        | I      |

| Family               | Scientific Name and Authorship                        | Hawaiian and/or Common Name                       | Status |
|----------------------|---|---|--------|
| Poaceae              | <i>Eleusine indica</i> (L.) Gaertn.                   | wiregrass, mānienie ali'i                         | X      |
| Poaceae              | <i>Urochloa maxima</i> (Jacq.) R.D.Webster            | Guinea grass                                      | X      |
| <b>PTERIDOPHYTES</b> |   |   |        |
| Nephrolepidaceae     | <i>Nephrolepis brownii</i> (Desv.) Hovenkamp & Miyam. |   | X      |
| Polypodiaceae        | <i>Phlebodium aureum</i> (L.) J.Sm.                   | laua'e haole, rabbit's-foot fern, golden polypody | X      |
| Pteridaceae          | <i>Pityrogramma calomelanos</i> (L.) Link             | silverfern, silverback fern                       | X      |
| Pteridaceae          | <i>Pteris vittata</i> L.                              | ladder brake, cliff brake, Chinese brake          | X      |

Notes: P = Polynesian introduced; P? = probably Polynesian introduced but possibly introduced in historic times; I = indigenous; I? = probably indigenous but possibly naturalized; E = endemic; E? = probably endemic but possibly naturalized (Wagner et al. 1999:126-127); X = non-native; X\* = non-native cultivated.

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## **APPENDIX B**

Archaeological Literature Review  
and Field Inspection Report

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**Draft**  
**Archaeological Literature Review and Field Inspection for**  
**the North Kona Well Construction Project,**  
**Kahului Ahupua‘a, North Kona District, Hawai‘i Island**  
**TMK: [3]7-5-014:001 por.**

**Prepared for**  
**Belt Collins Hawaii LLC**  
**on behalf of**  
**Department of Hawaiian Home Lands**

**Prepared by**  
**Olivier M Bautista, B.A.,**  
**Sarah Wilkinson, B.A.,**  
**and**  
**Hallett H. Hammatt, Ph.D.**

**Cultural Surveys Hawai‘i, Inc.**  
**Kailua, Hawai‘i**  
**(Job Code: PUA A 2)**

**February 2019**

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| <b>Reference</b>  | Archaeological Literature Review and Field Inspection for the North Kona Well Construction Project, Kahului Ahupua'a, North Kona District, Hawai'i Island, TMK: [3] 7-5-014:001 por. (Bautista et al. 2019)   |
| <b>Date</b>   | February 2019   |
| <b>Project Number(s)</b>  | Cultural Surveys Hawai'i, Inc. (CSH) Job Code: PUA A 2  |
| <b>Investigation Permit Number</b>                              | CSH completed the field inspection under archaeological fieldwork permit number 18-15, issued by the Hawai'i State Historic Preservation Division (SHPD) per Hawai'i Administrative Rules (HAR) §13-282.  |
| <b>Agencies</b>   | Department of Hawaiian Homelands (DHHL); Hawai'i County Water Department; United States Department of Agriculture (USDA), SHPD  |
| <b>Land Jurisdiction</b>  | Private   |
| <b>Project Proponent</b>  | DHHL<br>Andrew H. Choy<br>Acting Planning Program Manager<br>Department of Hawaiian Home Lands<br>91-5420 Kapolei Parkway, Kapolei, HI 96707<br>P.O. Box 1879, Honolulu, HI 96805<br>Phone: (808) 620-9279<br>Fax: (808) 620-9559<br>Email: <a href="mailto:Andrew.H.Choy@hawaii.gov">Andrew.H.Choy@hawaii.gov</a>  |
| <b>DHHL Planning and Engineering Consultant for the Project</b> | Belt Collins Hawaii LLC (BCH)<br>Joanne E. Hiramatsu   Senior Associate   Director of Planning<br>Belt Collins Hawaii LLC<br>2153 North King Street, Suite 200   Honolulu, HI 96819-4554 USA<br>T: 808.521.5361   Direct: 808.846-3309   F: 808.538.7819  <br><a href="http://www.beltcollins.com">www.beltcollins.com</a> < <a href="http://www.beltcollins.com/">http://www.beltcollins.com/</a> >      |
| <b>Project Location</b>   | The project area is located in the town of Hōlualoa on the <i>mauka</i> (upland) side of Māmalahoa Highway (Route 180) between mile markers 4 and 5. The project area is depicted on portions of the Kailua (1996) and Kealakekua (1996) U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles on Hawai'i Island (Figure 1), tax map plat (Figure 2), and a 2018 aerial photograph (Figure 3). |
| <b>Project Description and Related Disturbance</b>              | Plans are to drill a possibly 24-inch diameter hole for a new well and grade the site for construction of a 2-million-gallon tank and an associated control building; an access road and installation of underground utilities would also be included (Figure 4).   |

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| <b>Project Area<br/>Geographic Extent</b>           | The project area comprises a 5.38-acre portion of overall 128.419-acre parcel at TMK: [3] 7-5-014:001. This portion of the parcel comprises the southwest corner of the parcel fronting Māmalahoa Highway. The proposed well site would comprise a smaller acreage within the 5.38-acre project area.   |
| <b>Historic Preservation<br/>Regulatory Context</b> | Due to federal funding (USDA), this project is a federal undertaking as defined in 36 CFR 800.16(y) requiring compliance with Section 106 of the National Historic Preservation Act (NHPA) and the National Environmental Policy Act (NEPA). The project is also subject to Hawai'i State environmental and historic preservation review legislation (Hawai'i Revised Statutes [HRS] §343 and HRS §6E-8 and HAR §13-275, respectively).   |
| <b>Document Purpose</b>                             | <p>This investigation was conducted—through historical, cultural, and archaeological background research and a field inspection of the project area—to determine the likelihood that archaeological historic properties may be affected by the project. This document is intended to facilitate the project's planning and support the project's historic preservation review compliance. This investigation does not fulfill the requirements of an archaeological inventory survey (AIS) investigation, per HAR §13-276.</p> <p>This information also supports DHHL's consultation with the SHPD regarding the project's necessary historic preservation review steps pursuant to HAR §13-275.</p>  |
| <b>Built Environment</b>                            | The project area is located along the <i>mauka</i> side of the old Māmalahoa Highway. Land use in this area is generally for residence and agriculture (see Figure 3). Almost the entire project area (and overall TMK parcel 001) has been previously impacted by the development of a coffee plantation possibly overlying elements of the Pre-contact Kona field system. A rock wall defines the western boundary of the project area along Māmalahoa Highway. The rock wall extends <i>mauka</i> a short distance along the southern boundary, where it is replaced by a hog-wire fence that continues upslope beyond the project area. The northern project area boundary is generally defined by a historic stone wall (likely a modified remnant of the former Kona Field System). The eastern project area boundary generally follows the 1600 foot elevation and is not marked. An iron gate along the highway near the southwestern corner of the property accesses an asphalt driveway extending <i>mauka</i> through and beyond the project area. The interior of the project area is characterized by linear rows of mature coffee trees. Signs of mechanical disturbance were observed along the margins of the project area. |
| <b>Natural Environment</b>                          | The project area is located on the leeward, western slope of Hualālai Volcano, approximately 2.5 miles back from the coast at an  |

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|   | <p>elevation of 1,500–1,600 ft above mean sea level (amsl). This area receives mean annual rainfall of approximately 50 inches (Giambelluca et al. 2013). Waiaha Stream, an intermittent waterway, is located 0.4 km (0.25 mi) north of the project area.</p> <p>Vegetation between the coffee rows and fronting the property along the Māmalahoa Highway are cut grass and/or weeds. A variety of introduced species are present along the northern and southern property boundaries; notable plants included Christmas berry (<i>Schinus terebinthifolius</i>), African tulip (<i>Spathodea campanulata</i>), various avocado (<i>Persea americana</i>), and assorted vines. Tī plant (<i>Cordyline terminalis</i>) was also observed, particularly along the northern boundary. Rows of palm trees line the lower portion of the asphalt driveway through the project area.</p> <p>Soil series maps indicate most of the project area is covered with Honuauau extremely rocky silty clay loam, 12 to 20% slope (HVD) (Figure 5). According to Sato et al. (1973:19), “the Honuauau series consists of well-drained silty clay loams that formed in volcanic ash. These are gently sloping to moderately steep soils on uplands . . . Honuauau soils are used mostly for coffee and pasture. Small areas are used for macadamia nuts, bananas, citrus fruits, avocados, and truck crops.” A small area at the southeastern corner of the project area overlaps Kealakekua very stony silty clay loam, 6 to 20% slopes (KRD) (see Figure 5). The Kealakekua series soils also consist “of well-drained silty clay loams that were formed in volcanic ash. These are gently sloping to moderately steep soils on the uplands . . . . Kealakekua soils are generally used for pasture, coffee, macadamia nuts, and woodland. Small acreages are used for truck crops” (Sato et al. 1973:26–27).</p> |
| <p><b>Background Research Methods</b></p> | <p>Background research included a review of previous archaeological studies on file at the SHPD; review of documents at Hamilton Library of the University of Hawai‘i, the Hawai‘i State Archives, the Hawaiian Mission Children’s Society Library and Archives, the Hawai‘i Public Library, and the Bishop Museum Archives; study of historic photographs at the Hawai‘i State Archives and the Bishop Museum Archives; and study of historic maps at the Survey Office of the Department of Land and Natural Resources. Historic maps and photographs from the CSH library were also consulted. In addition, Māhele records were examined from the Waihona ‘Aina database (Waihona ‘Aina 2000).</p> <p>This research provided the environmental, cultural, historic, and archaeological background for the project area.</p>  |
| <p><b>Background Research Summary</b></p> | <p>The project area is located in the traditional land division of Kahului 2. The project area is situated within the Kona Field System (State</p>  |

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|  | <p>Inventory of Historic Places [SIHP] # 50-10-32-06601). An Archaeological Cover Sheet for the Hawaii Register of Historic Places does not indicate submission to the Review Board nor nomination to the NRHP (Appendix A). The Feature Description Form associated with the Cover Sheet is signed by T. Stell Newman and dated 15 May 1974. Understood to be the largest of the pre-Contact Hawaiian agricultural systems, the Kona Field System has been estimated to cover approximately 139 square (sq) km on the western slopes of Mauna Loa and Hualālai. One characteristic feature of this non-irrigated field system was the <i>kuaīwi</i> wall. <i>Kuaīwi</i> were long, low, linear mounds or “walls” extending <i>mauka-makai</i> (mountains to sea) to form field boundaries. The interior fields were used to plant crops such as <i>kalo</i> (taro), while other crops such as sugarcane were planted atop the <i>kuaīwi</i> forming windbreaks. The traditional features of the Kona Field System were commonly altered and/or repurposed in historic-era agricultural practices. Associated habitation and ceremony took place throughout the larger field system, which was linked by trails to coastal settlements.</p> <p>Early historic accounts by Kamakau (1992), ‘Ī‘ī (1959), and Ellis (1969) describe the prominence of Hōlualoa a short distance to the south as a home to chiefs, a populous district with abundant food resources. However, a marked decline in the native population had occurred by the mid-1800s, a result of contact with western diseases and considerable migration to town centers such as Kailua and Honolulu.</p> <p>During the mid-nineteenth century in the land division known as the Māhele, Kahului 2 was awarded to and retained by the <i>ali‘i</i> (chief) Kamaikui under Land Commission Award (LCA) 8516-B:3. A cluster of <i>kuleana</i> or commoner awards were granted within Kahului 2 just downslope of Māmalahoa Highway and the project area (Figure 6); the records for these awards indicate land uses such as habitation, agriculture, and cattle ranching. No <i>kuleana</i> awards are indicated within the project area, despite the widespread occurrence of awards throughout the surrounding area.</p> <p>By the end of the nineteenth century in Kona the traditional subsistence settlement pattern was eclipsed by new patterns focused around commercial agriculture (especially coffee) and ranching. Coffee farming expanded greatly across leeward Hawai‘i; the project area is within what remains the Kona coffee belt today. This transition was greatly facilitated by an influx of immigrants into the area who established communities of small farmers that engaged in commercial coffee farming and a variety of sideline occupations.</p> |
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|  | <p>Historic maps and aerial photographs (Figure 7 through Figure 12) provide a cultural context and chronology of the changing landscape of the project area and the surroundings.</p> <p>A portion of an 1888 map of North Kona (see Figure 7) depicts clusters of LCA parcels along the government road in the project area, but none overlap it and there are no signs of any development within the project area.</p> <p>A portion of an 1891 map of North Kona (see Figure 8) shows the project area within Kahului and identifies Land Grants in the vicinity; no grants or developments are indicated within the project area.</p> <p>A 1906 map of Hawai'i Island (see Figure 9) depicts the project area located on the interface of sugar plantation and cattle grazing lands. The Kona Sugar Company operated in the vicinity from 1881-1904 and utilized a railroad; in 1908 the Kona Development Company attempted to resurrect the plantation and railroad, but the venture only lasted until 1926 (Dorrance and Morgan 2000:112).</p> <p>Portions of the 1924 USGS quadrangle maps (see Figure 10) indicate the growth of the surrounding area, depicting the railroad and Kona Mill downslope, schools to the south, and numerous trails throughout the area and structures clustered along the highway. This map depicts a structure, possibly a dwelling, within the project area and another along the northwestern project area boundary.</p> <p>Portions of the 1959 and 1960 USGS quadrangle maps (see Figure 11) illustrate little change in the vicinity of the project area; most notable is the lack of the structure previously depicted near the center of the project area (see Figure 10); the structure adjacent to the north still appears to be present.</p> <p>A 1977 orthophoto (see Figure 12) indicates the continued use of the area for agricultural (and perhaps ranching) pursuits. Discrete agricultural fields are visible within the project area. It is unclear in this image if the dwelling adjacent to the north is still present.</p> |
| <p><b>Prior Archaeological Studies Summary</b></p> | <p>Previous archaeological studies in the vicinity of the project area are presented in Figure 13 and summarized in Table 1. Of these, five studies are located within 0.8 km (0.5 miles) of the current project area: Allen (1984), Walsh and Hammatt (1995), Haun and Henry (2001), Moore and Kennedy (2002), and Haun et al. (2003).</p> <p>In 1984 Paul H. Rosendahl, Inc. (PHRI) undertook a reconnaissance survey of over 600 acres south and upslope of the current project area (Allen 1984; see Figure 13). The survey documented 19 archaeological sites and site complexes (not assigned SIHP numbers). Documented feature types included walls, terraces,</p>  |

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|  | <p>mounds, small platforms, modified outcrops, enclosures, an artifact scatter, a cave, and a water tank foundation. These features were attributed to the pre-Contact Kona Field System and historic ranching activity. Three sites were recommended for testing, and the remainder were recommended for no further work.</p> <p>In 1994 CSH recorded six sites in a 5.9-acre project area on the Puapua'a/Hōlualoa border southwest of the current project area (Walsh and Hammatt 1995; see Figure 13). Two agricultural complexes (SIHP #s 50-10-37-19666 and -19667) comprising 91 features were identified as remnants of the Kona Field System. Four sites (SIHP #s -19662 through -19665) comprising 11 features were associated with historic habitation, agriculture, ranching, and transportation. All of the six documented sites were recommended for data recovery.</p> <p>In 2002, Archaeological Consultants of the Pacific, Inc. undertook data recovery at SIHP # -19677 located within the northeastern portion of the Walsh and Hammatt (1995) project area (Moore and Kennedy 2002; see Figure 13). The results indicated many features previously thought to have been remnants of the Kona Field System were actually historic constructions associated with coffee cultivation. Furthermore, it was determined that many Kona Field System features existing within the site had been heavily modified for use in coffee cultivation after 1930.</p> <p>In 2001, Haun and Associates conducted an AIS of an 87-acre parcel located in Kahalui 1 and 2 just <i>makai</i> (seaward) of the current project area (Haun and Henry in 2001; see Figure 13). The survey identified “12 historic ranching walls or enclosures, an historic railroad trestle [SIHP # -07214], an historic road with a retaining wall, two agricultural enclosures, two agricultural terraces, a modified outcrop, an agricultural wall, a small agricultural complex with 11 features, two permanent habitation platforms [SIHP #s -22762 and -22764], a temporary habitation modified outcrop [SIHP # -22763], two permanent habitation platforms [SIHP #s -22762 and -22764], a complex of 33 features interpreted as remnants of the Kona Field System, a complex of 181 historic clearing features related with sugarcane cultivation, and a complex of 101 features that roughly correspond to six Land Commission Awards in the <i>mauka</i> portion of the project area [SIHP # -22780]” (Haun et al. 2003:1).</p> <p>In 2003, Haun and Associates conducted data recovery at SIHP #s -22764 (rectangular platform) and -22780 (habitation and agriculture complex) within the Haun and Henry (2001) study area (Haun et al. 2003; see Figure 13). SIHP # -22764 was shown to have been</p> |
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|--------------------------------------|---|
|                                      | constructed between AD 1440-1650. Excavations at SIHP # -22780 yielded evidence of pre-Contact to modern use throughout the site, including repurposing of pre-Contact features in historic times.  |
| <b>Fieldwork Effort and Findings</b> | <p>CSH Project Supervisor Olivier M. Bautista, B.A., and CSH Project Director Sarah Wilkinson, B.A., completed the field inspection on 20 November 2018 under the general supervision of Principal Investigator Hallett H. Hammatt, Ph.D. The field inspection required 2 person-days to complete and included pedestrian sweeps of the project area. Photographs were taken of the general project area. Archaeological features and other points of interest were also photographed and located with a Garmin GPSMAP 64s handheld unit (accuracy +/- 2-5 m). Four potential historic properties were encountered during the field inspection (CSH 1 through CSH 4; Figure 14).</p> <p>The field inspection confirmed the project area surface has been completely altered by the development of the existing coffee plantation and associated driveway (Figure 15 through Figure 17). The majority of the project area comprises north-south oriented linear rows of mature coffee trees. The rock retaining wall along the western side and a portion of the southern side of the project area is modern (Figure 18), as is the hog wire fence that continues <i>mauka</i> from the rock wall terminus along the southern boundary (Figure 19). The eastern or <i>mauka</i> side of the project area is not demarcated.</p> <p>The eastern half of the northern property boundary is defined by a low, dry-stacked rock wall extending <i>mauka-makai</i> and located just across the property boundary on the adjacent lot. It is possible this wall once continued west along the western half of the northern property boundary, possibly crossing over into the project area. Extensive archaeological features are visible just across this wall on the adjacent property. These features, and probably the wall itself, are likely remnants of the pre-contact Kona Field System (SHIP # 50-10-32-06601). The pre-Contact features of the Kona Field System were commonly repurposed for historic-era agricultural practices.</p> <p>The area along the western half of the northern property boundary is heavily disturbed and thickly vegetated. A short (2-3 m) segment of a cross-slope, dry-stacked rock wall (CSH 1) was identified within this thick vegetation just within the project area bounds (see Figure 14, Figure 20, and Figure 21). This wall remnant cannot extend more than 10-15 m north from the project area as a private residence is present just beyond the line of vegetation. Further west along the northern project area boundary, a section of a <i>mauka-makai</i> dry-stacked rock wall (CSH 2) was encountered within the thick vegetation just inside the project area (see Figure 14 and Figure 22).</p> |

|   |   |
|---|---|
|   | <p>It is unclear whether this segment of rock wall extends all the way to the cross-slope CSH 1 wall segment, and/or is a remnant portion of the <i>mauka-makai</i> wall located just outside the project area along the eastern half of the northern boundary.</p> <p>There is an indication of bulldozing from within the project area all along the northern project area boundary, directly up to the edge of the <i>mauka-makai</i> wall(s) in some places (Figure 23 and Figure 24). Small basalt boulders are present along the project area side of the wall; these materials may represent stones pushed out of the coffee planting area to the margin of the property, and/or may be collapse or disturbed material from the <i>mauka-makai</i> wall. Scattered fragments of historic glass, ceramics, and scrap metal were identified within the project area in the disturbed area between the rows of coffee and the wall.</p> <p>Some topographical undulations were noted within the lower portion of the project area. There is a long, north-south oriented undulation that appears almost as a berm (CSH 3; see Figure 14 and Figure 25); this feature extends nearly the entire length between the driveway and northern margin of the project area and is of a generally consistent width with a fairly level surface. A potential alignment of stones was observed at one location near its southern end (at the location marked "CSH 3" on Figure 14). Just upslope of this feature is an elongated depression.</p> <p>Near the mid-point of the southern project area boundary a north-south oriented rock retaining wall (CSH 4) was observed along the downslope edge of a pocket of dense vegetation (see Figure 14 and Figure 26). The age and nature of this wall are presently undetermined.</p> |
| <p><b>Potential for Project Effect on Historic Properties</b></p> | <p>Background research indicates no previously recorded historic properties are present within the project area, though it is located within the known limits of the Kona Field System (SIHP # 50-10-32-06601). It is likely that prior development of the property for agricultural purposes disturbed any surface features associated with the Kona Field System and/or subsequent historic-era land use throughout most of the property, including a potential dwelling once located in the central portion of the project area. CSH 1, CSH 2, and CSH 4 are potential historic properties located within the margins of the project area. Disturbed or intact subsurface deposits associated with pre-Contact and/or historic land use may still be present anywhere within the project area but may be concentrated in and around the vicinity of the former structure.</p>  |
| <p><b>Recommendations</b></p>                                     | <p>Consultation with SHPD is recommended regarding project historic preservation requirements. This consultation effort would confirm</p>   |



whether an AIS is needed and aid in development of an SHPD-informed AIS subsurface testing strategy.

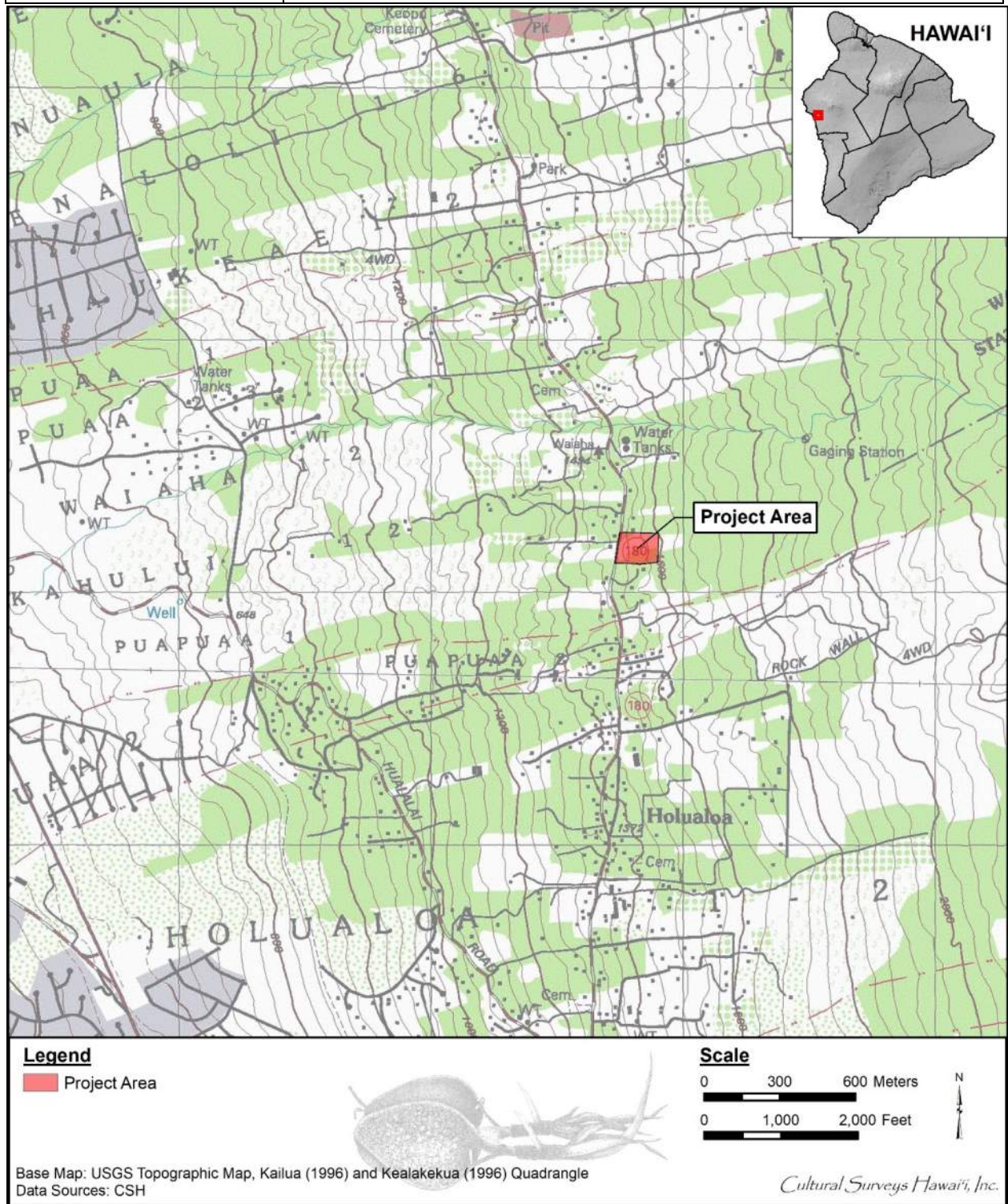


Figure 1. Portions of the 1996 Kailua and Kealakekua USGS 7.5-minute topographic quadrangles, showing the location of the project area

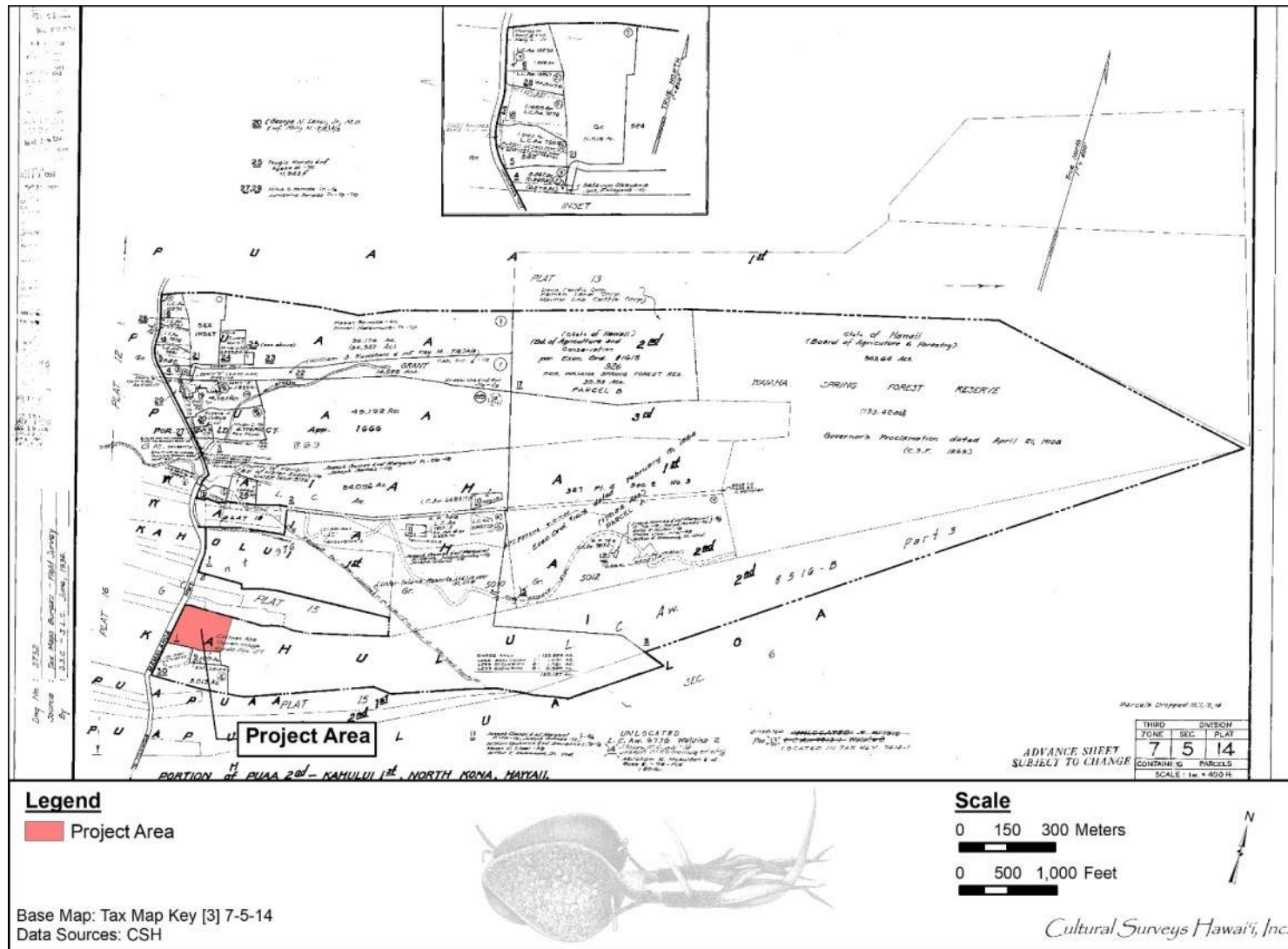


Figure 2. Tax Map Key (TMK) [3] 7-5-14 showing the project area (Hawai'i TMK Service 2010)

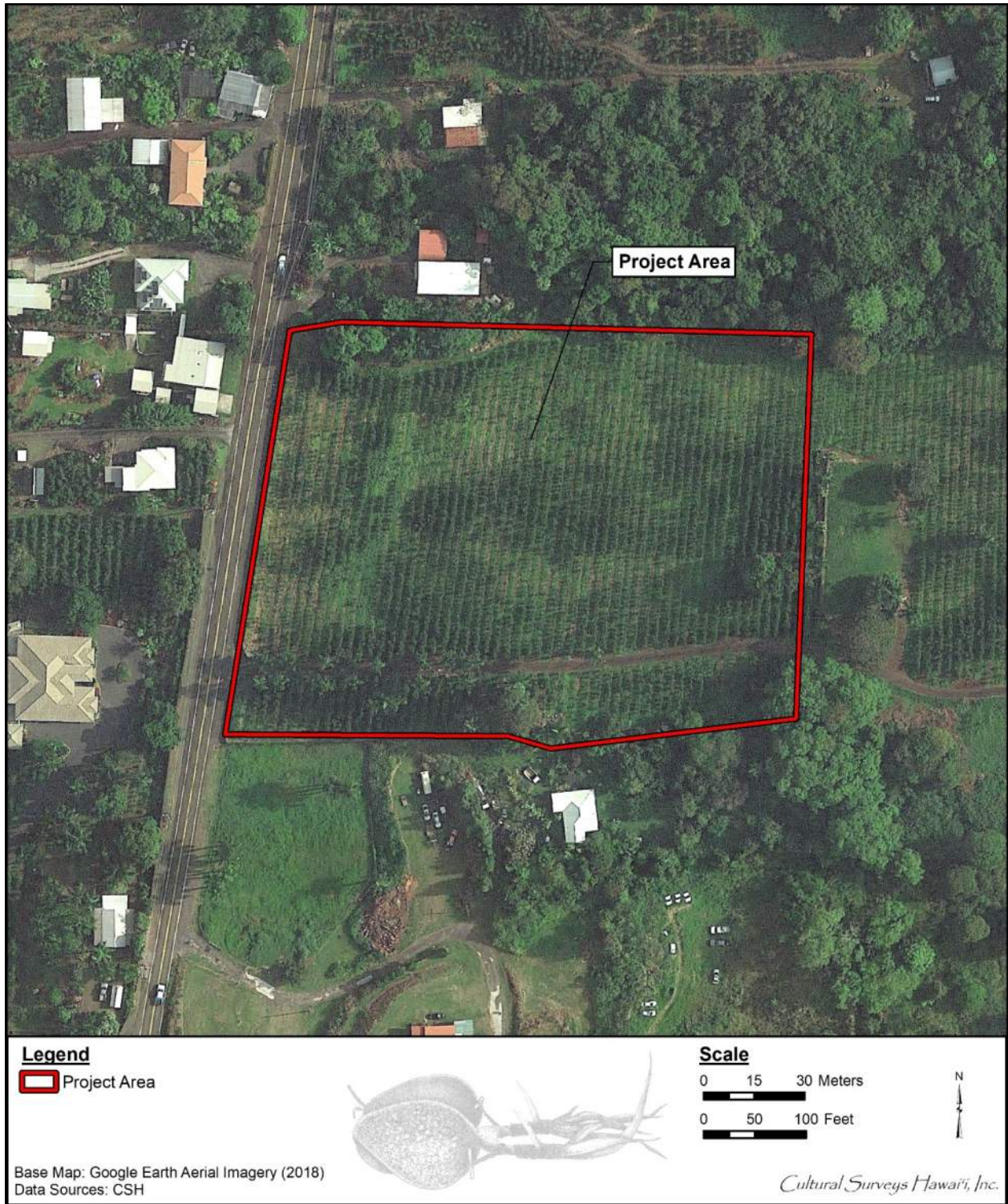


Figure 3. Aerial photograph of the project area (Google Earth 2013)

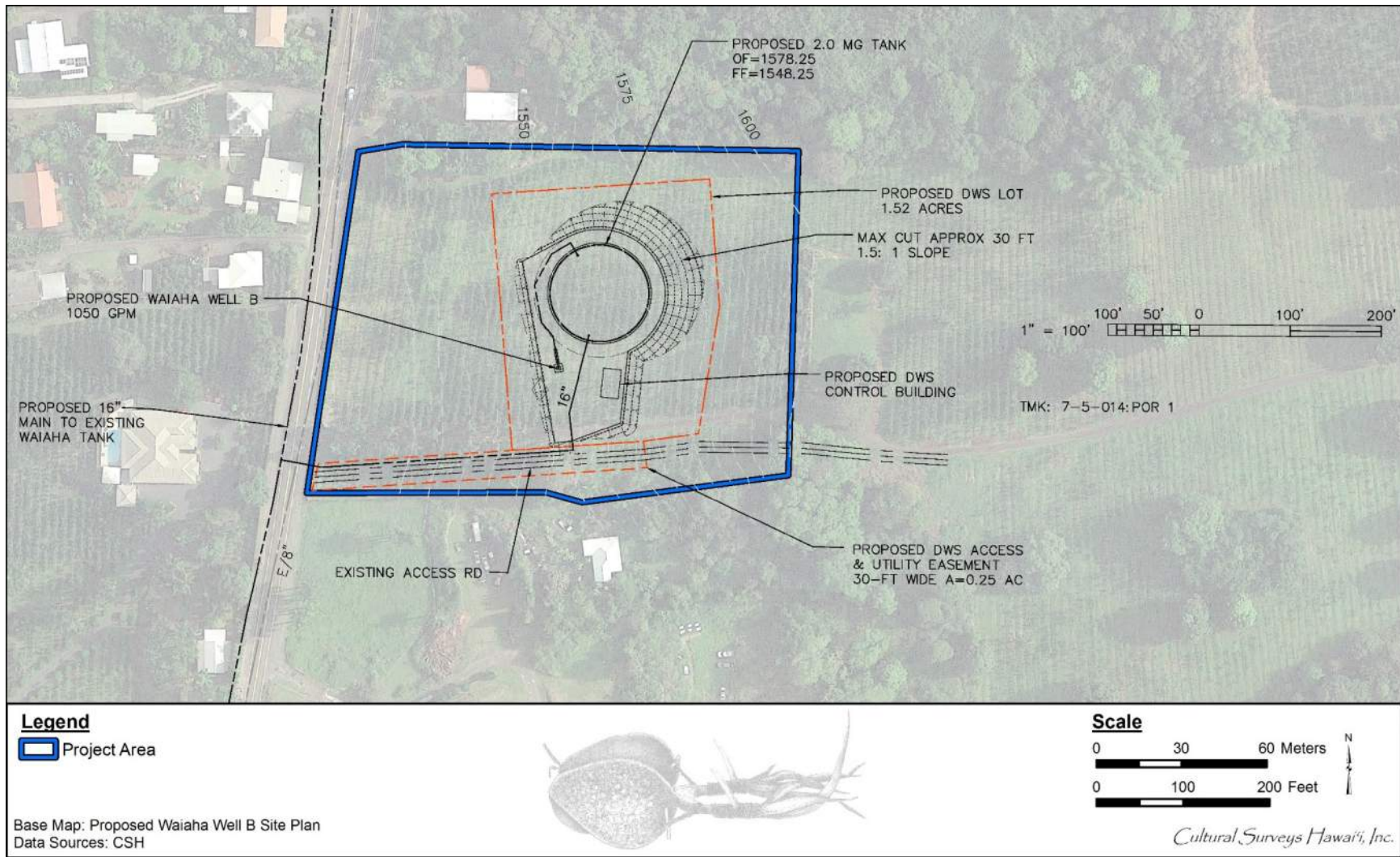


Figure 4. Preliminary project site plan (courtesy of client) in relation to the project area

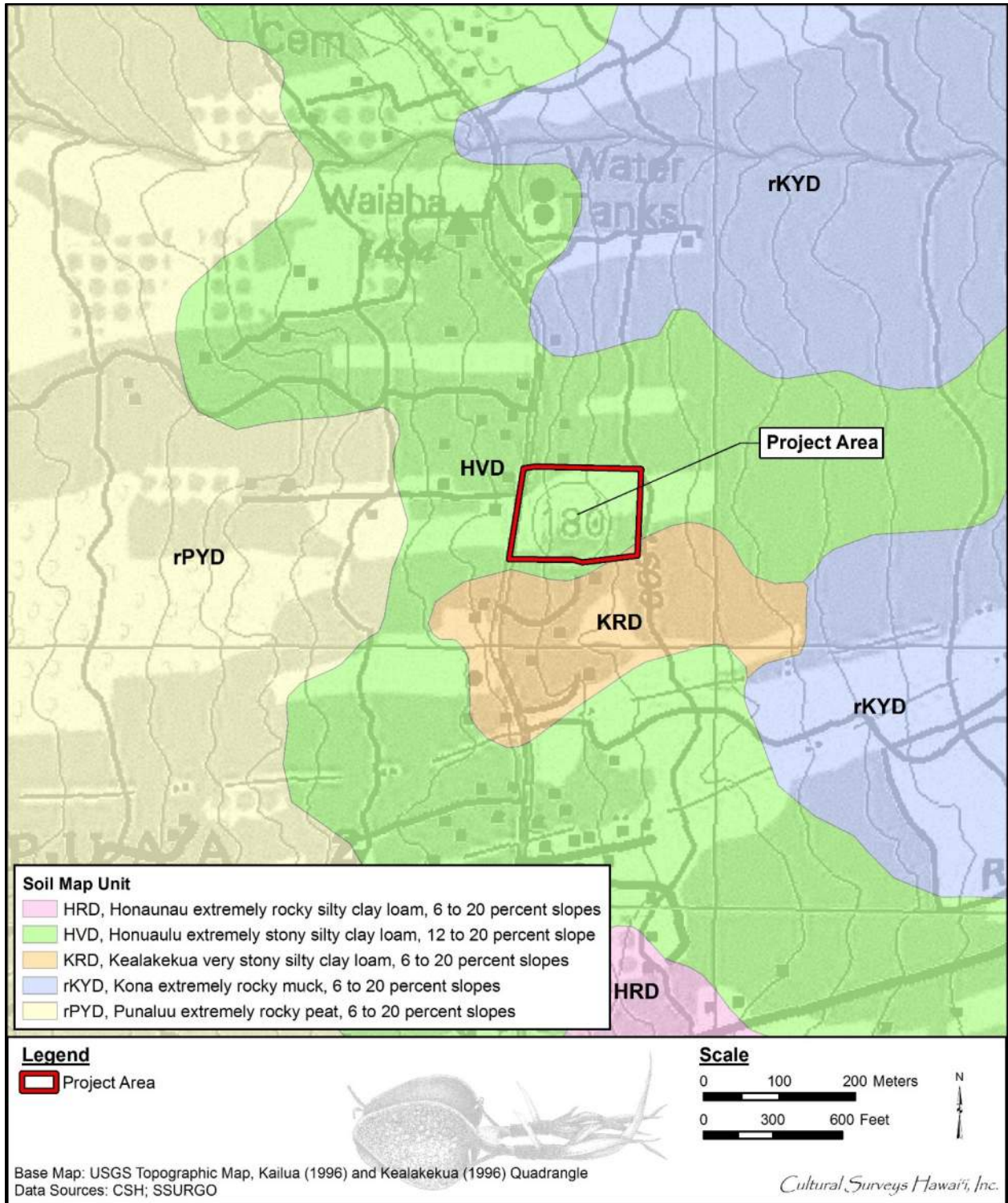


Figure 5. Overlay of *Soil Survey of the State of Hawaii* (Sato et al. 1972), indicating soil types within and surrounding the project area (USDA SSURGO 2001)

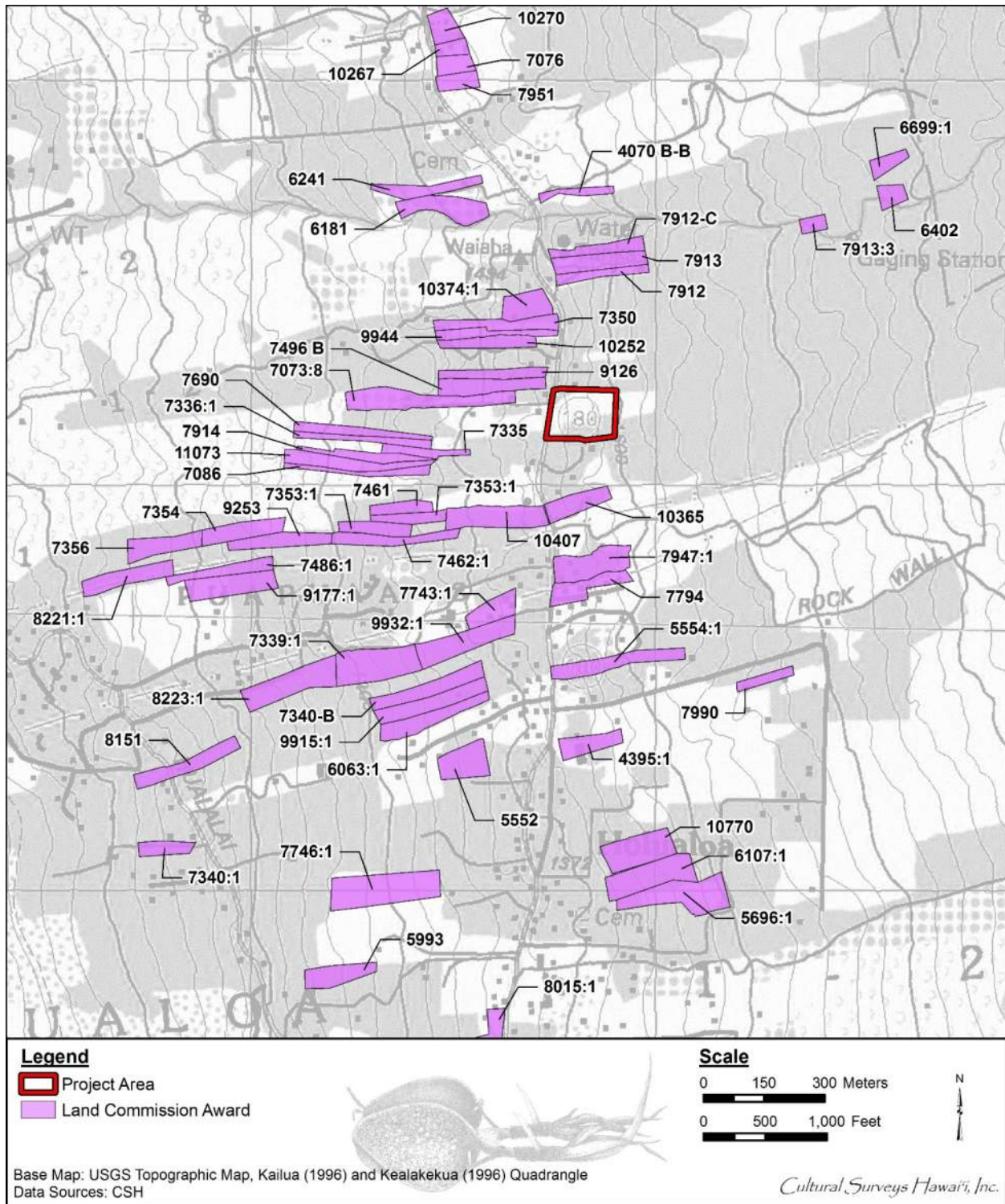


Figure 6. Portions of the 1996 Kailua and Kealakekua USGS 7.5-minute topographic quadrangles, showing the location of the project area and nearby LCA parcels

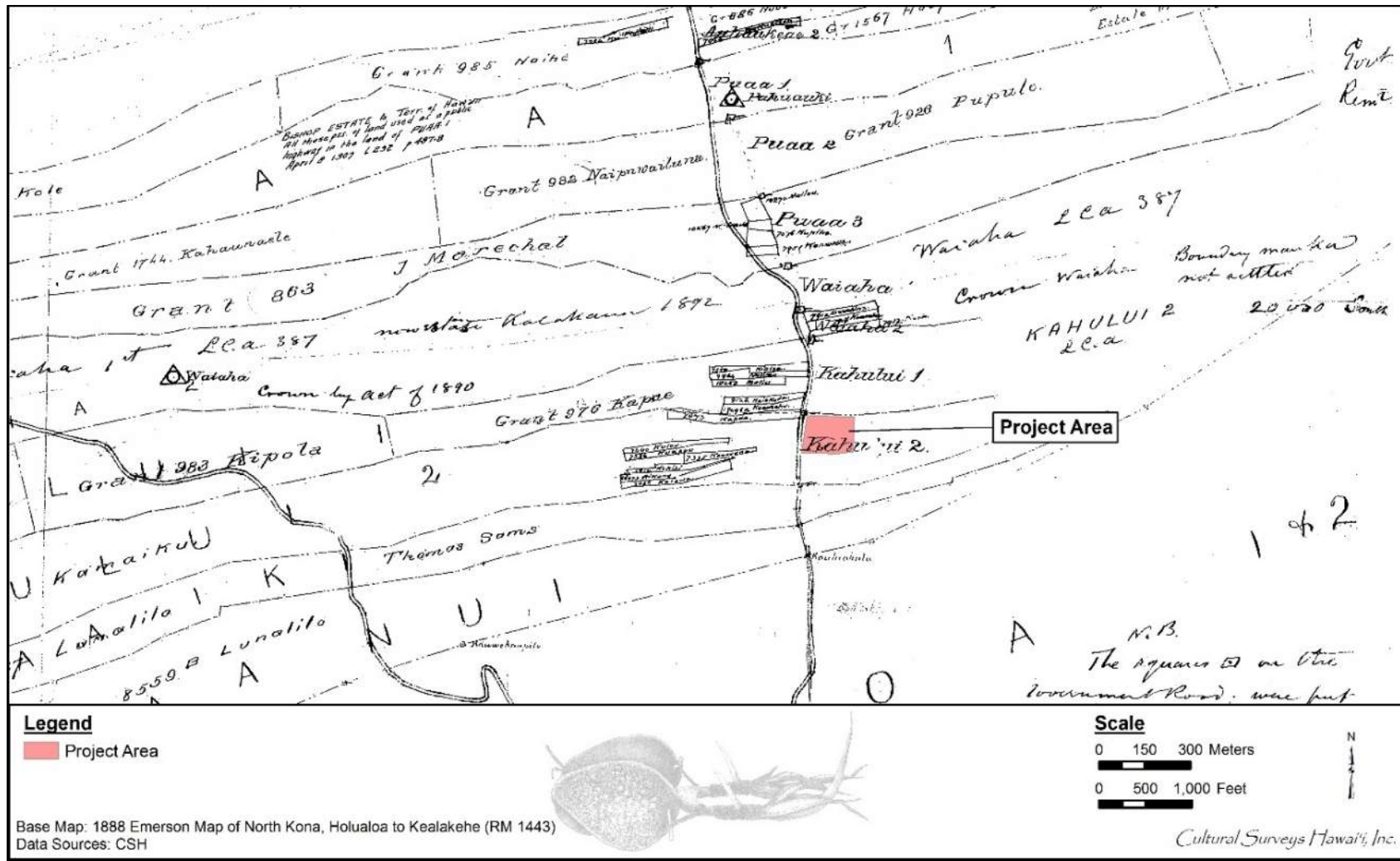


Figure 7. Portion of 1888 Emerson map of North Kona showing the project area; while clusters of LCAs are depicted in the vicinity along the road, none overlap the project area and there are no signs of any development within the project area

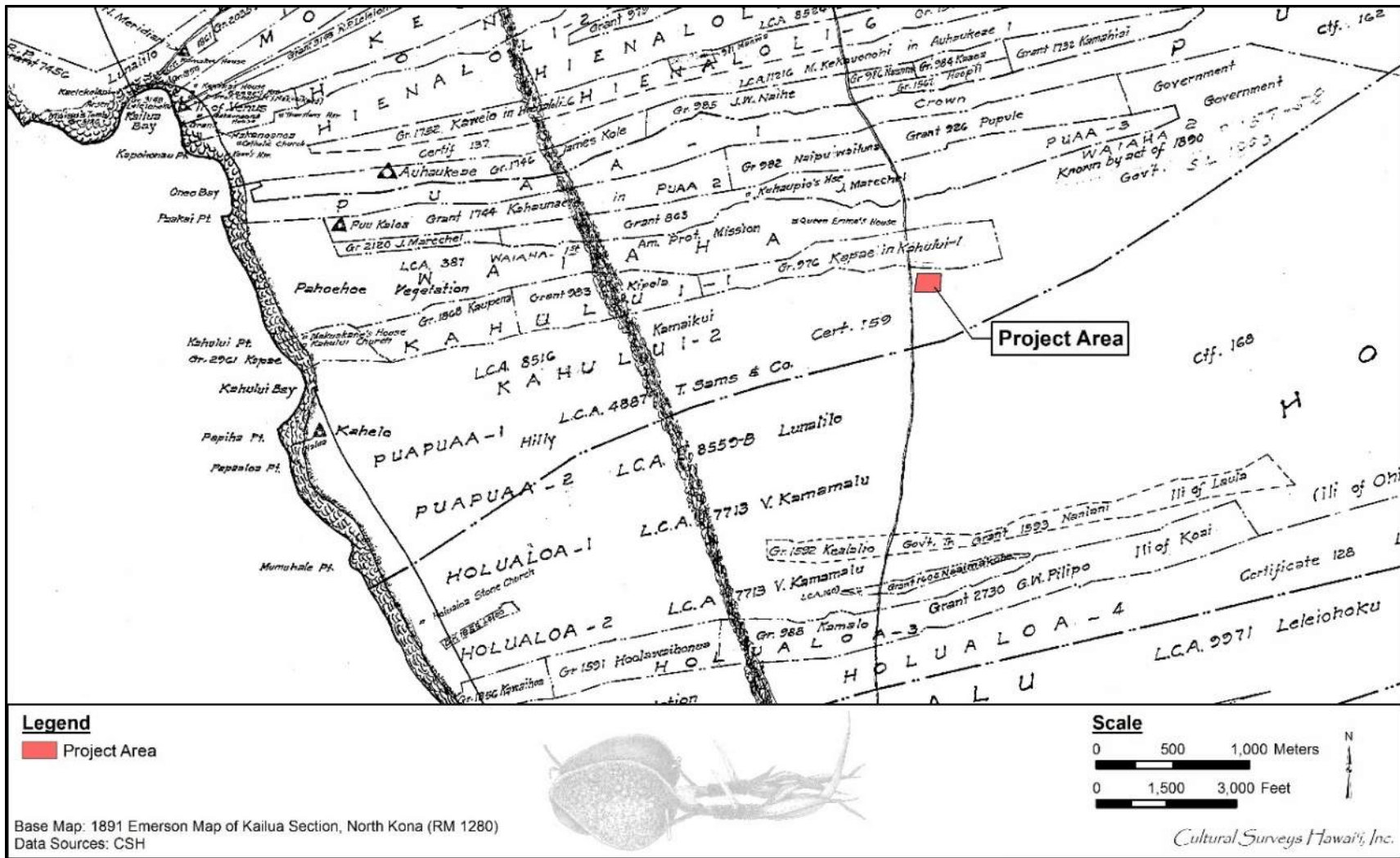


Figure 8. Portion of 1891 Emerson map of North Kona showing the project area within Kahului (awarded to Kamaikui); while there are numerous land grants depicted throughout the area, none overlap the project area and there are no signs of any development within the project area



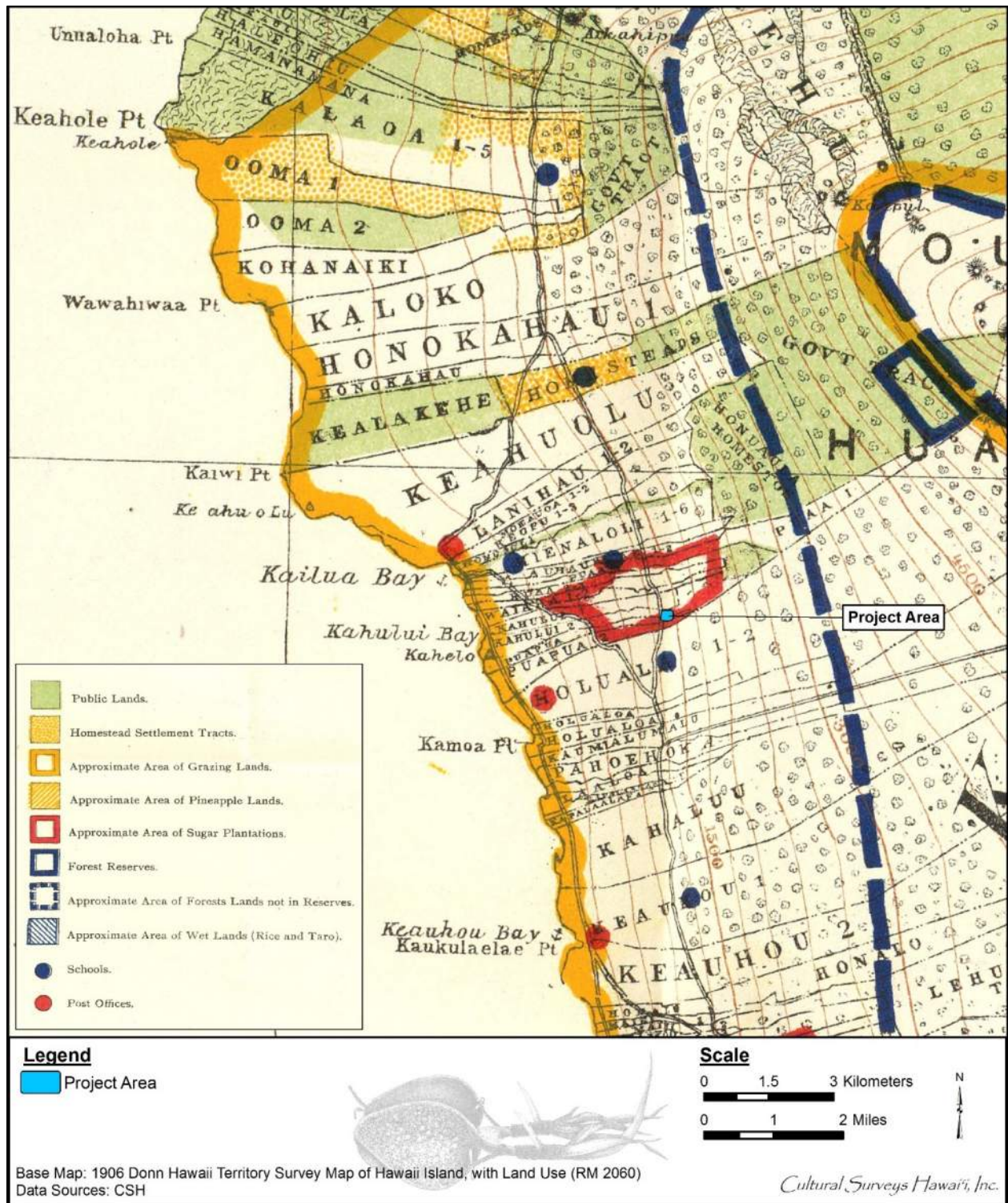


Figure 9. Portion of 1906 Donn Hawaii Territory Survey map of Hawaii Island showing location of project area along the southern bounds of sugar plantation lands and in relation to schools and post offices

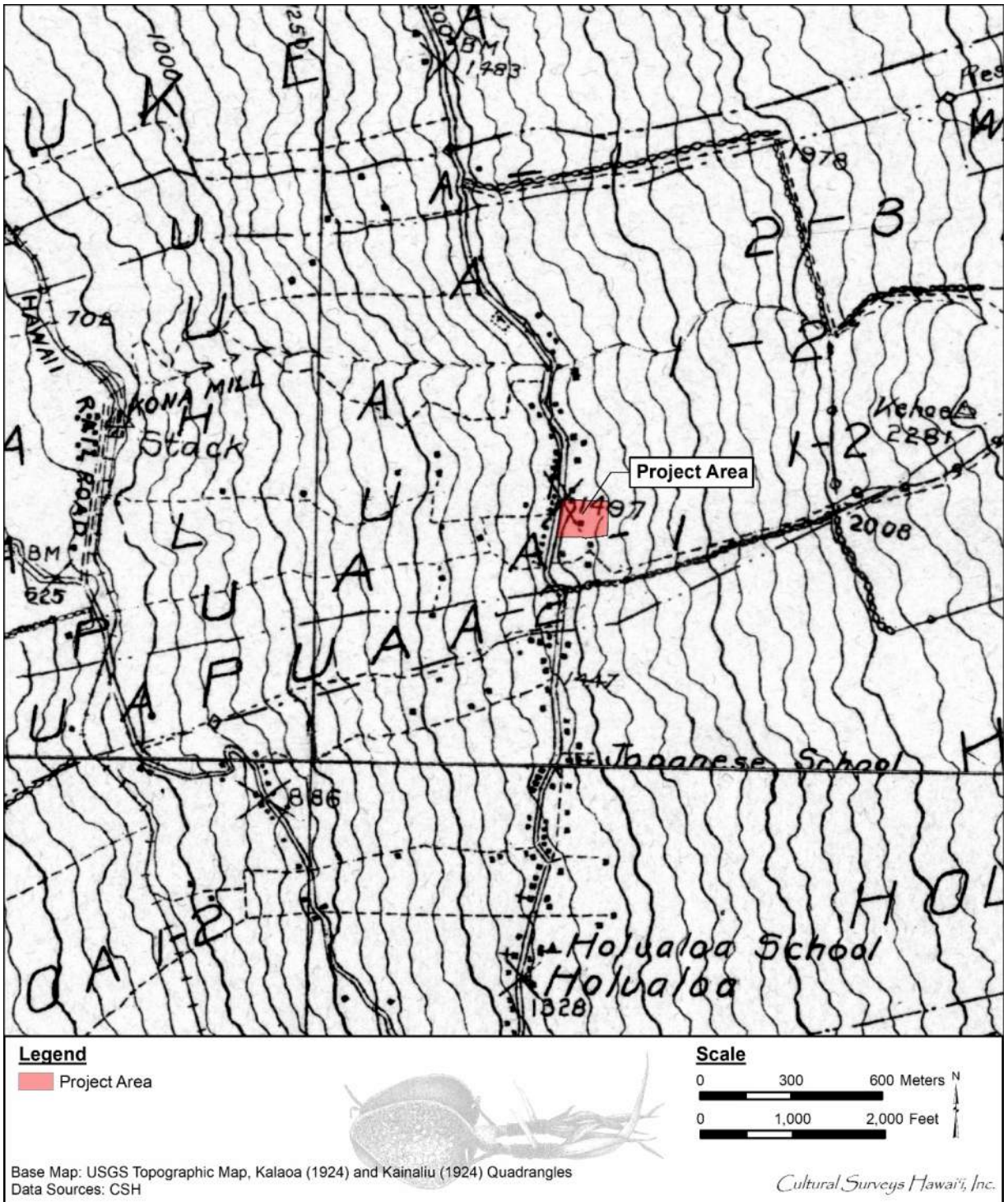


Figure 10. Portions of the 1924 Kalaoa and Kainaliu USGS 7.5-minute topographic quadrangles showing the location of project area in proximity to developments including schools, trails, the Hawaii Railroad, and the Kona Mill; structures (possibly residences) are indicated near the center of the project area and along the northwestern boundary

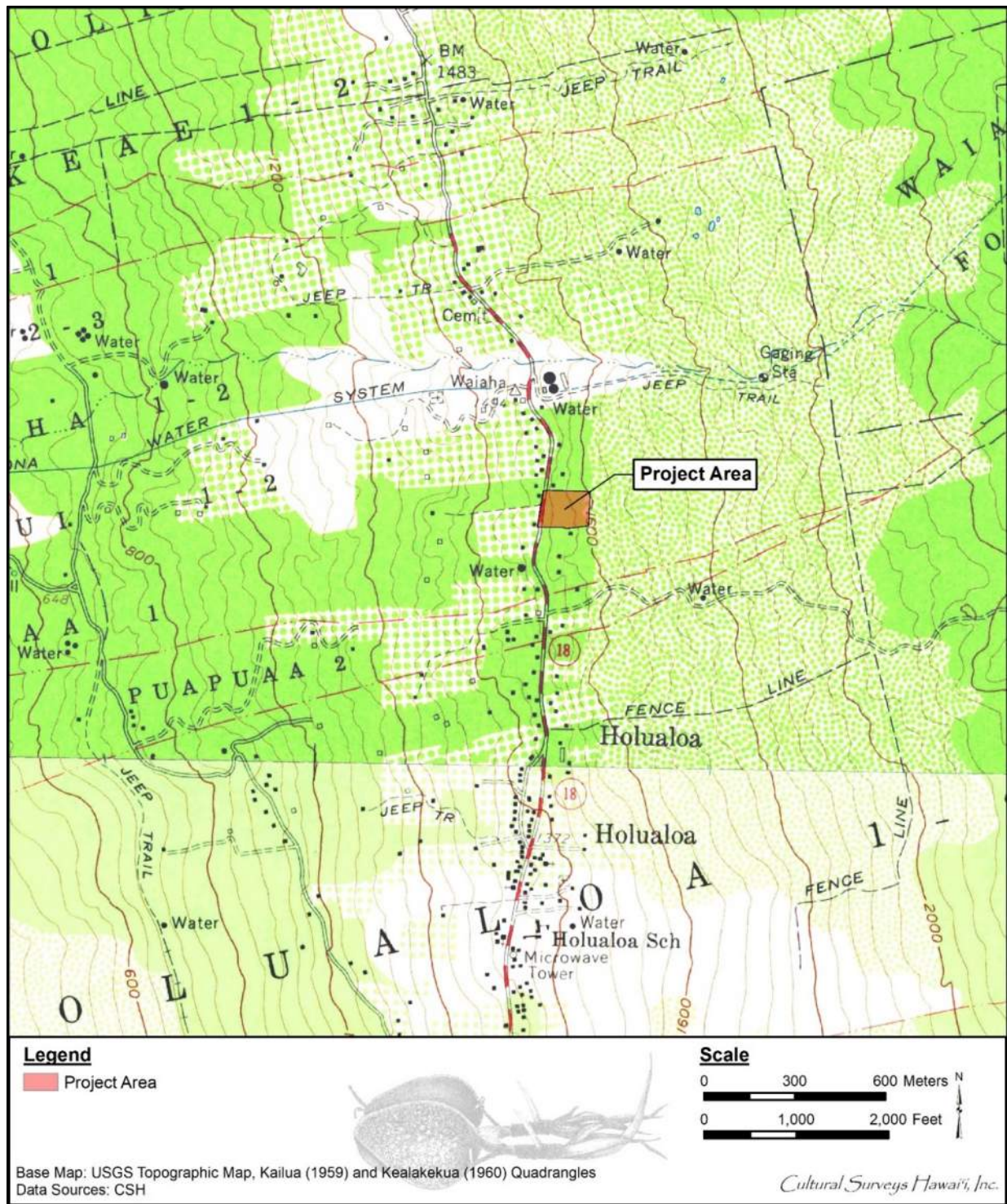


Figure 11. Portions of the 1959 Kalaoa and 1960 Kainaliu USGS 7.5-minute topographic quadrangles showing the location of project area in relation to area development; the structures shown on the 1924 map within the project area (see Figure 10) are not depicted

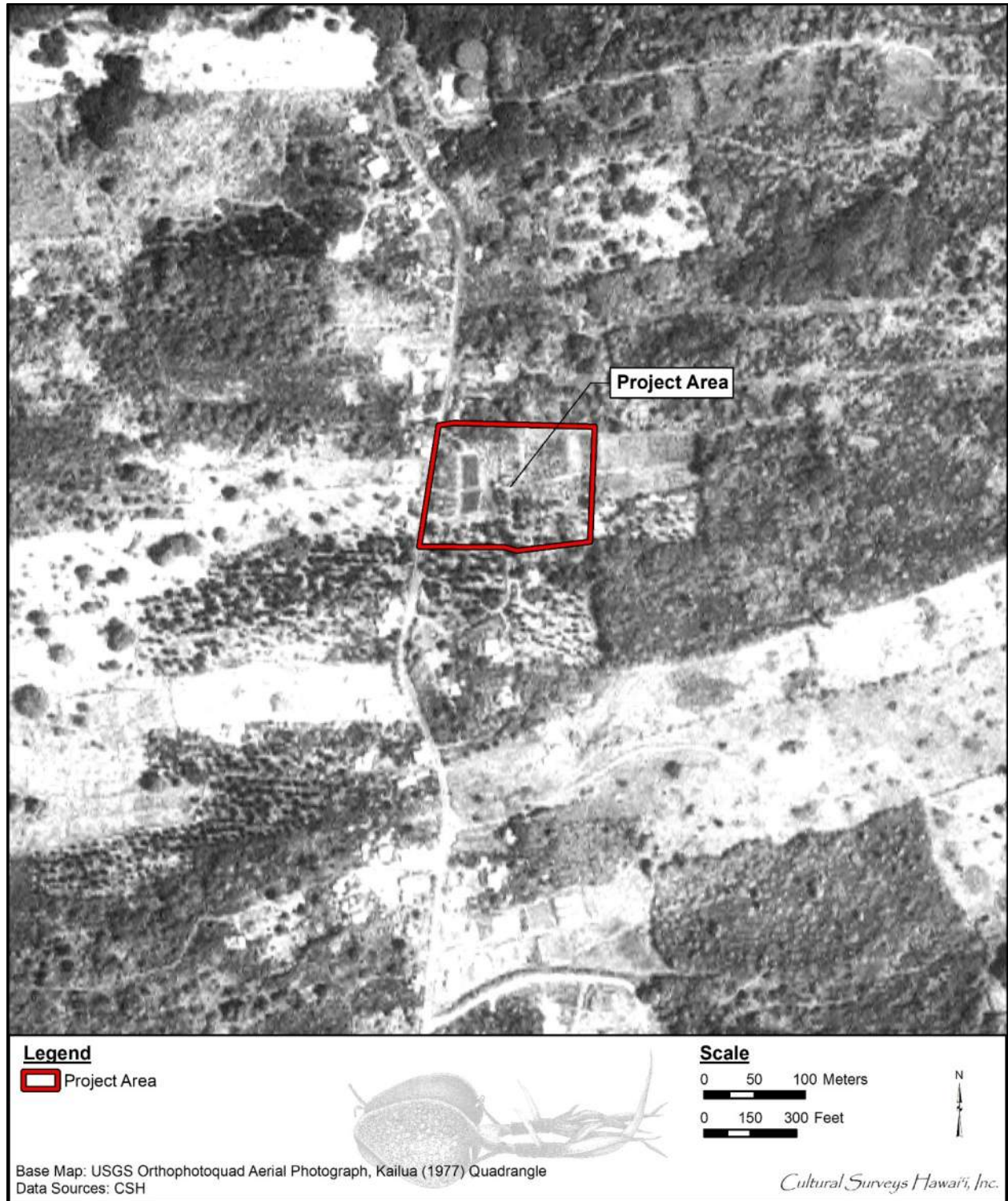


Figure 12. 1977 USGS Orthophoto, showing the continued use of the surrounding area for agriculture and ranching and the development of the project area into discrete agricultural plots

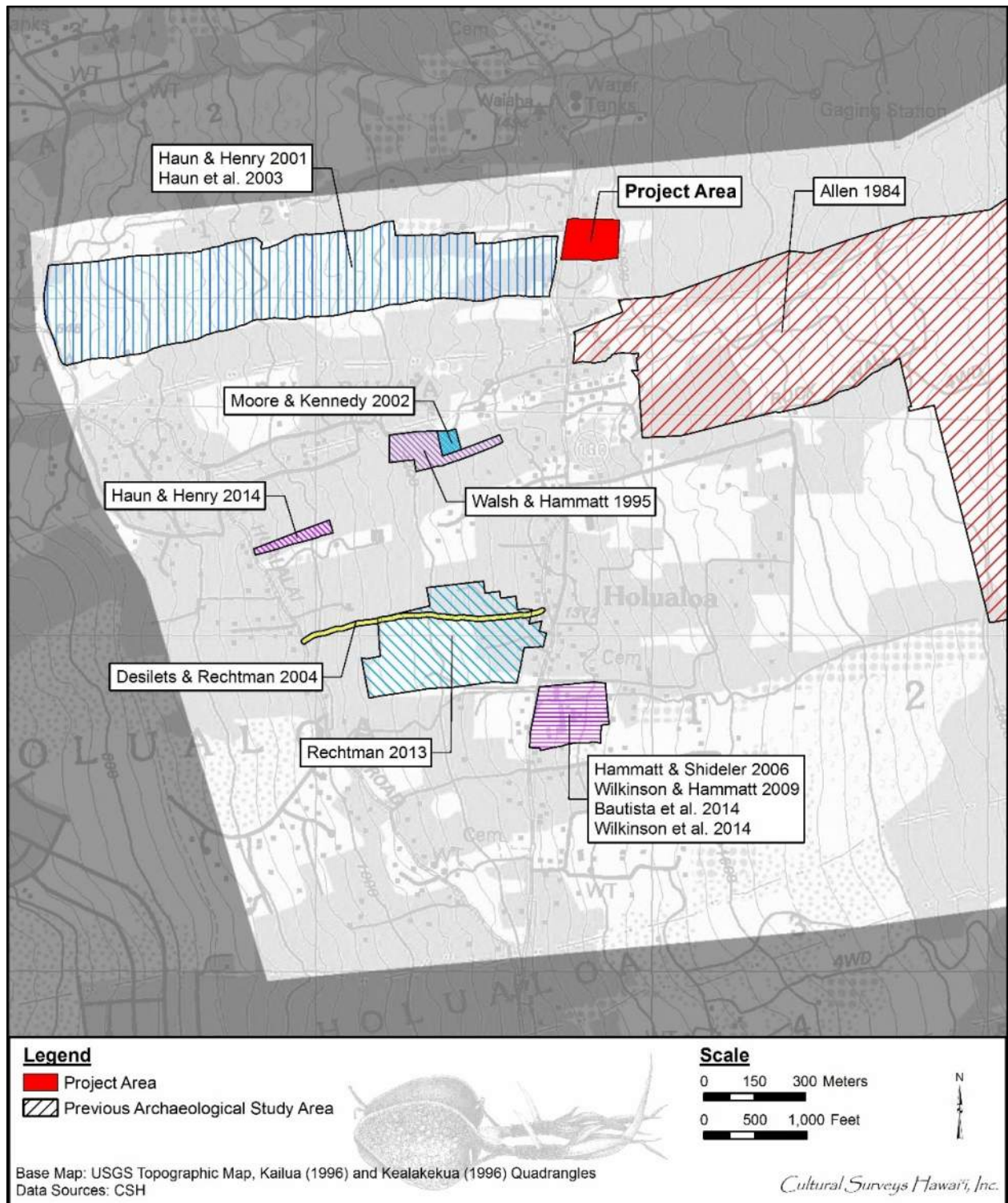


Figure 13. Portions of the 1996 Kailua and Kealakekua USGS 7.5-minute topographic quadrangles, showing the location of previous archaeological studies in the vicinity of the project area

Table 1. Previous archaeological studies in the vicinity of the project area

| Reference                  | Type of Study                                    | Location   | Results (SIHP # 50-10-37**** unless otherwise noted)  |
|----------------------------|--|--|---|
| Allen 1984                 | Archaeological reconnaissance survey             | 600+ acres in Puapua'a and Hōlualoa, TMKs: [3] 7-5-015:002 and 102 and 7-6-002:001 and 014 | Documented 19 sites and site complexes associated with the Kona Field System and cattle ranching (no SIHP numbers assigned); majority recommended for no further work   |
| Walsh and Hammatt 1995     | Archaeological inventory survey                  | 5.9 acres in Hōlualoa 1 and 2, TMKs: [3] 7-6-009:014, 016, and 023                         | Documented six previously unidentified sites (SIHP #s 50-10-37-19662 through 19667) associated with the Kona Field System and historic habitation, agriculture, ranching, and transportation; all sites recommended for data recovery.                |
| Haun and Henry 2001        | Archaeological inventory survey                  | 87 acres in Kahalui 1 and 2, TMKs: [3] 7-5-016:015, 016, 017, and 029                      | Documented 27 sites comprised of 349 features, representing a wide variety of feature types associated with pre-Contact to historic agriculture, habitation, ranching, and transportation.  |
| Moore and Kennedy 2002     | Archaeological data recovery                     | Hōlualoa 1 and 2, TMK: [3] 7-6-009:014   | Data recovery conducted within a portion of SIHP # -19667 indicated historic-era construction and modification of most features within the site previously described as remnants of the Kona Field System   |
| Haun et al. 2003           | Archaeological data recovery                     | 87 acres in Kahalui 1 and 2, TMKs: [3] 7-5-016:015, 016, 017, and 029                      | Data recovery indicated SIHP # -22764 (platform) constructed between AD 1440-1650; excavations at SIHP # -22780 yielded evidence of pre-Contact to modern use   |
| Desilets and Rechtman 2004 | Archaeological inventory survey                  | 800-m-long corridor in Holualoa 1 and 2, TMK: [3] 7-6-008:005 por.                         | Survey identified one new historic property, SIHP # -24211, a rock wall-lined road that encompasses entire project area; background research indicates road constructed in late 1890s, presumably to provide grant recipients access to their parcels |
| Hammatt and Shideler 2006  | Archaeological literature review and field check | Cesspool Improvement Project at Nine DOE Schools, Kona School District                     | Study noted for Hōlualoa vicinity that many surface features found in inland areas were first constructed, heavily modified, or destroyed by historic use of land for cattle pasture and coffee cultivation   |

| Reference                  | Type of Study                    | Location  | Results (SIHP # 50-10-37**** unless otherwise noted)   |
|----------------------------|----------------------------------|---|--|
| Wilkinson and Hammatt 2009 | Archaeological monitoring        | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002, 037; 7-6-005:015 | No historic properties identified  |
| Rechtman 2013              | Archaeological inventory survey  | 29 acres in Hōlualoa 1-2, TMKs: [3] 7-6-008:005, 008, and 030                 | Identified 24 historic properties, including previously documented SIHP # -24211 (historic road) and newly documented SIHP #s -29700 through -29722 associated with late pre-Contact through late historic agriculture, habitation, and ranching; data recovery and/or preservation recommended for four sites   |
| Bautista et al. 2014       | Archaeological monitoring report | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002, 037; 7-6-005:015 | No historic properties identified  |
| Haun and Henry 2014        | Archaeological inventory survey  | 2.313 acres in Hōlualoa 1-2, TMK: [3] 7-6-010:005                             | Documented 14 newly identified sites (SIHP #s -30050 through -30063) comprising 145 features associated with pre-Contact through historic agriculture, habitation, ranching burial, rock art, and transportation; preservation recommended for the burial (SIHP # -30060) and petroglyph (SIHP # -30061), and data recovery recommended for SIHP # -30063 (pre-Contact/historic agricultural complex); monitoring of ground disturbance also recommended |
| Wilkinson et al. 2014      | Archaeological monitoring report | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002 and 7-6-005:015   | Identified SIHP # -29888, a modified lava tube located beneath the school  |

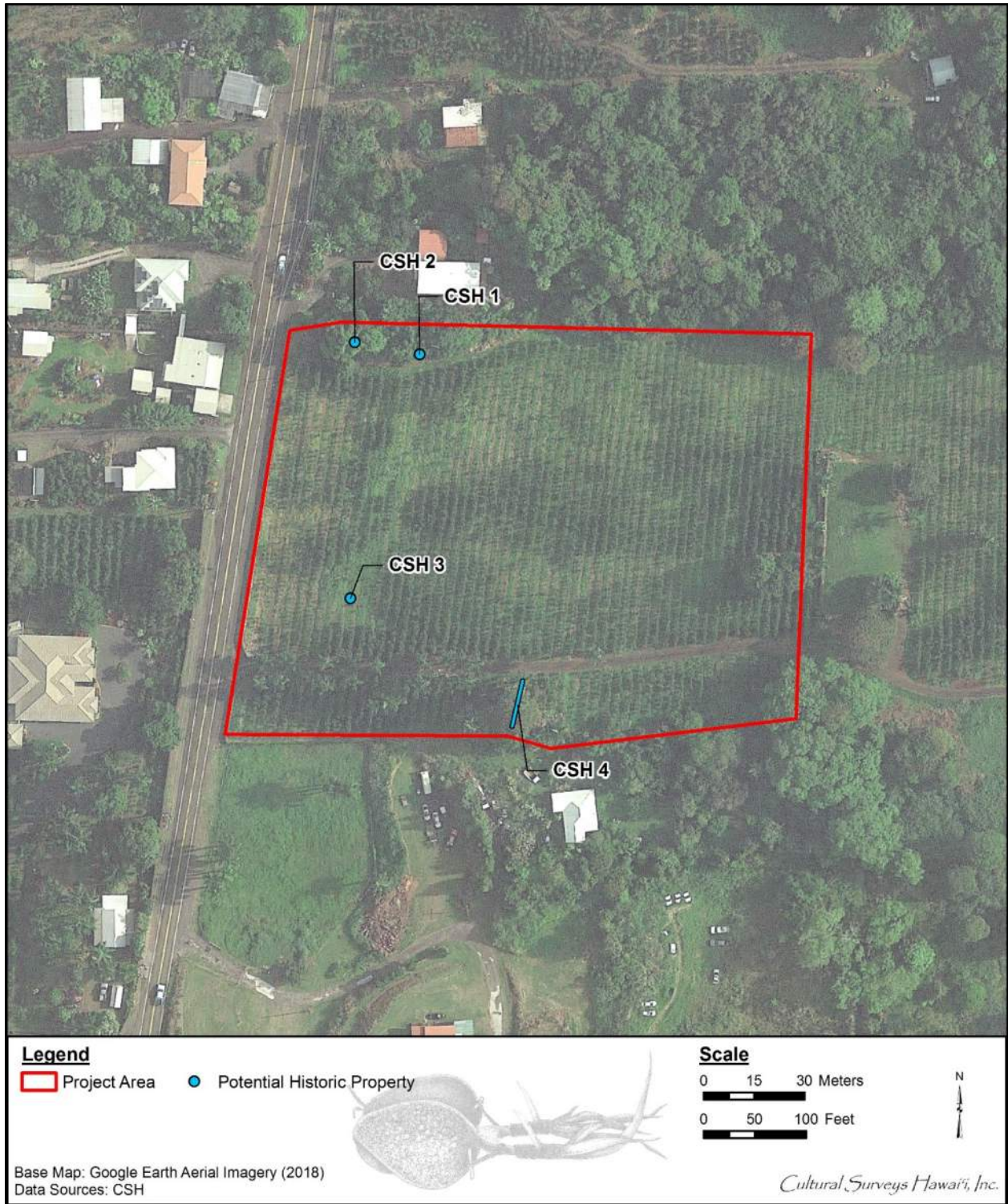


Figure 14. Aerial photograph of the project area (Google Earth 2013) showing the locations of potential historic properties (CSH 1 through 4)





Figure 15. Photo overlooking the project area from along the eastern boundary; view to west



Figure 16. Photo showing rows of mature coffee trees within the project area; view to north



Figure 17. Photo showing the asphalt driveway within the project area; view to west



Figure 18. Photo showing the western boundary of the project area along Māmalahoa Highway; view to north



Figure 19. Photo showing the interface of the modern rock wall and hog wire fence along the southern project area boundary; view to south



Figure 20. Photo taken from within heavily vegetated area showing the CSH 1 rock wall extending from the lower left corner to center of photo; view to south



Figure 21. Photo showing the location of CSH 1 rock wall within the heavy vegetation along the northern project area boundary; view to north



Figure 22. Photo showing CSH 2 rock wall under heavy vegetation near the northwestern corner of the project area; view to northeast



Figure 23. Photo taken along the northern side of the project area, showing the disturbed swath between the coffee rows and the vegetated northern boundary; view to west



Figure 24. Photo showing rock material and debris pushed up against the wall located just outside the project area to the north; view to west



Figure 25. Photo looking along the raised CSH 3 alignment (photo center) in the western portion of the project area; view to north



Figure 26. Photo showing a portion of the CSH 4 rock terrace beneath thick vegetation in the southern portion of the project area; view to southeast

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# Appendix A HRHP Archaeological Cover Sheet for SIHP # -06601 (Kona Field System)

7-7-04:20 *Dillingham*

ARCHAEOLOGICAL COVER SHEET

HAWAII REGISTER OF HISTORIC PLACES

50 - 10-37-6601      SITE NAME/TYPE: KONA Field System  
 1 2 3 4 5 6 7 8 9      DISTRICT: North and South KONA  
 SITE IDENTIFICATION NUMBER      AREA: 1,392 square Kilometers  
2 1 PRE-1778      CATEGORY: Single Feature  Complex  Places  
 10 11 12 13 14 15 16 17 18 19 20      OWNERSHIP:  Public  Private  
 CARD No.      DATE/PERIOD      PHOTOGRAPHS:  Yes  No (Temp/Tech)  
 PRESENT LAND USES: MULTIPLE      KNOWN PRESSURES ON SITE: URBANIZATION

DESTRUCTION:  No Known Future Danger  Possible Future Danger  Future Danger Certain  
 Present Danger  Presently Being Destroyed

STATUS:  Occupied  Unoccupied      CONDITION:  Excellent  Good  Fair  Deteriorated

INTEGRITY:  Unaltered, Orig Loc  Unaltered, Moved  Altered, Orig Loc  Altered, Moved

ACCESSIBILITY:  Unrestricted  Restricted  Inaccessible

LEGENDARY MATERIALS KNOWN:  Yes  No      WRITTEN HISTORICAL MATERIALS:  Yes  No

IMPORTANCE AS EXAMPLE OF TYPE SITE:  Good  Moderate  Poor

SUSCEPTABILITY TO INTERPRETATION:  Good  Moderate  Poor

RESEARCH POTENTIAL:  Good  Moderate  Poor

LOCAL ATTITUDES ABOUT SITE:  Valuable  Moderate Value  Low Value  Ambivalent  Unknown

BRIEF DESCRIPTION (Columns 21-80): MASSIVE ANCIENT HAWAIIAN FIELD  
System measuring 3 by 18 miles

---

STAFF EVALUATION:  High Value  Valuable  Reserve  Marginal

SUGGESTED THEMES: Polynesian Hawaii, AGRICULTURE, SETTLEMENT PATTERNS, Habitation

DATE SUBMITTED TO REVIEW BOARD: \_\_\_\_\_

---

REVIEWER'S RECORD AND EVALUATION

NAME: \_\_\_\_\_ DATE REVIEWED: \_\_\_\_\_

CATEGORY:  High Value  Valuable  Reserve  Marginal

SIGNIFICANCE:  National  State  Local

RECOMMENDED DISPOSITION:  Nominate National Register  State Register  Staff Files

RECOMMENDED THEMES: \_\_\_\_\_

REVIEWER'S COMMENTS: \_\_\_\_\_

---

REVIEW BOARD EVALUATION RECORD

DATE REVIEWED: \_\_\_\_\_ RECORDER: \_\_\_\_\_

OFFICIAL CATEGORY:  High Value  Valuable  Reserve  Marginal


OFFICIAL SIGNIFICANCE:  National  State  Local

OFFICIAL THEMES: \_\_\_\_\_

OFFICIAL DISPOSITION:  National Register Nomination  State Register  Staff Files

REVIEW BOARD COMMENTS: \_\_\_\_\_

VOTING RECORD: Daws \_\_\_\_\_ Hormann \_\_\_\_\_ Jackson \_\_\_\_\_ Kikuchi \_\_\_\_\_  
 Lind \_\_\_\_\_ Mark \_\_\_\_\_ Nagata \_\_\_\_\_ Paglinawan \_\_\_\_\_  
 Roche \_\_\_\_\_ Tuggle \_\_\_\_\_



DEPARTMENT OF LAND AND NATURAL RESOURCES  
STATE PARKS DIVISION

**HAWAII REGISTER OF HISTORIC PLACES**  
ARCHAEOLOGICAL FORMS

FORM  $\frac{0}{1} \frac{1}{2}$ : FIELD SURVEY

$\frac{1}{12}$   
4 CORNER

$\frac{2}{13} \frac{14}{15} \frac{16}{17} \frac{18}{19} \frac{N.}{20} / \frac{21}{22} \frac{23}{24} \frac{E.}{25}$   
SINGLE POINT COORDINATE LOCATION

|   |  |                          |  |   |                          |  |
|---|--|--------------------------|--|---|--------------------------|--|
| $\frac{17}{24} \frac{25}{26}$<br>DISTRICT | $\frac{1}{27}$<br>LOC                      | $\frac{1}{28}$<br>FACTOR | $\frac{999}{29}$<br>AREA SQUARE                        | $\frac{3}{30}$<br>CATEGORY                  | $\frac{10}{31}$<br>SIG 1 | $\frac{41}{32} \frac{33}{34} \frac{35}{36}$<br>SIG 2 |
| $\frac{2}{37}$<br>DESTR                   | $\frac{1}{38} \frac{39}{40}$<br>LAND CLASS | $\frac{1}{41}$<br>PHOTOS | $\frac{TSN}{42} \frac{01}{43}$<br>INITIALS INSTITUTION | $\frac{04}{44} \frac{74}{45}$<br>MONTH YEAR |                          |  |

HISTORICAL OR COMMON NAME: KONA FIELD SYSTEM

|  |                        |                        |                          |
|--|------------------------|------------------------|--------------------------|
| $\frac{5}{68} \frac{11}{69} \frac{4}{70} \frac{20}{71} \frac{72}{73} \frac{74}{75} \frac{76}{77}$<br>FEATURE CLASSIFICATION CODE | $\frac{2}{78}$<br>COND | $\frac{3}{79}$<br>INTG | $\frac{1}{80}$<br>PERIOD |
|--|------------------------|------------------------|--------------------------|

CLASS:

Nominated \_\_\_\_\_  
Accepted \_\_\_\_\_

Category A \_\_\_\_\_  
B \_\_\_\_\_  
C \_\_\_\_\_

Keypunched \_\_\_\_\_

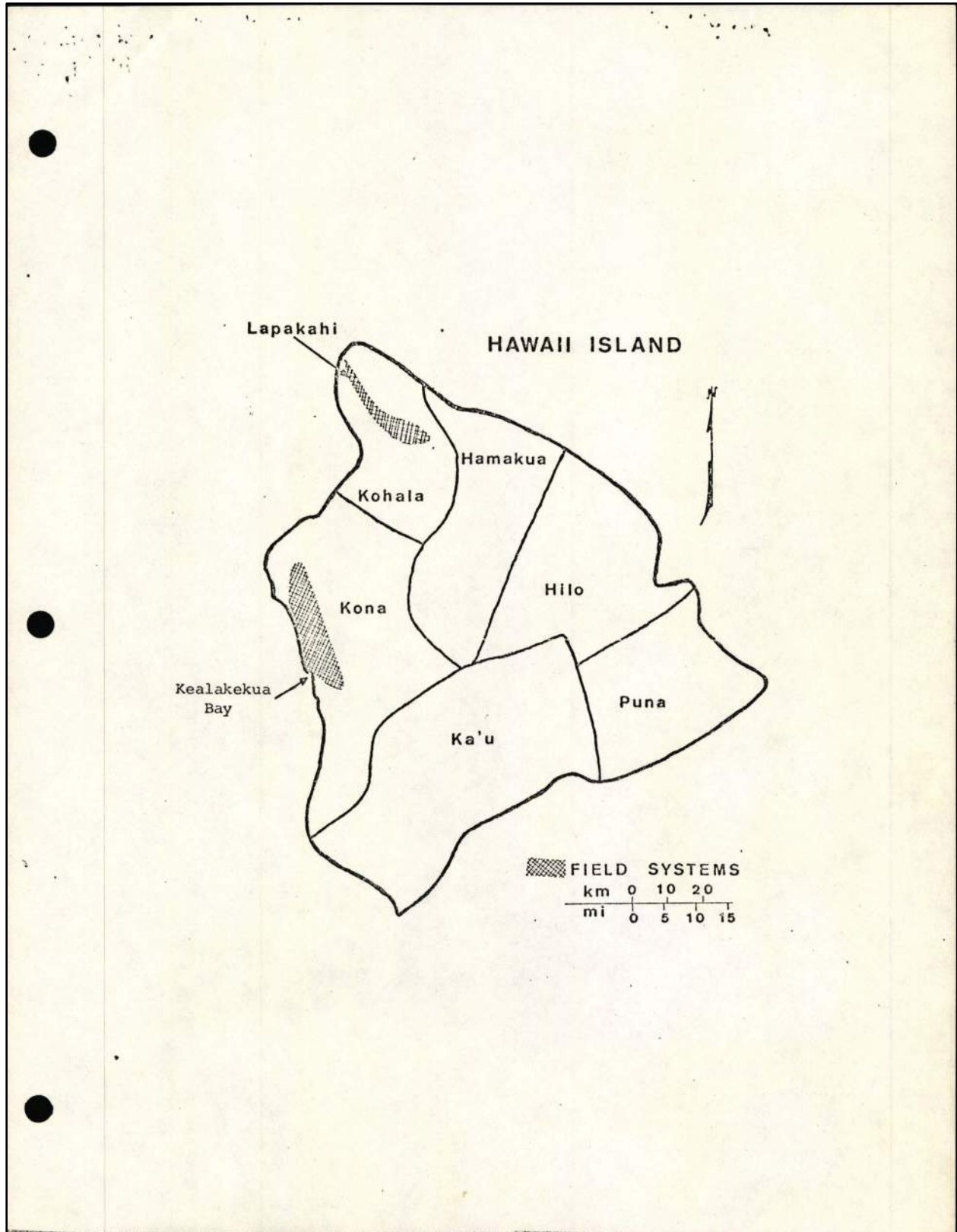
FORM  $\frac{1}{1} \frac{1}{2}$ : FOUR CORNER LOCATION

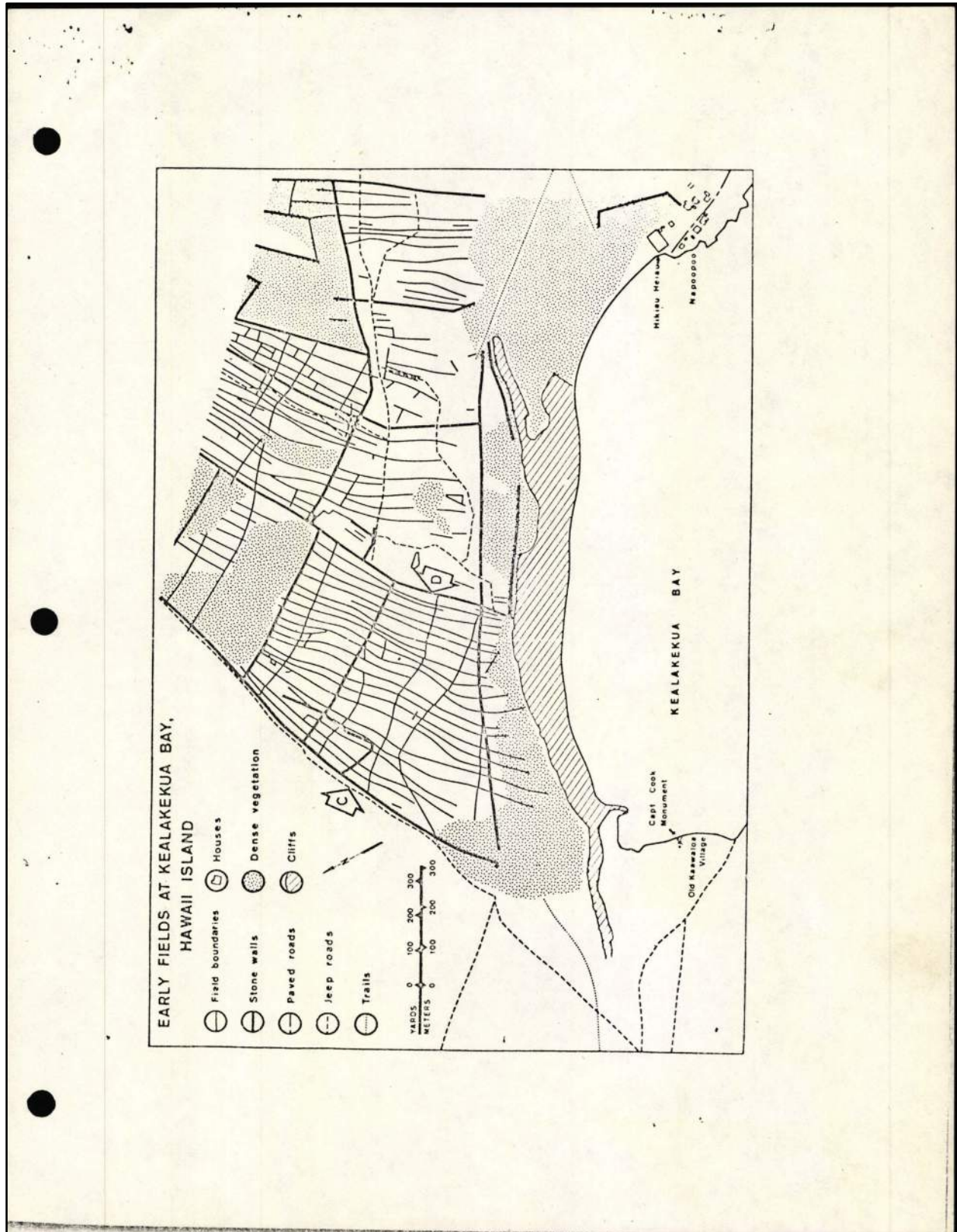
|            |                             |  |
|------------|-----------------------------|--|
| NW CORNER: | $\frac{2}{12} \frac{7}{13}$ | $\frac{2}{14} \frac{18}{15} \frac{1}{16} \frac{55}{17} \frac{18}{19} \frac{N.}{20} / \frac{18}{21} \frac{3}{22} \frac{7}{23} \frac{1}{24} \frac{E.}{25}$ |
| NE CORNER: | $\frac{2}{25} \frac{8}{26}$ | $\frac{2}{27} \frac{18}{28} \frac{1}{29} \frac{41}{30} \frac{31}{32} \frac{N.}{33} / \frac{19}{34} \frac{1}{35} \frac{67}{36} \frac{E.}{37}$             |
| SE CORNER: | $\frac{5}{38} \frac{7}{39}$ | $\frac{2}{40} \frac{14}{41} \frac{4}{42} \frac{50}{43} \frac{44}{45} \frac{N.}{46} / \frac{20}{47} \frac{2}{48} \frac{07}{49} \frac{E.}{50}$             |
| SW CORNER: | $\frac{5}{51} \frac{6}{52}$ | $\frac{2}{53} \frac{14}{54} \frac{3}{55} \frac{00}{56} \frac{57}{58} \frac{N.}{59} / \frac{19}{60} \frac{4}{61} \frac{81}{62} \frac{E.}{63}$             |
|            | QUAD                        | NORTH GRID COORDINATE EAST GRID COORDINATE   |

ISLAND

QUAD IDENTIFICATION NO.

50-10-37-6601





FEATURE DESCRIPTION FORM

50 - 10 - 37 - 6601  
ISLAND QUAD IDENTIFICATION NO.

VERBAL DESCRIPTION MUST INCLUDE: bearings and sources used to locate feature; size; shape; construction technique; materials used; terrain features; condition; surface artifacts; midden. SIGNIFICANCE STATEMENT MUST INCLUDE: research potential; interpretive potential; unusual or important characteristics; probable function; importance as representative of its class; recommendation of Register status.

DESCRIPTION:

The most extensive and monumental work of ancient Hawaii is the Kona Field System, lying along the western side of Hawaii Island. This field system is so extensive that it can only be appreciated from an airplane or by air photos, for it is an integrated complex of remains three by eighteen miles in size. The fields form a patterned network of elongated rectangles lying as a band parallel to the sea.

Ground inspections in the Kealahou Bay area have shown that the patterning is caused by earthen and rock ridges which enclose rectangular field areas, generally oriented with their long axis perpendicular to the sea. This places the long sides of each rectangular field perpendicular to the topographic contours and parallel to the terrain slope. Individual fields vary in size from 9 meters (30 feet) wide by 15 meters (50 feet) long to fields measuring 50 by 300 meters (150 by 1,000 feet). The field dimensions appear related to local topography. A field may widen to take in a feature, such as an outcropping, or it may narrow to go around one, for example.

Some field boundaries are well constructed of stacked stone while others are merely piles of rock lining the field borders. These walls vary in height from about 0.5 to 1.0 meters (1.5 to 3 feet). The earthen mounds vary from about 0.5 to 1 meters (1.5 to 3 feet) in height and are quite rounded. The width of these field boundaries ranges from about 1 meter (3 feet) for well constructed stone walls to about 3 meters (9 feet) for the rounded earthen mounds.

There was no evidence of irrigation as shown by traces of water diversion or by terracing; the mounds and walls apparently were for rainfall retention, boundary markers and depositories for field rocks. In addition, the upslope orientation of the fields rules against their use for holding surface water, indicating that water was limited to rainfall.

The general symmetry of the Kealahou fields, and of the whole Kona System, is well designed to take advantage of the western Hawaii Island environment. The orientation maximizes the available sunlight and exposure to periodic rain showers. The alignment would have made the crops susceptible to high velocity trade winds were it not for the protection of Mauna Loa. On-shore winds are generally light so physical damage or excessive plant evapo-transpiration would not have been a crucial factor in field alignment, contrary to the situation in Kohala.

FEATURE DESCRIPTION FORM

50 - 1 0 - 3 7 - 6 6 0 1  
 ISLAND QUAD IDENTIFICATION NO.

VERBAL DESCRIPTION MUST INCLUDE PERTINENT DATA ON: bearings and sources used to locate feature; terrain and vegetation; size; shape; construction technique; materials used; condition; surface artifacts or midden visible. SIGNIFICANCE STATEMENT MUST INCLUDE: unusual or important characteristics; accessibility; interpretive and research potential; evaluation of the site's importance as a representative of its class; recommendations for register category.

(Page Two)

Excellent historical documentation exists for the Kona Field System, primarily through the journal of Archibald Menzies, the surgeon and naturalist with Captain George Vancouver, who visited periodically between A.D. 1792 and 1794. He made two trips inland through portions of the Kona Field System, from the coast to its upper elevations. In his walk through the northern portion of the Kona Field System, Menzies left Kailua to ascend Hualalai, noting:

"We commenced our march with a slow pace, exposed to the scorching heat of the meridian sun, over a dreary barren track of a gradual ascent, consisting of little else than rugged porous lava and volcanic dregs, for about three miles, when we entered the breadfruit plantations whose spreading trees with beautiful foliage were scattered about that distance from the shore along the side of the mountain as far as we could see on both sides. Here the country began to assume a pleasant and fertile appearance, through which we continued our ascent for about two miles further, surrounded by plantations of the esculent roots and vegetables of the country, industriously cultivated, till we came to the uppermost village consisting of a few scattered huts ... [p. 154].

After reaching the summit of Hualalai, Menzies and his group angled south directly toward Kaawaloa at Kealakekua Bay instead of returning to Kailua. Descending out of the forest, he noted:

"... we found the lower edge of it (the forest) as in other places, adorned with rich plantations of plantains and bananas [p. 167]."

The most extensive description of the Kona Field System comes from a similar trip by Menzies at Kealakekua Bay, near the southern end of the field system. After leaving Kaawaloa, Menzies observed:

The forenoon was far spent in arranging and equipping the party before we left the village [Kaawaloa], and as our route lay directly back from it, over a dry barren rocky country, up a steep ascent, in the scorching heat of the day, the first part of our journey was rather fatiguing, before we gained the summit of the eminence over the bay, where we met a refreshing breeze, and had

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DATE:

## FEATURE DESCRIPTION FORM

50 - 1 0 - 3 7 - 6 6 0 1  
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(Page Three)

an extensive prospect of the country and villages to the southward of us. The tract which extended along shore, if we might judge from its appearance and our knowledge of that which we had already traveled over, we were ready to pronounce a dreary naked barren waste, if we except a few groves of cocoa palms here and there near the villages. But that which stretched higher up along the verge of the woods from the manner it was industriously laid out in little fields exhibited a more pleasing and fertile appearance.

On leaving this station, we soon lost sight of the vessels, and entered their bread-fruit plantations, the trees of which were a good distance apart, so as to give room to their boughs to spread out vigorously on all sides, which was not the case in the crowded groves of Tahiti, where we found them always planted on the low plains along the sea side. But here the size of the trees, the luxuriancy of their crop and foliage, sufficiently show that they thrive equally well on an elevated situation. The space between these trees did not lay idle. It was chiefly planted with sweet potatoes and rows of cloth plant [wauke]. As we advanced beyond the bread-fruit plantations, the country became more and more fertile, being in a high state of cultivation. For several miles round us there was not a spot that would admit of it but what was with great labor and industry cleared of the loose stones and planted with esculent roots or some useful vegetables or other. In clearing the ground, the stones are heaped up in ridges between the little fields and planted on each side, either with a row of sugar cane or the sweet root of these islands (Dracena ferrea, Linn) [ti] where they afterwards continue to grow in a wild state, so that even these stony, uncultivated banks are by this means made useful to the proprietors, as well as ornamental to the fields they intersect.

The produce of these plantations, besides the above mentioned, are the cloth plant (Morus papyrifera, Linn.) [wauke], taro, and sweet potatoes. The latter are here planted three or four feet apart and earthed up around their stems much in the same manner as the common

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DATE:



FEATURE DESCRIPTION FORM

50 - 1 0 - 3 7 - 6 6 0 1  
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VERBAL DESCRIPTION MUST INCLUDE PERTINENT DATA ON: bearings and sources used to locate feature; terrain and vegetation; size; shape; construction technique; materials used; condition; surface artifacts or midden visible. SIGNIFICANCE STATEMENT MUST INCLUDE: unusual or important characteristics; accessibility; interpretive and research potential; evaluation of the site's importance as a representative of its class; recommendations for register category.

(Page Four)

potatoes are treated in England. When they dig up any, we remarked that, after stripping off the potatoes, they carefully put the old plant back again in the ground for the ensuing crop. But the taro, being naturally an aquatic plant, required in this dry soil a very different treatment. There were generally two or three of them planted together in a hole about nine inches below the surface of the ground. These holes were about four feet apart, and as the plants grew up, the earth is gathered round their stems in the form of a basin to retain the water, either from rain or otherwise, about their roots. The whole field is generally covered with a thick layer of hay, made from long, coarse grass or the tops of sugar cane, which continually preserves a certain degree of moisture in the soil that would otherwise be parched up by the scorching heat of the solar rays. In this way they rear up these roots to very great perfection even on a dry elevated situation.

The land here is divided into plantations, called ili, which take their rise at the sea side and proceed up the country, preserving a certain breadth without any limitations, or as far as the owner chooses to cultivate them, and without the protection either of high walls or gates. (p. 77)

After breakfast, we pursued our course onward with a fair prospect of a fine day and soon after entered the wood by a well trodden path, on both sides of which were luxuriant groves of plantains and bananas reared up with great industry in the neatest order of cultivation. These being tender vegetables, required a sheltered situation and good soil to bring them to perfection. (p. 80)

Menzies continued inland above the field system and returned to the coast at Honaunau, just south of Kealakekua Bay.

SIGNED:

DATE:

FEATURE DESCRIPTION FORM

50 - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_  
 ISLAND QUAD IDENTIFICATION NO.

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(Page Five)

The routes of Menzies and other early observers were plotted, observations matched to specific land areas, and the observations and the areas were analyzed according to modern environmental data to determine the characteristics controlling the agriculture. The following sub-zones for the Kona Field System were developed:

Sweet Potato/Wauke Zone

Elevation: Sea level to about 500 feet (0 to 150 meters)

Annual Rainfall: Seasonal; 30 to 50 inches (.8 to 1.2 meters)

Crops: Sweet potatoes and wauke grown in very rocky areas.

Breadfruit/Sweet Potato/Wauke Zone

Elevation: 500 to 1,000 feet (150 to 300 meters)

Annual Rainfall: 30 to 60 inches (.8 to 1.5 meters)

Crops: breadfruit trees, with sweet potatoes and wauke planted between them.

Sweet Potato/Dry Land Taro Zone

Elevation: 1,000 to 2,500 feet (300 to 750 meters)

Annual Rainfall: 60 to 80 inches (1.5 to 2.0 meters)

Crops: no breadfruit trees; sweet potatoes in the lower part, dry land taro in the upper part. Field boundaries planted with ti and sugar cane.

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FEATURE DESCRIPTION FORM50 - 1 0 - 3 7 - 6 6 0 1  
ISLAND QUAD IDENTIFICATION NO.

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(Page Six)

Plantains and Banana Zone

Elevation: 2,000 to 3,000 feet (600 to 900 meters)

Annual Rainfall: 80 to 100 inches (2.0 to 2.5 meters)

Crops: bananas and plantains planted just below and within the forest.

All environmental variables are relatively constant for the sub-zones except those of elevation and rainfall, demonstrating the regulating effect of these two variables on agriculture in the Kona Field System. These divisions are not to be construed as clear-cut but rather show a gradual change from one sub-zone to the next, correlated with steady increases in elevation and rainfall.

SIGNIFICANCE

The Kona Field System is without equal in Hawaii, and probably in the nation in terms of the extensiveness of a prehistoric modification of the land. It is quite comparable in terms of complexity and size with the well known field systems of Central and South America, although differing in specific characteristics. It is a physical demonstration of the highly developed farming economy of ancient Hawaii and illustrates the complexity and advanced state of aboriginal Hawaiian culture. The system is so extensive that it cannot be seen in its entirety except from extremely high altitudes, but the physical remains are sufficiently well preserved and in such generally good condition that they may still be detected on the ground, although it is difficult to realize what is viewed is part of such a massive system. In all, it is a magnificent monument to the exhaustive labors and industry of the ancient Hawaiians.

The study of environmental and crop factors shows the ancient Hawaiians were knowledgeable and adept in molding their needs in consonance with environmental restraints. Historical records show a strong appreciation of good conservation measures, such as fallowing, and mulching. This illustrates the close partnership with nature which was so much a characteristic of ancient Hawaii.

SIGNED:

DATE:

FEATURE DESCRIPTION FORM50 - 1 0 - 3 7 - 6 6 0 1  
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(Page Seven)

The vastness and complexity of the system show the excellent practical engineering and environmental knowledge of the ancient Hawaiians, as well as the highly evolved social organization which could coordinate the labors of a multitude of people to create and maintain such a system. Yet, within the overall system, it is possible to see the role of the 'ohana, the basic Hawaiian kinship and land-controlling grouping, for the boundaries of the traditional 'ili and ahupua'a land divisions are clear. This gives an unparalleled opportunity for research into the organization and interrelationships of ancient Hawaiian society.

The innumerable habitation remains, as well as the remains of complete assemblages of other physical remains, such as burial areas, religious structures (heiau), cave shelters, refuge caves, animal enclosures, and work platforms all contribute to the research importance of this system.

Finally, the Kona Field System is a dramatic illustration of the dependence of ancient Hawaii upon the production of land foods, their primary subsistence source. Truly, this is worthy of entry into the Hawaii and National Registers of Historic Places as a district of high value.

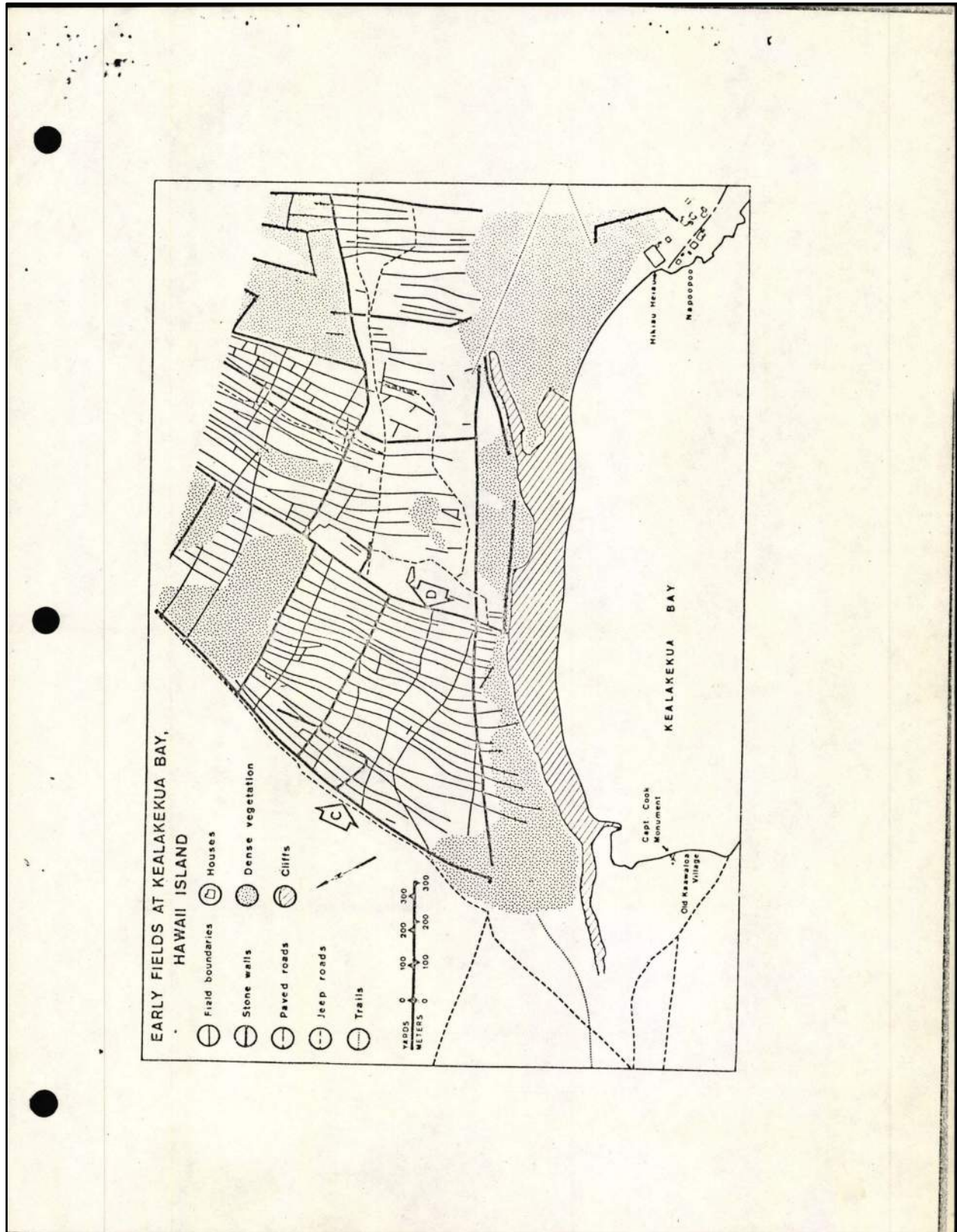
Urban development and modern agriculture has caused moderate damage to the system, but ample remains are still in existence to delimit the system and to warrant a high value evaluation.

N.B. Quotations are from:  
Menzies, Archibald  
1920 Hawaii Nei 128 Years Ago.... Honolulu.

N.B. The Quad number in the site identification was arbitrarily chosen since the district extends through multiple quads.

|    | <u>LAT.</u>   | <u>LONG.</u>   |
|----|---------------|----------------|
| NW | 19° 42' 15" N | 156° 00' 27" W |
| NE | 19° 42' 16" N | 155° 56' 27" W |
| SE | 19° 22' 20" N | 155° 50' 10" W |
| SW | 19° 21' 32" N | 155° 54' 18" W |

SIGNED: *J Steel Neom*DATE: *May 15, 1979*



FORM  $\frac{3}{1}$   $\frac{1}{2}$ : PROPERTY OWNERSHIP

50 -  $\frac{10}{3\ 4}$  -  $\frac{37}{5\ 6}$  -  $\frac{6601}{7\ 8\ 9\ 10\ 11}$

ISLAND                      QUAD                      IDENTIFICATION NO.

$\frac{21}{12\ 13}$      $\frac{11}{14\ 15}$      $\frac{1}{16}$      $\frac{3}{17}$      $\frac{2}{18}$      $\frac{2}{19}$      $\frac{20}{20}$      $\frac{21}{21}$      $\frac{22}{22}$      $\frac{23}{23}$      $\frac{24}{24}$      $\frac{25}{25}$      $\frac{26}{26}$      $\frac{27}{27}$

USE 1    USE 2    STAT    OWNR    ATTD    ACCS    zone sect    plat    parcel

T A X    M A P    K E Y

PROPERTY OWNER: M U L T I P L E

28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

STREET ADDRESS: \_\_\_\_\_

46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

TOWN OR CITY: \_\_\_\_\_

64 65 66 67 68 69 70 71 72 73    74 75    76 77 78 79 80

STATE                      ZIP CODE

---

FORM  $\frac{4}{1}$   $\frac{1}{2}$ : BACKGROUND DATA

50 -  $\frac{10}{3\ 4}$  -  $\frac{37}{5\ 6}$  -  $\frac{6601}{7\ 8\ 9\ 10\ 11}$

ISLAND                      QUAD                      IDENTIFICATION NO.

AHUPUA'A    M U L T I P L E

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

PREVIOUS SURVEYS: N O N E

27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

PREVIOUS SITE DESIGNATION(S): N O N E

45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

LAST NAME OF SURVEYOR: \_\_\_\_\_

63 64 65 66 67 68 69 70 71 72 73 74

75 76                      77 78                      79 80

INSTITUTION                      YEAR                      FILED AT

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## **APPENDIX C**

Cultural Impact Assessment  
Report



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**Draft**  
**Cultural Impact Assessment for the**  
**Department of Hawaiian Home Lands**  
**North Kona Well Construction in Pua‘a Project,**  
**Kahului Ahupua‘a, North Kona District, Hawai‘i Island**  
**TMK: [3] 7-5-014:001**

**Prepared for**  
**Belt Collins Hawaii LLC**

**Prepared by**  
**Chantellee Konohia Spencer, B.A.,**  
**and**  
**Hallet H. Hammatt, Ph.D.**

**Cultural Surveys Hawai‘i, Inc.**  
**Kailua, Hawai‘i**  
**(Job Code: PUA 4)**

**July 2019**

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**P.O. Box 1114**  
**Kailua, Hawai‘i 96734**  
**Ph.: (808) 262-9972**  
**Fax: (808) 262-4950**

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**Maui Office**  
**1860 Main St.**  
**Wailuku, Hawai‘i 96793**  
**Ph.: (808) 242-9882**  
**Fax: (808) 244-1994**

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## Management Summary

|                            |  |
|----------------------------|--|
| <b>Reference</b>           | Cultural Impact Assessment for the Department of Hawaiian Home Lands North Kona Well Construction in Pua'a Project, Kahului Ahupua'a, North Kona District, Hawai'i Island, TMK: [3] 7-5-014:001 (Spencer and Hammatt 2019)   |
| <b>Date</b>                | July 2019  |
| <b>Project Number(s)</b>   | Cultural Surveys Hawai'i, Inc. (CSH) Job Code: PUA A 4   |
| <b>Agencies</b>            | State of Hawai'i, Department of Health – Office of Environmental Quality Control (OEQC)  |
| <b>Land Jurisdiction</b>   | Department of Hawaiian Home Lands (DHHL)   |
| <b>Project Proponent</b>   | Department of Hawaiian Home Lands (DHHL)   |
| <b>Project Location</b>    | The project area is located in the town of Hōlualoa on the <i>mauka</i> (upland) side of Māmalahoa Highway (Route 180) between mile markers 4 and 5. The project area is depicted on a portion of the 1996 Kailua and Kealakekua Quadrangle U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle.   |
| <b>Project Description</b> | The project entails drilling one or more exploratory wells, an approximate 24-inch diameter hole, for the proposed potable well. If the well(s) provide potable water, pumps will be installed in the wells. The site will be graded to accommodate a 2-million-gallon water storage tank, control building, access road, electrical lines, and other appurtenance improvements required for the operation and maintenance of the well site.   |
| <b>Project Acreage</b>     | 5.38 acres (parcel is 128.419 acres)   |
| <b>Document Purpose</b>    | The purpose of this cultural impact assessment (CIA) is to comply with the State of Hawai'i's environmental review process under Hawai'i Revised Statutes (HRS) §343, which requires consideration of the proposed project's potential effect on cultural beliefs, practices, and resources. Through document research and cultural consultation efforts, this report provides information compiled to date pertinent to the assessment of the proposed project's potential impacts to cultural beliefs, practices, and resources (pursuant to the Office of Environmental Quality Control's <i>Guidelines for Assessing Cultural Impacts</i> ) which may include traditional cultural properties (TCPs). These TCPs may be significant historic properties under State of Hawai'i significance Criterion e, pursuant to Hawai'i Administrative Rules (HAR) §13-275-6 and §13-284-6. Significance Criterion e refers to historic properties that "have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or |

|  |   |
|--|---|
|  | <p>oral accounts—these associations being important to the group’s history and cultural identity” (HAR §13-275-6 and §13-284-6). The document will likely also support the project’s historic preservation review under HRS §6E and HAR §13-275 and §13-284. The document is intended to support the project’s environmental review and may also serve to support the project’s historic preservation review under HRS §6E-8 and HAR §13-284.</p>   |
| <p><b>Results of Background Research</b></p> | <p>Background research for this study yielded the following results in approximate chronological order:</p> <ol style="list-style-type: none"> <li>1. The proposed project area is located on the leeward side of Hawai‘i Island in the <i>moku</i> (district) of North Kona. Traditionally, Hawaiian <i>ahupua‘a</i> (traditional land division) extended from the mountains to the sea so that the inhabitants had access to a wide variety of resources. This particular upland region is located within the traditional “Kona Field System” which has been described as “the most extensive and monumental work of ancient Hawaii” (Newman 1978).</li> <li>2. Pua‘a, like its neighbors, is an integral part of the multi-zone cultivation area on the slope running <i>mauka/makai</i> (mountains/sea) behind Kailua and Kealakekua, known as the Kona Field System. The project area sits in the lowest zone of the Kona Field System in Pua‘a 3rd, known as the <i>Kula</i> (from sea level to 500ft above mean sea level (AMSL)) zone.</li> <li>3. Four <i>heiau</i> (pre-Christian place of worship) have been recorded within the <i>ahupua‘a</i> of Pua‘a though no <i>heiau</i> has been recorded within the project area. Kalopau, Keaukukui‘ula, Mao, and Kauaikahaola were recorded by Thrum and later reevaluated by Stokes and Dye (1991).</li> <li>4. John Papa ‘Ī‘Ī mentioned a famous surf of Pua‘a called Ko‘okā. The sport of <i>lele wa‘a</i> or canoe leaping could be seen here where this surf breaks. He also noted that Kamehameha and Ka‘ahumanu were both very skilled in canoe surfing (‘Ī‘Ī 1959:133).</li> <li>5. Kailua Kona gradually lost its importance as a political center as the capital of Hawai‘i was moved first to Lahaina then to Honolulu. Coupled with the general decline of the native population, Kailua Kona was depopulated and almost completely empty. Following the general decline of population and traditional subsistence farming, ranching activities increased throughout the Kona area.</li> <li>6. Land Commission Awards (LCAs) were granted near the project area though no claim was made for the parcel of land that sits in the current project area. This is probably due in part to the dual ownership of Pua‘a between Lot</li> </ol> |

|   |   |
|---|---|
|   | <p>Kamehameha and the Government, making it unavailable to be claimed. This does not, however, leave the <i>ahupua'a</i> exempt from being sold by the Government to private land owners.</p> <p>7. Research by Marion Kelly showed that after the Māhele, the areas most closely associated to the project area were redistributed. In addition to parcels awarded in the Māhele, between the years 1852 and 1853, the purchase of government lands in North Kona took place. An individual listed as J. Marechal purchased 198 acres in Pua'a 3, Naipuwailuna purchased 60 acres in Pua'a 2, and Pupule purchased 103 acres also in Pua'a 2. Kapae 1 purchased 97 acres in Kahului 1 and Kipola purchased 78 acres also in Kahului 1 (Kelly 1983:43).</p>   |
| <p><b>Results of Community Consultation</b></p> | <p>CSH attempted to contact Native Hawaiian organizations (NHOs), agencies, and community members. Below is a list of individuals who shared their <i>mana'o</i> (thoughts, opinions) and <i>'ike</i> (knowledge) about the project area and Pua'a Ahupua'a:</p> <ol style="list-style-type: none"> <li>1. Craig "Bo" Kahui, Executive Director of La'i 'Ōpua 2020</li> </ol>   |
| <p><b>Impacts and Recommendations</b></p>       | <p>Based on information gathered from the cultural and historical background and the community consultation, potential impacts were identified and the following preliminary recommendations were made:</p> <ol style="list-style-type: none"> <li>1. Project construction workers and all other personnel involved in the construction and related activities of the project should be informed of the possibility of inadvertent cultural finds, including human remains. In the event that any potential historic properties are identified during construction activities, all activities will cease in that area and the SHPD will be notified pursuant to HAR §13-280-3. In the event that <i>iwi kūpuna</i> (ancestral remains) are identified, all earth moving activities in the area will stop, the area will be cordoned off, and the SHPD, coroner, and Police Department will be notified pursuant to HAR §13-300-40. In addition, in the event of an inadvertent discovery of human remains, the completion of a burial treatment plan, in compliance with HAR §13-300 and HRS §6E-43, is recommended.</li> <li>2. In the event that <i>iwi kūpuna</i> and/or cultural finds are encountered during construction, project proponents should consult with cultural and lineal descendants of the area to develop a reinterment plan and cultural preservation plan for proper cultural protocol, curation, and long-term maintenance.</li> </ol> |

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## Section 1 Introduction

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### 1.1 Project Background

At the request of Belt Collins Hawaii LLC, on behalf of the State of Hawai'i – Department of Hawaiian Home Lands (DHHL), Cultural Surveys Hawai'i, Inc. (CSH), is conducting a cultural impact assessment (CIA) for the proposed DHHL Well Construction project in Pua'a, Kahului Ahupua'a, North Kona District, Hawai'i Island, Tax Map Key (TMK): [3] 7-5-014:001.

The project entails drilling one or more exploratory wells, approximately 24-inch diameter hole, for the proposed potable well. If the well(s) provide potable water, pumps will be installed in the wells. The site will be graded to accommodate a 2-million-gallon water storage tank, control building, access road, electrical lines, and other appurtenance improvements required for the operation and maintenance of the well site. The proposed project site is approximately 5.38 acres.

The project area is depicted on a portion of the 1996 Kailua and Kealakekua Quadrangle U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1), a tax map plat (Figure 2), and a 2018 Google Earth aerial photograph (Figure 3).

### 1.2 Document Purpose

The purpose of this CIA is to comply with the State of Hawai'i's environmental review process under Hawai'i Revised Statutes (HRS) §343, which requires consideration of the proposed project's potential effect on cultural beliefs, practices, and resources. Through document research and cultural consultation efforts, this report provides information compiled to date pertinent to the assessment of the proposed project's potential impacts to cultural beliefs, practices, and resources (pursuant to the Office of Environmental Quality Control's *Guidelines for Assessing Cultural Impacts*) which may include traditional cultural properties (TCPs). These TCPs may be significant historic properties under State of Hawai'i significance Criterion e, pursuant to Hawai'i Administrative Rules (HAR) §13-275-6 and §13-284-6. Significance Criterion e refers to historic properties that "have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group's history and cultural identity" (HAR §13-275-6 and §13-284-6). The document will likely also support the project's historic preservation review under HRS §6E and HAR §13-275 and §13-284. The document is intended to support the project's environmental review and may also serve to support the project's historic preservation review under HRS §6E-8 and HAR §13-284.

### 1.3 Scope of Work

1. Examination of cultural and historical resources, including Land Commission documents, historic maps, and previous research reports, with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal, and other resources or agricultural pursuits as may be indicated in the historic record.
2. Review of previous archaeological work at and near the subject parcel that may be relevant to reconstructions of traditional land use activities; and to the identification and description of cultural resources, practices, and beliefs associated with the parcel.

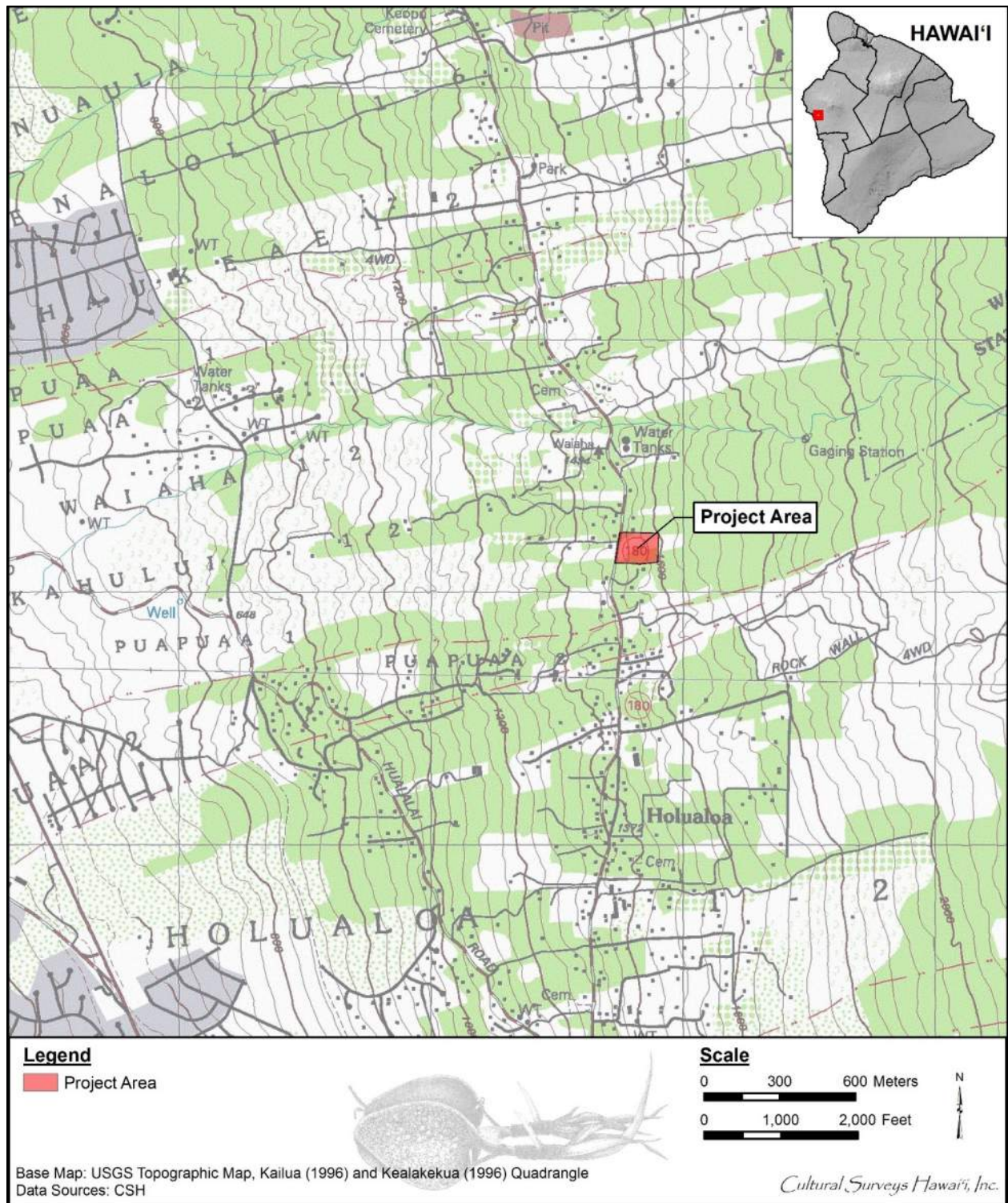


Figure 1. Portion of the 1996 Kailua and Kealakekua USGS 7.5-minute topographic quadrangle showing the location of the project area

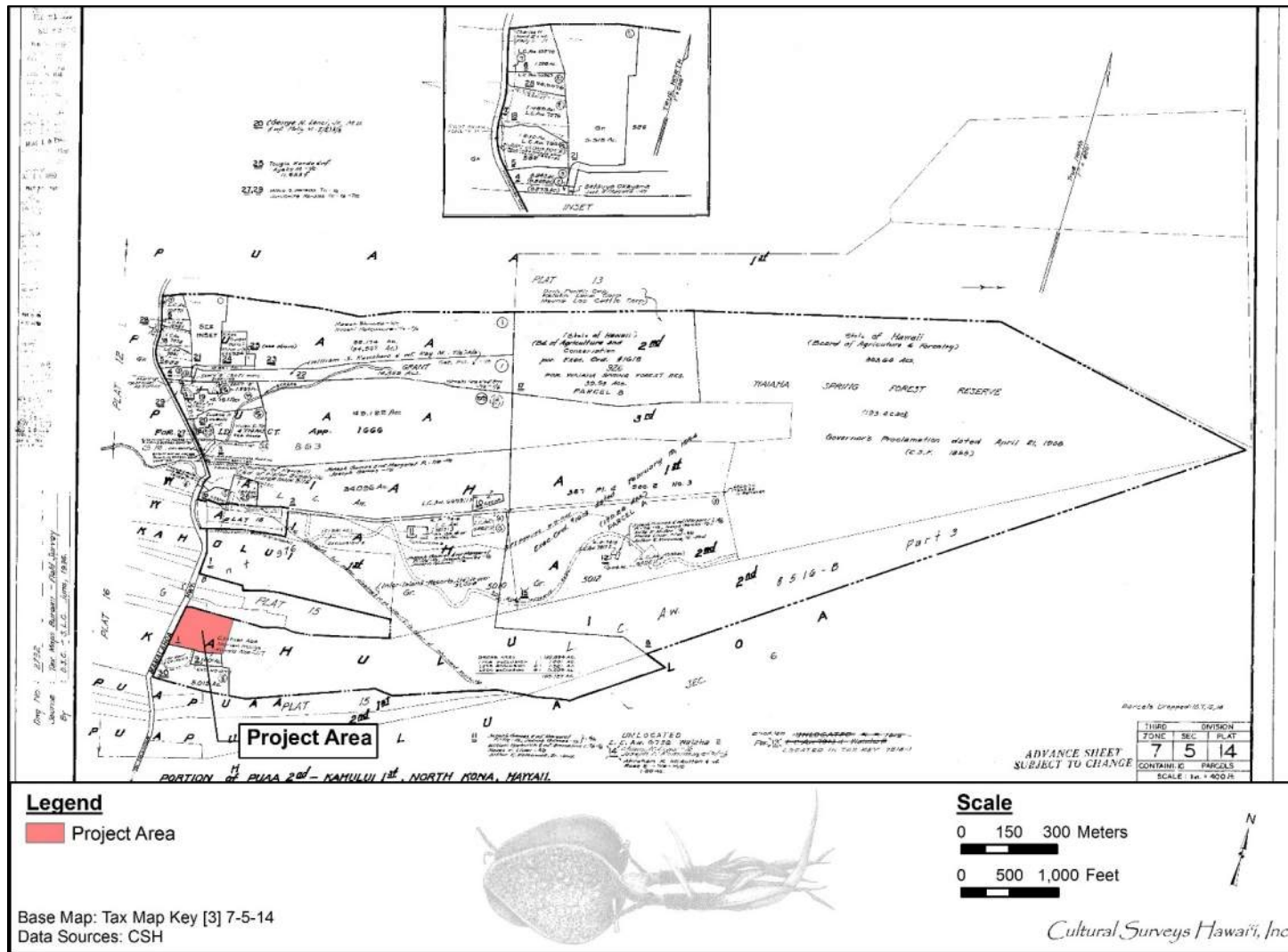


Figure 2. Tax Map Key (TMK) [3] 7-5-14 showing the project area (Hawai'i TMK Service 2014)

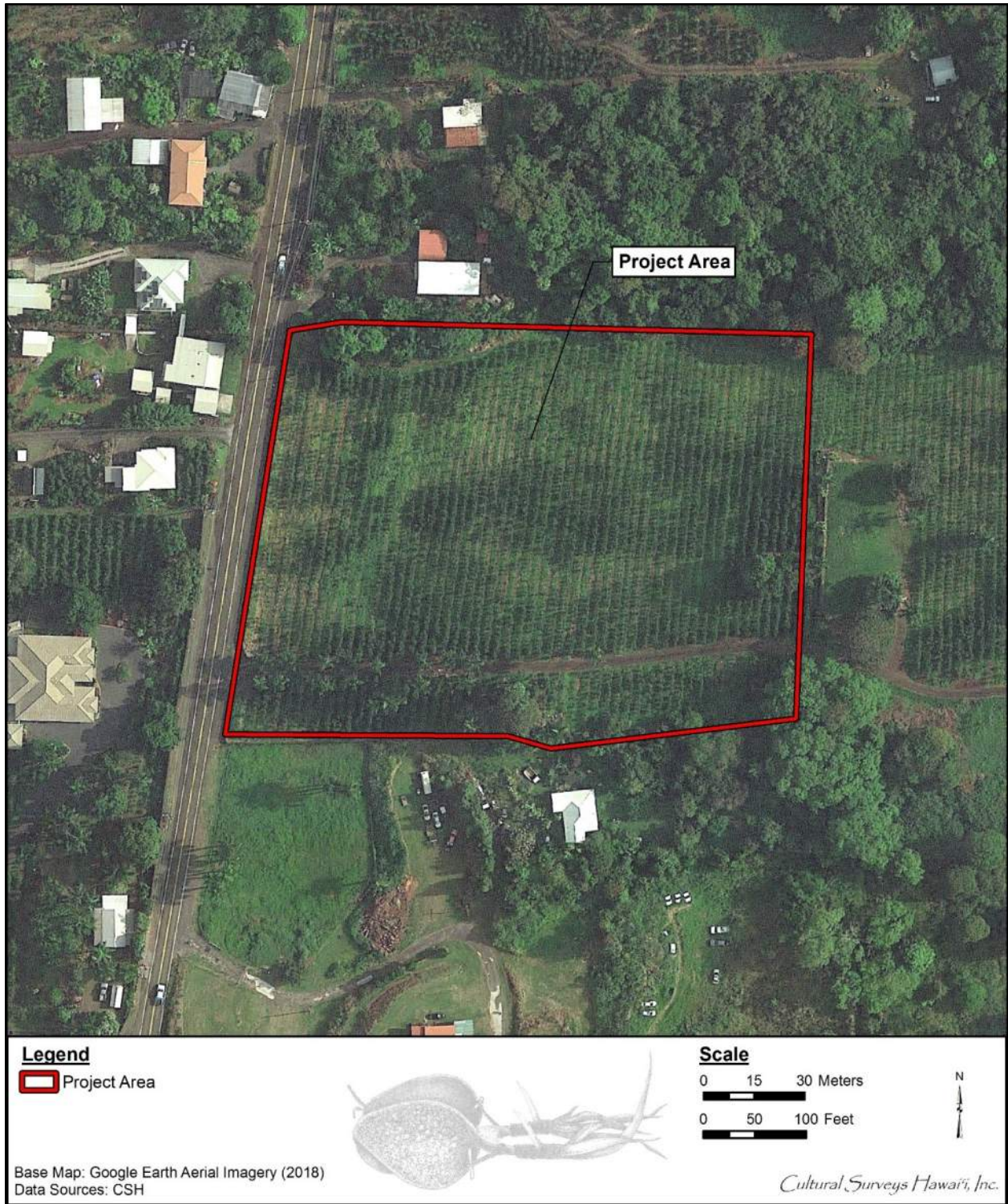


Figure 3. Aerial photograph showing the location of the project area (Google Earth 2018)

3. Consultation and interviews with knowledgeable parties regarding cultural and natural resources and practices at or near the parcel; present and past uses of the parcel; and/or other practices, uses, or traditions associated with the parcel and environs.
4. Preparation of a report that summarizes the results of these research activities and provides recommendations based on findings

## 1.4 Environmental Setting

### 1.4.1 Natural Environment

The proposed project area is located on the leeward, western slope of Hualālai Volcano, approximately 2.5 miles back from the coast at an elevation of 1,500-1,600 ft above mean sea level. Traditionally, Hawaiian *ahupua'a* (traditional land division) extended from the mountains to the sea so that the inhabitants had access to a wide variety of resources. This particular upland region is located within the traditional “Kona Field System” which is described as:

The most extensive and monumental work of ancient Hawaii is the Kona Field System, lying along the western side of Hawaii Island. The field system is so extensive that it can only be appreciated from an airplane or by air photos, for it is an integrated complex of remains three by eighteen miles in size. It is a physical demonstration of the highly developed farming economy. [Hawai'i Register of Historic Places 1978]

Though modern mapping has placed this project in the *ahupua'a* of Pua'a, older maps and lineal descendants have placed the project in the *ahupua'a* of Kahului. With respect to the lineal descendants of the area, both Pua'a and Kahului will be covered in this report.

The Kona region is characterized by a generally steep slope (about 17%), a low annual rainfall of 30 to 50 inches (Armstrong 1973), and undissected drainage systems. Nevertheless, there exists considerable variation in both micro-topography and monthly totals of precipitation resulting from the thin (4-to-5 feet [ft] thick) bedded and highly fluid late lava flows of Hualālai (Macdonald and Abbott 1970) and the subtropical cyclonic storms bring southerly and southwesterly winds and abnormally high rainfall, respectively. The mean annual temperature is from 70 to 75° F.

### 1.4.2 *Ka Lepo* (Soils)

According to the U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) database (2001) and soil survey data gathered by Sato et al. (1973), the project area's soils consist primarily of Honuauulu extremely stony silty clay loam, 12 to 20% slope (HVD) and Kealakekua very stony silty clay loam, 6 to 20% slopes (KRD) (Figure 4).

Honuauulu soils are described as follows:

The Honuauulu series consists of well-drained silty clay loams that formed in volcanic ash. These are gently sloping to moderately steep soils on uplands. They are at an elevation ranging from 1,000 to 2,500 feet and receive from 60 to 90 inches of rainfall annually, mostly during the summer months. [...] The natural vegetation consists of Christmas berry, guava, hilograss, and molassesgrass. [...] [Sato et al. 1973:19]

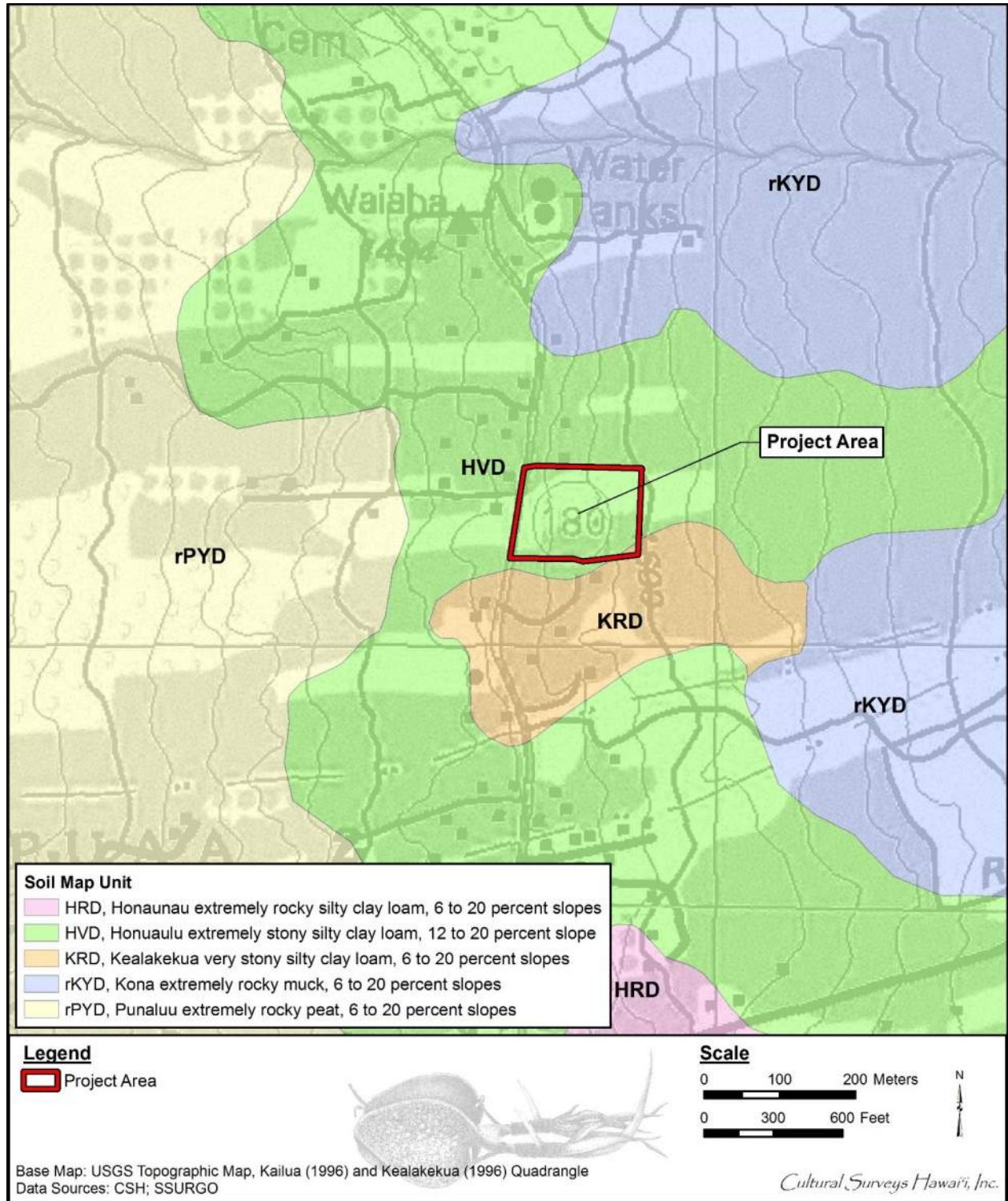


Figure 4. Overlay of *Soil Survey of the State of Hawaii* (Sato et al. 1973), indicating soil types within and surrounding the project area (USDA SSURGO 2001)

Kealakekua soils are described as follows:

The Kealakekua series consists of well-drained silty clay loams that formed in volcanic ash. These are gently sloping to moderately steep soils on uplands at an elevation from 2,000 to 3,500 feet. The annual rainfall is 80 to 125 inches, most of which falls during the summer months. [...] The natural vegetation consists of ohia, tree fern, sedges, and kikuyugrass. [...] [Sato et al. 1973:26–27]

### 1.4.3 *Ka Makani* (Wind)

Each small geographic area on Hawai'i had a Hawaiian name for its own wind, rain, and seas. The North Kona district was no exception to this naming practice. In the story, *The Wind Gourd of La'amaomao*, Pāka'a and his son Kuāpāka'a are descendants of the wind goddess La'amaomao. With their possession of her special wind gourd, they could control and call forth the winds of Hawai'i. Pāka'a's chant traces the winds of and surrounding the Pua'a Ahupua'a. Pāka'a's chant is listed below:

|   |  |
|---|--|
| <i>Moa'e ka 'u malaiā ka makani</i>               | My Moa'e, the wind that is swelling,                   |
| <i>Apaiahaa i Kanakaloloa</i>                     | Apaiahaa is at Kanakaloloa,                            |
| <i>He Hau ko Kapalilua</i>                        | Hau is of Kapalilua,                                   |
| <i>He Eka ko Kona</i>                             | 'Eka is of Kona,                                       |
| <i>He Kipu ko Kahua</i>                           | Kipu is of Kahuā,                                      |
| <i>He Eelekoa ko Uli [...]</i>                    | 'E'elekoa is of Uli, [...]                             |
| [...]   | [...]  |
| [...] <i>a ala mai Kona i ke kehau</i>            | Kona awakens with the Kēhau breeze,                    |
| <i>Kuu aku la ka luhi o Kona i ke kehau [...]</i> | Kona's burden diminishing with the Kēhau breeze, [...] |
| [...]   | [...]  |
| <i>He Olauniu ka makani,</i>                      | 'Ōlauniu is the wind,                                  |
| <i>He Pili-a ko Kanikū,</i>                       | Pili-a is of Kanikū,                                   |
| <i>He A-e ko Kalaau,</i>                          | A'e is of Kala'au,                                     |
| <i>He Puhu, he Eka na makani o Kona,</i>          | Puhu and 'Eka are the winds of Kona,                   |
| <i>He Maaakualapu ko Kahaluu,</i>                 | Ma'a'akuulapu is of Kahalu'u                           |
| [...]   | [...]  |

[Nakuina 1902:53–55; 1992:47–48]

### 1.4.4 *Ka Ua* (Rain)

Kona weather is typified by afternoon showers brought on by warm air that has been moved inland by light sea breezes. The humid air gradually condenses over higher altitudes throughout



the day. At night the land cools resulting in breezes that send warm air back out to sea. Rainfall in this general area averages 30 inches per year (Giambelluca et al. 1986).

The ability to identify rain names demonstrates the deep knowledge a person has of their homeland. As explained by Collette Akana:

Rains are a source of pride for one's homeland. To know one's home is to know its stories and legends, its famous ali'i, its landmarks, and its rains. [...] Rain names were an important component in the traditional, largely place-based, information imparted to Hawaiian youngsters. Knowledge of local weather patterns ensured survival and proliferation, and knowledge of one's homeland was held in high esteem. [Charlot in Akana and Gonzalez 2015:xvii]

A few rains can be identified in Kona but only one is specific to the *ahupua'a* of Pua'a: this is the Nāulu rain. Other rains associated with Kona are the Palahī Pua'a and Awa'awa.

#### 1.4.4.1 Nāulu Rain

The Nāulu rain was mentioned in a *mele kanikau* or lament for Kamehameha IV (Alexander Liholiho) by his wife 'Emalani.

*'O Kona ia o ke kai malino a 'Ehu ē!*

Oh, Kona it is, of the tranquil sea of 'Ehu, oh!

*Ke ala a 'Ehu, ke ala a kāua i hele ai*

The pathway of 'Ehu, the path we two traversed

*I ke ao, i ka pō, pōwehiwehi i ka ua Nāulu a weli*

By day, by night, made dim and threatening by the stormy Nāulu rains

*He weliweli, he maluhia i ke aloha iā 'oe*

Frightful, but peaceful because of love for you

*Iā 'oe, iā 'oe, e Kalopelekei i ka lā ē!*

For you, for you, O Kalopelekei of the day, oh!

[Akana and Gonzalez 2015:188–189]

#### 1.4.4.2 Palahī Pua'a Rain

The Palahī Pua'a rain is an intermittent rain of Kona meaning “pig diarrhea” (Akana and Gonzalez 2015:218). It is mentioned below in a *ōlelo no'eau* (proverb) by Mary Kawena Pukui.

*'Mai hea mai 'oe?'*

'Where are you from?'

*'Mai Kona mai.'*

'From Kona.'

*'Pehea ka ua o Kona?'*

'How is the rain of Kona?'

*'Palahī pua'a ka ua o Kona.'*

'The rain of Kona pours like the watery excreta of a hog [palahī pua'a].'

*'A pehea ke aku?'*

'How are the aku fish?'

*'Hī ka pā, hī ka malau.'*

'They run loose from the hook and the bait carrier.'

[Akana and Gonzalez 2015:218]

#### 1.4.4.3 'Awa'awa Rain

The 'Awa'awa rain can be found on Hualālai, which is the eastern *mauka* (inland) border of Puapua'a. The section below is from a *mele* (song) mentioning the rain and Hualālai.

*Mikihilina Hainoa i ka 'Awa'awa*

Hainoa is dressed in the finery of the 'Awa'awa rain

*Ka pakī mau i ka luna o Hualālai*

Constantly splashing on the upper reaches of Hualālai

[Akana and Gonzalez 2015:17]

#### 1.4.5 Built Environment

The project area is located along the *mauka* side of the old Māmalahoa Highway. Land use in this area is generally for residence and agriculture. Almost the entire project area (and overall TMK parcel 001) has been previously impacted by the development of a coffee plantation possibly overlying elements of the pre-Contact Kona Field System. A rock wall defines the western boundary of the project area along Māmalahoa Highway. The rock wall extends *mauka* a short distance along the southern boundary, where it is replaced by a hog-wire fence that continues upslope beyond the project area. The northern project area boundary is generally defined by a historic stone wall (likely a modified remnant of the former Kona Field System). The eastern project area boundary generally follows the 1600-ft elevation and is not marked. An iron gate along the highway near the southwestern corner of the property accesses an asphalt driveway extending *mauka* through and beyond the project area. The interior of the project area is characterized by linear rows of mature coffee trees. Signs of mechanical disturbance were observed along the margins of the project area.

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## Section 2 Methods

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### 2.1 Archival Research

Research centers on Hawaiian activities including *ka 'ao* (legends), *wahi pana* (storied places), *'ōlelo no 'eau, oli, mele* (songs), traditional *mo 'olelo* (stories), traditional subsistence and gathering methods, ritual and ceremonial practices, and more. Background research focuses on land transformation, development, and population changes beginning with the early post-Contact era to the present day.

Cultural documents, primary and secondary cultural and historical sources, historic maps, and photographs were reviewed for information pertaining to the study area. Research was primarily conducted at the CSH library. CSH cultural researchers also gathered information at other archives and libraries including the Hawai'i State Archives, the Bishop Museum Archives, the University of Hawai'i at Mānoa's Hamilton Library, Ulukau, The Hawaiian Electronic Library (Ulukau.org 2014), the State Historic Preservation Division (SHPD) Library, the State of Hawai'i Land Survey Division, the Hawaiian Historical Society, and the Hawaiian Mission Houses Historic Site and Archives. Information on Land Commission Awards (LCAs) were accessed via Waihona 'Aina Corporation's Māhele database (Waihona 'Aina 2000), the Office of Hawaiian Affairs (OHA) Papakilo Database (Office of Hawaiian Affairs 2015), and the Ava Konohiki Ancestral Visions of 'Āina website (Ava Konohiki 2015).

### 2.2 Community Consultation

#### 2.2.1 Scoping for Participants

The cultural department commences our consultation efforts by utilizing our previous community contact list to facilitate the interview process. We then review an in-house database of *kūpuna* (elders), *kama 'āina* (native born), cultural practitioners, lineal and cultural descendants, Native Hawaiian Organizations (NHOs; includes Hawaiian Civic Clubs and those listed on the Department of Interior's NHO list), and community groups. CSH also contacts agencies such as the SHPD, OHA, and the appropriate Island Burial Council where the proposed project is located for their response to the project and to identify lineal and cultural descendants, individuals and/or NHOs with cultural expertise and/or knowledge of the study area. CSH is also open to referrals and new contacts.

#### 2.2.2 "Talk Story" Sessions

Prior to the interview, CSH cultural researchers explain the role of a CIA, how the consent process works, the project purpose, the intent of the study, and how their *'ike* (knowledge) and *mana'o* (thoughts and opinions) will be used in the report. The interviewee is given an Authorization and Release Form to read and sign.

"Talk Story" sessions range from the formal (e.g., sit down and *kūkā* [consultation, discussion] in the participant's place of choice over set interview questions) to the informal (e.g., hiking to cultural sites near the study area and asking questions based on findings during the field outing). In some cases, interviews are recorded and transcribed later.

CSH also conducts group interviews, which range in size. Group interviews usually begin with set, formal questions. As the group interview progresses, questions are based on interviewees' answers. Group interviews are always transcribed and notes are taken. Recorded interviews assist the cultural researcher in 1) conveying accurate information for interview summaries, 2) reducing misinterpretation, and 3) adding missing details to *mo'olelo*.

CSH seeks *kōkua* (assistance) and guidance in identifying past and current traditional cultural practices of the study area. Those aspects include general history of the *ahupua'a*; past and present land use of the study area; knowledge of cultural sites (for example, *wahi pana*, archaeological sites, and burials); knowledge of traditional gathering practices (past and present) within the study area; cultural associations (*ka'ao* and *mo'olelo*); referrals; and any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the study area.

### 2.2.3 Interview Completion

After an interview, CSH cultural researchers transcribe and create an interview summary based on information provided by the interviewee. Cultural researchers give a copy of the transcription and interview summary to the interviewee for review and ask that they make any necessary edits. Once the interviewee has made those edits, CSH incorporates their *'ike* and *mana'o* into the report. When the draft report is submitted to the client, cultural researchers then prepare a finalized packet of the participant's transcription, interview summary, and any photos taken during the interview. We also include a thank you card and honoraria.

It is important that CSH cultural researchers cultivate and maintain community relationships. The CIA report may be completed, but CSH researchers continuously keep in touch with the community and interviewees throughout the year—such as checking in to say hello via email or by phone, volunteering with past interviewees on community service projects, and sending holiday cards to them and their *'ohana* (family). CSH researchers feel this is an important component to building relationships and being part of an *'ohana* and community.

*"I ulu no ka lālā i ke kumu—the branches grow because of the trunk,"* is an *'ōlelo no'eau* (#1261) shared by Mary Kawena Pukui with the simple explanation: "Without our ancestors we would not be here" (Pukui 1983:137). As cultural researchers, we often lose our *kūpuna* but we do not lose their wisdom and words. We routinely check obituaries and gather information from other community contacts if we have lost our *kūpuna*. CSH makes it a point to reach out to the *'ohana* of our *kūpuna* who have passed on and pay our respects including sending all past transcriptions, interview summaries, and photos for families to have on file for genealogical and historical reference.

## Section 3 *Ka'ao and Mo'olelo*

---

Hawaiian storytellers of old were greatly honored; they were a major source of entertainment and their stories contained teachings while interweaving elements of Hawaiian lifestyles, genealogy, history, relationships, arts, and the natural environment (Pukui and Green 1995:IX). According to Pukui and Green (1995), storytelling is better heard rather than read for much becomes lost in the transfer from the spoken to the written word and *ka'ao* are often full of *kaona* or double meanings.

*Ka'ao* are defined by Pukui and Elbert (1986:108) as a “legend, tale [...], romance, [and/or], fiction.” *Ka'ao* may be thought of as oral literature or legends, often fictional or mythic in origin, and have been “consciously composed to tickle the fancy rather than to inform the mind as to supposed events” (Beckwith 1970:1). Conversely, Pukui and Elbert (1986:254) define *mo'olelo* as a “story, tale, myth, history, [and/or] tradition.” The *mo'olelo* are generally traditional stories about the gods, historic figures or stories which cover historic events and locate the events with known places. *Mo'olelo* are often intimately connected to a tangible place or space.

In differentiating *ka'ao* and *mo'olelo* it may be useful to think of *ka'ao* as expressly delving into the *wao akua* (realm of the gods), discussing the exploits of *akua* (gods) in a primordial time. *Mo'olelo* on the otherhand, reference a host of characters from *ali'i* (royalty), to *akua* and *kupua* (supernatural beings), to finally *maka'āinana* (commoners), and discuss their varied and complex interactions within the *wao kānaka* (realm of man). Beckwith elaborates, “In reality, the distinction between *ka'ao* as fiction and *mo'olelo* as fact cannot be pressed too closely. It is rather in the intention than in the fact” (Beckwith 1970:1). Thus a so-called *mo'olelo*, which may be enlivened by fantastic adventures of *kupua*, “nevertheless corresponds with the Hawaiian view of the relation between nature and man” (Beckwith 1970:1).

Both *ka'ao* and *mo'olelo* provide important insight into a specific geographical area, adding to a rich fabric of traditional knowledge. The preservation and passing on of these stories through oration remains a highly valued tradition. Additionally, oral traditions associated with the study area communicate the intrinsic value and meaning of a place, specifically its meaning to both *kama'āina* as well as others who also value that place.

The following section presents traditional accounts of ancient Hawaiians living in the vicinity of the project area. Many relate an age of mythical characters whose epic adventures inadvertently lead to the Hawaiian race of *ali'i* and *maka'āinana*. The *ka'ao* in and around the project area shared below are some of the oldest Hawaiian stories that have survived; they still speak to the characteristics and environment of the area and its people.

Though few recorded stories mention the Kahului or Pua'a Ahupua'a, countless *mo'olelo* speak of the neighboring *ahupua'a* of Hōlualoa and the dormant volcano, Hualālai. The following section presents stories, proverbs, chants, and songs reflecting Hōlualoa and Hualālai where information cannot be found on Pua'a or Kahului. The close proximity of these places to Pua'a may give an idea to the cultural landscape of this area.

### 3.1.1 Legend of Kaulanapokii

In Hōlualoa, there resided a man named Kaumalumalu and his wife Lanihau (Fornander 1917a:560–569). They had five sons, named Mumu, Wawa, Ahewahewa, Lulukaina, and Kalino,

and five daughters named Mailelaluii, Maliekaluhea, Mailepakaha, Mailehaiwale, and Kaulanapookii. The names of the father and mother are the same as two *ahupua'a* in North Kona, close to Hōlualoa. The names of the four eldest sisters are the four varieties of the fragrant *maile* vine (*Alyxia olivaeformis*).

When they were grown, the five sisters decided to travel. They left their home and family in Hōlualoa and traveled up (north) the coast of Kona to the Kohala District. When they reached Kohala, the eldest sister married Hikapoloa, the chief of the *ahupua'a* of Puuepa and Hukiaa. One day, traders from Kohala sailed in their canoes to Hōlualoa to trade for fish. There they met Mumu and the other four brothers. These brothers were excellent fishermen and had some rare pearl fish hooks, which they used to catch the *aku* (bonito; *Katsuwonus pelamis*). When the traders returned to Hōlualoa, they gave some of the fish to the chief, Hikapoloa. He found out that it was the brothers of his wife who caught the fish, and he asked her if her brothers would give him one of their pearl fishhooks if he asked for one. She said that they would, so he sailed to Hōlualoa to get one of the fishhooks.

After returning from Hōlualoa, the chief ordered his men out to go *aku* fishing off the Kohala Coast. He held the pearl fishhook in his hand, thinking that the fish would just jump into the canoe. When the fish did not jump, Hikapoloa thought Mumu had deceived him, and he decided to kill him. In time, a drought came to Kona and there were no vegetable foods to be had. Mumu and his brothers loaded their canoe with *aku* and sailed to Kona, to trade their fish for other food. When they landed their canoe, the watchman of the coast told Mumu to go directly to his brother-in-law. As soon as Mumu entered the chief's house, a guard cut his head off. They cooked the body in an *imu* (underground oven), and the retainers of the chief ate it. The other brothers then each entered the village one by one and met the same fate. Each brother was cooked in an *imu* with a different kind of wood, the *'ōpiko* (*Straussia kaduana*), the *'a'aka*, (*Myoporum sandwicense*) the *māmāne* (*Sophora chrysophylla*), the *pua* (*Pelea sandwicensis*), and the *alani* (*Pelea sandwicensis*).

The four eldest sisters were completely unaware of the murder of their brothers, but Kaulanapookii, who had supernatural powers, saw the spirits of her five headless brothers around the house. When Kaulanapookii told them that Hikapoloa had killed their brothers, the sisters plotted revenge. With her powers, Kaulanapookii caused her sister to bear her child with Hikapoloa early, so that when the child was born, they could call to the husband. When he came to see the new infant in their house, she called to the *maile* vines to completely cover the house to trap Hikapoloa, and then they set fire to the house. Kaulanapookii brought her brothers back to life.

The sisters then first took up Mumu and after he came back to life the others were taken up. After all the brothers had been restored to life, they all returned to Kona, where they all made oath, that they would never be covered over with the same kapa [tapa cloth] with any man or woman from Kohala. This oath was even taken up and kept by their children after them. Thus did they forsake the proud land of Kohala and its favorite wind the aeloa. [Fornander 1917:568–569]

Because of her supernatural powers, Hawaiian healers would call on Kaulanapookii's spirit to help them in their diagnosis and treatment of diseases. There is a similar character called Kaulanapookii, also with healing powers, in the legend of Keaomelemele. She is called Kaulanapookii-poki'i, which means "beloved little one of the sunset" (Beckwith 1940:529). It is therefore possible that the youngest sister's name in this legend means "beloved one of the sunset." The

story emphasizes the sharing necessary between *ahupua'a* with good fishing versus good farming, and also highlights an ancient enmity between the people of the Kohala and Kona Districts.

### 3.1.2 Legend of Kalaepuni and Kalaehina

Kūlanipō and Kama'elekapu were another couple who raised their family in Hōlualoa. They had two sons, one named Kalaepuni and the other Kalaehina.

*I ke au iā Keawenuia 'umi o Hawai'i, e noho ana o Kūlanipō ma Holualoa, i Kona, 'o Kama'elekapu kāna wahine, hānau 'elua mau keiki kāne, 'o lāua nā keiki 'oi kelakela o ke kolohe a me ka ikaika i ka hakakā. 'O Kalepuni ka mua, a 'o Kalaehina ka muli loa. i ulu a nui a'e 'o Kalepuni a 'umikumāmawalu makahiki, 'ike 'ia a puni ka 'āina no ka ikaika launa 'ole 'o Kalepuni.*

In the era in which Keawenuiaumi was king of Hawai'i, Kulanipo was living in Holualoa, Kona, Kama'elekapu was his wife and two children were born, they had the most superior and troublemaking children who excelled in strength and fighting. Kalepuni was the eldest and Kalaehina was the youngest. When Kalepuni grew to be 18 years of age, his incomparable strength was known throughout the lands. [Halole 1861:4]

The eldest son had supernatural strength and daring; he uprooted a tree with his bare hands and dove into the water while fishing to battle hand-to-hand with the sharks. Keawenuiaumi, the high chief of Hawai'i, became afraid that the young man would kill him, so he left and hid in the uplands near Hualālai Mountain. Kalaepuni became new chief of the island, but the old chief plotted to kill the upstart. He told his high priest to send his men to Kaho'olawe to dig a deep well and surround the opening with rocks. He also left a couple on the island, with instructions on what to do if Kalaepuni landed on the island. One day, Kalaepuni heard of a great school of sharks off the Kohala Coast, so he went there and again dove into the water to fight the sharks. He was carried away by the current to Kaho'olawe. He came to the house of the couple and asked them for some fresh water. They told him the only fresh water was at the bottom of the well. When he climbed down into the well, they pushed all the rocks down on him. These did not crush him, but one eventually landed on his head, killing him.

While Kalaepuni was still chief of Hawai'i, he had sent his younger brother to Kapua in South Kona to haul six canoes down to the shore. There was one canoe for each of the six minor districts of Kona, and Kalaehina promised the people of each district that their land would be the chief's favorite if they hauled their canoe to the shore first. All of the canoes got stuck at the point Nawaahokui in South Kona. Kalaepuni was angry that his brother had not completed his task, and demanded that he go and move the canoes himself. Kalaehina did not think he could move the canoes himself, so he ordered the people of Ka'u to haul the canoes to the shore. They then sailed five of the canoes to the chiefly compound at Keauhou and Kalaehina carried the sixth canoe along the shore on his back. The chief was impressed with his younger brother's strength, and urged him to sail to Maui and become the high chief of that island, just as his older brother had become high chief of Hawai'i. Kalaehina killed the guardians of the Maui king Kamalalawalu, who fled in fear, and Kalaehina became king (Fornander 1918:198–207). Hōlualoa, therefore, was a place where two island-wide kings were born, becoming high chiefs not because of their lineage, but because of their great strength and daring.

### 3.1.3 Legend of Pupukeya

Lonoikamakahiki was the king of Hawai'i and his main administrator was his younger brother Pupukeya. Kamalalawalu was the king of Maui and his main administrator was his younger brother Makakuikalani. There was a rivalry between both the two kings and between the two administrators. Kamalalawalu decided to invade Hawai'i and sent another son, named Kauhiakama, to spy on the land of Hawai'i. Kauhiakama sailed along the Kohala and Kona coasts, seeing which areas were populated and guarded.

*Mamua ae o ka pae ana, hele aku la o Kauhiakama a hiki i Puako, a Kapalaoa, Kaniku, Kiholo, Mahaiula, Kailua, Holualoa, Kahaluu, Keauhou, Kaawaloa. A Kaawaloa, nalowale ke alanui, nokamea, ua pani ia mai i ka hulaana, a me ke ana mamua. Nolaila, huli hoi mai la o Kauhiakama a hiki i Kawaihae.*

Prior to the landing, Kauhiakama voyaged and had touched at Puako, at Kapalaoa, Kaniku, Kiholo, Mahaiula, Kailua, Holualoa, Kahaluu, Keauhou and Kawaloa. At Kawaloa, the route of the travel was lost, because the slanting cliff and the crags barred them in front. Wherefore, Kauhiakama had retraced his course and arrived at Kawaihae. [Fornander 1919:440–441]

Kauhiakama sailed back to Maui and told his father there were no people on the Kona and Kohala coasts; that all of the houses were empty. But Kauhiakama was rather ignorant and did not realize that as he had passed the villages in the morning, the people of each village had left their houses to go out fishing or to go to the uplands to till their gardens. Based on the report of his son, Kamalalawalu invaded Hawai'i, thinking there would be little resistance from the few people, but instead he had to fight the forces of Lonoikamakahiki. The war was eventually ended in Hawai'i's favor, when Pupukeya, the Hawaiian chief, defeated Makakuikalani, the Maui chief, in single combat.

### 3.1.4 Hiku and Kawelu

Hiku, a demi-god, lived with his mother Hina in a cave near the summit of the mountain Hualālai (Emerson 1998:43). He had a marvelous arrow, called *Pua Ne*, which he could use to show him the way to travel. When he grew up, he decided to travel to the shore to meet new people. His mother granted his request but told him not to stay away too long. Once over the clinker lava, he shot the arrow into the air and it landed on a hill near Kailua town. He walked to the hill and shot the arrow again and it landed near the Hōlualoa shore. It landed near a waterhole called Waikalai, where the Hōlualoa villagers came to get fresh water. After Hiku's feat, the waterhole was also called Wai o Hiku (Water of Hiku).

As he neared the village, he shot the arrow again, and it landed in the courtyard of the chief of Kona, at the feet of the chief's daughter, Kawelu. When Hiku neared the woman, she hid the arrow as a challenge. Hiku called to the arrow "*Pua ne! Pua ne!*" and the arrow replied "*Ne.*" This act impressed Kawelu, so she decided to make Hiku her husband, and shut him up into her house. Remembering the words of his mother to return soon, Hiku escaped after several days by climbing through the roof thatch. The chief's daughter was so bereft at his departure that she refused to eat, and after several days she died. Hiku learned of the news, and realizing his real love for Kawelu, decided to make the hazardous journey to the underworld to fetch her back to the land of the living.



He covered himself with a rancid mixture of coconut and *kukui* (candlenut; *Aleurites moluccanus*) oil so that he would smell like a corpse and took with him several feet of *kowali* (mile a minute vine; *Ipomoea cairica*) and a hollow, split coconut shell. With some friends, he paddled his canoe off shore “for a point in the sea where the sky comes down to meet the water” off the Hōlualoa shore (Emerson 1998:45). At this point was the entrance to the underworld of the dead, Lua o Milu (the pit of Milu). He sat on a swing tied to the vines, and his friends lowered him into the pit. The rancid smell of Hiku convinced the spirits at the bottom of the pit, including Milu, the god of the underworld, that Hiku had been dead for many days. He brought out the swing, which ignited much attention, especially from one spirit, his love Kawelu. She received permission from Milu to join Hiku on the vines. At each swing his friends raised the two higher and higher. At a great height, Kawelu panicked and tried to fly away, but Hiku trapped her spirit in the hollow coconut. The friends finally brought them back up to the canoe, and Hiku took the coconut back to Hōlualoa Village, where Kawelu’s body was still lying in her house. He forced the spirit of Kawelu back into her body from her big toe, massaging the spirit up into the rest of her body, until she was fully revived (Emerson 1998:43–48).

### 3.2 *Wahi Pana* (Storied Places)

*Wahi pana* are legendary or storied places of an area. These legendary or storied places may include a variety of natural or human-made structures. Oftentimes dating to the pre-Contact period, most *wahi pana* are in some way connected to a particular *mo'olelo*, however, a *wahi pana* may exist without a connection to any particular story. Davianna McGregor outlines the types of natural and human-made structures that may constitute *wahi pana*:

Natural places have mana, and are sacred because of the presence of the gods, the akua, and the ancestral guardian spirits, the 'aumakua. Human-made structures for the Hawaiian religion and family religious practices are also sacred. These structures and places include temples, and shrines, or heiau, for war, peace, agriculture, fishing, healing, and the like; pu'uhonua, places of refuge and sanctuaries for healing and rebirth; agricultural sites and sites of food production such as the lo'i pond fields and terraces slopes, 'auwai irrigation ditches, and the fishponds; and special function sites such as trails, salt pans, holua slides, quarries, petroglyphs, gaming sites, and canoe landings. [McGregor 1996:22]

As McGregor makes clear, *wahi pana* can refer to natural geographic locations such as streams, peaks, rock formations, ridges, offshore islands and reefs, or they can refer to Hawaiian land divisions such as *ahupua'a* or *'ili*, and man-made structures such as fishponds. It is common for places and landscape features to have multiple names, some of which may only be known to certain 'ohana or even certain individuals within an 'ohana, and many have been lost, forgotten, or kept secret through time. Place names also convey *kaona* and *huna* (secret) information that may even have political or subversive undertones. Before the introduction of writing to the Hawaiian Islands, cultural information was exclusively preserved and perpetuated orally. Hawaiians gave names to literally everything in their environment, including points of interest that may have gone unnoticed by persons of other cultural backgrounds. Hawaiians have named taro patches, rocks and trees that represented deities and ancestors, sites of houses and *heiau*, canoe landings, fishing stations in the sea, resting places in the forests, and the tiniest spots where miraculous or interesting events are believed to have taken place (Pukui et al. 1974:x).

The primary compilation source is the online database of Lloyd Soehren's (2010), *Hawaiian Place Names*. Soehren has compiled all names from mid-nineteenth century land documents, such as Land Commission Awards (LCAs) and Boundary Commission Testimony (BCT) report. The Soehren database includes place name meanings from the definitive book on Hawaiian place names, *Place Names of Hawai'i* (Pukui et al. 1974). In cases where Pukui et al. (1974) did not provide a meaning, Soehren often suggests a meaning for simple names from the *Hawaiian Dictionary* (Pukui and Elbert 1986). Thomas Thrum also compiled a list of place names in the 1922 edition of Lorrin Andrews' *A Dictionary of the Hawaiian Language*, although these meanings are considered less reliable than those in the definitive *Place Names of Hawai'i* (Pukui et al. 1974). Using Lloyd Soehren's database (Soehren 2010), the tables below present place names of Pua'a and Kahului nearest the project area.

Table 1. Place names of Kahului 2

The following table lists place names in Kahului 2, an area close to the project area and the neighboring *ahupua'a* to Pua'a.

| Place Name  | Type   | Description  |
|-------------|--|--|
| Ka'aipaka   | Boundary Point,<br><i>Kūlana kauhale</i><br>[Village, town, city]                    | "a kulana kauhale ahua hulipali" above Govt. road, between Waiakekea & Pohakuhanu on south boundary Kahului 2  |
| Kahuki      | <i>'Ili 'āina</i> [land area]; usually a smaller land division in an <i>ahupua'a</i> | Claim no. 7336 by Kuapuu is "i ka ili aina o Kahuki ahupuaa o Kahului 2." Also claim no. 7690 by Kulou. Claim no. 7073:7 by Kapa in Kahuki 1 is bounded on the south by Kahuki 2.                          |
| Kealaehu    | Boundary Point   | "Mauka corner of [RPG 976] is at Kealaehu sometimes called Alau, a koele [small land unit farmed for the chief]" along north boundary Kahului 2 between Mamalahoa Hwy and Papalanui. Elev. about 1900 ft.  |
| Kealakōwa'a | <i>'Ili 'āina</i>  | Claim no. 7336:4 by Kuapuu is "i Kealakowaa. Mauka konohiki, Ma Kau Kikiaiole. Makai konohiki. Ma Kohala o Kahuki aina." Claim no. 10252:4 by Malu "i ka ili i Halewaawaa" is bounded makai by Kealakowaa. |
| Kekawahi    | Point  | <i>Makai</i> of Kahelo and <i>hōlua</i> [sled] track   |
| Kikiaiole   | <i>'Ili 'āina</i>  | Claim no. 7335 by Kaanaana is "i ka ili aina o Kikiaiole 1, ahupuaa Kahului 2. 3 apana aina." Apana 1 is bounded on the south by Kikiaiole 2.  |
| Lapalua     | <i>'Ili 'āina</i>  | Claim no. 7496B by Keaweehu is "i ka ili aina Lapalua ahupuaa Kahului 1, 3 apana aina."  |
| Ohia        | <i>'Ili 'āina</i>  | Claim no. 7336:6 by Kuapuu in the 'ili of Kikiaiole is bounded on the south by "Ohia aina." Claim no. 7086:1 by Kalawa in Puki is bounded on the north by "Ohia ili."                                      |
| Papiha      | <i>'Ili 'āina</i>  | Claims no. 7086:1, 2 by Kalawa in the 'ili of Puki are bounded on the south by the 'ili of Papiha.   |

| Place Name   | Type                          | Description  |
|--------------|-------------------------------|--|
| Pōhakuhanano | Boundary Point                | “the mauka corner of Puapuaa. This is in fern [ama'u] below the edge of the woods, a few rocks a sort of ahua” (p.337) Also called Pohakuokahano. On boundary between Kahului 2 and Holualoa 1. Elev. about 2080 ft.   |
| Puki         | <i>'Ili 'āina</i>             | Claim no. 7086 by Kalawa: “aia i ka ili aina i Puki ahupuaa Kahului 2. 3 apana.”   |
| Pu'u Kīhoē   | <i>Pu'u</i> [Hill, Peak]      | “a high hill outside of the woods, now overgrown with koa” (p.327) Elev. 2281. Spelt Kehoe on USGS and TM, Kehoi in BCT 1:328, Koheo in BCT 1:327. Claim no. 10252:3 by Maliu “i Kamuku ahupuaa Kahului 1.... Makai o Puukehoe [ <i>sic</i> ] he puu.”                       |
| Waiakalaho   | <i>Pūnāwai</i> [Water spring] | “above Governor Adams' wall” (p.327) on south boundary Kahului 2, “about 3 kihapai to north of the boundary of Puapuaa” (p.328).   |
| Waiakekea    | Boundary Point                | “A trifle inland from Ka-'ili-ki'i Point was the now covered spring...on the upper side of which are a few stones of a house foundation on the place where Queen Emma was born.” Above Govt. road and below Kaaipaka on south boundary Kahului 2, near the <i>iwi aina</i> . |
| Waiapūkō     | <i>'Ili 'āina</i>             | Claim no. 7914 by Kekipi is “i ke ahupuaa o Kahului 2, he pauku aina. [Bounded] Mauka o Waiapuko he ili aina.”   |
| Waihuna      | Boundary Point, Water hole    | “a waterhole on the boundary between Kahului 1 & 2” <i>makai</i> of Puu Kehoi.   |
| Waikē'e      | Boundary Point, Gulch         | “where the gulch turns west” between Pohakuhanano and Puu o Kaloa, on south boundary Kahului 2. Elev. 2440 ft  |

Table 2. Place names of Pua'a 2 and Pua'a 3

The following table lists place names associated with Pua'a 2 and Pua'a 3. These place names were taken from Māhele testimonies presented to the Boundary Commission.

| Place Name  | Type              | Description  |
|-------------|-------------------|--|
| Ka'a'awa    | <i>'Ili 'Āina</i> | Mentioned in Māhele testimony for claim no. 10270 by Mailou and claim no. 3479 by Kalama   |
| 'Ohiki      | <i>'Ili 'Āina</i> | Mentioned in Māhele testimony for claim no. 7076 by Kupihe and claim no. 10267 by Malowale |
| Kamuku      | <i>'Ili 'Āina</i> | Mentioned in Māhele testimony for claim no. 6181 by Iwaiwa                                 |
| Opulehelehe | <i>'Ili 'Āina</i> | Mentioned in Māhele testimony for claim no. 10266 by Makai                                 |

| Place Name   | Type              | Description   |
|--------------|-------------------|---|
| Kanakalooa   | <i>'Ili 'Āina</i> | Mentioned in Māhele testimony for claim no. 6240 by Kanakamakua |
| Ulumoe       | <i>'Ili 'Āina</i> | Mentioned in Māhele testimony for claim no. 10270 by Mailou     |
| Moonuiohua 1 | <i>'Ili 'Āina</i> | Mentioned in Māhele testimony for claim no. 7077 by Kahuakailoa |
| Kamuku       | <i>'Ili 'Āina</i> | Mentioned in Māhele testimony for claim no. 6181 by Iwaiwa      |

### 3.2.1 Heiau

The following section lists *heiau* recorded by Thomas G. Thrum and a secondary list of *heiau* recorded by John F.G. Stokes and Thomas Dye. When Stokes traveled to Hawai'i Island to begin his survey of *heiau*, he discovered a far greater number of *heiau* existed than was never previously recorded by Thrum (Stokes and Dye 1991:10). It should be noted that for some records by Stokes and Dye where no details exist, this information was likely gathered and transmitted by locals of the visited area. In most cases, only the name of the *heiau* was known and the function and dimensions have been completely lost.

Table 3 lists *heiau* recorded nearest the project area. This is the area of Pua'a, Puapua'a, Waiaha, and Kahului. Where information is given on the *heiau*, it is presented and cited in the table.

Table 3. *Heiau* nearest the project area

| Name          | Description   |
|---------------|---|
| Kalopau       | At Puaa 1; but little remains of this heiau; no facts learned. [Thrum 1938:43]<br><br>Originally it was probably a walled <i>heiau</i> of three divisions, but the foundations was so disturbed that it was impossible to pick out the lines of the walls. [...] In the interior of the place, there were orange, <i>kukui</i> , and <i>'ohe</i> trees of large size. It is said to have been built by Alapa'i. [Stokes and Dye 1991:50]  |
| Keaukukui'ula | <i>Heiau</i> of Keaukukui'ula, at Puapua'a 1, North Kona, was not seen. [Stokes and Dye 1991:52]  |
| Mao           | Waiaha; a small heiau now in a tumbled down condition, the road—which has cut into it—runs along its mauka side. The inner division shows a series of holes in its platform, said to have been where rain was cooked. [Thrum 1938:43]<br><br>This is a platform <i>heiau</i> of peculiar construction built mainly of waterworn stones. The surface of the platform, 3 feet above the sand, is irregularly pitted, and in some of the holes <i>kī</i> was growing. [...] Later information was to the effect that the name of this <i>heiau</i> was Nalupo'o. Said to have been built by Kiwala'o. [Stokes and Dye 1991:52] |

| Name         | Description   |
|--------------|---|
| Kauaikahaola | <p>Puapua 1 [<i>sic</i>]; an early heiau, rebuilt by Kamehameha; about 170x75 ft. in size of two divisions. Its walls yet in fair condition; entry way on seaward side. [Thrum 1938:43]</p> <p>Spelled Kauakaiakaola in Stokes and Dye (1991).</p> <p>This <i>heiau</i> was found on the northern point of Puapua'a Bay, 80 feet from the sea and 10 feet above mean tide. [Stokes and Dye 1991:52]</p> <p>This <i>heiau</i> is believed to be the the structure recorded by the missionary William Ellis during his tour of Hawai'i:</p> <p>At Ruapua we examined an interesting heiau, called Kauaikaharoa, built of immense blocks of lava, and found its dimensions to be 150 feet by 70. [...] The places where the idols formerly stood were apparent, though the idols had been removed. The spot where the altar had been erected could be distinctly traced; it was a mound of earth, paved with smooth stones, and surrounded by a firm curb of lava. The adjacent ground was strewn with bones of the ancient offerings. The natives informed us that four principal idols were formerly worshipped there, one of stone, two of wood, and one covered with red feathers. One of them, they said, was brought from a foreign country. Their names were Kanenuiakea, (great and wide spreading Kane,) who was brought from Tauai, Kaneruruhonua, (earth-shaking Kane,) Roramakaeha, and Kekuaaimanu. [Ellis in Stokes and Dye 1979:73]</p> |

### 3.2.2 Famous Surf of Pua'a

Hawaiian scholar and historian John 'I'i mentions a famous surf of Pua'a called Ko'okā. It was here the sport of *lele wa'a* or canoe leaping was often seen. He also notes that Kamehameha and Ka'ahumanu were both very skillful in canoe surfing ('I'i 1959):

In Puaa, North Kona, is a famous surf called Kooka, where a coral head stands just outside a point of lava rocks. When the surf dashed over the coral head, the people swam out with their surfboards and floated with them. If a person owned a long narrow canoe, he performed what was called *lele wa'a*, or canoe leaping, in which the surfer leaped off the canoe with his board and rode the crest of a wave ashore. The canoe slid back of the wave because of the force of the shove given it with the feet. When the surfer drew close to the place where the surf rose, a wave would pull itself up high and roll in. [...] The opening through which the surfer entered was like a sea pool, with a rocky hill above and rows of lava rocks on both sides, and deep in the center. This was a difficult feat and one not often seen, but for Kaahumanu and the king it was easy. ['I'i 1959:133]

### 3.3 'Ōlelo No'eau (Proverbs)

Hawaiian knowledge was shared by way of oral histories. Indeed, one's *leo* (voice) is oftentimes presented as *ho'okupu* ("to cause growth," a gift given to convey appreciation, to strengthen bonds); the high valuation of the spoken word underscores the importance of the oral tradition (in

this case, Hawaiian sayings or expressions), and its ability to impart traditional Hawaiian “aesthetic, historic, and educational values” (Pukui 1983:vii). Thus, in many ways these expressions may be understood as inspiring growth within the reader or between speaker and listener:

They reveal with each new reading ever deeper layers of meaning, giving understanding not only of Hawai'i and its people but of all humanity. Since the sayings carry the immediacy of the spoken word, considered to be the highest form of cultural expression in old Hawai'i, they bring us closer to the everyday thoughts and lives of the Hawaiians who created them. Taken together, the sayings offer a basis for an understanding of the essence and origins of traditional Hawaiian values. The sayings may be categorized, in Western terms, as proverbs, aphorisms, didactic adages, jokes, riddles, epithets, lines from chants, etc., and they present a variety of literary techniques such as metaphor, analogy, allegory, personification, irony, pun, and repetition. It is worth noting, however, that the sayings were spoken, and that their meanings and purposes should not be assessed by the Western concepts of literary types and techniques. [Pukui 1983:vii]

Simply, *'ōlelo no'eau* may be understood as proverbs. The Webster dictionary notes it as “a phrase which is often repeated; especially, a sentence which briefly and forcibly expresses some practical truth, or the result of experience and observation.” It is a pithy or short form of folk wisdom. Pukui equates proverbs to a treasury of Hawaiian expressions (Pukui 1995:xii). Oftentimes within these Hawaiian expressions or proverbs are references to places. This section draws from the collection of author and historian Mary Kawena Pukui and her knowledge of Hawaiian proverbs describing *'āina* (land), chiefs, plants, and places. The following proverbs are from Mary Kawena Pukui's *'Ōlelo No'eau* (Pukui 1983) and describe the broader region of Kona.

### 3.3.1 *'Ōlelo No'eau* #55

The following *'ōlelo no'eau* describes the clouds that bring rain to Kona.

*Aia ka wai i ka maka o ka 'ōpua.*

Water is in the face of the 'ōpua clouds.

In Kona, when the 'ōpua clouds appear in the morning, it's a sign that rain is to be expected. [Pukui 1983:9]

### 3.3.2 *'Ōlelo No'eau* #232

Similar to the *'ōlelo no'eau* mentioned above, the following proverb also mention a certain cloud as a sign of rain.

*Ao 'ōpiopio.*

Young cloud.

A cloud that rises from sea level or close to the cloud banks and is as white as steam. When seen in Kona, Hawai'i, this is a sign of rain. [Pukui 1983:27]

### 3.3.3 'Ōlelo No'eau #1072

The following 'ōlelo no'eau mentions the priest Hāwa'e of Kona. Ironically, the *heiau* mentioned nearest the project area make no mention of him which means they could have been erected before his time or functioned as agricultural *heiau*.

*Ho 'okāhi no Hāwa'e, lauhue Kona.*

Only one Hāwa'e, and poisonous gourds grow all over Kona.

In Kona, Hawai'i, a priest named Hāwa'e lived during the reign of Ehukaipo. In every important *heiau* in that district, an image named for this priest was kept. Many people were sacrificed to these evil namesakes of Hāwa'e. [Pukui 1983:114]

### 3.3.4 'Ōlelo No'eau #1467

The following 'ōlelo no'eau mentions the 'Eka wind of Kona.

*Ka makani kūkulu pe'a nui, he 'Eka.*

The 'Eka, the wind that sets up the big sails.

When the 'Eka wind blew in Kona, Hawai'i, the fishermen sailed out to the fishing grounds. [Pukui 1983:159]

### 3.3.5 'Ōlelo No'eau #1690

The following 'ōlelo no'eau also mentions the 'Eka wind.

*Ke 'Eka, makani ho'olale wa'a o na Kona.*

The 'Eka breeze of Kona that calls to the canoemen to sally forth to fish.

Refers to Kona, Hawai'i. [Pukui 1983:182]

### 3.3.6 'Ōlelo No'eau #1731

The following 'ōlelo no'eau mentions the calm sea of Kona.

*Ke kai malino o Kona.*

The calm sea of Kona.

Refers to Kona, Hawai'i. [Pukui 1983:186]

### 3.3.7 'Ōlelo No'eau #1755

The following 'ōlelo no'eau is perhaps a modern saying that speaks of the coffee of Kona, a post-Contact, introduced crop.

*Ke kope ho'ohia 'ā maka o Kona.*

The coffee of Kona that keeps the eyes from sleeping.

This saying applies not only to coffee, but also to love. To be in love with a person of Kona is to lose much sleep. [Pukui 1983:188]

### 3.3.8 'Ōlelo No'eau #1839

The following 'ōlelo no'eau states the borders of North Kona.

*Kona 'ākau, mai Keahualono a Pu'uohau.*

North Kona, from Keahualono to Pu'uohau.

The boundary of North Kona, Hawai'i. [Pukui 1983:198]

### 3.3.9 'Ōlelo No'eau #1842

The following 'ōlelo no'eau mentions the calm sea of Kona.

*Kona i ke kai mā'oki'oki.*

Kona of the sea that is cut up.

From a distance one can see the smooth surface of the sea at Kona, Hawai'i, cut by innumerable streaks of color. [Pukui 1983:199]

### 3.3.10 'Ōlelo No'eau #1843

The following 'ōlelo no'eau mentions the chief Ehunuikaimalino.

*Kona, kai malino a Ehu.*

Kona, land of the calm sea of Ehu.

Ehunuikaimalino was a chief of Kona, Hawai'i, under the ruler Liloa. [Pukui 1983:199].

### 3.3.11 'Ōlelo No'eau #1846

The following 'ōlelo no'eau describes North and South Kona.

*Kona, mauna uliuli; Kona mauna ulupō.*

Kona of the green mountains; Kona of the dense forest.

North and South Kona, Hawai'i. [Pukui 1983:199]

### 3.3.12 'Ōlelo No'eau #1847

The following 'ōlelo no'eau describes the farmers of Kona.

*Kona po'o ku'i.*

Kona of the added head.

Said of farmers of Kona, Hawai'i, returning from the fields with a load on the shoulders and a child sitting atop the load. [Pukui 1983:199]

## 3.4 Oli (Chants)

Chants have been used throughout history to retain and retell stories and historic events. Genealogical chants, for example, are composed for *ali'i* to confirm their rank and godliness. Other chants retell natural events. Possibly the most famous *oli* is the Kumulipo, a Hawaiian cosmogonic and genealogical chant (Beckwith 1951:ix) over 2,100 lines in length. The chant starts with the birth of the coral pollup and ends with the chief Lono-i-ka-makahiki. The following chant below is actually used in a game amongst children of Kona.



### 3.4.1 Kona Nui 'Āina Lā

The *oli* below appears in *The Legend of Kaipalaoa, the Hoopapa Youngster*. Fornander explains that *ho'opāpā* is a profession wherein “the interpretation of and play on words afford occasions of witticisms in contests for entertainment, or on wager; sometimes of serious moment” (Fornander 1916:574). In this story, the youngster, Kaipalaoa, challenges the king of Kaua'i and his court to avenge his father's death. The chant below is part of a game where the person who holds out the last note of the last line the longest, wins:

|   |   |
|---|---|
| <i>O Kona nui aina la,</i>                      | Kona, the big sunny land  |
| <i>Ua wela i ka la e!</i>                       | It is made hot by the sun.  |
| <i>Ua keekehia e ka ua,</i>                     | Trodden down by the rain  |
| <i>Ka muo o ka wauke a!</i>                     | Is the bud of the wauke plant.  |
| <i>Pili nakeke i ka la o<br/>Kona,</i>          | It clings together and is made to rattle<br>by the head of the sun of Kona, |
| <i>O ka haawe pili i ke<br/>kua,</i>            | For the load will cling to the back<br>when carried,                        |
| <i>O ke kamaa pili i ka<br/>wawae nei la e.</i> | And the shoe will cling to the foot<br>when worn,                           |
| <i>Na-u-u-u-u</i>                               | <i>Na-u-u-u-u</i>   |
| [Fornander 1917b:590–<br>591]                   |   |

## 3.5 Mele (Songs)

The following section presents songs that speak of the Kona district. The scarcity of *oli* and *mele* associated with Kahului and Pua'a suggests a lowly populated area.

### 3.5.1 Kona Kai Opua

|   |   |
|---|---|
| <i>Kona kai opua i ka la 'i;</i>        | The cloud-piles o'er Kona's sea whet my joy,  |
| <i>Opua hinano ua i ka malie;</i>       | Clouds that drop rain in fair weather.        |
| <i>Hiolo no wai naoa a ke kehau,</i>    | The clustered dew-pearls shake to the ground; |
| <i>Ke na-ū la na kamalii,</i>           | The boys drone out the na-ū to the West,      |
| <i>Ke kaohi la i ke kukuna o ka la;</i> | Eager for Sol to sink to his rest.            |
| <i>Ku 'u la koili i ke kai—</i>         | This is my day for a plunge in the sea—       |
| <i>Pumehana wale ia aina!</i>           | The Sun will be warming other shores—         |
| <i>Aloha wale ke kini o Hoolulu,</i>    | Happy the tribes of that land of calm         |
| <i>Aoha lua ia oe ke aloha,</i>         | Fathomless, deep is my love                   |
| <i>O ku 'u puni, o ka me 'owā.</i>      | To thee, my passion, my mate.                 |

[Emerson 1909:117–118]

### 3.5.2 I Kona

This *mele*, composed by George Kelepolo, praises Kona and its hospitable people.

|                                       |   |
|---------------------------------------|---|
| <i>Aia i Kona kai 'ōpua i ka la'i</i> | There at Kona is where the calm sea reflects clouds |
| <i>'A'ohē lua e like ai me 'oe</i>    | There is no other to compare with you               |
| <i>Malihini mākou iā 'oe i Kona</i>   | We are strangers to you in Kona                     |
| <i>I ke kon oa ke aloha no mākou</i>  | At the invitation of so much love for us            |
| <i>Ha'ina 'ia mai ana ka puana</i>    | Tell the story in the refrain                       |
| <i>'A'ohē lua e like ai me 'oe</i>    | For there is no other to compare with you           |

[Wilcox et al. 2003:81]

### 3.5.3 Kona Kai 'Ōpua

This *mele* was composed by Henry Waia'u for his son's graduation from Kamehameha School.

|   |   |
|---|---|
| <i>Hanohano 'o Kona kai 'ōpua i ka la'i</i> | Grand is Kona of the clouds mirrored in the sea |
| <i>'Ōpua hīnano kau i ka mālie</i>          | Puffy white clouds nestled in the calm          |
| <i>Pua'i nā wai i ka ma o ka 'ōpua</i>      | Waters psill forth from the cloud banks         |
| <i>'A'ole nō 'elua a'e like aku ai</i>      | Theres no other that can compare                |
| <i>Me Kona kai 'ōpua (Kona kai 'ōpua)</i>   | With Kona of the mirrored seas                  |
| <i>Ke kai mā'oki'oki (kai mā'oki'oki)</i>   | A sea of mingling hues                          |
| <i>Ke kai malino a'o Kona</i>               | The calm seas of Kona                           |
| <i>Ha'aheo i ka mālie</i>                   | Proud indeed in the tranquility                 |
| <i>'O Kona kai 'ōpua i ka la'i</i>          | Kona of mirrored seas in the calm               |
| <i>Kilakila 'o Hualālai</i>                 | Majestic is Hualālai                            |
| <i>I ke kai malino a'o Kona</i>             | The calm seas of Kona                           |
| <i>Ha'aheo Hawai'i i nā Kona</i>            | Hawai'i island is proud of the Kona district    |
| <i>Ka wai kau i ka maka o ka 'ōpua</i>      | The water in the face of the clouds             |
| <i>Hualālai kau mai i luna</i>              | Hualālai stands there above                     |
| <i>Ka heke ia o nā Kona</i>                 | The finest of the Kona district                 |

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| <i>He 'āina wela 'i'o nō nā Kona</i> | Kona is truly a sweltering land      |
| <i>He 'Eka ka makani a'e 'olu ai</i> | The 'Eka breeze brings sweet relief  |
| <i>'O ka pā kolonohe a ke Kēhau</i>  | The gentle touch of the Kēhau breeze |
| <i>I ka 'ili o ka malihini</i>       | Cooling on the visitor's skin        |

[Wilcox et al. 2003:131]

### 3.5.4 Ku'u Lei Poina 'Ole

The *mele* below was written by Matthew H. Kāne and music put to it by Charles E. King. It mentions the 'Eka breeze of Kona and its famous chief 'Ehunuikaimalino.

|                                    |                                    |
|------------------------------------|------------------------------------|
| <i>Ku'u ipo, ku'u lei</i>          | My sweetheart, my dear garland     |
| <i>I ka la'i a Ehu</i>             | In peaceful Kona of chief 'Ehu     |
| <i>Hi'ipoi 'ia iho</i>             | Held near in fond embrace          |
| <i>Ke aloha makamae</i>            | Is the precious love               |
| <i>Nou nō nā hā'upu 'ana</i>       | For you are the fond recollections |
| <i>A ka mana'o e nū nei</i>        | That stir here in the mind         |
| <i>Ho'i mai kāua e pili</i>        | Let us come back together          |
| <i>E lei ku'u lei poina 'ole</i>   | To share my unforgettable lei      |
| <i>'O ka pā kolonahe a ka 'Eka</i> | The soft caress of the 'Eka breeze |
| <i>Makani kupa o ka 'āina</i>      | Familiar wind of the land          |
| <i>Lawe mai an ai ke aloha</i>     | Bringing with it the affection     |
| <i>A hā'ale i ku'u maka</i>        | And my eyes brim with tears        |
| <i>A he makamaka ke aloha</i>      | Love is a dear friend              |
| <i>Hoa pili no ia uka</i>          | A close companion of that upland   |
| <i>Ua kama 'ia a pa'a</i>          | Bound together securely            |
| <i>A pa'a mai ko'u pu'uwai</i>     | Held fast here in my heart         |

[Wilcox et al. 2003:142]

### 3.5.5 Kona (Pā Mai Ana Ka Makani)

The following *mele* was composed by Lydia Nāwahine Kekuewa and translated by Kīhei de Silva. As mentioned in the previous *mele* of Kona, this song also speaks of the streaked sea of Kona.

|                             |   |
|-----------------------------|---|
| <i>Pā mai ana ka makani</i> | The wind blows                              |
| <i>Hele uluulu a'o Kona</i> | The inspiration-bringing wind of Kona blows |
| <i>Ku'u 'āina hānau</i>     | Over the land of my birth                   |

|                                   |  |
|-----------------------------------|--|
| <i>I ka poli a 'o ka Makua</i>    | A place cherished in the bosom of my parents |
| <i>Hāli 'ali 'a mai ana</i>       | It stirs fond memories                       |
| <i>Ka 'ano 'i o ka 'āina</i>      | Of the desired-one of the land               |
| <i>Ku 'u home ku 'u lā 'ōpio</i>  | Of my home and my youth                      |
| <i>He nani maoli nō a 'o Kona</i> | Kona is truly beautiful                      |
| <i>I ke kau mai a 'o ka 'ōpua</i> | With cloud-banks resting on the horizon      |
| <i>Ka malino o ke kai</i>         | The serenity of the sea                      |
| <i>Ke kai mā 'oki 'oki</i>        | The streaked sea of Kona                     |
| <i>Hāli 'ali 'a mai ana</i>       | Stirs fond memories                          |
| <i>Ha 'ano 'i o ka 'āina</i>      | Of the desired-one of the land               |
| <i>Ku 'u home ku 'u lā 'ōpio</i>  | Of my home and my youth                      |
| [de Silva 1997:29]                |  |

## Section 4 Background Research

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### 4.1 Traditional and Historical Background

#### 4.1.1 Traditional Accounts

Historic accounts and Hawaiian tradition consistently refer to the Kona District as the residence of chiefs and the center of political consolidations in the late pre-Contact and early post-Contact times (‘I‘i 1959; Kamakau 1961). The focus of activity stretched from Kailua to Keauhou and to a varying extent included all the *ahupua‘a* in between. The importance of this region is archaeologically expressed in the large number of major *heiau* located in the area. Hawaiian tradition and literature associate many great Hawaiian chiefs with the Kona District.

*Pua‘a* is commonly translated to mean pig (Pukui and Elbert 1986). Pukui and Elbert also define *pua‘a* as “banks of fog or clouds, often as gathered over a mountain summit, a sign of rain and believed to be the cloud forms of Kama-pua‘a” (Pukui and Elbert 1986:344).

*Pua‘a*, like its neighbors, is an integral part of the multi-zone cultivation area on the slope running *mauka/makai* (mountains/sea) behind Kailua and Kealakekua, known as the Kona Field System. The project area sits in the lowest zone of the Kona Field System in *Pua‘a* 3rd, known as the *kula* zone. The *kula* zone was characterized in traditional Hawaiian times by open pasture lands, planted with thatching grasses, sweet potatoes, sugarcane, breadfruit, and *wauke* (paper mulberry; *Broussonetia papyrifera*) (Newman 1970).

### 4.2 Early Historic Period

Following Western Contact, change occurred rapidly in the Kona area. Prior to the Māhele of 1848, Queen Ka‘ahumanu granted permission to Reverend Thurston and Reverend Bishop to build missions and schools in Wai‘aha in 1823 and 1824 (Rechtman 2002). A Royal Patent was issued to Asa Thurston in 1855 for all of Wai‘aha 1, the *ahupua‘a* abutting the south side of the present project area (Waihona ‘Aina 2000). Land in Wai‘aha was also awarded to the American Board of Commissioners for Foreign Missions during the Māhele, no doubt to provide rental income to the mission schools (Soehren 1981). Kamehameha III claimed the whole of Wai‘aha 2nd *Ahupua‘a* (Land Commission Award 387). Kahaunaele was awarded *Pua‘a* 2 through Land Grant 1744 in 1855. The grant consisted of 120 acres (Waihona ‘Aina 2000). A large portion of *Pua‘a* 3, 198 acres, was awarded to Joaquim Marechal, a French missionary (Forbes 2000) on 21 July 1852 as Land Grant 863:

Kamehameha III, By the Grace of God, King of the Hawaiian Islands, by this his Royal Patent, makes known, unto all men, that he has for himself and his successors in office, this day granted and given, absolutely, in Fee Simple unto Joaquim Marechal for the consideration of Ninety nine dollars, paid into the Royal Exchequer, all that certain piece of Land, situated at Puaa 3 rd. in the District of Kona, in the Island of Hawaii. [Waihona ‘Aina 2000]

*Pua‘a* 3, abutting the west, *makai* end of Grant 863, was awarded as Land Grant 2120 to J. Marechell on 12 November 1856 (Waihona ‘Aina 2000). Despite the slight variation in spelling of the grantee name in Land Grant documents and on Emerson’s 1880 map, both Grants 863 and 2120 are believed to have been awarded to the same individual.

Early foreign accounts by missionary Asa Thurston give detail to the environment in the early days of Western Contact.

#### 4.2.1 Kona as a Political Center

Kailua Kona gradually lost its importance as a political center as the capital of Hawai'i was moved first to Lahaina then to Honolulu. Coupled with the general decline of native population, Kailua Kona was depopulated and almost completely empty. Following the general decline of population and traditional subsistence farming was an increase in ranching activities throughout the Kona area. Cattle had been brought to Hawai'i by Vancouver and they increased rapidly under protection from being killed. However, the increased demand for meat by whalers encouraged the first operating ranches in Hawai'i.

The following entry was taken from the journal of George Vancouver, dated January 1794, and lists the introduced livestock gifted to the king:

After the large canoes had delivered their acceptable cargoes, they received and took to shore the live cattle, which I had been more successful in bringing from New Albion than on the former occasion. These consisted of a young bull nearly full grown, two fine cows, and two very fine bull calves, all in high condition; as likewise five rams, and five ewe sheep. Two of each of these, with most of the black cattle, were given to the king; and as those I had brought last year had thrived exceedingly well; the sheep having bred, and one of the cows having brought forth a cow calf; I had little doubt, by this second importation, of having at length effected the very desirable object of establishing in this island a breed of those valuable animals. [Vancouver 1798:11]

Furthermore, the entry below explains the *kapu* (taboo) put on these animals by Vancouver which was supported by the king:

[...] namely, that of establishing a breed of sheep, cattle, and other European animals in these islands, which with so much difficulty, trouble, and concern, I had at length succeeded so far as to import in good health and in a thriving condition; I demanded that they should be *tabooed* for ten years, with a discretionary power in the king alone to appropriate a certain number of the males of species, in case that sex became predominant, to the use of his own table; but that in so doing the women should not be precluded partaking of them, as the intention of their being brought to the island was for the general use and benefit of every inhabitant of both sexes, as soon as their number should be sufficiently increased to allow of a general distribution amongst the people. This was unanimously approved of, and faithfully promised to be observed [...] [Vancouver 1798:53]

#### 4.2.2 The Kona Field System

The current project area sits within the historic Kona Field System. The Kona Field System spans the slopes of Hualālai and Mauna Loa and is characterized by the vast expanse of its agricultural and elevational planting. There are different names to distinguish different elevations of the field system. For example, *Kula* refers to land from sea level to 500 ft, *Kalulu* refers to land from 500 to 1,000 ft, *Āpa'a* refers to land from 1,000 to 2,500 ft, and *'Ama'u* are lands from 2,500 to 4,000 ft (Schilt 1984:21). Each section received different amounts of rainfall, therefore

determining the crop best suited for that area in addition to soil distribution and temperature (Horrocks and Rechtman 2009:1116).

Newman describes the following:

. . . the whole Kona System, is well designed to take advantage of the western Hawaii Island environment. The orientation maximizes the available sunlight and exposure to periodic rain showers. The alignment would have made the crops susceptible to high velocity trade winds were it not for the protection of Mauna Loa. Onshore winds are generally light so physical damage or excessive plant evapotranspiration would not have been a crucial factor in field alignment . . . [Newman in Kelly 1983:71]

#### 4.2.3 Foreign Accounts of the Kona Field System

Additional foreign accounts mention Kona's extensive field system. The chronology of these accounts suggests continuous use of this field system and successful production of food. The accounts below paint a picture of what the landscape was like then, starting in the year 1779.

John Ledyard describes his experience of the Field System on his trip into the uplands:

. . . about two miles without the town the land was level, and continued of one plain of little enclosures separated from each other by low broad walls: Whether this circumstance denoted separate property, or was done solely to dispense with the lava that overspread the face of the country, and of which the walls are composed, I cannot say, but probably it denotes a distinct possession. Some of these fields were planted, and others by their appearance were left fallow: In some we saw the natives collecting the coarse grass that had grown upon it during the time it had lain unimproved, and burning it in detached heaps. Their sweet potatoes were mostly raised here, and indeed are the principal object of their agriculture, but it requires an infinite deal of toil on account of the quantity of lava that remains on the land notwithstanding what is used about the walls to come at the soil, and besides they have no implements of husbandry that we could make use of had the ground been free from the lava. If any thing can recompence their labor it must be an exuberant soil, and a beneficent climate. We saw a few patches of sugar cane interspersed in moist places, which were but small: But the cane was the largest and as sweet as any we had ever seen, we also passed several groups of plantain-trees.

These enclosed plantations extended about 3 miles from the town near the back of which they commence, and were succeeded by what we called the open plantations. Here the land began to rise with a gentle ascent that continued about one mile when it became abruptly steep. These were the plantations that contain the bread-fruit-trees. [Ledyard 1779 in Kelly 1983:71-72]

Archibald Menzies traversed the different sub-zones of the Field System and described the change in vegetation of each area:

We commenced our march with a slow pace, exposed to the scorching heat of the meridian sun, over a dreary barren track of a gradual ascent, consisting of little else than rugged porous lava and volcanic dregs, for about three miles, when we entered

the bread fruit plantations whose spreading trees with beautiful foliage were scattered about that distance from the shore along the side of the mountain as far as we could see on both sides. Here the country began to assume a pleasant and fertile appearance through which we continued our ascent for about two miles further, surrounded by plantations of the esculent roots and vegetables of the country, industriously cultivated, till we came to the uppermost village consisting of a few scattered huts [...]

[...] Next morning after going on about two miles by a narrow path through an uncultivated track, overgrown with ferns and small bushes, we entered the forest, the verge of which was adorned with rich and fruitful plantations of bananas and plantains, from which we supplied ourselves with a good stock for our journey. [Menzies, January 1794 in Schilt 1984:4]

De Freycinet noted,

In order to reach the mountain that lies to the southeast of the village . . . we first went across dry fields, where hardly any young growth was visible; but, after reaching a certain elevation, we found much richer terrain where the paper mulberry, breadfruit tree, the mountain apple, tobacco, cabbage, sweet potatoes and yams were cultivated. We were given water of a delicious coolness [de Freycinet, August 1819 in Schilt 1984:6]

In the Summer of 1823, Reverend William Ellis provided this secondhand account:

. . . enjoyed a fine view of the town and adjacent country. The houses, which are neat, are generally built on the sea-shore, shaded with cocoa-nut and kou trees, which greatly enliven the scene.

The environs were cultivated to a considerable extent; small gardens were seen among the barren rocks on which the houses are built, wherever soil could be found sufficient to nourish the sweet potato, the water-melon, or even a few plants of tobacco, and in many places these seemed to be growing literally in the fragments of lava, collected in small heaps around their roots.

After travelling over the lava for about a miles, the hollows in the rocks began to be filled with a light brown soil; and about half a mile further, the surface was entirely covered with a rich mould, formed by decayed vegetable matter and decomposed lava.

Here they enjoyed the agreeable shade of bread-fruit and ohia trees; the latter is a deciduous plant, a variety of eugenia, resembling the *eugenia malaccensis*, bearing a beautifully red pulpy fruit, of the size and consistence of an apple, juicy, but rather insipid to taste. The trees are elegant in form, and grow to a height of twenty or thirty feet; the leaf is oblong and pointed, and the flowers are attached to the branches on a short stem. The fruit is abundant, and is generally ripe, either on different places in the same island, or on different islands, during all the summer months. [Ellis 1823 in Schilt 1984:6-7]

In 1845, Captain Charles Wilkes commented,



Cultivation is carried on in many places where it would be deemed almost impracticable in any other country . . . . The natives, during the rainy season, also plant, in excavations among the lava rocks, sweet potatoes, melons, and pine-apples, all of which produce a crop.

The only staple commodities are sweet-potatoes, upland taro, and yams. The latter are almost entirely raised for ships. Sugar-cane, bananas, pine-apples, bread-fruit, cocoa-nuts, and melons, are also cultivated. The Irish potato, Indian corn, beans, coffee, cotton, figs, oranges, guavas, and grapes, have been introduced, and might be successfully cultivated, if there was any demand for them.

From May to September is the wet or rainy season, when they experience a good deal of rain; and this is also the growing season.

In December, January, and February, they have usually very dry weather, and the winds prevail from the north, from which quarter it sometimes blows fresh. [Wilkes 1845 in Schilt 1984:7–8]

### 4.3 The Māhele and the Kuleana Act

To try to maintain sovereignty of the land, the *mō'ī* (king) Kamehameha III in 1846–1848 supervised the Māhele—the division of Hawaiian lands—that transformed the land system in Hawai'i from collective to private ownership. Modeled after western concepts, Crown Lands were to be reserved for the king and the royal house, Konohiki Lands were claimed by *ali'i* and their *konohiki* (land steward of an *ahupua'a*), and Government Lands were set aside to generate revenue for the government. In 1850, these three categories of land were subject to the rights of the *maka'āinana* and other tenants (naturalized foreigners, non-Hawaiians born in the islands, or long-term resident foreigners), who could make claims for their habitation and agricultural plots, known as *kuleana* (Native land rights) parcels (Chinen 1958:8–15).

Under the Kuleana Act of 1850, the *maka'āinana* were required to file their claims with the Board of Commissioners to Quiet Land Titles (Land Commission) within a specified time period in order to apply for fee-simple title to their lands. The claim could only be filed after the claimant arranged and paid for a survey and two witnesses testified that they knew the claimant and the boundaries of the land, knew that the claimant had lived on the land since 1839, and knew that no one had challenged the claim. Then, the *maka'āinana* could present their claims to the Land Commission to receive their Land Commission Award (Kame'elehiwa 1992).

Not everyone who was eligible to apply for *kuleana* lands did so and not all claims filed were awarded. Some claimants failed to follow through and come before the Land Commission, some did not produce two witnesses, and some did not get their land surveyed. In addition, some *maka'āinana* may have been reluctant to claim *'āina* that had been traditionally controlled by their *ali'i*, some may have not been familiar with the concept of private land ownership, and some may have not known about the Māhele, the process of making claims (which required a survey) or the strict deadline for making claims. Further, the Land Commission was comprised largely of foreign missionaries, so the small number of claimants and awards may reflect only those *maka'āinana* who were in good standing with the church (Kame'elehiwa 1992:296–297). Significantly, the surveying of the land was not standardized.

Figure 5 shows LCAs near the project area though no claim was made for the parcel of land that sits in the current project area. This is probably due in part to the dual ownership of Pua'a between Lot Kamehameha and the Government, making it unavailable to be claimed. This does not, however, leave the *ahupua'a* exempt from being sold by the Government to private land owners.

Research by Marion Kelly showed that after the Māhele, the areas most closely associated to the project area were redistributed (Table 4). In addition to parcels awarded in the Māhele, between the years 1852 and 1853, the purchase of government lands in North Kona took place. An individual listed as J. Marechal purchased 198 acres in Pua'a 3, Naipuwailuna purchased 60 acres in Pua'a 2, and Pupule purchased 103 acres also in Pua'a 2. Kapae 1 purchased 97 acres in Kahului 1 and Kipola purchased 78 acres also in Kahului 1 (Kelly 1983:43).

Table 4. Redistribution of land after the Māhele

| Ahupua'a  | Awardee                     | Land Commission Award   |
|-----------|-----------------------------|-------------------------|
| Kahului 1 | Government                  | —                       |
| Kahului 2 | Emma Kama'iku'i Rooke       | 8516-B [See Appendix A] |
| Pua'a 1   | Lot Kamehameha              | 7715:13                 |
| Pua'a 2   | Government                  | —                       |
| Pua'a 3   | Government                  | —                       |
| Waiaha 1  | American Protestant Mission | 387                     |
| Waiaha 2  | Crown Land                  | —                       |

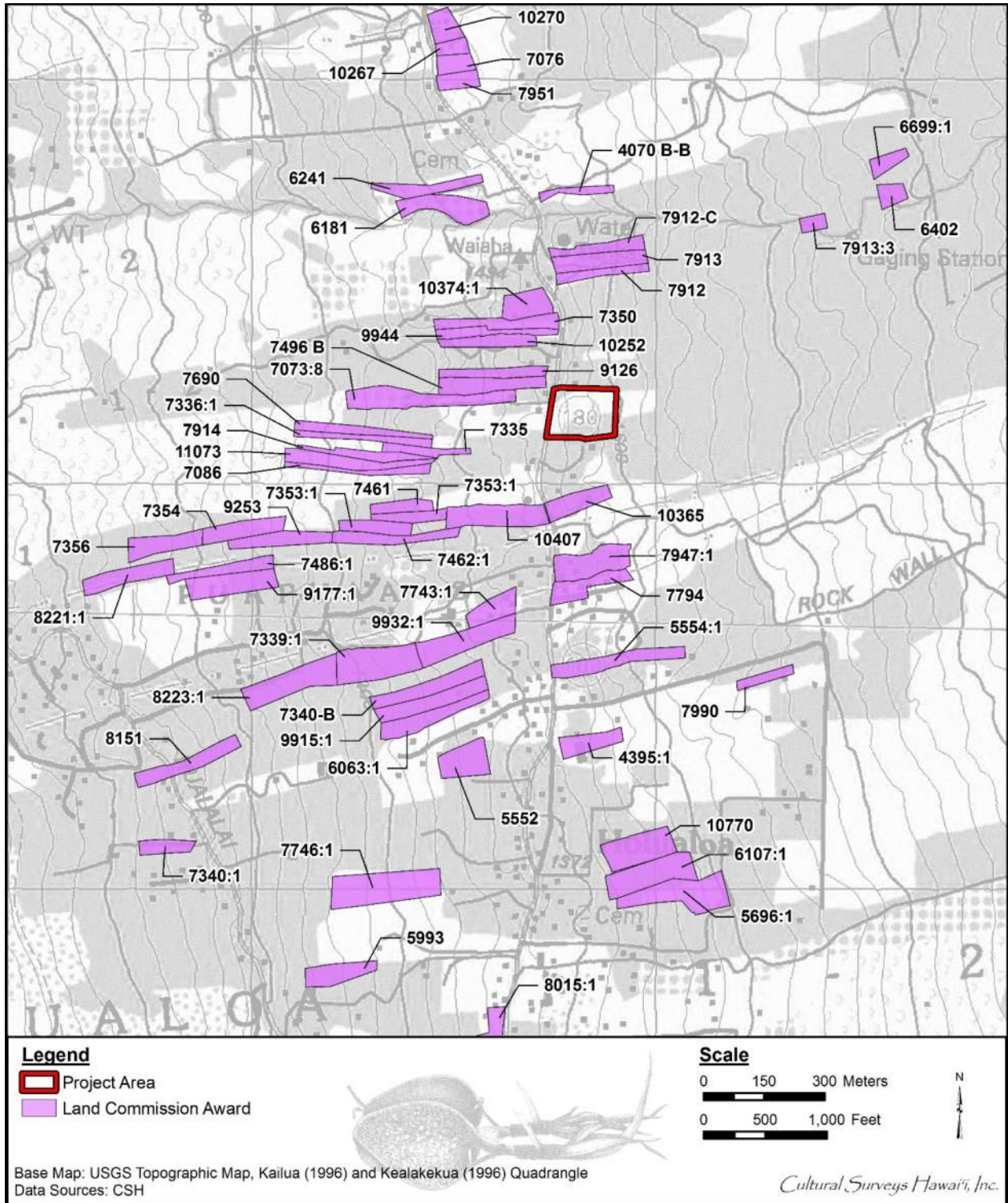


Figure 5. Land Commission Awards in Pua'a and the neighboring ahupua'a

## 4.4 Hawaiian Language Newspapers

Hawaiians lived in an advanced, oral society in which genealogies, stories, and chants—nearly their entire history—was learned and passed down through memorization and oration. In January 1822, printing was introduced to the Islands (Dibble 1843:192) and the first item printed was an instructional book produced for and by the Lahainaluna Seminary. The preface of this book reads as follows:

Perhaps the Sandwich Island's Mission owes an apology to the literary world for having reduced to writing a language of such variety and extent as the Hawaiian, and published so many books in it, without having given any account either of the genius structure or peculiarities of the language. [Andrews 1836]

By September 1823, several hundred Hawaiians were making progress in learning to read (Dibble 1843:197). More instructional material for Lahainaluna was printed as well as Bibles and hymn books to assist missionaries in their teachings. Nearly ten years after printing's introduction to the Islands, the first Hawaiian language newspaper, *Ka Lama Hawai'i*, was produced by the Lahainaluna Seminary (Dibble 1843:331). This newspaper could be compared to a school newsletter that published school announcements and featured "miscellaneous instruction for the school" (Dibble 1843:331).

It should be noted that all the materials printed at this time were written without any Hawaiian diacritics such as the *'okina* (glottal stop) and *kahakō* (macron). Though this was probably for ease of production, this also helped Hawaiians in learning to read. Dibble explains,

The missionaries adopted also the simple method of avoiding all arbitrary spelling. Every word is spelled precisely as it is pronounced, so that to teach spelling is scarcely an object. Every one who can combine two letters in a syllable and put two syllables together can both read and spell with readiness. The art of reading, therefore, is very easily acquired. I think I am safe in saying that the children of Hawaii learn to read their language in a much shorter time than our children do in English. [Dibble 1843:193]

The success of printing at Lahainaluna and the speed with which Hawaiians learned to read brought more printing presses to the Islands and birthed new newspapers. The Hawaiian electronic library, Ulukau, has a database of old Hawaiian newspapers. Forty-eight newspapers are available on this site, though one paper, *The Liberal*, published only in 1893, is in English. The articles printed in these papers were far more detailed and unfiltered than what we read today. Horrific accidents, causes of death, and personal advertisements are just a few examples of what they contained. A great deal can be learned about a place or time through these newspapers. They are utilized in this report to understand the daily realities of *kama'āina* living in the *ahupua'a*.

CSH utilizes Ulukau's Hawaiian Language Newspaper database in order to find articles that mention the *ahupua'a* or *moku* of the proposed project area. Information can be found by entering keywords, like place names. To narrow down searches, as many *wahi pana* throughout Hawai'i share the same name, newspapers are categorized by name and the date published. The following section presents newspaper articles in Hawaiian and their translation completed by CSH.

#### 4.4.1 A Public Announcement

OLELO HOOLAHA.

KE hoakaka ia nei ma keia Olelo Hoolaha ka inoa o na IA kapu a na Konnhiki i hoouna mai iloko o keia Keena Kalaiaina, e like me ke Kanawai. Konohoiki. Ili Aina Ia Kapu. Kanaina, Kalemaohe, Maui, Opelu, J. H. Kaawa, Kapuna, " Opihi, " " " Kalua, Wailuku, " Akule, L. Kamehameha, Puaa, Hawaii, Hee, " " Kaloko, " Opelu. 6-2t\*

[*Ka Hae Hawaii*, 6 May 1857]

#### **Translation:**

*Ka Hae Hawaii*. 6 May 1857.

A Public Announcement.

The prohibited fish that the land managers have sent to this office are being clarified upon this public announcement, in accordance with the law.

Land Manager. Land Division. Prohibited Fish.

Kanaina. Kalemaohe, Maui. 'Ōpelu [the mackerel scad],

J.H. Kaawa, Kapuna, [Maui,] 'Opihi [limpets],

[J.H. Kaawa,] Kalua, Wailuku, [Maui,] Akule [big-eyed scad fish],

L. Kamehameha, Pua'a, Hawai'i, the he'e [the octopus],

[L. Kamehameha,] Kaloko, [Hawai'i,] 'Ōpelu.

#### 4.4.2 The Heavy Rains Here at Kona Akau

Nui ka ua ma Kona Akau nei.

I ka la 13 o Dekemaba nei, ia po iho hiki mai ka ua nui me ka makani pu; i ka ua no a ao, i ke ao anae aole nui ka ua, he ua no nae aole like me ka po; a ia po iho no la 14 hiki hou mai no ka ua nui, aole okana mai e like no me ka po mamua.

Ua hoolana ia kekahi mau hale e ka wai, nui ka wai kahe i keia mau po, he mau kahawai ma kai o Kona A. ma Puaa, Waiaha, Kahului, Holualoa, a pela aku, inoino ke ala aupuni o kahakai i na pohaku i ke kaheia e ka wai.

Aole nae he wai nui mauka, ma kaika nui o ka ua me ka wai, a ma kula hoi mai ka nui o ka ua me ka wai.

A ke ua nei no i keia mau po aole nae e like me ka mea i hoikeia maluna ae: a nau e hai ae oe i ka poe i noho iho nei ma Kailua nei me makou. Aloha ia oe e ka Hae Hawaii;

Kailua Kona A. Hawaii Dek. 18, 1858.

[*Ka Hae Hawaii*, 29 December 1858]

Translation:

The Heavy Rains Here at Kona Akau.

On the 13th of this December, on that night, heavy rains arrived as well as the winds. It rained until day, but during the day, it did not rain heavily. The rain was not like that at night. On that night of the 14th, the heavy rains arrived, but nothing exceeded the likeness of the rains upon the first night.

Several houses were floating because of the water. The water was flowing heavily during these nights. Several rivers toward the ocean of Kona 'Akau, in Pua'a, Wai'aha, Kahului, Holualoa, and so on, caused damaged to the kingdom road at the seacoast due to rocks flowing because of the waters.

However, the waters were not strong in the uplands. The rain and the water was heavy on wetlands, and the majority of the rain and the water was on the plain.

And it is raining now during these nights, however, it is not like what was described above. You should inform the people who are residing in Kailua here with us. Regards to you, *O Ka Hae Hawaii*.

Kailua, Kona 'Akau, Hawai'i. 18 December 1858.

**4.4.3 Large Breadfruit**

Ulu nui.

E ka hae Hawaii e:

ALOHA OE:— O kela huaolelo a ka poe kahiko, "pupuhi ka ulu o Keei."

Eia ka makou ulu nui i ike iho nei; O kona anapuni 24 iniha. o kona loa 12 iniha; akahi no o loa ka ulu nui ma kona A, nei, Ua iawe ia mai e keia mau keiki pii ulu Tatiio, a me Kaopuo, A ua lawe ia a haawi ia i ka Moi haanou no ke 'Lii nui io no ka! aia mauka o Puaa kahi i loa mai ai o keia ulu.

Oia kahi nu, nau ia e eku hele aku i ka maka o ka poe lawe i kou kina, a me ka poe e hana hanai mai ana.

E aloha auanei ku ukana a ke aloha, hoolahaia'ku.

J W. MAKANOANO.

Kailua Kona A. H. Okatoba 19, M. H. 1858.

[*Ka Hae Hawaii*, 27 October 1858]

Translation:

Large Breadfruit.

*O Ka Hae Hawaii:*

Greetings to you: Concerning that expression of the traditional people, "*pupuhi ka ulu o Ke 'ei*," the breadfruit of Ke 'ei have disappeared.

Here is our large breadfruit that has been seen here: Its circumference is 24 inches, it's length is 12 inches. This is the first time a large breadfruit has been obtained here in Kona 'Akau. It was brought by the children Tatiio and Kaopuo who were climbing breadfruit [trees.] They brought it and gave it to the high chief

who was enthusiastic and surprised. This breadfruit was obtained in the uplands of Pua'a.

That is some news . . .

JW. Makanoanoa.

Kailua, Kona 'Akau, Hawai'i. 19 October 1858.

#### 4.4.4 An Old Man

KANAKA KAHIKO.— Aia ma Puaa 3, Kona Akau, Hawaii, kekahi kanaka kahiko, o Kaiwihui kona inoa, ua hanau ola mamua aku o ka make ana o Lono ma Kaawaloa, he kanaiwa kona mau makahiki mai la manawa a hiki ia nei, a ke ola nei no la.

[*Ka Hae Hawaii*, 18 May 1859]

##### Translation:

An Old Man.

In Pua'a 3, Kona 'Akau, Hawai'i is an old man named Kaiwihui who was born and lived before the death of Lono in Ka'awaloa. He has 90 years since that time up until now, and he is indeed still living now.

#### 4.4.5 A House Destroyed by Fire

Hale pau i ke ahi.

E ka Hae Hawaii e:

ALOHA OE:- Ua pau i ke ahi kekahi hale ma Puaa 1, Kona Akau, Hawaii. Penei ka pau ana, i ka po a ao ae ola ka Ia 31 o Maraki, aole kanaka oloko o ua hale nei, o Kaumu ka inoa o ka mea nona ka hale, ua hele ia ma Oahu. Nui na waiwai maloko o keia hale, o Pupule a me G. L, Kapeau, ka mea nona ka hale; ua manaoia elua haneri dala no ia waiwai ke hui pu me ka hale. Ua manaoia na kekahi kanaka kolohe i puhi, aole nae i loa ka mea nana i puhi keia hale.

[*Ka Hae Hawaii*, 25 May 1859]

##### Translation:

A House Destroyed by Fire.

O *Ka Hae Hawaii*:

Greetings to you: A house in Pua'a 1, Kona 'Akau, Hawai'i, has been destroyed by fire. This is how it was destroyed. In the night and during the day 31 of March, there was no one inside the house. Kaumu is the name of the person who the house belongs to and he/she went to O'ahu. There were many valuables within this house. Pupule and G.L Kapeau are the names of the people the house belongs to. It is thought that the value, when combined with the house, is 200 dollars. It is thought that a crazy person burned the house, but it is not known who set fire to this house.

## 4.5 Boundary Commission Testimonies

Shortly after the establishment of the Māhele, the Hawaiian Legislature created the Boundary Commission. Each island had their own Boundary Commissioner whose job was to settle and delineate boundaries of larger lands, particularly *ahupua'a*, that were awarded in the Māhele without proper surveying. Specifically speaking of Hawai'i Island, the Boundary Commission records contain the most detailed information due to the meticulous record keeping of Hawai'i Island Commissioner, Rufus Lyman (Waihona 'Aina 2000). Where information is known, recorded *kama 'āina* testimony revealed names of all the land and ocean features, springs, caves, plants, rocks, peaks; all which was told to them by previous generations (Waihona 'Aina 2000).

The following accounts below are Boundary Commission testimonies for areas nearest the project area (Kahului and Pua'a). The wealth of knowledge included in these testimonies are invaluable and, in some cases, are the only records where a place name was mentioned. No detailed account is given but testimony was submitted by the Catholic Priest Charles Pouzot in 1873 confirming ownership of Pua'a for the Catholic Mission (Boundary Commission 1873).

### 4.5.1 Niniha, from Kahului

Niniha, kane, sworn, I was born at Kahului, North Kona, Hawaii at the time of Kaoku and have always lived there. My parents (now dead) pointed out the boundaries to me. Boundary at the seashore between Kahului 2 and Puuapuaaike is at the right hand side of Kakapa, a rocky point in the sea; thence mauka along an iwi aina to Governor Adam's wall; thence to Waiakalaho, a water hole; thence mauka to Waiakekea, a water hole near the iwi aina and a little above the Government road; thence to Kaaipaka, a kulana kauhale, ahua hulipali; thence mauka a short distance to where Puapuaaike ends; thence to Puuokoheo, a high hill outside of the woods; now overgrown with koa; there Holualoa corner at Pohakuhano; thence along Holualoa to Waikee, a [page 328] kahawai; thence across said gulch and follow the gulch up to Puuokaloa, a pali in the woods on the North side of the gulch; thence to Palule where Holualoa and Puaa cut off Kahului; said place is a puu pahoe and kahawai; thence makai along the boundary of Puaa to Popoulu, mauka corner of Kahului 1st near the lower edge of the woods; thence along Government portion of Kahului to Papalanui, a kihapai koele, below Puukohia; thence along iwi aina, makai to Alau in the fern above the Government road. There is a pile of stones set up there. I pointed out the boundaries of Kahului 1st when it was surveyed; thence along the land sold, to Kalalii, a pulu lepo a seashore. Ancient fishing rights extending out to sea. [Boundary Commission 1864-1935]

### 4.5.2 Makuakane, born at Hāmākua

Makuakane, kane, sworn (rather a young man), I was born at Hamakua, Hawaii; came to Kahului when I was young and have resided there ever since; know the boundaries of said land; Kapee (now dead) former konohiki of the land with whom I lived four years told me the boundaries, and also pointed them out to me. Commencing at seashore between Kahului and Puapuaa at a rocky point called Kakapa; thence mauka along an iwi aina to Governor Adam's wall; thence mauka,



the boundary still following the iwi aina to Waiakalaho, a water spring; said spring being about three kihapai to North of the boundary to Puapuaa; thence to Waiakeke, spring mauka of the road; said spring is on Kahului near the iwi aina; thence to Kaaipaka, an Ahuapuu, kauhale kahiko, boundary at the South side of it; thence to Waikē (I do not know where Puapuaa ends; Holualoa joins Kahului at Waikē; thence to Popoula, a kahawai with koa growing in it; thence to Puuokaloa, a pali; thence to Palule where Puaa and Holualoa cut Kahului off; thence makai along Puaa to Puuakaloa; thence to Popoula, the land is very narrow here; thence makai to Puukehoi, a hill in fern, thence makai along the iwi aina to Waihuna a water hole on the boundary between Kahului 1<sup>st</sup> [page 329] and Kahului 2nd. Kahului 1st reaches to Puuokaloa at the foot of the pali; makai of the Government road you come to Waihuna which is the boundary of Kapai's land. The mauka corner of Kapai's land is at Kealaehu, sometimes called Alau a koele. Thence the boundary runs along land sold, to the sea, and the land has ancient fishing rights extending out to sea. [Boundary Commission 1864-1935]

#### 4.5.3 Kauwa, from Pua'a

Kauwa, wahine, sworn I was born at Puaa, North Kona, Hawaii, at the time of Keoua, and have always lived there, and am acquainted with the boundaries of the land. Kahio, my father (now dead), who was a kamaaina, and bird catcher told me the boundaries.

Puaa is bounded makai by the sea and the land has ancient fishing rights near the shore, but not extending out to sea. Thence commencing at a punawai by the seashore called Holoake, between the lands of Puaa and Auhaukeae and running mauka to Poholua, a huli pali near the shore and just above a house thence along iwi aina, the boundary runs mauka to Kuinakihei, an oiaina way above pa aina; or Governor Adam's wall; thence to Puukole, a breadfruit tree; thence to Nuanulapalapa, a kualapa; thence mauka to Keahupuaa, the [page 377] the [sic] boundary follows the iwi aina, along all these places; thence to a kihapai by the mauka Government roads; thence to an Ahupohaku; thence along the iwi aiana to Kanoweana, an old kauhale, a rose[?] bushes and a Puuhala tree are at this place from thence to Kanakehipahoa, a banana grove at the edge of the woods, said grove is the mauka end of Auhaukeae; Thence the boundary runs towards Kohala; first cutting off the land of Hianaloli 1, 2, 3, 4, 5 & 6 and then Auhaukeae 1 & 2 to Luaike, junction with Honuaula. I have not seen this place. I have only heard about it being on the edge of the woods. Thence Puaa runs along the land of Honuaula to Mamahana wai olona.

(I have only heard of the boundaries in the woods, have never seen them[]); Thence mauka to Kainakelekele, wai olona, and where olona grows; thence the boundary runs mauka to the side of a gulch called Honuaula (said gulch comes out of woods on Hianaloli); thence mauka along the South side of the gulch to Kapapai, a place where two old roads used to meet on a pali above the woods, from thence the boundary turns toward Kau. Along Honuaula to Pulalalau, a hill; Keauhou 2d is

mauka of the hill and Honualua [*sic*] is on the North side; ~~as well as~~ Puaa and Holualoa corner there.

Thence makai along Holualoa to kahawai 0 Holualoa, the boundary line passing to the North side of it; thence makai along the gulch to Paule, a pahihi and Wai aoao, thence makai leaving the gulch and running to a place called Punokaloa; passing along Kahului 2nd, through a lae mana (sharp ferns like uluhi [uluhe]); thence cutting across Kahului 1st, Kahului 2nd, Waiaha 1st and Waiaha 2d and Puaa 2d and Puaa 3d and running mauka to a punawai at the mauka corner of Puaa 2d called Honu; at the makai edge of the forest. Thence makai to Kaneuehu, an old kauhale; thence makai along the iwi aina and through the fern to Pahuaukii, a kihapai at the Government road; and in the middle of the land; This is a mistake; I should have said to Palihoohoolowaa, a small pali on the road and thence to Pahuaukii; Thence to a huli pali on the North side of some houses, and thence to banana trees growing on the huli pali; thence makai to Kawi, and thence to Pailima; thence makai to Hiilia, a punawai; thence to Kekawa, at the seashore. Hiilia is mauka of [page 378] Governor Adam's wall, and Kekawa is the awaawa kai, with points each side. The boundary is between the two. Puaa has ancient fishing rights extending to the squid grounds. [Boundary Commission 1864-1935]

## 4.6 Development in Pua'a

An 1888 map by Emerson (Figure 6) show a few clusters of LCA parcels *makai* of the project area though no LCAs overlap the project area and at this time no sign of development is depicted within or in the vicinity of the project area. A second map by Emerson dated 1891 (Figure 7) shows the project area, again with no real depiction of development. However, note the location of Queen Emma's house and the American Protestant Mission. Both maps by Emerson and a 1906 Territory Survey Map (Figure 8) place the project area in Kahului. The 1906 map also places the project area along the southern boundary of sugar plantation lands and marks the location of nearby schools and post offices. Figure 9 shows the current development of the area in 1924. Note the Hawaii Railroad and Kona Mill *makai* of the project area and the Japanese School and Holualoa School south of the project area. Structures, possibly residences, are depicted within the project area at this time. Figure 10, a 1977 aerial photograph, shows the continued use of the surrounding area for agriculture and ranching; note the change in vegetation, and the development of the project area into discrete agricultural plots.

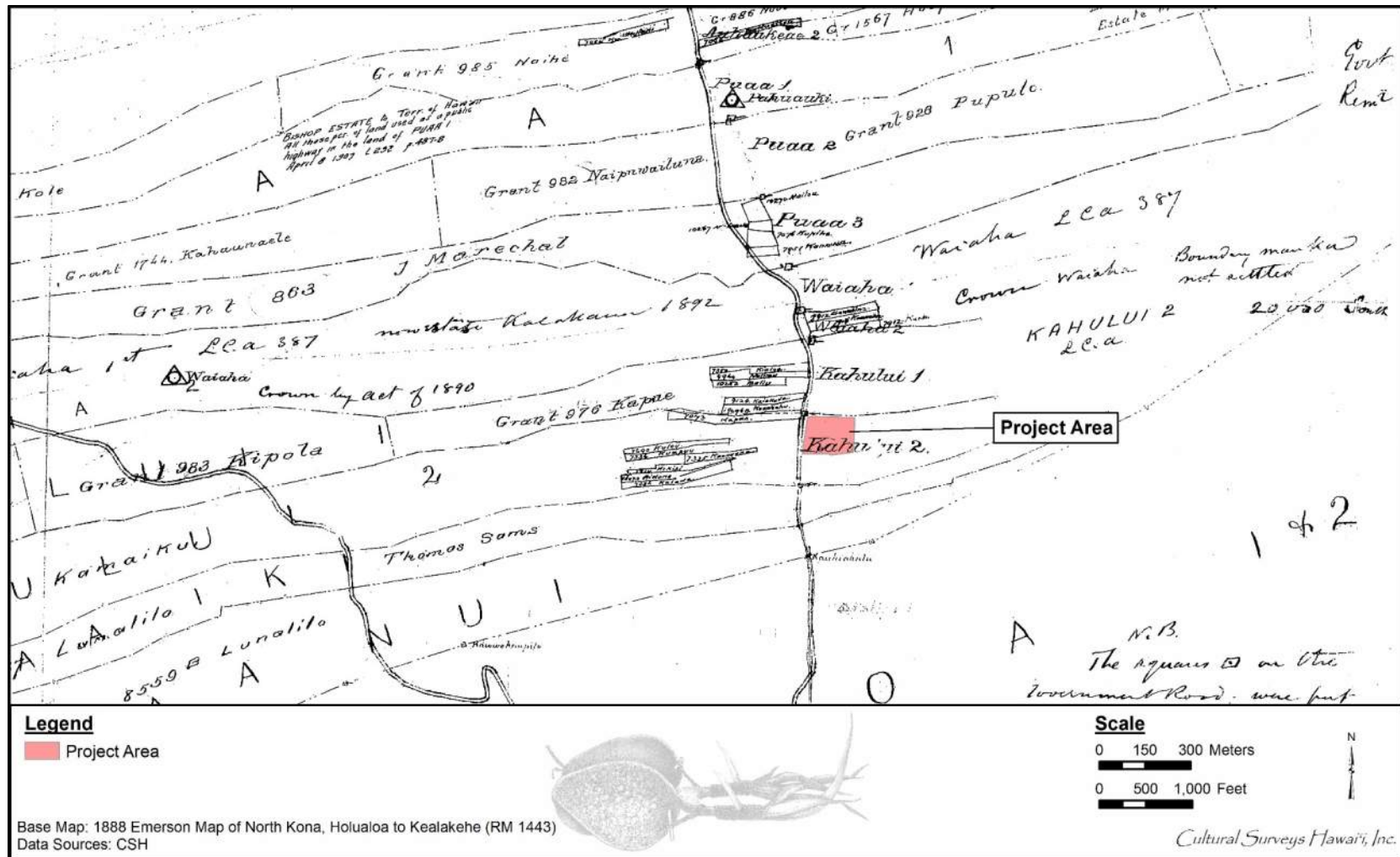


Figure 6. Portion of 1888 Emerson map of North Kona showing the project area

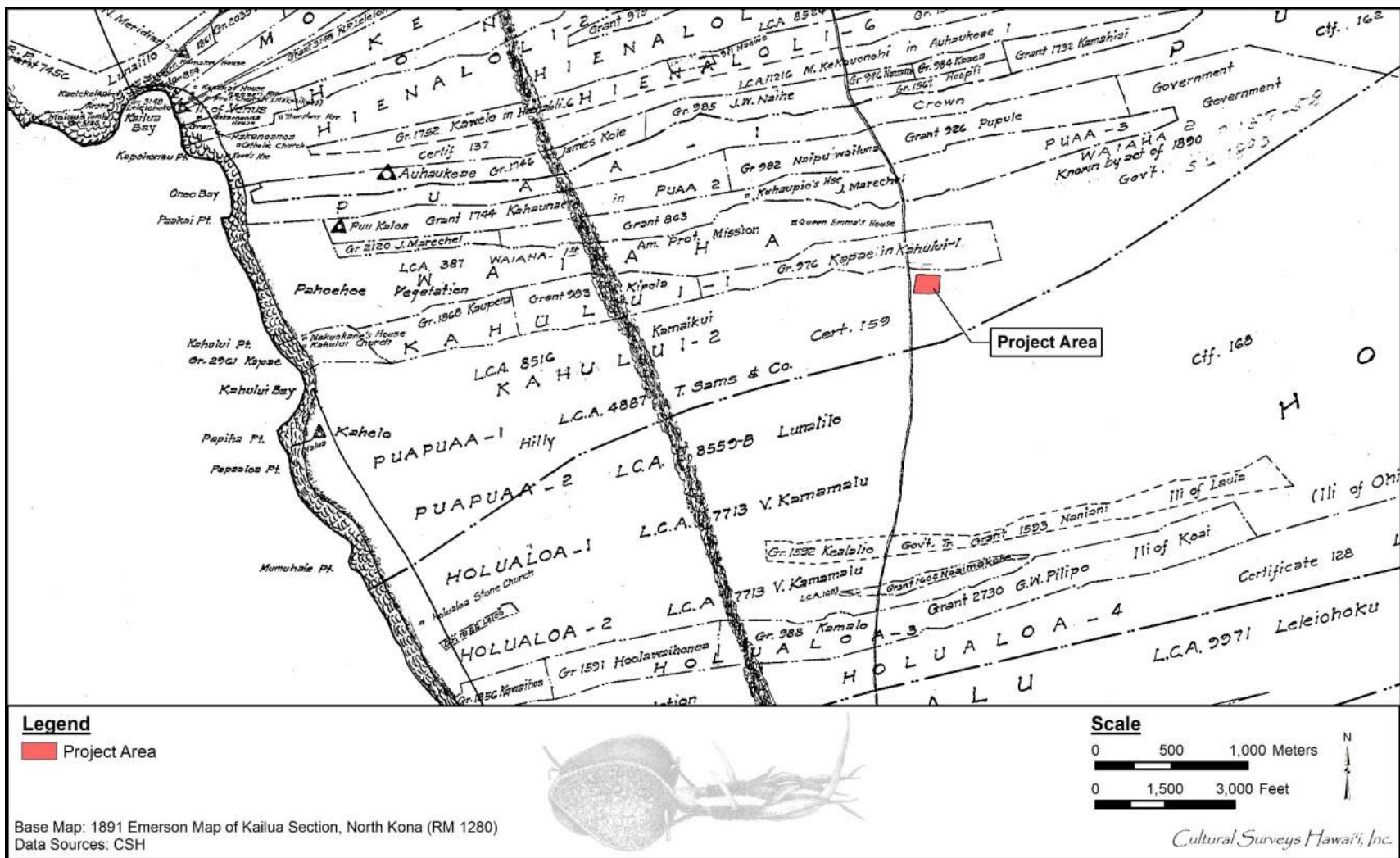


Figure 7. Portion of 1891 Emerson map of North Kona showing the project area within Kahului

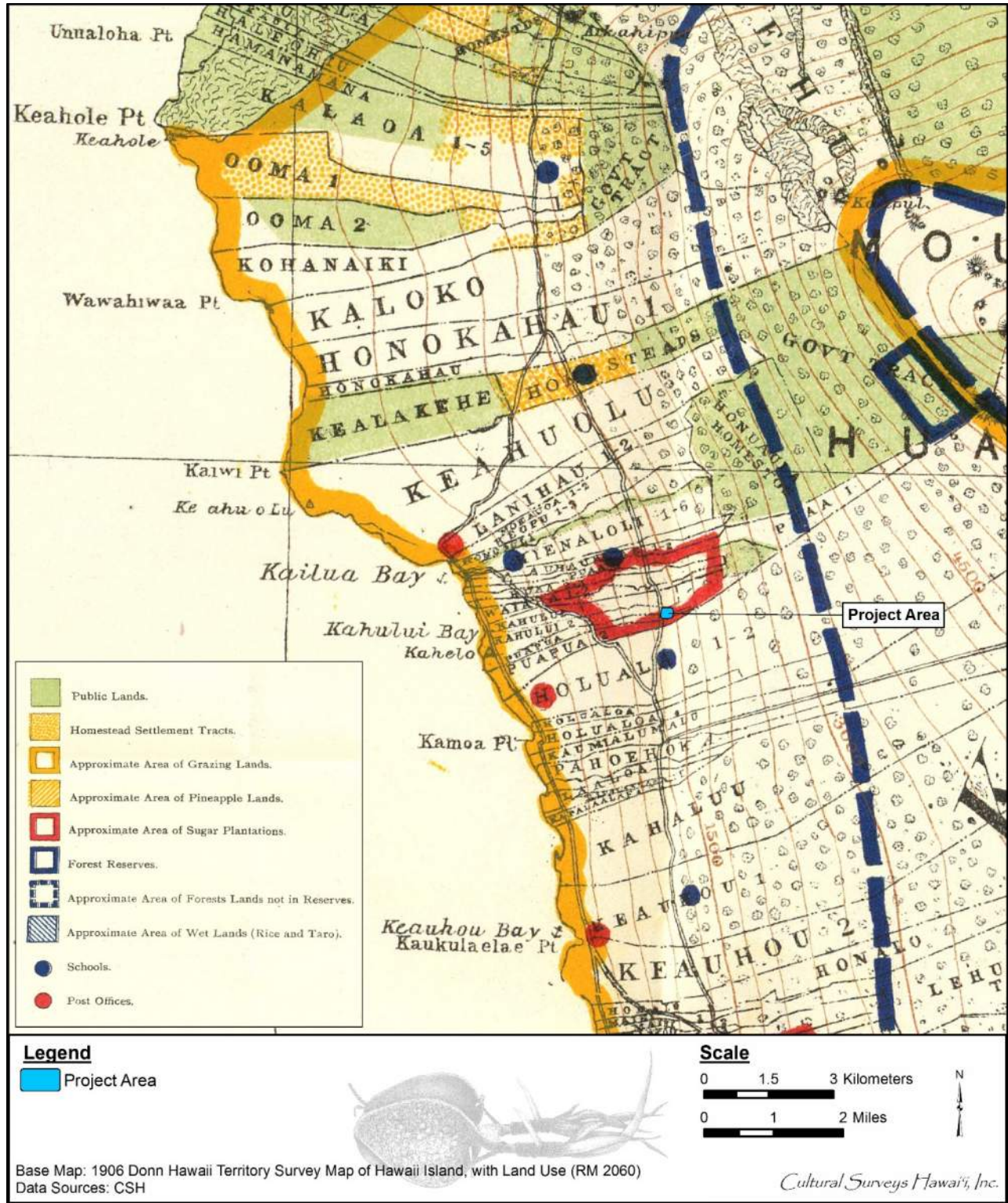


Figure 8. Portion of 1906 Donn Hawaii Territory Survey map of Hawaii Island showing location of project area along the southern bounds of sugar plantation lands

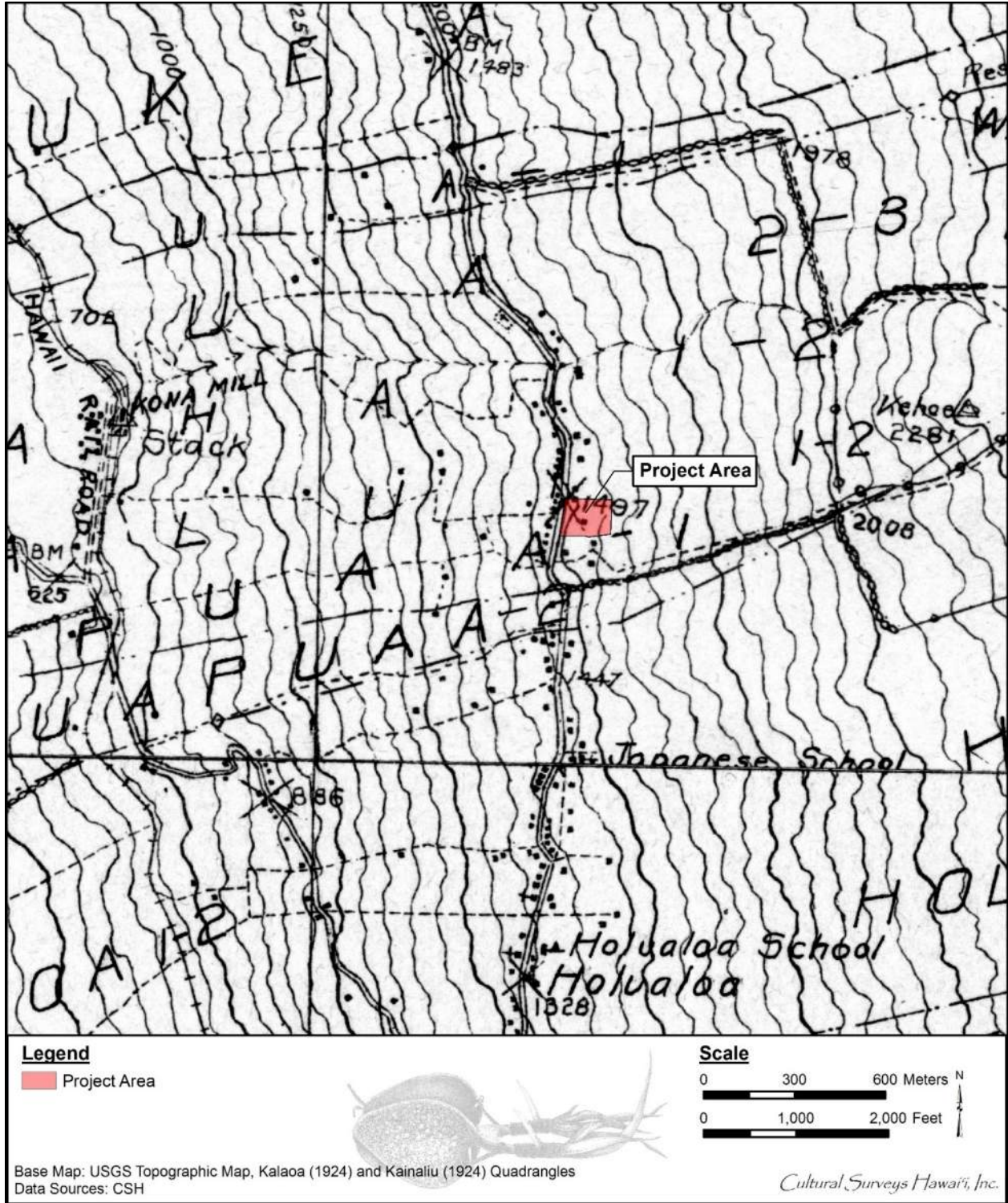


Figure 9. Portions of the 1924 Kalaoa and Kainaliu USGS 7.5-minute topographic quadrangles showing the location of the project area

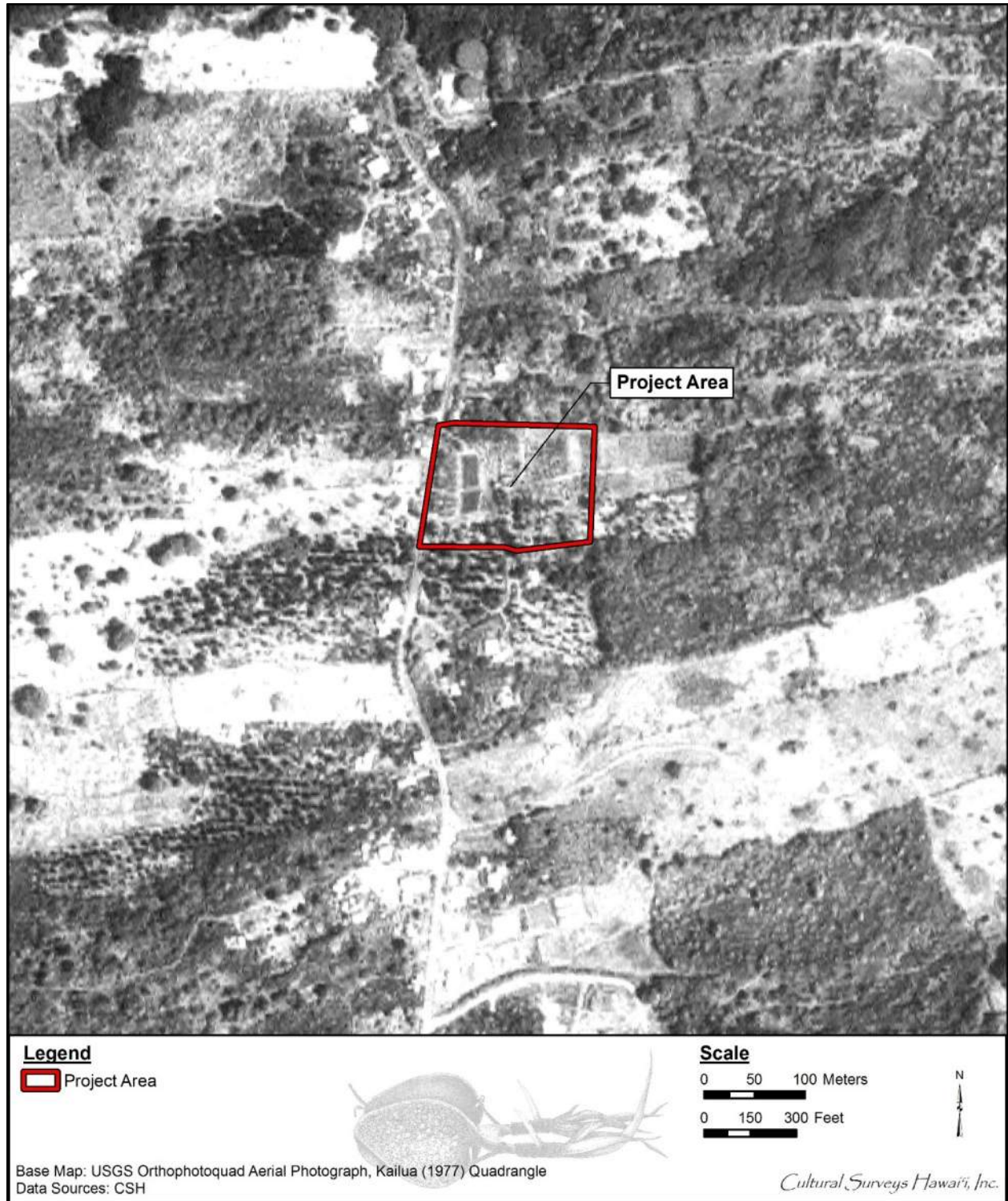


Figure 10. 1977 USGS Orthophoto showing the continued use of the surrounding area for agriculture and ranching and the development of the project area into discrete agricultural plots

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## Section 5 Previous Archaeological Studies

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Previous archaeological studies in the vicinity of the project area are summarized in Table 5 and depicted in Figure 11. Of these, five studies are located within 0.8 km (0.5 miles) of the current project area: Allen (1984), Walsh and Hammatt (1995), Haun and Henry (2001), Moore and Kennedy (2002), and Haun et al. (2003).

### 5.1.1 Allen (1984)

In 1984, Paul H. Rosendahl, Inc. (PHRI) undertook a reconnaissance survey of over 600 acres south and upslope of the current project area (Allen 1984; see Figure 11). The survey documented 19 archaeological sites and site complexes (not assigned State Inventory of Historic Properties [SIHP] numbers). Documented feature types included walls, terraces, mounds, small platforms, modified outcrops, enclosures, an artifact scatter, a cave, and a water tank foundation. These features were attributed to the pre-Contact Kona Field System and historic ranching activity. Three sites were recommended for testing, and the remainder were recommended for no further work.

### 5.1.2 Walsh and Hammatt (1995)

In 1994 CSH recorded six sites in a 5.9-acre project area on the Puapua'a/Hōlualoa border southwest of the current project area (Walsh and Hammatt 1995; see Figure 11). Two agricultural complexes (SIHP #s 50-10-37-19666 and -19667) comprising 91 features were identified as remnants of the Kona Field System. Four sites (SIHP #s -19662 through -19665) comprising 11 features were associated with historic habitation, agriculture, ranching, and transportation. All of the six documented sites were recommended for data recovery.

### 5.1.3 Haun and Henry (2001)

In 2001, Haun and Associates conducted an archaeological inventory survey (AIS) of an 87-acre parcel located in Kahalui 1 and 2 just *makai* of the current project area (Haun and Henry in 2001; see Figure 11). The survey identified “12 historic ranching walls or enclosures, an historic railroad trestle [SIHP # -07214], an historic road with a retaining wall, two agricultural enclosures, two agricultural terraces, a modified outcrop, an agricultural wall, a small agricultural complex with 11 features, two permanent habitation platforms [SIHP #s -22762 and -22764], a temporary habitation modified outcrop [SIHP # -22763], two permanent habitation platforms [SIHP #s -22762 and -22764], a complex of 33 features interpreted as remnants of the Kona Field System, a complex of 181 historic clearing features related with sugarcane cultivation, and a complex of 101 features that roughly correspond to six Land Commission Awards in the *mauka* portion of the project area [SIHP # -22780]” (Haun et al. 2003:1).

### 5.1.4 Moore and Kennedy (2002)

In 2002, Archaeological Consultants of the Pacific, Inc. undertook data recovery at SIHP # -19677 located within the northeastern portion of the Walsh and Hammatt (1995) project area (Moore and Kennedy 2002; see Figure 11). The results indicated many features previously thought to have been remnants of the Kona Field System were actually historic constructions associated with coffee cultivation. Furthermore, it was determined that many Kona Field System features existing within the site had been heavily modified for use in coffee cultivation after 1930.



Table 5. Previous archaeological studies in the vicinity of the project area

| Reference                  | Type of Study                                    | Location   | Results (SIHP # 50-10-37**** unless otherwise noted)  |
|----------------------------|--|--|---|
| Allen 1984                 | Archaeological reconnaissance survey             | 600+ acres in Puapua'a and Hōlualoa, TMKs: [3] 7-5-015:002 and 102 and 7-6-002:001 and 014 | Documented 19 sites and site complexes associated with Kona Field System and cattle ranching (no SIHP numbers assigned); majority recommended for no further work   |
| Walsh and Hammatt 1995     | Archaeological inventory survey                  | 5.9 acres in Hōlualoa 1 and 2, TMKs: [3] 7-6-009:014, 016, and 023                         | Documented six previously unidentified sites (SIHP #s -19662 through 19667) associated with Kona Field System and historic habitation, agriculture, ranching, and transportation; all sites recommended for data recovery                             |
| Haun and Henry 2001        | Archaeological inventory survey                  | 87 acres in Kahalui 1 and 2, TMKs: [3] 7-5-016:015, 016, 017, and 029                      | Documented 27 sites comprised of 349 features, representing a wide variety of feature types associated with pre-Contact to historic agriculture, habitation, ranching, and transportation   |
| Moore and Kennedy 2002     | Archaeological data recovery                     | Hōlualoa 1 and 2, TMK: [3] 7-6-009:014   | Data recovery conducted within a portion of SIHP # -19667 indicated historic-era construction and modification of most features within site previously described as remnants of Kona Field System   |
| Haun et al. 2003           | Archaeological data recovery                     | 87 acres in Kahalui 1 and 2, TMKs: [3] 7-5-016:015, 016, 017, and 029                      | Data recovery indicated SIHP # -22764 (platform) constructed between AD 1440-1650; excavations at SIHP # -22780 yielded evidence of pre-Contact to modern use   |
| Desilets and Rechtman 2004 | Archaeological inventory survey                  | 800-m-long corridor in Holualoa 1 and 2, TMK: [3] 7-6-008:005 por.                         | Survey identified one new historic property, SIHP # -24211, a rock wall-lined road that encompasses entire project area; background research indicates road constructed in late 1890s, presumably to provide grant recipients access to their parcels |
| Hammatt and Shideler 2006  | Archaeological literature review and field check | Cesspool Improvement project at Nine DOE Schools, Kona School District                     | Study noted for Hōlualoa vicinity that many surface features found in inland areas first constructed, heavily modified, or destroyed by historic use of land for cattle pasture and coffee cultivation  |

| Reference                  | Type of Study                    | Location  | Results (SIHP # 50-10-37**** unless otherwise noted)   |
|----------------------------|----------------------------------|---|--|
| Wilkinson and Hammatt 2009 | Archaeological monitoring        | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002, 037; 7-6-005:015 | No historic properties identified  |
| Rechtman 2013              | Archaeological inventory survey  | 29 acres in Hōlualoa 1-2, TMKs: [3] 7-6-008:005, 008, and 030                 | Identified 24 historic properties, including previously documented SIHP # -24211 (historic road) and newly documented SIHP #s -29700 through -29722 associated with late pre-Contact through late historic agriculture, habitation, and ranching; data recovery and/or preservation recommended for four sites   |
| Bautista et al. 2014       | Archaeological monitoring report | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002, 037; 7-6-005:015 | No historic properties identified  |
| Haun and Henry 2014        | Archaeological inventory survey  | 2.313 acres in Hōlualoa 1-2, TMK: [3] 7-6-010:005                             | Documented 14 newly identified sites (SIHP #s -30050 through -30063) comprising 145 features associated with pre-Contact through historic agriculture, habitation, ranching burial, rock art, and transportation; preservation recommended for burial (SIHP # -30060) and petroglyph (SIHP # -30061), and data recovery recommended for SIHP # -30063 (pre-Contact/historic agricultural complex); monitoring of ground disturbance also recommended |
| Wilkinson et al. 2014      | Archaeological monitoring report | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002 and 7-6-005:015   | Identified SIHP # -29888, a modified lava tube located beneath the school  |

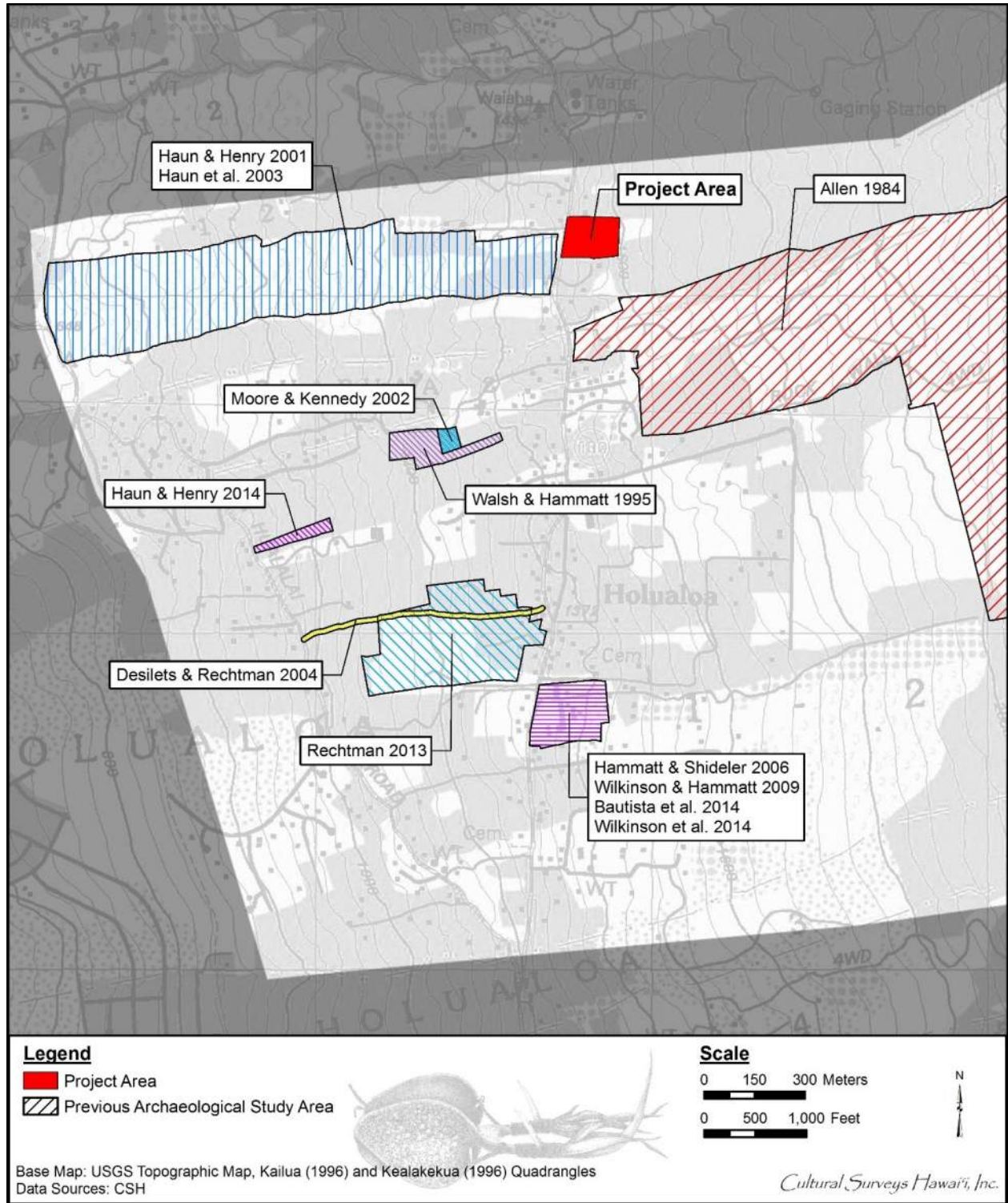


Figure 11. Portions of the 1996 Kailua and Kealahou USGS 7.5-minute topographic quadrangles, showing the location of previous archaeological studies in the vicinity of the project area

### **5.1.5 Haun et al. (2003)**

In 2003, Haun and Associates conducted data recovery at SIHP #s -22764 (rectangular platform) and -22780 (habitation and agriculture complex) within the Haun and Henry (2001) study area (Haun et al. 2003; see Figure 11). SIHP # -22764 was shown to have been constructed between AD 1440-1650. Excavations at SIHP # -22780 yielded evidence of pre-Contact to modern use throughout the site, including repurposing of pre-Contact features in historic times.

## Section 6 Community Consultation

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### 6.1 Introduction

Throughout the course of this assessment, an effort was made to contact and consult with Native Hawaiian Organizations (NHOs), agencies, and community members including descendants of the area, in order to identify individuals with cultural expertise/and or knowledge of the *ahupua'a* where the project area is located. CHS initiated its outreach effort in December 2018 through letters, email, telephone calls, and in-person contact. CSH completed the community consultation in June 2019.

### 6.2 Community Contact Letter

Letters (Figure 12 and Figure 13) along with a map and aerial photograph of the project area were mailed with the following text:

At the request of Belt Collins Hawaii LLC, on behalf of the State of Hawai'i – Department of Hawaiian Home Lands (DHHL), Cultural Surveys Hawai'i, Inc. (CSH), is conducting a cultural impact assessment (CIA) for the proposed DHHL Well Construction Project in Pua'a, Pua'a 2-3 Ahupua'a, North Kona District, Hawai'i Island, Tax Map Key (TMK): [3] 7-5-014:001.

The project entails drilling one or more exploratory wells, approximately 24-inch diameter hole for the proposed potable well. If the well(s) provide potable water, pumps will be installed in the wells. The site will be graded to accommodate a two-million-gallon water storage tank, control building, access road, electrical lines and other appurtenance improvements required for the operation and maintenance of the well site. The proposed project site is approximately 5.38 acres.

The purpose of the CIA is to gather information about the project area and its surroundings through research and interviews with individuals that are knowledgeable about this area. The research and interviews assist us when assessing potential impacts to the cultural resources, cultural practices, and beliefs identified as a result of the planned project. We are seeking your *kōkua* (assistance) and guidance regarding the following aspects of our study:

- **General history and present and past land use of the project area.**
- **Knowledge of cultural sites –for example, historic sites, archaeological sites, and burials.**
- **Knowledge of traditional gathering practices in the project area, both past and ongoing.**
- **Cultural associations of the project area, such as legends and traditional uses.**
- **Referrals of *kūpuna* or elders and *kama'āina* (Native-born) who might be willing to share their cultural knowledge of the project area and the surrounding**

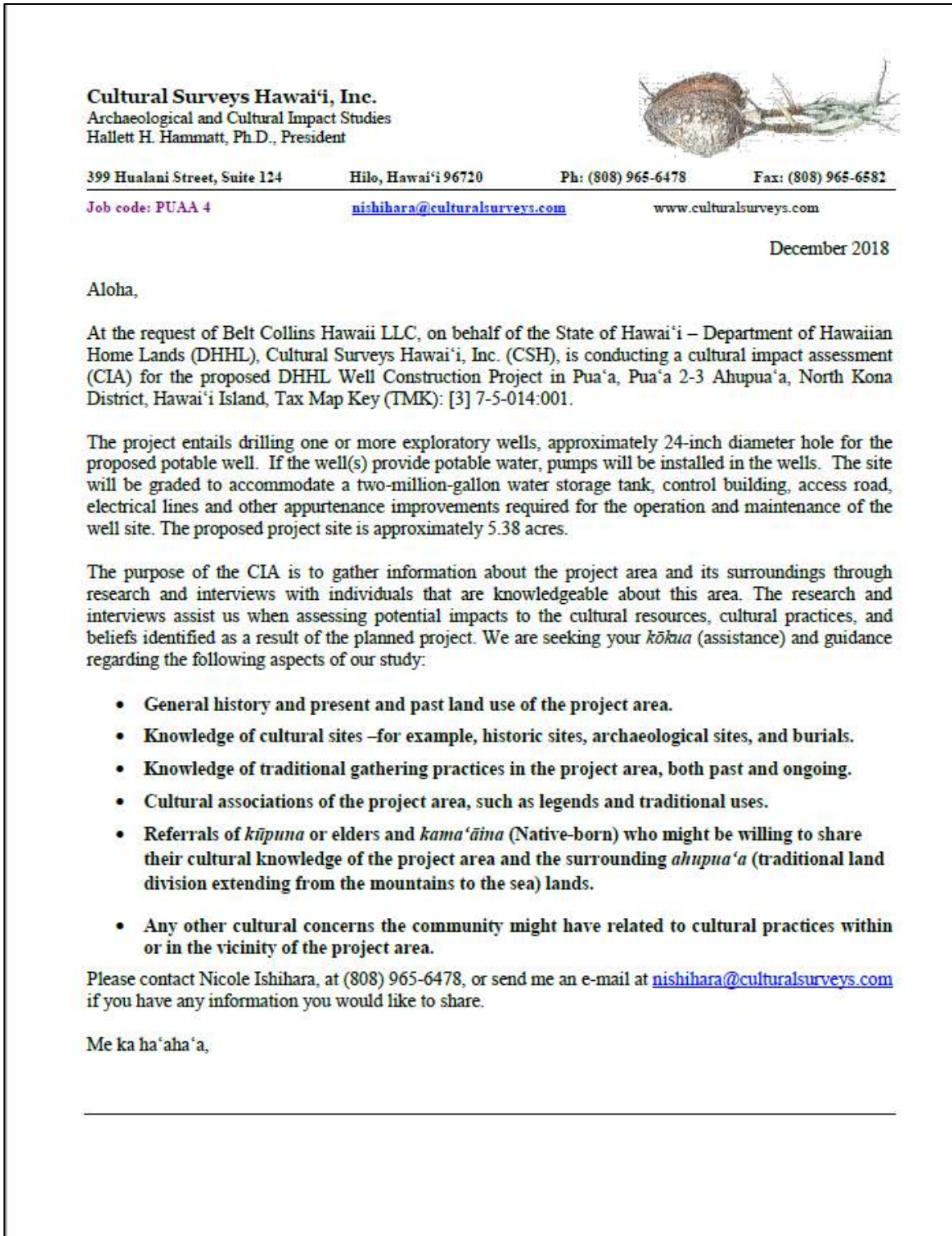


Figure 12. Page one of the community consultation letter

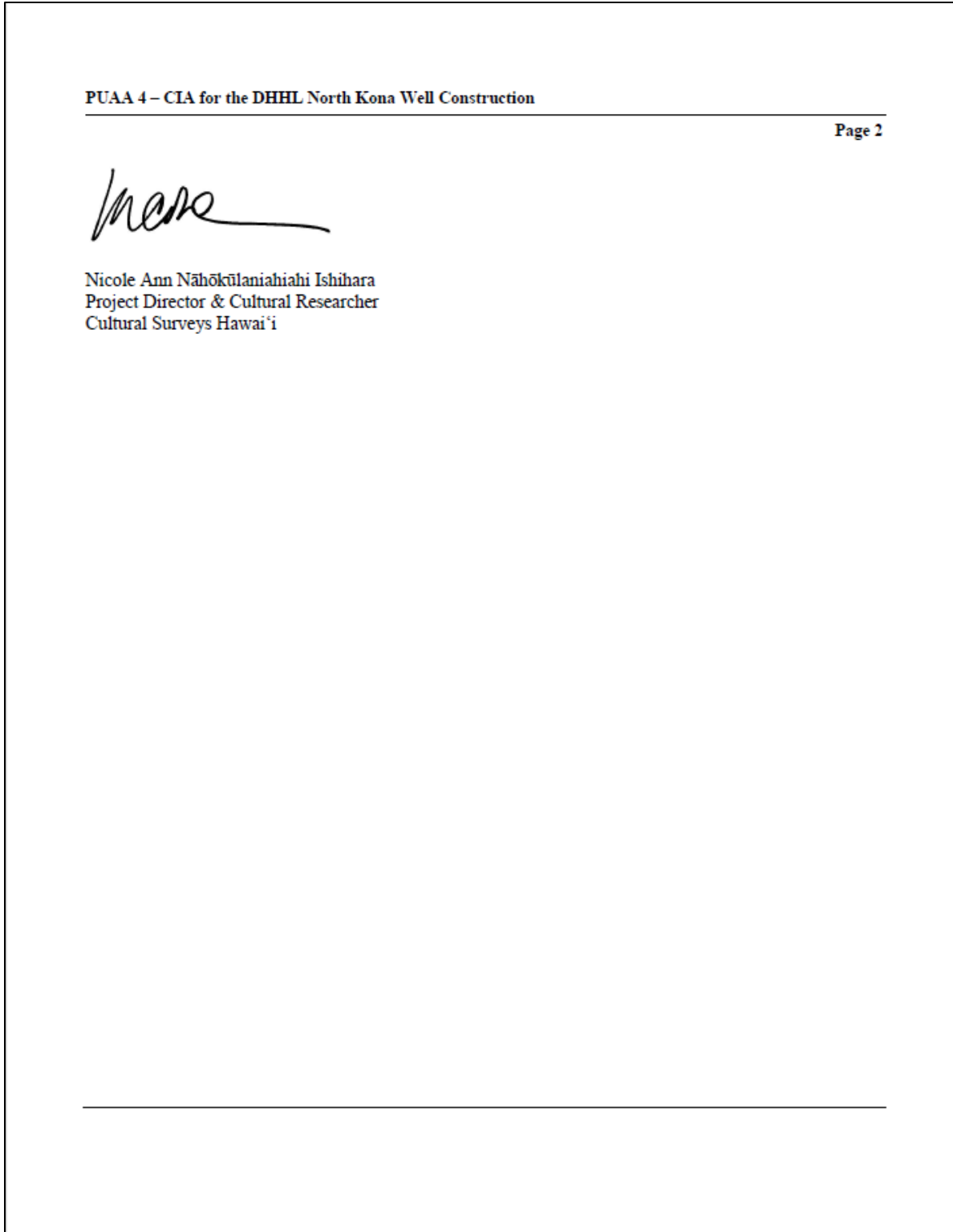


Figure 13. Page two of the community consultation letter

- ***ahupua'a* (traditional land division extending from the mountains to the sea) lands.**
- **Any other cultural concerns the community might have related to cultural practices within or in the vicinity of the project area.**

In most cases, two or three attempts were made to contact individuals, organizations, and agencies.

### 6.3 Community Contact Table

Table 6 contains names, affiliations, dates of contact, and comments from NHOs, individuals, organizations, and agencies contacted for this project. Results are presented below in alphabetical order.

Table 6. Community contact table

| Name  | Affiliation                                  | Notes  |
|---|--|--|
| Calpito, Jordan   | SHPD, Hawai'i Island Burial Sites Specialist | Letter and figures sent via email<br>26 December 2018<br><br>Mr. Calpito called CSH on Tuesday 5 February 2019 with possible contacts for the project. He will reply later via email with information. |
| Carlson, Carl   | Former General Manager of Huehue Ranch       | Letter and figures sent via USPS<br>26 December 2018<br><br>Returned to sender 31 December 2018  |
| County of Hawai'i Planning Department, Cultural Resources Commission (West Hawai'i) |  | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019   |
| Crabbe, Kamana'opono  | Ka Pouhana (CEO), OHA                        | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019   |
| Fergerstrom, Hanalei  | Spokesperson, Nā Kūpuna Moku O Keawe         | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019   |



| Name                     | Affiliation   | Notes  |
|--------------------------|---|--|
| Fitzgerald, Robert       | Director, Dept. of Parks Rec (Old Airport)  | Letter and figures sent via USPS 26 December 2018<br>Second round letter and figures sent via USPS 15 February 2019  |
| Flores, Kalani           | UH Professor of Hawaiian Lifestyles: Hawai'i Community College, UH Center at West Hawai'i | Letter and figures sent via USPS 26 December 2018<br>Returned to sender 11 January 2019  |
| Gmirkin, Rick            | Archaeologist, Ala Kahakai National Historic Trail  | Letter and figures sent via USPS 26 December 2018<br>Second round letter and figures sent via USPS 15 February 2019  |
| Gomes, Stanley           | <i>Kama'āina</i>  | Letter and figures sent via USPS 26 December 2018<br>Returned to sender 31 December 2018   |
| Greenwell, Kelly         | Palani Ranch Family/Farmer  | Letter and figures sent via USPS 26 December 2018<br>Second round letter and figures sent via USPS 15 February 2019  |
| Halemau, Karin           | Paniolo at Huehue Ranch, Lineal descendant, fisherman                                     | Letter and figures sent via USPS 26 December 2018<br>Second round letter and figures sent via USPS 15 February 2019  |
| Hind, Mehanaokalā        | Community Engagement Director, OHA  | Letter and figures sent via USPS 26 December 2018<br>Second round letter and figures sent via USPS 15 February 2019  |
| Hiraishi, Michelle Malia | Hui Mālama Ola Nā 'Ōiwi   | Letter and figures sent via USPS 26 December 2018<br>Second round letter and figures sent via USPS 15 February 2019<br>Returned to sender 24 February 2019 |

| Name                     | Affiliation                         | Notes   |
|--------------------------|-------------------------------------|---|
| Kahaulelio, Aunty Maxine | Kona Rep., HIBC                     | <p>Letter and figures sent via USPS<br/>26 December 2018</p> <p>Second round letter and figures sent via USPS 15 February 2019</p>  |
| Kahui, Craig V.          | Executive Director, La'i 'Ōpua 2020 | <p>Letter and figures sent via USPS<br/>26 December 2018</p> <p>Second round letter and figures sent via USPS 15 February 2019</p> <p>Received email from Diana Akao, Executive Assistant of La'i 'Ōpua 2020, on 18 March 2019 saying Mr. Kahui would like to participate in the consultation process.</p> <p>CSH reached out to Mr. Kahui via email on 20 March 2019 to work out details.</p> <p>Mr. Kahui replied 21 March 2019 with his personal contact info to schedule a time.</p> <p>CSH met with Mr. Kahui on 25 April 2019 for an interview.</p> <p>CSH emailed Mr. Kahui his interview summary for review on 3 May 2019.</p> <p>Mr. Kahui replied 8 May 2019 with corrections to his summary.</p> <p>CSH replied 9 May 2019 acknowledging receipt of email and verifying edits will be made.</p> <p>Mr. Kahui replied same day with thanks.</p> <p>CSH emailed Mr. Kahui on 10 June 2019 advising that two copies of authorization forms are being mailed over for him to sign and send back to CSH</p> <p>CSH did a status check with Mr. Kahui on 18 June 2019 asking if he reviewed his latest interview summary.</p> <p>Mr. Kahui replied same day:<br/><i>"No, I haven't yet.<br/>But Its ok to send."</i></p> |

| Name                     | Affiliation                  | Notes   |
|--------------------------|------------------------------|---|
|                          |                              | See Section 7.1 for Mr. Kahui's interview summary   |
| Kaimulua, Norman         | HIBC                         | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019  |
| Kailiwai, John H.        | <i>Kama 'āina</i> of Maka'eō | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019  |
| Keanaaina, Rev. Norman   | Mauna Ziona Church           | Letter and figures sent via USPS<br>26 December 2018<br><br>Received reply via email on 2 January 2019:<br><i>I am not quite familiar with the land title, could I have more information on the Land Title original ownership? So I could best inform you of some Historical knowledge? If any.</i><br><br>CSH replied 3 January 2019 informing Mr. Keanaaina that when traditional and historical background information become available, we will reach out to him. |
| Kimitete, Richard        | <i>Kama 'āina</i>            | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019  |
| Kona Hawaiian Civic Club | Community Organization       | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019  |
| Kossow, Barbara          | Ka Ulu Lauhala O Kona        | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019  |

| Name                   | Affiliation   | Notes  |
|------------------------|---|--|
| Kuali'i, Melvyn Kaleo  | <i>Kama 'āina</i>   | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019   |
| Kunewa, Iris           | <i>Kama 'āina</i>   | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019   |
| Kunitake, Walter       | <i>Kupuna, Coffee Farmer</i>  | Letter and figures sent via email<br>26 December 2018<br><br>Second round letter and figures sent via email 15 February 2019   |
| Lamont, Joan           | Community Organizer/<br>Vice President of<br>Beautification, Kona<br>Outdoor Circle | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019   |
| Lee, Reggie            | Lineal descendant with<br>DLNR/ Government<br>Agency                                | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via USPS 15 February 2019   |
| Lindsey Jr., Robert K. | Hawai'i Island OHA<br>Trustee   | Letter and figures sent via email<br>26 December 2018  |
| Lui, Nicole Keaka      | <i>Kupuna</i>   | Letter and figures sent via email<br>26 December 2018<br><br>Ms. Lui replied to CSH via email on 27 December 2018 expressing concern over the traditional boundaries of Pua'a and if the project area is in fact in Pua'a or Kahului or Puapua'a.<br><br>CSH replied same day confirming that the project area is in fact in Kahului.<br><br>Ms. Lui replied same day wanting an explanation for the project area being placed under Pua'a rather than Kahului.<br><br>CSH responded 7 January 2019: |

| Name                   | Affiliation                                | Notes   |
|------------------------|--|---|
|                        |  | <p><i>Confirming that the project area is indeed in Kahului. The Pua'a labeling is an internal CSH job code and we have used USGS maps for determination. USGS has grouped Pua'a, Wai'aha, Kahului, and Puapua'a into one ahupua'a (instead of each having its own respectful boundaries). We are making internal changes to reflect your concerns and will make it known in the report that the project is in Kahului.</i></p> <p>CSH contacted Ms. Lui on 15 February 2019 to ask if she was still interested in participating in an interview.</p> <p>Ms. Lui responded 18 February saying she will call and set a date for a telephone interview.</p> |
| Marks, Jerome          | 'Aha Moku Rep,<br>Kohala to South Kona     | <p>Letter and figures sent via email<br/>26 December 2018</p> <p>Second round letter and figures sent via email<br/>15 February 2019</p>  |
| Marquez, David         | Kealakehe Ahupua'a<br>2020                 | <p>Letter and figures sent via USPS<br/>26 December 2018</p> <p>Second round letter and figures sent via<br/>USPS 15 February 2019</p> <p>Both letters returned to sender 22 May 2019</p>   |
| Medeiros Jr., Clarence | Lineal descendant                          | <p>Letter and figures sent via USPS<br/>26 December 2018</p> <p>Second round letter and figures sent via<br/>USPS 15 February 2019</p>  |
| Nakahashi, Ikaika      | SHPD, Hawai'i Island<br>Cultural Historian | <p>Letter and figures sent via email<br/>26 December 2018</p> <p>Mr. Nakahashi replied via email<br/>27 December 2018 with recommendations on<br/>who to contact and what outlets to utilize to<br/>receive information on the project area.</p>  |

| Name               | Affiliation  | Notes  |
|--------------------|--|--|
| Naleimaile, Sean   | SHPD, Hawai'i Island<br>Archaeologist                | Letter and figures sent via email<br>26 December 2018<br><br>Second round letter and figures sent via email<br>15 February 2019  |
| Nazara, Cynthia    | Cultural Research<br>Consultant                      | Letter and figures sent via USPS<br>26 December 2018   |
| Pai, Mahealani     | Cultural<br>Specialist/Kamehameha<br>Investment Corp | Letter and figures sent via USPS<br>26 December 2018<br><br>Returned to sender 3 January 2019  |
| Reeves, Hannah     | <i>Kupuna</i> /Community<br>Organizer                | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via<br>USPS 15 February 2019  |
| Tam Sing, Tracy    | DLNR, Division of<br>State Parks                     | Letter and figures sent via USPS<br>26 December 2018<br><br>Second round letter and figures sent via<br>USPS 15 February 2019<br><br>Mr. Tam Sing responded via email on<br>27 February 2019 with the following reply:<br><br><i>I have looked over your request for<br/>consultation for a CIA for the proposed<br/>DHHL Well Construction Project in Pua'a,<br/>Pua'a2-3 Ahupua'a, North Kona District,<br/>Hawai'i Island, TMK (3) 7-5-014:001.</i><br><br><i>We have no State Parks near the proposed<br/>project area, and I am not familiar with any<br/>archaeological sites within or around the<br/>project area. At the time the Division of State<br/>Parks has no comment on the proposed<br/>project.</i><br><br><i>We thank you for reaching out to us for<br/>comments. If you need further information<br/>from us at State Parks, please let me know.</i> |
| Trask, Mililani B. | Convenor, Nā Koa<br>Ikaika Ka Lāhui<br>Hawai'i       | Letter and figures sent via USPS<br>26 December 2018   |

| Name           | Affiliation                                  | Notes   |
|----------------|--|---|
|                |  | Second round letter and figures sent via USPS 15 February 2019  |
| Tyler, Curtis  | Resident/Council Member                      | Letter and figures sent via USPS 26 December 2018<br>Second round letter and figures sent via USPS 15 February 2019   |
| Yent, Martha   | Interpretive Program Supervisor, State Parks | Letter and figures sent via USPS 26 December 2018<br>Second round letter and figures sent via USPS 15 February 2019   |
| Young, Charles | 'Aha Moku Rep, Ho'okena                      | Letter and figures sent via email 26 December 2018<br>Second round letter and figures sent via email 15 February 2019 |

## Section 7 *Kama'āina* Interviews

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The authors and researchers of this report extend our deep appreciation to everyone who took time to speak and share their *mana'o* and *'ike* with CSH whether in interviews or brief consultations. We request that if these interviews are used in future documents, the words of contributors are reproduced accurately and in no way altered, and that if large excerpts from interviews are used, report preparers obtain the express written consent of the interviewee/s.

### 7.1 Summary of Craig Kahui Interview

*Mr. Craig Kahui is the Executive Director of La'i 'Ōpua 2020, a 501(c)3 community organization whose mission is to "identify community needs, foster the creation of community facilities, and coordinate planning with service providers and partners for a variety of programs for residents of the Villages of La'i 'Ōpua and the broader Kealakehe area." It should be noted that this organization serves as the charitable arm of the Kaniohale Community Association (KCA), the Hawaiian homeowners association for the Kaniohale subdivision built by DHHL.*

*Mr. Kahui is originally from Kalihi, O'ahu but has been living in Kealakehe since 1998.*

On 26 April 2019, CSH met with Craig "Bo" Kahui, Executive Director of La'i 'Ōpua 2020, a non-profit organization initially established to provide funding to the Kaniohale Community Association (KCA), a Department of Hawaiian Home Lands (DHHL) Hawaiian Homeowners Association for the Kaniohale subdivision in Kealakehe. Mr. Kahui served as the president of the KCA, which at the time was its own separate entity. His vision for creating a *pu'uhonua*, traditionally a place of refuge—ultimately propelled the establishment of La'i 'Ōpua 2020 and its federal and state designation as a 501(c)(3) nonprofit organization.

In one of its earliest community newsletters in 2005, the KCA introduced La'i 'Ōpua 2020 whose overall mission was to "protect and preserve the Kealakehe ahupua'a's cultural and archaeological sites and recreational programs" and additionally "actively participate in the overall development of the Kealakehe ahupua'a from mauka to makai" (Kaniohale Community Association 2005). In 2012, the KCA was incorporated and merged with the Villages of La'i 'Ōpua (Figure 14); this joining allowed for one unified voice that could present community issues and concerns and a single unified vision for the future of the Kealakehe Ahupua'a.

Mr. Kahui's journey to La'i 'Ōpua 2020 began with his humble beginnings in Kalihi, O'ahu. Being one of eight children and living in urban Honolulu, Mr. Kahui experienced the negative effects of a community overwhelmed by poverty and by the absence of positive community resources. Eager to achieve a better future for himself than what he witnessed on the streets of Kalihi, Mr. Kahui joined the military service after graduating from Farrington High School in 1972 (Figure 15).

When Mr. Kahui returned home, he enrolled at Honolulu Community College (HCC) and later at the University of Hawai'i (UH) Mānoa where he studied pre-law and business administration. At around this same time, the birth of the Hawaiian Renaissance, a series of cultural movements that sparked a rejuvenation of self-identity for Hawaiians, was taking place. As a student, Mr. Kahui participated in school-sponsored activities and graduated as the student body president. Relative to the Hawaiian Renaissance, Mr. Kahui served as the Honolulu District Representative



for the Protect Kaho'olawe 'Ohana (PKO) (Figure 16). PKO was established and spearheaded by George Helm, Jr. to raise awareness of the continued desecration of the sacred island of Kaho'olawe. Ultimately, the presence of PKO and their tireless efforts to promote *aloha 'āina* (love of one's country) forced all bombing to stop and prompted the final end of military use of the island. The PKO also paved the way to allowing future access for Native Hawaiians and other groups and continued protection of the island. In addition to his work with PKO, Mr. Kahui was part of a team whose inadvertent discoveries lead to archeological mapping and surveying of cultural sites on Kaho'olawe.



Figure 14. Overall view of the Villages of La'i 'Ōpua (La'i 'Ōpua n.d.)



Figure 15. Mr. Kahui after enlisting in the Navy (Greco 2013)



Figure 16. Mr. Kahui and other members of PKO at the Kaho'olawe adze quarry (Greco 2013)

In 1979, Mr. Kahui received his Bachelor of Arts degree from UH Mānoa. This same year he and several others discovered an abandoned *'auwai* (water channel) alongside UH Mānoa. The group worked at their leisure to clear the *'auwai* which revealed a fresh water *kahawai* (stream; Greco 2013) that would eventually become the life source for Ka Papa Lo'i 'o Kānewai, one of the educational components of Hawai'inuiākea School of Hawaiian Knowledge at UH Mānoa. Alongside the teachings and guidance of *kupuna* Harry Mitchell and the multitudes of *kūpuna* who came before, Ka Papa Lo'i 'o Kānewai served as the first cultivation curriculum primarily focused on *kalo* (taro). This school also functioned like a *pu'uhonua* that housed the supportive environment for students and faculty to interact, engage, and have access to resources that would assist in a positive progression.

In addition to his work with clearing the *'auwai*, Mr. Kahui also worked with the Fukumitsu and Reppun *'ohana* at their *lo'i* in Hakipu'u and at Waiāhole and Waikāne.

Mr. Kahui's upbringing in Kalihi and the absence of the community aspect there contributed to the disconnect between Mr. Kahui's family and their sense of culture, identity, and purpose. This is too often seen among Hawaiian families who fall victim to urbanized environments and economic pressure. This paired with his connection to Native Hawaiian groups would later lay the foundation that sparked his vision for La'i 'Ōpua 2020.

In 1998, Mr. Kahui was awarded property through DHHL in Kaniohale, one of the community hubs that make up the Villages of La'i 'Ōpua. Though proud of his accomplishment of homeownership, Mr. Kahui realized that a stable community infrastructure would allow the community to flourish; by providing community resources and public facilities, the true meaning of the word community could be upheld—a concept completely removed from his life in Kalihi. This became the foundation of La'i 'Ōpua.

The following description is provided by Mr. Kahui:

La'i 'Ōpua was founded by the homesteaders of the Kaniohale Community Association (KCA), a Native Hawaiian homeowners association in the Villages of La'i 'Ōpua, to ensure the existence of adequate health care, social service and recreational infrastructure to compliment and support the Native Hawaiian homesteaders and surrounding communities residing in the greater Kealekehe community. [...] La'i 'Ōpua Community Center will be on a 26.5-acre parcel [...] and serve as a primary regional resource for the Hawaiian people [...] offering an array of programs and services to meet most every health, social, educational, and recreational needs of our people and surrounding communities. [Mr. Craig Kahui, Executive Director, laiopua.org]

Mr. Kahui's connection to the project is his affiliation with La'i 'Ōpua 2020. He has petitioned for a water source to support the Villages of La'i 'Ōpua but after years of agency stalling and no forward progression, Mr. Kahui took it upon himself to seek the proper parties to make it happen; thus, the proposal of this project. Mr. Kahui does not know of any cultural sites within the project area and if any were once erected, these structures would have been almost completely destroyed by years of agricultural or ungulate disruption.

## Section 8 Traditional Cultural Practices

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Timothy R. Pauketat succinctly describes the importance of traditions, especially in regards to the active manifestation of one's culture or aspects thereof. According to Pauketat,

People have always had traditions, practiced traditions, resisted traditions, or created traditions . . . Power, plurality, and human agency are all a part of how traditions come about. Traditions do not simply exist without people and their struggles involved every step of the way. [Pauketat 2001:1]

It is understood that traditional practices are developed within the group, in this case, within the Hawaiian culture. These traditions are meant to mark or represent aspects of Hawaiian culture that have been practiced since ancient times. As with most human constructs, traditions are evolving and prone to change, resulting from multiple influences including modernization as well as other cultures. It is well known that within Hawai'i, a "broader 'local' multicultural perspective exists" (Kawelu 2015:3). While this "local" multicultural culture is deservedly celebrated, it must be noted that it often comes into contact with "traditional Hawaiian culture." This contact between cultures and traditions has undoubtedly resulted in numerous cultural entanglements. These cultural entanglements have prompted questions regarding the legitimacy of newly evolved traditional practices. The influences of "local" culture are well noted throughout this section, and understood to represent survival or "the active sense of presence, the continuance of native stories, not a mere reaction, or a survivable name. Native survivance stories are renunciations of dominance, tragedy and victimry" (Vizenor 1999:vii). Acknowledgement of these "local" influences helps to inform nuanced understandings of entanglement and of a "living [Hawaiian] contemporary culture" (Kawelu 2015:3). This section strives to articulate traditional Hawaiian cultural practices followed within the *ahupua'a* in ancient times, and the aspects of these traditional practices that continue to be practiced today; however, this section also challenges "tropes of authenticity" (Cipolla 2013) and acknowledges the multicultural influences and entanglements that may "change" or "create" a tradition.

This section integrates information from Sections 3–5 in examining cultural resources and practices identified within or in proximity of the project area in the broader context of the encompassing Kahului and Pua'a landscape.

### 8.1 Agriculture

Perhaps the most well known feature of the project area is the historic and extensive Kona Field System. Spanning the slopes of Mauna Kea and Hualālai, the success of the Kona Field System was due in large part to the use of elevational planting. The different zones—*Kula*, *Kalulu*, *Āpa'a*, and *'Ama'u*—allowed for a variety of plants and trees to be cultivated. The project area sits in the *Kula* zone, characterized by open pasture lands planted with thatching grasses, sweet potatoes, sugarcane, breadfruit and *wauke* (Newman 1970). In addition to the food crops that provided sustenance, the cultivation of thatching grass and *wauke* would have likely provided shelter coverings and clothing for the surrounding communities and possibly for allied communities from afar.

The establishment of the Kona Field System suggests a picture of ancient life. First, it implies a flourishing population able to maintain a wide expanse of agricultural area. Second, it points to

allied communities in need of food; this field system could have acted as a bartering center between coastal and non-coastal communities or even across districts and possibly as a supplemental resource for *ali'i*.

Foreign accounts of the Kona Field System would suggest that elevational planting was a technique not normally seen in other parts of Hawai'i and possibly the Pacific. Explorers visiting this part of Kona would make note of this extensive agricultural system. One such account by John Ledyard describes a mid-*mauka*, rather rocky terrain with habitation enclosures where the primary cultivation was sweet potato. As he ascended, in places where soil was moist, sugar cane was planted and further along were plaintain trees. In the highest elevation of the field system were breadfruit trees (Ledyard cited in Kelly 1983:71-72). Another account by Archibald Menzies nearly 20 years later mentioned "bread fruit plantations whose spreading trees with beautiful foliage were scattered about that distance from the shore along the side of the mountain as far as we could see" (Menzies cited in Schilt 1984:4). A journal entry by Reverend William Ellis in 1823 mentions coconut and *kou* (*Cordia subcordata*) trees near the shore. Sweet potato, watermelon, and some tobacco plants were cultivated in close proximity to house structures. Further from the house sites Ellis began to see what looked like natural composting in the crevices of lava where "decayed vegetable matter and decomposed lava" collected. This is where he noted the bread fruit and mountain apple trees. In another 20 years, an account by Captain Charles Wilkes describes new crops such as pineapples, sugar cane, the "Irish potato, Indian corn," beans, coffee, cotton, figs, oranges, guavas, and grapes; a number of new additions than what was noted 40 years prior.

## 8.2 Religious Practices

Though the function of *heiau* found in Pua'a and its neighboring *ahupua'a* are unknown, the presence of *heiau* would still suggest some kind of unity and order in regards to employing able bodies for construction. Kalopau was said to have been built by Alapa'i (Stokes and Dye 1991:50), Mao is believed to have been built by Kīwala'ō (Stokes and Dye 1991:52), and the description of Kuaikahaola emphasizes its importance and function to the *ali'i* at that time.

The arrival of missionaries and their presence in Kailua Kona, and especially their affiliation with Hawaiian royalty, had significant influence on Hawaiian religious practices and structures. Their presence is likely the reason *heiau* have been dismantled as Hawaiian religion became second to Western religion.

## 8.3 Kona Weather

Kona's weather pattern has been noted in both historical and traditional accounts. Overall, Kona was a very pleasant area with rain, wind, calm seas, and fruitful land. '*Ōlelo No'eau* by Mary Kawena Pukui mention the '*ōpua* clouds which, when seen in the morning, was a sign that it would rain (Pukui 1983:9). The 'Eka wind belonged to Kona and when it blew, fishermen would sail out to their fishing grounds (Pukui 1983:159). The sea of Kona is often referred to as *ke kai malino*, the calm sea or *ke kai mā'oki'oki*, the sea that is cut up, referring to the streaks of color that "cut up" the smooth surface (Pukui 1983:199). The '*ōlelo no'eau*, *Kona, mauna uliuli*, *Kona mauna ulupō* meaning Kona of the green mountain; Kona of the dense forest (Pukui 1983:199) briefly describe the lush, green land of Kona.

A newspaper article published in 1858 mentions heavy rains the swept houses away and caused rivers to overflow damaging roadways. The extent of the damage was mostly *makai* and the writer mentions that it rained heavily at night into the morning and it seized during the day.

Kona's weather patterns were also briefly mentioned in foreign accounts. Archibald Menzies describes being exposed to the scorching heat of the sun while traversing the Kona Field System. Captain Charles Wilkes observed that even during the rainy season, planting continues; perhaps implying the success of elevational planting where large, heavy rooted trees like breadfruit could act as breakwalls for the shallow rooted plants like sweet potatoes planted below. He goes on to say that the rainy season is from the months of May to September, which is also called the growing season. December, January, and February is typically the dry season (Wilkes cited in Schilt 1984:7-8).

## Section 9 Summary and Recommendations

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CSH undertook this CIA at the request of Belt Collins Hawai'i LLC. The research broadly covered the *ahupua'a* of Kahului and Pua'a and emphasized parts particularly close to the location of the project area.

### 9.1 Results of Background Research

Background research for this study yielded the following results in approximate chronological order:

1. The proposed project area is located on the leeward side of Hawai'i Island in the *moku* of North Kona. Traditionally, Hawaiian *ahupua'a* extended from the mountains to the sea so that the inhabitants had access to a wide variety of resources. This particular upland region is located within the traditional "Kona Field System" which has been described as "the most extensive and monumental work of ancient Hawaii" (Newman 1978).
2. Pua'a, like its neighbors, is an integral part of the multi-zone cultivation area on the slope running *mauka/makai* behind Kailua and Kealakekua, known as the Kona Field System. The project area sits in the lowest zone of the Kona Field System in Pua'a 3rd, known as the *Kula* zone.
3. Four *heiau* have been recorded within the *ahupua'a* of Pua'a though no *heiau* has been recorded within the project area. Kalopau, Keaukukui'ula, Mao, and Kauaikahaola were recorded by Thrum and late reevaluated by Stokes and Dye (1991).
4. John Papa 'I'i mentioned a famous surf of Pua'a called Ko'okā. The sport of *lele wa'a* or canoe leaping could be seen here where this surf breaks. He also noted that Kamehameha and Ka'ahumanu were both very skilled in canoe surfing ('I'i 1959:133).
5. Kailua Kona gradually lost its importance as a political center as the capital of Hawai'i was moved first to Lahaina then to Honolulu. Coupled with the general decline of the native population, Kailua Kona was depopulated and almost completely empty. Following the general decline of population and traditional subsistence farming, ranching activities increased throughout the Kona area.
6. Land Commission Awards (LCAs) were granted near the project area though no claim was made for the parcel of land that sits the current project area. This is probably due in part to the dual ownership of Pua'a between Lot Kamehameha and the Government, making it unavailable to be claimed. This does not, however, leave the *ahupua'a* exempt from being sold by the Government to private land owners.
7. Research by Marion Kelly showed that after the Māhele, the areas most closely associated with the project area were redistributed.. In addition to parcels awarded in the Māhele, between the years 1852 and 1853 the purchase of government lands in North Kona took place. An individual listed as J. Marechal purchased 198 acres in Pua'a 3, Naipuwailuna purchased 60 acres in Pua'a 2, and Pupule purchased 103 acres also in Pua'a 2. Kapae 1 purchased 97 acres in Kahului 1 and Kipola purchased 78 acres also in Kahului 1 (Kelly 1983:43).



## 9.2 Impacts and Recommendations

Based on information gathered from the cultural and historical background and the community consultation, potential impacts were identified, and the following preliminary recommendations were made:

1. Project construction workers and all other personnel involved in the construction and related activities of the project should be informed of the possibility of inadvertent cultural finds, including human remains. In the event that any potential historic properties are identified during construction activities, all activities will cease in that area and the SHPD will be notified pursuant to HAR §13-280-3. In the event that *iwi kūpuna* (ancestral remains) are identified, all earth moving activities in the area will stop, the area will be cordoned off, and the SHPD, coroner, and Police Department will be notified pursuant to HAR §13-300-40. In addition, in the event of an inadvertent discovery of human remains, the completion of a burial treatment plan, in compliance with HAR §13-300 and HRS §6E-43, is recommended.
2. In the event that *iwi kūpuna* and/or cultural finds are encountered during construction, project proponents should consult with cultural and lineal descendants of the area to develop a reinterment plan and cultural preservation plan for proper cultural protocol, curation, and long-term maintenance.

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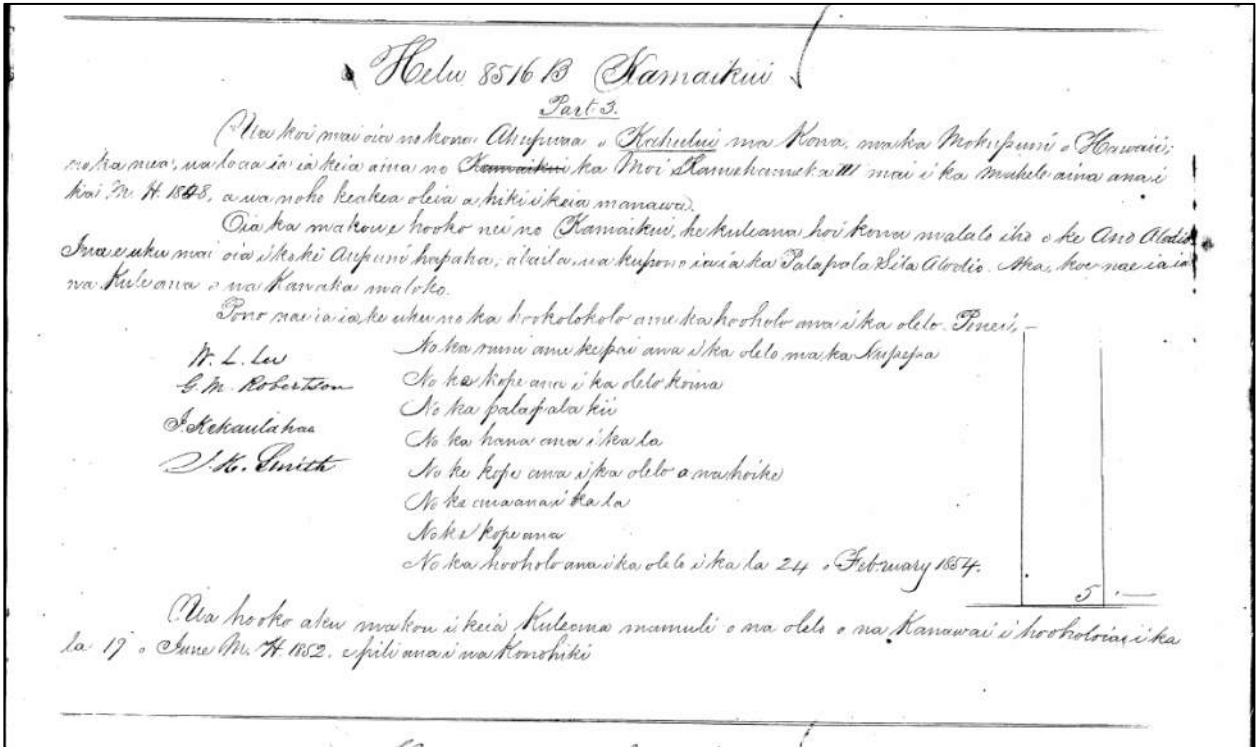
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# Appendix A Emma Kamaikui Rooke's Property in Kahului

## A.1 Emma Kamaikui Rooke's Māhele Testimony



## A.2 Translation of Māhele Testimony

Number 8516 B Kamaikui  
Section 3.

They have made a claim for their land division [named] Kahului in Kona, on the island of Hawai'i because they obtained this land from King Kamehameha III from the Māhele lands in the year 1848. No one has disputed this claim up until this time.

We are agreeing now [with the claim of] Kamaikui, and it is their responsibility under an allodial title. If they pay the government's portion, then they are qualified for the allodial title document. However, the interest/taxes/responsibility remains with the person within [the claim].

They will also pay for the court and delegation proceedings, like so:

- For the space and printing in the newspaper
- For the copy of the claim
- W.L. Lee                      For the document picture
- G.M. Robertson            For the work days



J. Kekaulahao                      For the copy of the agreement and the announcement  
J.H. Smith                            For the surveying days  
    For the copying  
    For the proceeding of the agreement on 24 February 1854

\$5.-

We have agreed with this claim based on the terms of the law that was established on 19 June 1852 and in connection with the land agent.

## **APPENDIX D**

Archaeological Inventory Survey

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**Draft**  
**Archaeological Inventory Survey for the**  
**North Kona Well Construction Project,**  
**Kahului 2 Ahupua‘a, North Kona District, Hawai‘i Island**  
**TMK: [3] 7-5-014:001 por.**

**Prepared for**  
**Belt Collins Hawaii LLC**  
**and the**  
**Department of Hawaiian Home Lands**

**Prepared by**  
**Olivier M. Bautista, B.A.,**  
**Samantha Sund, B.A.,**  
**Sarah Wilkinson, B.A.,**  
**and**  
**Hallett H. Hammatt, Ph.D.**

**Cultural Surveys Hawai‘i, Inc.**  
**Kailua, Hawai‘i**  
**(Job Code: PUA 5)**

**August 2020**

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## Management Summary

|                                    |  |
|------------------------------------|--|
| <b>Reference</b>                   | Archaeological Inventory Survey for the North Kona Well Construction Project, Kahului 2 Ahupua'a, North Kona District, Hawai'i Island, TMK: [3] 7-5-014:001 por. (Bautista et al. 2020)  |
| <b>Date</b>                        | August 2020  |
| <b>Project Number(s)</b>           | Cultural Surveys Hawai'i, Inc. (CSH) Job Code: PUAA 5  |
| <b>Investigation Permit Number</b> | CSH completed the archaeological inventory survey (AIS) fieldwork under archaeological fieldwork permit numbers 19-07 and 20-07, issued by the Hawai'i State Historic Preservation Division (SHPD) per Hawai'i Administrative Rules (HAR) §13-13-282.  |
| <b>Agencies</b>                    | United States Department of Agriculture (USDA); Department of Hawaiian Home Lands (DHHL); Hawai'i County Water Department; SHPD  |
| <b>Land Jurisdiction</b>           | Private  |
| <b>Project Proponent</b>           | DHHL<br>Andrew H. Choy<br>Acting Planning Program Manager<br>Department of Hawaiian Home Lands<br>91-5420 Kapolei Parkway, Kapolei, HI 96707<br>P.O. Box 1879, Honolulu, HI 96805<br>Phone: (808) 620-9279<br>Fax: (808) 620-9559<br>Email: Andrew.H.Choy@hawaii.gov   |
| <b>Project Funding</b>             | USDA   |
| <b>Project Location</b>            | The project area is located in the town of Hōlualoa in North Kona District, on the <i>mauka</i> (upland) side of Māmalahoa Highway (Route 180) between mile markers 4 and 5. It is depicted on a portion of the 1996 Kailua and Kealakekua U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles.   |
| <b>Project Description</b>         | The project involves the construction of a 2.0-million-gallon reservoir with wells, pumps, underground utilities, a control building, and an access road linking the project area to the Māmalahoa Highway. The reservoir will be approximately 200 feet (ft) square with a maximum depth of 25–30 ft. The access road will be approximately 500 ft long and 30 ft wide. |
| <b>Project Area Acreage</b>        | The project area comprises a 5.38-acre portion of the overall 128.419-acre parcel at TMK: [3] 7-5-014:001. This portion of the parcel comprises the southwest corner of the parcel fronting Māmalahoa Highway. The proposed well site would occupy a smaller acreage within the 5.38-acre project area.  |

|   |   |
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| <b>Historic Preservation Regulatory Context</b> | <p>As a state (DHHL) project within private lands, this project is subject to Hawai'i State environmental and historic preservation review legislation (Hawai'i Revised Statutes [HRS] §343 and HRS §6E-8/HAR §13-275, respectively).</p> <p>While this project involves federal (USDA) funding, at the time of this writing it is unknown if the USDA has determined whether this project is a federal undertaking requiring compliance with Section 106 of the National Historic Preservation Act (NHPA).</p> <p>In consultation with the SHPD, this AIS investigation fulfills the requirements of HAR §13-276 and the <i>Secretary of the Interior's Standards for Archaeology and Historic Preservation</i>. It was conducted to identify, document, and assess any historic properties for integrity and site significance in accordance with HAR §13-275-6.</p> <p>CSH in November 2018 conducted a literature review and field inspection (LRFI) of the 5.38-acre project area and reported the findings in a February 2019 report to Belt Collins Hawaii LLC and DHHL (Bautista et al. 2019). The literature review confirmed the project area is within the bounds of the traditional agricultural Kona Field System (State Inventory of Historic Places [SIHP] # 50-10-32-06601), and within an area of North Kona historically used widely for commercial coffee farming. The field inspection identified within the project area three potential historic properties (CSH 1, wall; CSH 2, wall; and CSH 4, retaining wall) and an additional feature described as a berm-like undulation (CSH 3). Consultation with SHPD was recommended regarding the need to conduct an AIS.</p> <p>The Bautista et al. (2019) field inspection report was attached as supportive information to an April 2019 letter from DHHL to SHPD initiating project consultation under HRS §6E-8 and HAR §13-275-5(b). SHPD responded in a letter dated 14 May 2019 (Log No.: 2019.00795; Doc. No.: 1905SN19; Appendix A) stating that an AIS should be conducted in order to identify and document any historic properties within the project area and to provide any necessary mitigation measures.</p> |
| <b>Fieldwork Effort</b>                         | <p>CSH Project Director Olivier M. Bautista, B.A., Samantha Purdy, B.A., and Timothy Scheffler, Ph.D., conducted fieldwork intermittently between 12 November 2019 and 12 February 2020 under the general supervision of Principal Investigator Hallett H. Hammatt, Ph.D. This work required approximately 29 person-days to complete.</p>  |
| <b>Consultation</b>                             | <p>A cultural impact assessment (CIA) (Spencer and Hammatt 2019) was completed for the project in accordance with HRS §343, and involved consultation with community members, agencies, and NHOs. The CIA recommended that all project personnel should be informed of the</p>  |

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|  | <p>possibility of inadvertent cultural finds, including human remains, and of the proper protocols in the event of any cultural finds.</p>   |
| <p><b>Historic Properties Identified</b></p> | <p>This AIS documented three newly identified historic properties in the project area:</p> <ul style="list-style-type: none"> <li>• SIHP # 50-10-28-31124 is a site complex representing an intact portion of the pre-Contact Kona Field system that was modified for historic use. The site retains integrity of location, design, setting, materials, workmanship, and feeling. Pursuant to HAR §13-275-6 it is assessed as significant under Criterion d for the important information it has yielded about pre-Contact and historic land use.</li> <li>• SIHP # 50-10-28-31125 is a historic causeway used as a travel way to access a homesite and/or agricultural work area. The site retains integrity of location, design, setting, materials, and workmanship. Pursuant to HAR §13-275-6 it is assessed as significant under Criterion d for the important information it has yielded about historic land use.</li> <li>• SIHP # 50-10-28-31126 is an isolated pre-Contact agricultural terrace that has been subject to historic modification and use. The site retains integrity of location, design, setting, materials, and workmanship. Pursuant to HAR §13-275-6 it is assessed as significant under Criterion d for the important information it has yielded about pre-Contact agricultural land use.</li> </ul> |
| <p><b>Effect Recommendation</b></p>          | <p>In accordance with HAR §13-275-7, the DHHL has determined the project effect is “effect, with proposed mitigation commitments.”</p>   |
| <p><b>Mitigation Recommendations</b></p>     | <p>The three archaeological historic properties documented within the project area (SIHP #s 50-10-28-31124, -31125, and -31126) have been assessed as significant under Criterion d pursuant to HAR §13-275-6(b) for the information they have yielded about pre-Contact and historic land use within the project area. These historic properties have been adequately documented and, thus, no further archaeological documentation or any mitigation is recommended.</p> <p>Archaeological monitoring of project-related ground disturbance is proposed to facilitate identification for information purposes of any subsurface remnants of historic properties beneath the coffee fields that may be encountered, including but not limited to culturally modified lava tubes, although such findings are unexpected.</p>   |

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## Section 1 Introduction

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### 1.1 Project Background

At the request of Belt Collins Hawaii LLC and on behalf of the Department of Hawaiian Home Lands, Cultural Surveys Hawai'i, Inc. (CSH) has prepared this archaeological inventory survey report (AISR) for the North Kona Well Construction Project, Kahului Ahupua'a, North Kona District, Hawai'i Island, TMK: [3] 7-5-014:001 por. The project area is located along the Māmalahoa Highway in the town of Hōlualoa. It is depicted on a portion of the 1996 Kailua and Kealakekua U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles (Figure 1) tax map plats (Figure 2), and a 2013 aerial photograph (Figure 3).

The project involves the construction of a 2.0-million-gallon reservoir with wells, pumps, underground utilities, a control building, and an access road linking the project area to the Māmalahoa Highway (Figure 4). The reservoir will be approximately 200 feet (ft) square with a maximum depth of 25–30 ft. The access road will be approximately 500 ft long and 30 ft wide.

The project area comprises a 5.38-acre portion of the overall 128.419-acre parcel at TMK: [3] 7-5-014:001. This portion of the parcel comprises the southwest corner of the parcel fronting Māmalahoa Highway. The proposed well site would occupy a smaller acreage within the 5.38-acre project area.

### 1.2 Historic Preservation Regulatory Context and Document Purpose

As a state (DHHL) project within private lands, this project is subject to Hawai'i State environmental and historic preservation review legislation (Hawai'i Revised Statutes [HRS] §343 and HRS §6E-8/Hawai'i Administrative Rules [HAR] §13-275, respectively).

While this project involves federal (USDA) funding, at the time of this writing it is unknown if the USDA has determined whether this project is a federal undertaking requiring compliance with Section 106 of the National Historic Preservation Act (NHPA).

In consultation with the State Historic Preservation Division (SHPD), this archaeological inventory survey (AIS) investigation fulfills the requirements of HAR §13-276 and the *Secretary of the Interior's Standards for Archaeology and Historic Preservation*. It was conducted to identify, document, and assess any historic properties for integrity and site significance in accordance with HAR §13-275-6. This report is also intended to support any project-related historic preservation consultation with stakeholders such as state and county agencies and interested Native Hawaiian Organizations (NHOs) and community groups, if applicable.

CSH in November 2018 conducted a literature review and field inspection (LRFI) investigation of the 5.38-acre project area and reported the findings in a February 2019 report to Belt Collins Hawaii LLC and DHHL (Bautista et al. 2019). The literature review confirmed the project area is within the bounds of the traditional agricultural Kona Field System (State Inventory of Historic Places [SIHP] # 50-10-32-06601) and within an area of North Kona historically used widely for commercial coffee farming. The field inspection identified within the project area three potential historic properties (CSH 1, wall; CSH 2, wall; and CSH 4, retaining wall) and an additional feature described as a berm-like undulation (CSH 3). Consultation with SHPD was recommended



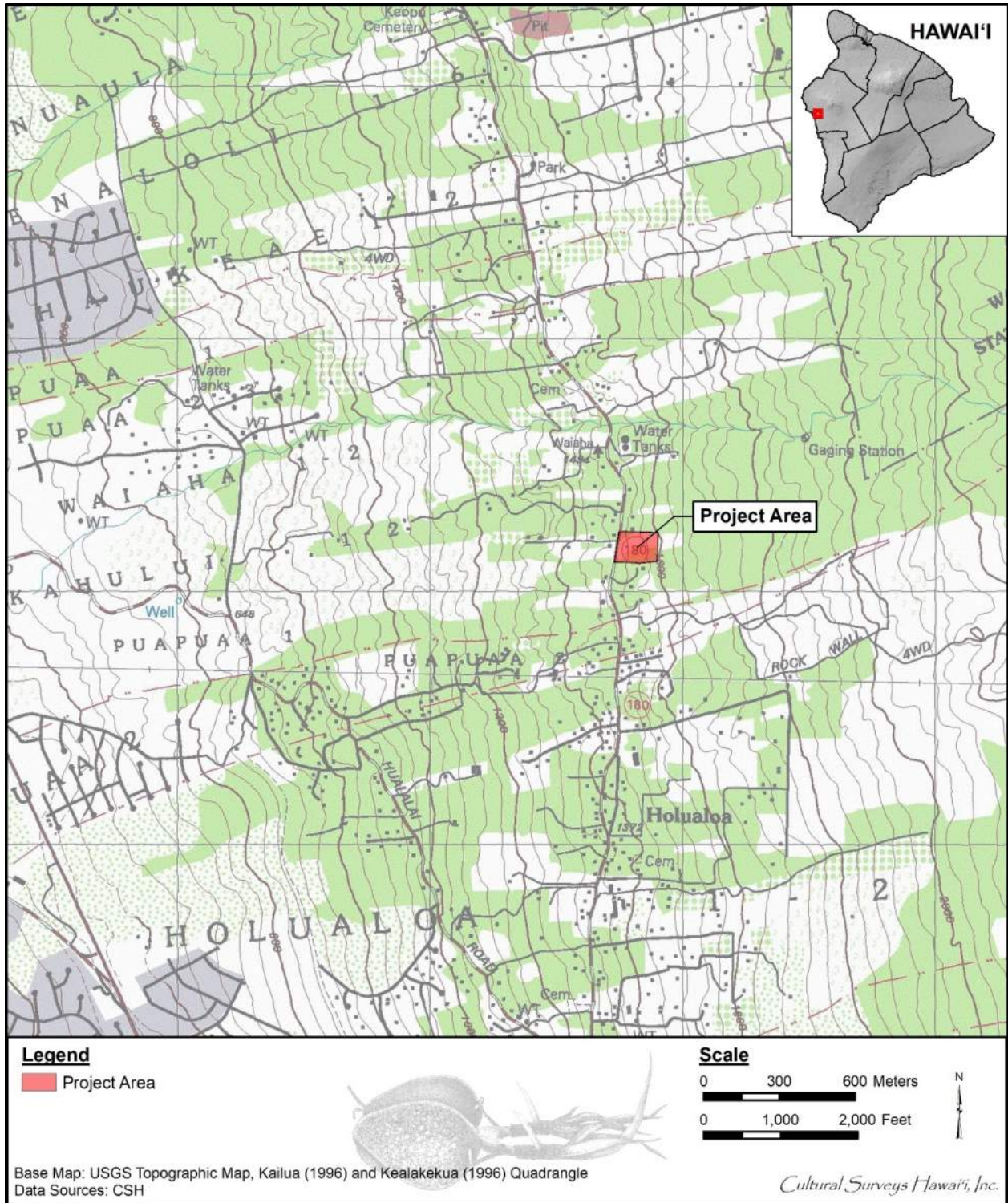


Figure 1. Portion of the 1996 Kailua and Kealakekua USGS 7.5-minute topographic quadrangles showing the location of the project area in Hōluāloa

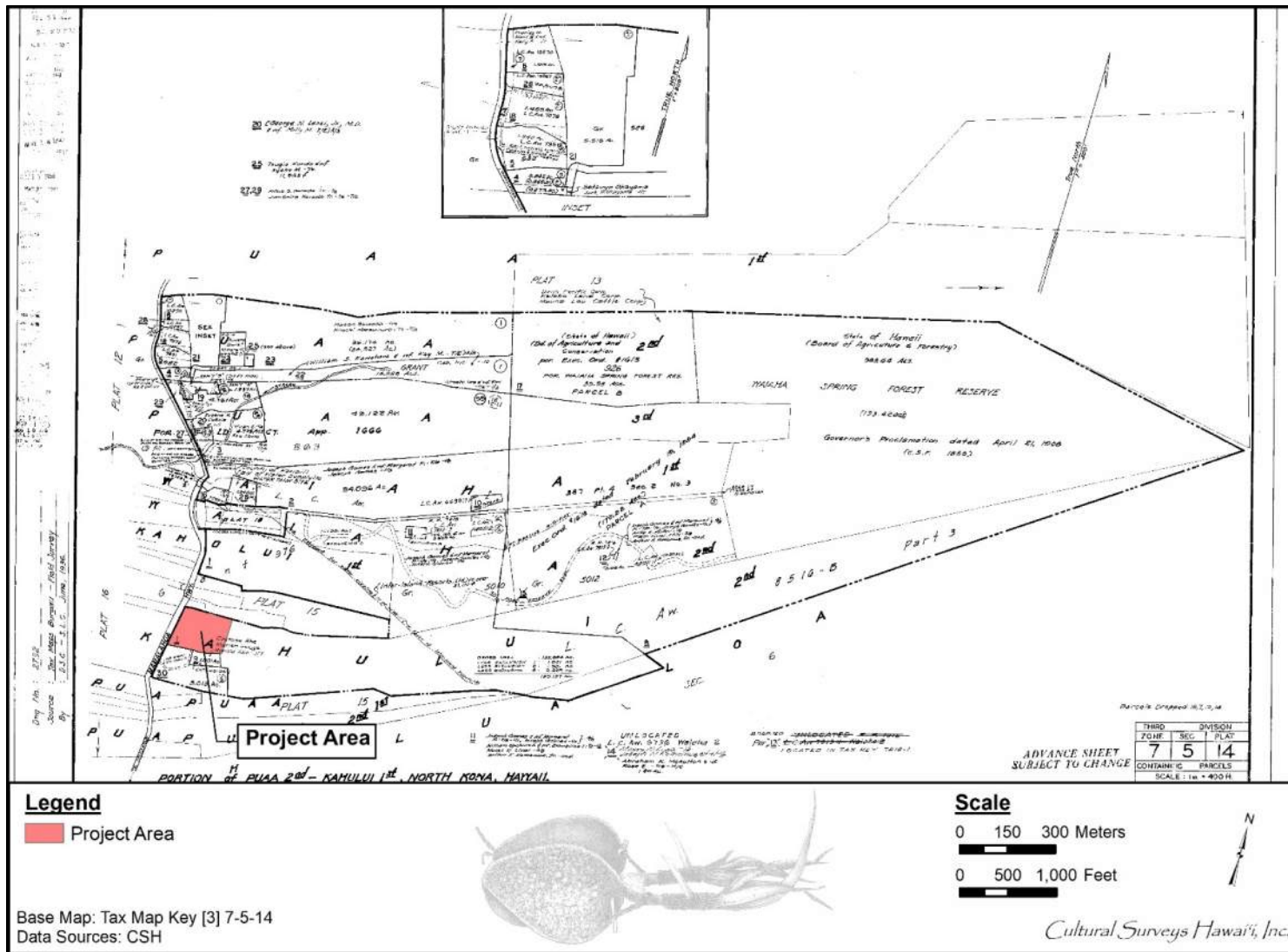


Figure 2. Tax Map Key (TMK) [3] 7-5-14 showing the project area in Kahului 2 Ahupua'a (Hawai'i TMK Service 2019)

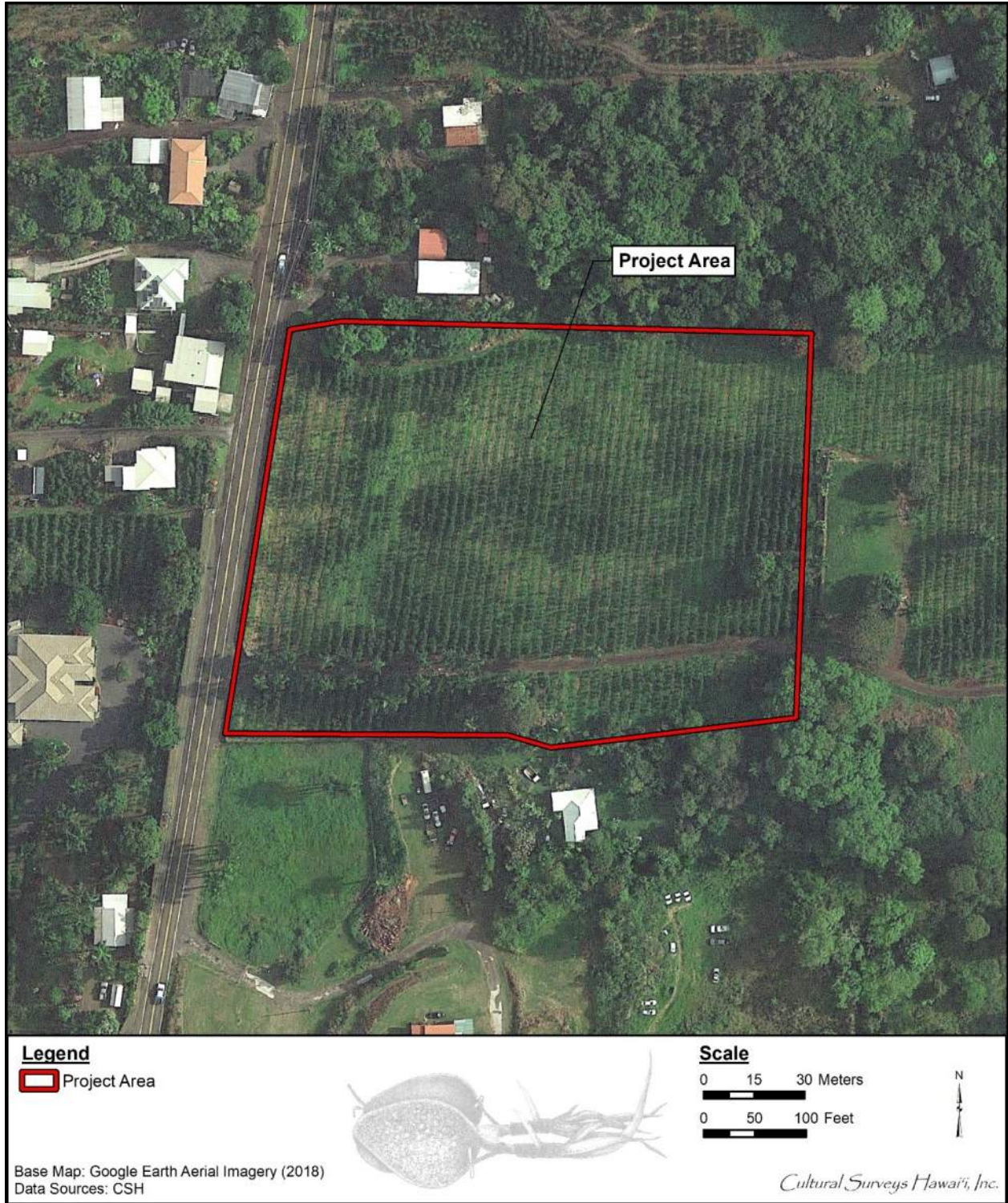


Figure 3. Aerial photograph of the project area (Google Earth 2018)

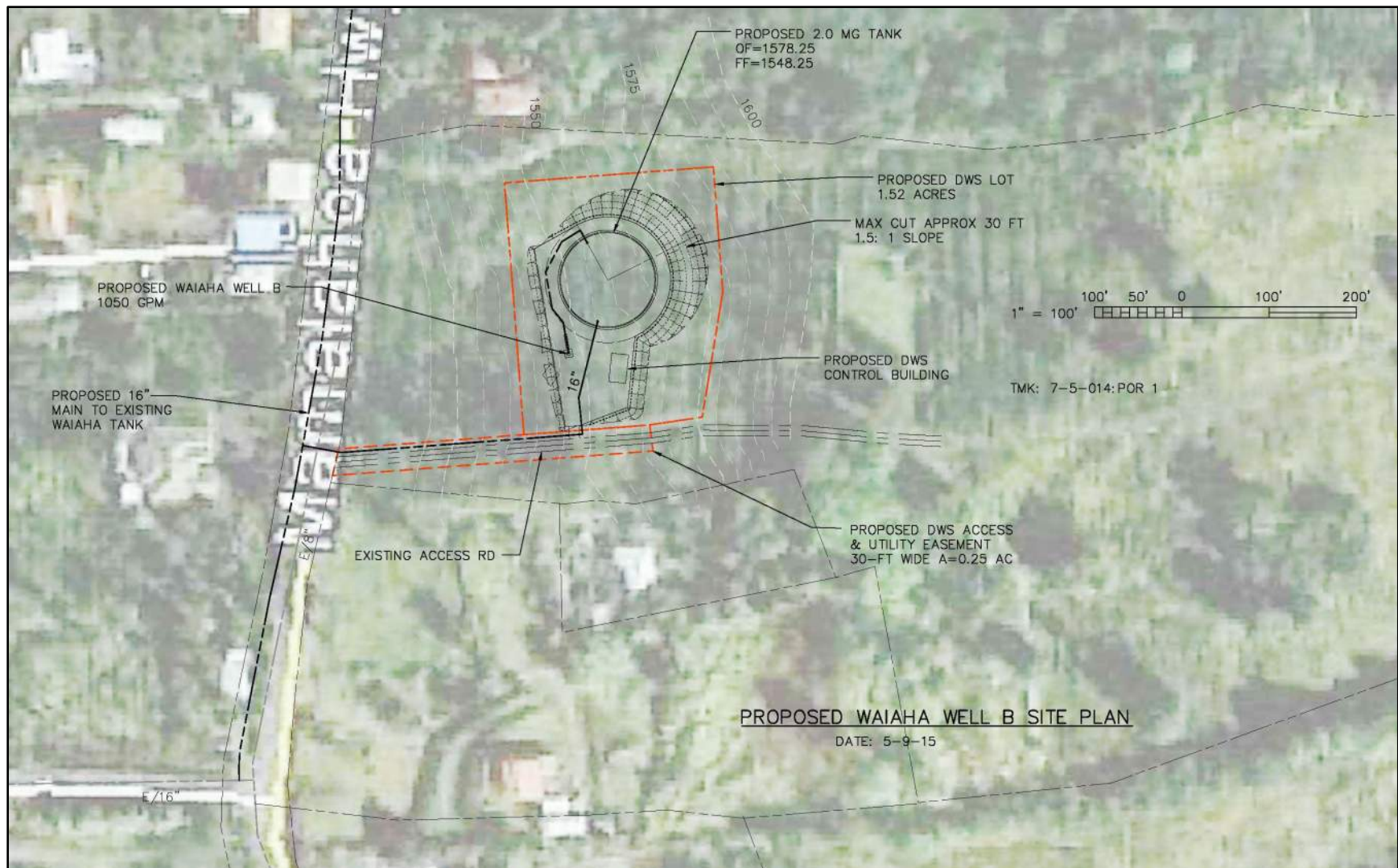


Figure 4. Preliminary site plan showing the 5.38-acre project area with planned improvements in TMK: [3] 7-5-14 (courtesy of client)

regarding the need to conduct an AIS. The Bautista et al. (2019) field inspection report was attached as supportive information to an April 2019 letter from DHHL to SHPD initiating project consultation under HRS §6E-8 and HAR §13-275-5(b). SHPD responded in a letter dated 14 May 2019 (Log No.: 2019.00795; Doc. No.: 1905SN19; Appendix A) stating that an AIS should be conducted in order to identify and document any historic properties within the project area and to provide any necessary mitigation measures.

## 1.3 Environmental Setting

### 1.3.1 Natural Environment

The project area is situated approximately 4.0 km (2.5 miles) back from the coast along the lower western slope of Hualālai Volcano on leeward Hawai'i Island. The natural topography in the vicinity of the study area is moderately sloping to the west. Elevations within the study area range from approximately 457 m (1,500 ft) to 490 m (1,610 ft) AMSL (above mean sea level). Waiaha Stream, an intermittent waterway, is located 0.4 km (0.25 miles) north of the project area.

Average annual rainfall in the project area is approximately 2,386 mm (60-90 inches) (Giambelluca et al. 2013). The project area is within an active coffee plantation. It contains rows of coffee (*Coffea arabica*) throughout, except for along the fringes of the property where other plant species are present. The northwest corner of the project area, in particular, is heavily vegetated and generally consists of a canopy of mature Christmas berry (*Schinus terebinthifolius*), various avocado (*Persea* spp.), and guava (*Psidium guajava*) with moderately dense undergrowth of Guinea grass (*Megathyrsus maximus*). Additional observed species include 'ōhi'a (*Metrosideros polymorpha*), ti plant (*Cordyline terminalis*), African tulip (*Spathodea campanulata*), and various ferns, vines, and grasses. Rows of palm trees line the lower portion of the asphalt driveway through the project area.

Soil series maps indicate most of the project area is covered with Honuauulu extremely rocky silty clay loam, 12 to 20% slope (HVD) (Figure 5). According to Sato et al. (1973:19), "the Honuauulu series consists of well-drained silty clay loams that formed in volcanic ash. These are gently sloping to moderately steep soils on uplands. [...] Honuauulu soils are used mostly for coffee and pasture. Small areas are used for macadamia nuts, bananas, citrus fruits, avocados, and truck crops." A small area at the southeastern corner of the project area overlaps Kealakekua very stony silty clay loam, 6 to 20% slopes (KRD) (see Figure 5). The Kealakekua series soils also consist "of well-drained silty clay loams that were formed in volcanic ash. These are gently sloping to moderately steep soils on the uplands" (Sato et al. 1973:26–27).

### 1.3.2 Built Environment

The project area is located along the old Māmalahoa Highway in Hōlualoa. Land use in this area is generally for residence and agriculture (see Figure 3). The project area is bound to the west by Māmalahoa Highway, to the north and south by adjacent parcels, and to the east by a continuation of the coffee plantation on subject parcel TMK: [3] 7-5-014:001. The project area has been heavily altered by commercial agricultural development. Almost the entire project area (and overall TMK parcel 001) has been previously impacted by the development of a coffee plantation possibly overlying elements of the pre-Contact Kona field system (SIHP # 50-10-32-06601).

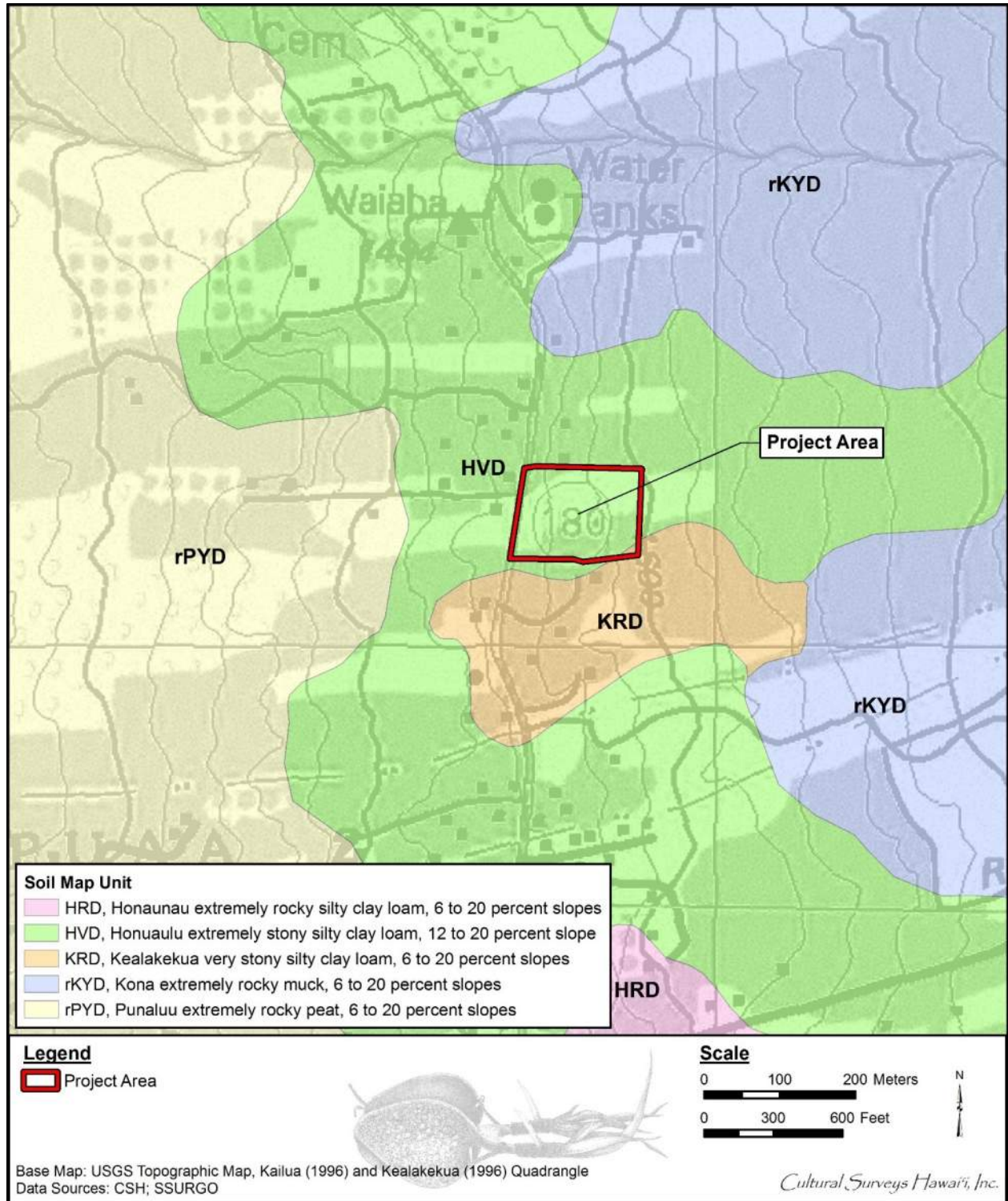


Figure 5. Overlay of *Soil Survey of the State of Hawaii* (Sato et al. 1972), indicating soil types within and surrounding the project area (USDA SSURGO 2001)

A modern rock wall defines the western boundary of the project area along Māmalahoa Highway. This rock wall extends *mauka* (inland) a short distance along the southern boundary, where it is replaced by a hog-wire fence that continues upslope beyond the project area. The northern project area boundary is generally defined by a historic stone wall. The eastern project area boundary generally follows the 1,600-ft elevation contour and is not marked. An iron gate along the highway near the southwestern corner of the property accesses an asphalt driveway extending *mauka* through and beyond the project area. The interior of the project area is characterized by linear rows of mature coffee trees. Signs of mechanical disturbance were observed along the northern margins of the project area.

## Section 2 Methods

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### 2.1 Field Methods

CSH completed the fieldwork component of this archaeological inventory survey under archaeological fieldwork permit number 18-15, issued by the SHPD pursuant to HAR §13-282. Fieldwork was conducted intermittently between 12 November 2019 and 12 February 2020 by CSH Field Supervisor Olivier Bautista, B.A., Samantha Sund, B.A., and Timothy Scheffler, Ph.D., under the general supervision of CSH Principal Investigator Hallett H. Hammatt, Ph.D. This work required approximately 29 person-days to complete. In general, fieldwork included 100% pedestrian inspection of the project area, GPS data collection, and subsurface testing.

#### 2.1.1 Pedestrian Survey

A 100%-coverage pedestrian inspection of the project area was undertaken for the purpose of historic property identification and documentation. The pedestrian survey was accomplished through systematic sweeps spaced 2-5 m apart depending on ground visibility.

Where a new historic property was encountered, vegetation was cleared in order to expose and fully document the site. The determination of historic property boundaries was based on factors including apparent age, architectural style, and the spatial and functional interrelationships of both natural and man-made features. Historic properties were documented with scaled plan view maps, digital photographs, and written descriptions. Historic property locations were recorded using a Trimble ProXR GPS unit (sub-meter horizontal accuracy).

#### 2.1.2 Subsurface Testing

A program of subsurface testing was undertaken for the AIS to assess the potential for subsurface archaeological features, including but not limited to buried cultural deposits and/or culturally modified lava tubes. The number and locations of the test excavations were chosen based on consultation with SHPD and were amended as appropriate as the fieldwork progressed.

The subsurface testing program consisted of the manual excavation of 13 test units (TUs) within the project area. Twelve of these test units (TU-02 through TU-13) measured 50 cm by 50 cm (0.25 square [sq] m), and the remaining unit (TU-01) measured 2.0 m by 1.0 m (2.0 sq m). TU-02 through TU-13 were excavated at seven features of CSH1; test unit locations were selected based on the presence of cultural materials on the ground surface, relative depth of excavatable sediment, and to avoid major obstructions such as bedrock outcrops or other large rocks or roots. TU-01 was placed in an area of maximum sediment that allowed for cross-sectioning of the downslope terrace wall and avoidance of major tree root obstructions. Test unit locations were recorded using a Trimble ProXR GPS unit (sub-meter horizontal accuracy). All the test units were excavated one level (or stratum) at a time to bedrock. All excavated material was screened through 1/8-inch mesh. Screened sediment was deposited on a tarp adjacent to the pit; upon completion of excavation and documentation the units were backfilled with the excavated material.

A stratigraphic profile of each test excavation was drawn and photographed. The observed sediments were described using standard USDA soil description observations/terminology. Sediment descriptions included Munsell color; texture; consistence; structure; plasticity; cementation; origin of sediments; descriptions of any inclusions, such as cultural material and/or



roots; lower boundary distinctiveness and topography; and other general observations. Where stratigraphic anomalies or potential cultural deposits exposed, these were carefully represented on test excavation profile maps.

## 2.2 Laboratory Methods

Materials collected during AIS fieldwork were identified and catalogued at CSH's laboratory facilities in Hilo on Hawai'i Island. Analysis of collected materials was undertaken using standard archaeological laboratory techniques. Materials were washed, sorted, measured, weighed, described, and/or photographed. No human remains or grave goods were encountered during site documentation or subsurface testing.

### 2.2.1 Artifact Analysis

In general, artifact analysis focused on establishing, to the greatest extent possible, material type, function, cultural affiliation, and age of manufacture. As applicable, artifacts were washed, sorted, measured, weighed, described, photographed, and catalogued. Diagnostic (dateable or identifiable) attributes of artifacts were researched. A catalogue of all collected artefactual material was prepared and is presented in Section 5.

### 2.2.2 Faunal Analysis

Faunal analysis generally focused on species identification and evidence of food consumption. No invertebrate remains were collected. Collected non-human vertebrate skeletal material was identified to the lowest possible taxa and analyzed using an in-house comparative collection and reference texts (e.g., Adams and Crabtree 2011; Olsen 1964; Schmid 1972; Sisson 1953). A catalogue of all collected material was prepared and is presented in Section 4.5.

### 2.2.3 Energy-Dispersive X-ray Fluorescence (EDXRF) Analysis

The use of energy-dispersive X-ray fluorescence (EDXRF) may make it possible to determine if lithic artifacts from within the project area are from similar sources, different sources, or from sources consistent with another island. Using an EDXRF spectrometer, Dr. Peter Mills of the University of Hawai'i at Hilo is working to establish geochemical "fingerprints" of stone tools that Native Hawaiians quarried from various sites and track the extent to which that material was circulated on each island or throughout the island chain. The EDXRF analyzer allows archaeologists to conduct rapid and non-destructive analyses of stone artifacts to determine the extent and distance stone tools moved from the quarries. Attempts are made to match the lithic artifact samples with geochemical data collected on known prehistoric quarry areas. Samples that do not match known quarry sites may lead to the discovery of currently unknown quarry sites, or possibly to the identification of stone tools derived from other island groups such as Tahiti and the Marquesas. By examining the extent to which stone tools in various *ahupua'a* were derived from non-local sources, archaeologists will be able to quantify Native Hawaiian movement of lithic artifacts through time and space, and possibly identify some tools that were carried over long distances of open ocean.

### 2.2.4 Wood Taxa Analysis

Collected charcoal samples were analyzed for species identification. Samples were sent to the Wood Identification Laboratory at International Archaeological Research Institute, Inc. (IARII) on O'ahu for taxa identification. The samples were viewed under magnification of a dissecting

microscope and then compared with anatomical characteristics of known woods in the Pacific Islands Wood Collection at the Department of Botany, University of Hawai'i, as well as in published descriptions. Taxa identification of wood samples provides useful information for interpreting the environmental and cultural history of the project area and helps determine a general time frame of land use. Analysis by IARII also identified short-lived plant species, which are useful for radiocarbon dating (see Section 2.2.5). Following analysis, samples were returned to the CSH laboratory in Hilo.

### **2.2.5 Radiocarbon Analysis**

Charcoal samples identified as short-lived plant species during wood taxa analysis (see Section 2.2.4) were sent to Beta Analytic, Inc. of Miami, Florida for radiocarbon dating analysis using the Accelerator Mass Spectrometer (AMS) method. The conventional radiocarbon age determined by Beta Analytic, Inc. was calibrated to calendar ages using the INTCAL13 High Probability Density Range Method (HPD) and OxCal calibration program, Version 4.3, developed by the University of Oxford Radiocarbon Accelerator Unit (ORAU).

### **2.2.6 Disposition of Materials**

Materials collected during the current AIS will remain temporarily curated at the CSH office in Hilo, Hawai'i. CSH will arrange with the landowner regarding the long-term disposition of this material. Should the landowner request different archiving of material, an archive location will be determined in consultation with the SHPD. All data generated during the course of the AIS are stored at the CSH offices on O'ahu and Hawai'i Island.

## **2.3 Research Methods**

Background research included a review of previous archaeological studies on file at the SHPD; review of documents at Hamilton Library of the University of Hawai'i, the Hawai'i State Archives, the Mission Houses Museum Library, the Hawai'i Public Library, and the Bishop Museum Archives; study of historic photographs at the Hawai'i State Archives and the Bishop Museum Archives; and study of historic maps at the Survey Office of the Department of Land and Natural Resources. Historic maps and photographs from the CSH library were also consulted. In addition, Māhele records were examined from the Waihona 'Aina database (Waihona 'Aina 2020).

This research provided the environmental, cultural, historic, and archaeological background for the project area. The sources studied were used to formulate a predictive model regarding the expected types and locations of cultural resources in the project area.

## **2.4 Consultation Methods**

A cultural impact assessment (CIA) (Spencer and Hammatt 2019) was completed for the project in accordance with HRS §343, and involved consultation with community members, agencies, and NHOs. The CIA recommended that all project personnel should be informed of the possibility of inadvertent cultural finds, including human remains, and of the proper protocols in the event of any cultural finds.

## Section 3 Background Research

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### 3.1 Traditional and Historical Background

The project area is located in the *ahupua'a* (traditional land division) of Kahului 2, approximately 300 m north of its boundary with Hōlualoa Ahupua'a, within the extensive Kona Field System agricultural and settlement complex (SIHP # 50-10-32-06601). Traditional and historical contexts focused on Kahului 2, but including Hōlualoa Ahupua'a when appropriate, are therefore relevant to understanding trajectories of human settlement, land use, and development in the project area.

#### 3.1.1 Traditional Accounts and Archaeological Evidence

Kahului, which translates to “the winning” (Pukui et al. 1976:67), does not feature in Hawaiian *ka'ao* (legends), or ethnohistoric accounts. Broader ethnohistoric understandings of Hōlualoa, a short distance south of the project area, as well as the Kona Field System, and Kona Moku (District) help to characterize the project area in Kahului 2 during the traditional era.

Hōlualoa literally translates to “long sled course” (Pukui et al. 1976:48), likely named for the traditional sport of *hōlua* (sledding down grassy slopes or constructed sled courses) and famed *hōlua* courses (Pukui and Elbert 1986:78). Early historic accounts by Ellis (1969), 'Ī'ī (1959), and Kamakau (1992) describe Hōlualoa as a populous *ahupua'a* with good surf and abundant food resources that served as a chiefly center for generations.

Clues to the prominence of Hōlualoa Ahupua'a are contained in nineteenth century Hawaiian histories. Kamakau mentions Hōlualoa three times in his *Ruling Chiefs of Hawai'i*. The first occurs in an account of an extraordinary day's reconnaissance of the west coast of Hawai'i Island by the spy Kauhi-o-ka-lani who had been sent to the island by Kama-lala-walu, chief of Maui. Having reached Kawaihae by canoe at night, Ka-uhi-o-ka-lani “ran about that same evening [reaching as far south as Ka'awaloa] and returned before the canoes were dismantled [...]” (Kamakau 1961:56). Kauhi-o-ka-lani recounts his journey and the landmarks he observed. After his “fellow spies and hosts” announce to him that he had gone past the “walled-in ponds [of] Kaloko and Honokohau,” the areas he describes are identified by them: “The point that juts out is Hi'iaka-noho-lae and the sandy beach inside of that is Kaiakeakua. Next is Kailua. The coconut groves are Holualoa and Kahalu'u” (Kamakau 1961:56).

Kamakau names these *ahupua'a* when recounting the life of Ka-lani-opu'u, ruling chief of Hawai'i Island: “After the death of Captain Cook and the departure of his ship, Ka-lani-'opu'u moved to Kainaliu near Honua'ino and, after some months to Keauhou where he could surf in the waves of Kahalu'u and Holualoa [...]” (Kamakau 1961:105).

Finally, Hōlualoa figures centrally in a striking prophecy made to Kamehameha:

Ka-pihe the seer prophesied in the presence of Kamehameha and said, ‘There shall be a long malo [loincloth] reaching from Kuamo'o to Holualoa. The islands shall come together, the tabus shall fall. The high shall be brought low, and the low shall rise to heave.’ The prophecy was fulfilled when the battle was fought at Kuamo'o

for the downfall of the ancient tabus. Holualoa was the long malo uniting the kingdom from Kahiki to Hawai'i. [Kamakau 1961:223]

Kamakau's accounts suggest "Hōlualoa" was a well-known, powerful place. The preeminence of Hōlualoa Kamakau suggests is asserted unequivocally by John Papa 'Ī'i:

It was in the Holualoa lands of Kona that the chiefs dwelt in olden times, from the time of Keakamahana, the great kapu chiefess of Hawai'i, and earlier. Where the large stone wall is located above Keolonahihi was Keakealaniwahine's dwelling place, for her parents, Keakamahana and Iwikauikaua, resided there. These lands were occupied by the chiefs because the surfing there was good, and the food abundant in ancient times. There Kamehameha learned to surf and to glide with a canoe over the waves, guarded by the kaikunane [female's brother or male cousin] of Keaka, in accordance with her commands. Because he was well trained, Kamehameha excelled in these arts and in sailing canoes. ['Ī'i 1959:6]

Ethnohistoric accounts of Hōlualoa confirm the project area in Kahului 2 was very close to a populous center of chiefly power.

Archaeological evidence indicates windward Hawai'i Island, and the project area in Kahului 2, were probably settled in the thirteenth century CE after the discovery and settlement of the archipelago by Polynesian seafarers sometime between the eleventh and thirteenth centuries CE (Athens et al. 2014:144; Bayman and Dye 2013; La Croix 2019:19; Rieth et al. 2011:2740). Initially, settlement likely occurred on the windward coasts of O'ahu and Maui in water-rich lowlands with deep soil deposits conducive to wet taro agriculture (Kanahele 1995:12; Kirch 2012:66; Ladefoged et al. 2009:2374).

In the context of traditional Hawai'i Island settlement patterns and land use observed in Kona and elsewhere (Cordy 2000:248; Kelly 1983), at 1,500-1,610 ft AMSL the project area, proximal to the chiefly center of Hōlualoa and later Kona, occupies a prime inland habitation and agricultural zone. The Kula (Coastal) Zone was a relatively narrow strip of oceanfront land hosting the highest concentrations of habitation and religious sites. *Mauka* of the Kula Zone, agriculture, temporary to permanent habitation sites constituted the Kalu'ulu (Intermediate) Zone. The project area is located in the 'Āpa'a (Upland) Zone. Like the Kalu'ulu Zone, the 'Āpa'a Zone hosted agriculture (sweet potatoes, dry land taro, ti, and sugarcane would have been dominant crops) and temporary and permanent habitations with a *mauka* periphery fringed by the *wao* (upland forest). Beyond the *wao* was the 'Ama'u (Saddle) Region, where mostly temporary habitation concentrated in lava tubes and bird hunting was the main human activity. An 1840 etching of Kailua *mauka* illustrates settlement, land use, and defining characteristics of the distinct zones (Kapohoni in Kelly 1983:61; Figure 6).

### 3.1.2 The Kona Field System

Covering approximately 139 sq km on the western slopes of Mauna Loa and Hualālai, the Kona Field System is understood as the largest traditional Hawaiian agricultural system in the archipelago (Newman 1978); similar, concurrently unique agricultural complexes also existed on Hawai'i Island at Kohala, Waimea, and Kā'u (Cordy 2000:248). Kuaīwi, defined as long, low, linear mounds forming field boundaries extending *mauka* to *makai* (mountains to sea), are a defining feature of the extensive non-irrigated field system. Interior fields were used to plant crops

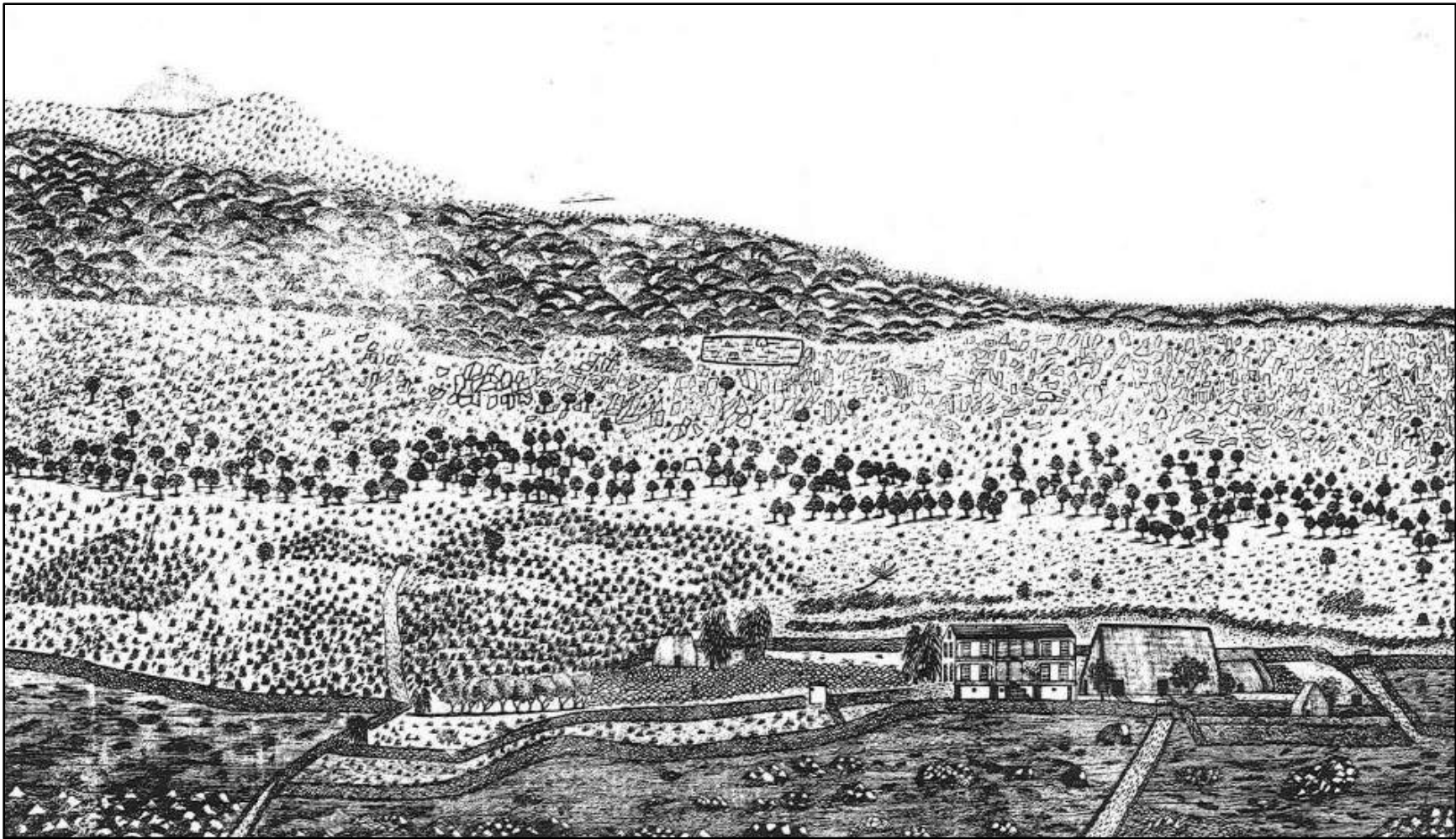


Figure 6. Engraving entitled “View of the Country Back of Kailua” from an 1840 drawing of Kailua *mauka* illustrating resources, land use, and settlement patterns distinctive to select areas on Hawai'i Island (Kapohoni in Kelly 1983:61)

such as *kalo* (taro), while other crops such as sugarcane were planted atop the *kuaīwi* forming windbreaks. Gardens, habitation and ceremonial complexes were interspersed throughout the field system, which was linked by trails to coastal settlements (Kelly 1983; Newman 1978; Tomonari-Tuggle 1985).

Cultivation of upland areas in Kona likely led to the establishment of the Kona Field System by 1300 CE, if not before (McCoy et al. 2017). The system was improved and agricultural practices intensified between the fourteenth and sixteenth centuries. Permanent settlements were established as populations and the number of chiefdoms throughout Hawai'i Island increased (Tomonari-Tuggle 1985:15–24; McCoy et al. 2017). From the sixteenth or seventeenth through the eighteenth centuries, the Kona Field System became a densely developed agricultural and settlement complex, proximal to the important political center of Kona (Tomonari-Tuggle 1985:15–24).

The traditional features of the Kona Field System were commonly altered and/or repurposed during historic-era agricultural practices such as sugarcane and coffee cultivation and cattle ranching.

The Kona Field System was designated SIHP # 50-10-32-06601 in the 1970s. Hawai'i Register of Historic Places documentation (Newman 1978: Appendix A) does not indicate submission to the Review Board or nomination to the National Register of Historic Places (NRHP).

### 3.1.3 Early Historic Period

European incursion into the Hawaiian Islands began with the 1778 arrival of Captain James Cook. Successive waves of incursion and colonization resulted in centuries of frequently dramatic change to virtually every facet of traditional Native Hawaiian life (Archer 2018; 'Ī'ī 1959; La Croix 2019).

Confirmation of Hōlualoa—very near the project area—as a prominent population and agricultural center that hosted a large settlement and religious structures is furnished by the missionary William Ellis in his account of a journey down the Kona coast in 1823:

At two P.M. we reached Horuaroa [Hōlualoa], a large and populous district. Here we found Keoua, the governor's wife, and her attendants, who had come from Kairua [Kailua] for wauti [wauke, or paper mulberry; *Broussonetia papyrifera*], with which to make cloth. Shortly after, we reached a village called Karuaokalani, (the second heaven,) where was a fine heiau [pre-Christian place of worship], in good preservation. It is called Pakiha; its dimensions were two hundred and seventy feet by two hundred and ten. We could not learn the idol to which it was dedicated, but were informed it was built in the time of Keakealani, who, according to tradition, was queen of Hawai'i about eleven generations back. The walls were solid, thick, and nearly entire; and the singular manner in which the stones were piled upon the top, like so many small spires, gave it an unusually interesting appearance. Before we left Karuaokalani the inhabitants pointed out to us a spot called Maukareoreo, the place of a celebrated giant of that name, who was one of the attendants of Umi, king of Hawai'i, about twelve generations since, and who, they told us, was so tall that he could pluck the cocoa-nuts from the trees as he walked along; and when the king was playing in the surf where it was five or six

fathoms deep, would walk out to him without being wet above his loins; and when he was in a canoe, if he saw any fish lying among the coral at the same depth, would just put his hand down and take them. They also told us he was a great warrior, and that, to his prowess principally, Umi was indebted for many of his victories. [Ellis 1969:117–188]

Ellis's characterization of Hōlualoa as a “large and populous district” with a “village called Karuaokalani” suggests the *ahupua'a*, at least up to the first quarter of the nineteenth century, continued to provide the *maka'āinana* (commoners, populace) who cultivated its resources food that, according to John Papa 'Ī'ī, had been “abundant in ancient times.”

However, a marked decline in the native population had occurred by the mid-1800s, a result of contact with western diseases and considerable migration to town centers such as Kailua and Honolulu (Archer 2018; La Croix 2019:68, 95). A missionary census of North Kona, published in 1836, indicates “populous” Hōlualoa may have been much diminished during the decade following Ellis's trip. Out of a total population of 5,957 for the North Kona District, only 731 persons are recorded between Puaa and Holualoa-4 (called “Palauweka” in the census) (Schmitt 1973:31). An impassioned outcry accompanied the population figures, bemoaning the decline throughout the district:

In these past four years, the people of North Kona have diminished 692 less than those previously counted [...] A tenth of the adults have died in the four years. If perhaps the people who come after are diminished at the same rate, the people of Hawai'i will be finished and the land will be empty!! [Schmitt 1973:31]

Natural and post-Contact societal disruptions imposed upon the Hawaiian people—evidenced by the sharp reduction of the native population (Archer 2018; LaCroix 2019:170)—make inferences about former settlement patterns from records documenting nineteenth century Hawaiian life difficult. Mid-nineteenth century land award records generated after private land ownership was introduced to the Hawaiian Islands evince settlement patterns that could have persisted from traditional times, and hint at *maka'āinana* lifeways beyond the coastal compounds of the *ali'i* (chiefly class).

### 3.1.4 The Māhele and the Kuleana Act

Impacts from sweeping mid-nineteenth century land reforms reverberated throughout the Hawaiian Islands, including the *ahupua'a* of Kahului 2 and the project area. Kamehameha III transformed the Hawaiian Kingdom into a constitutional monarchy through documents drafted in 1840 and 1852 establishing systems of governance, representation, and law throughout the archipelago. Much legislation focused on securing Hawaiian rights to land and pathways to power. The intent was to provide a degree of landed security and political autonomy against a constellation of looming threats such as disease, increasing foreign incursion, social, political and religious tumult, and the island nation conquest by Europeans and Americans occurring elsewhere in the Pacific (Gonschor 2019:41, 42; Van Dyke 2008:31).

The Māhele (literally, “division”) was a series of land acts and reforms enacted between 1840 and 1856. The legislation upended traditional Hawaiian systems of collective land utilization and complex social hierarchies and introduced concepts of land commodification and ownership (Van Dyke 2008:1, 11). In 1846, a Land Commission was formed to review and grant Native Hawaiian

land claims based on proof of residency and utilization until its dissolution in 1855 (Van Dyke 2008:33, 34). In 1848, the crown, the Hawaiian government, and the *ali'i* received their titles to choice tracts of land. In 1850, the Alien Land Ownership Act granted private land ownership rights to foreigners. Concurrently, the Kuleana Act encouraged *maka 'āinana* to file claims with the Land Commission for the land they were presently using plus 0.25 additional acres for a house lot. However, both the concept of land ownership and western bureaucratic systems were unknown/unclear to *maka 'āinana*, the majority of whom did not file claims (Van Dyke 2008:46). Claimant *maka 'āinana* received their *kuleana* awards (individual land parcels) beginning in 1850.

The records for the Land Commission Awards (LCAs) generated during the Māhele document mid-nineteenth century land use and settlement in Kahului 2 and the project area. Kahului 2 was awarded to and retained by the *ali'i* (chief) Kamaikui under LCA 8516-B:3. A cluster of *kuleana* or commoner awards were granted within Kahului 2 just downslope of Māmalahoa Highway and the project area (Figure 7) and the records for these awards indicate land uses such as habitation, agriculture, and cattle ranching. No *kuleana* awards are located within the project area. A portion of an 1888 map of North Kona (Figure 8) depicts clusters of LCA parcels along the government road in the project area, but none overlap it and there are no signs of any development within the project area. A portion of an 1891 map of North Kona shows the project area within Kahului and identifies Land Grants in the vicinity; no grants or developments are indicated within the project area (Figure 9).

### 3.1.5 Mid- to Late 1800s

By the end of the nineteenth century in Kona the traditional subsistence settlement pattern was eclipsed by new patterns focused around commercial agriculture (especially coffee) and ranching. Coffee farming expanded greatly across leeward Hawai'i; the project area is within what remains of the Kona coffee belt today. This transition was greatly facilitated by an influx of immigrants into the area who established communities of small farmers (Nakano 1990) clustered along the belt road or Māmalahoa Highway.

Thomas Thrum, writing in the 1870s, records that coffee was first introduced in Hilo and Kona on Hawai'i Island around 1828 (Thrum 1876:46–47). Thrum notes that the coffee industry in Kona—the “center of [coffee] cultivation [on Hawai'i Island which] [...] both from soil and climate produces the choicest article”—subsequently expanded despite a scarcity of labor, fluctuating prices, occasional drought, and blight. Thrum also relates that in Kona, into the 1870s, the expanding industry was not consolidated by large plantation-type operations:

Mr. H.N. Greenwell of Kona, trader, takes great pains in his selections for the market, and any bearing his mark is a sufficient guarantee in Honolulu market of fully ripe, well dried and clean aromatic coffee. There is an idea prevalent that Mr. G. is a grower of this article [i.e., coffee], but that is erroneous. The coffee is almost wholly in the hands of the natives with little patches here and there throughout the district, who gather it in its season and dispose of the same to the stores located near them. [Thrum 1876:51]



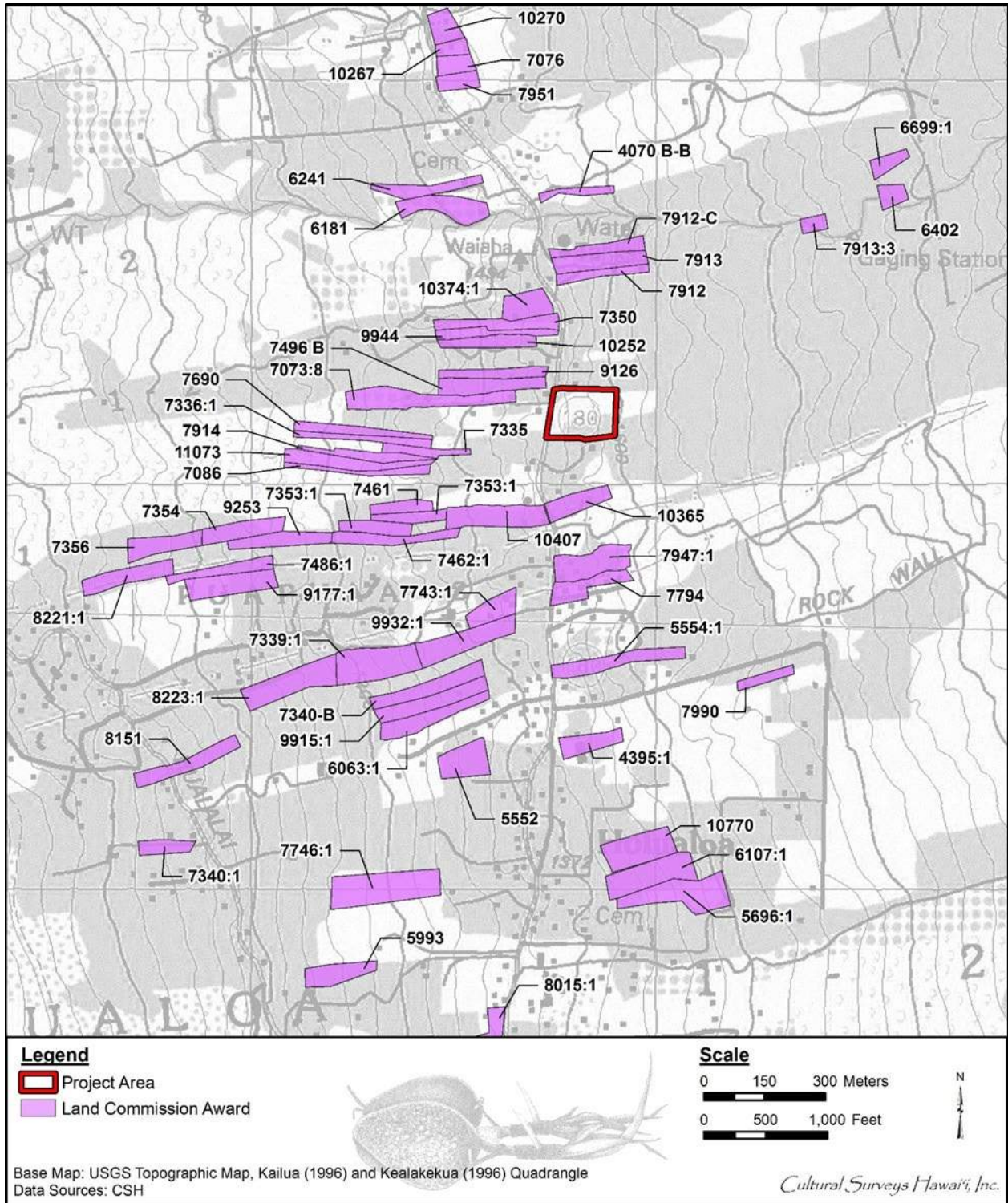


Figure 7. Portions of the 1996 Kailua and Kealakekua USGS 7.5-minute topographic quadrangles, showing the location of the project area and nearby LCA parcels

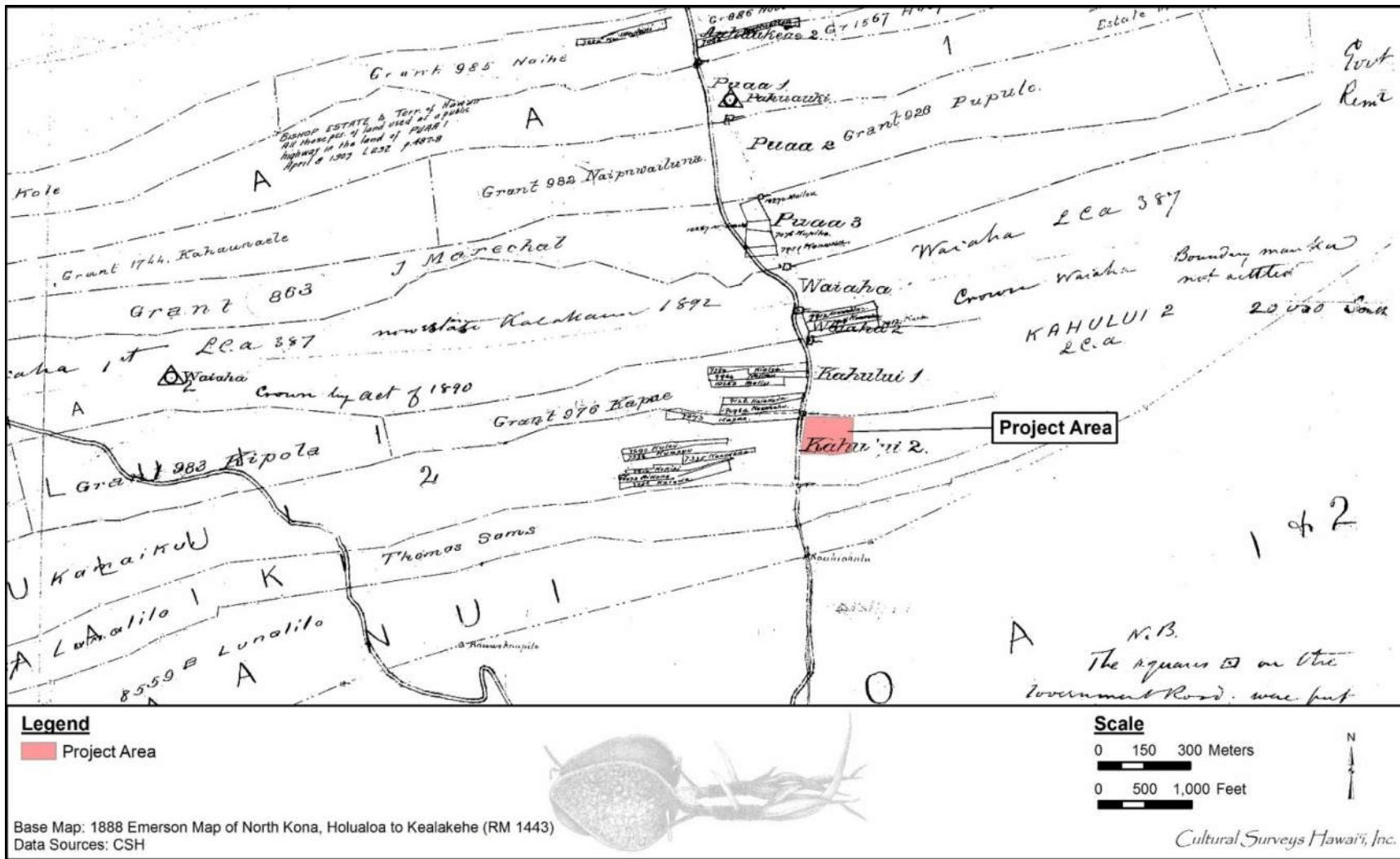


Figure 8. Portion of 1888 Emerson map of North Kona showing the project area; while clusters of LCAs are depicted in the vicinity along the road, none overlap the project area and there are no signs of any development within the project area

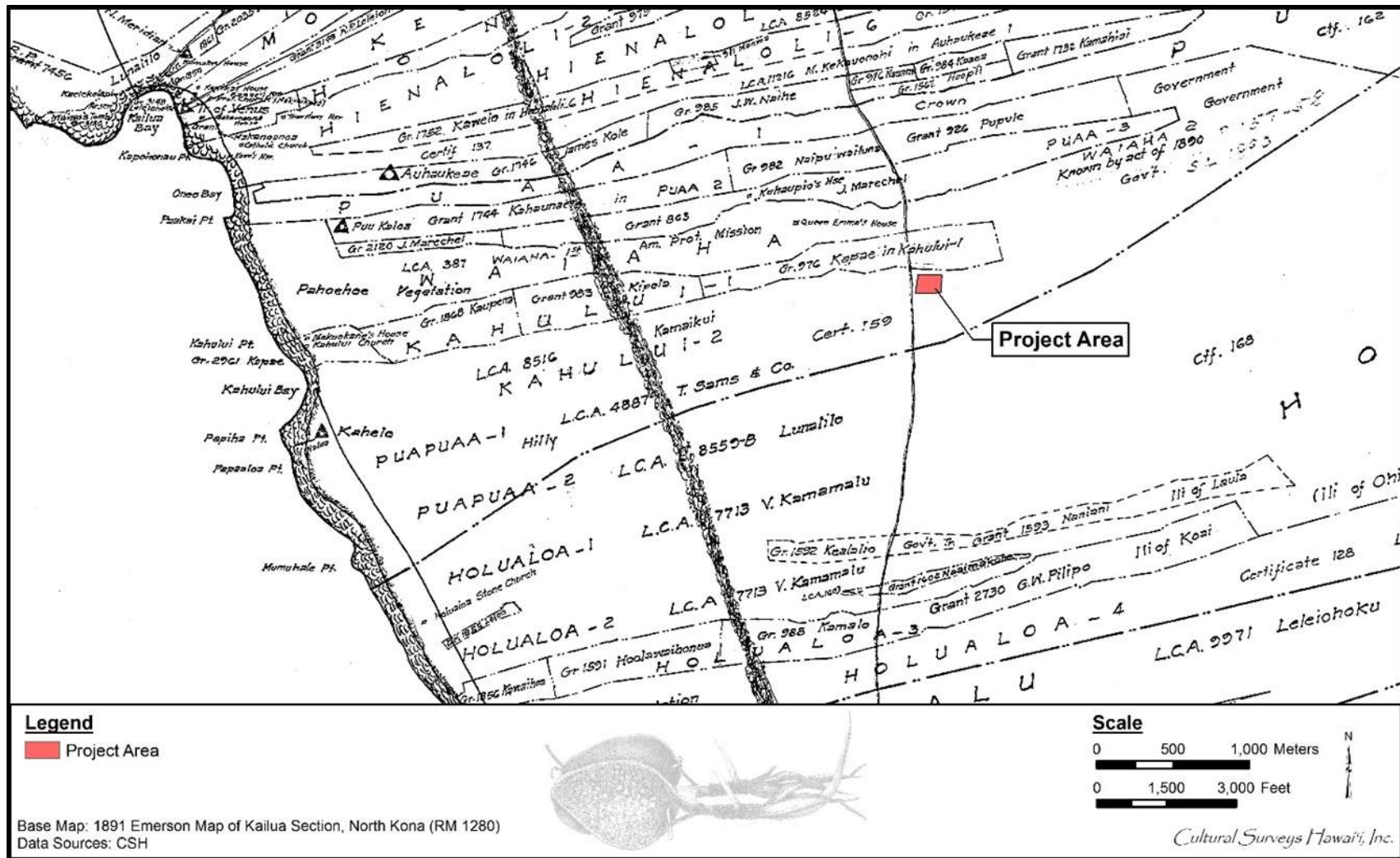


Figure 9. Portion of 1891 Emerson map of North Kona showing the project area within Kahului (awarded to Kamaikui); while there are numerous land grants depicted throughout the area, none overlap the project area and there are no signs of any development within the project area

With the influx of Asian immigrants to the Hawaiian Islands during the second half of the nineteenth century, the cultivation of coffee would no longer be “almost wholly in the hands of the natives,” though planting likely continued to be concentrated upon “little patches here and there throughout the district.” Hōlualoa became one center of the immigrant Japanese population of Kona:

Most Japanese immigrants in Kona came from three prefectures of Japan: Kumamoto-ken, Hiroshima-ken, and Yamaguchi-ken. They were mostly sugarcane laborers and coffee farmers, and lived in Kailua, Holualoa, Kainaliu, Kealahou, Honaunau, Captain Cook, and Napoopoo. The majority of these immigrants came directly from Japan during periods of government contract or liberal immigration from 1885 to 1923. [Nakano 1990:45]

An article in Thrum's *Hawaiian Annual* for 1899 based on extracts from a “carefully prepared paper on ‘Coffee and Diversified Industries in Hawai‘i,’ more particularly the district of Kona, by Chas. D. Miller” reported that the

[...] leading industry at present [in the district of Kona], and in fact for a number of years past, has been the cultivation of coffee, with some little attention to dairy farming, cattle raising, fruit culture (limited to oranges and pine-apples) and lately sugar cane. Little else has been attempted. [Miller in Thrum 1899:127]

The article also noted “the best coffee tracts in North Kona are mostly settled” and, quoting F.W. Bartels describing North Kona in general and Lanihau Coffee Plantation in particular, interestingly revealed the constraint placed upon the current coffee planting by the formerly intensive traditional Hawaiian agriculture:

‘Last year we never stopped picking till the new crop came in. There is no fear of coffee not doing well, if the fertility of the land is kept up by manuring. The better lands in Kona have suffered the most, by the incessant cultivation of taro for a former large native population, and the soil has lost many vital constituents during that time. The sooner the coffee planter awakes to the manure question, the better. Rocky lands, that could not be used for taro, have preserved more of their natural conditions.’ [Miller in Thrum 1899:130]

### 3.1.6 Twentieth Century Land Use

Historic maps and aerial photographs provide a cultural context and chronology of the changing landscape of the project area and its surroundings during the twentieth century.

A 1906 map of Hawai‘i Island (Figure 10) depicts the project area located at the interface of sugar plantation and cattle grazing lands. The Kona Sugar Company operated in the vicinity from 1881–1904 and utilized a railroad; in 1908 the Kona Development Company attempted to resurrect the plantation and railroad, but the venture only lasted until 1926 (Dorrance and Morgan 2000:112).

Portions of the 1924 USGS quadrangles (Figure 11) indicate the growth of the surrounding area, depicting the railroad and Kona Mill downslope, schools to the south, and numerous trails throughout the area and structures clustered along the highway. This map depicts a structure,

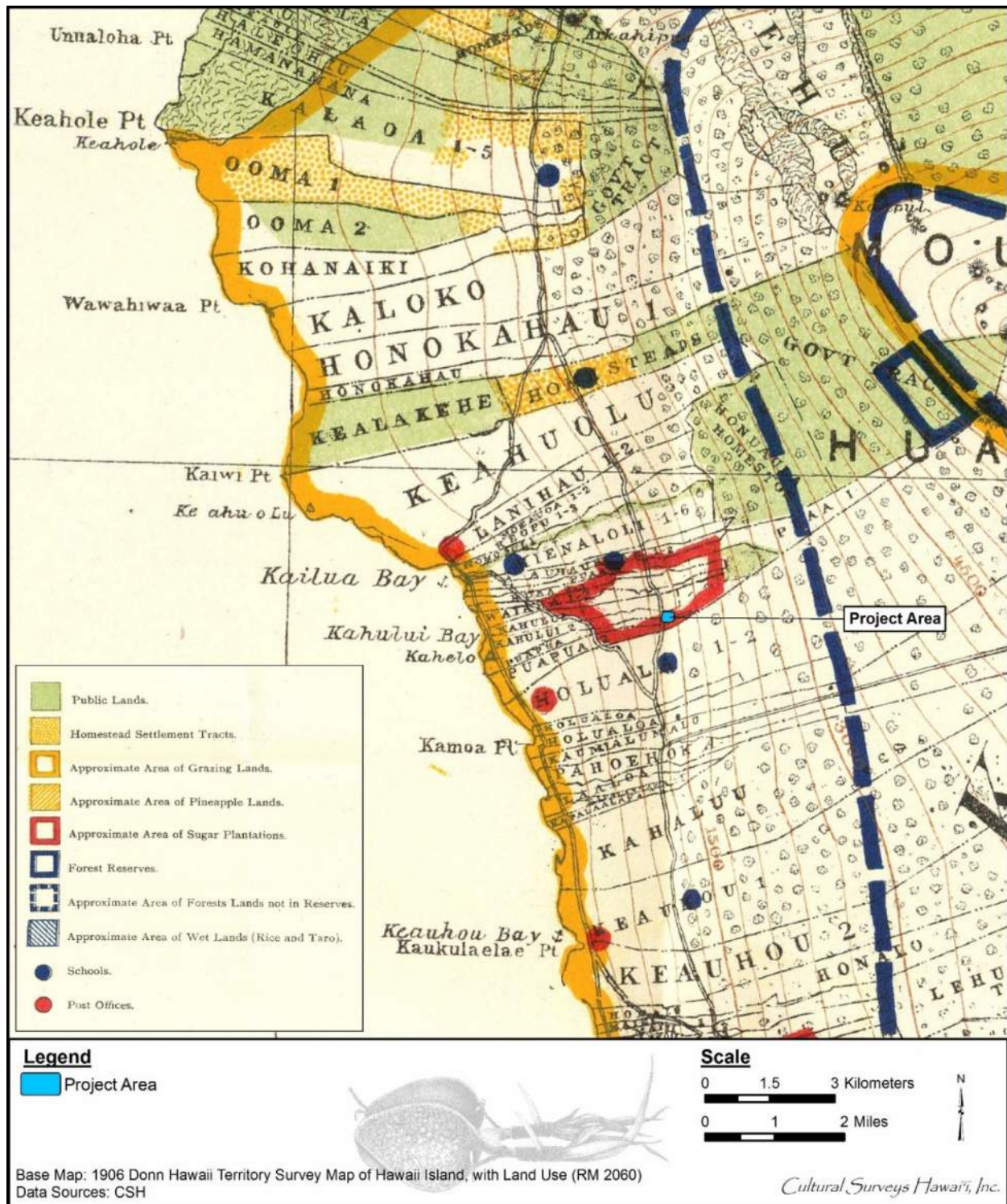


Figure 10. Portion of J.M. Donn's 1906 map of Hawai'i Island, showing the project area in relation to areas of different land use

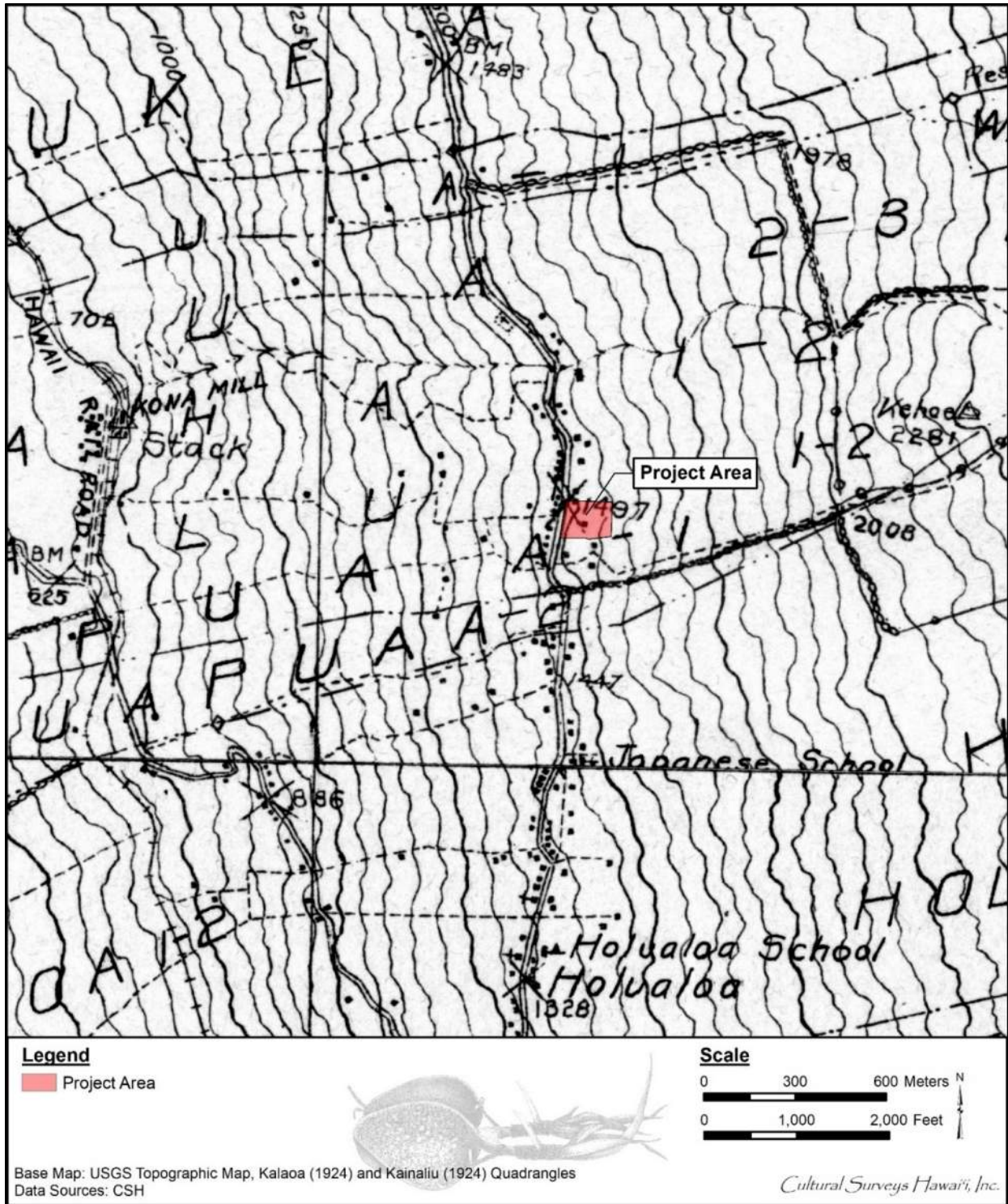


Figure 11. Portion of the 1924 Kalaoa and Kainaliu USGS 7.5-minute topographic quadrangles showing the project area in relation to the school, roads, and residences in the Hōluāloa vicinity

possibly a dwelling, within the project area and another along the northwestern project area boundary.

Portions of the 1959 USGS quadrangle maps (Figure 12) illustrate little change in the vicinity of the project area; most notable is the lack of the structure previously depicted near the center of the project area (see Figure 10); the structure adjacent to the north still appears to be present.

A 1977 orthophoto (Figure 13) indicates the continued use of the area for agricultural (and perhaps ranching) pursuits. Discrete agricultural fields are visible within the project area. It is unclear in this image if the dwelling adjacent to the north is still present.

## 3.2 Previous Archaeological Research

### 3.2.1 Previous Archaeological Studies

Previous archaeological studies in the vicinity of the project area are summarized in Table 1 and depicted in Figure 14. Of these, five studies are located within 0.8 km (0.5 miles) of the current project area: Allen (1984), Walsh and Hammatt (1995), Haun and Henry (2001), Moore and Kennedy (2002), and Haun et al. (2003). An LRFI was also conducted for the current project (Bautista et al. 2019).

In 1984, Paul H. Rosendahl, Inc. (PHRI) undertook a reconnaissance survey of over 600 acres south and upslope of the current project area (Allen 1984; see Figure 14). The survey documented 19 archaeological sites and site complexes (not assigned SIHP numbers). Documented feature types included walls, terraces, mounds, small platforms, modified outcrops, enclosures, an artifact scatter, a cave, and a water tank foundation. These features were attributed to the pre-Contact Kona Field System and historic ranching activity. Three sites were recommended for testing and the remainder were recommended for no further work.

In 1994, CSH recorded six sites in a 5.9-acre project area on the Puapua'a/Hōlualoa border southwest of the current project area (Walsh and Hammatt 1995; see Figure 14). Two agricultural complexes (SIHP #s 50-10-37-19666 and -19667) comprising 91 features were identified as remnants of the Kona Field System. Four sites (SIHP #s -19662 through -19665) comprising 11 features were associated with historic habitation, agriculture, ranching, and transportation. All six documented sites were recommended for data recovery.

In 2001, Haun and Associates conducted an AIS of an 87-acre parcel located in Kahalui 1 and 2 just *makai* (seaward) of the current project area (Haun and Henry 2001; see Figure 14). The survey identified

12 historic ranching walls or enclosures, an historic railroad trestle [SIHP # -07214], an historic road with a retaining wall, two agricultural enclosures, two agricultural terraces, a modified outcrop, an agricultural wall, a small agricultural complex with 11 features, two permanent habitation platforms [SIHP #s -22762 and -22764], a temporary habitation modified outcrop [SIHP # -22763], two permanent habitation platforms [SIHP #s -22762 and -22764], a complex of 33 features interpreted as remnants of the Kona Field System, a complex of 181 historic clearing features related with sugarcane cultivation, and a complex of 101 features that roughly correspond to six Land Commission Awards in the mauka portion of the project area [SIHP # -22780]. [Haun et al. 2003:1]

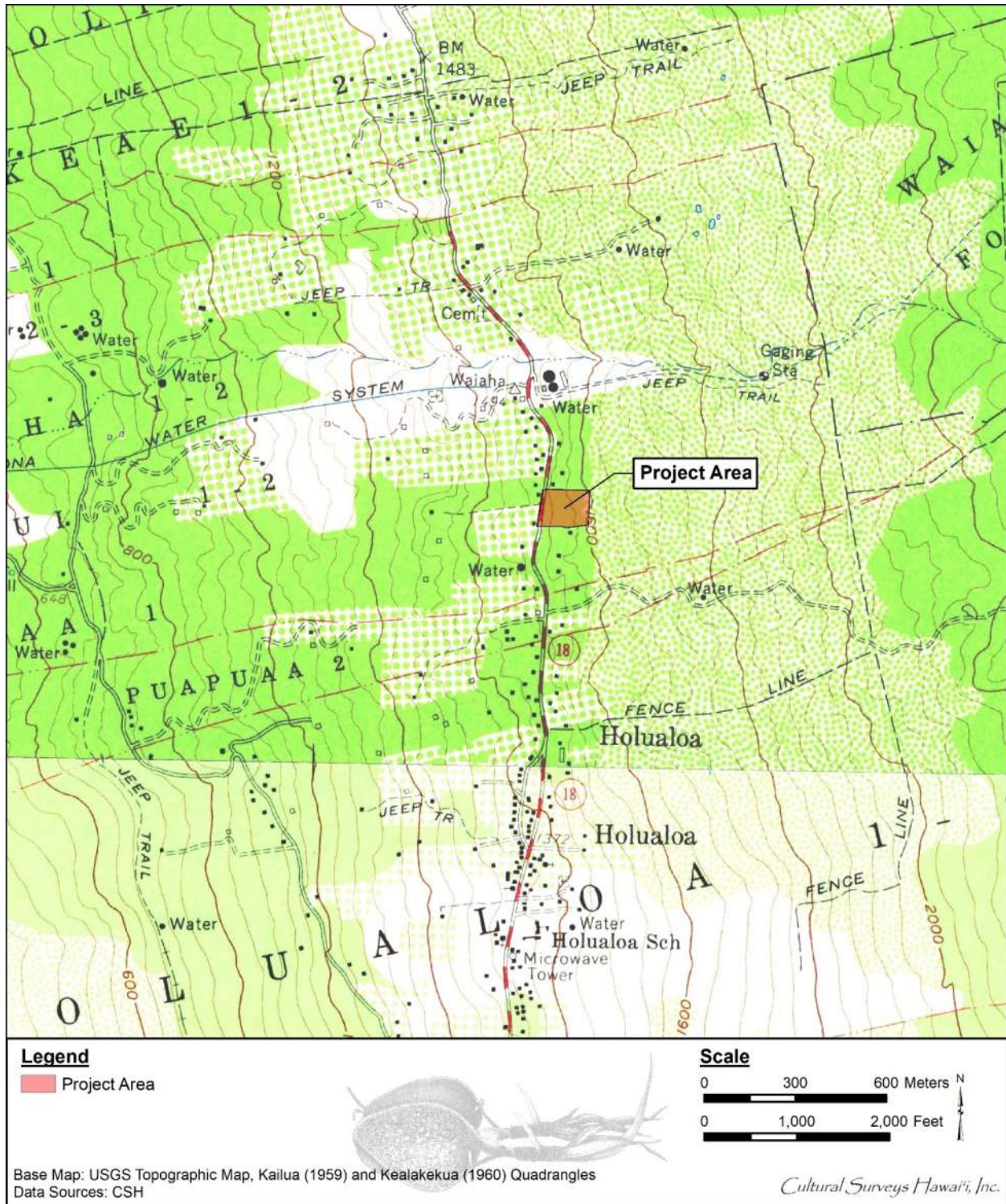


Figure 12. Portion of the 1959 Kailua and 1960 Kealahou USGS 7.5-minute topographic quadrangles showing the project area and development



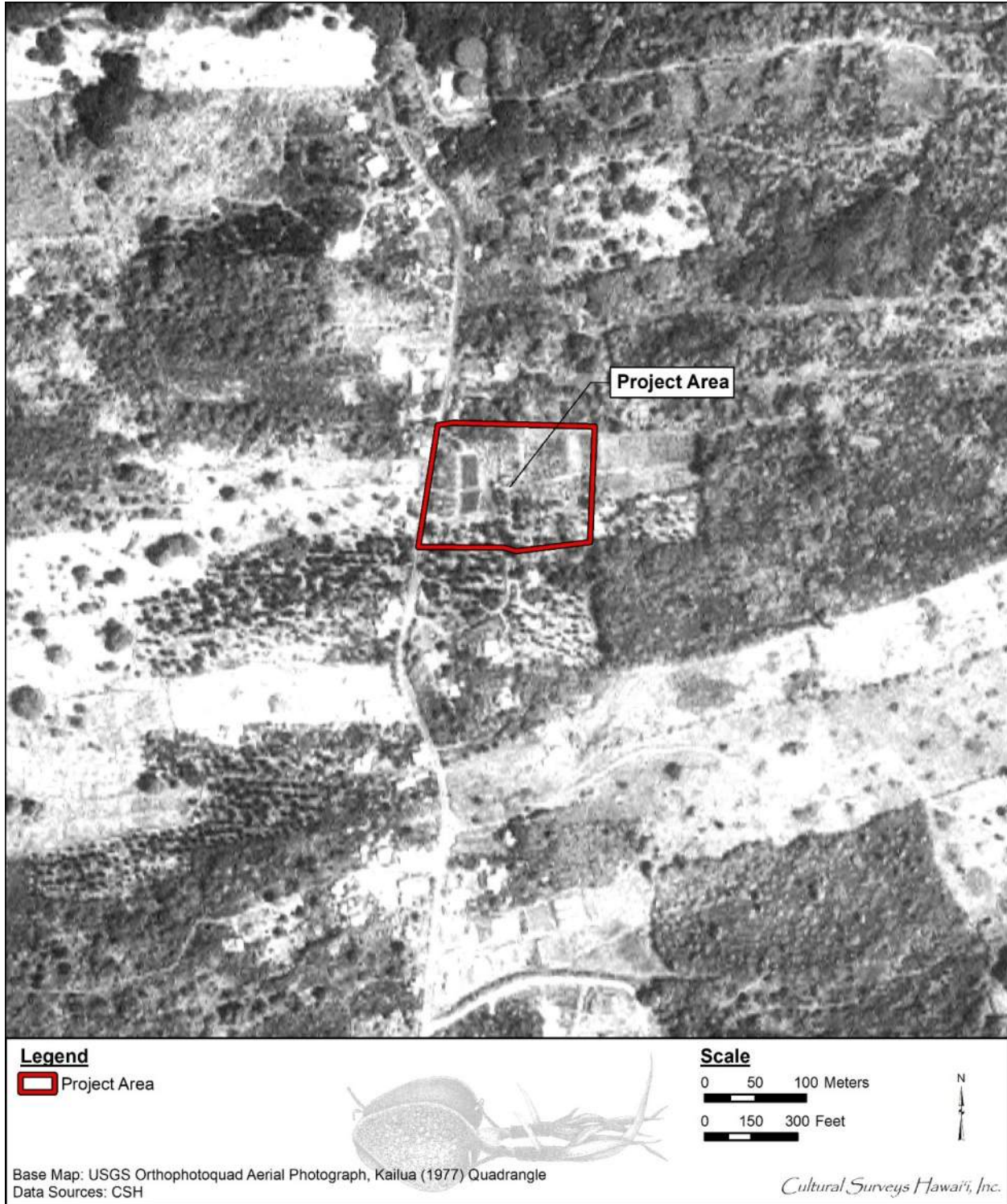


Figure 13. Portion of the 1977 USGS orthophotoquad aerial photo, Kailua Quadrangle, showing the project area and continued agricultural development in the vicinity of the project area

Table 1. Previous archaeological studies in the vicinity of the project area

| Reference                  | Type of Study                                    | Location   | Results (SIHP # 50-10-28**** unless otherwise noted)  |
|----------------------------|--|--|---|
| Allen 1984                 | Archaeological reconnaissance survey             | 600+ acres in Puapua'a and Hōlualoa, TMKs: [3] 7-5-015:002 and 102 and 7-6-002:001 and 014 | Documented 19 sites and site complexes associated with Kona Field System and cattle ranching (no SIHP numbers assigned); majority recommended for no further work   |
| Walsh and Hammatt 1995     | Archaeological inventory survey                  | 5.9 acres in Hōlualoa 1 and 2, TMKs: [3] 7-6-009:014, 016, and 023                         | Documented six previously unidentified sites (SIHP #s -19662 through 19667) associated with Kona Field System and historic habitation, agriculture, ranching, and transportation; all sites recommended for data recovery                             |
| Haun and Henry 2001        | Archaeological inventory survey                  | 87 acres in Kahalui 1 and 2, TMKs: [3] 7-5-016:015, 016, 017, and 029                      | Documented 27 sites comprised of 349 features, representing wide variety of feature types associated with pre-Contact to historic agriculture, habitation, ranching, and transportation   |
| Moore and Kennedy 2002     | Archaeological data recovery                     | Hōlualoa 1 and 2, TMK: [3] 7-6-009:014   | Data recovery conducted within portion of SIHP # -19667 indicated historic-era construction and modification of most features within site previously described as remnants of Kona Field System   |
| Haun et al. 2003           | Archaeological data recovery                     | 87 acres in Kahalui 1 and 2, TMKs: [3] 7-5-016:015, 016, 017, and 029                      | Data recovery indicated SIHP # -22764 (platform) constructed between AD 1440-1650; excavations at SIHP # -22780 yielded evidence of pre-Contact to modern use   |
| Desilets and Rechtman 2004 | Archaeological inventory survey                  | 800-m-long corridor in Holualoa 1 and 2, TMK: [3] 7-6-008:005 por.                         | Survey identified one new historic property, SIHP # -24211, a rock wall-lined road that encompasses entire project area; background research indicates road constructed in late 1890s, presumably to provide grant recipients access to their parcels |
| Hammatt and Shideler 2006  | Archaeological literature review and field check | Cesspool Improvement project at nine DOE Schools, Kona School District                     | Study noted for Hōlualoa vicinity that many surface features found in inland areas were first constructed, heavily modified, or destroyed by historic use of land for cattle pasture and coffee cultivation   |

| Reference                  | Type of Study                   | Location  | Results (SIHP # 50-10-28**** unless otherwise noted)  |
|----------------------------|---------------------------------|---|---|
| Wilkinson and Hammatt 2009 | Archaeological monitoring       | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002, 037; 7-6-005:015 | No historic properties identified   |
| Rechtman 2013              | Archaeological inventory survey | 29 acres in Hōlualoa 1-2, TMKs: [3] 7-6-008:005, 008, and 030                 | Identified 24 historic properties, including previously documented SIHP # -24211 (historic road) and newly documented SIHP #s -29700 through -29722 associated with late pre-Contact through late historic agriculture, habitation, and ranching; data recovery and/or preservation recommended for four sites  |
| Bautista et al. 2014       | Archaeological monitoring       | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002, 037; 7-6-005:015 | No historic properties identified   |
| Haun and Henry 2014        | Archaeological inventory survey | 2.313 acres in Hōlualoa 1-2, TMK: [3] 7-6-010:005                             | Documented 14 newly identified sites (SIHP #s -30050 through -30063) comprising 145 features associated with pre-Contact through historic agriculture, habitation, ranching, burial, rock art, and transportation; preservation recommended for burial (SIHP # -30060) and petroglyph (SIHP # -30061); data recovery recommended for SIHP # -30063 (pre-Contact/historic agricultural complex); monitoring of ground disturbance also recommended |
| Wilkinson et al. 2014      | Archaeological monitoring       | Hōlualoa Elementary School, Hōlualoa, TMKs: [3] 7-6-004:002 and 7-6-005:015   | Identified SIHP # -29888, a modified lava tube located beneath the school   |

| Reference            | Type of Study   | Location   | Results (SIHP # 50-10-28**** unless otherwise noted)  |
|----------------------|---|--|---|
| Bautista et al. 2019 | Archaeological literature review and field inspection | 5.38 acres in Hōlualoa, Kahului 2, TMK: [3] 7-5-014:001 por. | Documented four potential historic properties, not assigned SIHP numbers: CSH 1 (wall), CSH 2 (wall), CSH 3 (possible berm), and CSH 4 (retaining wall) |

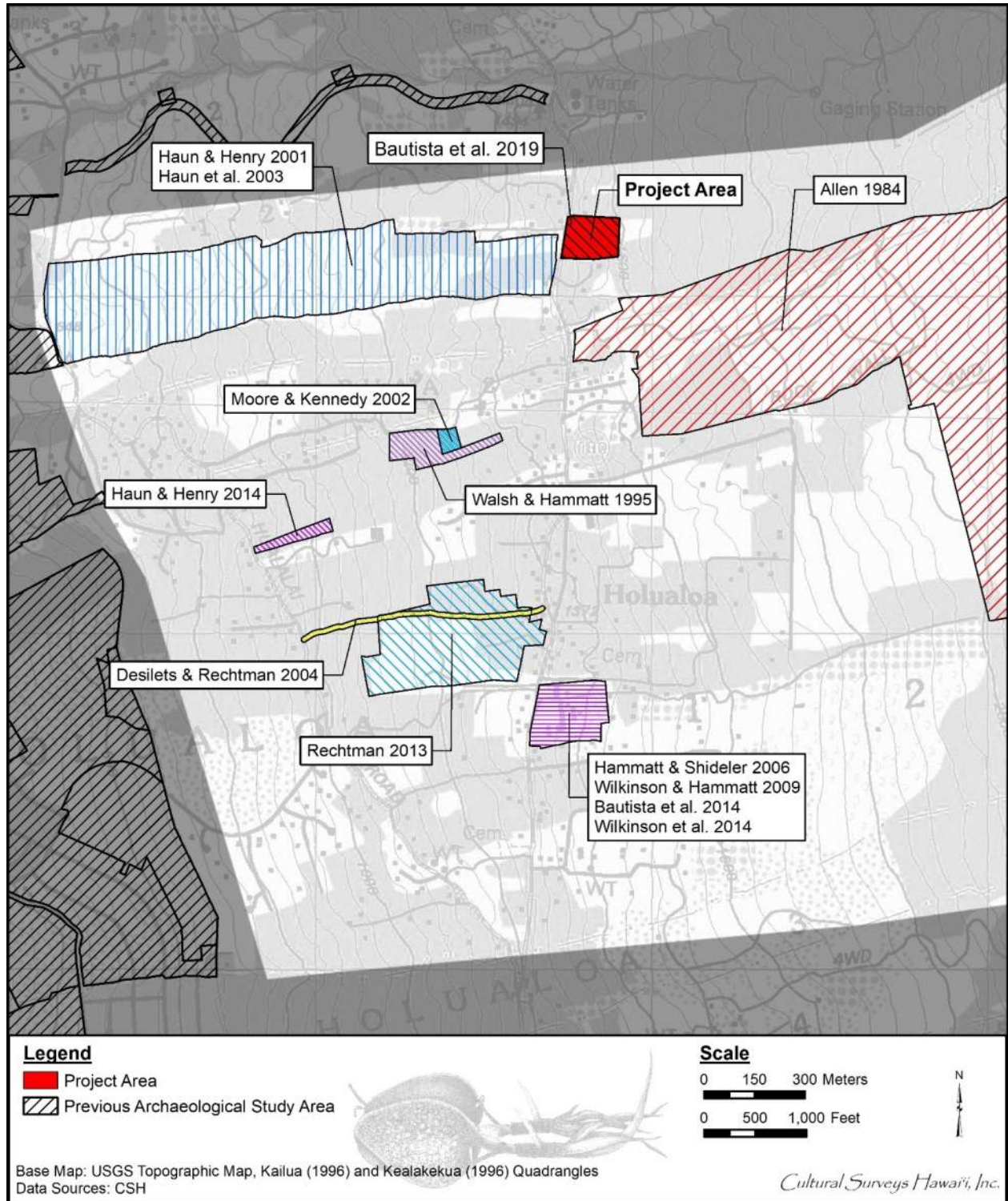


Figure 14. Portion of the 1996 Kailua and Kealahou USGS 7.5-minute topographic quadrangles showing previous archaeological studies in the vicinity of the project area

In 2002, Archaeological Consultants of the Pacific, Inc., undertook data recovery at SIHP # -19677 located within the northeastern portion of the Walsh and Hammatt (1995) project area (Moore and Kennedy 2002; see Figure 14). The results indicated many features previously thought to have been remnants of the Kona Field System were actually historic constructions associated with coffee cultivation. Furthermore, it was determined that many Kona Field System features existing within the site had been heavily modified for use in coffee cultivation after 1930.

In 2003, Haun and Associates conducted data recovery at SIHP #s -22764 (rectangular platform) and -22780 (habitation and agriculture complex) within the Haun and Henry (2001) study area (Haun et al. 2003; see Figure 14). SIHP # -22764 was shown to have been constructed between AD 1440-1650. Excavations at SIHP # -22780 yielded evidence of pre-Contact to modern use throughout the site, including repurposing of pre-Contact features in historic times.

In 2019, CSH conducted an LRFI for the current project (Bautista et al. 2019; see Figure 14). The field inspection confirmed the project area has been heavily altered by the development of the existing coffee plantation and associated driveway. A wall extending along but just outside the eastern half of the northern property boundary was identified as a potential remnant of the pre-Contact Kona Field System. An area of thick vegetation was observed along the western half of the northern property boundary; within this area two features were encountered within the project area (Figure 15): CSH 1 (cross-slope, dry-stacked rock wall) and CSH 2 (*mauka-makai*-oriented dry-stacked rock wall). The vegetation in this area was too thick to determine whether these walls interface. Signs of bulldozing inside and along the northern boundary were also noted, and scattered fragments of historic glass, ceramics, and scrap metal were observed. Topographical undulations within the lower interior portion of the project area (CSH 3; see Figure 15) were described as berm-like. Near the mid-point of the southern project area boundary a north-south-oriented rock retaining wall (CSH 4) was observed along the downslope edge of a pocket of dense vegetation (see Figure 15). Consultation with SHPD was recommended regarding project historic preservation requirements.

### 3.3 Background Summary and Predictive Model

Early in the traditional settlement trajectory of Hawai'i Island, permanent settlements were constricted to coastal locations away from the project area. The project area environs were used intensively for agriculture as part of the Kona Field System, and would have included associated short-term habitation, transportation routes, and use of lava tubes for activities such as burial and water collection. The project area is specifically within the portion of the Kona Field System referred to as the *'apa 'a* zone, in which sweet potatoes, dry land taro, ti, and sugarcane would have been dominant crops. In the historic period, settlement became centralized around major ports at the coast and upslope along the *mauka* Government Road. For a short time, sugar was grown commercially in the area, but the enduring markets were cattle ranching and coffee cultivation. These enterprises transformed the traditional landscape, disturbing large swaths of the pre-Contact agricultural field system and leading to the development of towns like Hōlualoa along the Māmalahoa Highway.

Previous archaeological investigations in the vicinity of the project area confirm the known history of land use. Scattered and disturbed remnants of the Kona Field System have been identified amongst historic-era habitation and agricultural sites. In some cases, pre-Contact features have been shown to have been adapted for historic use.

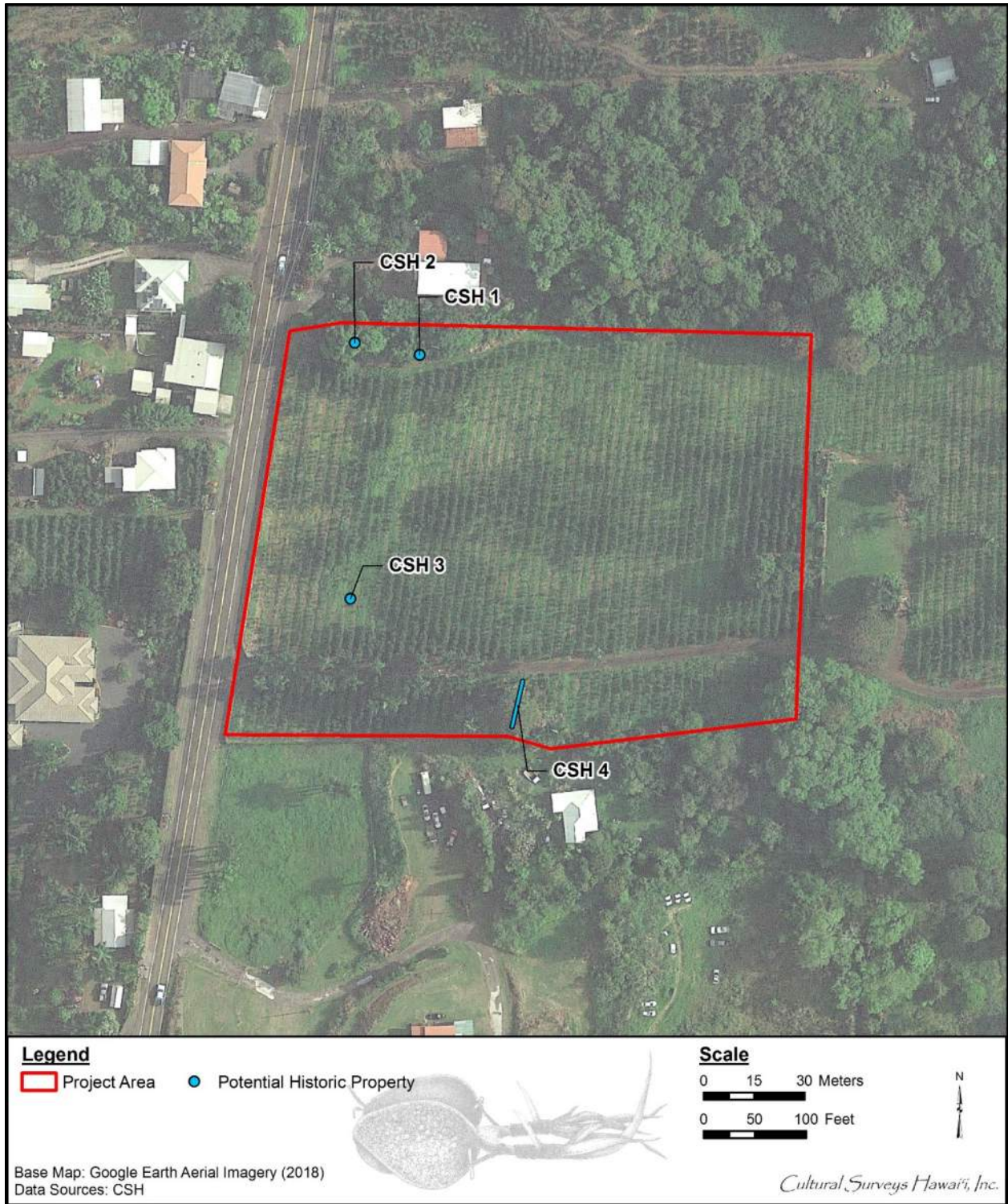


Figure 15. Aerial photograph of the project area (Google Earth 2018) showing the locations of potential historic properties (CSH 1 through 4) identified during the LRFI (Bautista et al. 2019)

While the project area has been heavily impacted by coffee development, the LRFI conducted for this project (Bautista et al. 2019) identified four surface features representing potential historic properties (CSH 1 through CSH 4). These features (walls, retaining wall, and possible berm) may represent historic and/or historically modified pre-Contact agricultural, habitation, or animal husbandry sites. The distribution of CSH 1 through CSH 4 suggests a higher potential for archaeological sites around the less-disturbed perimeter of the project area, though CSH 3 is located within the project area interior.

Due to the characterization of soil deposition and prior disturbance in the area, significant, intact subsurface deposits of cultural materials not associated with surface features are not expected. Any burials present would most likely be located in formal platforms, mounds, or lava tubes, the latter of which may also contain pre- or post-Contact modifications including water collection or shelter features.



## Section 4 Results of Fieldwork

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CSH completed the fieldwork component of this archaeological inventory survey intermittently between 12 November 2019 and 12 February 2020. This work required approximately 29 person-days to complete. The fieldwork comprised a 100% pedestrian inspection of the project area, a program of subsurface testing, and associated GPS data collection. The results of the pedestrian inspection are provided in Section 4.1 and the subsurface testing results are provided in Section 4.2.

### 4.1 Pedestrian Inspection Results

A 100% pedestrian inspection was undertaken with the field crew spaced 3-5 m apart depending upon the density of the vegetation. Ground visibility was very good throughout most of the inspection area.

Three newly discovered historic properties were documented within the project area and have been designated SHIP #s 50-10-28-31124, -31125, and -31126 (Table 2). Their locations within the project area are depicted on a USGS topographic map (Figure 16) and aerial map (Figure 17). Full site descriptions are provided in Section 6.

As discussed in Section 1.3.2, most of the project area has been altered by coffee farm development. The project area is actively planted in coffee and the grass between the coffee plants is regularly mowed (Figure 18 and Figure 19). A palm-lined driveway accessing the property through a gate along Māmalahoa Highway bisects the project area (Figure 20, Figure 21, and Figure 22). The western boundary of the property along the Māmalahoa Highway is defined by a modern rock wall with concrete; a low extension of this modern wall continues *mauka* from the southwestern corner of the property (Figure 23 through Figure 26).

The northern and southern project area boundaries are defined by the parcel boundaries. A maintained dozer swath is present between the northern project area boundary and the planted coffee rows (Figure 27). This dozer swath runs parallel to and just inside the eastern half of the northern project area boundary. A heavily vegetated area is present along the western half of the northern project area boundary; the dozer swath bends southward in this area around the vegetation and away from the parcel boundary. There is considerable leaf litter on the ground throughout this undeveloped portion of the project area, and ground visibility ranges from poor to fair. The AIS fieldwork included large-scale clearing of this area to further expose features CSH 1 and 2 identified there during the LRFI (Bautista et al. 2019; see Section 3.2.1). This clearing effort exposed a pre-Contact through historic site complex designated as SIHP # -31124 (see Table 2, Figure 17 and Section 6.1). This site is characterized as a remnant portion of the Kona Field System that was subsequently modified for use into the twentieth century. Twelve test units (TUs 2 through 13) were excavated various features of SIHP # -31124 (see Section 4.2). Artifacts and other cultural materials collected from both the surface and within 11 of the 12 test units conducted at the site support the interpretation that the site was used from the late pre-Contact to historic eras (see Section 5). Charcoal samples procured from TU-12 at SIHP # -31124 yielded radiocarbon dates ranging from the latter 1600s through the 1930s (see Section 5.3.2).

The notable undulation identified as CSH 3 by Bautista et al. (2019) in the western portion of the project area was subjected to further investigation. This undulation is interpreted as a historic causeway crossing a natural depression, used as a driveway or cart road to access agricultural fields, structures, and/or work areas in or around the project area. It has been designated as SIHP # 50-10-28-31125 (see Table 2, Figure 17, and Section 6.2).

A level, heavily vegetated area is present near the mid-point of the southern project area boundary. The downslope side of this level area is defined by a rock retaining wall. A test unit (TU-1) was excavated across this wall and into the adjacent terrace; this excavation yielded volcanic glass, cow bone, and a variety of historic artifacts (see Section 5). The terrace has been designated as SIHP # 50-10-28-31126 (see Table 2, Figure 17, and Section 6.3).

Table 2. Historic properties newly identified within the project area

| <b>SIHP #<br/>(50-10-28)</b> | <b>CSH Site #</b> | <b>Formal Type</b> | <b>Number of<br/>Features</b> | <b>Function</b>            | <b>Age</b>                      |
|------------------------------|-------------------|--------------------|-------------------------------|----------------------------|---------------------------------|
| -31124                       | CSH 1             | Complex            | 13                            | Agriculture,<br>habitation | Pre-Contact<br>through historic |
| -31125                       | CSH 3             | Causeway           | 1                             | Transportation             | Historic                        |
| -31126                       | CSH 4             | Terrace            | 1                             | Agriculture                | Pre-Contact<br>through historic |

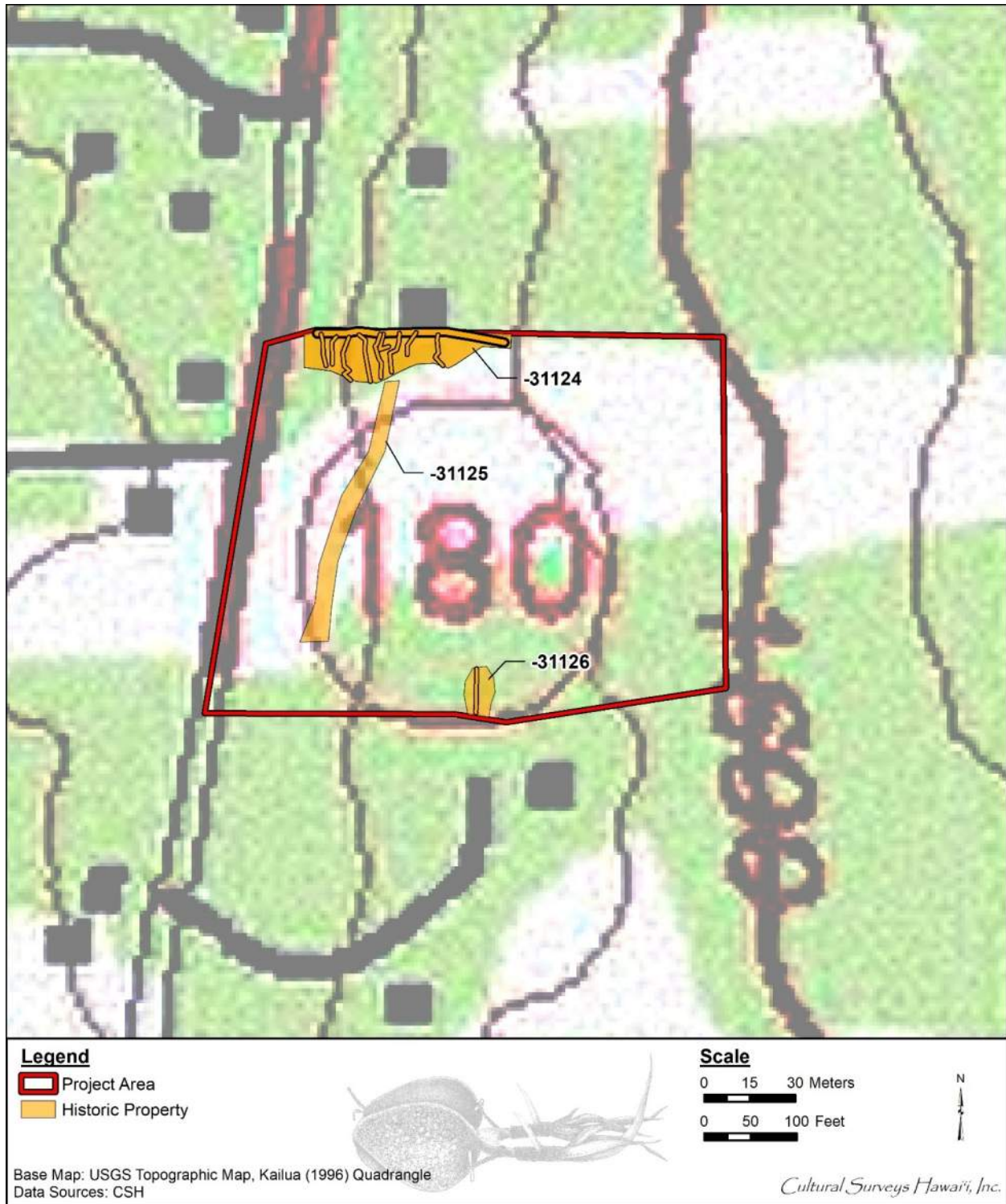


Figure 16. Portion of the 1996 Kailua USGS 7.5-minute topographic quadrangle showing historic properties documented within the project area



Figure 17. Aerial photo of the project area (Google Earth 2018) showing the approximate locations of newly documented historic properties



Figure 18. Photo overlooking the northern portion of the project area, with the densely vegetated portion visible in background; view to west



Figure 19. Photo showing rows of coffee trees in the project area; view to southwest



Figure 20. Photo showing the asphalt driveway contemporaneous with the modern coffee farm, bisecting the project area; view to west



Figure 21. Photo looking down the modern asphalt driveway in the project area to its entry gate at Māmalahoa Highway; view to west



Figure 22. Photo looking up the modern asphalt driveway in the project area through the gate that accesses the property from Māmalahoa Highway; view to east



Figure 23. Photo showing the northern portion of the modern stone wall fronting the project area along Māmalahoa Highway; note PVC drainpipes along the base of the wall; view to north



Figure 24. Photo showing the southern portion of the modern stone wall fronting the project area along Māmalahoa Highway; note PVC drainpipes along the base of the wall; view to southeast



Figure 25. Photo looking *makai* along the low, modern stone wall extension bounding the property to the south; view to west





Figure 26. Photo looking *mauka* along the low, modern stone wall extension bounding the property to the south; view to east



Figure 27. Photo showing the coffee trees near the northwestern boundary of the project area, with the bulldozer swath and dense vegetation containing SIHP # -31124 visible to the right; view to west

## 4.2 Subsurface Testing Results

Subsurface testing was conducted at two of the three historic properties in the project area (SIHP #s 50-10-28-31124 and -31126). These excavations were conducted in an effort to procure additional information about feature age and function. The subsurface testing program involved manual excavation of 13 test units (TU). Twelve of these units (TU-2 through TU-13) were excavated at seven selected features of SIHP # -31124; these units measured 50 cm sq or 0.25 sq m. The remaining test unit (TU-1) was excavated at SIHP # -31126 and measured 2 m by 1 m or 2.0 sq m. All 13 units terminated at bedrock. The locations of the test units are depicted on Figure 28. Descriptions of observed stratigraphy, profile drawings, and photographs for each individual unit follow.

The subsurface testing program consistently revealed one to two distinct layers of natural brown to dark grayish brown silty clay loam, located beneath a surface layer of organic leaf litter and atop a consolidated basalt bedrock substrate. Sediments ranged in depth from 32–75 cm below surface (cmbs). The exposed natural silty clay loam layers comprise type A and transitional AB soil horizons. The observed sediments are consistent with the Honuauulu series soils expected within the project area (see Section 1.3.1), and with past and present agricultural use. No obvious fill layers were encountered.

Numerous pre-Contact through historic cultural materials were encountered during excavations, including faunal bone, lithic artifacts, charcoal, glass bottles, porcelain, ceramic, earthenware, horseshoes, metal nails, a glass button, and other post-Contact materials. No human remains were encountered during the test unit excavations. Where historic materials were encountered, they were generally located on the surface and/or within the upper 10–20 cm of the test unit. Charcoal and lithic materials were found both mixed in with these historic material concentrations, and in the sediments below them.

### 4.2.1 Test Unit 1 (TU-1)

Test Unit 1 (TU-1) was located at SIHP # -31126 in the southern-central portion of the project area (see Figure 28). The unit bisected the central portion of the terrace wall at a right angle. Figure 29 shows the 2.0-sq-m TU-1 marked out with pink string prior to excavation (left frame) and post-excavation (right frame). TU-1 was excavated to a depth of up to 75 cm below surface (cmbs) through one layer of natural Honuauulu series sediment (Stratum I), and terminated at basalt bedrock (see Figure 29 through Figure 31 and Table 3). Excavation at TU-1 indicated the base of the terrace wall does not extend below the current ground surface. Numerous artifacts were collected from TU-1 and cataloged, including a small horseshoe (possibly for a donkey), marble, bottle stopper, and fragmental glass, porcelain, metal, stoneware, and volcanic glass (see Section 5). Except for a single ceramic fragment collected from the unit surface along the terrace wall, these artifacts were recovered from the screen and concentrated in the *makai* portion of the unit west of the terrace wall. The materials were evenly distributed throughout Stratum I in this portion of the unit, indicating a likely secondary deposition. These materials may have washed down from above in storm run-off and collected below the terrace wall, and/or may have been pushed into the area downslope of the terrace wall during bulldozing of the coffee field.

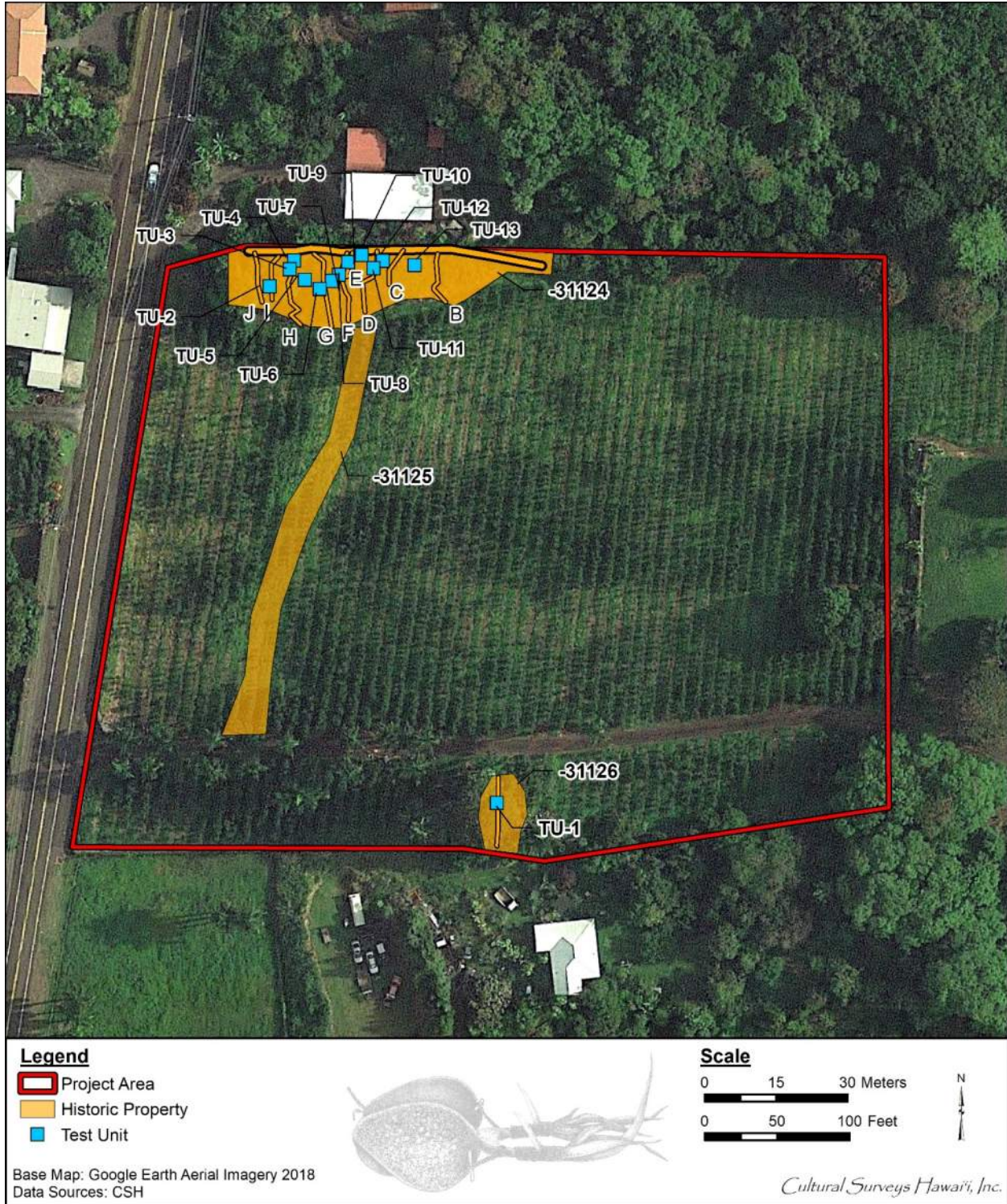


Figure 28. Aerial photograph showing the locations of the 13 test units (TUs) within the project area (TU-1 through TU-13) (Google Earth 2018)



Figure 29. Photo of TU-1 prior to excavation (left) and post-excavation (right); view to east



Figure 30. Photo of TU-1 north sidewall; view to north

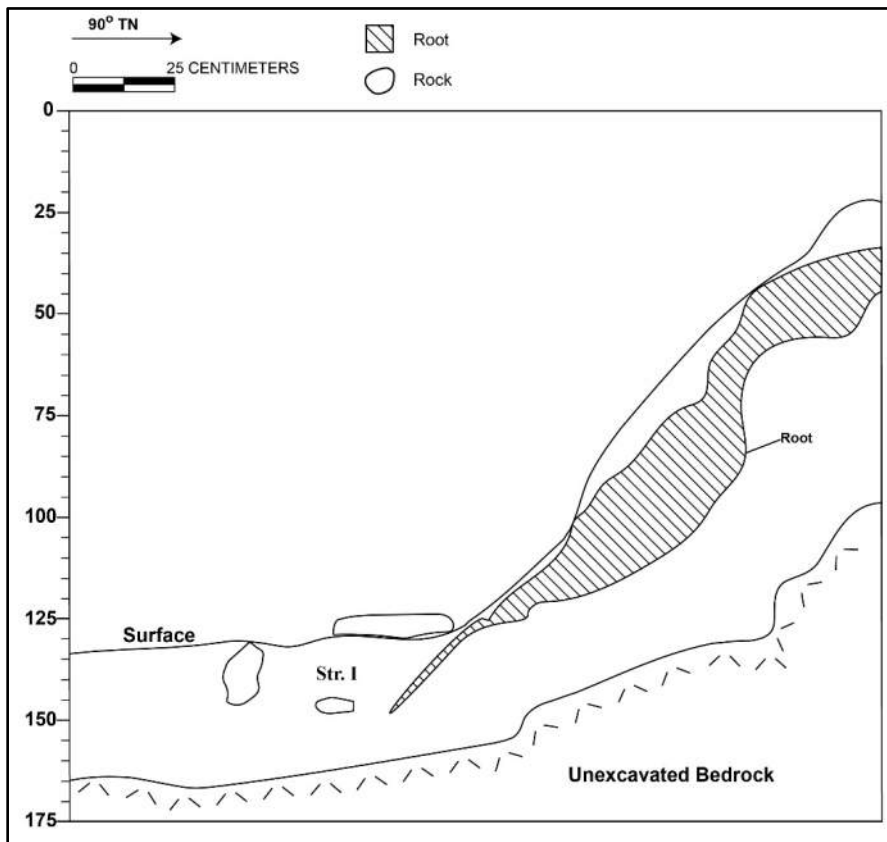


Figure 31. Profile of TU-1 north sidewall

Table 3. TU-1 stratigraphic description

| Stratum | Depth (cmbd*) | Description  |
|---------|---------------|--|
| I       | 11–165        | A horizon; 10YR 2/2, very dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, wavy lower boundary, terminated at bedrock; roots common; cultural materials present, including a horseshoe, marble, bottle stopper, and fragmental glass, porcelain, metal, stoneware, and volcanic glass; natural Honuauulu series sediment |

\*cmbd = centimeters below datum

#### 4.2.2 Test Unit 2 (TU-2)

Test Unit 2 (TU-2) was located at SIHP # -31124 within the central-upper portion of the Feature J terrace (see Figure 28). Figure 32 shows the 0.25-sq-m TU-2 marked out with pink string prior to excavation. TU-2 was excavated to a depth of up to 37 cmbs through one layer of natural Honuauulu series sediment (Stratum I), and terminated at basalt bedrock (Figure 33, Figure 34, and Table 4). Faunal remains (cow bone) and artifacts including fragmental glass and metal were recovered from the screen during excavation at TU-2, from sediments excavated from within the first 10–20 cmbs. These materials were collected and cataloged (see Section 5).

#### 4.2.3 Test Unit 3 (TU-3)

Test Unit 3 (TU-3) was located at SIHP # -31124 within the central-*mauka* portion of the Feature I terrace (see Figure 28). Figure 35 shows the 0.25-sq-m TU-3 marked out with pink string prior to excavation. TU-3 was excavated to a depth of up to 37 cmbs through two layers of natural Honuauulu series sediment (Strata Ia and Ib), and terminated at basalt bedrock (Figure 36, Figure 37, and Table 5). Artifacts including fragmental glass and metal were encountered during excavation at TU-3. Apart from one glass fragment collected from the unit surface, these artifacts were recovered from the screen from sediments excavated from within the first 10–15 cmbs in Stratum Ia. These materials were collected from TU-3 and cataloged (see Section 5.1).

#### 4.2.4 Test Unit 4 (TU-4)

Test Unit 4 (TU-4) was located approximately 1.5 m north of TU-3 at SIHP # -31124 Feature I, abutting the western side of the Feature L foundation (see Figure 28). The unit was placed against the Feature L foundation in an attempt to expose the subsurface pre-construction profile. Figure 38 shows the 0.25-sq-m TU-4 marked out with pink string prior to excavation. TU-4 was excavated to a depth of up to 32 cmbs through one layer of natural Honuauulu series sediment (Stratum I), and terminated at basalt bedrock (Figure 38, Figure 39, Figure 40, and Table 6). Modern trash (rubber pieces), faunal remains (bird bone, cut cow bone), and concrete fragments were encountered during excavation at TU-4. These materials were recovered from the screen; the modern and historic materials were encountered in sediments excavated from within the first 10–15 cmbs. The faunal remains were collected and cataloged (see Section 5). Excavation at TU-4 indicated the Feature L foundation does not extend below the current ground surface.



Figure 32. Photo of TU-2 marked out with pink string prior to excavation; view to north



Figure 33. Photo of TU-2 west sidewall and base of excavation; view to west

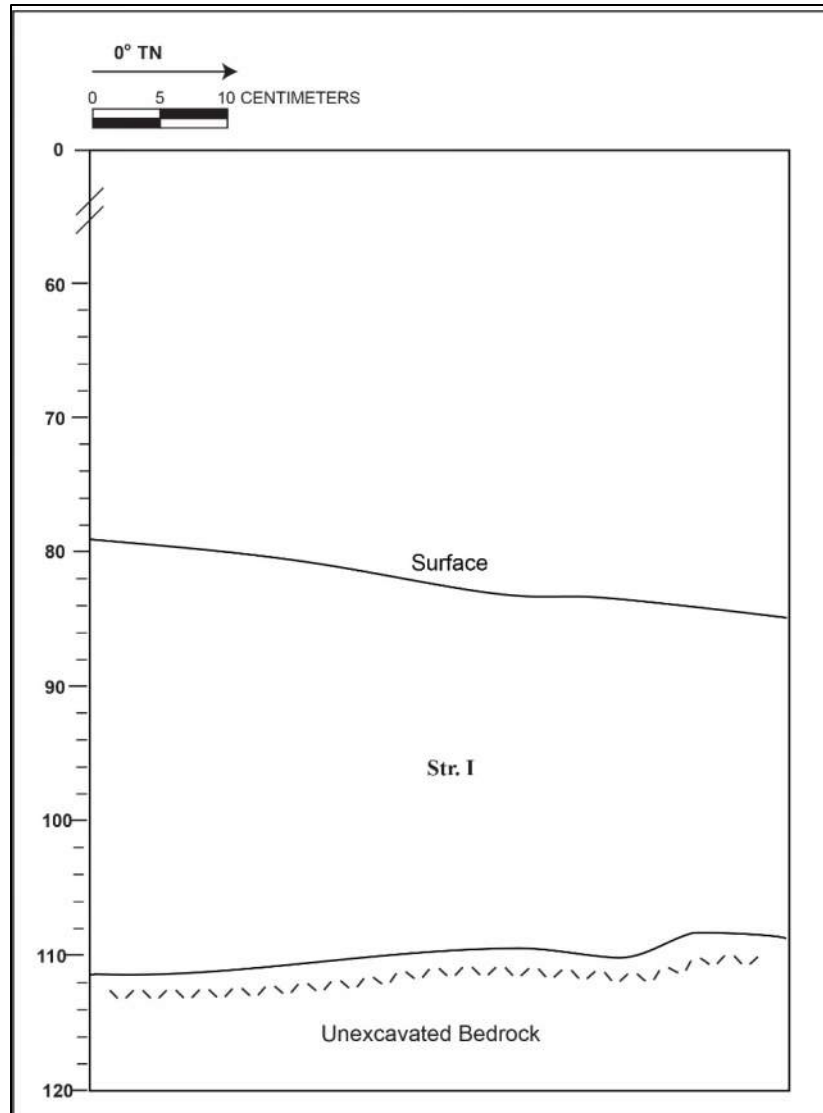


Figure 34. Profile of TU-2 west sidewall

Table 4. TU-2 stratigraphic description

| Stratum | Depth (cmbd) | Description  |
|---------|--------------|--|
| I       | 78–115       | A horizon; 10YR 3/3, dark brown; silty clay loam; weak, medium and fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origins; very abrupt, smooth lower boundary, terminated at bedrock; roots common; cultural material present, including cow bone and fragmental glass and metal; natural Honuaulu series sediment |





Figure 35. Photo of TU-3 marked out with pink string prior to excavation; view to southeast



Figure 36. Photo of TU-3 southeast sidewall and base of excavation; view to southeast

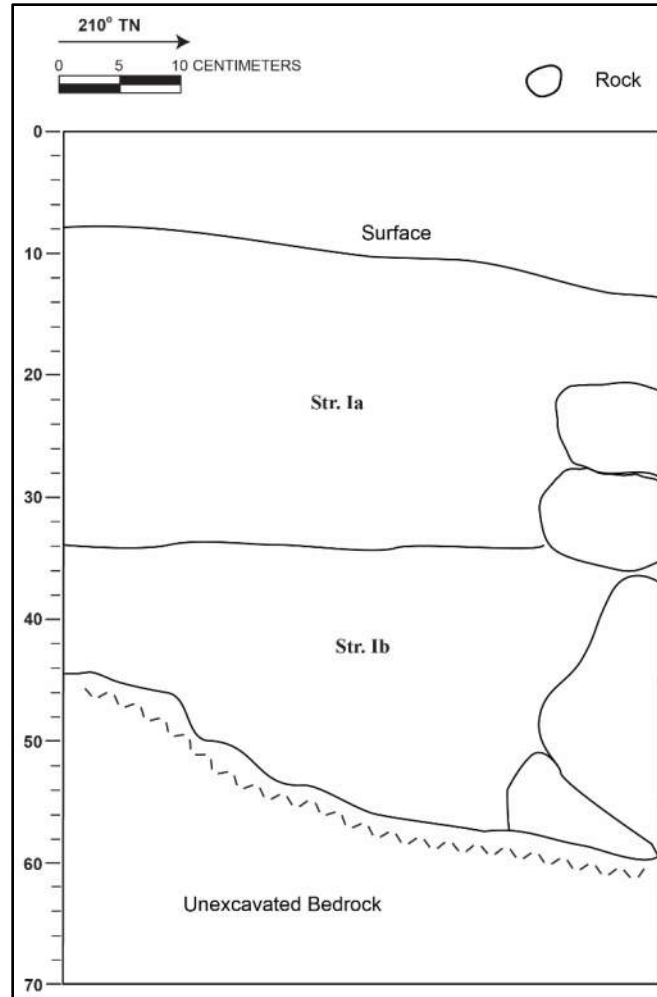


Figure 37. Profile of TU-3 east sidewall

Table 5. TU-3 stratigraphic description

| Stratum | Depth (cmbd) | Description   |
|---------|--------------|---|
| Ia      | 8–34         | A horizon; 10YR 3/2, very dark grayish brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; clear, smooth lower boundary; roots common; cultural material present, including fragmental glass and metal; natural Honuaulu series sediment |
| Ib      | 31–61        | AB horizon; 10YR 4/3, brown; sandy silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, smooth lower boundary, terminated at bedrock; few roots; no cultural material present; natural Honuaulu series sediment                     |



Figure 38. Photo of TU-4 marked out with pink string prior to excavation; view to northwest



Figure 39. Photo of TU-4 east sidewall profile and base of excavation; view to east

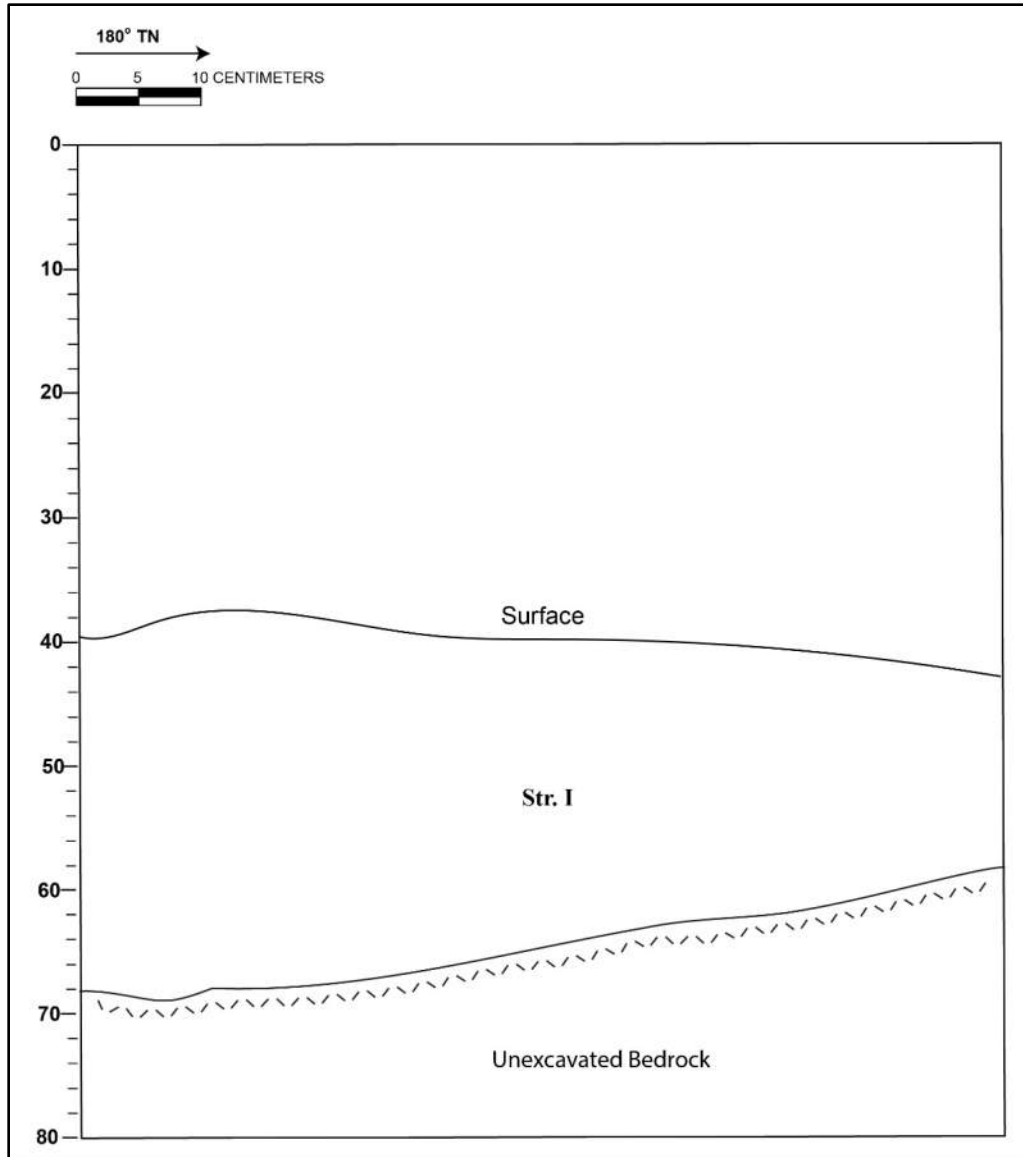


Figure 40. Profile of TU-4 east sidewall

Table 6. TU-4 stratigraphic description

| Stratum | Depth (cmbd) | Description   |
|---------|--------------|---|
| I       | 38–70        | A/B horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, smooth lower boundary, terminated at bedrock; roots common; cultural material present, including cow and avian bone, modern rubber pieces, and concrete fragments; natural Honuaulu series sediment |

#### 4.2.5 Test Unit 5 (TU-5)

Test Unit 5 (TU-5) was located at SIHP # -31124 within the central portion of the Feature H terrace (see Figure 28). Figure 41 shows the 0.25-sq-m TU-5 marked out with pink string prior to excavation. TU-5 was excavated to a depth of up to 58 cmbs through two layers of natural Honuaulu series sediment (Strata Ia and Ib), and terminated at basalt bedrock (Figure 42, Figure 43, and Table 7). No cultural materials were encountered.

#### 4.2.6 Test Unit 6 (TU-6)

Test Unit 6 (TU-6) was located approximately 4 m south of TU-5 at SIHP # -31124 Feature H (see Figure 28). Figure 44 shows the 0.25-sq-m TU-6 marked out with pink string prior to excavation. TU-6 was excavated to a depth of up to 36 cmbs through two layers of natural Honuaulu series sediment (Strata Ia and Ib), and terminated at basalt bedrock (Figure 45, Figure 46, and Table 8). Artifacts including fragmental glass and ceramics were recovered from the screen during excavation at TU-6, from sediments excavated from within upper Stratum Ia. These materials were collected and cataloged (see Section 5).

#### 4.2.7 Test Unit 7 (TU-7)

Test Unit 7 (TU-7) was located at SIHP # -31124 within the central portion of the Feature G terrace (see Figure 28). Figure 47 shows the 0.25-sq-m TU-7 marked out with pink string prior to excavation. TU-7 was excavated to a depth of up to 37 cmbs through one layer of natural Honuaulu series sediment (Stratum I), and terminated at basalt bedrock (Figure 48, Figure 49, and Table 9). Two glass fragments and one stoneware lip fragment were present on the unit surface. Fragmental glass, ceramic, porcelain, and earthenware and a glass button were recovered from the screen during excavation of TU-7. While some of the ceramic shards were observed in situ just above bedrock, most of the artifacts were recovered from sediments excavated from within the first 10–15 cmbs. All of these artifacts were collected and cataloged (see Section 5).

#### 4.2.8 Test Unit 8 (TU-8)

Test Unit 8 (TU-8) was located approximately 1.5 m east of TU-7 at SIHP # -31124 Feature G (see Figure 28). The unit was placed against the Feature F terrace wall in an attempt to expose the subsurface pre-construction profile. Figure 50 shows the 0.25-sq-m TU-8 marked out with pink string prior to excavation. TU-8 was excavated to a depth of up to 33 cmbs through one layer of natural Honuaulu series sediment (Stratum I), and terminated at basalt bedrock (Figure 51, Figure 52, and Table 10). Artifacts including fragmental glass and porcelain were recovered from the screen during excavation at TU-8, from sediments from within the first 10–15 cmbs. These materials were collected and cataloged (see Section 5). Excavation at TU-8 indicated the base of the Feature F terrace wall extends at least partially below the current ground surface, but that the terrace was not constructed directly atop bedrock.



Figure 41. Photo of TU-5 marked out with pink string prior to excavation; view to north



Figure 42. Photograph of TU-5 south sidewall and base of excavation; view to south

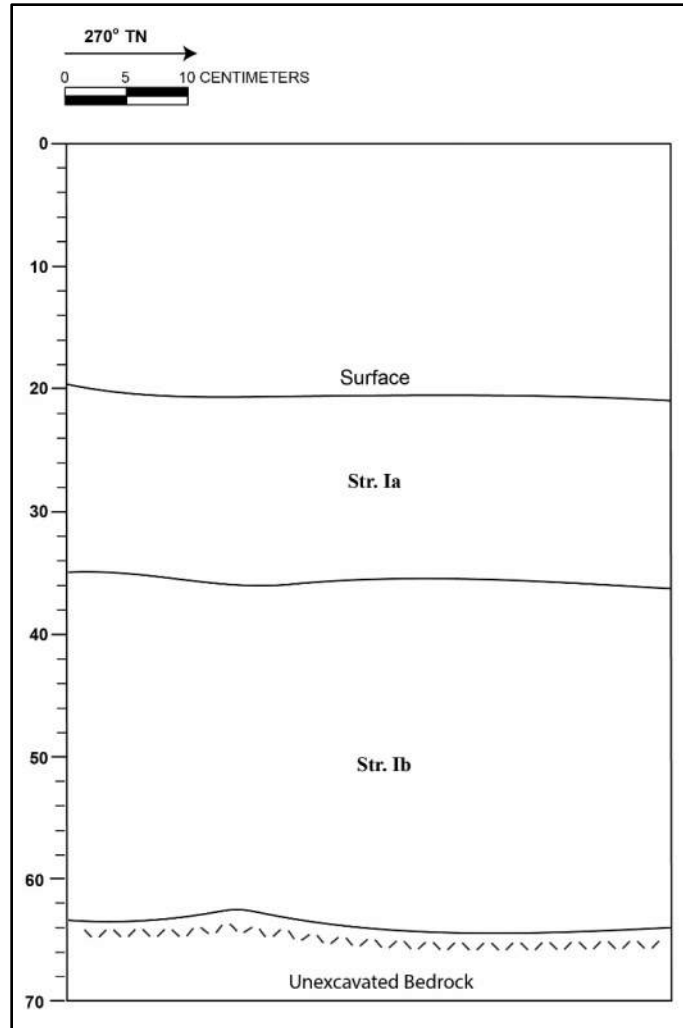


Figure 43. Profile of TU-5 south sidewall

Table 7. TU-5 stratigraphic description

| Stratum | Depth (cmbd) | Description  |
|---------|--------------|--|
| Ia      | 19–35        | A horizon; 10YR 3/2, very dark grayish brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; clear, smooth lower boundary; roots common; no cultural material present; natural Honuaulu series sediment             |
| Ib      | 35–74        | AB horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, wavy lower boundary, terminated at bedrock; few roots; no cultural material present; natural Honuaulu series sediment |



Figure 44. Photo of TU-6 marked out with pink string prior to excavation; view to north



Figure 45. Photo of TU-6 south sidewall and base of excavation; view to south



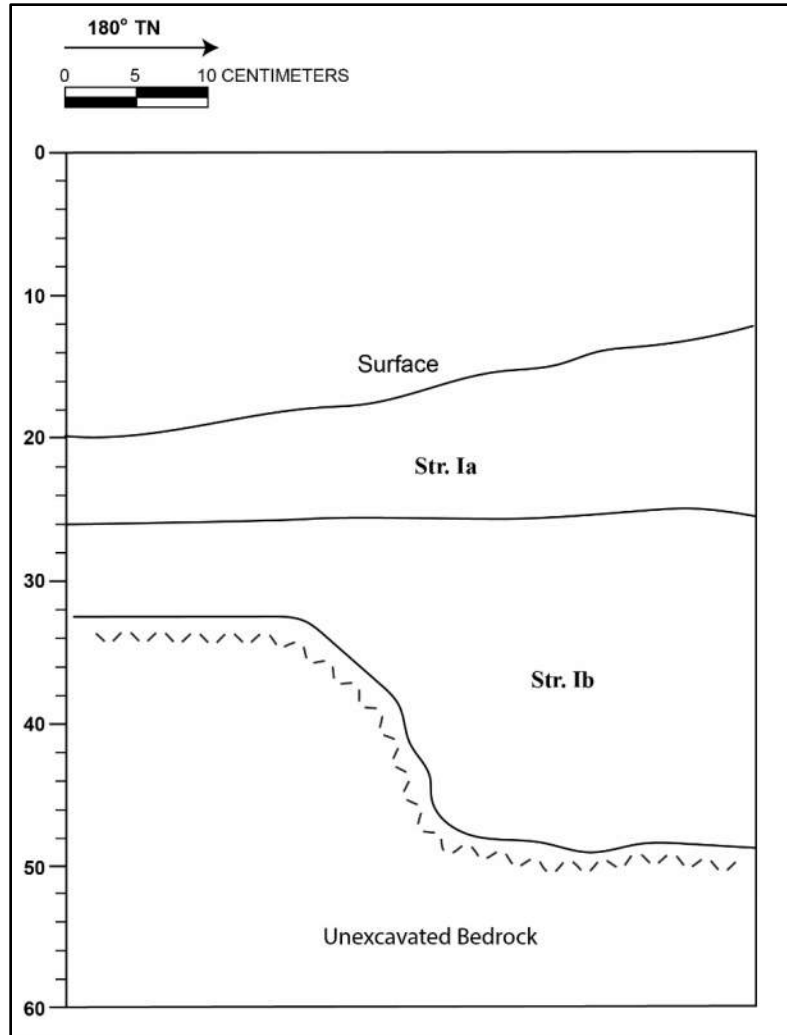


Figure 46. Profile of TU-6 east sidewall

Table 8. TU-6 stratigraphic description

| Stratum | Depth (cmbd) | Description  |
|---------|--------------|--|
| Ia      | 12–28        | A horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; diffuse, smooth lower boundary; roots common; cultural material present including glass and ceramic fragments; natural Honuaulu series sediment |
| Ib      | 26–48        | AB horizon; 10YR 4/3, brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, wavy lower boundary, terminated at bedrock; few roots; no cultural materials present; natural Honuaulu series sediment                 |



Figure 47. Photo of TU-7 marked out with pink string prior to excavation; view to north



Figure 48. Photo of TU-7 east sidewall and base of excavation; view to east

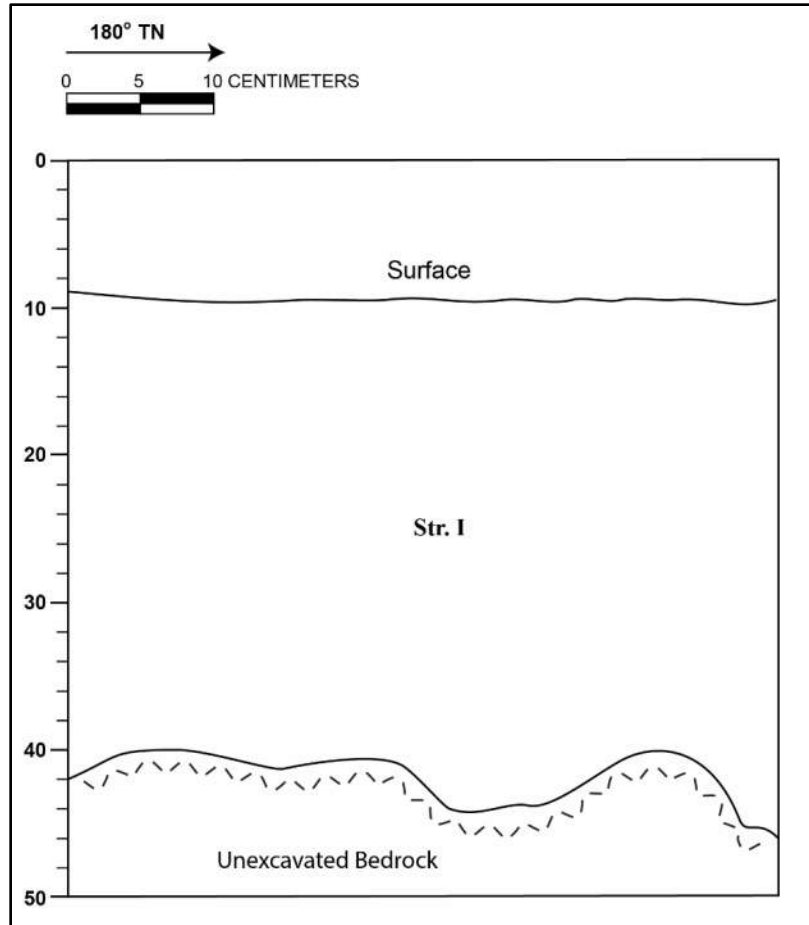


Figure 49. Profile of TU-7 east sidewall

Table 9. TU-7 stratigraphic description

| Stratum | Depth (cmbd) | Description   |
|---------|--------------|---|
| I       | 9–46         | A horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, wavy lower boundary, terminated at bedrock; roots common; cultural material present, including glass, ceramic, porcelain, and earthenware fragments and a glass button; natural Honuauulu series sediment |



Figure 50. Photo of TU-8 marked out with pink string prior to excavation; view to northeast



Figure 51. Photograph of TU-8 northeast sidewall and base of excavation; view to northeast

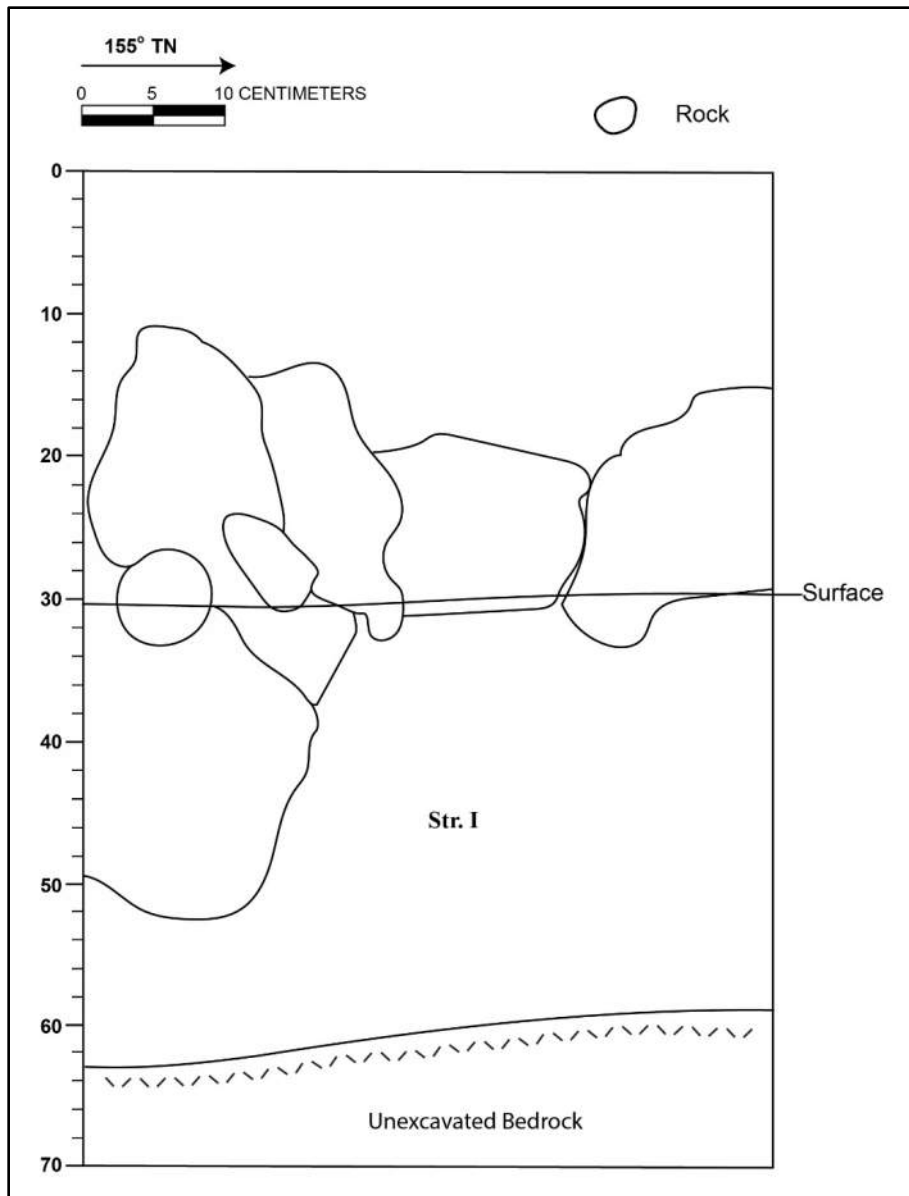


Figure 52. Profile of TU-8 northeast sidewall

Table 10. TU-8 stratigraphic description

| Stratum | Depth (cmbd) | Description  |
|---------|--------------|--|
| I       | 30–63        | A horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, smooth lower boundary, terminated at bedrock; roots common; cultural material present, including glass and porcelain fragments; natural Honuaulu series sediment |

#### 4.2.9 Test Unit 9 (TU-9)

Test Unit 9 (TU-9) was located at SIHP # -31124 within the central-northern portion of the Feature E terrace (see Figure 28). Figure 53 shows the 0.25-sq-m TU-9 marked out with pink string prior to excavation. TU-9 was excavated to a depth of up to 57 cmbs through two layers of natural Honuaulu series sediment (Strata Ia and Ib), and terminated at basalt bedrock (Figure 54, Figure 55, and Table 11). Cultural materials including cow bone, charcoal, and fragmental glass, metal, and volcanic glass were recovered from the screen during excavation at TU-9. These materials were collected and cataloged (see Section 5). All the historic artifacts, cow bone, and one bulk sample of charcoal was collected from the upper 50 cm of the unit, while another charcoal sample was collected from near the base of the unit in association with the volcanic glass flakes.

#### 4.2.10 Test Unit 10 (TU-10)

Test Unit 10 (TU-10) was located approximately 3 m southwest of TU-9 at SIHP # -31124 Feature E. Figure 56 shows the 0.25-sq-m TU-10 marked out with pink string prior to excavation. TU-10 was excavated to a depth of up to 51 cmbs through one layer of natural Honuaulu series sediment (Stratum I), and terminated at basalt bedrock (Figure 57, Figure 58, and Table 12). Cultural materials including charcoal, one basalt flake, and fragmental glass, porcelain, metal (nail), and volcanic glass were recovered from the screen during excavation at TU-10; the historic materials were concentrated in sediments excavated from within the first 10–20 cmbs. These materials were collected and cataloged (see Section 5).

#### 4.2.11 Test Unit 11 (TU-11)

Test Unit 11 (TU-11) was located at SIHP # -31124 within the Feature E terrace along the *makai* edge of the Feature D terrace wall (see Figure 28). Figure 59 shows the 0.25-sq-m TU-11 marked out with pink string prior to excavation. TU-11 was excavated to a depth of up to 52 cmbs through one layer of natural Honuaulu series sediment (Stratum I), and terminated at basalt bedrock (Figure 60, Figure 61, and Table 13). Cultural materials including charcoal, a metal nail, and fragmental glass, ceramic, and volcanic glass were recovered from the screen during excavation at TU-11; the historic materials were concentrated in sediments excavated from within the first 10–20 cmbs. These materials were collected and cataloged (see Section 5). Excavation at TU-11 indicated the base of the Feature D terrace wall does not extend below the current ground surface.

#### 4.2.12 Test Unit 12 (TU-12)

Test Unit 12 (TU-12) was located at SIHP # -31124 within the central-northern portion of the Feature D terrace. Figure 62 shows the 0.25-sq-m TU-12 marked out with pink string prior to excavation. TU-12 was excavated to a depth of up to 47 cmbs through one layer of natural Honuaulu series sediment (Stratum I), and terminated at basalt bedrock (Figure 63, Figure 64, and Table 14). Cultural materials including charcoal, a basalt adze fragment, and fragmental glass and porcelain were recovered from the screen during excavation at TU-12; the historic materials were concentrated in sediments excavated from within the first 10–15 cmbs. These materials were collected and cataloged (see Section 5).



Figure 53. Photo of TU-9 marked out with pink string prior to excavation; view to north



Figure 54. Photo of TU-9 south sidewall and base of excavation; view to south

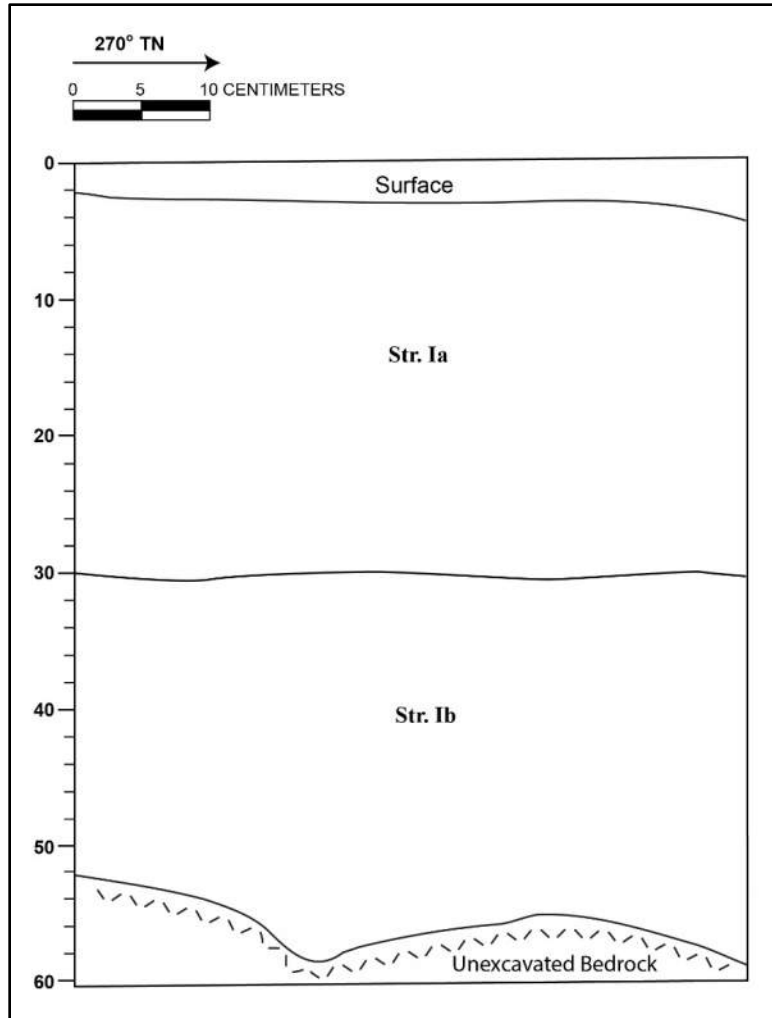


Figure 55. Profile of TU-9 south sidewall

Table 11. TU-9 stratigraphic description

| Stratum | Depth (cmbd) | Description  |
|---------|--------------|--|
| Ia      | 2–30         | A horizon; 10YR 3/2, very dark grayish brown; silty loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; diffuse, smooth lower boundary; roots common; cultural material present, including cow bone, charcoal, and fragmental glass, and metal; natural Honuauulu series sediment   |
| Ib      | 30–59        | AB horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, wavy lower boundary, terminated at bedrock; few roots; cultural material present, including charcoal and fragmental volcanic glass; natural Honuauulu series sediment |





Figure 56. Photo of TU-10 marked out with pink string prior to excavation; view to north



Figure 57. Photo of TU-10 north sidewall and base of excavation; view to north

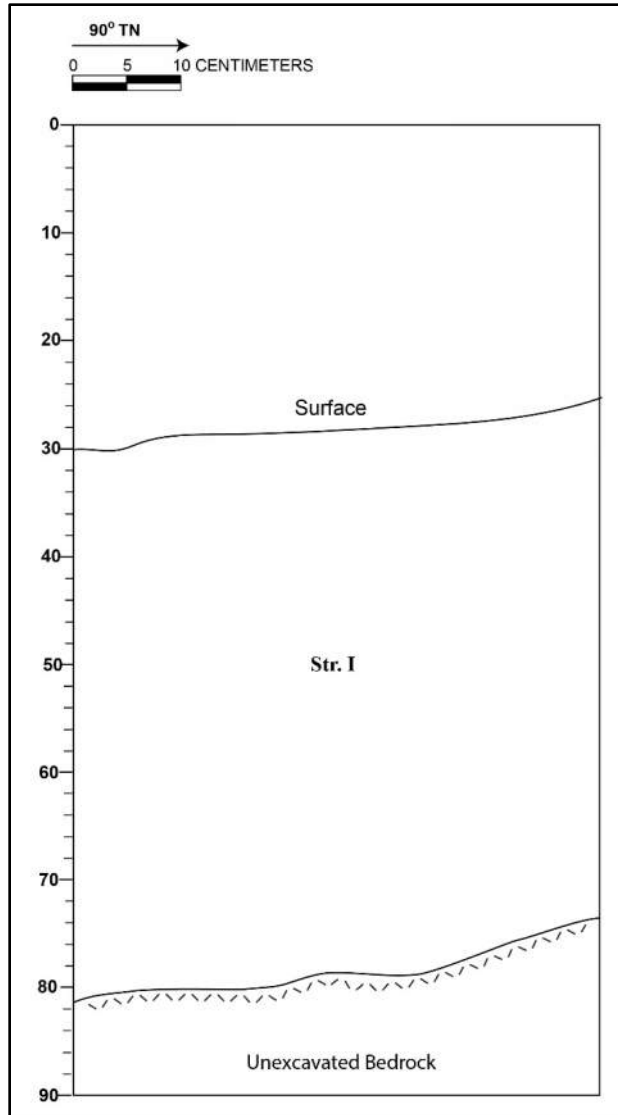


Figure 58. Profile of TU-10 north sidewall

Table 12. TU-10 stratigraphic description

| Stratum | Depth (cmbd) | Description   |
|---------|--------------|---|
| I       | 26–83        | A horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, smooth lower boundary, terminated at bedrock; few roots; cultural material present, including charcoal, one basalt flake, and fragmental glass, porcelain, metal, and volcanic glass; natural Honuauulu series sediment |



Figure 59. Photo of TU-11 marked out with pink string prior to excavation; view to east



Figure 60. Photo of TU-11 east sidewall and base of excavation; view to east

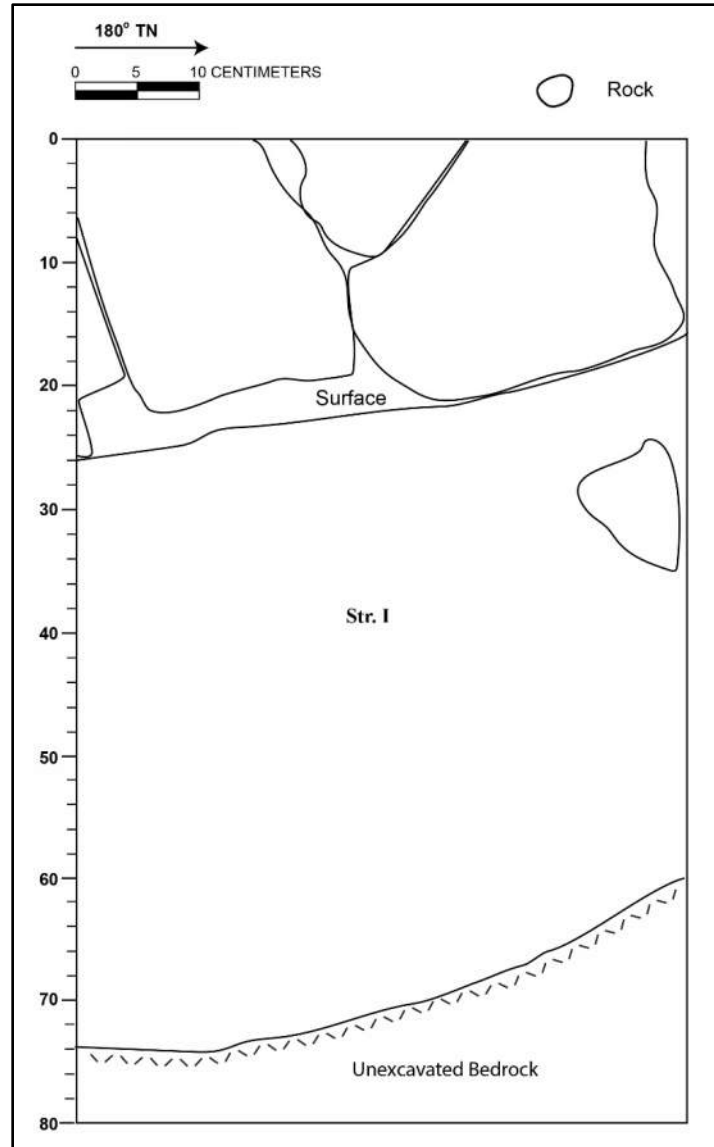


Figure 61. Profile of TU-11 east sidewall

Table 13. TU-11 stratigraphic description

| Stratum | Depth (cmbd) | Description  |
|---------|--------------|--|
| I       | 15-81        | A horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, smooth lower boundary, terminated at bedrock; roots common; cultural material present, including charcoal, a metal nail, and fragmental glass, ceramic, and volcanic glass; natural Honuaulu series sediment |



Figure 62. Photo of TU-12 marked out with pink string prior to excavation; view to north



Figure 63. Photo of TU-12 east sidewall and base of excavation; view to east

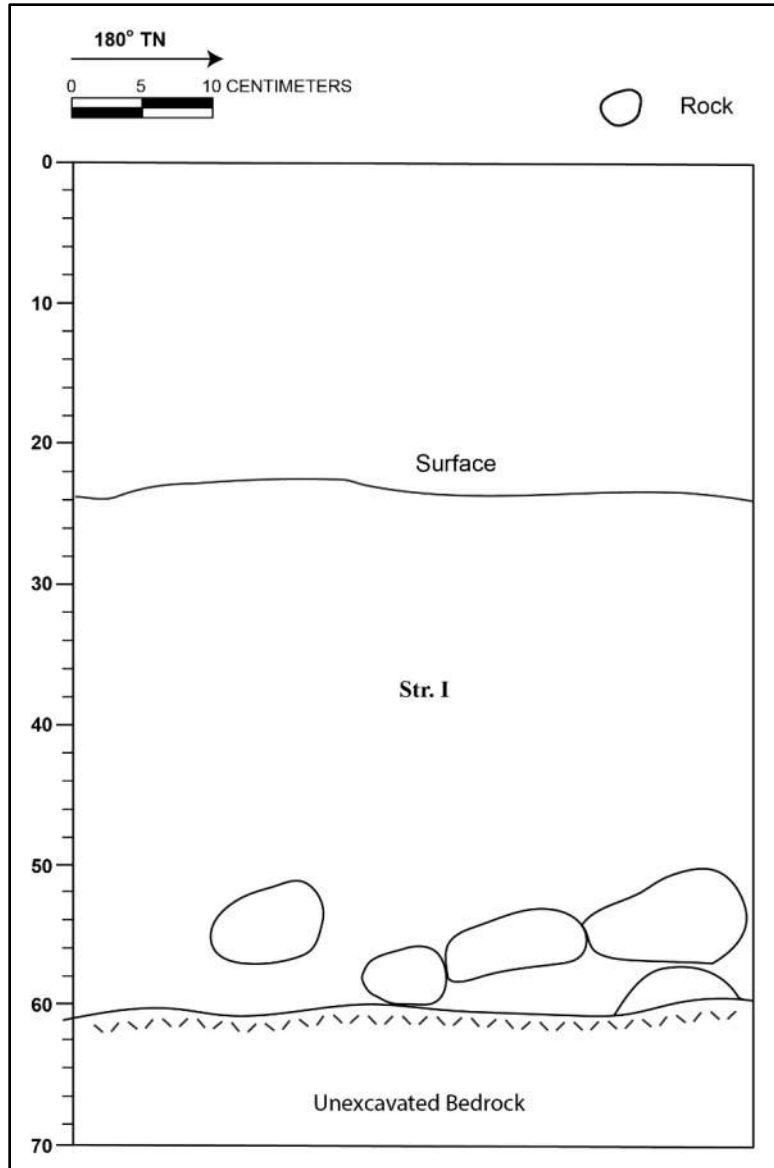


Figure 64. Profile of TU-12 east sidewall

Table 14. TU-12 stratigraphic description

| Stratum | Depth (cmbd) | Description  |
|---------|--------------|--|
| I       | 24–61        | A horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; clear, smooth lower boundary, terminated at bedrock; roots common; cultural material present including charcoal, a basalt adze fragment, and fragmental glass and porcelain; natural Honuaulu series sediment |

#### 4.2.13 Test Unit 13 (TU-13)

Test Unit 13 (TU-13) was located at SIHP # -31124 within the central-northern portion of the Feature C terrace (see Figure 28). Figure 65 shows 0.25-sq-m TU-13 marked out with pink sting prior to excavation. TU-13 was excavated to a depth of up to 50 cmbs through one layer of natural Honuaulu series sediment (Stratum I), and terminated at basalt bedrock (Figure 66, Figure 67, and Table 15). Artifacts including fragmental earthenware and volcanic glass were recovered from the screen during excavation at TU-13, from sediments excavated from within the first 10–15 cmbs. These materials were collected and cataloged (see Section 5).



Figure 65. Photo of TU-13 marked out with pink string prior to excavation; view to north



Figure 66. Photo of TU-13 east sidewall and base of excavation; view to east



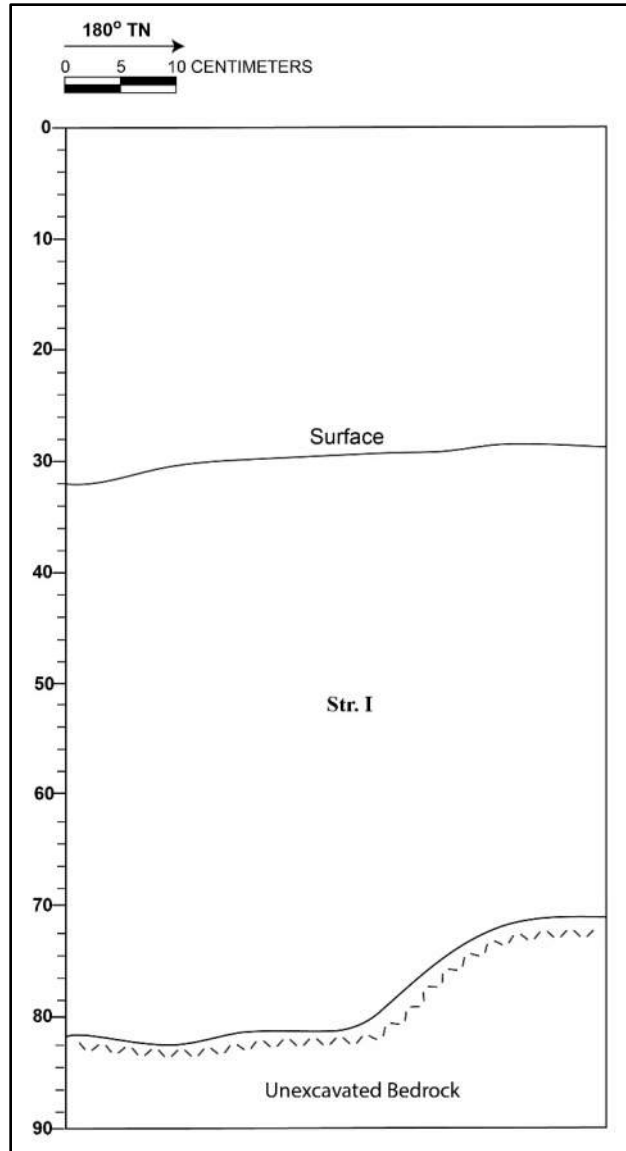


Figure 67. Profile of TU-13 east sidewall

Table 15. TU-13 stratigraphic description

| Stratum | Depth (cmbd) | Description  |
|---------|--------------|--|
| I       | 29–84        | A horizon; 10YR 3/3, dark brown; silty clay loam; weak, fine, granular structure; dry, loose, weak cementation consistence; slightly plastic; terrigenous sediment origin; very abrupt, smooth lower boundary, terminated at bedrock; roots common; cultural material present, including fragmental earthenware and volcanic glass; natural Honuaulu series sediment |

## Section 5 Results of Laboratory Analysis

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Collection of artifacts and cultural materials for laboratory analysis was undertaken as part of the archaeological inventory survey investigation. All materials collected from the project area for laboratory analysis were recovered from the ground surface within SIHP # 50-10-28-31124 or from the screen (1/8-inch mesh) during test unit excavations at SIHP #s 50-10-28-31124 and -31126. The artifacts and cultural materials encountered during screening were noted on historic property description and/or excavation forms and assessed in the field for datable and/or representative characteristics. The materials selected for laboratory analysis were washed and sorted in the laboratory as applicable.

This section describes the findings of the laboratory analysis. Section 5.1 addresses the artifacts collected for analysis. Some faunal bone was collected from the project area; these findings are discussed in Section 5.2. Finally, Section 5.3 provides wood taxa and radiocarbon analysis results for select charcoal samples collected during test excavations.

### 5.1 Artifact Analysis

Sixty-five artifacts were collected from the context of 12 of the 13 test units within the project area (the remaining unit, TU-5, was culturally sterile). These artifacts are presented in Table 20. In several cases, numerous fragments of similar materials have been collectively cataloged as a single artifact. Highly fragmented items were weighed but typically not measured; these materials included glass of various colors, ceramics, metal scraps, and small pieces of volcanic glass. Artifacts encountered during the testing program and collected for analysis included a basalt adze fragment, basalt flake, glass button, glass marble, rubber bottle stopper, metal nails, two horseshoes, and nine intact or partially intact glass bottles. Traditional-type artifacts are described in more detail in Section 5.1.1; this section includes the results of EDXRF analysis on select lithic materials. Representative historic artifacts are described in Section 5.1.2.

Eleven (17%) of the 65 collected artifacts were from TU-1 at SIHP # -31126. The remaining 54 artifacts (83%) came from SIHP # -31124, from the context of either the ground surface or within ten of the 12 test units. The number of surface-collected artifacts at SIHP # -31124 was nine, representing 17% of the items collected from that site and 14% of the overall project assemblage. It should be noted that these nine collected items are a very small representative sample of surface artifacts throughout the site. At SIHP # -31124, the test unit containing the most collected artifacts was TU-7 at Feature G (number = 9, or 17% of SIHP # -31124 assemblage). TU-11 at Feature E contained seven artifacts (13% of SIHP # -31124 assemblage); TU-10 (Feature E) and TU-12 (Feature D) each contained six artifacts (11% each); TU-6 at Feature H contained five artifacts (9%); TU-8 (Feature G) and TU-9 (Feature E) each contained three artifacts (6% each); and TU-2 (Feature J), TU-3 (Feature I), and TU-13 (Feature C) each contained two artifacts (<4% each). No artifacts were collected from TU-4 or TU-5; TU-4 did contain modern trash and faunal bone, while TU-5 was sterile.

The collected artifacts are attributed to the pre-Contact and historic periods. The artifacts commonly associated with traditional or pre-Contact usage include fragments of volcanic glass and basalt, and a piece of a polished basalt adze. The wide variety of historic materials present are associated with habitation and work-related activity. While the historic materials were typically

Table 16. Artifact catalog

| Catalog # | SIHP # (50-10-28) | Test Unit | Context (Stratum; depth)                        | Description                | # of Pieces | Material Type | Dimensions (cm unless otherwise noted) | Weight (grams) |
|-----------|-------------------|-----------|---|----------------------------|-------------|---------------|--|----------------|
| 001       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Ornate porcelain fragments | 4           | Ceramic       | Not measured                           | 62.7           |
| 002       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Clear glass fragments      | 58          | Glass         | Not measured                           | 176.8          |
| 003       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Blue glass fragment        | 1           | Glass         | Not measured                           | 0.4            |
| 004       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Brown glass fragment       | 8           | Glass         | Not measured                           | 43.8           |
| 005       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Metal fragment             | 2           | Metal         | Not measured                           | 0.3            |
| 006       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Porcelain fragments        | 3           | Ceramic       | Not measured                           | 27.9           |
| 007       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Stoneware fragment         | 1           | Ceramic       | Not measured                           | 11.1           |
| 008       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Horseshoe                  | 1           | Metal         | 12.50 long x 10.45 wide x 1.0 thick    | 209.8          |
| 009       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Marble                     | 1           | Glass         | 1.7 long x 1.4 wide (one side chipped) | 6.4            |
| 010       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Volcanic glass flake       | 1           | Lithic        | 1.4 long x 1.2 wide x 0.5 thick        | 1.3            |
| 011       | -31126            | TU-1      | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | Bottle stopper             | 1           | Rubber        | 3.4 long x 2.5 wide                    | 15.2           |
| 012       | -31124            | TU-2      | Str. I; 0–20 cmbs                               | Clear glass fragment       | 1           | Glass         | Not measured                           | 3.1            |

| Catalog # | SIHP # (50-10-28) | Test Unit | Context (Stratum; depth) | Description                 | # of Pieces | Material Type | Dimensions (cm unless otherwise noted) | Weight (grams) |
|-----------|-------------------|-----------|--------------------------|-----------------------------|-------------|---------------|--|----------------|
| 013       | -31124            | TU-2      | Str. I; 0-20 cmbs        | Metal fragment              | 1           | Metal         | Not measured                           | 5.7            |
| 015       | -31124            | TU-3      | Str. Ia; 0-15 cmbs       | Brown glass fragment        | 1           | Glass         | Not measured                           | 4.9            |
| 016       | -31124            | TU-3      | Str. Ia; 0-15 cmbs       | Metal fragment              | 2           | Metal         | Not measured                           | 3.0            |
| 019       | -31124            | TU-6      | Str. Ia; 0-16 cmbs       | Olive glass fragment        | 1           | Glass         | Not measured                           | 15.7           |
| 020       | -31124            | TU-6      | Str. Ia; 0-16 cmbs       | Brown glass fragment        | 1           | Glass         | Not measured                           | 2.1            |
| 021       | -31124            | TU-6      | Str. Ia; 0-16 cmbs       | Light blue glass fragments  | 3           | Glass         | Not measured                           | 56.4           |
| 022       | -31124            | TU-6      | Str. Ia; 0-16 cmbs       | Clear glass fragments       | 1           | Glass         | Not measured                           | 0.4            |
| 023       | -31124            | TU-6      | Str. Ia; 0-16 cmbs       | Ceramic fragment            | 1           | Ceramic       | Not measured                           | 11.2           |
| 024       | -31124            | TU-7      | Str. I; 0-15 cmbs        | Light blue glass fragments  | 13          | Glass         | Not measured                           | 47.8           |
| 025       | -31124            | TU-7      | Str. I; 0-15 cmbs        | Glass bottle fragment       | 1           | Glass         | Not measured                           | 45.6           |
| 026       | -31124            | TU-7      | Str. I; 0-15 cmbs        | Light green glass fragments | 5           | Glass         | Not measured                           | 10.3           |
| 027       | -31124            | TU-7      | Str. I; 0-15 cmbs        | Clear glass fragments       | 8           | Glass         | Not measured                           | 15.6           |
| 028       | -31124            | TU-7      | Str. I; 0-15 cmbs        | Brown glass fragments       | 6           | Glass         | Not measured                           | 19.5           |
| 029       | -31124            | TU-7      | Str. I; 0-15 cmbs        | Button with 4 holes         | 1           | Glass         | 1.15 long x 1.15 wide x 0.29 thick     | 0.4            |
| 030       | -31124            | TU-7      | Str. I; 0-15 cmbs        | Porcelain fragments         | 2           | Ceramic       | Not measured                           | 4.0            |

| Catalog # | SIHP # (50-10-28) | Test Unit | Context (Stratum; depth) | Description                | # of Pieces | Material Type | Dimensions (cm unless otherwise noted) | Weight (grams) |
|-----------|-------------------|-----------|--------------------------|----------------------------|-------------|---------------|--|----------------|
| 031       | -31124            | TU-7      | Str. I; 0-15 cmbs        | Ceramic fragments          | 2           | Ceramic       | Not measured                           | 9.4            |
| 032       | -31124            | TU-7      | Str. I; 0-15 cmbs        | Earthenware fragments      | 9           | Ceramic       | Not measured                           | 29.0           |
| 033       | -31124            | TU-8      | Str. I; 0-15 cmbs        | Green glass fragments      | 1           | Glass         | Not measured                           | 0.8            |
| 034       | -31124            | TU-8      | Str. I; 0-15 cmbs        | Light blue glass fragments | 2           | Glass         | Not measured                           | 1.7            |
| 035       | -31124            | TU-8      | Str. I; 0-15 cmbs        | Porcelain fragments        | 1           | Ceramic       | Not measured                           | 3.9            |
| 036       | -31124            | TU-9      | Str. I; 0-50 cmbs        | Olive glass fragments      | 1           | Glass         | Not measured                           | 0.9            |
| 037       | -31124            | TU-9      | Str. I; 0-50 cmbs        | Metal fragment             | 1           | Metal         | Not measured                           | 5.8            |
| 038       | -31124            | TU-9      | Str. I; 50-57 cmbs       | Volcanic glass fragments   | 3           | Lithic        | Not measured                           | 1.0            |
| 040       | -31124            | TU-10     | Str. I; 0-20 cmbs        | Porcelain fragment         | 1           | Ceramic       | Not measured                           | 0.4            |
| 041       | -31124            | TU-10     | Str. I; 0-20 cmbs        | Light blue glass fragment  | 1           | Glass         | Not measured                           | 1.0            |
| 042       | -31124            | TU-10     | Str. I; 0-20 cmbs        | Earthenware fragment       | 1           | Ceramic       | Not measured                           | 1.6            |
| 043       | -31124            | TU-10     | Str. I; 0-51 cmbs        | Basalt flake               | 1           | Lithic        | Not measured                           | 1.0            |
| 044       | -31124            | TU-10     | Str. I; 0-51 cmbs        | Volcanic glass fragments   | 6           | Lithic        | Not measured                           | 2.4            |
| 046       | -31124            | TU-10     | Str. I; 0-20 cmbs        | Nail fragments             | 2           | Metal         | Not measured                           | 7.3            |
| 047       | -31124            | TU-11     | Str. I; 0-20 cmbs        | Nail                       | 1           | Metal         | 6.0 long x 1.3 wide x 0.5 thick        | 7.4            |

| Catalog # | SIHP # (50-10-28) | Test Unit | Context (Stratum; depth) | Description                         | # of Pieces | Material Type | Dimensions (cm unless otherwise noted) | Weight (grams) |
|-----------|-------------------|-----------|--------------------------|-------------------------------------|-------------|---------------|--|----------------|
| 048       | -31124            | TU-11     | Str. I; 0-20 cmbs        | Purple glass fragment               | 1           | Glass         | Not Measured                           | 28.2           |
| 049       | -31124            | TU-11     | Str. I; 0-52 cmbs        | Volcanic glass fragment             | 1           | Lithic        | Not measured                           | 0.6            |
| 050       | -31124            | TU-11     | Str. I; 0-20 cmbs        | Ceramic fragments                   | 3           | Ceramic       | Not measured                           | 9.5            |
| 051       | -31124            | TU-11     | Str. I; 0-20 cmbs        | Clear glass fragments               | 5           | Glass         | Not measured                           | 1.8            |
| 052       | -31124            | TU-11     | Str. I; 0-20 cmbs        | Aqua glass fragment                 | 1           | Glass         | Not measured                           | 0.1            |
| 053       | -31124            | TU-11     | Str. I; 0-20 cmbs        | Aqua glass fragments                | 10          | Glass         | Not measured                           | 42.2           |
| 055       | -31124            | TU-12     | Str. I; 0-15 cmbs        | Brown glass fragments               | 3           | Glass         | Not measured                           | 1.0            |
| 056       | -31124            | TU-12     | Str. I; 0-15 cmbs        | Purple glass fragment               | 1           | Glass         | Not measured                           | 0.9            |
| 057       | -31124            | TU-12     | Str. I; 0-15 cmbs        | Olive glass fragment                | 1           | Glass         | Not measured                           | 2.0            |
| 058       | -31124            | TU-12     | Str. I; 0-15 cmbs        | Porcelain/light blue glaze fragment | 1           | Ceramic       | Not measured                           | 4.2            |
| 059       | -31124            | TU-12     | Str. I; 0-47 cmbs        | Basalt adze fragment                | 1           | Lithic        | 2.75 long x 2.0 wide x 1.6 thick       | 12.8           |
| 061       | -31124            | TU-13     | Str. I; 0-15 cmbs        | Earthen ware fragments              | 2           | Ceramic       | Not measured                           | 3.6            |
| 062       | -31124            | TU-13     | Str. I; 0-15 cmbs        | Volcanic glass fragments            | 1           | Lithic        | Not measured                           | 0.7            |
| 063       | -31124            | TU-12     | Str. I; 0-15 cmbs        | Clear glass fragments               | 3           | Glass         | Not measured                           | 3.2            |

| Catalog # | SIHP # (50-10-28) | Test Unit | Context (Stratum; depth)           | Description   | # of Pieces | Material Type | Dimensions (cm unless otherwise noted) | Weight (grams) |
|-----------|-------------------|-----------|------------------------------------|---------------|-------------|---------------|--|----------------|
| 064       | -31124            | N/A       | Surface, Feature B                 | Brown bottle  | 1           | Glass         | 28.7 long x 8.0 wide x 5.53 mm thick   | 703.1          |
| 065       | -31124            | N/A       | Surface, Feature D                 | Blue bottle   | 1           | Glass         | 7.6 long x 7.5 wide x 8.09 mm thick    | 196.1          |
| 066       | -31124            | N/A       | Surface, Feature H                 | Green bottle  | 1           | Glass         | 18.8 long x 5.8 wide x 5.53 mm thick   | 378.7          |
| 067       | -31124            | N/A       | Surface, Feature I                 | Clear bottle  | 1           | Glass         | 13.6 long x 7.3 wide x 3.23 mm thick   | 260.0          |
| 068       | -31124            | N/A       | Surface, Feature I                 | Clear bottle  | 1           | Glass         | 13.2 long x 5.4 wide x 3.20 mm thick   | 126.5          |
| 069       | -31124            | N/A       | Surface, Feature J                 | Purple bottle | 1           | Glass         | 13.5 long x 4.5 wide x 4.0 mm thick    | 160.2          |
| 070       | -31124            | N/A       | Surface, Feature J                 | Brown bottle  | 1           | Glass         | 14.9 long x 16.4 wide x 3.7 mm thick   | 194.0          |
| 071       | -31124            | N/A       | Surface, <i>makai</i> of Feature J | Clear bottle  | 1           | Glass         | 30.3 long x 4.5 wide x 4.4 mm thick    | 1,606.7        |
| 072       | -31124            | N/A       | Surface, <i>makai</i> of Feature J | Brown bottle  | 1           | Glass         | 29.5 long x 15.5 wide x 4.2 mm thick   | 1,429.4        |

encountered within the upper 10–20 cm of the test units, these and the traditional type materials were diffuse within the sediment layer. The historic artifacts encountered on the surface of SIHP # -31124 were also evenly distributed throughout the site. None of the materials were found in concentrations sufficient to indicate a delineated trash pit. It is possible some of the historic artifacts at SIHP # -31124 originated from the property to the north and were tossed over the wall during clearing or other land improvements at that property. However, this hypothesis seems unlikely to account for all the historic materials present at SIHP # -31124.

### 5.1.1 Traditional Artifacts

Artifacts encountered within the project area that could be associated with traditional or pre-Contact land use include lithic materials (Table 17). A combined total of 6.0 grams of raw (unworked) volcanic glass fragments was collected from TU-1 at SIHP # -31126 and TU-9, TU-10, TU-11 and TU-12 at SIHP # -31124. A single basalt flake weighing 1.0 gram was found at TU-10, and a polished basalt adze fragment weighing 12.8 grams was recovered at TU-12. Lithic materials from all but TU-9 were sent to the University of Hawai'i at Hilo geoarchaeology lab for EDXRF analysis in an attempt to source the lithic material found in the project area. Table 17 indicates which samples were submitted for EDXRF analysis and notates where only a portion of the collectively accessioned materials were submitted (i.e., at Catalog # 038).

Table 17. Catalog of lithic artifacts

| Catalog #                                | SIHP # (50-10-28)   | Unit  | Context (stratum; depth)                        | Weight (grams) | Description                 | Photo Reference | EDXRF Analysis (yes/no)     |
|--|---------------------|-------|---|----------------|-----------------------------|-----------------|-----------------------------|
| Volcanic glass; total weight = 6.0 grams |                     |       |   |                |                             |                 |                             |
| 010                                      | -31126              | TU-1  | Str. I, <i>makai</i> of terrace wall; 0–30 cmbs | 1.3            | Volcanic glass (1 pc)       | Figure 68       | Yes                         |
| 038                                      | -31124<br>Feature E | TU-9  | Str. I; 50–57 cmbs                              | 1.0            | Volcanic glass (3 pcs)      | Figure 68       | No                          |
| 044                                      | -31124<br>Feature E | TU-10 | Str. I; 0–51 cmbs                               | 2.4            | Volcanic glass (6 pcs)      | Figure 69       | Yes; 1.5 of 2.4 g submitted |
| 049                                      | -31124<br>Feature E | TU-11 | Str. I; 0–52 cmbs                               | 0.6            | Volcanic glass (1 pc)       | Figure 69       | Yes                         |
| 062                                      | -31124<br>Feature C | TU-13 | Str. I; 0–15 cmbs                               | 0.7            | Volcanic glass (1 pc)       | Figure 70       | Yes                         |
| Basalt object; number items = 2          |                     |       |   |                |                             |                 |                             |
| 043                                      | -31124<br>Feature E | TU-10 | Str. I; 0–51 cmbs                               | 1.0            | Basalt flake (1 pc)         | Figure 71       | Yes                         |
| 059                                      | -31124<br>Feature D | TU-12 | Str. I; 0–47 cmbs                               | 12.8           | Basalt adze fragment (1 pc) | Figure 72       | Yes                         |



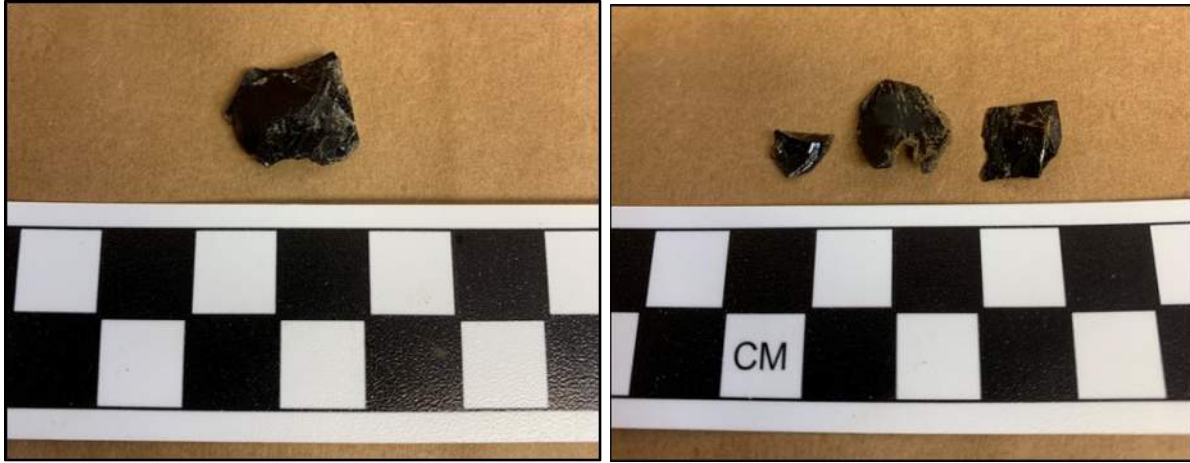


Figure 68. Photos of Catalog # 010 volcanic glass (left), and Catalog # 038 volcanic glass (right)

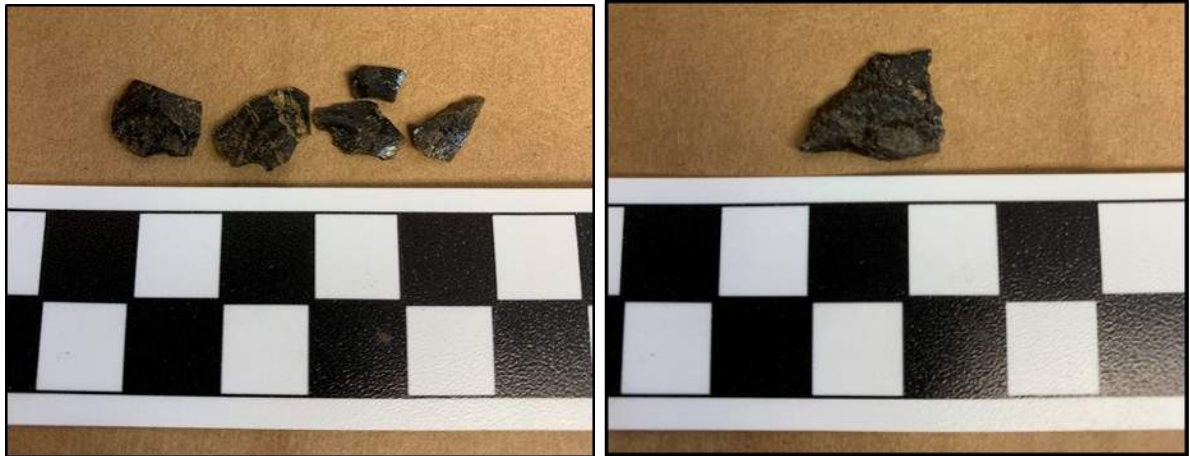


Figure 69. Photos of Catalog # 044 volcanic glass (left), and Catalog # 049 (right)



Figure 70. Photo of Catalog # 062 volcanic glass



Figure 71. Photo of Catalog # 043 basalt flake



Figure 72. Photo of Catalog # 059 basalt adze fragment

### 5.1.1.1 Energy-Dispersive X-ray Fluorescence (EDXRF) Background

The use of energy-dispersive X-ray fluorescence (EDXRF) may make it possible to determine if lithic artifacts from within the project area are from similar sources, different sources, or from sources consistent with another island. Using an EDXRF spectrometer, Dr. Peter Mills of the University of Hawai'i at Hilo is working to establish geochemical "fingerprints" of stone tools that Native Hawaiians quarried from various sites and track the extent to which that material was circulated on each island or throughout the island chain. The EDXRF analyzer allows archaeologists to conduct rapid and non-destructive analyses of stone artifacts to determine the extent and distance to which stone tools moved from the quarries. Attempts are made to match the lithic artifact samples with geochemical data collected on known prehistoric quarry areas. Samples that do not match known quarry sites may lead to the discovery of currently unknown quarry sites, or possibly to the identification of stone tools derived from other island groups such as Tahiti and the Marquesas. By examining the extent to which stone tools in various *ahupua'a* were derived from non-local sources, archaeologists will be able to quantify Native Hawaiian movement of lithic artifacts through time and space, and possibly identify some tools that were carried over long distances of open ocean.

### 5.1.1.2 Volcanic Glass and Basalt Samples Analysis

The EDXRF focuses a high energy beam of X-rays onto a sample and uses atomic excitation to create X-ray emissions that are then measured by an energy-dispersive spectrometer. The spectrometer converts the X-ray energy into voltage signals that are digitally analyzed and plotted. The trace elements strontium and zirconium were used as main discriminators for this study and were plotted on Sr to Zr bivariate plots. The work of Peter Mills and Steve Lundblad has shown that Sr and Zr percentages in Hawaiian volcanic basalt have a wide variance and when plotted against each other can create concentrated clusters that can be used as a visual comparison to samples in the UHH EDXRF database. The team of Peter Mills and Steven Lundblad have used this technique to match Hawaiian lithic artifacts to well-known adze quarries, such as on Mauna Kea, and sources of volcanic glass, such as Pu'u Wa'awa'a located on the north slope of Hualālai volcano on Hawai'i Island (McCoy et al. 2011). As the UHH EDXRF database has expanded over time, more information has become known about specific sources for stone and volcanic glass across the Hawaiian Islands.

As noted in Table 17, four samples of volcanic glass and two basalt artifacts recovered during project excavations were sent to the University of Hawai'i at Hilo for EDXRF analysis (see Table 17). The Sr to Zr measurements for these lithic samples were plotted against 12 geochemical groups (Groups A through L) and outliers defined in an analysis of basalt artifacts from the Kahalu'u Habitation Cave in Kona (Mills et al. 2011) (Figure 73). The full EDXRF analysis including measurements of other chemical elements is included in Appendix C (courtesy UHH EDXRF Lab)

Table 18. Table 18 lists the UHH EDXRF Sample ID with its corresponding sample description, CSH catalog number and test unit, strontium and zirconium readings, and the interpretation of these readings as expressed by Dr. Peter Mill in email correspondence to CSH dated 6 March 2020.

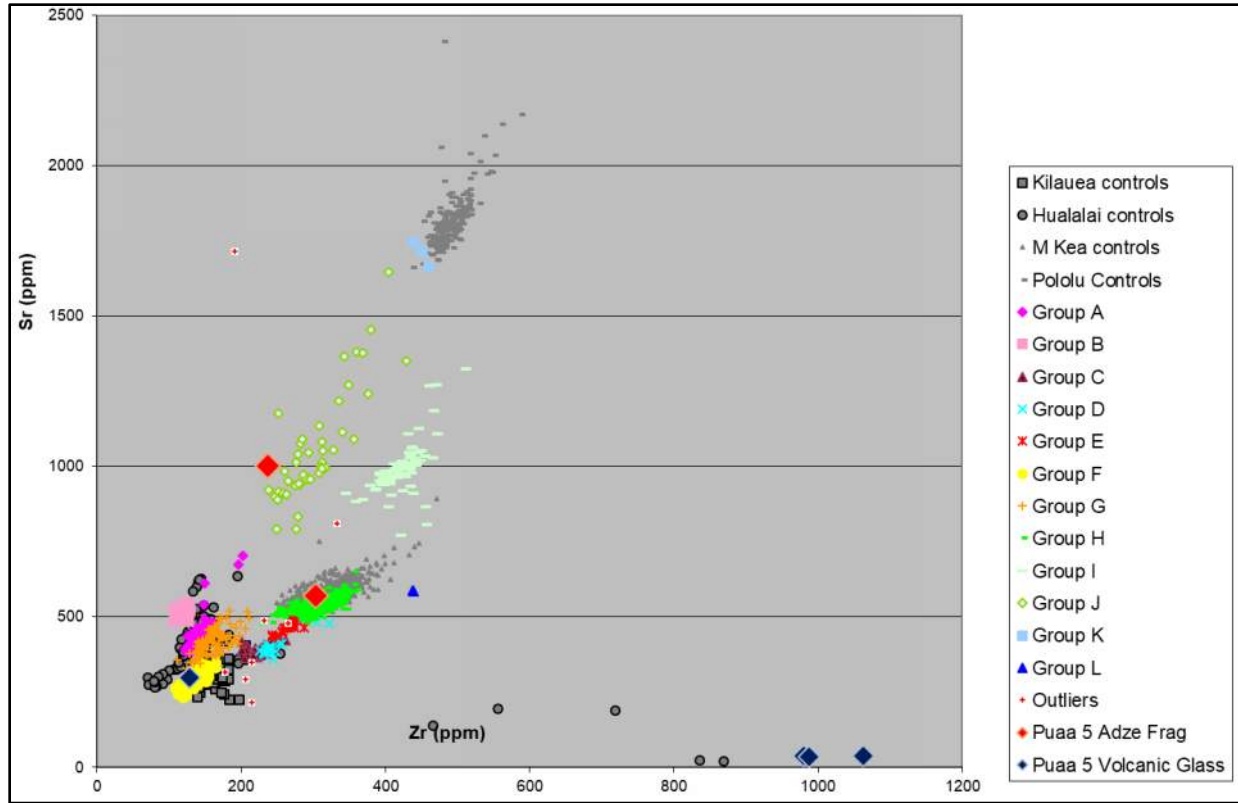


Figure 73. Bivariate plot showing Strontium (Sr) vs. Zirconium (Zr) ratios of “Puaa 5 Adze Frag” and “Puaa 5 Volcanic Glass” samples in comparison to various known petrographic groups (courtesy UHH EDXRF Lab)

Table 18. Strontium and Zirconium concentrations for volcanic glass and basalt samples and petrographic interpretation

| EDXRF Sample ID             | Description          | CSH Catalog # | Unit  | Sr (ppm) | Zr (ppm) | Source Interpretation                |
|-----------------------------|----------------------|---------------|-------|----------|----------|--------------------------------------|
| Puaa 5-10 basalt flake 1.0g | Basalt flake         | 043           | TU-10 | 572      | 304      | Group H (Mauna Kea)                  |
| Puaa 5-59 adze frag 12.4g   | Basalt adze fragment | 059           | TU-12 | 1003     | 237      | Group J (no match on Hawai'i Island) |
| Puaa 5-10 vg 1.3g           | Volcanic glass       | 010           | TU-1  | 38       | 1063     | Group 1 (Pu'u Wa'awa'a)              |
| Puaa 5-44 vg 1.5g           | Volcanic glass       | 044           | TU-10 | 298      | 128      | Group 2 (Mauna Loa)                  |
| Puaa 5-62 vg 0.7g           | Volcanic glass       | 062           | TU-13 | 38       | 980      | Group 1 (Pu'u Wa'awa'a)              |
| Puaa 5-49 vg 0.6g           | Volcanic glass       | 049           | TU-11 | 34       | 987      | Group 1 (Pu'u Wa'awa'a)              |

The basalt flake (Catalog # 043) from TU-10 at SIHP # -31124 Feature E plots within the Group H cluster (see Figure 73). Mills et al. (2011:88) note that Group H in Kona is consistent with geochemical signatures from the Mauna Kea adze quarry. The adze fragment (Catalog # 059) from TU-12 at SIHP # -31124 Feature D plots within the Group J cluster (see Figure 73). Dr. Mills (3 March 2020 email correspondence) states that Group J “does not match anything we have seen in Big Island sources” and notes that research is ongoing to identify a potential Group J source on a different island.

Lundblad et al. (2013) identify three volcanic glass geochemical groups in leeward Hawai'i Island: Groups 1, 2, and 3. Three of the four volcanic glass samples (Catalog #s 010, 062, and 049 from TU-1, TU-13, and TU-11 at SIHP #s -31126 and -31124, respectively) show a clear geochemical match to Group 1, which comprises volcanic glasses consistent with Pu'u Wa'awa'a. According to Dr. Mills (3 March 2020 email correspondence), “The Zr concentrations around 1000 ppm are unique [to Pu'u Wa'awa'a] within Hawaiian volcanic glass sources.” The remaining volcanic glass sample, Catalog # 044 from TU-10 at SIHP # -31124 Feature E correlates with Group 2, “another common geochemical group in Kona that matches best with a broad range of chilled glass collected from the surfaces of Mauna Loa flows” (Dr. Mills, 3 March 2020 email correspondence).

### 5.1.2 Historic Artifacts

Artifacts encountered within the project area associated with historic land use include numerous glass, ceramic, metal, and rubber objects (Table 20). Many of these items were highly fragmented. Nine wholly or partially complete bottles were collected for their datable and representative characteristic; these bottles are described in Section 5.1.2.1. Other historic artifacts including two horseshoes, a rubber stopper, a metal nail, a marble, and a glass button were collected as representative items. These non-bottle artifacts, described in Section 5.1.2.2, are typically lacking in specific datable characteristics but are considered to indicate a range of historic occupation extending from at least the early 1900s through the mid-twentieth century.

#### 5.1.2.1 Bottles

Nine glass bottles collected from the surface of SIHP # -31124 were selected for analysis based on their representative and apparent datable characteristics (see Table 16 and Table 19). All but two of the collected bottles are completely intact. Research indicates manufacture dates ranging from the turn of the twentieth century through the 1970s.

Catalog # 64 is an intact, brown glass Dai Nippon Beer Company beer bottle collected from the surface of SIHP # -31124 Feature B (see Table 19, Figure 75, and Figure 76). The bottle is machine-made, with a crown finish. The bottle is embossed the sun symbol and “Trademark” around the neck of the bottle and “Dainippon Brewery Co. LTD” near the heel. The base of the bottle is embossed with a star containing a dot. The Dai Nippon Brewery operated from 1909 to 1949, and the company introduced semi-automatic and automatic bottle making machines in 1911 (Ross 2009:8–10). An identical Dai Nippon bottle listed on a collectibles website (Worth Point 2020) indicates this bottle was manufactured between 1946-1949.

Catalog # 65 is the base of a broken, blue glass Massilon Bottle & Glass Co. beverage bottle collected from the surface of SIHP # -31124 Feature D (see Table 19, Figure 77, and Figure 78).

Table 19. Bottle artifacts

| Catalog # | SIHP # (50-10-28)   | Color  | % Complete | Length (cm)/<br>Width (cm)/<br>Thickness (mm) | Weight (g) | Maker's mark present | Description  | Probable Manufacture Date | Photo Reference         |
|-----------|---------------------|--------|------------|---|------------|----------------------|--|---------------------------|-------------------------|
| 064       | -31124<br>Feature B | Brown  | 100        | 28.7/8.0/5.53                                 | 703.1      | Yes                  | Dai Nippon Beer Company, beer bottle; embossed with sun symbol and "Trademark" on neck, "Dainippon Brewery Co. LTD" at bottom, star with dot on base                 | 1946-49                   | Figure 74,<br>Figure 75 |
| 065       | -31124<br>Feature D | Blue   | 10         | 7.6/7.5/8.09                                  | 196.1      | Yes                  | Massilon Bottle & Glass Co., beverage bottle; embossed with "M.B. & G. Co." on base  | 1900-1904                 | Figure 76,<br>Figure 77 |
| 066       | -31124<br>Feature H | Green  | 90         | 18.8/5.8/5.53                                 | 378.7      | Yes                  | Kona Soda Works, soda bottle; embossed with "Property of Kona Soda Works" "Hawaii" Net Contents 6 ½ fld ozs" on side, and "K.B." on base                             | 1920s-30s                 | Figure 78,<br>Figure 79 |
| 067       | -31124<br>Feature I | Clear  | 100        | 13.6/7.3/3.23                                 | 260.0      | Yes                  | Owens Illinois Glass Co., food jar; embossed with "Duraglass" twice along the bottom; plant code (20) for Oakland, CA, and "49" for manufacture date                 | 1949                      | Figure 80,<br>Figure 81 |
| 068       | -31124<br>Feature I | Clear  | 100        | 13.2/5.4/3.20                                 | 126.5      | Yes                  | Brockway Glass Co., condiment bottle Plant code (16) for Pomona, CA  | 1979                      | Figure 82               |
| 069       | -31124<br>Feature J | Purple | 100        | 13.5/4.5/4.0                                  | 160.2      | Possibly             | Unknown manufacturer, medicine bottle; embossed with "H98" on base   | Early 1900s               | Figure 83               |
| 070       | -31124<br>Feature J | Brown  | 100        | 14.9/6.4/3.7                                  | 194.0      | Yes                  | Owens Illinois Glass Co., beverage bottle; plant location (20) Oakland, CA, and "70" for manufacture date; embossed with "Not to be refilled" and "20372-58" on heel | 1970                      | Figure 84,<br>Figure 85 |

| Catalog # | SIHP # (50-10-28)                      | Color | % Complete | Length (cm)/<br>Width (cm)/<br>Thickness (mm) | Weight (g) | Maker's mark present | Description  | Probable Manufacture Date | Photo Reference         |
|-----------|--|-------|------------|---|------------|----------------------|--|---------------------------|-------------------------|
| 071       | -31124<br><i>makai</i> of<br>Feature J | Clear | 100        | 30.3/16.4/4.4                                 | 1,606.7    | Yes                  | Owens-Illinois Glass Co., one-gallon jug; plant location (23) Los Angeles, CA                            | Post-1934                 | Figure 86,<br>Figure 87 |
| 072       | -31124<br><i>makai</i> of<br>Feature J | Brown | 100        | 29.5/15.5/4.2                                 | 1,429.4    | Yes                  | Clorox Chemical Company, one-gallon jug; embossed with "Clorox" on shoulder, "Pat Design 187113" on base | 1959-1962                 | Figure 88,<br>Figure 89 |



Figure 74. Photo showing Catalog # 064 in situ at SIHP # -31124 Feature B; view to west



Figure 75. Photos of Catalog # 064, Dai Nippon glass beer bottle (1940s)





Figure 76. Photo showing Catalog # 065 in situ at SIHP # -31124 Feature D; view to east



Figure 77. Photos of Catalog # 065, Massillon Bottle & Glass Co. beverage bottle (1900-1904)



Figure 78. Photo showing Catalog # 066 in situ at SIHP # -31124 Feature H; view to northeast



Figure 79. Photos of Catalog # 066, Kona Soda Works glass soda bottle (1920s-1930s)



Figure 80. Photo showing Catalog # 067 in situ with other artifacts at SIHP # -31124 Feature I; view to south



Figure 81. Photos of Catalog # 067, Owen Illinois Glass Company food jar (1949)



Figure 82. Photos of Catalog # 068 SIHP # -31124 Feature I, Brockway Glass Company condiment bottle (1979)



Figure 83. Photos of Catalog # 069, collected from SIHP # -31124 Feature J, medicine bottle embossed with "H98" (early 1900s)



Figure 84. Photo showing Catalog # 070 in situ with other artifacts at SIHP # -31124 Feature J; view to northeast



Figure 85. Photos of Catalog # 070, Owens Illinois Glass Company beverage bottle (1970)



Figure 86. Photo showing Catalog # 071 in situ with other artifacts at SIHP # -31124 *makai* of Feature J; view to north



Figure 87. Photos of Catalog #71, Owens Illinois Glass Company one-gallon jug (post-1934)



Figure 88. Photo showing Catalog # 072 in situ at SIHP # -31124 *makai* of Feature J; view to northeast



Figure 89. Photos of Catalog # 072, Clorox glass one-gallon jug (1959-1962)

The bottle is mold blown and the base is embossed with “M.B. & G. Co.” This bottle dates to 1900-1904 (Schultz et al. 2011:93–95).

Catalog # 066 is a 90% intact, green glass Kona Soda Works soda bottle collected from the surface of SIHP # -31124 Feature H (see Table 19, Figure 78, and Figure 79). The bottle is machine-made; the finish and part of the neck are broken off. “Property of Kona Soda Works Hawaii” is embossed on the body of the bottle with “Net Contents 6 ½ fld ozs” embossed across the heel. The company makers’ mark “K.B.” is embossed on the base of the bottle. This bottle dates to the 1920s-1930s (personal communication, David Ackerman at Glass from the Past in Honomū, Hawai‘i).

Catalog # 067 is an intact, clear glass Owens Illinois Glass Company food jar collected from the surface of SIHP # -31124 Feature I (see Table 19, Figure 80, and Figure 81). The machine-made jar is oval in shape with decorative side panels and a wide-mouth continuous threaded finish. The heel is embossed twice with “Duraglass” and the base bears the maker’s mark of an oval superimposed by a diamond with an “I”. Around the maker’s mark are a series of embossed numbers: “20” on the left, “3116-6 IA” below the maker’s mark, and “49” on the right. This indicates the bottle was manufactured by the Owens Illinois Glass Company in Oakland, California in 1949 (Lockhart and Hoening 2016:301–308).

Catalog # 068 is an intact, clear glass Brockway Glass Company condiment bottle collected from the surface of SIHP # -31124 Feature I (see Table 19 and Figure 82). The machine-made bottle has a continuous threaded finish and fluted shoulder. The base bears a maker’s mark of a “B” surrounded by a circle; to the left is the plant location code “16” and to the right the date code “79”. These marks indicate the bottle was manufactured by the Brockway Glass Company in Brockway, Pennsylvania in 1979 (Lockhart et al. 2013:310–330).

Catalog # 069 is an intact, purple (or amethyst) glass medicine bottle collected from the surface of SIHP # -31124 Feature J (see Table 19 and Figure 83). This blown-in-mold bottle is square in shape with flattened panel “corners” and continuous thread finish. Bubbles are visible in the glass. The base of the bottle is embossed with “H98”; no information was found about this maker’s mark. Based on the manufacture type and use of manganese decolorant producing the eventual purple tint, this bottle likely dates to the early 1900s (Lockhart 2006:54).

Catalog # 070 is an intact, brown glass Owens Illinois Glass Company beverage bottle collected from the surface of SIHP # -31124 Feature J (see Table 19, Figure 84, and Figure 85). The machine-made bottle exhibits stippling on the heel, shoulder, and base and an interrupted thread finish. The base bears the maker’s mark of a circle with an “I” in it; to the left is the plant location code “20” and to the right the date code “70”. Additionally, “Not To Be Refilled” and “20372-58” are embossed around the base of the bottle. These marks indicate the bottle was manufactured by the Owens Illinois Glass Company in Oakland, California in 1970 (Lockhart and Hoening 2016:301–308).

Catalog # 071 is an intact, clear glass Owens Illinois Glass Company one-gallon jug collected from the surface of SIHP # -31124 *makai* of Feature J (see Table 19, Figure 86, and Figure 87).



The machine-made vessel exhibits a continuous threaded finish and a ring handle. The base bears the maker's mark of an oval superimposed by a diamond with an "I". A series of numbers are embossed around the maker's mark: "23" to the left, "350" below and "[?]4" to the right. These marks indicate the bottle was manufactured by the Owens Illinois Glass Company in Los Angeles, California after 1934 (Lockhart and Hoening 2016:301–308).

Catalog # 072 is an intact, brown glass one-gallon Clorox jug collected from the surface of SIHP # -31124 *makai* of Feature J (see Table 19, Figure 88, and Figure 89). The machine-made vessel has a "four-finger" handle and a continuous thread finish. The brand name "Clorox" is embossed along the shoulder of the bottle. The base of the bottle is marked in the center by a diamond with "Clorox" in the center and a B inside of the circle. A series of numbers are embossed around the diamond: top left "5", top right "2", bottom left "20", and bottom right "0". The text "Pat Design 187113" is also embossed above the diamond. The design of the four-finger handle indicates the bottle was manufactured by Clorox Chemical Company during 1959-1962 (The Clorox Company 2011).

#### 5.1.2.2 Other Historic Artifacts

Five artifacts were selected for presentation herein as representative of the historic non-bottle assemblage from SIHP #s -31124 and -31126. These are common household items generally thought to date from the early 1900s or older through the mid-twentieth century.

Catalog # 008 is a metal horseshoe recovered from Stratum I *makai* of the terrace wall during the excavation of TU-1 at SIHP # -31126 (see Table 16 and Figure 90). It is tapered iron and exhibits four nail holes on either end. The horseshoe measures 12.5 cm long, 11.45 cm wide, 1.0 cm thick, and weighs 209.8 g. The relatively small size of the horseshoe may indicate it was used for a donkey. There are no identifying marks to determine age or manufacturer of the horseshoe.

Catalog # 009 is a chipped, purple glass with white swirl marble recovered while screening sediment from Stratum I *makai* of the terrace wall during the excavation of TU-1 at SIHP # -31126 (see Table 16 and Figure 91). These marbles were common throughout the twentieth century.

Catalog # 011 is a rubber bottle stopper recovered while screening sediment from Stratum I *makai* of the terrace wall during the excavation of TU-1 at SIHP # -31126 (see Table 16 and Figure 91). According to Lindsey (2020), rubber stoppers "appear to have been primarily used during the first half of the 20th century and possibly even to the present in some specialty situations (chemical reagent bottles). Most notably, rubber stoppers were common in Clorox® and Lysol® bottles during the 1920s and 1930s."

Catalog # 029 is a round, four-hole white glass button recovered while screening sediment from Stratum I during the excavation of TU-7 at SIHP # -31124 (see Table 16 and Figure 92). The button has a diameter of 1.15 cm, is 0.29 cm thick, and weighs 0.4 g. There are no identifying marks to determine age or manufacturer of the button.

Catalog # 046 is an iron nail recovered while screening sediment from Stratum I during the excavation of TU-11 at SIHP # -31124 (see Table 16 and Figure 92). The nail is heavily corroded and broke into two pieces during examination. The nail measures 6.0 cm long, 1.3 cm wide, 0.5-1.0 cm thick, and weighs 7.1 g. There are no identifying marks to determine age or manufacturer.



Figure 90. Photo of Catalog # 008, iron horseshoe



Figure 91. Photos of Catalog # 009, glass marble (left); and Catalog # 011, rubber stopper (right)



Figure 92. Photos of Catalog # 029, glass button (left); and Catalog # 046, iron nail (right)

## 5.2 Faunal Analysis

CSH personnel collected faunal osseous remains from three (23%) of the 13 test excavations (TU-2, TU-4, and TU-9 at SIHP # -31124). The identified faunal remains, as shown in Table 20, include cow (*Bos taurus*) and bird (*Aves*). These remains include historic introduced species, supporting historic occupation and use of the project area. Stratigraphically, faunal osseous material was collected from upper portions of Stratum I, natural silty clay loam. All collected osseous material exhibits heavy weathering (i.e., eroded margins, cortical flaking) indicating the remains may have spent some time on the surface. By and large, these faunal remains are considered food refuse. Additionally, one piece of cow bone (Catalog # 074) exhibits historic evidence of butchering as indicated by striated cut marks from a saw.

Table 20. Faunal osseous remains identified during the AIS

| Catalog # | SIHP # (50-10-28)   | Test Unit | Context (Stratum; depth) | Species                    | Weight (grams) | Description                                    |
|-----------|---------------------|-----------|--------------------------|----------------------------|----------------|--|
| 073       | -31124<br>Feature J | TU-2      | Str. I, 0–20 cmbs        | <i>Bos taurus</i><br>(cow) | 8.8            | Proximal femur, fragment of greater trochanter |
| 074       | -31124<br>Feature I | TU-4      | Str. I, 0–15 cmbs        | <i>Bos taurus</i><br>(cow) | 3.6            | Long bone cortical section, saw cut            |
| 075       | -31124<br>Feature I | TU-4      | Str. I, 0–15 cmbs        | <i>Aves</i> (bird)         | 0.6            | Long bone shaft portion                        |
| 076       | -31124<br>Feature E | TU-9      | Str. Ia, 0–50 cmbs       | <i>Bos taurus</i><br>(cow) | 8.3            | Lower limb fragment                            |

## 5.3 Charcoal Analysis

Procurement of charcoal samples for chronological analysis was one of the goals of the subsurface testing program. Charcoal was collected from the screen in four (31%) of the 13 test units (TU-9, TU-10, TU-11, and TU-12 excavated within SIHP # -31124 Features D and E) (Table 21). Select charcoal samples were subjected to wood taxa identification; samples identified as short-lived wood species were then submitted for radiocarbon analysis.

Table 21. Charcoal catalog

| Catalog # | SIHP #<br>(50-10-28) | Unit  | Context<br>(stratum; depth)  | Weight (grams) | Description       |
|-----------|----------------------|-------|------------------------------|----------------|-------------------|
| 077       | -31124<br>Feature E  | TU-9  | Str. Ia and Ib;<br>0–57 cmbs | 2.1            | Charcoal (6 pcs)  |
| 078       | -31124<br>Feature E  | TU-10 | Str. I; 0–51 cmbs            | 0.4            | Charcoal (4 pcs)  |
| 079       | -31124<br>Feature E  | TU-11 | Str. I; 0–52 cmbs            | 8.3            | Charcoal (11 pcs) |
| 080       | -31124<br>Feature D  | TU-12 | Str. I; 0–47 cmbs            | 12.8           | Charcoal (20 pcs) |

### 5.3.1 Wood Taxa Identification

Fifteen pieces of charcoal collected from four test units (TU-9, TU-10, TU-11, and TU-12) were submitted to the Wood Taxa Identification Lab (WIDL) on O‘ahu for the purpose of identifying short-lived taxa appropriate for radiocarbon dating. A summary of the results of the wood taxa identification are listed in Table 22, as adapted from the 4 May 2020 report prepared by Gail Murakami at the WIDL. The full Murakami (2020) report is in Appendix D.

Murakami (2020) provides the following summary of findings:

Two charcoal samples from Feature E, Samples 34 and 45, contained charred wood of the Pinaceae family. The hardwoods in these samples were not further identified once the presence of the possible *Pseudotsuga* sp. (Douglas fir) in Sample 34 and a pine (Pinaceae) in Sample 45 were detected. The presence of these evergreen woods suggests the samples are of historical origin or contaminated by historical material.

The third sample, Sample 61 from Feature D, did not contain any evergreen woods. The taxa identified include *‘akoko* (*Euphorbia* sp.), *alaha‘e* (*Psydrax odorata*), *a‘ali‘i* (*Dodonaea viscosa*) and *neleau* (*Rhus sandwicensis*). The species identified in this sample are native and are found on Hawai‘i Island. [...]

Table 22. Summary of charcoal wood taxa identifications, adapted from Murakami (2020)

| WIDL #  | Taxon                        | Common Name | Plant Part   | Count | Comment            |
|---|------------------------------|-------------|--------------|-------|--------------------|
| Sample 34 [CSH Catalog # 078]: TU-9, SIHP # -31124, Feature E                 |                              |             |              |       |                    |
| 2008-1  | Indeterminate hardwood       |             | Wood         | 4     |                    |
| 2008-2  | Indeterminate hardwood       |             | Wood         | 1     |                    |
| 2008-3  | cf. <i>Pseudotsuga</i> sp.   | Douglas fir | Wood         | 1     |                    |
| Sample 45 [ <i>sic</i> ] [CSH Catalog # 080]: TU-11, SIHP # -31124, Feature E |                              |             |              |       |                    |
| 2008-4  | Indeterminate hardwood       |             | Wood         | 2     |                    |
| 2008-5  | cf. woody vine               |             | Stem         | 2     |                    |
| 2008-6  | cf. Pinaceae                 | Pine        | Wood         | 2     |                    |
| 2008-7  | Indeterminate                |             | Fruit/embryo | 4     |                    |
| Sample 61 [CSH Catalog # 081]: TU-12, SIHP # -31124, Feature D                |                              |             |              |       |                    |
| 2008-8  | cf. <i>Euphorbia</i> sp.     | 'Akoko      | Wood         | 2     | Shrub, short-lived |
| 2008-9  | cf. <i>Rhus sandwicensis</i> | Neleau      | Wood         | 9     |                    |
| 2008-10   | cf. <i>Psydrax odorata</i>   | Alahe'e     | Wood         | 5     |                    |
| 2008-11   | cf. <i>Dodonaea viscosa</i>  | 'A'ali'i    | Wood         | 3     | Shrub, short-lived |
| 2008-12   | Indeterminate hardwood       |             | Wood         | 1     |                    |
| Sample 45 [CSH Catalog # 079]: TU-10, SIHP # -31124, Feature E                |                              |             |              |       |                    |
| 2008-13   | Indeterminate hardwood       |             | Wood         | 2     |                    |
| 2008-14   | cf. <i>Dodonaea viscosa</i>  | 'A'ali'i    | Wood         | 1     | twig               |
| 2008-15   | Indeterminate hardwood       |             | Wood         | 1     |                    |

The fourth sample, Sample 45 from TU-10 in Feature E did not contain any evergreen tree wood. While two of the taxa are indeterminate, the remaining charcoal is of a twig probably from the native *a'ali'i* (*Dodonaea viscosa*) shrub.

Short-lived plant and plant parts are recommended for radiocarbon dating. [Murakami 2020:1–2]

The identified short-lived species recommended for radiocarbon dating (*'akoko* and *a'ali'i*) are described as follows:

#### EUPHORBIACEAE (Spurge family)

##### *Euphorbia* spp. (*'Akoko*)

Distribution of the 15 endemic Hawaiian shrubs and small trees in this genus range from coastal environments to upper forest zones on the main islands (Wagner et al. 1990:602-617). Eight native species, and a number of naturalized introductions, are found on Hawai'i Island today in a wide range of habitats. *'Akoko* was once valued for firewood by the Hawaiians (Hillebrand 1981:396) and the milky sap was once considered a possible source for rubber (Rock 1974:261). Some members of this genus were once known as *Chamaesyce* but the Hawaiian species have since been reassigned to the genus *Euphorbia* (Govearts et al. 2000; Steinman and Porter 2002; Yang and Berry 2011). [Murakami 2020:3]

#### SAPINDACEAE (Soapberry family)

##### *Dodonaea viscosa* Jacq. (*A'ali'i*)

These indigenous shrubs or small trees are 2 to 8 m tall and range in distribution from coastal dunes to dry, mesic, and wet forest, at 3 to 2,350 m elevations on all of the main islands (Wagner et al. 1990:1227-1228; Starr et al. 2006:41). The red papery fruit capsule clusters and leaves of some varieties were made into *lei* (Pukui and Elbert 1986:3). The trunks were once used for house posts (Buck 1957:83). [Murakami 2020:3]

### 5.3.2 Radiocarbon Analysis

Following the recommendations of Murakami (2020), two charcoal samples representing short-lived wood species were submitted to Beta Analytic in Florida for radiocarbon analysis. These included WIDL # 2008-8 and WIDL # 2008-11 from CSH Catalog # 061, collected from TU-12 at SIHP # -31124 Feature D (Table 23).

A 2-sigma calibration of the radiocarbon analysis of Sample WIDL2008-8 suggested three possible date ranges, AD 1669 to 1780 (43.1%), AD 1798 to 1891 (36.8%), and AD 1908 to 1944 (15.5%), with the late pre-Contact/early post-Contact date range (1669 to 1780) being the most probable (Figure 93).

A 2-sigma calibration of the radiocarbon analysis of WIDL2008-11 suggested two possible date ranges, AD 1682 to 1736 (27.1%) and AD 1805 to 1935 (68.3%), with the post-Contact date range (1805 to 1935) being the most probable (Figure 94). The full Beta Analytic report is in Appendix E.

Table 23. Radiocarbon dating analysis (2-sigma calibration)

| <b>Sample Data</b>   | <b>Measured Radiocarbon Age</b> | <b><math>^{13}\text{C}/^{12}\text{C}</math> Ratio</b> | <b>Conventional Radiocarbon Age</b> | <b>2-Sigma Calibration</b>  |
|--|---------------------------------|---|-------------------------------------|---|
| Beta-559910<br>(WIDL2008-8;<br>CSH Catalog # 061<br>at TU-12)  | 170 +/- 30 BP                   | -26.9 o/oo  | 140 +/- 30 BP                       | AD 1669 to 1780 (43.1%)<br>AD 1798 to 1891 (36.8%)<br>AD 1908 to 1944 (15.5%) |
| Beta-559911<br>(WIDL2008-11;<br>CSH Catalog # 061<br>at TU-12) | 110 +/- 30 BP                   | -25.9 o/oo  | 100 +/- 30                          | AD 1805 to 1935 (68.3%)<br>AD 1682 to 1736 (27.1%)                            |

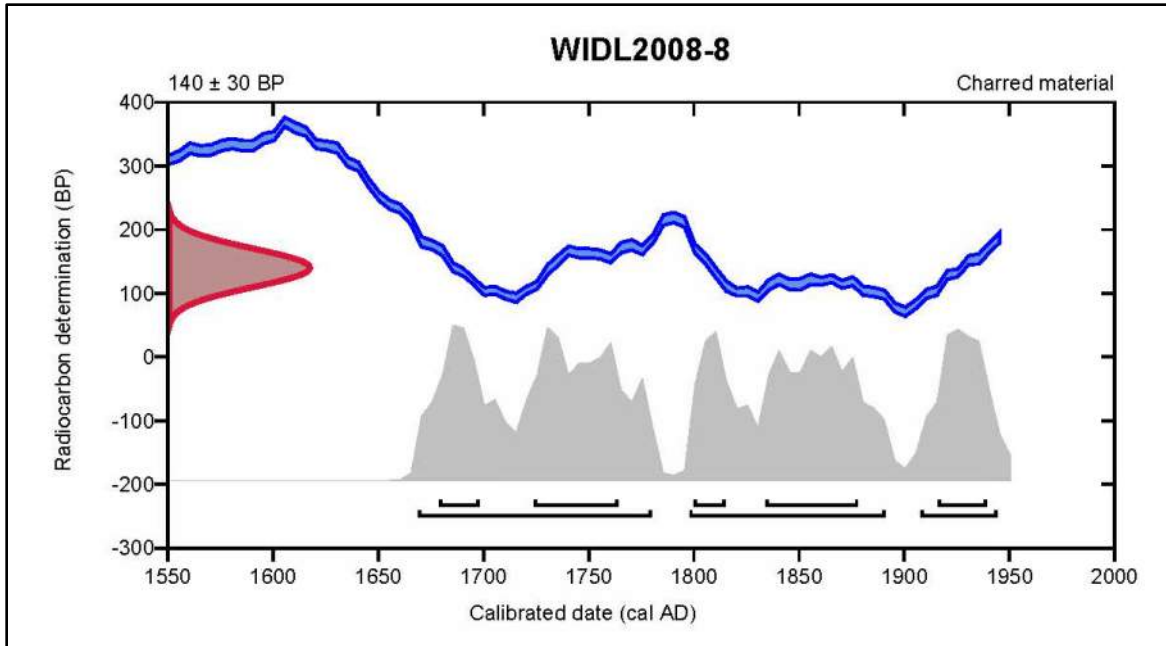


Figure 93. Calibration data and calibration curve for Sample WIDL # 2008-8 from TU-12 at SIHP # -31124 Feature D (courtesy of Beta Analytic)

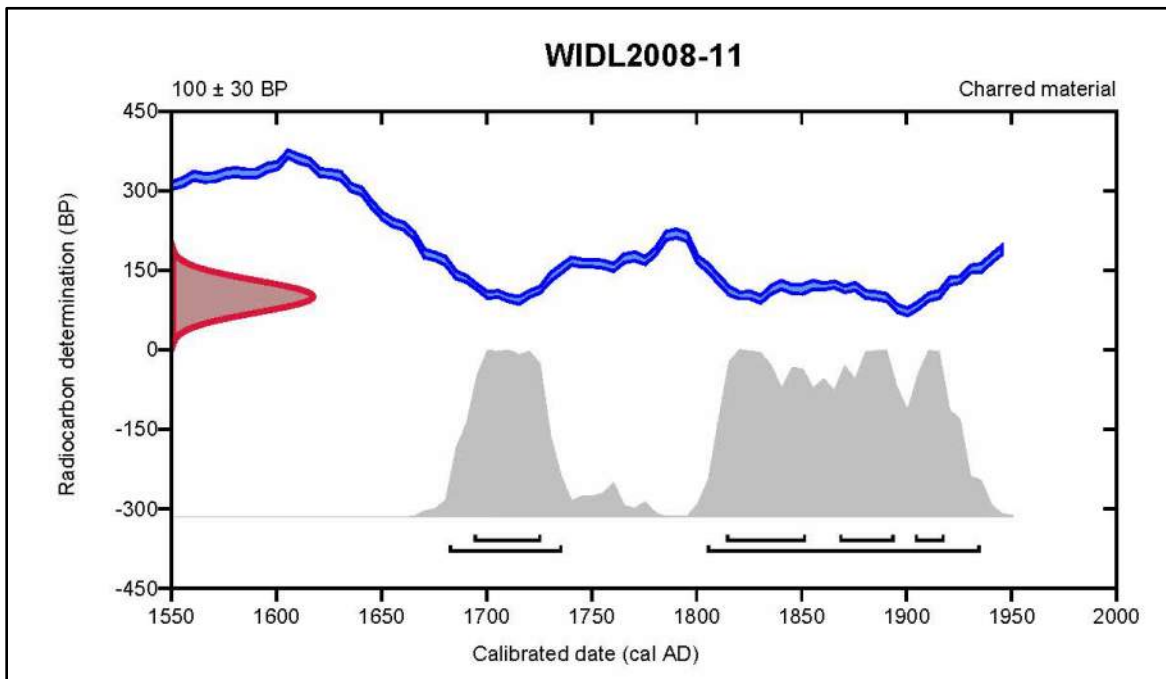


Figure 94. Calibration data and calibration curve for Sample WIDL # 2008-11 from TU-12 at SIHP # -31124 Feature D (courtesy of Beta Analytic)



## Section 6 Historic Property Descriptions

### 6.1 SIHP # 50-10-28-31124

|                                |                              |
|--------------------------------|------------------------------|
| <b>FORMAL TYPE:</b>            | Complex                      |
| <b>FUNCTION:</b>               | Agriculture, habitation      |
| <b>NUMBER OF FEATURES:</b>     | 13                           |
| <b>AGE:</b>                    | Pre-Contact through historic |
| <b>TAX MAP KEY:</b>            | [3] 7-5-014:001              |
| <b>LAND JURISDICTION:</b>      | Private                      |
| <b>PREVIOUS DOCUMENTATION:</b> | None                         |

SIHP # 50-10-28-31124 is a complex comprising 13 features located in the northwestern, undeveloped portion of the project area (see Figure 17). The complex covers an area of 732.28-sq-m, or 0.18 acres (Figure 95). It is bound to the north by the adjacent developed parcel, to the west by a heavily disturbed area (Figure 96), to the south by a bulldozer swath and the coffee trees beyond (see Figure 27), and to the east by additional bulldozer disturbance (Figure 97). The site is situated on a moderately sloping hillside covered in dense vegetation. Observed plant species include avocado (*Persea Americana*), Christmas berry (*Schinus terebinthifolius*), robusta coffee (*Coffea canephora*), palm trees, papaya (*Carica papaya*), passion fruit (*Passiflora edulis*), orange (*Citrus sinensis*), guinea grass (*Panicum maximum*), ti (*kī*, *Panicum maximum*), rubber vine (*Cryptostegia grandiflora*), ginger ('awapuhi, *Zingiber zerumbet*), turmeric ('olena, *Curcuma longa*), Buddha's palm (*Alocasia cucullate*), snake plant (*Sansevieria trifasciata Laurentii*). The main feature comprising the "backbone" of the site is Feature A, a *mauka-makai* rock wall running along the northern property boundary. Features B through J are rock terraces extending south from Feature A. Features K and L are concrete foundations situated within the terraces. The surface of the site is scattered with an extensive assortment of historic artifacts. Twelve test units were excavated throughout the site (TU-2 through TU-13; see Section 4.2), revealing numerous traditional and historic artifacts and other cultural materials including faunal bone and charcoal.

**Feature A** is a *mauka/makai*-oriented stone wall located along the northern project area boundary (see Figure 95, Figure 98, Figure 99, and Figure 100). The wall serves as the backbone from which all the associated terrace walls extend southward or cross-slope. Feature A continues *mauka* beyond SIHP # -31124 along but just beyond the property boundary. West of SIHP # -31124, the wall has been blown out by bulldozing at the northwest corner of the project area; some modern wall segments present in this disturbed area along the property boundary may have utilized material from the original Feature A wall. Feature A is dry stacked 5-6 courses high and exhibits facing. It is not of historic core-filled construction. The wall measures 63.0 m long (east/west) by 1.0 m to 2.0 m wide, with a maximum height of 1.05 m. Two metal survey pins were observed in the feature near its western end. The wall is in good condition exhibiting only a few areas of collapse.

**Feature B** is a linear terrace wall. This is the most *mauka* cross-slope terrace wall in the site complex (see Figure 95, Figure 101, and Figure 102). The terrace wall measures 8.1 m long (north/south) by 0.9 m wide (east/west) with a maximum height of 1.2 m. The terrace wall is neatly

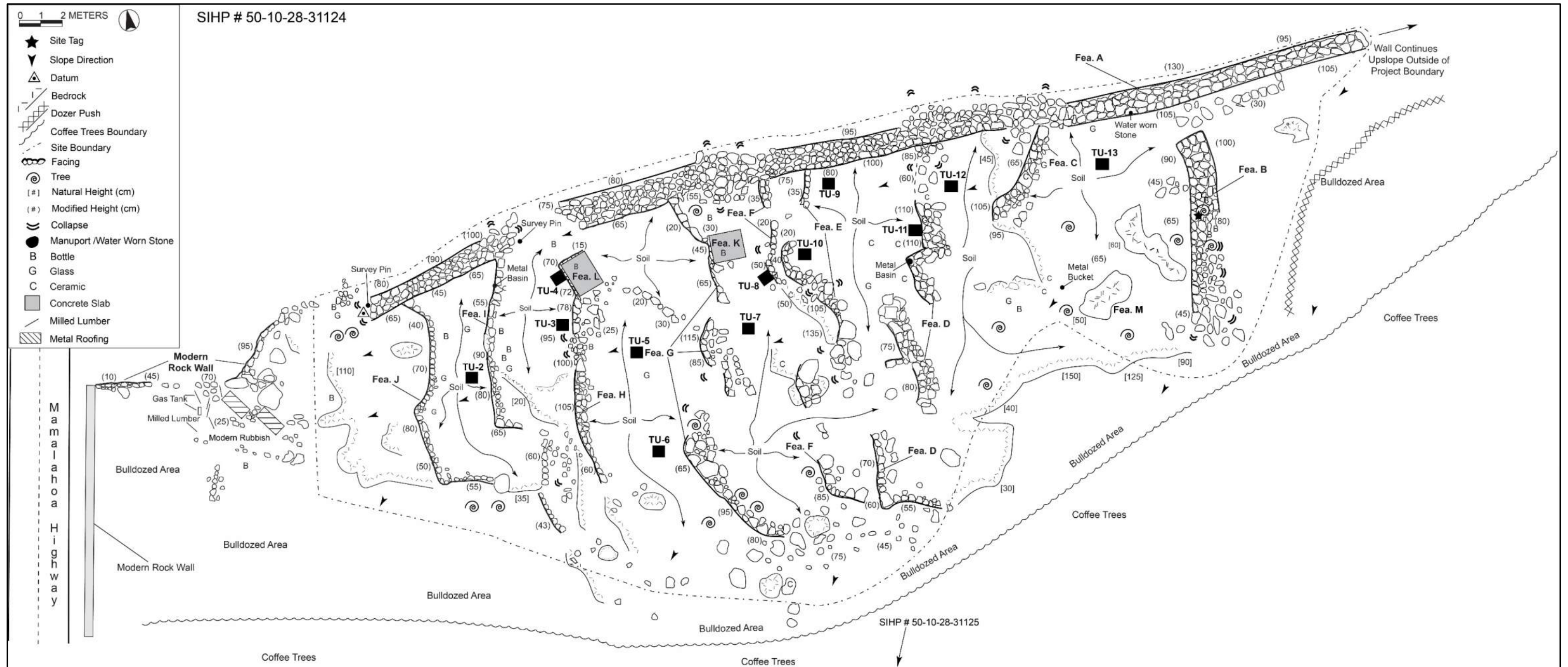


Figure 95. Plan view map of SIHP # 50-10-28-31124



Figure 96. Photo looking up toward SIHP # -31124 from the disturbed area at the northwest corner of the project area; view to northeast



Figure 97. Photo looking down toward SIHP # -31124 from the disturbed area to the east (SIHP # -31124 Feature B is under the tree in the background); view to west



Figure 98. Photo showing a portion of SIHP # -31124 Feature A *mauka-makai* wall; view to west



Figure 99. Photo showing a portion of SIHP # -31124 Feature A *mauka-makai* wall; view to northeast



Figure 100. Photo showing construction of SIHP # -31124 Feature A *mauka-makai* wall; view to northwest



Figure 101. Photo of SIHP # -31124 terrace wall; view to northeast



Figure 102. Photo showing the southern impacted portion of SIHP # -31124 Feature B terrace wall; view to north



Figure 103. Photo of SIHP # -31124 Feature C terrace wall; view to east

stacked 4-5 courses high and exhibits facing. Overall, the wall is in good condition except for at its southern end, where it has been impacted by bulldozing during the development of the coffee orchard. Several historic era bottles were located on the wall and numerous ceramic fragments were observed scattered on the surface of the feature.

**Feature C** is a linear terrace wall located approximately 5.0 m *makai* of Feature B (see Figure 95, Figure 103, and Figure 104). The terrace wall consists of larger basalt cobbles and boulders loosely stacked 1-3 courses high atop exposed bedrock. It measures 5.5 m long (north/south) by 0.85 m wide (east/west) with a maximum height of 0.8 m. This feature is less formally constructed than the other terrace walls in the complex. Overall, the condition is fair with some collapse. Several pieces of glass and assorted ceramic fragments were observed on and around the feature. TU-13 was excavated in the northern portion of the terrace and yielded fragmental earthenware and volcanic glass (see Figure 95 and Section 4.2.13).

**Feature D** is an irregularly shaped terrace wall located approximately 3 m *makai* of Feature C (see Figure 95, Figure 105, and Figure 106). The terrace wall is neatly stacked 4-6 courses high and exhibits facing. The feature is breached in three locations. Overall, the terrace wall measures 18.75 m long (north/south) by 0.90 m wide (east/west) with a maximum height of 1.0 m. Overall, the condition of the feature is good except for these breaches and a disturbed portion at the southern end, impacted during the development of the coffee orchard. Numerous historic era artifacts were observed on the wall and scattered around it. These include a metal wash basin, glass and ceramic fragments, and unidentifiable metal fragments. TU-12 was excavated in the northern portion of the terrace and yielded cultural materials including charcoal, a basalt adze fragment, and fragmental glass and porcelain (see Figure 95 and Section 4.2.12).

**Feature E** is a curved terrace wall located approximately 6 m *makai* of Feature D (see Figure 95 and Figure 107). The wall is stacked 2-4 courses high and exhibits facing. The feature has a breach near Feature A that may have served as a trail providing access to adjacent terraces. The terrace wall measures 6.20 m long (north/south) by 0.90 m wide (east/west) with a maximum height of 0.65 m. A large fallen tree on the terrace has collapsed the central portion of the terrace wall. Overall the feature is in fair condition. Artifacts such as historic-era glass and ceramic fragments are scattered on and around the feature. Three test units were excavated at Feature C: TU-9, TU-10, and TU-11 (see Figure 95). Excavation at these units yielded cultural materials including cow bone, a basalt flake, charcoal, metal nails, and fragmental ceramics, glass, and volcanic glass (see Sections 4.2.9, 4.2.10, and 4.2.11).

**Feature F** is a linear terrace wall constructed just *makai* of Feature E (see Figure 95, Figure 108, and Figure 109). The wall is stacked 2-4 courses high and exhibits facing. It is breached in three locations along its length. The breach near Feature A may have served as a pathway to the concrete foundation (Feature K). Overall, the terrace wall measures 12.30 m long (north/south) by 0.75 m wide (east/west) with a maximum height of 1.2 m. The southern portion was disturbed during the development of the coffee orchard. The overall condition of the feature is fair. Numerous historic-era artifacts including glass and ceramic fragments were observed on the terrace wall and scattered across the terrace surface.

**Feature G** is a linear terrace wall situated approximately 3 m *makai* of Feature F (see Figure 95 and Figure 110 through Figure 112). A portion of the terrace wall bounds the *makai* edge of Feature K (concrete pad). The terrace wall is stacked 3-5 courses high and exhibits facing. It is breached in two locations. The terrace wall measures 16.80 m long (north/south) by 0.90 m wide



Figure 104. Photo overlooking the SIHP # -31124 Feature C terrace; view to northeast



Figure 105. Photo of the northern portion of the SIHP # -31124 Feature D terrace wall and terrace behind; view to northeast





Figure 106. Photo showing the southern portion of the SIHP # -31124 Feature D terrace wall; view to southeast



Figure 107. Photo overlooking the SIHP # -31124 Feature E terrace wall and terrace behind; view to northeast



Figure 108. Photo of SIHP # -31124 Feature F terrace wall; view to northeast



Figure 109. Photo showing the SIHP # -31124 Feature F terrace wall interface with the Feature A *mauka-makai* wall (at left); view to northeast



Figure 110. Photo overlooking the northern portion of the SIHP # -31124 Feature G terrace; view to northeast



Figure 111. Photo overlooking the southern portion of the SIHP # -31124 Feature G terrace (scale rod at 2 m); view to southeast



Figure 112. Photo showing the impacted southern portion of the SIHP # -31124 Feature G terrace wall; view to north



Figure 113. Photo overlooking the SIHP # -31124 Feature H terrace wall and terrace behind; view to northeast

(east/west) with a maximum height of 1.2 m. The southern portion was disturbed during the development of the coffee orchard. The overall condition of the feature is fair. Numerous historic-era artifacts were observed on the wall and scattered across the terrace surface. These artifacts include intact glass jugs and bottles, metal buckets and wash basins, and glass and ceramic fragments. Two test units (TU-7 and TU-8) were excavated in the central portion of Feature G (see Figure 95). Excavation at these units yielded fragmental ceramics, glass, and a glass button (see Sections 4.2.7 and 4.2.8).

**Feature H** is a linear terrace wall located approximately 10 m *makai* of Feature G (see Figure 95, Figure 113, and Figure 114). A portion of the terrace wall bounds the *makai* edge of the Feature L concrete pad, and the terrace wall may have been adapted for the Feature L construction. The terrace wall is neatly stacked 4-6 courses high and exhibits facing. This terrace is detached from Feature A, possibly to facilitate access to adjacent features of the site. The terrace wall measures 13.40 m long (north/south) by 0.90 m wide (east/west) with a maximum height of 1.2 m. The terrace wall is one of the more notable terraces in the site complex based on size, condition, and abundance of historic-era artifacts. The feature is in excellent condition with artifacts such as glass one-gallon jugs, Clorox bottles, metal wash basins and tubs, and scattered glass and ceramic fragments. The southernmost portion of the terrace wall, like other terraces upslope, has been impacted during the development of the coffee orchard. Two test units (TU-5 and TU-6) were excavated in the central portion of Feature G (see Figure 95). TU-5 was sterile; TU-6 yielded fragmental ceramics and glass (see Sections 4.2.5 and 4.2.6).

**Feature I** is a linear terrace wall situated approximately 4 m *makai* of Feature H (see Figure 95, Figure 115, and Figure 116). The wall is neatly stacked 2-4 courses and exhibits facing. The terrace wall measures 13.0 m long (north/south) by 0.95 m wide (east/west) with a maximum height of 1.0 m. The feature is in good condition with minimal collapse. Artifacts such as glass gallon jugs, Clorox bottles, metal wash basins, and glass and ceramic fragments are scattered across the feature. The southernmost portion of the terrace wall, like other terraces upslope, has been impacted during the development of the coffee orchard. Two test units (TU-3 and TU-4) were excavated in the northern portion of Feature I (see Figure 95). Excavation at these units yielded cultural materials including faunal bone and fragmental glass and metal (see Sections 4.2.3 and 4.2.4).

**Feature J** is an irregular terrace wall located approximately 3 m *makai* of Feature I (see Figure 95 and Figure 118). This is the most *makai* terrace in the site complex and one of the most intact and well-constructed. The terrace wall is built directly atop exposed bedrock. Feature J is neatly stacked 2-3 courses high and exhibits facing. The terrace wall measures 11.0 m long (north/south) by 0.60 m wide (east/west) with a maximum height of 0.90 m. The feature is in excellent condition. Historic-era artifacts such as glass one-gallon jugs, Clorox bottles, metal wash basins, and fragmental glass and ceramic are scattered across the feature. TU-2 was excavated in the central portion of Feature J and yielded fragmental glass and metal (see Figure 95 and Section 4.2.2).

**Feature K** is a small square concrete pad or foundation located along the northern portion of the Feature G terrace wall (see Figure 95 and Figure 119). It measures 2.3 m long (north/south) by 2.3 m wide (east/west). The concrete pad is 5.0 cm thick. It is in fair condition, intact but exhibiting numerous cracks. Several glass one-gallon jugs and glass and ceramic fragments were observed on the concrete slab. The feature may have supported machinery or a fixture of some type and likely served as an activity or processing area.



Figure 114. Photo showing the southern portion of the SIHP # -31124 Feature H terrace wall; view to northeast



Figure 115. Photo showing the SIHP # -31124 Feature I terrace wall and terrace behind, at the interface with Feature A *mauka-makai* wall; view to northeast



Figure 116. Photo overlooking the southern portion of the SIHP # -31124 Feature I terrace wall and terrace behind; view to east



Figure 117. Photo overlooking the northern portion of the SIHP # -31124 Feature J terrace wall; view to east



Figure 118. Photo overlooking the southern portion of SIHP # -31124 Feature J; view to northeast



Figure 119. Photo of SIHP # -31124 Feature K; view to northeast



**Feature L** is a small, rectangular concrete pad or foundation similar to Feature K, located along the northern end of the Feature H terrace wall (see Figure 95 and Figure 120). It measures 2.0 m long (north/south) by 1.2 m wide (east/west). The concrete pad is 3.0 cm thick; it was poured atop a rectangular stone base that appears to be a modification to the Feature H terrace wall. It is in fair condition, intact but exhibiting numerous cracks. Several glass one-gallon jugs, a metal basin, and glass and ceramic fragments were observed on the concrete slab. The feature may have supported machinery or a fixture of some type and likely served as a historic activity or processing area.

**Feature M** is a petroglyph of a *kanji* character that translates as “gold” or “money.” The character is located on a bedrock outcrop approximately 5.0 m west of Feature B (see Figure 95 and Figure 121). The symbol measures 15 cm long by 22 cm wide. The feature was created by chiseling into the bedrock outcrop. The depth of the inscription ranges from 3-5 mm. It is in excellent condition. The feature was likely created by Japanese farmers occupying the site in the early part of the twentieth century.

SIHP # -31124 is a pre-Contact through historic era site complex characterizing an intact portion of the Kona Field System that was subsequently modified for use into the twentieth century. Radiocarbon dates from charcoal samples collected during testing at the site yielded date ranges in line with this assessment (see Section 5.3.2). The terrace system extending from Feature A is a remnant of a planting field or *kīhāpai* situated within the greater field system. These terraces were modified and utilized during the historic era for habitation and associated activity, as evidenced by the presence of concrete foundations and an extensive assemblage of historic artifacts. In pre-Contact times this complex would have likely extended further outward in all directions, but the surrounding areas were impacted over time by progressive land uses. Based on the presence of the *kanji*, other Japanese artifacts (ceramics, bottles), and the establishment of a Japanese community in this part of upland Kona historically, it is likely the site was utilized by Japanese farmers.

SIHP # 50-10-28-31124 retains integrity of location, design, setting, materials, workmanship, and feeling, despite its historic and modern disturbance. The site no longer retains integrity of association, as it represents only an isolated remnant of what was once an extensive and continuous field system. It is assessed as significant under Criterion d for the important information it has yielded about pre-Contact and historic land use.



Figure 120. Photo of SIHP # -31124 Feature L; view to southeast



Figure 121. Photograph of SIHP # -31124 Feature M; view to west

## 6.2 SIHP # 50-10-28-31125

|                                |                 |
|--------------------------------|-----------------|
| <b>FORMAL TYPE:</b>            | Causeway        |
| <b>FUNCTION:</b>               | Transportation  |
| <b>NUMBER OF FEATURES:</b>     | 1               |
| <b>AGE:</b>                    | Historic        |
| <b>TAX MAP KEY:</b>            | [3] 7-5-014:001 |
| <b>LAND JURISDICTION:</b>      | Private         |
| <b>PREVIOUS DOCUMENTATION:</b> | None            |

SIHP # 50-10-28-31125 is an earth and stone causeway located within the western portion of the project area (see Figure 17 and Figure 122 through Figure 126). The site is within maintained rows of coffee and is situated between the modern asphalt driveway and the bulldozer swath adjacent to SIHP # -31124. It extends cross-slope, or roughly north-south, through a natural depression.

The SIHP # -31125 causeway is tapered from the bottom up creating a level, two-track travel surface narrower than its base. The site measures 90.5 m long (north/south) by 7.0 m wide (east/west) at the base and 3.2 m wide at the surface, with a maximum height of 1.6 m. At either end the causeway height decreases until it is flush with the natural topography. The overall area of the site is 519.60-sq-m or 0.13 acres. The site is generally in good condition and appears to have not been significantly impacted by the planting of coffee trees upon it. The southernmost approximately 14.0 m of the berm have been disturbed by bulldozing, which likely occurred when the modern asphalt driveway was constructed. The northern end terminates at the bulldozer swath adjacent to SIHP # -31124 Feature C. No cultural materials were observed on the surface, which was as expected given the ongoing maintenance of the coffee plantation.

The morphology of SIHP # -31125 is consistent with a raised travel surface such as a driveway or cart road. The berm would have allowed a single vehicle access from Māmalahoa Highway through a topographical depression in the project area. It may have been associated with a structure depicted in the interior of the project area on a 1924 USGS map (see Figure 11). The 1954 USGS map (see Figure 12) does not depict this interior structure, but does indicate the presence of structures on the properties adjacent to the north and south. In order to access the structure(s) to the north directly, the causeway travel route would have needed to cross SIHP # -31124, and there is no evidence of this. It is possible the causeway may have been intended to access the SIHP # -31124 site, where historic activity was occurring. Alternatively, it may have functioned to access and maintain agricultural fields such as those visible in the project area on the 1977 aerial photo (see Figure 13). On the 1977 photo, the causeway can be seen running along the western side of two distinct rectangular agricultural plots.

Despite its impacts from agricultural and modern driveway development, SIHP # -31125 retains integrity of location, design, setting, materials, and workmanship. It is assessed as significant under Criterion d for the information it has yielded about historic land use in the study area.

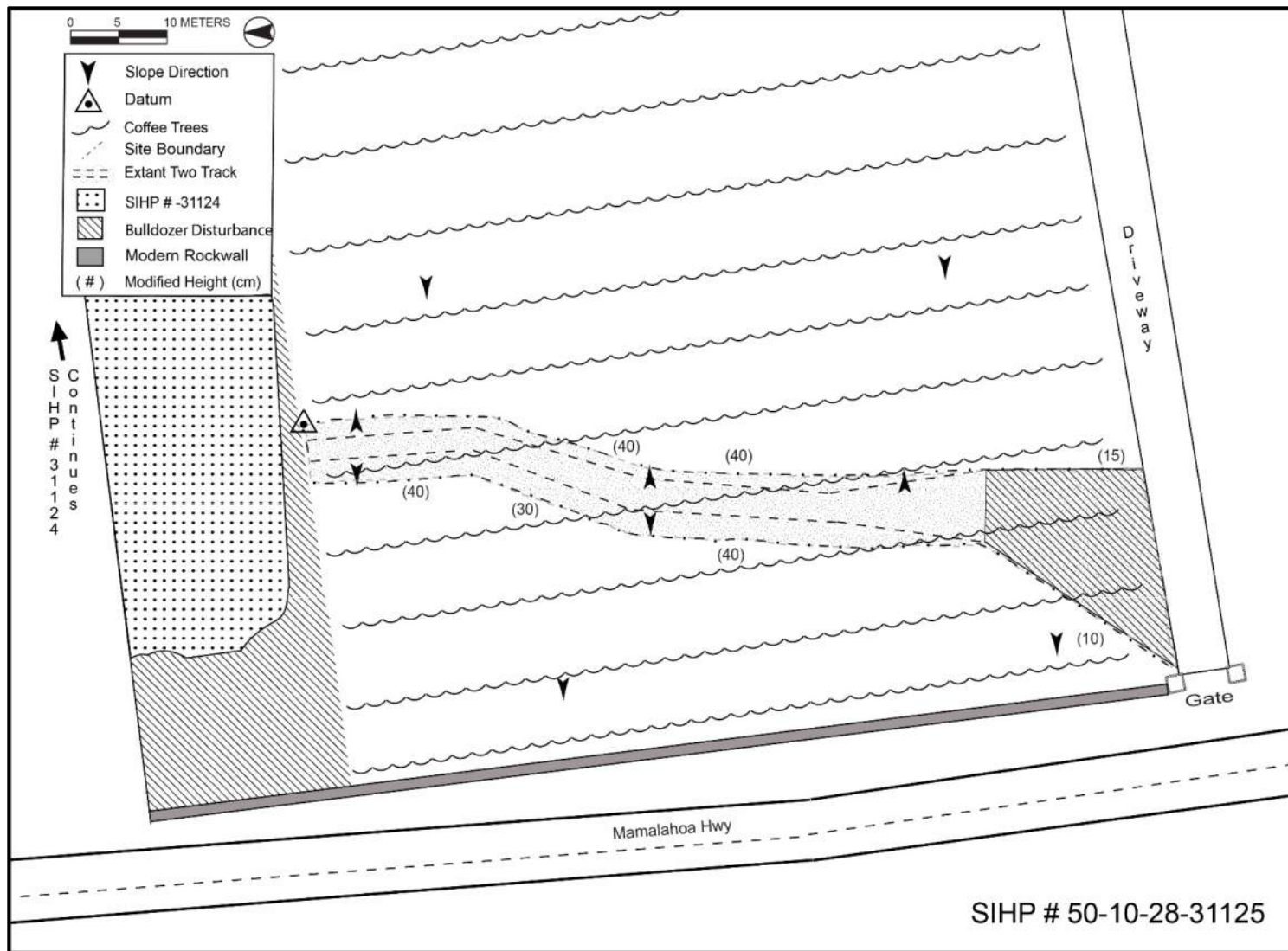


Figure 122. Plan view map of SIHP # 50-10-28-31125



Figure 123. Photo of the northern portion of SIHP # -31125; view to north



Figure 124. Photo showing the tapered *mauka* edge of SIHP # -31125, which is planted in coffee; view to northwest



Figure 125. Photo showing the disturbed southern portion of SIHP # -31125; view to southwest



Figure 126. Photo showing the interface of SIHP # -31125 with the modern asphalt driveway; view to northwest

### 6.3 SIHP # 50-10-28-31126

|                                |                              |
|--------------------------------|------------------------------|
| <b>FORMAL TYPE:</b>            | Terrace                      |
| <b>FUNCTION:</b>               | Agriculture                  |
| <b>NUMBER OF FEATURES:</b>     | 1                            |
| <b>AGE:</b>                    | Pre-Contact through historic |
| <b>TAX MAP KEY:</b>            | [3] 7-5-014:001              |
| <b>LAND JURISDICTION:</b>      | Private                      |
| <b>PREVIOUS DOCUMENTATION:</b> | None                         |

SIHP # 50-10-28-31126 is a terrace situated in the central portion of the project area between the driveway and the southern project boundary (see Figure 17). Downslope of the terrace are rows of mature coffee trees. The area directly *mauka* of the terrace wall is densely vegetated with mature trees including royal palm, African tulip, and an orange tree. Dense roots are visibly intertwined within the structure of the terrace wall.

The SIHP # -31126 terrace wall is oriented cross-slope, or north-south, and measures 16.0 m long (north/south) by 1.1 m wide with a maximum height of 0.80 m (Figure 127 through Figure 129). It is constructed with dry stacked large cobbles and small to medium boulders. The stones are neatly stacked 2-4 courses high on soil and bedrock, and the more intact northern end of the feature closer to the driveway exhibits facing. An area of retained soil is present above the terrace wall. The wall is in fair condition with intermittent areas of collapse due to root disturbance; the southern portion of the wall has been largely scattered. Including the level area that the terrace wall retains to the east, the entire site measures approximately 16.0 m long (north/south) by 8.5 m wide (east/west), with an overall area of 136.04 sq-m or 0.3 acres. Several ceramic and glass fragments were observed on the ground surface at the site.

TU-1 was excavated through the northern-central portion of the SIHP # -31126 terrace wall (see Figure 127). Volcanic glass and historic artifacts including a small horseshoe (possibly for a donkey), marble, bottle stopper, and fragmental glass, porcelain, metal, and stoneware were collected from the portion of the unit downslope of the terrace wall (see Section 4.2.1). These materials were evenly distributed throughout this portion of the unit, suggesting a secondary deposition in surface runoff and/or due to bulldozing for the coffee plantation around the site. No artifacts were encountered in the portion of the unit *mauka* of the terrace wall, though the sediments here have been heavily disturbed by the numerous tree roots.

The nature and location of SIHP # -31126 identifies it as a traditional Hawaiian agricultural feature that has undergone historic and/or modern modification. This terrace wall is an isolated remnant of a planting field or *kīhāpai* situated within the greater Kona Field System. Like SIHP # -31124 on the northern project boundary, SIHP # -31126 is within a portion of the project area not improved to plant coffee. The facing at the northern end closer to the driveway may be a historic or modern improvement to the original terrace wall. While the historic artifacts in TU-1 may not have originated at SIHP # -31126, their presence is indicative of the historic land use that occurred on the property. Despite its modifications, the site retains integrity of location, design, setting, materials, and workmanship. It is assessed as significant under Criterion d for the information it has yielded about pre-Contact and historic land use in the study area.

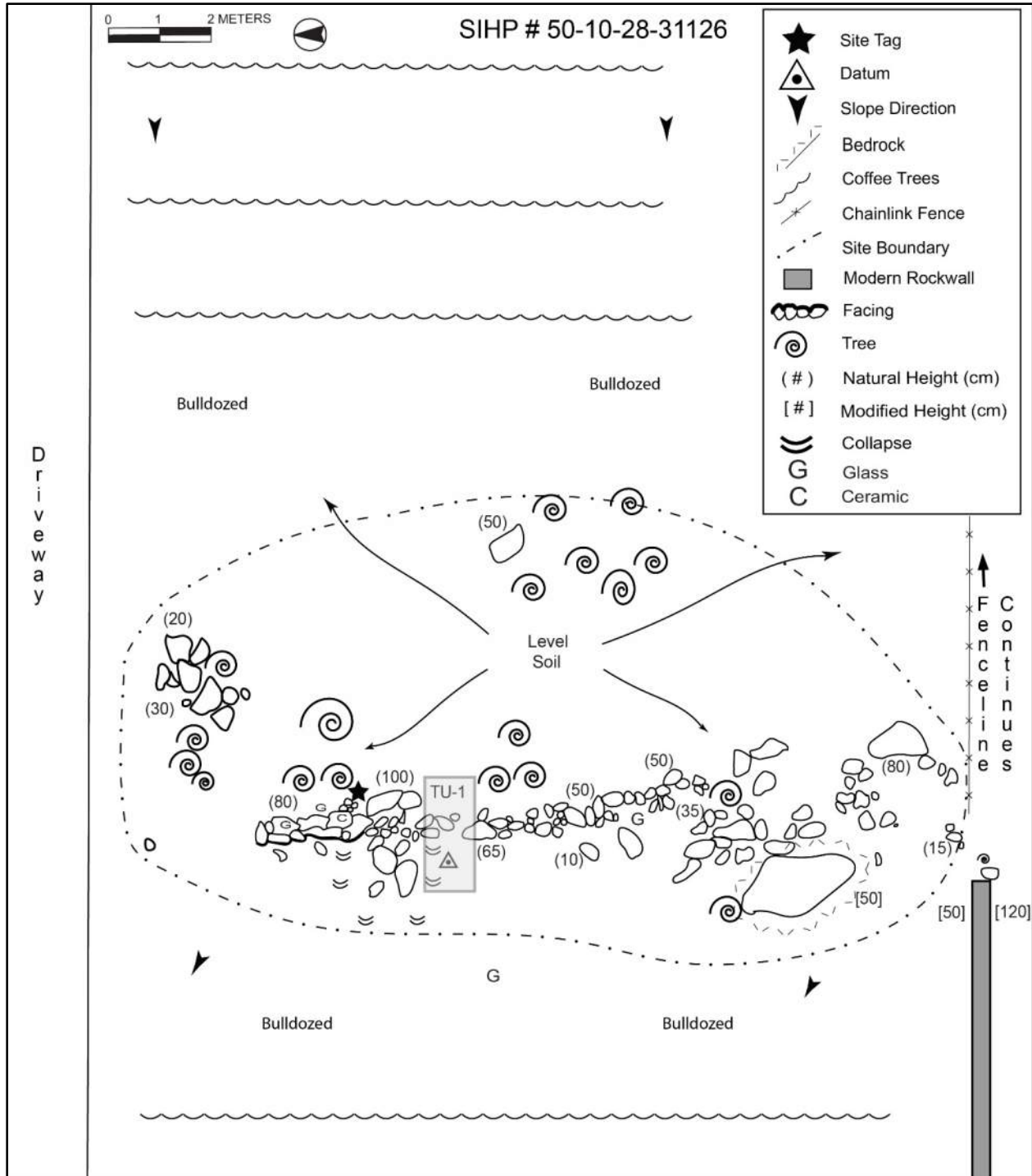


Figure 127. Plan view map of SIHP # 50-10-28-31126





Figure 128. Photo of SIHP # -31126; view to east



Figure 129. Photo of SIHP # -31126; view to south

## Section 7 Summary and Interpretation

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Fieldwork for this AIS was undertaken intermittently between 12 November 2019 and 12 February 2020. The fieldwork included a 100% pedestrian inspection of the project area, a program of subsurface testing, and associated GPS data collection. Except for two areas of dense vegetation in the vicinity of SIHP #s -31124 and -31126, ground visibility was very good.

The project area has been extensively altered by agricultural activity beginning in the pre-Contact era with the development of the Kona Field System. In the latter half of the nineteenth century the project area came to be used for new types of agriculture and related habitation, and small farming villages began to form along the Māmalahoa Highway. This land use has continued into the modern era, as the project area parcel has been developed as a coffee plantation subject to ongoing maintenance and harvesting activities.

Three historic properties were newly identified within the project area during the AIS. These include SIHP #s -31124, a complex representing a portion of the Kona Field System adapted for historic use; -31125, a berm utilized as a historic driveway; and -31126, a pre-Contact agricultural terrace with historic and/or modern modifications.

A program of manual subsurface testing was conducted for the AIS. Twelve test units were excavated within seven features at SIHP # -31124, and one test unit was excavated at SIHP # -31126. The subsurface testing effort revealed one to two distinct layers of natural brown to dark grayish brown silty clay loam consistent with Honuauulu series soils. All 13 units were excavated to bedrock. Sediments ranged in depth from 32–75 cm below surface (cmb). While a variety of cultural materials were identified during the subsurface testing program, no lava tubes or human remains were encountered.

The cultural materials encountered during the subsurface testing program were consistent with expectations regarding previous land use in the project area. Radiocarbon analysis of charcoal from short-lived native wood species collected from TU-12 indicate SIHP # -31124 was likely in use from the latter 1600s into the 1930s. While some traditional lithic materials were encountered, including a piece of a basalt adze, no marine shell midden was present. These findings are supportive of the analysis that SIHP # -31124 was part of a pre-Contact agricultural site, where agricultural work activities were taking place as opposed to habitation. The SIHP # -31124 artifact assemblage indicates that in historic times the site functioned more as a habitation-related or multi-purpose space; in addition to the numerous household-type artifacts, cow bones interpreted as food remains were identified at two features. The historic materials were concentrated within the upper limits of the test units. Subsurface testing at SIHP # -31126 yielded a similar assemblage of lithic material (volcanic glass) and historic artifacts.

Geochemical analysis of the adze fragment found at SIHP # -31124 indicates consistency with a group of basalt objects encountered in Kona for which the material may have originated from another Hawaiian island, underscoring the wide reach of pre-Contact trade networks. Another basalt flake found during excavation at SIHP # -31124 was sourced to Mauna Kea. Volcanic glass found through the project area was consistent with more localized sources, including Pu'u Wa'awa'a and Mauna Loa.

## Section 8 Significance Assessments

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Under HRS §6E, for a historic property to be significant under HAR §13-275-6 (applicable to government projects), the historic property should possess integrity of location, design, setting, materials, workmanship, feeling, and/or association, and meet one or more of the following significance criteria:

- a Be associated with events that have made an important contribution to the broad patterns of our history;
- b Be associated with the lives of persons important in our past;
- c Embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, or possess high artistic value;
- d Have yielded, or is likely to yield, information important for research on prehistory or history; or
- e Have an important value to the native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group's history and cultural identity.

SIHP #s 50-10-28-31124, -31125, and -31126 within the project area possess integrity of location, design, setting, materials, and workmanship. SIHP # -31124 also possesses integrity of feeling.

Pursuant to HAR §13-275-6, all three sites in the project area (SIHP #s 50-10-28-31124, -31125, and -31126) are assessed as significant under Criterion d for the important information they have yielded about pre-Contact and historic land use.

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## **Section 9 Project Effect and Mitigation Recommendations**

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### **9.1 Project Effect**

In accordance with HAR §13-275-7, the DHHL has determined the project effect is “effect, with proposed mitigation commitments.”

### **9.2 Mitigation Recommendations**

The three archaeological historic properties documented within the project area (SIHP #s 50-10-28-31124, -31125, and -31126) have been assessed as significant under Criterion d pursuant to HAR §13-275-6(b) for the information they have yielded about pre-Contact and historic land use within the project area. These historic properties have been adequately documented and, thus, no further archaeological documentation or any mitigation is recommended.

Archaeological monitoring of project-related ground disturbance is proposed to facilitate identification for information purposes of any subsurface remnants of historic properties beneath the coffee fields that may be encountered, including but not limited to culturally modified lava tubes, although such findings are unexpected.

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# Appendix A SHPD Correspondence

|  |  |   |
|--|--|---|
|  <p>DAVID Y. IGE<br/>GOVERNOR OF<br/>HAWAII</p>   |         | <p>SUZANNE D. CASE<br/>CHAIRPERSON<br/>BOARD OF LAND AND NATURAL RESOURCES<br/>COMMISSION ON WATER RESOURCE MANAGEMENT</p> <p>ROBERT K. MASUDA<br/>FIRST DEPUTY</p> <p>M. KALEO MANUEL<br/>DEPUTY DIRECTOR - WATER</p> <p>AQUATIC RESOURCES<br/>BOATING AND OCEAN RECREATION<br/>BUREAU OF CONVEYANCES<br/>COMMISSION ON WATER RESOURCE MANAGEMENT<br/>CONSERVATION AND COASTAL LANDS<br/>CONSERVATION AND RESOURCES ENFORCEMENT<br/>ENGINEERING<br/>FORESTRY AND WILDLIFE<br/>HISTORIC PRESERVATION<br/>KAROOLAME ISLAND RESERVE COMMISSION<br/>LAND<br/>STATE FARMS</p> |
| <p>STATE OF HAWAII<br/>DEPARTMENT OF LAND AND NATURAL RESOURCES<br/>STATE HISTORIC PRESERVATION DIVISION<br/>KAKUHIHEWA BUILDING<br/>601 KAMOKILA BLVD., STE 555<br/>KAPOLEI, HI 96707</p>   |  |   |
| <p>May 14, 2019</p>  |  |   |
| <p>Andrew Choy, Acting Planning Program Manager<br/>Department of Hawaiian Home Lands<br/>91-5420 Kapolei Parkway<br/>Kapolei, HI 96805<br/><a href="mailto:Andrew.H.Choy@hawaii.gov">Andrew.H.Choy@hawaii.gov</a></p>   | <p>IN REPLY REFER TO:<br/>Log No.: 2019.00795<br/>Doc. No.: 1905SN19<br/>Archaeology</p> |   |
| <p>Dear Mr. Choy:</p>  |  |   |
| <p>SUBJECT: <b>HRS Chapter 6E-8 and National Historic Preservation Act (NHPA) Section 106 Review – Department of Hawaiian Home Lands’ Initiation of Consultation for the North Kona Well Construction Project Kahului Ahupua’a, North Kona District, Island of Hawai’i TMK: (3) 7-5-014:001</b></p>  |  |   |
| <p>This letter provides the State Historic Preservation Division’s (SHPD’s) review of the proposed Department of Hawaiian Home Lands (DHHL) well construction project that was received by our office on April 12, 2019. The submittal included a letter from DHHL initiating consultation pursuant to HRS 6E-8 and HAR §13-275-5(b). This DHHL project will receive funding from the US Department of Agriculture (USDA) and is therefore a federal undertaking as defined in 36 CFR 800.16(y). The proposed project is subject to compliance with Section 106 of the NHPA and with historic preservation review under Hawaii Revised Statutes (HRS) Chapter 6E-8.</p>  |  |   |
| <p>At this time, the USDA has not yet determined that the current project as an undertaking and has not initiated the Section 106 process with the SHPO. The USDA has also not provided the SHPO with an area of potential effects (APE), identified potential historic properties, initiated consultations or provided a determination of effect. DHHL has provided information regarding potential historic properties located within the current project area.</p>  |  |   |
| <p>The project involves the construction of a 2.0-million-gallon reservoir, with wells, pumps, a control building, and an access road linking the project area to the Mamalahoa Highway. The reservoir will be approximately 200 ft. x 200 ft. with a maximum depth of 25–30 ft. The access road will be approximately 500 ft. long and 30 ft. wide. The current submittal includes an archaeological literature review and field inspection report (Bautista et al, February 2019) that indicates the presence of historic properties in the vicinity and that the current project area is within the boundaries of the Kona Field System (SIHP 50-10-32-06601). Pursuant to HAR §13-275-5(b), the DHHL requests concurrence from SHPD regarding the need to conduct an archaeological inventory survey for the current project area.</p> |  |   |
| <p>Due to the presence of identified historic properties in the vicinity, as described in the LRFI, and the current project’s location within the boundaries of the Kona Field System, <b>the SHPD concurs with DHHL’s proposed request for an AIS</b> to be conducted in order to identify and document any historic properties present within the current project area and to provide any necessary mitigation measures. This AIS also will aid in the identification processed required under 36 CFR 800. Consultation with SHPD will determine the level of subsurface testing for the proposed project area.</p>  |  |   |

Mr. Yee  
May 14, 2019  
Page 2

Please contact Sean Nāleimaile at (808) 933-7651 or at [Sean.P.Naleimaile@Hawaii.gov](mailto:Sean.P.Naleimaile@Hawaii.gov) if you have any questions or concerns regarding this letter.

Aloha,  
*Alan Downer*

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

cc. Joanne Hiramatsu, [jhiramatsu@bchdesign.com](mailto:jhiramatsu@bchdesign.com)  
Halealoha Ayau, [e.halealoha.ayau@hawaii.gov](mailto:e.halealoha.ayau@hawaii.gov)  
JamesDuPont, [james.w.dupont@hawaii.gov](mailto:james.w.dupont@hawaii.gov)  
Stewart Matsunaga, [stewart.t.matsunaga@hawaii.gov](mailto:stewart.t.matsunaga@hawaii.gov)  
Jeffrey Fujimoto, [jeffrey.y.fujimoto@hawaii.gov](mailto:jeffrey.y.fujimoto@hawaii.gov)

# Appendix B HRHP Archaeological Cover Sheet for SIHP # 50-10-32-06601 (Kona Field System)

7-7-04:20 *Dillingham*

ARCHAEOLOGICAL COVER SHEET

HAWAII REGISTER OF HISTORIC PLACES

50 - 10 - 32 - 6601      SITE NAME/TYPE: KONA Field System  
1 2 3 4 5 6 7 8 9  
 DISTRICT: North and South KONA

2 / 1      SITE IDENTIFICATION NUMBER      AREA: 1,392 square Kilometers  
10 11 12 13 14 15 16 17 18 19 20  
PRE-1778  
 CATEGORY:  Single Feature  Complex  Places

CARD No.      DATE/PERIOD      OWNERSHIP:  Public  Private  
 PHOTOGRAPHS:  Yes  No (Temp/Tech)

PRESENT LAND USES: MULTIPLE      KNOWN PRESSURES ON SITE: URBANIZATION

DESTRUCTION:  No Known Future Danger  Possible Future Danger  Future Danger Certain  
 Present Danger  Presently Being Destroyed

STATUS:  Occupied  Unoccupied      CONDITION:  Excellent  Good  Fair  Deteriorated

INTEGRITY:  Unaltered, Orig Loc  Unaltered, Moved  Altered, Orig Loc  Altered, Moved

ACCESSIBILITY:  Unrestricted  Restricted  Inaccessible

LEGENDARY MATERIALS KNOWN:  Yes  No      WRITTEN HISTORICAL MATERIALS:  Yes  No

IMPORTANCE AS EXAMPLE OF TYPE SITE:  Good  Moderate  Poor

SUSCEPTIBILITY TO INTERPRETATION:  Good  Moderate  Poor

RESEARCH POTENTIAL:  Good  Moderate  Poor

LOCAL ATTITUDES ABOUT SITE:  Valuable  Moderate Value  Low Value  Ambivalent  Unknown

BRIEF DESCRIPTION (Columns 21-80): MASSIVE ANCIENT HAWAIIAN Field System MEASURING 3 by 18 miles

STAFF EVALUATION:  High Value  Valuable  Reserve  Marginal

SUGGESTED THEMES: Polyneesian Hawaii, AGRICULTURE, SETTLEMENT PATTERNS, Habitation

DATE SUBMITTED TO REVIEW BOARD: \_\_\_\_\_

---

REVIEWER'S RECORD AND EVALUATION

NAME: \_\_\_\_\_ DATE REVIEWED: \_\_\_\_\_

CATEGORY:  High Value  Valuable  Reserve  Marginal

SIGNIFICANCE:  National  State  Local

RECOMMENDED DISPOSITION:  Nominate National Register  State Register  Staff Files

RECOMMENDED THEMES: \_\_\_\_\_

REVIEWER'S COMMENTS: \_\_\_\_\_

---

REVIEW BOARD EVALUATION RECORD

DATE REVIEWED: \_\_\_\_\_ RECORDER: \_\_\_\_\_

OFFICIAL CATEGORY:  High Value  Valuable  Reserve  Marginal


OFFICIAL SIGNIFICANCE:  National  State  Local

OFFICIAL THEMES: \_\_\_\_\_

OFFICIAL DISPOSITION:  National Register Nomination  State Register  Staff Files

REVIEW BOARD COMMENTS: \_\_\_\_\_

VOTING RECORD:    Daws \_\_\_\_\_    Hormann \_\_\_\_\_    Jackson \_\_\_\_\_    Kikuchi \_\_\_\_\_  
                          Lind \_\_\_\_\_    Mark \_\_\_\_\_    Nagata \_\_\_\_\_    Paglinawan \_\_\_\_\_  
                          Roche \_\_\_\_\_    Tuggle \_\_\_\_\_



DEPARTMENT OF LAND AND NATURAL RESOURCES  
STATE PARKS DIVISION

**HAWAII REGISTER OF HISTORIC PLACES**  
ARCHAEOLOGICAL FORMS

FORM  $\frac{0}{1} \frac{1}{2}$ : FIELD SURVEY

$\frac{1}{12}$   
4 CORNER

$\frac{2}{13} \frac{14}{15} \frac{16}{17} \frac{18}{19} \frac{N.}{20} / \frac{21}{22} \frac{23}{24} \frac{E.}{25}$   
SINGLE POINT COORDINATE LOCATION

|   |   |                          |  |  |  |  |
|---|---|--------------------------|--|--|--|--|
| $\frac{17}{24} \frac{25}{26}$<br>DISTRICT | $\frac{1}{26}$<br>LOC                                     | $\frac{1}{27}$<br>FACTOR | $\frac{999}{28} \frac{30}{29}$<br>AREA SQUARE                        | $\frac{3}{31}$<br>CATEGORY             | $\frac{10}{32} \frac{33}{34}$<br>SIG 1 | $\frac{41}{34} \frac{35}{36}$<br>SIG 2 |
| $\frac{2}{36}$<br>DESTR                   | $\frac{37}{37} \frac{38}{38} \frac{39}{39}$<br>LAND CLASS | $\frac{1}{40}$<br>PHOTOS | $\frac{TSN}{41} \frac{01}{42} \frac{43}{43}$<br>INITIALS INSTITUTION | $\frac{04}{46} \frac{47}{47}$<br>MONTH | $\frac{74}{48} \frac{49}{49}$<br>YEAR  |  |

HISTORICAL OR COMMON NAME: KONA FIELD SYSTEM

|  |                        |                        |                          |
|--|------------------------|------------------------|--------------------------|
| $\frac{5}{68} \frac{11}{69} \frac{4}{70} \frac{20}{71} \frac{72}{72} \frac{73}{73} \frac{74}{74} \frac{75}{75} \frac{76}{76} \frac{77}{77}$<br>FEATURE CLASSIFICATION CODE | $\frac{2}{78}$<br>COND | $\frac{3}{79}$<br>INTG | $\frac{1}{80}$<br>PERIOD |
|--|------------------------|------------------------|--------------------------|

CLASS:

Nominated \_\_\_\_\_  
Accepted \_\_\_\_\_

Category A \_\_\_\_\_  
B \_\_\_\_\_  
C \_\_\_\_\_

Keypunched \_\_\_\_\_

FORM  $\frac{1}{1} \frac{1}{2}$ : FOUR CORNER LOCATION

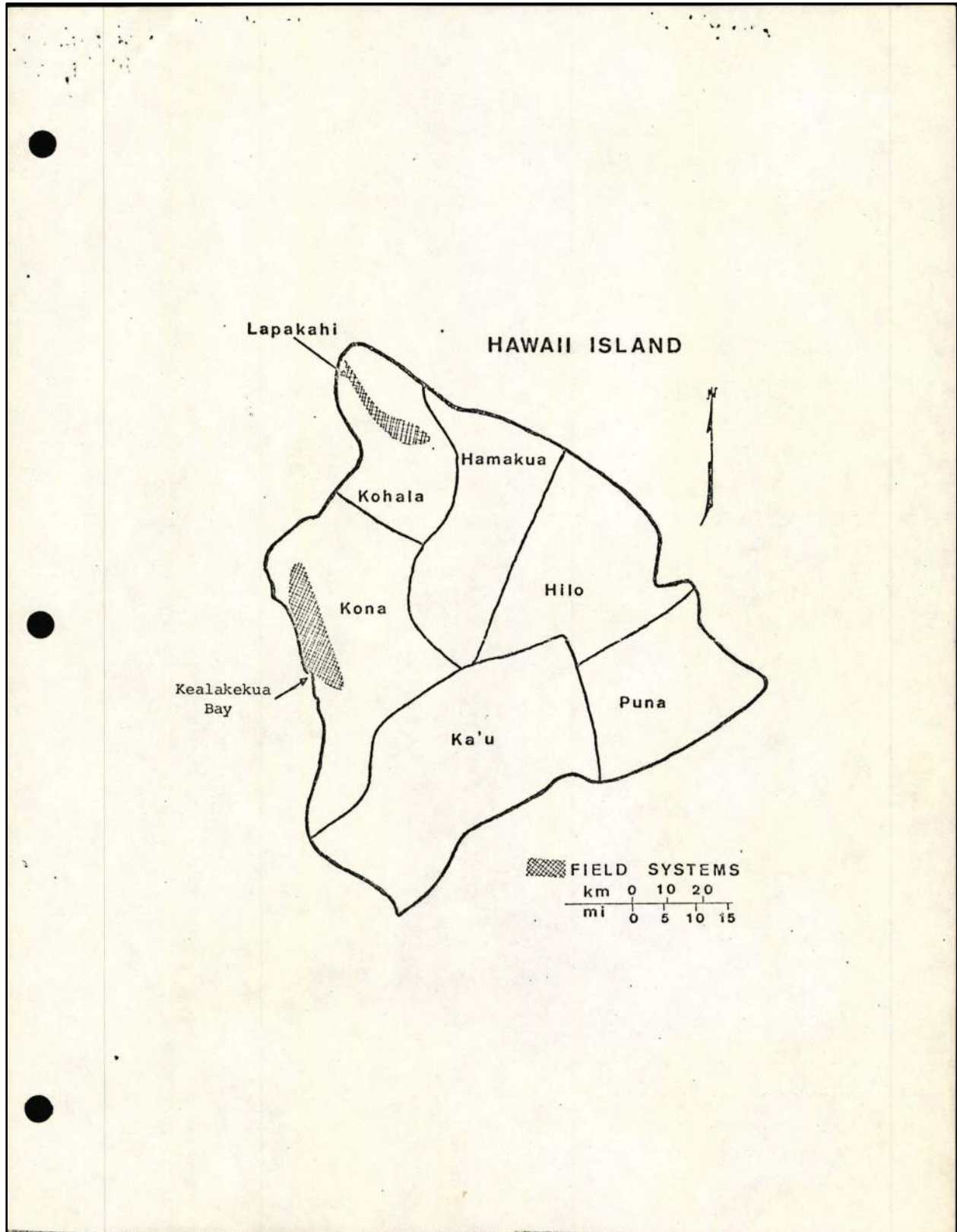
|            |                               |   |  |
|------------|-------------------------------|---|--|
| NW CORNER: | $\frac{27}{12} \frac{13}{13}$ | $\frac{2}{14} \frac{18}{15} \frac{1}{16} \frac{55}{17} \frac{18}{18} \frac{19}{19}$ | $\frac{N.}{20} / \frac{18}{20} \frac{3}{21} \frac{7}{22} \frac{1}{23} \frac{E.}{24}$   |
| NE CORNER: | $\frac{28}{25} \frac{26}{26}$ | $\frac{2}{27} \frac{18}{28} \frac{1}{29} \frac{41}{30} \frac{31}{31} \frac{32}{32}$ | $\frac{N.}{33} / \frac{19}{33} \frac{1}{34} \frac{67}{35} \frac{E.}{36} \frac{37}{37}$ |
| SE CORNER: | $\frac{57}{38} \frac{39}{39}$ | $\frac{2}{40} \frac{14}{41} \frac{4}{42} \frac{50}{43} \frac{44}{44} \frac{45}{45}$ | $\frac{N.}{46} / \frac{20}{46} \frac{2}{47} \frac{07}{48} \frac{E.}{49} \frac{50}{50}$ |
| SW CORNER: | $\frac{56}{51} \frac{52}{52}$ | $\frac{2}{53} \frac{14}{54} \frac{3}{55} \frac{00}{56} \frac{57}{57} \frac{58}{58}$ | $\frac{N.}{59} / \frac{19}{59} \frac{4}{60} \frac{81}{61} \frac{E.}{62} \frac{63}{63}$ |

QUAD NORTH GRID COORDINATE EAST GRID COORDINATE

ISLAND

QUAD IDENTIFICATION NO.

50-10-37-6601







FEATURE DESCRIPTION FORM

50 - 10 - 37 - 6601  
ISLAND QUAD IDENTIFICATION NO.

VERBAL DESCRIPTION MUST INCLUDE: bearings and sources used to locate feature; size; shape; construction technique; materials used; terrain features; condition; surface artifacts; midden. SIGNIFICANCE STATEMENT MUST INCLUDE: research potential; interpretive potential; unusual or important characteristics; probable function; importance as representative of its class; recommendation of Register status.

DESCRIPTION:

The most extensive and monumental work of ancient Hawaii is the Kona Field System, lying along the western side of Hawaii Island. This field system is so extensive that it can only be appreciated from an airplane or by air photos, for it is an integrated complex of remains three by eighteen miles in size. The fields form a patterned network of elongated rectangles lying as a band parallel to the sea.

Ground inspections in the Kealahou Bay area have shown that the patterning is caused by earthen and rock ridges which enclose rectangular field areas, generally oriented with their long axis perpendicular to the sea. This places the long sides of each rectangular field perpendicular to the topographic contours and parallel to the terrain slope. Individual fields vary in size from 9 meters (30 feet) wide by 15 meters (50 feet) long to fields measuring 50 by 300 meters (150 by 1,000 feet). The field dimensions appear related to local topography. A field may widen to take in a feature, such as an outcropping, or it may narrow to go around one, for example.

Some field boundaries are well constructed of stacked stone while others are merely piles of rock lining the field borders. These walls vary in height from about 0.5 to 1.0 meters (1.5 to 3 feet). The earthen mounds vary from about 0.5 to 1 meters (1.5 to 3 feet) in height and are quite rounded. The width of these field boundaries ranges from about 1 meter (3 feet) for well constructed stone walls to about 3 meters (9 feet) for the rounded earthen mounds.

There was no evidence of irrigation as shown by traces of water diversion or by terracing; the mounds and walls apparently were for rainfall retention, boundary markers and depositories for field rocks. In addition, the upslope orientation of the fields rules against their use for holding surface water, indicating that water was limited to rainfall.

The general symmetry of the Kealahou fields, and of the whole Kona System, is well designed to take advantage of the western Hawaii Island environment. The orientation maximizes the available sunlight and exposure to periodic rain showers. The alignment would have made the crops susceptible to high velocity trade winds were it not for the protection of Mauna Loa. On-shore winds are generally light so physical damage or excessive plant evapo-transpiration would not have been a crucial factor in field alignment, contrary to the situation in Kohala.

FEATURE DESCRIPTION FORM

50 - 1 0 - 3 7 - 6 6 0 1  
 ISLAND QUAD IDENTIFICATION NO.

VERBAL DESCRIPTION MUST INCLUDE PERTINENT DATA ON: bearings and sources used to locate feature; terrain and vegetation; size; shape; construction technique; materials used; condition; surface artifacts or midden visible. SIGNIFICANCE STATEMENT MUST INCLUDE: unusual or important characteristics; accessibility; interpretive and research potential; evaluation of the site's importance as a representative of its class; recommendations for register category.

(Page Two)

Excellent historical documentation exists for the Kona Field System, primarily through the journal of Archibald Menzies, the surgeon and naturalist with Captain George Vancouver, who visited periodically between A.D. 1792 and 1794. He made two trips inland through portions of the Kona Field System, from the coast to its upper elevations. In his walk through the northern portion of the Kona Field System, Menzies left Kailua to ascend Hualalai, noting:

"We commenced our march with a slow pace, exposed to the scorching heat of the meridian sun, over a dreary barren track of a gradual ascent, consisting of little else than rugged porous lava and volcanic dregs, for about three miles, when we entered the breadfruit plantations whose spreading trees with beautiful foliage were scattered about that distance from the shore along the side of the mountain as far as we could see on both sides. Here the country began to assume a pleasant and fertile appearance, through which we continued our ascent for about two miles further, surrounded by plantations of the esculent roots and vegetables of the country, industriously cultivated, till we came to the uppermost village consisting of a few scattered huts ... [p. 154].

After reaching the summit of Hualalai, Menzies and his group angled south directly toward Kaawaloa at Kealakekua Bay instead of returning to Kailua. Descending out of the forest, he noted:

"... we found the lower edge of it (the forest) as in other places, adorned with rich plantations of plantains and bananas [p. 167]."

The most extensive description of the Kona Field System comes from a similar trip by Menzies at Kealakekua Bay, near the southern end of the field system. After leaving Kaawaloa, Menzies observed:

The forenoon was far spent in arranging and equipping the party before we left the village [Kaawaloā], and as our route lay directly back from it, over a dry barren rocky country, up a steep ascent, in the scorching heat of the day, the first part of our journey was rather fatiguing, before we gained the summit of the eminence over the bay, where we met a refreshing breeze, and had

SIGNED:

DATE:

## FEATURE DESCRIPTION FORM

50 - 1 0 - 3 7 - 6 6 0 1  
ISLAND QUAD IDENTIFICATION NO.

VERBAL DESCRIPTION MUST INCLUDE PERTINENT DATA ON: bearings and sources used to locate feature; terrain and vegetation; size; shape; construction technique; materials used; condition; surface artifacts or midden visible. SIGNIFICANCE STATEMENT MUST INCLUDE: unusual or important characteristics; accessibility; interpretive and research potential; evaluation of the site's importance as a representative of its class; recommendations for register category.

(Page Three)

an extensive prospect of the country and villages to the southward of us. The tract which extended along shore, if we might judge from its appearance and our knowledge of that which we had already traveled over, we were ready to pronounce a dreary naked barren waste, if we except a few groves of cocoa palms here and there near the villages. But that which stretched higher up along the verge of the woods from the manner it was industriously laid out in little fields exhibited a more pleasing and fertile appearance.

On leaving this station, we soon lost sight of the vessels, and entered their bread-fruit plantations, the trees of which were a good distance apart, so as to give room to their boughs to spread out vigorously on all sides, which was not the case in the crowded groves of Tahiti, where we found them always planted on the low plains along the sea side. But here the size of the trees, the luxuriance of their crop and foliage, sufficiently show that they thrive equally well on an elevated situation. The space between these trees did not lay idle. It was chiefly planted with sweet potatoes and rows of cloth plant [wauke]. As we advanced beyond the bread-fruit plantations, the country became more and more fertile, being in a high state of cultivation. For several miles round us there was not a spot that would admit of it but what was with great labor and industry cleared of the loose stones and planted with esculent roots or some useful vegetables or other. In clearing the ground, the stones are heaped up in ridges between the little fields and planted on each side, either with a row of sugar cane or the sweet root of these islands (Dracena ferrea, Linn) [ti] where they afterwards continue to grow in a wild state, so that even these stony, uncultivated banks are by this means made useful to the proprietors, as well as ornamental to the fields they intersect.

The produce of these plantations, besides the above mentioned, are the cloth plant (Morus papyrifera, Linn.) [wauke], taro, and sweet potatoes. The latter are here planted three or four feet apart and earthed up around their stems much in the same manner as the common

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FEATURE DESCRIPTION FORM

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(Page Four)

potatoes are treated in England. When they dig up any, we remarked that, after stripping off the potatoes, they carefully put the old plant back again in the ground for the ensuing crop. But the taro, being naturally an aquatic plant, required in this dry soil a very different treatment. There were generally two or three of them planted together in a hole about nine inches below the surface of the ground. These holes were about four feet apart, and as the plants grew up, the earth is gathered round their stems in the form of a basin to retain the water, either from rain or otherwise, about their roots. The whole field is generally covered with a thick layer of hay, made from long, coarse grass or the tops of sugar cane, which continually preserves a certain degree of moisture in the soil that would otherwise be parched up by the scorching heat of the solar rays. In this way they rear up these roots to very great perfection even on a dry elevated situation.

The land here is divided into plantations, called ili, which take their rise at the sea side and proceed up the country, preserving a certain breadth without any limitations, or as far as the owner chooses to cultivate them, and without the protection either of high walls or gates. (p. 77)

After breakfast, we pursued our course onward with a fair prospect of a fine day and soon after entered the wood by a well trodden path, on both sides of which were luxuriant groves of plantains and bananas reared up with great industry in the neatest order of cultivation. These being tender vegetables, required a sheltered situation and good soil to bring them to perfection. (p. 80)

Menzies continued inland above the field sytem and returned to the coast at Honaunau, just south of Kealakekua Bay.

SIGNED:

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FEATURE DESCRIPTION FORM

50 - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_  
 ISLAND QUAD IDENTIFICATION NO.

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(Page Five)

The routes of Menzies and other early observers were plotted, observations matched to specific land areas, and the observations and the areas were analyzed according to modern environmental data to determine the characteristics controlling the agriculture. The following sub-zones for the Kona Field System were developed:

Sweet Potato/Wauke Zone

Elevation: Sea level to about 500 feet (0 to 150 meters)

Annual Rainfall: Seasonal; 30 to 50 inches (.8 to 1.2 meters)

Crops: Sweet potatoes and wauke grown in very rocky areas.

Breadfruit/Sweet Potato/Wauke Zone

Elevation: 500 to 1,000 feet (150 to 300 meters)

Annual Rainfall: 30 to 60 inches (.8 to 1.5 meters)

Crops: breadfruit trees, with sweet potatoes and wauke planted between them.

Sweet Potato/Dry Land Taro Zone

Elevation: 1,000 to 2,500 feet (300 to 750 meters)

Annual Rainfall: 60 to 80 inches (1.5 to 2.0 meters)

Crops: no breadfruit trees; sweet potatoes in the lower part, dry land taro in the upper part. Field boundaries planted with ti and sugar cane.

DATE:

FEATURE DESCRIPTION FORM50 - 1 0 - 3 7 - 6 6 0 1  
ISLAND QUAD IDENTIFICATION NO.

VERBAL DESCRIPTION MUST INCLUDE PERTINENT DATA ON: bearings and sources used to locate feature; terrain and vegetation; size; shape; construction technique; materials used; condition; surface artifacts or midden visible. SIGNIFICANCE STATEMENT MUST INCLUDE: unusual or important characteristics; accessibility; interpretive and research potential; evaluation of the site's importance as a representative of its class; recommendations for register category.

(Page Six)

Plantains and Banana Zone

Elevation: 2,000 to 3,000 feet (600 to 900 meters)

Annual Rainfall: 80 to 100 inches (2.0 to 2.5 meters)

Crops: bananas and plantains planted just below and within the forest.

All environmental variables are relatively constant for the sub-zones except those of elevation and rainfall, demonstrating the regulating effect of these two variables on agriculture in the Kona Field System. These divisions are not to be construed as clear-cut but rather show a gradual change from one sub-zone to the next, correlated with steady increases in elevation and rainfall.

SIGNIFICANCE

The Kona Field System is without equal in Hawaii, and probably in the nation in terms of the extensiveness of a prehistoric modification of the land. It is quite comparable in terms of complexity and size with the well known field systems of Central and South America, although differing in specific characteristics. It is a physical demonstration of the highly developed farming economy of ancient Hawaii and illustrates the complexity and advanced state of aboriginal Hawaiian culture. The system is so extensive that it cannot be seen in its entirety except from extremely high altitudes, but the physical remains are sufficiently well preserved and in such generally good condition that they may still be detected on the ground, although it is difficult to realize what is viewed is part of such a massive system. In all, it is a magnificent monument to the exhaustive labors and industry of the ancient Hawaiians.

The study of environmental and crop factors shows the ancient Hawaiians were knowledgeable and adept in molding their needs in consonance with environmental restraints. Historical records show a strong appreciation of good conservation measures, such as fallowing, and mulching. This illustrates the close partnership with nature which was so much a characteristic of ancient Hawaii.

SIGNED:

DATE:

FEATURE DESCRIPTION FORM

50 - 1 0 - 3 7 - 6 6 0 1  
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VERBAL DESCRIPTION MUST INCLUDE PERTINENT DATA ON: bearings and sources used to locate feature; terrain and vegetation; size; shape; construction technique; materials used; condition; surface artifacts or midden visible. SIGNIFICANCE STATEMENT MUST INCLUDE: unusual or important characteristics; accessibility; interpretive and research potential; evaluation of the site's importance as a representative of its class; recommendations for register category.

(Page Seven)

The vastness and complexity of the system show the excellent practical engineering and environmental knowledge of the ancient Hawaiians, as well as the highly evolved social organization which could coordinate the labors of a multitude of people to create and maintain such a system. Yet, within the overall system, it is possible to see the role of the 'ohana, the basic Hawaiian kinship and land-controlling grouping, for the boundaries of the traditional 'ili and ahupua'a land divisions are clear. This gives an unparalleled opportunity for research into the organization and interrelationships of ancient Hawaiian society.

The innumerable habitation remains, as well as the remains of complete assemblages of other physical remains, such as burial areas, religious structures (heiau), cave shelters, refuge caves, animal enclosures, and work platforms all contribute to the research importance of this system.

Finally, the Kona Field System is a dramatic illustration of the dependence of ancient Hawaii upon the production of land foods, their primary subsistence source. Truly, this is worthy of entry into the Hawaii and National Registers of Historic Places as a district of high value.

Urban development and modern agriculture has caused moderate damage to the system, but ample remains are still in existence to delimit the system and to warrant a high value evaluation.

N.B. Quotations are from:  
 Menzies, Archibald  
 1920 Hawaii Nei 128 Years Ago.... Honolulu.

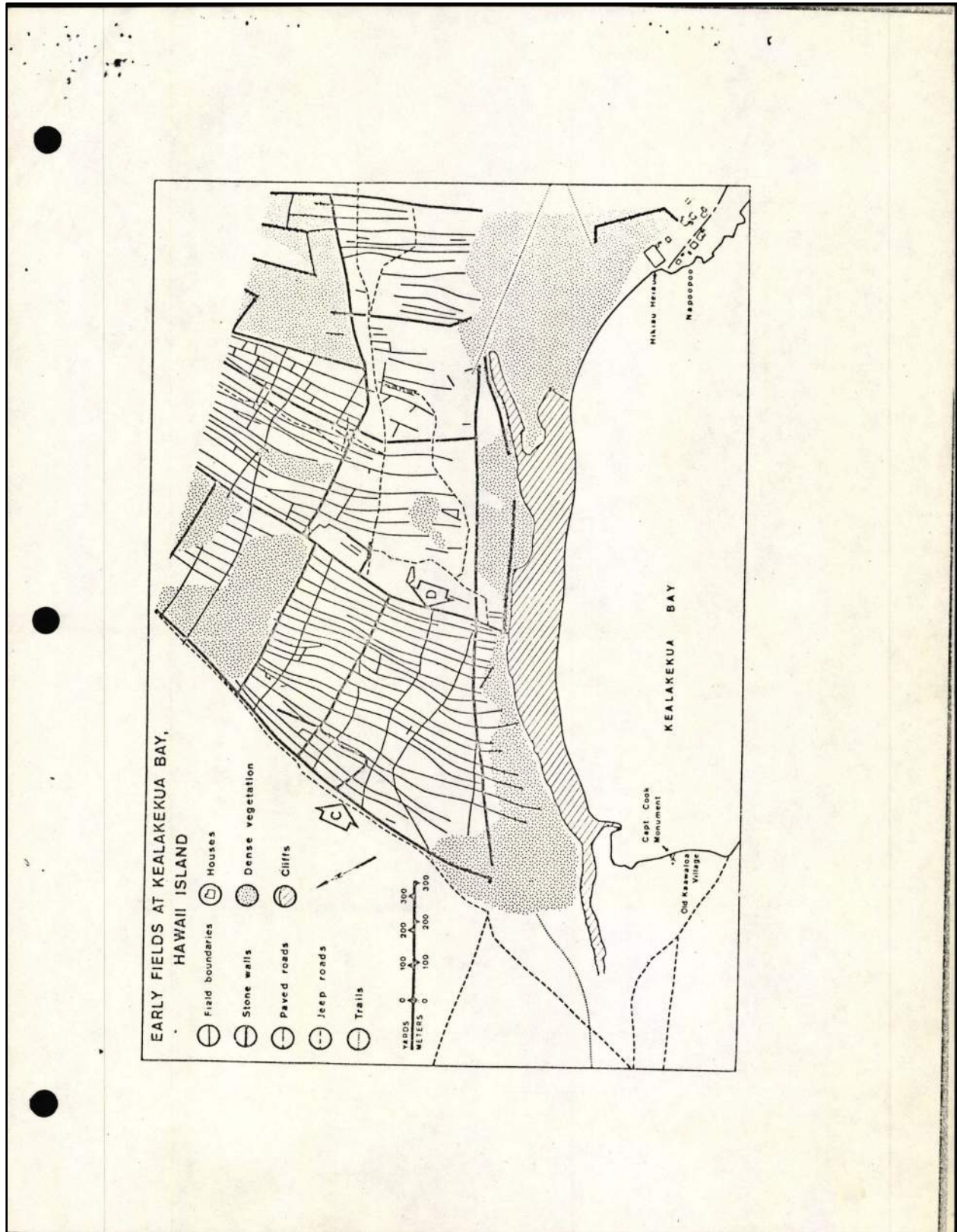
N.B. The Quad number in the site identification was arbitrarily chosen since the district extends through multiple quads.

|    | <u>LAT.</u>   | <u>LONG.</u>   |
|----|---------------|----------------|
| NW | 19° 42' 15" N | 156° 00' 27" W |
| NE | 19° 42' 16" N | 155° 56' 27" W |
| SE | 19° 22' 20" N | 155° 50' 10" W |
| SW | 19° 21' 32" N | 155° 54' 18" W |

SIGNED: *J Steel Neom*

DATE: *May 15, 1979*





FORM  $\frac{3}{1} \frac{1}{2}$ : PROPERTY OWNERSHIP

50 -  $\frac{10}{3\ 4}$  -  $\frac{37}{5\ 6}$  -  $\frac{6601}{7\ 8\ 9\ 10\ 11}$

ISLAND                      QUAD                      IDENTIFICATION NO.

$\frac{21}{12\ 13}$      $\frac{11}{14\ 15}$      $\frac{1}{16}$      $\frac{3}{17}$      $\frac{2}{18}$      $\frac{2}{19}$      $\frac{20}{20}$      $\frac{21}{21}$      $\frac{22}{22}$      $\frac{23}{23}$      $\frac{24}{24}$      $\frac{25}{25}$      $\frac{26}{26}$      $\frac{27}{27}$

USE 1    USE 2    STAT    OWNR    ATTD    ACCS    zone sect    plat    parcel

T A X    M A P    K E Y

PROPERTY OWNER: M U L T I P L E

28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

STREET ADDRESS: \_\_\_\_\_

46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

TOWN OR CITY: \_\_\_\_\_

64 65 66 67 68 69 70 71 72 73    74 75    76 77 78 79 80

STATE                      ZIP CODE

---

FORM  $\frac{4}{1} \frac{1}{2}$ : BACKGROUND DATA

50 -  $\frac{10}{3\ 4}$  -  $\frac{37}{5\ 6}$  -  $\frac{6601}{7\ 8\ 9\ 10\ 11}$

ISLAND                      QUAD                      IDENTIFICATION NO.

AHUPUA'A    M U L T I P L E

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

PREVIOUS SURVEYS: N O N E

27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

PREVIOUS SITE DESIGNATION(S): N O N E

45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

LAST NAME OF SURVEYOR: \_\_\_\_\_

63 64 65 66 67 68 69 70 71 72 73 74

75 76    77 78    79 80

INSTITUTION                      YEAR                      FILED AT

# Appendix C EDXRF Analysis Report

## EDXRF Analysis Report

UH Hilo Geoaerchaeology Lab

Sample List: Puaa 5 from O Bautista Analyzed: 03/03/20 08:47:12  
 Analysis Technique: Linear Last Calibrated: 08/27/19 11:30:58  
 Method File: C:\...\Documents\Methods\Master Methods\9-19-Kona Puaa 5 CSH.mth Software version: 7.2 (Build 134)

### Conditions

|                |             |              |        |
|----------------|-------------|--------------|--------|
| <b>High Zb</b> |             |              |        |
| Voltage        | 50 kV       | Current      | Auto   |
| Livetime       | 250 seconds | Counts Limit | 0      |
| Filter         | Cu Thick    | Atmosphere   | Vacuum |
| Maximum Energy | 40 keV      | Count Rate   | Medium |
| Warmup time    | 0 seconds   |              |        |
| <b>Mid Za</b>  |             |              |        |
| Voltage        | 16 kV       | Current      | Auto   |
| Livetime       | 200 seconds | Counts Limit | 0      |
| Filter         | Pd Thin     | Atmosphere   | Vacuum |
| Maximum Energy | 40 keV      | Count Rate   | Medium |
| Warmup time    | 0 seconds   |              |        |
| <b>Mid Zc</b>  |             |              |        |
| Voltage        | 28 kV       | Current      | Auto   |
| Livetime       | 250 seconds | Counts Limit | 0      |
| Filter         | Pd Thick    | Atmosphere   | Vacuum |
| Maximum Energy | 40 keV      | Count Rate   | Medium |
| Warmup time    | 0 seconds   |              |        |
| <b>Low Za</b>  |             |              |        |
| Voltage        | 6 kV        | Current      | Auto   |
| Livetime       | 200 seconds | Counts Limit | 0      |
| Filter         | No Filter   | Atmosphere   | Vacuum |
| Maximum Energy | 40 keV      | Count Rate   | Medium |
| Warmup time    | 0 seconds   |              |        |

### Results

| Element                            | Concentration | Peak (cps/mA) | Background (cps/mA) |
|------------------------------------|---------------|---------------|---------------------|
| <b>Puaa 5-10 basalt flake 1.0g</b> |               |               |                     |
| Na2O                               | 2.7 %         | 272           | 229                 |
| MgO                                | 2.5 %         | 1213          | 137                 |
| Al2O3                              | 14.0 %        | 18858         | -835                |
| SiO2                               | 45.0 %        | 97730         | -5241               |
| K2O                                | 1.4 %         | 279           | 34                  |
| CaO                                | 9.0 %         | 2951          | -106                |
| TiO2                               | 4.3 %         | 2479          | 60                  |
| V                                  | 516 ppm       | 101           | 410                 |
| Cr                                 | [5.9] ppm     | 1             | 91                  |
| MnO                                | 1798 ppm      | 459           | 84                  |
| Fe                                 | 10.3 %        | 40773         | 696                 |
| Ni                                 | 25 ppm        | 18            | 24                  |
| Cu                                 | 35 ppm        | 13            | 17                  |
| Zn                                 | 179 ppm       | 64            | 12                  |
| Rb                                 | 34 ppm        | 74            | 47                  |
| Sr                                 | 572 ppm       | 1364          | 39                  |
| Y                                  | 39 ppm        | 94            | 119                 |
| Zr                                 | 304 ppm       | 827           | 383                 |
| Nb                                 | 39 ppm        | 105           | 285                 |
| Mo                                 | 0 ppm         | 0             | 507                 |
| Ba                                 | 407 ppm       | 149           | 146                 |

| <b>Puaa 5-59 adze frag 12.4g</b> |           |        |       |
|----------------------------------|-----------|--------|-------|
| Na2O                             | 3.5 %     | 436    | 272   |
| MgO                              | 4.11 %    | 1795   | 175   |
| Al2O3                            | 15.1 %    | 28744  | -1419 |
| SiO2                             | 49.7 %    | 134461 | -7446 |
| K2O                              | 1.5 %     | 365    | 35    |
| CaO                              | 8.6 %     | 3315   | -118  |
| TiO2                             | 4.6 %     | 3092   | 54    |
| V                                | 366 ppm   | 85     | 522   |
| Cr                               | 0 ppm     | 0      | 103   |
| MnO                              | 2008ppm   | 608    | 98    |
| Fe                               | 10.0 %    | 47349  | 754   |
| Ni                               | 3 ppm     | 2      | 29    |
| Cu                               | 13 ppm    | 9      | 23    |
| Zn                               | 163ppm    | 80     | 17    |
| Rb                               | 37 ppm    | 108    | 71    |
| Sr                               | 1003 ppm  | 3297   | 48    |
| Y                                | 32 ppm    | 106    | 159   |
| Zr                               | 237 ppm   | 878    | 754   |
| Nb                               | 53 ppm    | 198    | 381   |
| Mo                               | 0 ppm     | 0      | 674   |
| Ba                               | 599 ppm   | 371    | 270   |
| <b>Puaa 5-10 vg 1.3g</b>         |           |        |       |
| Na2O                             | 8.5 %     | 299    | 113   |
| MgO                              | 0.4 %     | 218    | 184   |
| Al2O3                            | 17.5 %    | 11188  | -186  |
| SiO2                             | 48.1 %    | 68094  | -3732 |
| K2O                              | 5.6 %     | 424    | -21   |
| CaO                              | 1.4 %     | 118    | 27    |
| TiO2                             | 0.6 %     | 115    | 19    |
| V                                | 0 ppm     | 0      | 32    |
| Cr                               | 0 ppm     | 0      | 16    |
| MnO                              | 4006 ppm  | 383    | -0    |
| Fe                               | 4.0 %     | 6905   | 161   |
| Ni                               | 6 ppm     | 2      | 7     |
| Cu                               | 5 ppm     | 3      | 10    |
| Zn                               | 226ppm    | 52     | 6     |
| Rb                               | 141ppm    | 182    | 18    |
| Sr                               | 38 ppm    | 56     | 30    |
| Y                                | 63 ppm    | 94     | 106   |
| Zr                               | 1063 ppm  | 1854   | 109   |
| Nb                               | 155 ppm   | 266    | 181   |
| Mo                               | 8 ppm     | 13     | 383   |
| Ba                               | 364 ppm   | 79     | 87    |
| <b>Puaa 5-44 vg 1.5g</b>         |           |        |       |
| Na2O                             | 2.3 %     | 189    | 176   |
| MgO                              | 6.2 %     | 2171   | -26   |
| Al2O3                            | 13.0 %    | 12796  | -471  |
| SiO2                             | 46.2 %    | 87287  | -4594 |
| K2O                              | 0.4 %     | 52     | 20    |
| CaO                              | 10.5 %    | 2329   | -103  |
| TiO2                             | 2.0 %     | 772    | 51    |
| V                                | 329 ppm   | 44     | 136   |
| Cr                               | 391 ppm   | 63     | 43    |
| MnO                              | 1700 ppm  | 292    | 47    |
| Fe                               | 9.0 %     | 24409  | 396   |
| Ni                               | 114 ppm   | 55     | 12    |
| Cu                               | 109 ppm   | 26     | 12    |
| Zn                               | 129 ppm   | 34     | 8     |
| Rb                               | 8 ppm     | 16     | 31    |
| Sr                               | 298 ppm   | 547    | 34    |
| Y                                | 27 ppm    | 50     | 76    |
| Zr                               | 128 ppm   | 255    | 209   |
| Nb                               | 9 ppm     | 16     | 214   |
| Mo                               | [0.4] ppm | 1      | 358   |

|                                |          |        |       |
|--------------------------------|----------|--------|-------|
| Ba                             | 98 ppm   | 30     | 134   |
| <b>Puaa 5-62 vg 0.7g</b>       |          |        |       |
| Na <sub>2</sub> O              | 7.5 %    | 388    | 166   |
| MgO                            | 0.8 %    | 395    | 177   |
| Al <sub>2</sub> O <sub>3</sub> | 16.6 %   | 14759  | -420  |
| SiO <sub>2</sub>               | 49.1 %   | 94288  | -5213 |
| K <sub>2</sub> O               | 4.7 %    | 641    | -21   |
| CaO                            | 1.6 %    | 259    | 43    |
| TiO <sub>2</sub>               | 0.5 %    | 194    | 34    |
| V                              | 14 ppm   | 2      | 57    |
| Cr                             | 0 ppm    | 0      | 33    |
| MnO                            | 3576 ppm | 612    | 10    |
| Fe                             | 3.5 %    | 11346  | 247   |
| Ni                             | 12 ppm   | 6      | 14    |
| Cu                             | 24 ppm   | 10     | 16    |
| Zn                             | 197 ppm  | 70     | 12    |
| Rb                             | 127 ppm  | 259    | 33    |
| Sr                             | 38 ppm   | 89     | 48    |
| Y                              | 58 ppm   | 138    | 162   |
| Zr                             | 980 ppm  | 2706   | 200   |
| Nb                             | 144 ppm  | 392    | 286   |
| Mo                             | 3 ppm    | 7      | 606   |
| Ba                             | 353 ppm  | 106    | 118   |
| <b>Puaa 5-49 vg 0.6g</b>       |          |        |       |
| Na <sub>2</sub> O              | 8.0 %    | 509    | 194   |
| MgO                            | 0.6 %    | 409    | 233   |
| Al <sub>2</sub> O <sub>3</sub> | 17.1 %   | 19392  | -614  |
| SiO <sub>2</sub>               | 50.8 %   | 123877 | -6965 |
| K <sub>2</sub> O               | 4.6 %    | 817    | -25   |
| CaO                            | 1.1 %    | 190    | 62    |
| TiO <sub>2</sub>               | 0.4 %    | 195    | 43    |
| V                              | 0 ppm    | 0      | 64    |
| Cr                             | 0 ppm    | 0      | 37    |
| MnO                            | 3500 ppm | 785    | 15    |
| Fe                             | 3.1 %    | 13598  | 287   |
| Ni                             | 4 ppm    | 2      | 20    |
| Cu                             | 4 ppm    | 6      | 22    |
| Zn                             | 197 ppm  | 100    | 15    |
| Rb                             | 130 ppm  | 375    | 46    |
| Sr                             | 34 ppm   | 113    | 71    |
| Y                              | 59 ppm   | 198    | 237   |
| Zr                             | 987 ppm  | 3851   | 295   |
| Nb                             | 143 ppm  | 551    | 418   |
| Mo                             | 3 ppm    | 11     | 871   |
| Ba                             | 317 ppm  | 122    | 151   |
| <b>BHVO-2 11-19.2 3-2-20.1</b> |          |        |       |
| Na <sub>2</sub> O              | 2.1 %    | 302    | 317   |
| MgO                            | 7.1 %    | 2840   | 175   |
| Al <sub>2</sub> O <sub>3</sub> | 13.5 %   | 24934  | -1280 |
| SiO <sub>2</sub>               | 51.3 %   | 143971 | -8180 |
| K <sub>2</sub> O               | 0.6 %    | 140    | 49    |
| CaO                            | 11.5 %   | 4785   | -206  |
| TiO <sub>2</sub>               | 2.7 %    | 1944   | 86    |
| V                              | 392 ppm  | 96     | 335   |
| Cr                             | 279 ppm  | 84     | 95    |
| MnO                            | 1617 ppm | 515    | 108   |
| Fe                             | 8.7 %    | 44121  | 711   |
| Ni                             | 112 ppm  | 101    | 27    |
| Cu                             | 120 ppm  | 56     | 23    |
| Zn                             | 108 ppm  | 54     | 19    |
| Rb                             | 10 ppm   | 36     | 63    |
| Sr                             | 389 ppm  | 1389   | 63    |
| Y                              | 26 ppm   | 94     | 157   |
| Zr                             | 170 ppm  | 672    | 463   |

|    |           |    |     |
|----|-----------|----|-----|
| Nb | 18 ppm    | 70 | 416 |
| Mo | [2.4] ppm | 9  | 718 |
| Ba | 127 ppm   | 84 | 289 |

# Appendix D Wood Taxa Identification Report

## ANALYSIS OF CHARCOAL FROM CULTURAL SURVEYS HAWAII PUAA 5 PROJECT, NORTH KONA, HAWAII (TMK [3]7-5-014:001 POR.)

By

Gail M. Murakami  
Wood Identification Laboratory  
International Archaeological Research Institute, Inc.

May 4, 2020

### INTRODUCTION

Four charcoal samples from CSH's (Cultural Surveys Hawaii) Puaa 5 Project were submitted to the Wood Identification Laboratory at International Archaeological Research Institute, Inc. (IARII) for analysis. The samples, from a site in Kahului Ahupua'a, North Kona District on the island of Hawai'i, were examined for the selection of short-lived taxa for radiocarbon dating. This service includes taxa identification of known short-lived woody plants or plant parts, such as nutshells or tubers, as well as a screening of the sample for the presence of known historically introduced woody plants or plant parts.

### METHODS

The freshly fractured transverse, tangential, and radial facets of charcoal fragments were examined with the aid of a dissecting microscope at magnifications of up to 80X. Taxonomic identifications were made by comparing observed anatomical characteristics with those of woods in the IARII reference collection. Vouchers associated with this collection have been verified and archived at the Department of Botany, University of Hawai'i at Mānoa. Other published references, including books, journal articles, technical documents, and wood atlases, were also consulted.

### RESULTS

Two charcoal samples from Feature E, Samples 34 and 45, contained charred wood of the Pinaceae family. The hardwoods in these samples were not further identified once the presence of the possible *Pseudotsuga* sp. (Douglas fir) in Sample 34 and a pine (Pinaceae) in Sample 45 were detected. The presence of these evergreen woods suggests the samples are of historical origin or contaminated by historical material.

The third sample, Sample 61 from Feature D, did not contain any evergreen woods. The taxa identified include 'akoko (*Euphorbia* sp.), alaha'e (*Psydrax odorata*), a'ali'i (*Dodonaea viscosa*) and neleau (*Rhus sandwicensis*). The species identified in this sample are native and are found on Hawai'i Island. A summary of the results is presented below in a table.

The fourth sample, Sample 45 from TU-10 in Feature E did not contain any evergreen tree wood. While two of the taxa are indeterminate, the remaining charcoal is of a twig probably from the native a'ali'i (*Dodonaea viscosa*) shrub.

Short-lived plant and plant parts are recommended for radiocarbon dating. These include twigs, nutshells, and short-lived plant species. Wood from potentially long-lived, slow-growing, and/or large trees are not ideal for dating as it could contain considerable in-built age. There are several papers on selecting materials for radiocarbon dating in Pacific Island contexts including Allen and Huebert 2014 and Rieth and Athens 2013.

Summary of Charcoal Identifications in Samples from CSH Puaa 5 Project.

| WIDL No.                           | Taxon                        | Common Name    | Plant Part   | Count | Comment            |
|------------------------------------|------------------------------|----------------|--------------|-------|--------------------|
| Sample 34: TU-9, CSH-1, Feature E  |                              |                |              |       |                    |
| 2008-1                             | Indeterminate hardwood       |                | Wood         | 4     |                    |
| 2008-2                             | Indeterminate hardwood       |                | Wood         | 1     |                    |
| 2008-3                             | cf. <i>Pseudotsuga</i> sp.   | Douglas fir    | Wood         | 1     |                    |
| Sample 45: TU-11, CSH-1, Feature E |                              |                |              |       |                    |
| 2008-4                             | Indeterminate hardwood       |                | Wood         | 2     |                    |
| 2008-5                             | cf. woody vine               |                | Stem         | 2     |                    |
| 2008-6                             | cf. Pinaceae                 | Pine           | Wood         | 2     |                    |
| 2008-7                             | Indeterminate                |                | Fruit/embryo | 4     |                    |
| Sample 61: TU-12, CSH-1, Feature D |                              |                |              |       |                    |
| 2008-8                             | cf. <i>Euphorbia</i> sp.     | 'Akoko         | Wood         | 2     | Shrub, short-lived |
| 2008-9                             | cf. <i>Rhus sandwicensis</i> | <i>Neleau</i>  | Wood         | 9     |                    |
| 2008-10                            | cf. <i>Psydrax odorata</i>   | <i>Alahe'e</i> | Wood         | 5     |                    |
| 2008-11                            | cf. <i>Dodonaea viscosa</i>  | 'A'ali'i       | Wood         | 3     | Shrub, short-lived |
| 2008-12                            | Indeterminate hardwood       |                | Wood         | 1     |                    |
| Sample 45: TU-10, CSH-1, Feature E |                              |                |              |       |                    |
| 2008-13                            | Indeterminate hardwood       |                | Wood         | 2     |                    |
| 2008-14                            | cf. <i>Dodonaea viscosa</i>  | 'A'ali'i       | Wood         | 1     | twig               |
| 2008-15                            | Indeterminate hardwood       |                | Wood         | 1     |                    |

A brief systematic review is given below; for more information on Hawaiian plants, suggested references are the Manual of the Flowering Plants of Hawai'i (Wagner et al. 1990; also available online at <http://botany.si.edu/pacificislandbiodiversity/hawaiianflora/query2.cfm>) and the Bishop Museum's Hawaiian Ethnobotany Online Database (<http://data.bishopmuseum.org/ethnobotanydb>).

#### TAXA REVIEW

##### ANACARDIACEAE (Mango family)

##### *Rhus sandwicensis* (*Neleau, neneleau*)

This endemic tree stands 3-8 meters and has milky sap. It forms dense patches by producing numerous suckers from the spreading roots. It is known from specific wet to dry areas on Kaua'i, O'ahu, Moloka'i and scattered localities on Maui and Hawai'i, most common in areas near Hilo and Waimea,



Hawai'i. The lightweight coarse-textured wood was formerly used for saddle trees, yokes and plows; the bark was once used for tanning (Wagner et al. 1990:197).

#### EUPHORBIACEAE (Spurge family)

*Euphorbia* spp. ('Akoko)

Distribution of the 15 endemic Hawaiian shrubs and small trees in this genus range from coastal environments to upper forest zones on the main islands (Wagner et al. 1990:602-617). Eight native species, and a number of naturalized introductions, are found on Hawai'i Island today in a wide range of habitats. 'Akoko was once valued for firewood by the Hawaiians (Hillebrand 1981:396) and the milky sap was once considered a possible source for rubber (Rock 1974:261). Some members of this genus were once known as *Chamaesyce* but the Hawaiian species have since been reassigned to the genus *Euphorbia* (Govearts et al. 2000; Steinman and Porter 2002; Yang and Berry 2011).

#### PINACEAE (Pine family)

The Pinaceae family consists of nearly 200 species of resinous, mostly evergreen trees, including pines (*Pinus*), larches (*Larix*), spruces (*Picea*), hemlocks (*Tsuga*), firs (*Abies*), and Douglas firs (*Pseudotsuga*). They are found mainly in the cooler Northern Hemisphere forests world-wide and are valued for their wood (Staples and Herbst 2005:69). Members of the Pinaceae family are not native to the Hawaiian Islands although five *Pinus* species have naturalized in the islands (Imada 2012: A-177).

*Pseudotsuga* sp. (Douglas fir)

These large evergreen trees can grow to over 60 m. The wood has been used in building and construction as lumber, timbers, piling and plywood; as veneer; railroad ties; pulp; planing mill products such as sash, doors, flooring, and general millwork; boxes and crates; ship- and boatbuilding; and furniture (Brown and Panshin 1940:395-396).

#### RUBIACEAE (Coffee family)

*Psydrax odorata* (G. Forster) Seem. (Alahe'e)

This indigenous shrub or small tree is usually 3 to 6 m tall but may be up to 15 m. It has been found in dry shrublands and dry to mesic forests at 10 to 1,160 m elevation on all of the main islands except Ni'ihau and Kaho'olawe (Wagner et al. 1990:1119). Its hard wood was once used for making 'ō'ō digging sticks and its leaves made a black dye (Handy and Handy 1972:117; Pukui and Elbert 1986:17; Rock 1974:437). This species was previously referred to *Canthium* but is now placed in *Psydrax* (Smith and Darwin 1988:230).

#### SAPINDACEAE (Soapberry family)

*Dodonaea viscosa* Jacq. ('A'ali'i)

These indigenous shrubs or small trees are 2 to 8 m tall and range in distribution from coastal dunes to dry, mesic, and wet forest, at 3 to 2,350 m elevations on all of the main islands (Wagner et al. 1990:1227-1228; Starr et al. 2006:41). The red papery fruit capsule clusters and leaves of some varieties were made into lei (Pukui and Elbert 1986:3). The trunks were once used for house posts (Buck 1957:83).

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# Appendix E Radiocarbon Analysis Report



**Beta Analytic**  
TESTING LABORATORY

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ISO/IEC 17025:2005-Accredited Testing Laboratory

June 12, 2020

Mr. Olivier Bautista  
Cultural Surveys Hawaii  
399 Hualani St.  
Suite 124  
Hilo, HI 96720  
United States

RE: Radiocarbon Dating Results

Dear Mr. Bautista,

Enclosed are the radiocarbon dating results for two samples recently sent to us. As usual, the method of analysis is listed on the report with the results and calibration data is provided where applicable. The Conventional Radiocarbon Ages have all been corrected for total fractionation effects and where applicable, calibration was performed using 2013 calibration databases (cited on the graph pages).

The web directory containing the table of results and PDF download also contains pictures, a cvs spreadsheet download option and a quality assurance report containing expected vs. measured values for 3-5 working standards analyzed simultaneously with your samples.

Reported results are accredited to ISO/IEC 17025:2005 Testing Accreditation PJLA #59423 standards and all chemistry was performed here in our laboratory and counted in our own accelerators here. Since Beta is not a teaching laboratory, only graduates trained to strict protocols of the ISO/IEC 17025:2005 Testing Accreditation PJLA #59423 program participated in the analyses.

As always Conventional Radiocarbon Ages and sigmas are rounded to the nearest 10 years per the conventions of the 1977 International Radiocarbon Conference. When counting statistics produce sigmas lower than +/- 30 years, a conservative +/- 30 BP is cited for the result. The reported d13C values were measured separately in an IRMS (isotope ratio mass spectrometer). They are NOT the AMS d13C which would include fractionation effects from natural, chemistry and AMS induced sources.

When interpreting the results, please consider any communications you may have had with us regarding the samples.

Thank you for prepaying the analyses. As always, if you have any questions or would like to discuss the results, don't hesitate to contact us.

Sincerely,

Ronald E. Hatfield President

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ISO/IEC 17025:2005-Accredited Testing Laboratory

**REPORT OF RADIOCARBON DATING ANALYSES**

Olivier Bautista

Report Date: June 12, 2020

Cultural Surveys Hawaii

Material Received: June 03, 2020

|                   |                    |  |  |
|-------------------|--------------------|--|--|
| Laboratory Number | Sample Code Number | Conventional Radiocarbon Age (BP) or<br>Percent Modern Carbon (pMC) & Stable Isotopes          |  |
|                   |                    | Calendar Calibrated Results: 95.4 % Probability<br>High Probability Density Range Method (HPD) |  |

|               |                    |                    |                       |
|---------------|--------------------|--------------------|-----------------------|
| Beta - 559910 | WIDL2008-8         | 140 +/- 30 BP      | IRMS δ13C: -26.9 o/oo |
| (43.1%)       | 1669 - 1780 cal AD | (281 - 170 cal BP) |                       |
| (36.8%)       | 1798 - 1891 cal AD | (152 - 59 cal BP)  |                       |
| (15.5%)       | 1908 - 1944 cal AD | (42 - 6 cal BP)    |                       |

Submitter Material: Charcoal  
 Pretreatment: (charred material) acid/alkali/acid  
 Analyzed Material: Charred material  
 Analysis Service: AMS-Standard delivery  
 Percent Modern Carbon: 98.27 +/- 0.37 pMC  
 Fraction Modern Carbon: 0.9827 +/- 0.0037  
 D14C: -17.28 +/- 3.67 o/oo  
 Δ14C: -25.56 +/- 3.67 o/oo (1950:2020)  
 Measured Radiocarbon Age: (without d13C correction): 170 +/- 30 BP  
 Calibration: BetaCal3.21: HPD method: INTCAL13

Results are ISO/IEC-17025:2005 accredited. No sub-contracting or student labor was used in the analyses. All work was done at Beta in 4 in-house NEC accelerator mass spectrometers and 4 Thermo IRMSs. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), is corrected for total isotopic fraction and was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP). "present" = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 95% the 14C signature of NIST SRM-4990C (oxalic acid). Quoted errors are 1 sigma counting statistics. Calculated sigmas less than 30 BP on the Conventional Radiocarbon Age are conservatively rounded up to 30. d13C values are on the material itself (not the AMS d13C). d13C and d15N values are relative to VPDB-1. References for calendar calibrations are cited at the bottom of calibration graph pages.



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**REPORT OF RADIOCARBON DATING ANALYSES**

Olivier Bautista  
Cultural Surveys Hawaii

Report Date: June 12, 2020  
Material Received: June 03, 2020

| Laboratory Number | Sample Code Number         | Conventional Radiocarbon Age (BP) or Percent Modern Carbon (pMC) & Stable Isotopes          |                       |
|-------------------|----------------------------|---|-----------------------|
|                   |                            | Calendar Calibrated Results: 95.4 % Probability High Probability Density Range Method (HPD) |                       |
| Beta - 559911     | WIDL2008-11                | 100 +/- 30 BP   | IRMS δ13C: -25.9 o/oo |
|                   | (68.3%) 1805 - 1935 cal AD | (145 - 15 cal BP)   |                       |
|                   | (27.1%) 1682 - 1736 cal AD | (268 - 214 cal BP)  |                       |

Submitter Material: Charcoal  
 Pretreatment: (charred material) acid/alkali/acid  
 Analyzed Material: Charred material  
 Analysis Service: AMS-Standard delivery  
 Percent Modern Carbon: 98.76 +/- 0.37 pMC  
 Fraction Modern Carbon: 0.9876 +/- 0.0037  
 D14C: -12.37 +/- 3.69 o/oo  
 Δ14C: -20.70 +/- 3.69 o/oo (1950:2020)  
 Measured Radiocarbon Age: (without d13C correction): 110 +/- 30 BP  
 Calibration: BetaCal3.21: HPD method: INTCAL13

Results are ISO/IEC-17025:2005 accredited. No sub-contracting or student labor was used in the analyses. All work was done at Beta in 4 in-house NEC accelerator mass spectrometers and 4 Thermo IRMSs. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), is corrected for total isotopic fraction and was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP). "present" = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 95% the 14C signature of NIST SRM-4990C (oxalic acid). Quoted errors are 1 sigma counting statistics. Calculated sigmas less than 30 BP on the Conventional Radiocarbon Age are conservatively rounded up to 30. d13C values are on the material itself (not the AMS d13C). d13C and d15N values are relative to VPDB-1. References for calendar calibrations are cited at the bottom of calibration graph pages.

BetaCal 3.21  
**Calibration of Radiocarbon Age to Calendar Years**  
 (High Probability Density Range Method (HPD): INTCAL13)

---

(Variables: d13C = -26.9 o/oo)

**Laboratory number    Beta-559910**

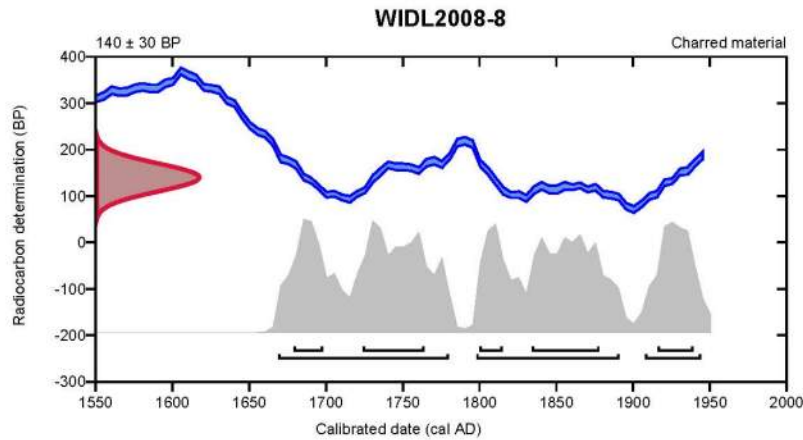
**Conventional radiocarbon age    140 ± 30 BP**

95.4% probability

|         |                    |                    |
|---------|--------------------|--------------------|
| (43.1%) | 1669 - 1780 cal AD | (281 - 170 cal BP) |
| (36.8%) | 1798 - 1891 cal AD | (152 - 59 cal BP)  |
| (15.5%) | 1908 - 1944 cal AD | (42 - 6 cal BP)    |

68.2% probability

|         |                    |                    |
|---------|--------------------|--------------------|
| (19.8%) | 1834 - 1878 cal AD | (116 - 72 cal BP)  |
| (19.5%) | 1724 - 1764 cal AD | (226 - 186 cal BP) |
| (12%)   | 1916 - 1939 cal AD | (34 - 11 cal BP)   |
| (9.6%)  | 1679 - 1698 cal AD | (271 - 252 cal BP) |
| (7.3%)  | 1800 - 1815 cal AD | (150 - 135 cal BP) |



**Database used**  
 INTCAL13

**References**

**References to Probability Method**

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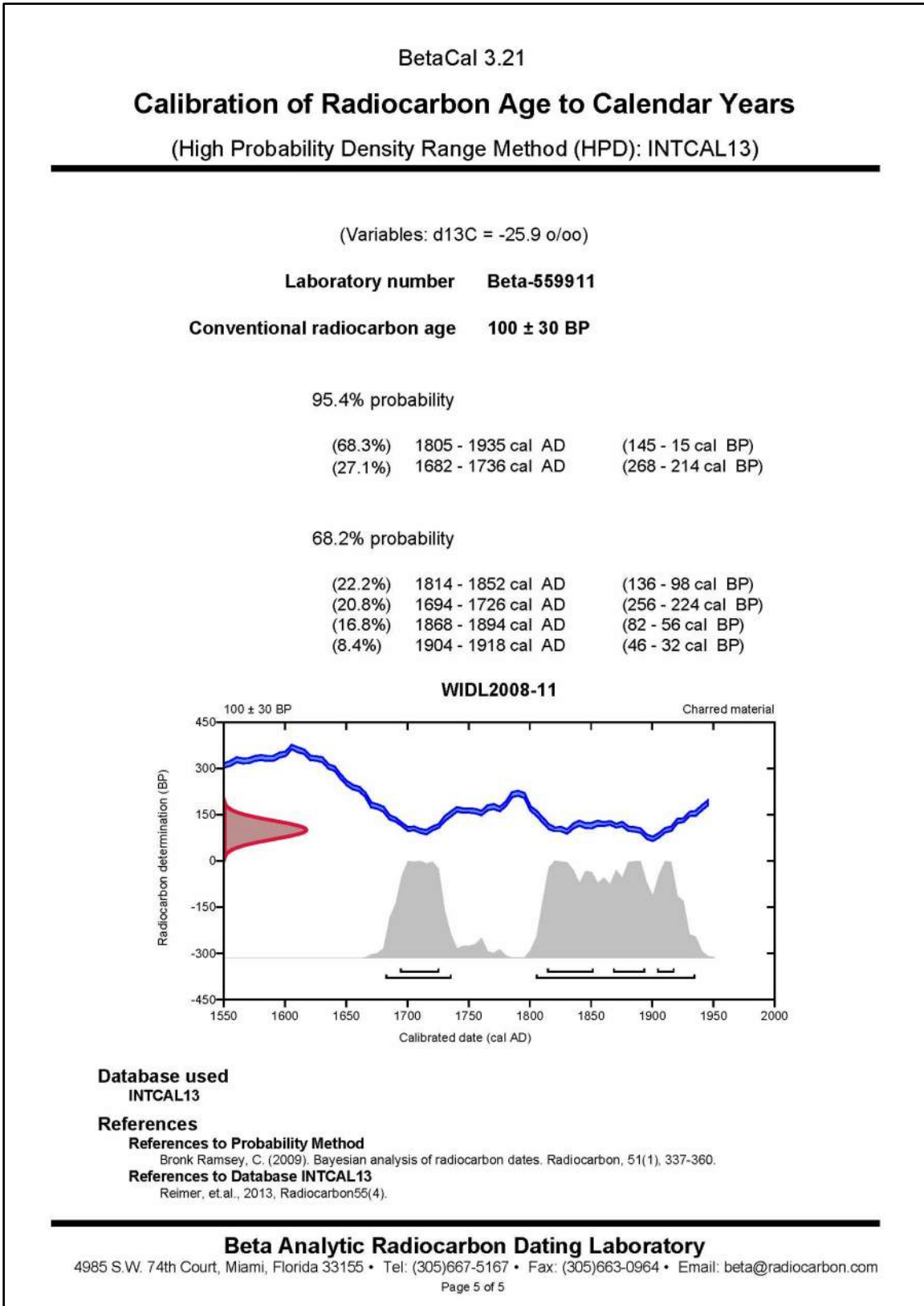
**References to Database INTCAL13**

Reimer, et al., 2013, *Radiocarbon*55(4).

---

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## **APPENDIX E**

Ka Pa‘akai Framework Analysis

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**February 2025 Draft**

**Excerpts from Nohopapa Hawai'i's  
DRAFT Ka Pa'akai Analysis for  
DHHL Water Development Project in Waiaha,  
Kahului and Puapua'a Ahupua'a at the Gianulias  
Property (TMK: [3] 7-5-014:001) and  
Keauhou Ahupua'a at the Kamehameha Schools Well  
Site (TMK: [3] 7-8-004:013 and -015)**



\*Included in Final Environmental Assessment (FEA) at DHHLs request in acknowledgment of the concurrent Kona Ka Pa'akai Analysis consultation being completed alongside the EA.  
\*\*For inclusion in the FEA, consultation sections are redacted per Nohopapa's informed consent obligation to honor and respect consultees' Intellectual Property Rights.

Prepared by



Prepared for



DEPARTMENT OF HAWAIIAN HOME LANDS



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This report was prepared by Nohopapa Hawaii‘i, LLC, for the Department of Hawaiian Homelands

#### CITATION

Nohopapa Hawaii‘i, LLC with contributions from Kumupono Associates, LLC

2024 Excerpts from Nohopapa Hawaii‘i’s DRAFT Ka Pa‘akai Analysis for DHHL Water Development Project in Waiaha, Kahului and Puapua‘a Ahupua‘a at the Gianulias Property (TMK: [3] 7-5-014:001) and Keauhou Ahupua‘a at the Kamehameha Schools Well Site (TMK: [3] 7-8-004:013 and -015)

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[www.nohopapa.com](http://www.nohopapa.com)

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*Kahalu‘u Manowai muliwai with the heiau Ke‘ekū and Hāpaiali‘i in background*

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# Introduction

## He Leo Mahalo

Nohopapa would like to mahalo the individuals who shared their precious time, memories, and mana’o for this study. This important project would not have been possible without their willingness to share personal recollections and stories. The mana’o that was shared will help us all better understand, appreciate, and protect the precious resources of Kona Akau. We also mahalo Kaleo Manuel for providing invaluable mana’o to help our hui better understand wai in its cultural, environmental, and political dimensions, specifically for Kona. Kaleo also challenged Nohopapa to shape and present the cultural, historical, and contemporary community mana’o regarding wai within the framework of He Mele No Kāne. We accepted this challenge to ground our approach in ‘ike kupuna. Lastly, mahalo to the Department of Hawaiian Homelands (Andrew Choy, Lilliane Makaila, Ku’upua Mossman, and Cherie Ka’anana) as well as their consultant, Jonathan Scheuer for being true partners in this effort to complete a Ka Pa’akai Analysis that meets its true purpose and intent.

## He Mele No Kane

He ui, he nīnau:  
E ui aku ana au iā ‘oe,  
Aia i hea ka Wai a Kāne?  
Aia i ka hikina a ka Lā,  
Puka i Ha’eha’e,  
Aia i laila ka Wai a Kāne.

*A query, a question,  
I put to you  
Where is the water of Kāne?  
At the Eastern Gate  
Where the Sun comes in at Ha’eha’e,  
There is the water of Kāne.*

E ui aku ana au iā ‘oe,  
Aia i hea ka Wai a Kāne?  
Aia i Kaulana a ka lā,  
I ka pae ‘ōpua i ke kai,  
Ea mai ana ma Nihoa,  
Ma ka mole mai o Lehua;  
Aia i laila ka Wai a Kāne.

*A question I ask of you  
Where is the water of Kāne?  
Out there with the floating Sun,  
Where the cloud-forms rest on Ocean’s breast,  
Uplifting their forms of Nihoa,  
This side the base of Lehua;  
There is the water of Kāne.*

E ui aku ana au iā ‘oe,  
Aia i hea ka Wai a Kāne?  
Aia i ke kuahiwi, i ke kualono,  
I ke awāwa, i ke kahawai;  
Aia i laila ka Wai a Kāne.

*A question I ask of you  
Where is the water of Kāne?  
Yonder on mountain peak, on the ridges steep,  
In the valleys deep, where the rivers sweep;  
There is the water of Kāne.*

E ui aku ana au iā ‘oe,  
Aia i hea ka Wai a Kāne?  
Aia i kai, i ka moana,  
I ke kualau, i ke ānuenuē,  
I ka pūnohu, i ka uakoko,  
I ka ‘ālewalewa;  
Aia i laila ka Wai a Kāne.

*A question I ask of you  
Where is the water of Kāne?  
Yonder at the sea, on the ocean,  
In the driving rain, in the heavenly bow,  
In the piled-up mist wraith, in the blood-red rainfall,  
In the ghost-place cloud from;  
There is the water of Kāne.*

E ui aku ana au iā ‘oe,

*A question I ask of you*

Aia i hea ka Wai a Kāne?  
Aia i luna ka Wai a Kāne,  
I ke ao uli, i ke ao 'ele'ele,  
I ke ao panopano,  
I ke ao pōpolo hua mea a Kāne lā, ē!  
Aia i laila ka Wai a Kāne.

Where is the water of Kāne?  
Up on high is the water of Kāne,  
In the heavenly blue, in the black piled cloud,  
In the black black cloud,  
In the black mottled sacred cloud of the gods;  
There is the water of Kāne.

E ui aku ana au iā 'oe,  
Aia i hea ka Wai a Kāne?  
Aia i lalo, i ka honua, i ka wai hū,  
I ka wai kau a Kāne me Kanaloa  
He wai puna, he wai e inu,  
He wai e mana, he wai e ola.  
E ola nō 'eā!

A question I ask of you  
Where is the water of Kāne?  
Deep in the ground, in the gushing spring,  
In the ducts of Kāne and Kanaloa,  
A well spring of water, to quaff,  
A water of magic power - the water of life!  
Life! O give us this life!

Found in Emerson's *Unwritten Literature of Hawaii: The Sacred Songs of the Hula* (1909:257-259). Collected from Kaua'i, Author Unknown.

As the most isolated island chain in the world, Hawai'i is surrounded by ocean. It is understood that wai, or fresh water, is precious for modern use as well as for the traditional customary practices, identity, and spiritual beliefs of Native Hawaiians. In 2014 the DHHL finalized the *Hawaiian Homes Commission Water Policy Plan*. This plan defines water as including:

...mists, fog, rain, and other precipitation; water as it flows above or below ground, and into the ocean; water used for homesteading; alternative sources including waste, brackish, and saltwater; water used in the exercise of traditional and customary practices; infrastructure used to produce, store and transmit water; and water we use as well as water to which we have rights.

Nohopapa Hawai'i LLC (Nohopapa) approached this project through the lens of *He Mele No Kāne: The Waters of Kāne*<sup>1</sup>. With the project research and outreach framed around the components of the use of wai as described throughout the mele and summarized in its last few lines,

*He wai puna, he wai e inu, he wai e mana, he wai e ola  
wellspring of water, water to quaff, water of magic power, the water of life.*

Approaching the research and consultation for the Ka Pa'akai Framework Analysis within the context of *The Waters of Kāne* allowed Nohopapa to explore what is unique about the Native Hawaiian worldview around wai.

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<sup>1</sup> Mahalo nui to Kaleo Manuel for gifting the idea to ground this Ka Pa'akai Analysis of wai through Kāne and this foundational mele.

## Project Description

On behalf of the DHHL, Nohopapa completed a Ka Pa‘akai Framework Analysis for a proposed DHHL water development project at:

1. Wai‘aha, Kahului and Puapua‘a Ahupua‘a at the Gianulias property (TMK: [3] 7-5-014:001) (see Figure 1-Figure 7)
2. Keauhou Ahupua‘a at a Kamehameha Schools well site (TMK: [3] 7-8-004:013 and -015) (see Figure 1-Figure 10).

Once construction on La‘i ‘Ōpua Village 4 Hema is completed, DHHL will have exhausted all of its water credits for homestead and community development in Kona. DHHL will need to seek additional water credits from the County in order to continue with the planned development of its homestead and community lands in Kealakehe. The County of Hawai‘i Department of Water Supply (DWS) has asked that in order for DHHL to gain additional water credits, DHHL must add new water sources to the County system in Kona. This means the development of well sites and transmission lines to connect each well site to the nearest existing water lines in the DWS system. No long-distance transmission pipelines from the proposed groundwater well sites to DHHL lands in Kealakehe are being proposed by this project, just the water transmission lines from the well sites to the nearest DWS interconnection point in their existing system.

Nohopapa’s specific scope of work entails analysis within the “Ka Pa‘akai” legal framework, a seminal case that operationalizes the State of Hawai‘i’s constitutional mandate to “affirmatively protect” Native Hawaiian rights and practices.<sup>2</sup> Hawai‘i’s constitution requires government agencies to “conserve and protect Hawai‘i’s natural beauty” as a public trust on behalf of and “[f]or the benefit of present and future generations ...”<sup>3</sup> Co-extensive with State public trust protections are also federal requirements to protect the public trust with respect to lands that were ceded from the Hawaiian Kingdom from both the Main Hawaiian Islands (“MHI”) and the Northwest Hawaiian Islands (“NWHI”)/Papahānaumokuākea during the transition of Hawai‘i as a U.S. territory to America’s 50th State per the Admissions Act in 1959.<sup>4</sup> (Akutagawa 2023:14-15)

## Purpose

The purpose of the Ka Pa‘akai Framework Analysis is to ensure the DHHL is in compliance with Article VII, Section 7 of Hawai‘i’s Constitution, which “places an affirmative duty on the State and its agencies to preserve and protect traditional and customary native Hawaiian rights and confers upon the State and its agencies the power to protect these rights and to prevent any interference with the exercise of these rights.”<sup>5</sup> In order to fulfill its constitutional obligations agencies, like the DHHL, must consider the following three considerations regarding possible impacts of their proposed actions


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<sup>2</sup> Ka Pa‘akai O Ka ‘Aina v. Land Use Comm’n, 94 Haw. 31, 7 P.3d 1068, 1083-84 (2000).

<sup>3</sup> HAW. CONST. art. XI, §1 (1978)

<sup>4</sup> Hawaii Admission Act, Pub.L. No. 8603, 73 Stat. 5 (1959).

<sup>5</sup> Ka Pa‘akai o Ka ‘Āina v. State of Hawai‘i Land Use Com’n [Ka Pa ‘akai], 94 Haw. 31, 47, 7 P.3d 1068, 1084 (2000).

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- (1) the identity and scope of ‘valued cultural, historical, or natural resources’ in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;
  - (2) the extent to which those resources—including traditional and customary native Hawaiian rights—will be affected or impaired by the proposed action; and
  - (3) the feasible action, if any, to be taken ... by the [State and/or its political subdivisions] to reasonably protect native Hawaiian rights if they are found to exist.<sup>6</sup>



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<sup>6</sup> Ibid

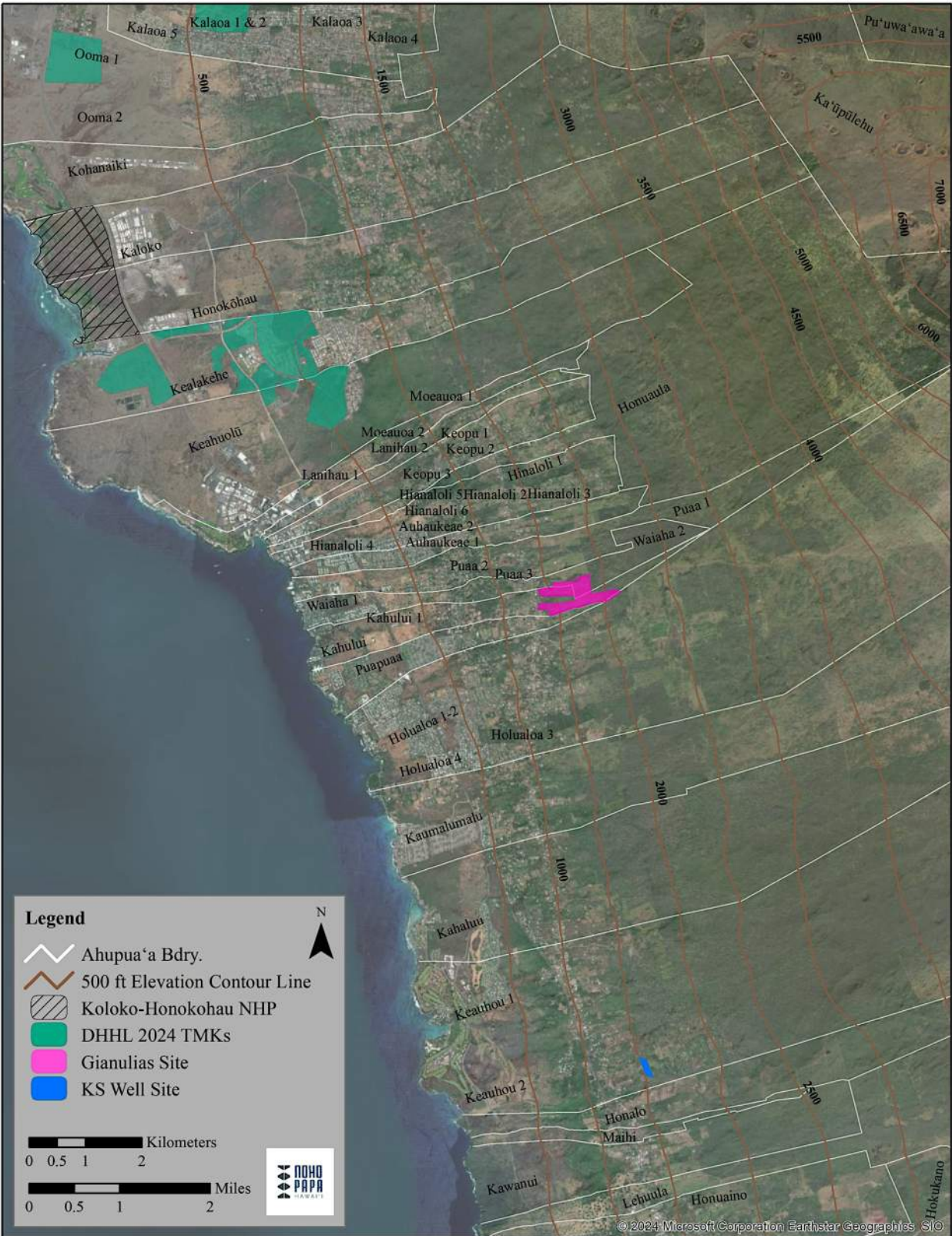


Figure 1. Aerial image illustrating the two proposed water development locations (pink and blue) as well as the existing DHHL parcels in Kona (green).

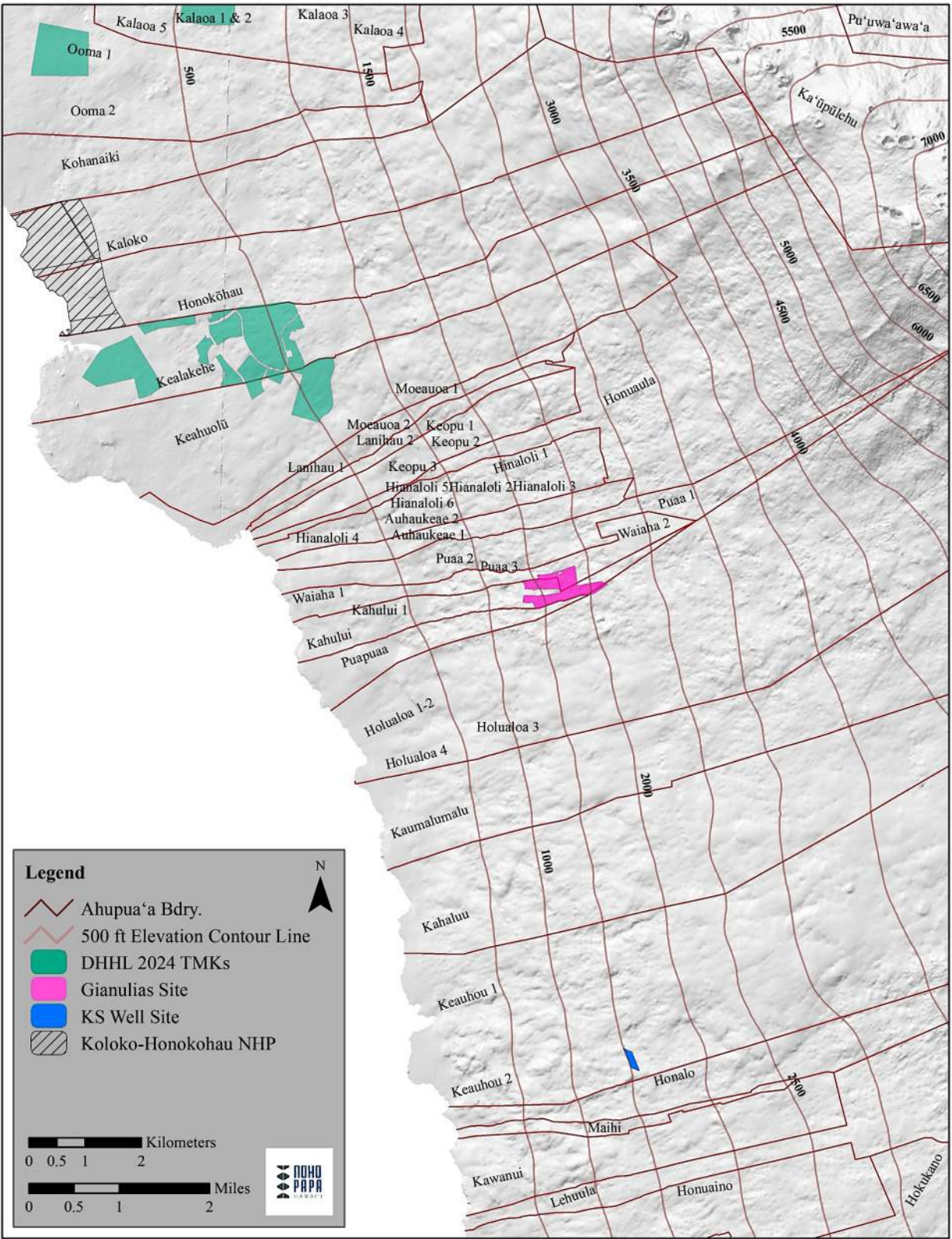


Figure 2. Contour and DEM map illustrating the two proposed water development locations (pink and blue) as well as the existing DHHL parcels in Kona (green).



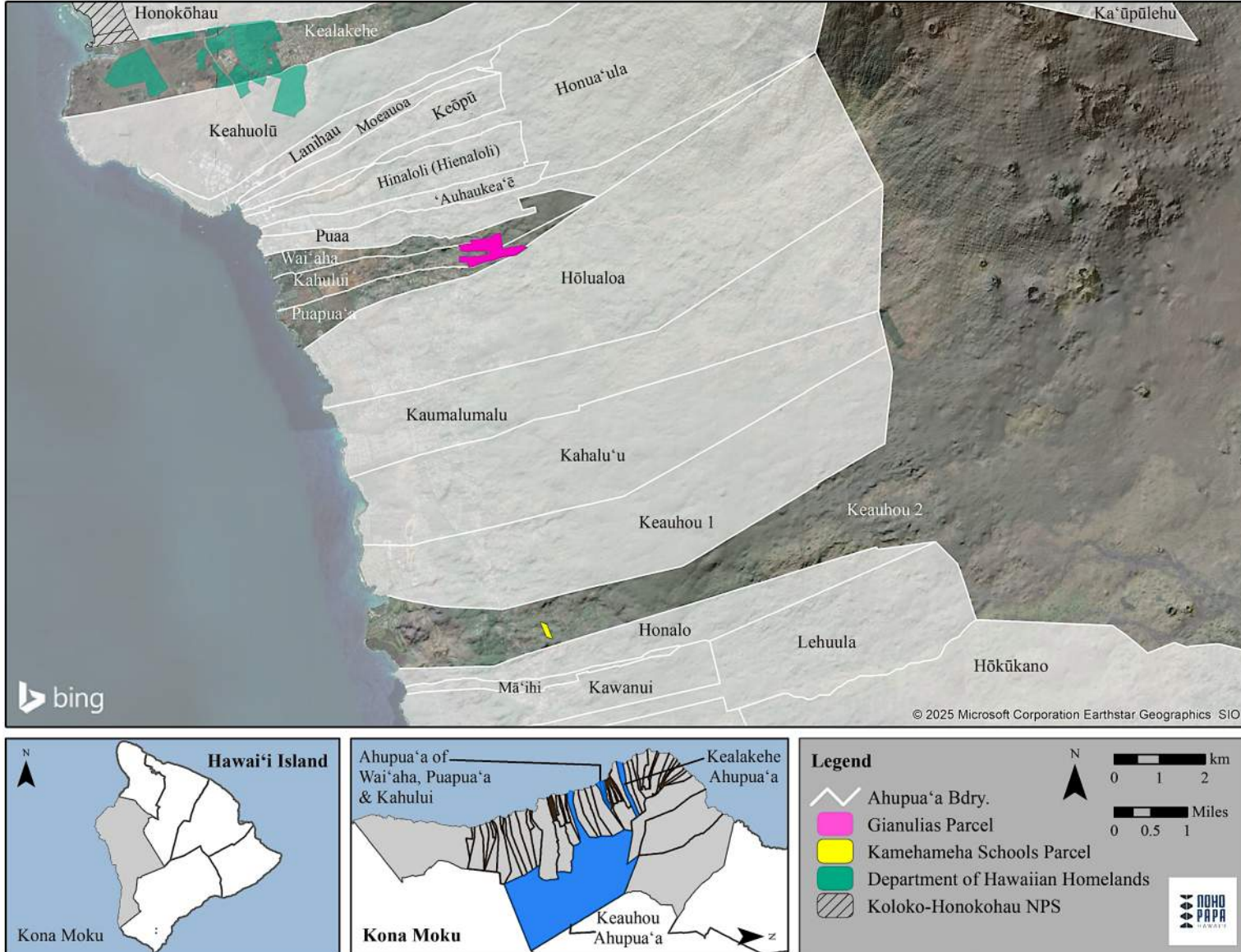


Figure 3. Aerial image illustrating the study are ahupua'a from north to south: Kealakehe, Keahuolū, Pua'a, Wai'aha, Kahului, Puapua'a, Keauhou 1, and Keauhou 2

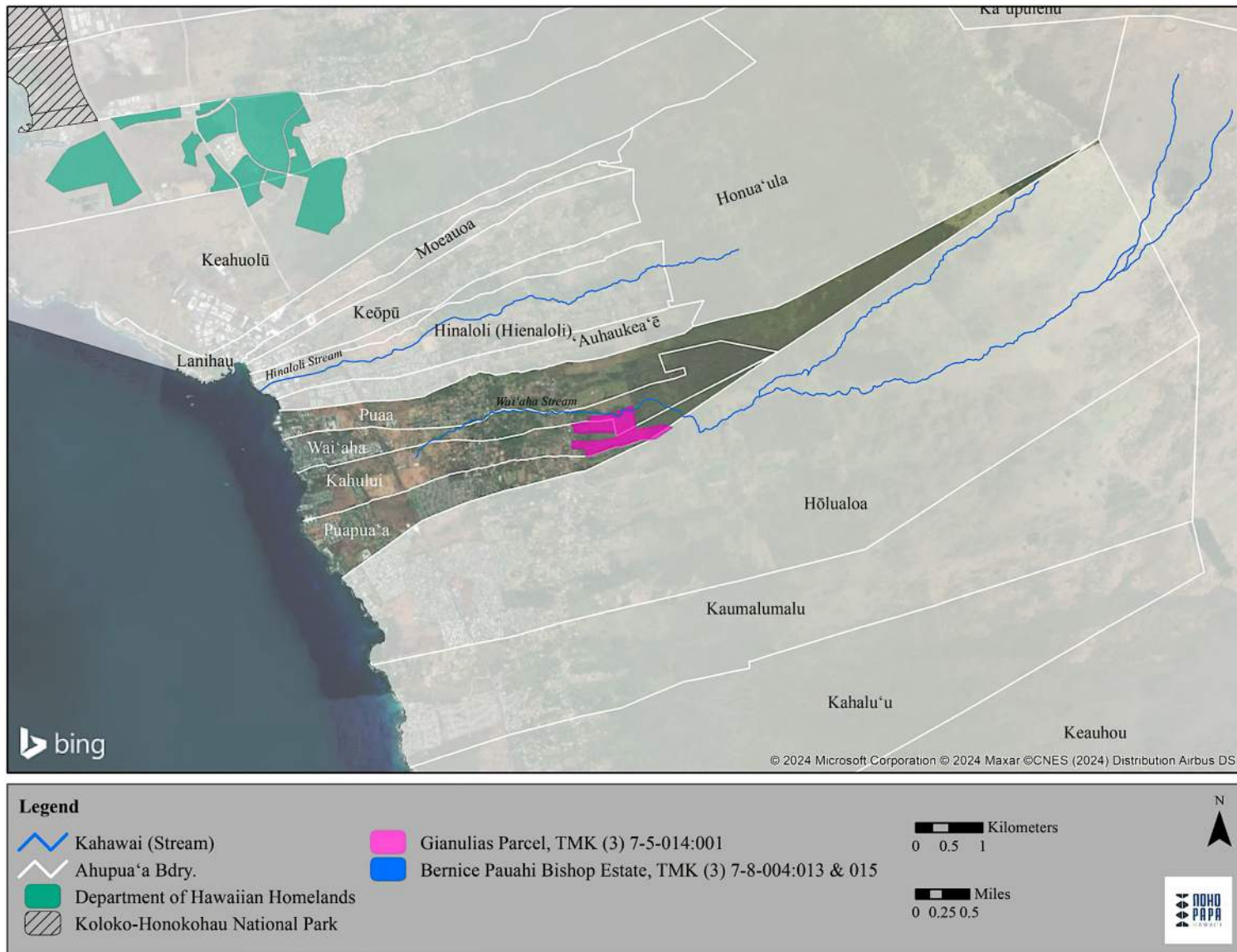


Figure 4. Close up aerial image of Pua'a, Wai'aha, Kahului, and Puapua'a Ahupua'a in relation to DHHL parcels

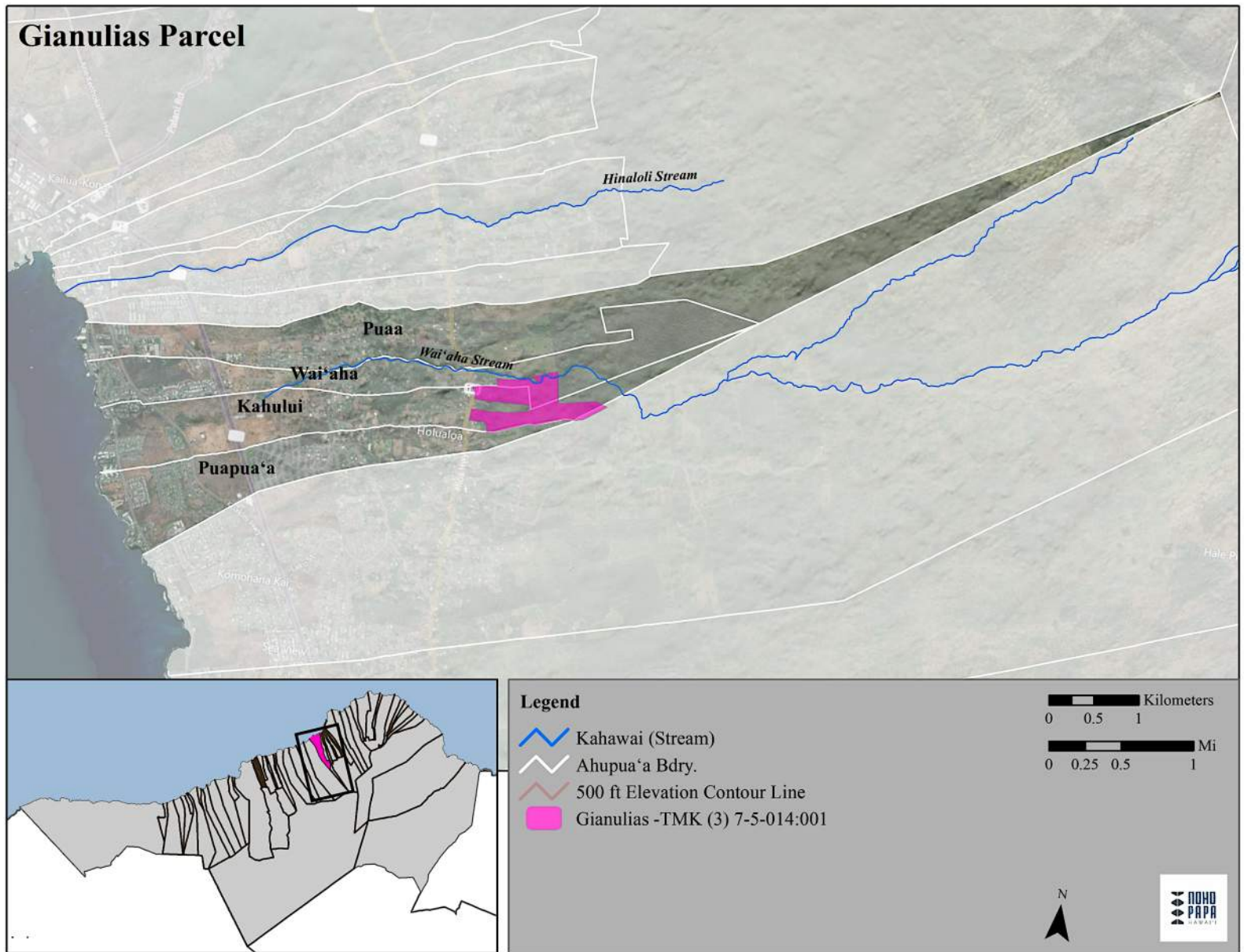


Figure 5. Further zoom in of the ahupua'a that the Gianulias parcels is located in

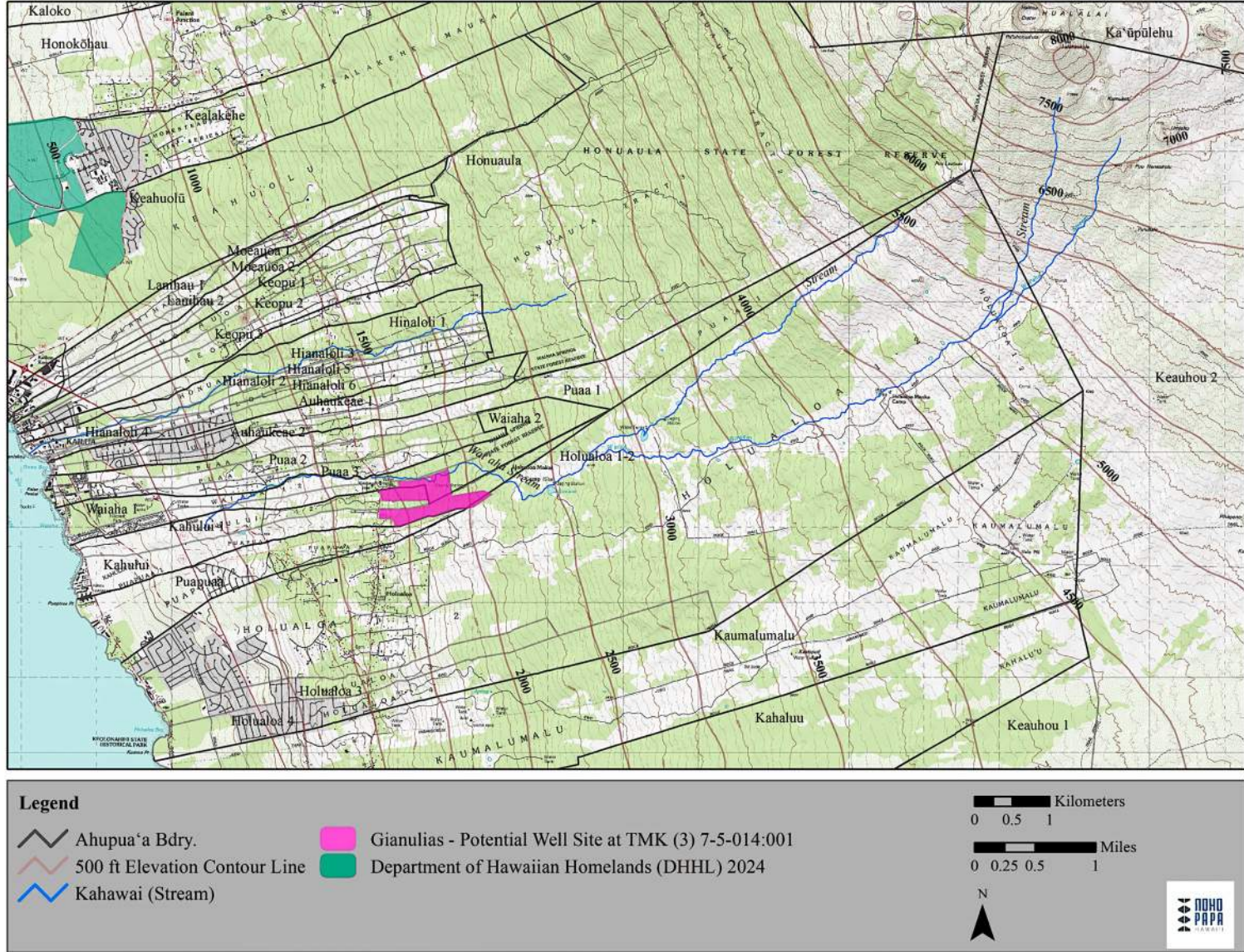


Figure 6. USGS map showing the DHHL TMK parcels (green) and the Gianulias potential well site TMK (pink)

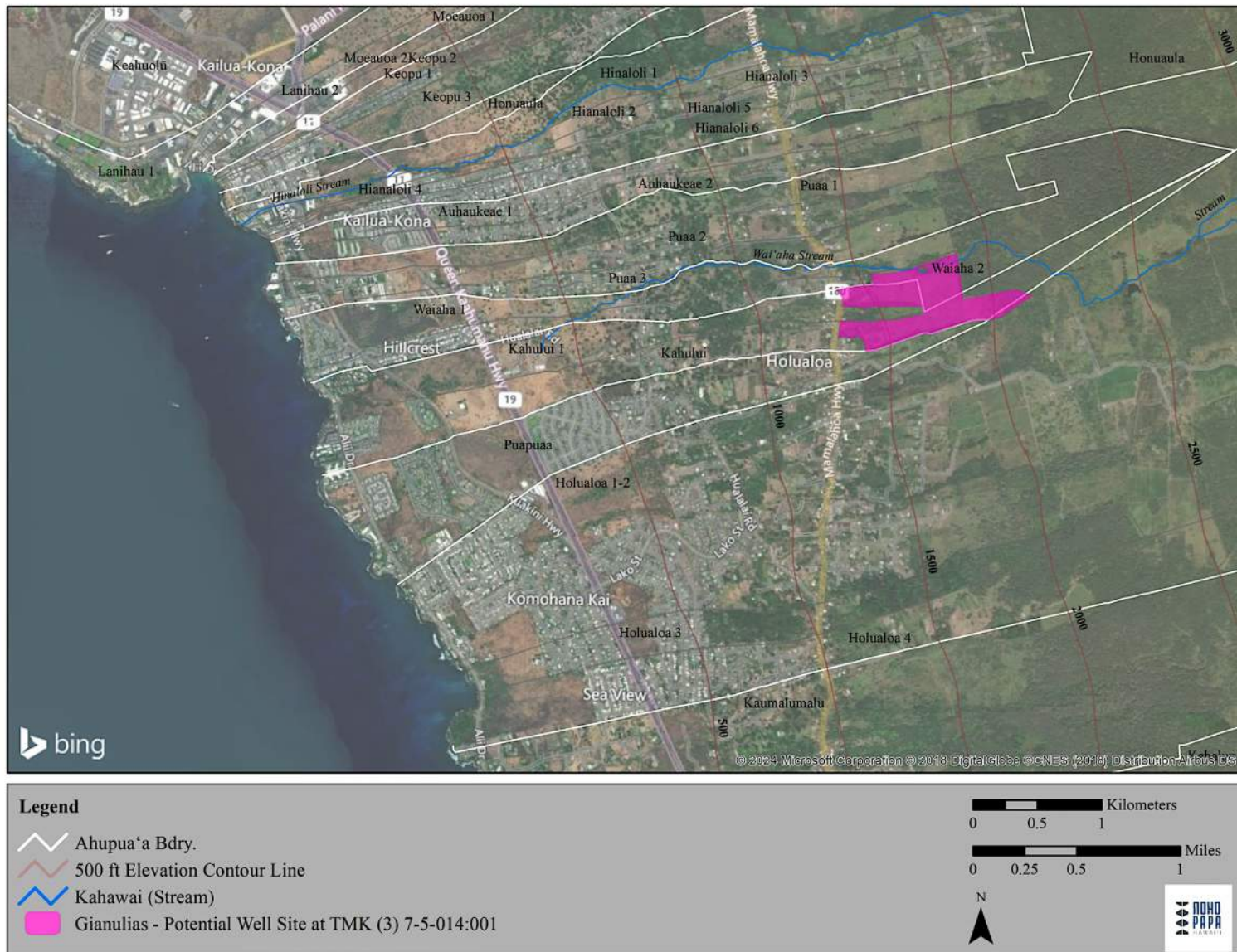


Figure 7. Aerial image showing the Gianulias TMK located within Wai'aha, Kahului, and Puapua'ā Ahupua'a, which also includes a portion of Wai'aha Stream

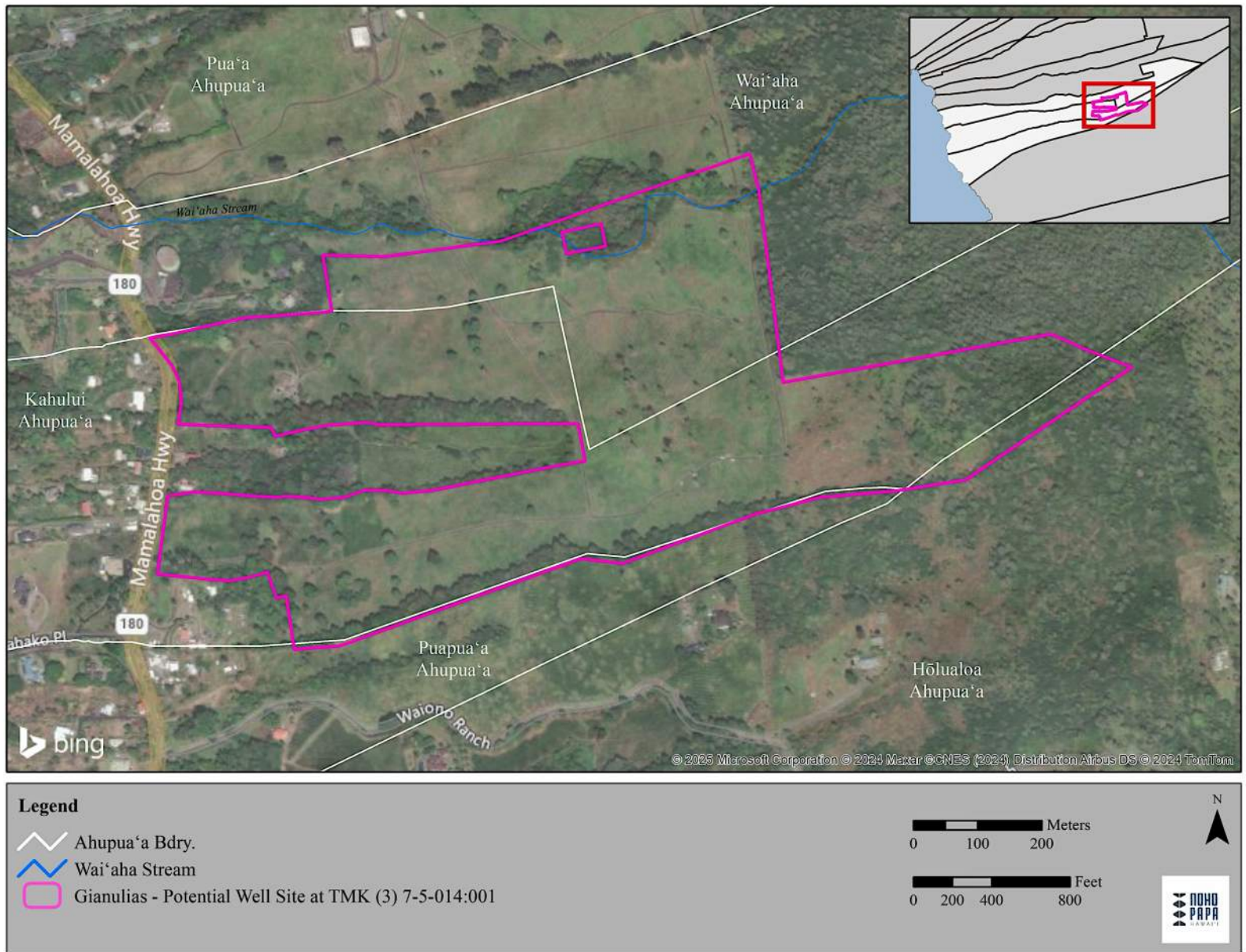


Figure 8. Zoom in aerial image of the Gianulias parcel boundaries.



Figure 9. USGS map of the BPBE Kamehameha Schools existing well site in blue.



Figure 10. Aerial image showing the location of the Kamehameha Schools well site in Keauhou 2 Ahupua'a and the surrounding ahupua'a



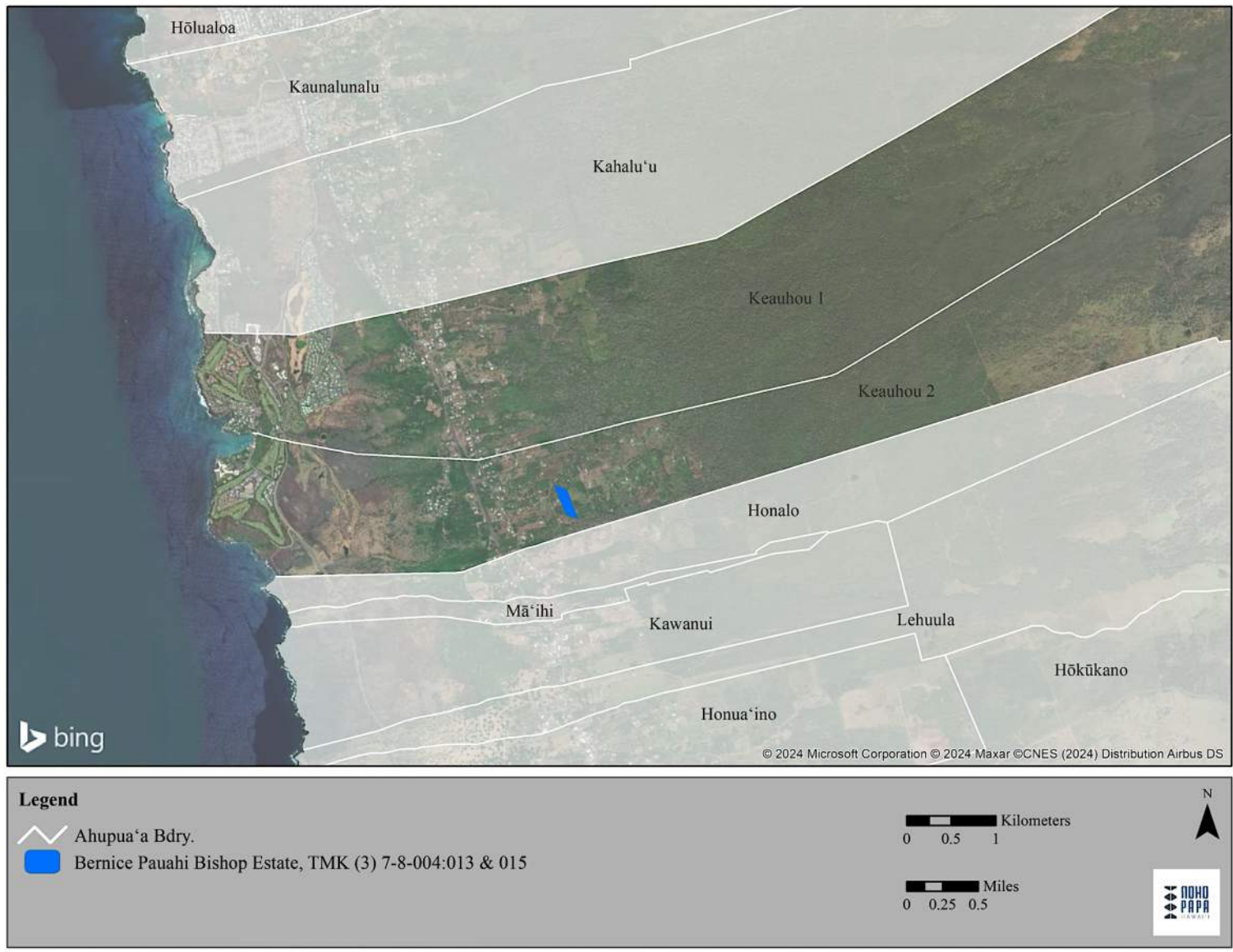


Figure 11. Aerial image of the KS BPBE parcel in Keauhou 2 Ahupua'a

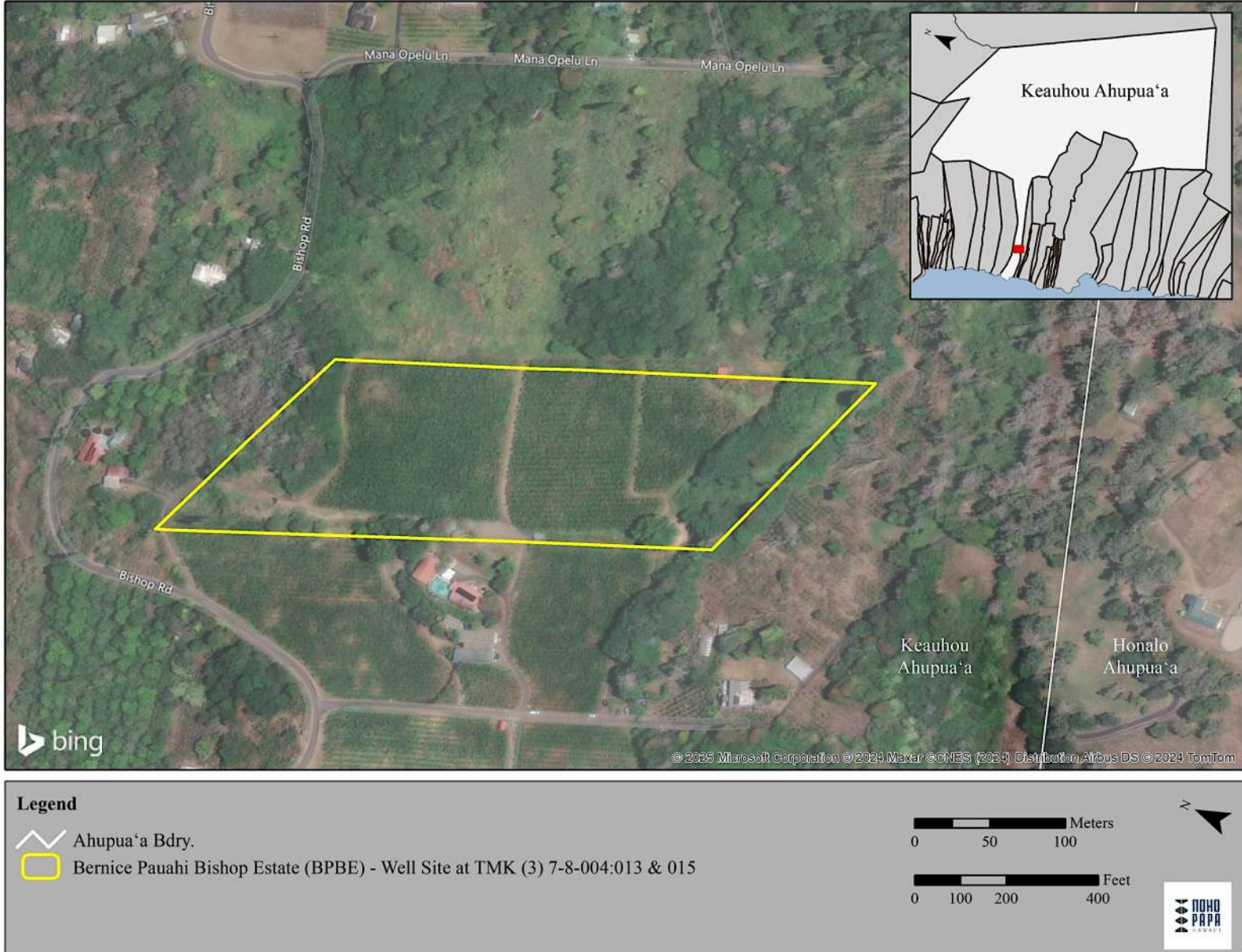


Figure 12. Zoom in aerial image of the KS BPBE well site in Keauhou 1 Ahupua'a

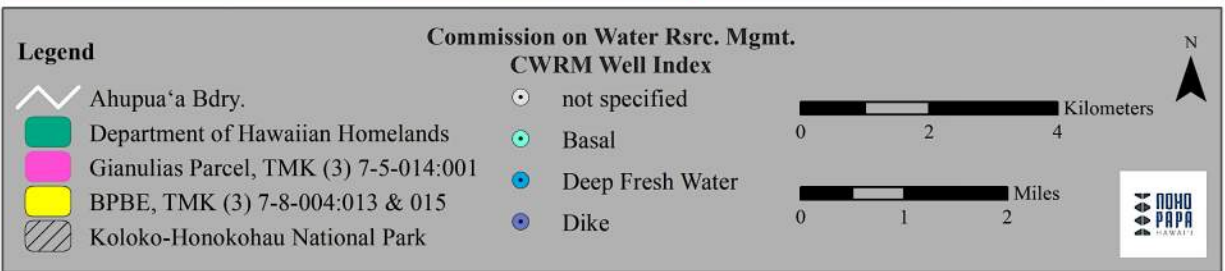
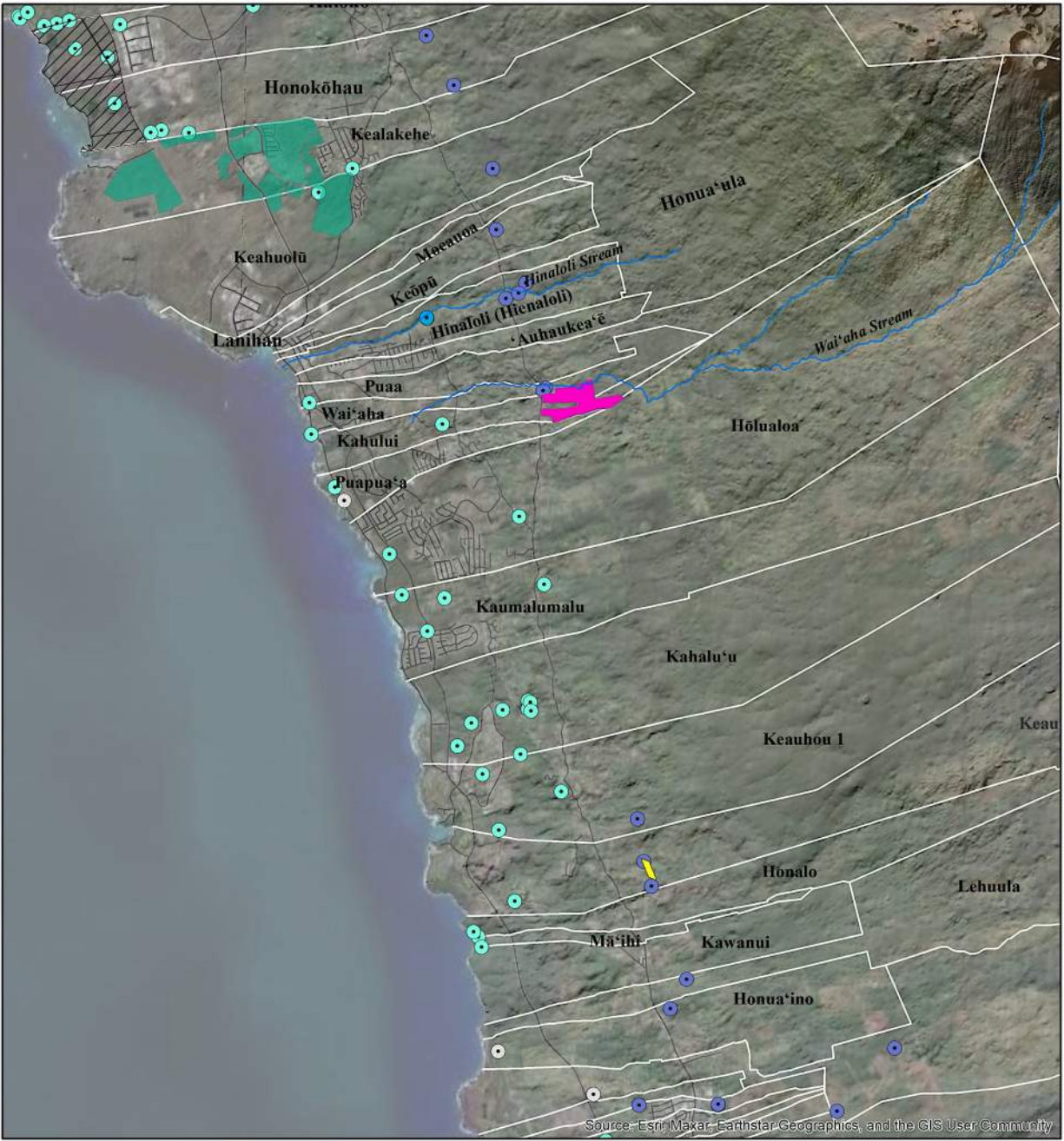


Figure 13. Water well locations from the Commission on Water Resource Management Well Index

## Ka Pa‘akai Legal Overview

### What is the agency’s obligation under Ka Pa‘akai?

An understanding of the DHHL’s responsibilities and obligations under the *Ka Pa‘akai* Analysis framework must be rooted in the legal history of the sovereign Hawaiian Kingdom, and an overview of the unique jurisprudence contained in Hawai‘i’s Constitution and a constellation of state laws. Concurrently, it must be contextualized in an ecosystem and broader dialogue of federal and global policies and declarations concerning the rights of Indigenous peoples and the responsibilities of entities and agencies asserting agency and authority in Indigenous spaces.

Accordingly, the review and discussion below begins with an exposition on foundational understandings. It then explains why the Hawai‘i State constitution and Hawai‘i State laws require the protection of Hawaiian traditional and customary practices and related cultural resources - primary amongst them rights to freshwater, gathering, access to places and spaces, and the continued right to exercise an array of traditional and customary practices. These topics are followed by an overview of the DHHL’s unique fiduciary obligations this *Ka Pa‘akai* Framework Analysis is designed to satisfy. The section concludes with a discussion of how the purposes and goals of the *Ka Pa‘akai* Framework Analysis are reflected and upheld by federal and global jurisprudence regarding the rights of indigenous peoples.

### Foundational Truths About Hawaiian Culture and Traditional and Customary Practices

It is important to acknowledge a series of foundational, intertwined truths and realities that are frequently ignored and sidelined:

- Hawaiian culture is living and dynamic;
- Traditional and customary practices, as aspects of a living, dynamic human cultural system, are an expansive spectrum. They have the potential to be revealed and layered with ancestral knowledge and additional information through pathways that include but are not limited to: intentional revelation or sharing by knowledge carriers, cultural practitioners, and ‘ohana, research, discovery, and new translations. Therefore, the changing and emergent nature of some traditional and customary practices does not invalidate them;
- Hawaiian oral traditions and testimony are valid lines of empirical evidence that require no external validation<sup>7</sup>;

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<sup>7</sup>See Ashford, 50 Haw. 314, 316, 440 P.2d 76, 77 (1968); Malia Akutagawa & Amanda Lerma, *Legal & Ka Pa‘akai Analysis for the Nomination of the Papahānaumokuākea National Monument as a National Marine Sanctuary*, 49-50, 2023; Advisory Council on Historic Preservation, *Traditional Knowledge and the Section 106 Process: Information for Federal Agencies and Other Participants* (2021), <https://www.achp.gov/sites/default/files/2021-05/TraditionalKnowledgePaper5-3-21.pdf>; Council on Environmental Quality, Offices of Science and Technology Policy, the White House, *Guidance for Federal Departments and Agencies on Indigenous Knowledge*, (Nov. 30, 2022), <https://www.whitehouse.gov/wp-content/uploads/2022/12/OSTP-CEO-IK-Guidance.pdf>; Advisory Council on Historic Preservation,

- *Ka Pa‘akai* mandates the respect and protection of traditional and customary practices by State agencies; it does not require their understanding by outsiders, nor their defense or justification by cultural practitioners<sup>8</sup>. Failure to grasp their essence is a lack of knowledge and understanding as well as an inability (or unwillingness) of agencies and their representatives to uphold and fulfill their fiduciary obligations.

## **Ka Pa‘akai as an Outgrowth of Ancient Hawaiian Cultural Practices and Customs**

In their recent *Ka Pa‘akai* Analysis for the National Marine Sanctuary designation for Papahānaumokuākea, Professor of Hawaiian Studies and Hawaiian Legal Expert Malia Akutagawa, Esq., and co-author Amanda Lerma, J.D., write that the “The Kumulipo<sup>9</sup> and Hawaiian cosmogenic origins determined cultural practices and native customary norms,” (Akutagawa and Lerma 2023: 18). The authors write:

Much of the law around Native Hawaiian rights are grounded in the understanding of the ‘ohana. The late kumu hula John Ka‘imikaua stated that “the whole culture of our ancestors was based upon the ‘ohana” in the manner that the land was cared for.<sup>10</sup> He adds that this truth can be found “from the beginning of time in our mo‘olelo that tells of the creation of our islands ... with the union of earth and sky.”<sup>11</sup>

The remainder of their discussion is featured below, inclusive of their footnotes for informational sources:

Kumu John Ka‘imikaua describes lōkahi as “balance between the land, the people that lived upon the land, and the akua,” which results in “pono, the spiritual balance in all things.”<sup>12</sup> From these relationships stem kuleana, the responsibility to advance spiritually with the akua, to engage meaningfully with our fellow kānaka, and to foster right relationship with ‘āina, the land and sea which the “kūpuna [knew to be] living beings.”<sup>13</sup>

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*Notice of Approval of Exemption for Indigenous-Knowledge Informed Activities by Native Hawaiian Organizations*, Federal Register (Nov. 08, 2024), <https://www.federalregister.gov/documents/2024/11/08/2024-25984/notice-of-approval-of-exemption-for-indigenous-knowledge-informed-activities-by-native-hawaiian>.

<sup>8</sup> See *Ka Pa‘akai o Ka ‘Āina v. State of Hawai‘i Land Use Com’n (Ka Pa‘akai)*, 94 Haw. 31, 47, 7 P.3d 1068, 1084 (2000); See also discussion below of the court case below.

<sup>9</sup> Described by Queen Lili‘uokalani as “an Hawaiian creation myth,” and “[a]n ancient prayer for the dedication of the high chief Lonoikamakahiki to the gods soon after his birth,...” (see Queen Lili‘uokalani 1897/2021: cover and introduction).

<sup>10</sup> *A Mau A Mau (To Continue Forever): Cultural and Spiritual Traditions of Moloka‘i*, (Nālani Minton and Nā Maka O Ka ‘Āina 2000).

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> Video interview of Dean Wilhelm, Ho‘okua‘āina, see website: <https://hookuaaina.org/find-a-program/resources/hawaiian-values-based-lessons/>

Inherent in this understanding is the ‘ōlelo no‘eau, “He Ali‘i Ka ‘Āina, He Kauwā Ke Kanaka” – the land is chief, the people are its servants.<sup>14</sup> The mo‘okū‘auhau of Kānaka ‘Ōiwi teaches that ‘ohana encompasses the natural world, that there is no separation between the people and the land. From this comes kuleana, of which the highest responsibility fell to the ali‘i, who served as intermediaries facilitating the “destructive-reproductive forces of the unseen divinities of the cosmos.”<sup>15</sup> When ali‘i failed to follow proper religious protocols and mistreated the people, the maka‘āinana were justified in abandoning their ali‘i as poor leaders and unfit conduits of the gods’ favor.<sup>16</sup> The maka‘āinana were free to move and make another ‘āina momona if they were unhappy with their ali‘i. This provided an incentive for ali‘i to treat the people fairly and generously.<sup>17</sup> More importantly, as Danielle Espiritu, former Program Specialist with the cultural program Ho‘okua‘āina, expressed:

Embedded within [the ‘ōlelo no‘eau, he ali‘i ka ‘āina, he kauwā ke kanaka is] the idea that [the ali‘i] were not going to be oppressive to [the] people, [nor] domineering. [They] were going to steward that authority, that kuleana in a way that protected [the] people and provided for their needs. So really, that’s what it meant to be an ali‘i that was pono, an ali‘i that was good and righteous. We see this in our ‘āina. If ‘āina is honored and stewarded well, it can provide abundantly for Kānaka, and it can allow the rest of the world to thrive. When we see that second part of the ‘ōlelo no‘eau, *he kauwā ke kanaka*, that people are the servants, it is important for us to pause and ask ourselves, how is the health and well-being of our ‘āina directly tied to how well we as kānaka steward it? And so, what is our kuleana, what is our responsibility, what is our privilege as Kānaka to really steward ‘āina? What is our relationship to ‘āina? We can all ask ourselves this ... And if we notice that our relationship [with ‘āina] is not healthy, then we can think about, “Okay what can we do to improve that? What can we do to make our relationship with ‘āina healthier? [What can we do] to really care for and to really mālama ‘āina in the way that it deserves, so that ‘āina can return to being ‘āina?” Embedded in the word ‘āina is ai which means to feed and to eat. How can we care for our relationship with ‘āina so that ‘āina can be thriving and can be a land of abundance?<sup>18</sup>

All of Hawaiian society was responsible to take on this kuleana of mālama ‘āina. The maka‘āinana, however, by cultivating the land, enjoyed the greatest intimacy

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<sup>14</sup> Mary Kawena Pukui, ‘Ōlelo No‘eau: Hawaiian Proverbs & Poetical Sayings 531 (1983).

<sup>15</sup> Lilikalā Kame‘eleihiwa, Native Lands & Foreign Desires: Pehea Lā e Pono Ai?, 36 - 37 (1992).


<sup>16</sup> *Id.* at 39 .

<sup>17</sup> *Id.* at 26; Marion Kelly, Changes in Land Tenure in Hawaii, 1778-1850 (June 1956) (unpublished thesis, University of Hawai‘i at Mānoa) (on file with author).

<sup>18</sup> Danielle Espiritu video interview, Program Specialist with Ho‘okua‘āina. See website: <https://hookuaaina.org/he-alii-ka-aina-he-kauwa-ke-kanaka/>.

with ‘āina. Mary Kawena Pukui emphasized that “the fundamental unit in the social organization [of Hawaiian society is the] ‘ohana ... tied by ancestry, birth and sentiment to a particular locality which was termed ‘āina.”<sup>19</sup> These practices stem from the pre-contact era when ka po‘e kahiko lived under a communal land tenure system. The maka‘āinana tended to raise generations upon generations within the same ahupua‘a, with extended ‘ohana sharing provisions from the land and sea with each other.<sup>20</sup>

The long-standing presence of the maka‘āinana on their ‘āina hānau and their rights of occupation, access, and gathering survived as a hallmark within Hawai‘i’s laws from the Kingdom period into the present day, despite a shifting at the Māhele from a communal land system to a private property regime. This is evidenced by the fact that all the crown, government, and chiefs’ lands remained subject to the rights of native tenants, with the clause “koe nae na kuleana o na kanaka” affixed to all royal patents and land commission awards.<sup>21</sup> To this day, all property in Hawai‘i (both public and private) are encumbered with this reservation.<sup>22</sup> [Akutagawa and Lerma 2023: 20, 21]



In the Office of Hawaiian Affairs-sponsored *Ho‘ohana Aku, a Ho‘ōla Aku: A Legal Primer for Traditional and Customary Rights in Hawai‘i*, legal scholars David M. Forman and Susan K. Serrano synthesize the ancient cultural basis for the respect and protection of Hawaiian customs and practices. The authors specifically emphasize gathering, access, and their holistic connections to Hawaiian resource stewardship, health, and abundance:

The cultural and spiritual identity of the Hawaiian people derives from their relationship with the ‘āina; because the land is part of their ‘ohana, traditional Hawaiian customs and practices emphasize respect and care for the ‘āina and surrounding resources. Accordingly, the traditional and customary practices of the Hawaiian people include gathering, hunting, and fishing in a manner that allows natural resources to reproduce and replenish themselves. [Forman and Serrano 2012:3]

They describe “[a] system of trails and access” that veined every island in the archipelago and was open for access and utilization by everyone from commoners to chiefs (Forman and Serrano 2012:4). The authors also note:

Access along the shore, between adjacent ahupua‘a (loosely defined as watersheds), to the mountains and the sea, and to small areas of land cultivated or harvested by native tenants, were all necessary parts of early Hawaiian life. Gathering activities supplemented everyday food and medicinal supplies, while

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<sup>19</sup> E.S. Craighill Handy & Mary Kawena Puku‘i, *The Polynesian Family System In Ka‘u, Hawai‘i* (1998).

<sup>20</sup> *Id.*

<sup>21</sup> Lorenz Gonschor & Kamanamaikalani Beamer, *Toward an Inventory of Ahupua‘a in the Hawaiian Kingdom: A Survey of Nineteenth- and Early Twentieth-Century Cartographic and Archival Records of the Island of Hawai‘i*. 48 *Haw‘n J. Hist.* 62 (2014).

<sup>22</sup> David M. Forman & Susan K. Serrano, *Ho‘ohana Aku, a Ho‘ōla Aku: A Legal Primer for Traditional and Customary Rights in Hawai‘i* 9 (2012).

cultural and religious practices sustained the people in a variety of ways. [Forman and Serrano 2012:3]

Regarding cultural gathering practices, the authors state:

Although early Hawaiians may have cultivated only small areas compared to the total acreage on each major island, they were able to utilize much greater land areas through gathering. Tenant farmers supplemented their subsistence lifestyle with plants and animals that either did not grow or could not be supported on or near the tenant's house lot or cultivated plot of land. They also gathered items for medicinal and religious purposes. During times of famine, gathering helped the people to survive. When crops or sea life had diminished significantly due to drought or other adverse climate conditions, gathering or foraging for food became the primary means of survival. When called upon by the resident chief, ahupua'a tenants would retrieve large products from the land for communal purposes, such as a tree for a canoe or rafters for a hālau (meeting house).

Restrictions on gathering practices were also an extension of the kapu system, which not only held religious significance, but also served as an efficient means of conserving resources. For instance, with regard to makai gathering practices, there was a kapu placed during spawning season on deep-water fishes such as aku (ocean bonito) and 'ōpelu (mackerel). Because these fish bear their young in the open ocean, they were susceptible to overfishing—as compared with the manini (tang), uhu (parrotfish), palani (surgeonfish), and kala (unicornfish) in protected tidal pool areas. The resident chiefs could impose kapu regulating the size, type, and number of items gathered, as well as the manner in which they were gathered—subject to being overruled by a higher-ranking chief. [Forman and Serrano 2012:4]

## **Ka Pa'akai's Roots in the Legal History of the Sovereign Hawaiian Kingdom**

Hawaiian Kingdom-era laws and jurisprudence recognized, privileged, and upheld Hawaiian cultural systems of resource management, especially those concerning water and traditional customary rights like gathering and access. King Kamehameha III (Kauikeaouli) was the first to enshrine protections for Hawaiian customs and practices into the legal system. Tenants' rights codified in 1839 retained elements of the kapu system described in the preceding section (Forman and Serrano 2012:4). The Constitution of 1840 and Kingdom judiciary of 1847 integrated elements of English common law and American civil law "...so far as they are deemed to be founded in justice, and not in conflict with the laws and usages of this kingdom," a legal structure that persisted for over a century through statehood (Akutagawa and Lerma 2023:23).

Akutagawa and Lerma (2023) write:

In the post-contact era when the Hawaiian archipelago became united under one rule, the early monarchs began to codify these ancient understandings. The 1840 constitution of the Hawaiian Kingdom makes clear the stature of 'āina as paramount over Kānaka 'Ōiwi, with a trusteeship held by the mō'i to care for the chiefs and people through sound management of the land:

Kamehameha I, was the founder of the kingdom, and to him belonged all the land from one end of the Islands to the other,



though it was not his own private property. It belonged to the chiefs and people in common, of whom Kamehameha I was the head, and had the management of the landed property.<sup>23</sup>

The constitution reflected the ancient understanding that the aliʻi possessed the kuleana to govern the people wisely and to observe religious and ceremonial protocols that ensured the protection of the land and people.<sup>24</sup> The makaʻāinana farmed the land and made it productive. While the aliʻi's tenure on the land was impermanent due to acts of conquest among them, the makaʻāinana, for the most part (especially when they were treated well), remained a permanent fixture upon the land and devoted their endeavors to making ʻāina momona (fat, abundant land).<sup>25</sup>

The constitution also laid the groundwork for the Māhele, the privatization and division of the lands among the king, chiefs, and makaʻāinana. The Māhele (1848) introduced a hybridized system of private property that adopted some western constructs while protecting the vested rights of makaʻāinana – rights inherent to them via Hawaiian cosmology and grounded in custom and practice through the ancient land tenure system.<sup>26</sup> The Māhele sought to divide the formerly undivided interests in land shared in common between the King, chiefs, and makaʻāinana. The first stages of the Māhele involved the King and 252 chiefs quit-claiming their interests between each other. The lands, now considered freehold, were converted into allodial titles. The chiefs were then awarded royal patents for konohiki lands once they paid a commutation fee.<sup>27</sup> The King dedicated the bulk of his landholdings to the government, while keeping the remainder as crown lands for himself and his heirs.<sup>28</sup>

As the Kingdom was evolving towards a private property regime, it did not wholly adopt a western framework.<sup>29</sup>

All of the Crown, government, and chiefs' lands remained subject to the rights of native tenants. The clause "koe nae na kuleana o na kanaka" is affixed to all LCAs, Royal Patents issued to konohiki, private citizens, Crown and government lands. This clause reaffirms that all lands throughout Hawaiʻi to the present-day are

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<sup>23</sup> *Nā Kumukānāwai O Ka Makahiki 1839 A Me Ka 1840*, 1.1 Ka Hoʻoilina: Journal of Hawaiian Language Sources, Luna Hoʻoponopono et al., eds., Jason Kāpena Achiu trans., Mar. 2002 [hereinafter L.1840], at 41, available at <http://hooilina.org/collect/journal/index/assoc/HASH0166.dir/1.pdf> (last visited Feb. 11, 2023).

<sup>24</sup> Lilikalā Kameʻeleihiwa, *Native Lands & Foreign Desires: Pehea Lā e Pono Ai?*, 36-39 (1992).

<sup>25</sup> Kamanamaikalani Beamer, *No Mākou Ka Mana: Liberating The Nation*, 45 (2014); E.S. Craighill Handy & Mary Kawena Pukuʻi, *The Polynesian Family System In Kaʻu, HAWAIʻI 2* (1998).

<sup>26</sup> Kamanamaikalani Beamer, *No Mākou Ka Mana: Liberating The Nation*, 144 (2014).

<sup>27</sup> Lorenz Gonschor & Kamanamaikalani Beamer, *Toward an Inventory of Ahupuaʻa in the Hawaiian Kingdom: A Survey of Nineteenth- and Early Twentieth-Century Cartographic and Archival Records of the Island of Hawaiʻi*. 48 *Hawʻn J. Hist.* 59 (2014).

<sup>28</sup> *Id.* at 58.

<sup>29</sup> *Pub. Access Shoreline Haw. v. Haw. Cnty. Planning Comm'n (PASH)*, 79 *Hawaiʻi* 425, 447, 903 P.2d 1246, 1268 (1995) (concluding that the "western concept of exclusivity [in private property law] is not universally applicable in Hawaiʻi" and that "the issuance of [ ] Hawaiian land patent[s]" at the time of the Māhele conveyed "a limited property interest.").

encumbered by “reserved rights of native tenants.”<sup>30</sup> The courts to this present day recognize a kuleana reservation attaches to private property holdings in Hawai‘i.<sup>31</sup>

Hoa‘āina were able to acquire small land-holdings, or kuleana, for themselves through the 1850 Kuleana Act as well as acquire government lands through purchase.<sup>32</sup> The Kuleana Act and the kuleana reservations attached to landholdings reflect traditional and customary understandings that pre-date Statehood and even the time of Kamehameha and his monarchy. These legal provisions represent hoa‘āina relationships to their ahupua‘a and recognize their rights to access lands from mauka to makai to gather materials for their basic needs (e.g., thatch and aho cordage for making rope and building hale, firewood for imu, ti leaf for wrapping food items, lei-making, and to serve spiritual and ceremonial purposes). Today, the Kuleana Act is memorialized in state law as Hawai‘i Revised Statutes, Section 7-1

Hawai‘i Revised Statutes, Section 1-1 is another source of law that was enacted in 1892 as part of the civil code<sup>33</sup> of the Hawaiian Kingdom and has survived into Statehood. H.R.S. § 1-1 instructs Hawai‘i’s courts to look to English and American common law decisions for guidance, except where they conflict with “Hawaiian judicial precedent, or ... Hawaiian [custom and] usage” pre-dating 1892.<sup>34</sup> The origins of this law can be traced even further back to the early period of the Hawaiian Kingdom prior to 1838, when it was acknowledged that the islands were “governed ... without other system than [Hawaiian custom and] usage, and with a few trifling exceptions, without legal enactments.”<sup>35</sup> Under Kamehameha III, the constitutional monarchy took shape with the establishment of an Executive Department comprised of a Privy Council and Ministers to the King. This was followed by the creation of a Judiciary in 1847 authorized to “cite and adopt ‘[t]he reasonings and analysis of the common law, and of the civil law [of other countries] ... so far as they are deemed to be founded in justice, and not in conflict with the laws and usages of this kingdom.’”<sup>36</sup> (emphasis added). This law also encompasses

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<sup>30</sup> Lorenz Gonschor & Kamanamaikalani Beamer, *Toward an Inventory of Ahupua‘a in the Hawaiian Kingdom: A Survey of Nineteenth- and Early Twentieth-Century Cartographic and Archival Records of the Island of Hawai‘i*. 48 *Haw’n J. Hist.* 61 (2014).

<sup>31</sup> David M. Forman & Susan K. Serrano, *Ho‘ohana Aku, a Ho‘ola Aku: A Legal Primer for Traditional and Customary Rights in Hawai‘i*, 9 (2012).

<sup>32</sup> Lorenz Gonschor & Kamanamaikalani Beamer, *Toward an Inventory of Ahupua‘a in the Hawaiian Kingdom: A Survey of Nineteenth- and Early Twentieth-Century Cartographic and Archival Records of the Island of Hawai‘i*, 48 *Haw’n J. Hist.* 61 (2014).

<sup>33</sup> L.1892, c. 57, s 5, approved on November 25, 1892 which states, “Section 5. The common law of England, as ascertained by English and American decisions, is hereby declared to be the common law of the Hawaiian Islands in all cases, except as otherwise expressly provided by the Hawaiian Constitution or laws, or fixed by Hawaiian judicial precedent, or established by Hawaiian national usage, provided however, that no person shall be subject to criminal proceedings except as provided by the Hawaiian laws.”

<sup>34</sup> *State v. Zimring*, 52 Haw. 472, 475 (1970) (citing *De Freitas v. Trustees of Campbell Estate*, 46 Haw. 425, 380 P.2d 762 (1963)).

<sup>35</sup> *PASH*, 79 Haw. at 437, 903 P.2d at 1246 (note 21, citing 1 *Statute Laws of His Majesty Kamehameha III, King of the Hawaiian Islands* 3 (1845-46)).

<sup>36</sup> *Id.* (note 21, citing Act of September 7, 1847, ch. I, § IV; 2 *Statute Laws of His Majesty Kamehameha III, King of the Hawaiian Islands* (1847) (emphasis added)).

the entire spectrum of Hawaiian traditional and customary practices beyond the specific items listed in H.R.S. § 7-1. [Akutagawa and Lerma 2023:21–23]

Especially relevant in Kona, the 1859 Hawai‘i Revised Statutes (HRS) § 7-1, as amended, entitled “Miscellaneous Rights of the People – Building materials, water, etc.; landlords’ titles subject to tenants’ use,” protects the right to gather for personal, non-commercial use, and a right to “drinking water, and running water, and the right of way.” It states:

Where the landlords have obtained, or may hereafter obtain, allodial titles to their lands, the people on each of their lands shall not be deprived of the right to take firewood, house-timber, aho cord, thatch, or ki leaf, from the land on which they live, for their own private use, but they shall not have a right to take such articles to sell for profit. The people shall also have a right to drinking water, and running water, and the right of way. The springs of water, running water, and roads shall be free to all, on all lands granted in fee simple; provided that this shall not be applicable to wells and watercourses, which individuals have made for their own use. [HRS Hawaii Revised Statutes (HRS) § 7-1]

## **Hawaiian Rights Enshrined in Hawai‘i Constitutional and State Law Underpinning Ka Pa‘akai**

Akutagawa and Lerma offer a discussion of the pivotal modern events and legal history underpinning *Ka Pa‘akai*. They write:

During the Hawaiian Renaissance period when Kānaka Maoli began to fight for native access and gathering rights, resist evictions from ancestral lands, and organize against the Navy’s bombing of Kaho‘olawe, a State constitutional convention was held. This rare opportunity prompted Kānaka and local environmentalists to strategically position themselves as delegates in these proceedings. It was at the 1978 constitutional convention that certain key amendments were adopted. With respect to native rights, the delegates adopted a new amendment, Article XII, Section 7, which reads as follows:

The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua‘a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights.<sup>37</sup>

This provision solidifies and enhances H.R.S., §§ 1-1 and 7-1, by making it a constitutional mandate for the State and its political subdivisions to “protect the reasonable exercise of customar[y] and traditional[] rights of Hawaiians to the extent feasible.”<sup>38</sup> Over the next forty years, a body of jurisprudence developed around these statutory and constitutional provisions which addressed issues of where Hawaiian rights are protected and to what extent.

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<sup>37</sup> HAW. CONST. art. XII, § 7 (1978).

<sup>38</sup> PASH, 79 Hawai‘i 425 at 437, 903 P.2d at 1246.

The first landmark Native Hawaiian rights case emerged in 1982 with William “Billy” Kalipi, Sr. asserting his kuleana rights.<sup>39</sup> The Hawai‘i Supreme Court strictly interpreted H.R.S., § 7-1 in *Kalipi v. Hawaiian Trust Co.* (“*Kalipi*”) as protective only of access and gathering rights of native tenants actually residing within the ahupua‘a and that these practices may occur only on undeveloped lands.<sup>40</sup> However, as more cases have been litigated since *Kalipi*, the Hawai‘i Supreme Court has revisited the notion of whether traditional and customary practices are viable only on undeveloped lands. The court’s decision in *Public Access Shoreline Hawaii v. Hawai‘i County Planning Commission* (“*PASH*”) acknowledged that these traditions exercised on “less than fully developed” lands may also warrant protection.<sup>41</sup>

In *Pele Defense Fund v. Paty* (“*Pele I*”), the Hawai‘i Supreme Court expanded its ruling in *Kalipi* and acknowledged that gathering rights may extend to other ahupua‘a without benefit of tenancy if it can be demonstrated that this was the accepted custom and long-standing practice.<sup>42</sup> The court gave great weight to kama‘āina evidence and acknowledged that “traditional and customary rights associated with tenancy in an ahupua‘a [may] extend[ ] beyond the boundaries of the ahupua‘a.”<sup>43</sup>

These cases tend to reflect the practices of hoā‘āina<sup>44</sup> in the terrestrial realms, particularly the wao nahele (upper rainforests with permanent cloud cover), the wao lā‘au (lower forests of characterized by traditional hardwoods utilized for building materials and permanent fruiting trees where human interactions and gathering practices were more pronounced), and the wao kanaka (where human settlements existed and the land was actively farmed). The wao kanaka also extended into the sea to include estuarine environments where loko i‘a (fishponds) were constructed and where the nearshore reefs existed. [Akutagawa and Lerma 2023: 24, 25]

The authors go on to discuss water and other gathering rights, and the public trust:

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<sup>39</sup> *Kalipi v. Hawaiian Trust Co.*, 66 Haw. 1, 656 P.2d 745 (1982).


<sup>40</sup> FORMAN & SUSAN K. SERRANO, HO‘OHANA AKU, A HO‘OLA AKU at 9 (citing *Kalipi*, 66 Haw. at 9, 656 P.2d at 750).

<sup>41</sup> See *PASH*, 79 Hawai‘i at 451.


<sup>42</sup> *Pele Def. Fund v. Paty (Pele I)*, 73 Haw. 578, 620, 837 P.2d 1247, 1272 (1992). See FORMAN & SUSAN K. SERRANO, HO‘OHANA AKU, A HO‘OLA AKU, at 13 (citing *Pele I*, 73 Haw. at 620, 837 P.2d at 1272). In *Pele I*, the plaintiffs, the Pele Defense Fund (“PDF”) challenged the state’s decision to exchange specific ceded lands for privately owned land on Hawai‘i Island. PDF claimed that after the land swap, its Native Hawaiian members seeking to exercise traditional subsistence, cultural, and religious practices were denied access to the undeveloped and now privately owned land. PDF provided testimony and affidavits attesting to the actual practices of Native Hawaiians living in in the Puna region as traditionally gathering outside of their ahupua‘a of residence onto the lands subject in this litigation. This evidence formed the basis for the court’s decision to affirm these practices as rights protected by law.

<sup>43</sup> FORMAN & SUSAN K. SERRANO, HO‘OHANA AKU, A HO‘OLA AKU, at 13-14 (citing *Pele I*, 73 Haw. at 620-21, 837 P.2d at 1272; citing also *Pele Def. Fund v. Estate of James Campbell*, Civ. No. 89-089, 2002 WL 34205861 (Haw. 3d Cir. Aug. 26, 2002)).

<sup>44</sup> Hoā‘āina can be translated as “tenant, caretaker” (Pukui and Elbert 1986)



In a post-Territory Hawai'i, the Hawai'i Supreme Court, in a series of groundbreaking cases, began a decolonize the law and reinvigorate the sources of law protecting native rights. Some of those cases have been described above in the section above. In 1973, the Court in *McBryde Sugar Co. v. Robinson* rejected the notion of prescriptive rights and private ownership of water, stating that from the time Hawai'i became a kingdom, the King maintained certain "sovereign prerogatives" which included "encourag[ing] and even ... enforc[ing] the usufruct of lands for the common good[.]" water being one of them.<sup>45</sup> Applied to the State of Hawai'i as the new "sovereign" this court decision had the effect of returning water as a public trust. The Court further reinforced this understanding in *Robinson v. Ariyoshi* (1982):



[W]e believe that by [the sovereign reservation], a public trust was imposed upon all the waters of the kingdom. That is, we find the public interest in the waters of the kingdom was understood to necessitate a retention of authority and the imposition of a concomitant duty to maintain the purity and flow of our waters for future generations and to assure that the water of our land are put to reasonable and beneficial uses. This is not ownership in the corporeal sense where the State may do with the property as it pleases; rather, we comprehend the nature of the State's ownership as a retention of such authority to assure the continued existence and beneficial application of the resource for the common good.<sup>46</sup>

Reflecting on the implications of *McBryde* and *Robinson v. Ariyoshi* necessitates a deeper acknowledgement that the public trust as understood from the Kingdom's perspective encapsulates the understanding of the ali'i, through divine right and mo'okū'auhau tracing to origins in the Kumulipo, having kuleana to care for the 'āina and their people for the common good. Indeed, the Court has acknowledged of the kuleana the chiefs had to the maka'āinana where the "public trust [comprises] a dual concept of sovereign right and responsibility[.]" a hallmark of "the ancient Hawaiian system."<sup>47</sup>

Subsequent to the landmark decision in *McBryde*, the delegates to the 1978 constitutional convention solidified this case by adopting Article XI. Section 7 specifically refers to water and affirms the State's "obligation to protect, control and regulate the use of Hawaii's water resources for the benefit of its people."<sup>48</sup> Section 1 provides the State's and Counties' responsibilities under the Public Trust:

For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawai'i's natural

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<sup>45</sup> *McBryde Sugar Co. v. Robinson*, 54 Haw. 174, 186 (1973); *McBryde Sugar Co. v. Robinson*, 55 Haw. 260, 270 (1973).

<sup>46</sup> *Robinson v. Ariyoshi*, 65 Haw. 641,674, 658 P.2d 287, 310 (1982)

<sup>47</sup> *In re Waiāhole Combined Contested Case Hearing*, 94 Haw. 97, 135, 9 P.3d 409, 447 (2000) (citing *Reppun v. Board of Water Supply*, 65 Haw.531, 547-48 and n. 14, 656 P.2d 57, 68-69, and n. 14 (1982)).

<sup>48</sup> Haw. Const. art. XI, § 7 (1978).

beauty and all natural resources, including land, water, air, minerals, and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the State for the benefit of the people.<sup>49</sup>

The Hawai'i Supreme Court recognizes both Article XI, section 1 and article XI, section 7 as the public trust doctrine and "a fundamental principle of constitutional law in Hawai'i."<sup>50</sup> These constitutional provisions have had profound effects on our jurisprudence, one that is unmatched in any other jurisdiction throughout the United States. A survey of the cases arising out of the public trust include strong language from the Hawai'i Supreme Court rejecting arguments from private commercial interests that they are protected under this doctrine and that to return water back to the stream would constitute "waste."<sup>51</sup> Rather, the Court has made clear that resource protection is an important underlying public trust responsibility. The public trust also extends to ocean and fisheries health.<sup>52</sup>

Native Hawaiian traditional and customary rights are also deemed a public trust purpose as Hawai'i's indigenous people are inextricably tied to the natural environment.<sup>53</sup> The Court traces this public trust responsibility to Native Hawaiians as derivative of protections afforded under the Kuleana Act/H.R.S., § 7-1 which recognized the rights of *hoā'āina* to traverse freely within their *ahupua'a*, to access traditional trails, and to gather specific items that were critical to their daily survival, including water.<sup>54</sup> Thus, native rights are not only protected by Article XII, § 7 of the constitution, but doubly so under the public trust.

More recently, the Court has further expanded its understanding of native rights and the public trust to include a "duty to *mālama 'āina*" or "to care for the land[.]"<sup>55</sup> and that the State must exercise its fiduciary obligations as a trustee for lands it holds and manages.<sup>56</sup> The Court in *Ching v. Case* (2019), which centered on the State's obligation to properly manage ceded lands it had leased to the federal government for military training exercises, made clear also that:

[P]ublic lands ceded to the United States following the overthrow of the Hawaiian Monarchy and returned to Hawai'i upon its admission to the Union hold a special status under our law. These

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<sup>49</sup> Haw. Const. art. XI, §1 (1978).

<sup>50</sup> *In re Waiāhole Combined Contested Case Hearing*, 94 Haw. 97, 132, 9 P.3d 409, 444 (2000).

<sup>51</sup> *Id.* at 137-138, 9 P.3d 409, 449-450 (2000).

<sup>52</sup> See *generally*, *Kelly v. 1250 Oceanside Partners*, 111 Hawai'i 205, 140 P.3d 985 (2006).

<sup>53</sup> *In re Waiāhole Combined Contested Case Hearing*, 94 Haw. 97, 137, 9 P.3d 409, 449 (2000).

<sup>54</sup> HAW. REV. STAT. § 7-1 (1994) (ensuring *hoā'āina* "right[s] to take firewood, house-timber, aho cord, thatch, or ki leaf ... [and] a right to drinking water, and running water, and the right of way. ...").

<sup>55</sup> *Ching v. Case*, 145 Haw. 148, n. 26, 449 P.3d 1146, n. 26 (2019).

<sup>56</sup> *Id.* at 1168, 170, (citing *In re Conservation Dist. Use Application HA-3568 (In re TMT)*, 143 Haw. 379, 400, 431 P.3d 752, 773 (2018); *State ex rel. Kobayashi v. Zimring*, 58 Haw. 106, 121, 566 P.2d 725, 735) (1977)).

lands are held by the State in trust for the benefit of Native Hawaiians and the general public. Accordingly, our constitution places upon the State duties with respect to these trusts much like those of a common law trustee, including an obligation to protect and preserve the resources however they are utilized.”<sup>57</sup>

The ceded lands, and thus the trusts currently managed by the State of Hawaii for the betterment of the conditions of native Hawaiians, are comprised of land originally set aside in 1848 by the laws and customs of the Kingdom of Hawaii. In 1848, the lands set aside as crown lands and government lands were made subject to a trust inspired by Native Hawaiian tradition. In 1893, the Kingdom was overthrown, and the Crown and Government lands subsequently were stolen by the Republic of Hawaii. When these land groupings were ceded to the United States by the Republic in 1898, federal law made them subject to a special trust,<sup>58</sup> and at statehood they were placed in what is known as the ceded lands trust. In the 1959 Hawai‘i Admission Act, provisions explicitly protected lands and resources for “native Hawaiian” beneficiaries as defined in the Hawaiian Homes Commission Act.<sup>59</sup> As a condition of statehood, section 5(f) of the Admission Act mandated that the State of Hawai‘i manage certain ceded lands for any number of the five trust purposes, including the “betterment of the conditions of native Hawaiians.”<sup>60</sup> Section 5(b) of the Admissions Act officially conveyed to the new State of Hawai‘i title to 1,400,000 of the 1,800,000 of Kingdom crown and government lands.<sup>61</sup> The OHA was the State’s vehicle for fulfilling its duty to Native Hawaiians under section 5(f). It was established at the 1978 constitutional convention for that purpose. [Akutagawa and Lerma 2023:46—49]

## **Ka Pa‘akai o Ka ‘Āina v. State of Hawai‘i Land Use Commission**

The court case *Ka Pa‘akai o Ka ‘Āina v. State of Hawai‘i Land Use Commission* (*Ka Pa‘akai*) established state agencies have an onus to fulfill their fiduciary duties to uphold Hawaiian rights enshrined in the State Constitution and state law. The Supreme Court of the State of Hawai‘i determined Article VII, Section 7 of Hawai‘i’s Constitution “...places an affirmative duty on the State and its agencies to preserve and protect traditional and customary native Hawaiian rights and confers upon the State and its agencies the power to protect these rights and to prevent any interference with the exercise of these rights.”<sup>62</sup> The court asserted:

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<sup>57</sup> *Id.* at 152, 449 P.3d at 1150.


<sup>58</sup> D. Kapua‘ala Sproat & MJ Palau-McDonald, *The Duty to Aloha ‘Āina: Indigenous Values as a Legal Foundation for Hawai‘i’s Public Trust*, 57 *Harvard Civil Rights-Civil Liberties L. Rev.* 525 (2022) (stating that, “Both the Joint Resolution of Annexation and Hawai‘i’s Organic Act, which established a U.S. territorial government, recognized the special trust status of the Crown and Government Lands and also stipulated that revenue from the lands must be used to benefit residents of the islands.” Joint Resolution to Provide for Annexing the Hawaiian Islands to the United States, July 7, 1898, 30 Stat. 750; Hawaiian Organic Act, § 91, April 30, 1900, ch. 339, 31 Stat. 141 (1900).

<sup>59</sup> Hawaii Admission Act, Pub. L. No. 86-3, §§ 4-5, 73 State. 5, 5-6 (1959).

<sup>60</sup> *Id.* § 5(f).


<sup>61</sup> *Id.* § 5(b).

<sup>62</sup> *Ka Pa‘akai*, 94 Haw. at 47, 7 P.3d at 1084.

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- (1) The state and its agencies are obligated to protect the reasonable exercise of customarily and traditionally exercised rights of native Hawaiians to the extent feasible;
  - (2) Agencies are obligated to make an assessment, independent of the developer or applicant, of the impacts on customary and traditional practices of Native Hawaiians; and
  - (3) The independent assessment must include three factors known as the ‘Ka Pa‘akai’ framework.<sup>63</sup>

The case also “...established a three-pronged framework for assessing Native-Hawaiian constitutionally protected rights and further held that the state has an obligation to protect those rights and may not transfer its duties to a third party.” [Palacat-Nelsen 2023]

The opinion resulting from *Ka Pa‘akai* stated that in order to fulfill its legal obligations, state agencies, like the DHHL, must measure the potential impacts of proposed projects against the following considerations:

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- (1) The identity and scope of “valued cultural, historical, or natural resources” in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;
  - (2) The extent to which those resources—including traditional and customary native Hawaiian rights—will be affected or impaired by the proposed action; and
  - (3) The feasible action, if any, to be taken ... by the [State and/or its political subdivisions] to reasonably protect native Hawaiian rights if they are found to exist.<sup>64</sup>

## How are Hawaiian Customs Determined?

Akutagawa and Lerma (2023) also detail the legal precedent for determining Hawaiian customs:

...HRS §1-1 instructs Hawai‘i’s courts to look to English and American common law decisions for guidance, except where they conflict with “Hawaiian judicial precedent, or ... Hawaiian [custom and] usage.”<sup>65</sup> One of the threshold issues in determining whether or not the law governing Native Hawaiian rights, then, is determining whether or not a purported practice is actually a Hawaiian custom.

Courts look to kama‘āina expert testimony as the foundation for authenticating Hawaiian custom and usage. This was first discussed in *Application of Ashford*<sup>66</sup> which relied on “reputation evidence” of a kama‘āina over a shoreline boundary dispute rather than accept the conclusions of a certified land surveyor. The Court has recognized the definition of “kama‘āina” to mean as stated in the Hawaiian

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<sup>63</sup> See *id.*

<sup>64</sup> *Id.*

<sup>65</sup> *State v. Zimring*, 52 Haw. 472, 475 (1970) (citing *De Freitas v. Trustees of Campbell Estate*, 46 Haw. 425, 380 P.2d 762 (1963)).

<sup>66</sup> *In re Ashford*, 50 Haw. 314, 440 P.2d 76 (1968).



dictionary as one who is “[n]ative born, one born in a place, host[.]”<sup>67</sup> The Ashford court stated:

Kama‘āina witnesses may testify to the location of seashore boundaries dividing private land and public beaches according to reputation and ancient Hawaiian tradition, custom and usage. The method of locating the seaward boundaries was by reputation evidence from kama‘āinas and by the custom and practice of the government’s survey office. It is not solely a question for a modern-day surveyor to determine the boundaries in a manner completely oblivious to the knowledge and the intention of the king and old-time kama‘āinas who knew the history and names of various lands and the monuments thereof.<sup>68</sup> [Akutagawa and Lerma 2023:49, 50]

## The DHHL’s Fiduciary Responsibilities Under Ka Pa‘akai

Per the discussion above, the DHHL’s fiduciary obligations under *Ka Pa‘akai o Ka ‘Āina v. State of Hawai‘i Land Use Commission* include obligations to: 1) “...to protect the reasonable exercise of customarily and traditionally exercised rights of native Hawaiians to the extent feasible;” 2) Assess the potential impacts of a proposed project on customary and traditional practices of Native Hawaiians; and 3) Ensure an independent assessment is performed that employs the ‘Ka Pa‘akai’ framework.<sup>69</sup>

From our place of expertise in Hawaiian culture and consultation, the authors offer additional cornerstones of best practices in the execution of a *Ka Pa‘akai* Analysis framework. These include:

- project-specific consultation as well as the avoidance of repurposing and recycling consultation from one project for another;
- consultation processes that recognize and uphold the intellectual property rights of consultees, including but not limited to *continued* free, prior, and informed consent;
- ensuring consultation participants are provided a clear and accurate understanding of how consultation will be used;
- and, the good faith realization of desired mitigations and meaningful integration of perspectives shared during consultation into project planning and impact avoidance.

## Ka Pa‘akai in Global and Federal Legal Contexts and Dialogues


Global and federal policies, best practices, and guidelines for working in indigenous spaces, with indigenous communities and knowledge, align with the purpose and goals of *Ka Pa‘akai* Framework analysis. Reviewed chronologically below, they offer a breadth and depth of critical considerations and pathways for state agencies to uphold their fiduciary responsibilities to Hawaiians, alongside, of course, the good faith realization of the mitigations and best practices identified by Hawaiian stakeholders for impacts to their rights and resources.

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<sup>67</sup> *Ka Pa‘akai*, 94 Hawai‘i at 31, 7 P.3d at 1068.

<sup>68</sup> *In re Ashford*, 50 Haw. 314, 316, 440 P.2d 76, 77 (1968).


<sup>69</sup> *Id.*



The 2007 *United Nations Declaration on the Rights of Indigenous People* (United Nations 2007) articulates the unique human rights belonging to indigenous people, and “...the minimum standards for the survival, dignity and well-being of the indigenous peoples of the world,” (United Nations 2007:28). It acknowledges:

...that indigenous peoples have suffered from historic injustices as a result of, inter alia, their colonization and dispossession of their lands, territories and resources, thus preventing them from exercising, in particular, their right to development in accordance with their own needs and interests... [United Nations 2007:3]

The entire document upholds the purpose and goals of the Ka Pa‘akai Framework analysis. It recognizes a holistic array of indigenous human rights, including around traditional and customary practices that include gathering, access to places and spaces, and the right to the health and continuity of cultural resources and practices. The following tenets are especially relevant and underscore how the state’s fiduciary responsibility to protect Hawaiian rights is part of a broader global dialogue regarding the rights of indigenous peoples:



...[the] urgent need to respect and promote the inherent rights of indigenous peoples which derive from their political, economic and social structures and from their cultures, spiritual traditions, histories and philosophies, especially their rights to their lands, territories and resources,...[United Nations 2007:3]

...that control by indigenous peoples over developments affecting them and their lands, territories and resources will enable them to maintain and strengthen their institutions, cultures and traditions, and to promote their development in accordance with their aspirations and needs,...[United Nations 2007:4]

...respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment,...[United Nations 2007:4]

Elements of the United Nations’ “standard of achievement to be pursued in a spirit of partnership and mutual respect,” are important to emphasize. The underlined text below, specifically, articulates with and reflects the purpose and goals of the Ka Pa‘akai Framework analysis:

Article 2: Indigenous peoples and individuals are free and equal to all other peoples and individuals and have the right to be free from any kind of discrimination, in the exercise of their rights, in particular that based on their indigenous origin or identity.[United Nations 2007:2]

Article 8.1. Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture.[United Nations 2007:10]

Article 11.1. Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature. [United Nations 2007:11]

Article 11.2. States shall provide redress through effective mechanisms, which may include restitution, developed in conjunction with indigenous peoples, with

respect to their cultural, intellectual, religious and spiritual property taken without their free, prior and informed consent or in violation of their laws, traditions and customs. [United Nations 2007:12]

Article 12.1. Indigenous peoples have the right to manifest, practise, develop and teach their spiritual and religious traditions, customs and ceremonies; the right to maintain, protect, and have access in privacy to their religious and cultural sites; the right to the use and control of their ceremonial objects; and the right to the repatriation of their human remains. [United Nations 2007:12]

Article 15.1. Indigenous peoples have the right to the dignity and diversity of their cultures, traditions, histories and aspirations which shall be appropriately reflected in education and public information. [United Nations 2007:14]

Article 20.1. Indigenous peoples have the right to maintain and develop their political, economic and social systems or institutions, to be secure in the enjoyment of their own means of subsistence and development, and to engage freely in all their traditional and other economic activities. [United Nations 2007:16]

Article 20.2. Indigenous peoples deprived of their means of subsistence and development are entitled to just and fair redress. [United Nations 2007:16]

Article 24.1. Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals... [United Nations 2007:18]

Article 25. Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard. [United Nations 2007:18]

Article 26.1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired. [United Nations 2007:19]

Article 26.2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired. [United Nations 2007:19]

Article 26.3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned. [United Nations 2007:19]

Article 27. States shall establish and implement, in conjunction with indigenous peoples concerned, a fair, independent, impartial, open and transparent process, giving due recognition to indigenous peoples' laws, traditions, customs and land tenure systems, to recognize and adjudicate the rights of indigenous peoples pertaining to their lands, territories and resources, including those which were

traditionally owned or otherwise occupied or used. Indigenous peoples shall have the right to participate in this process. [United Nations 2007:20]

Article 29. Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for indigenous peoples for such conservation and protection, without discrimination. [United Nations 2007:21]

Article 31.1. Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions. [United Nations 2007:22,23]

Article 31.2. In conjunction with indigenous peoples, States shall take effective measures to recognize and protect the exercise of these rights.[United Nations 2007:23]

Article 32.1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources. [United Nations 2007:23]

Article 32.2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources. [United Nations 2007:23]

Article 32.3. States shall provide effective mechanisms for just and fair redress for any such activities, and 24 appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact. [United Nations 2007:23]

Article 34. Indigenous peoples have the right to promote, develop and maintain their institutional structures and their distinctive customs, spirituality, traditions, procedures, practices and, in the cases where they exist, juridical systems or customs, in accordance with international human rights standards.

A series of recent memorandums intended for Federal agencies and application in Federal regulatory contexts recognize the validity and importance of Indigenous Knowledge. In 2021, the White House Office of Science and Technology Policy (OSTP) and Council on Environmental Quality (CEQ) recognized "...Indigenous Knowledge as one of the many important bodies of knowledge that contributes to the scientific, technical, social, and economic advancements of the United States, and to our collective understanding of the natural world," (Prabhakar and Mallory 2022:3). They also called for "...the recognition and inclusion of Indigenous Knowledge," that is

“...founded on the understanding that multiple lines of evidence or ways of knowing can lead to better-informed decision making,” (Prabhakar and Mallory 2022:3). The Advisory Council on Historic Preservation (ACHP) issued similar guidance mandating culturally-appropriate use of Indigenous Knowledge only with “free, prior, and informed consent,” in Federal implementation of Section 106 of the National Historic Preservation Act (ACHP 2021:4). In 2024, the ACHP “...approved an exemption that would relieve Federal agencies from the historic preservation review requirements under Section 106 of the National Historic Preservation Act regarding the effects of various undertakings in Hawaii that are proposed or directed by a Native Hawaiian Organization (NHO), or substantially led, designed, or managed by an NHO, informed by Indigenous Knowledge of that NHO, and related to traditional cultural practices of Native Hawaiians,” (ACHP 2024).

## Methods

Conducting this Ka Pa‘akai Framework Analysis consisted of three primary tasks: (1) ethnohistorical research, synthesis, and analysis; (2) community outreach and consultation, and (3) Ka Pa‘akai analysis and report preparation.


Nohopapa conducted research and outreach to identify ‘valued cultural, historical, or natural resources’ to better understand if and how groundwater development may impact traditional customary Native Hawaiian practices and rights in the area of North Kona spanning from the ahupua‘a of Kāloko to Keauhou. Additionally, the Ka Pa‘akai Framework Analysis requires the identification of appropriate mitigation measures (feasible actions) that can be implemented to protect identified impacted resources and Native Hawaiian rights and practices associated with those resources.

While conducting this work, Nohopapa’s research team incorporated a set of living values and beliefs to help guide our research, analysis, behavior, perspective, and overall frame of reference. These values represent the underlying foundation, spirit, and structure for this study:

- *Aloha ‘Āina- to have a deep and cherished love for the land which created and sustains us*
- *Ha‘aha‘a- to be humble, modest, unassuming, unobtrusive, and maintain humility*
- *Ho‘omau- to recognize, appreciate, and encourage the preservation, perpetuation, and continuity of our wahi pana and kaiāulu*
- *‘Imi Na‘auao- to seek knowledge or education; be ambitious to learn*
- *Kuleana- to view our work as both a privilege and responsibility*

## Ethnohistorical Research


Ethnohistorical information lays the foundation for understanding a place's natural, cultural, and historical background. To provide a more comprehensive understanding of the project areas, Nohopapa researched cultural and historical sources for Kona Akau, including historical maps, place and ua (rain) names, mo‘olelo (stories), ‘ōlelo no‘eau (proverbs), and historical land use documents. Inoa ‘āina, mo‘olelo, and ‘ōlelo no‘eau were compiled from Hawaiian language and English sources in books, newspapers, and online databases and archives. Historical land use accounts were derived from land documents, such as Boundary Commission Certificates and Testimonies, the Buke Mahele and Awards Books, Native & Foreign Testimonies and Registers, Government Land Grants, Crown lands, and Government Surveys.



To assist with the historical land use research for this project, Nohopapa was fortunate to contract and collaborate with Kumu Pono Associates, LLC. Kumu Pono provided an extensive compilation, Hawaiian language translations, and summaries of Boundary Commission testimony and Māhele claims (Native Testimony and Native Register) across North Kona. In addition, Kumu Pono associates shared their compiled works of the mo'olelo *Kaaō Hooniua Puuwai no Ka-Miki*, by John Wise and J. W. H. I. Kihe, which ran in the nūpepa “Ka Hoku o Hawaii” in a series from Jan. 8, 1914 to Dec. 6, 1917. While the 1917 portion of the series can be found on online nūpepa collections, Kumu Pono associates painstakingly located, compiled and translated Ka-Miki, a labor over many years.

In this report, Kumu Pono also authored the following three sections:

- Boundary Commission Proceedings Of The Boundary Commission Lands Of: Keahuolū, Pua'a, Wai'aha, Kahului, Puapua'a and Keauhou
- The Māhele 'Āina and Issuance of Kuleana to Hoa 'Āina
- Excerpts from Kuleana Claims in the Ahupua'a of Keauhou 1 & 2, Kahalu'u, Wai'aha-Kahului, Keahuolū-Kealakehe



Their authorship of important sections and primary resource contributions greatly increased the waiwai of the inventory of resources and practices in, around and potentially impacted by proposed actions at the study area.

## **Community Consultation**

### *Community Outreach*

Prior to Nohopapa's individual consultation efforts, the Department of Hawaiian Home Lands (DHHL) with support from Nohopapa, held a kick-off meeting at the Kamehameha Schools Kahalu'u Manowai (Ma Kai) site on April 18, 2024 to share information about the DHHL Kona Ka Pa'akai Framework Analysis project for water source development related to the proposed water improvement sites at Wai'aha and Keauhou and larger project area (Kaloko to Keauhou) Kona, Hawai'i. Twenty-five individuals attended the public meeting and shared their contact information with DHHL and Nohopapa to follow-up with them about future project updates.

### *Individual Consultation*

One-on-one community consultation efforts were conducted from July to October 2024. As a multi-phase study, the consultation process consisted of identifying appropriate and knowledgeable individuals, reaching out to them to participate, conducting in-person, phone, or online interviews, summarizing the community mana'o, analyzing the data, and preparing a summary of findings for the Analysis. In particular, information was gathered relating to the many manifestations of Kāne and the resources, traditional customary practices, and rights that rely on them. Thirty-four individuals were contacted to participate in this study. Of the thirty-four individuals, twenty-four responded, and thirteen committed to an interview. Eleven individuals were unable to participate for various reasons.

Nohopapa engaged with individuals, 'ohana, and/or organizations with relationships to study area. In particular, we focused on gathering information relating to the many manifestations of Kāne and the resources, traditional customary practices, and rights that rely on them; as related to the proposed water improvement sites (at Wai'aha and Keauhou) and larger project area (Kālolo to Keauhou):

- Biocultural forms of water in the study area, including, rainfall, fog, mist, seeps, catches, springs, flowing water, where water enters the sea, algae blooms, anchialine ponds, loko, clouds, storm patterns, etc.
- Observation of *changes* over time to the area's water resources, as well as to the birds, plants, and animals, marine or terrestrial, that rely on those waters.
- Mo'olelo, ka'ao, inoa 'āina, mele, oli, 'ōlelo no'eau, and hula and other stories related to the knowledge of wahi pana, wahi kapu, and wahi kūpuna and cultural practices and resources associated with these wahi
- Traditional and historical land use and specific use or larger area models relate to water
- Coastal to upland traditional and local relationships, especially regarding water
- Recommended traditional & local strategies for resource management and conservation in Kona
- Traditional practices you or those you know engage with or have engaged with in the past
- Potential short and long-term impacts of the proposed project on Hawaiian cultural resources, rights, and traditional customary practices
- Recommended mitigations for the proposed project
- Referrals of kūpuna and kama'āina who are knowledgeable of the project area and might be willing to participate in this study

### *Data Integration*

After the interviews were conducted, the recorded interviews were transcribed then sent to the participants for review, an accuracy check, and to confirm they were comfortable with the thoughts, information, and comments being shared. Nohopapa worked hard to ensure that the voices of the community were honored, respected, correctly heard, and properly conveyed.

### *Ethics*

Throughout the project, it was explained to all participants that their involvement was strictly voluntary. An informed consent process was initiated and completed, including providing ample project background information explaining the project focus and the purpose of the plan. Verbal or written informed consent was gathered from all contributors to this study (see Appendix C).

In alignment with professional best practices committed to doing no harm and protecting the best interests and intellectual property of participants, all contributions to this document have been anonymized. Additionally, per consultation professional standards, ethics, and all applicable laws and regulations, the intellectual property generously shared by consultation participants and featured in this study cannot and should not be reproduced, applied to other projects or studies, or utilized without free, prior, and informed consent.

## **Ka Pa'akai Analysis**


The Analysis looked at the information compiled from both the ethnohistorical research and community consultation in order to:

- (1) identify cultural resources, practices, beliefs, and features associated with the project area and vicinity
- (2) identify impacts the proposed project will have on any identified cultural resources and practices, and
- (3) identify appropriate mitigation commitments and recommendations for best practices.

# Ka Nohona Hawai‘i – Cultural Resources, Practices, and Beliefs

This section of the report draws from a variety of oral and documented resources to present an overview of the cultural resources and practices associated with the current study areas focused primarily on Kealakehe, Keahuolū, Pua‘a, Wai‘aha, Kahului, Puapua‘a, and Keauhou Ahupua‘a of Kona. The goal of this broad overview is to contextualize the study areas, as well as the greater landscape of Kona, through the compilation of mo‘olelo and ka‘ao, ‘ōlelo no‘eau, mele, and historical accounts. As it is said in the ‘ōlelo no‘eau—*Kona, kai ‘ōpua i ka la‘i—Kona, where the horizon clouds rest in the calm*, (Pukui 1983:199, #1844)—a rich reservoir of stories and traditions also rests beneath the calm of these Kona clouds. Presented here is a selection of mo‘olelo that conveys some of the valued resources and significant practices associated with the study areas.

## Mo‘olelo and Ka‘ao - Oral Traditions



Hawaiian oral traditions have been passed down by word of mouth from one generation to the next and recorded in more contemporary times. Hawaiian oral traditions are important; they convey a general sense of Kanaka ‘Ōiwi (Native Hawaiian) history, people’s connection to land, how they lived, and their traditional land tenure. Hawaiian oral traditions are relayed in the form of mele (songs), ‘ōlelo no‘eau (proverbs), pana no‘eau (sayings), mo‘olelo (stories), mo‘okū‘auhau (genealogies), and accounts in nūpepa (historic newspaper articles). These forms of oral traditions can be woven into each other. For instance, a mo‘olelo may present a mele about a mo‘okū‘auhau. Hawaiian oral traditions are vehicles for the intergenerational transmission of knowledge. They serve as a timeless bridge to cultural insights and beliefs that have guided Hawaiians across centuries and generations.

Today, through written form and English translations, these cultural traditions persist as sources of ancestral wisdom. Hawaiian oral traditions tell of the resources of the land, akua (gods), kupua (supernatural deities), ‘aumākua (familial guardians), ali‘i (chiefs), and ka po‘e kānaka (the Hawaiian people) whose stories weave a unique and treasured history of this ‘āina. Though many more mo‘olelo connected to the study areas may likely exist, the selected mo‘olelo presented in this section relay specific information regarding water features connected to the area and/or cultural practices associated with the place.

## He Ka‘ao no ka Manu ‘Elepaio

“He Kaa no ka Manu Elepaio” appeared in the Hawaiian language newspaper, *Ka Hoku o ka Pakipika*, in 1862.<sup>70</sup> This mo‘olelo was written by an individual whose initials read; “S. W. K.” Little is known of the author aside from the individual’s connection to Honolulu having had signed and dated his/her initials at the end of the publication with, “Kamakela, Honolulu, Mei 12, 1862.” Though the author appears to have written this mo‘olelo from the island of O‘ahu, the story itself takes place on the mokupuni of Hawai‘i, Kona Moku, Kahului Ahupua‘a. “He Kaa no ka Manu

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<sup>70</sup> This mo‘olelo has been more recently adapted into a widely circulated bilingual children’s book. *No Ka ‘Elepaio Kolohe: the Naughty ‘Elepaio* (Kruger, Furchgott, Andrews, & Akana-Gooch: 2008)



Elepaio” is a tale that describes the kolohe (mischievous) deeds of an ‘elepaio—a native flycatcher bird who dwells in the forests. Various subspecies of ‘elepaio exist that are particular to the island they are found. Hawai‘i Mokupuni subspecies of ‘elepaio are identified as *Chasiempis sandwichensis sandwichensis* (Pukui and Elbert 1986:41). What is of significance to this study is the setting that this mo‘olelo takes place and the water resource that is recounted in the story.

A kanaka named Pi‘iwai set off on a journey into the mountains of Kahului, Kona in search of water. There in the uplands, he reached a freshwater spring and filled his hūewai or water gourd with water from the pūnāwai (freshwater spring). With his hūewai filled with the needed water, Pi‘iwai readied himself for his return home. While descending the uplands, Pi‘iwai set his hūewai down in order to prepare a place for him to rest for a moment. While he was gone a manu ‘elepaio, referred to by the name, ‘Elepaio, flew and settled on top of Pi‘iwai’s water gourd. ‘Elepaio pecked at the gourd until all the water emptied from the hole that was made by his pecking. When Pi‘iwai returned to the spot where he had left his hūewai, he picked it up for a drink only to find it empty. Wondering how this could have happened, Pi‘iwai looked up and saw ‘Elepaio perched up on a tree branch. Realizing this bird was what caused his water to be wasted, Pi‘iwai exclaimed that he would kill ‘Elepaio. He picked up a stone and chucked it at ‘Elepaio’s head. Fortunately for ‘Elepaio, he was not killed by the stone and instead was able to escape. Thus begins the start of where this story unfolds. “He Kaa no ka Manu ‘Elepaio” begins:

I kekahi la, pii aku la kekahi kanaka o Piiwai kona inoa, i ke kuahiwi i ka wai e inu, no ka mea, aia no ka wai oia wahi i ke kuahiwi, oia hoi o Kahului, i Kona, Hawaii. Mai o a o oia wahi o Kona, he wai no o kai, he wai kai nae, he awaawa ke inu, o ka wai huihui ono loa i ka inu ana, o ko uka o ke kuahiwi, oia mau mai no a hiki i keia manawa, ke kii o ka wai i ke kuahiwi.

Ia pii ana aia nei, a hiki keia i ka punawai, ukuhi ilo la oia i kana hūewai a piha ka hūewai i ka wai, o ka hoi mai la no ia a ke ahua, hoomaha iho la ia. Kuu iho la, keia i kana hūewai, a kukulu iho la, a hele aku la oia ma kahi e aku.

Ia manawa, lele mai la kekahi manu, oia hoi ka Elepaio, a kau iho la ia i ka nuku o ka hūewai a ua kanaka nui, ke kikokiko iho la no ia o ua wahi manu nei i ka hūewai a na kanaka nei, a pau ka wai i ke kahe, hoi mai la ua kanaka nei a kahi o kana hūewai i kukulu ai, lele aku la ua wahi manu nei a ma kahi e aku, kau iho la.

Ike aku la no nae ua kanaka nei i ka lele ana aku a ua wahi manu nei, aole nae oia i manao ua kikokiko ia kana hūewai e ua wahi manu nei. Ka lalau iho la no ia i ka hūewai, i kaikai ae ka hana, mama ana, i nana iho ka hana o ua kanaka nei, ua puka ka hūewai, o ka manao ae la no ia o ia nei, na ka manu no i kikokiko a puka, o ka pii mai a no ia o ka manao huhu o ua kanaka nei i ka manu; i iho la iloko ona, ka! He wahi manu kolohe maoli ka hoi oe, e maka ana oe ia‘u.

O ka lalau iho la no ia o ua kanaka nei i ka pohaku, o ka pehu aku la no ia i ua wahi manu nei a pa io no; aole nae i make. O ka lele aku la no ia o ua wahi manu nei; o ke kumu o keia lele ana o ua wahi manu nei, e lele ana e hookolo i ka hui manu o lakou, no keia pa ana ona i ka pohaku a ke kanaka.

[S. W. K. 1862:1]

Provided below is the English translation of the mo‘olelo interpreted by ethnographer Kepā Maly:

One day, a certain man named Pi'iwai, climbed up the mountainside to get water to drink, this was because there was a place on the mountainside that fresh water was found. It was at Kahului, in Kona, Hawai'i. Indeed, all around this place of Kona, the water in the lowlands was salty, it was brackish and bitter to drink. The cool sweet water for drinking came from the uplands on the mountain. It is still the same to this day, the fresh water is fetched from the mountain.

Now when he climbed up, he reached the spring and dipped his water gourd into it, filling the gourd with water. Now as he returned, he reached a hillock and stopped there to rest. He set his water gourd down, building an area to set it, and then went over to the side to rest.

At that time, a certain bird flew by, it was the 'Elepaio, and it perched itself on the spout of the man's water gourd. The bird then began pecking at the man's water gourd, and all the water was lost as it poured out. When the man returned to the place where he had left his water gourd, the bird flew a little ways off and set down.

Now the man saw this bird fly away, but he did not think that the bird had pecked at his water gourd. He bent down to pick up the water gourd, and as he lifted it, it was light. Looking for the reason, the man saw that there was a hole in the water gourd. It was then that he understood that the bird had pecked out the hole, and the man's anger at the bird welled up. He said within himself, "So that's it! You are a truly mischievous bird, and you are going to be killed by me."

The man then picked up a stone and threw it at the bird, striking it, but, it was not killed, and the bird flew away. Now the reason the bird flew off was because it was going to inquire of the other birds what they felt about his having been hit by the man's stone.

[Translated by Maly in Maly 1997:5-7]

Recounted in this excerpt of the mo'olelo, and of particular importance to this study, is the description of a [pūnāwai](#) located in the uplands of [Kahului, Kona](#). What is gleaned from this account is both the presence of a freshwater spring in Kahului, as well as the [practice of kānaka gathering water](#) from its source. People were not always living where fresh water was available and the access to the uplands, connectivity and travel, was important for subsistence and traditions around gathering and caring for that distribution of resources.

The remainder of the mo'olelo continues with 'Elepaio's effort to seek empathy from the other manu of the forest for having been struck by Pi'iwai. After fleeing from Pi'iwai, 'Elepaio flies in search of other birds to tell them of what Pi'iwai has done. 'Elepaio seeks pity from the other manu he encounters and asks them their opinion as to who they believe is to blame in the hopes that they will fault Pi'iwai for the wrongdoing he felt has happened. However, each time 'Elepaio inquires with a new manu and retells the story of how he caused Pi'iwai's water gourd to empty which angered him, each time 'Elepaio is told that he, himself is in fact the one at fault. Tired and saddened by having had no empathy from the birds he spoke to, 'Elepaio was forced to self-reflect and realize that he was at fault and repented for it. The remainder of the story of 'Elepaio is recounted below:

Ia lele ana a ia nei, e nana hele ana i na manu, a liuliu ia lele ana a ia nei, ike mua aku la keia Pueo, lele aku la keia a kokoke io Pueo la, kaheea aku la keia penei;

“Pueo—e, Pueo—la.” A lohe o Pueo i keia kahea ana aku a Elepaio, ka haliu mai la no ia o Pueo a hoohai mai la me ke kolonahe, ninau mai la o Pueo, penei. “E! Elepaio, E! Elepaio, Heaha ka’u?” Hai aku la o Elepaio, i kana mea i hana ai i ka hūewai a ke kanaka, hana aku la oia na ke ano olioli, penei, “Ua pa wau, i ka pohaku, a ke kanaka.”

Ninau mai la o Pueo ia Elepaio penei, “Nawai ka hala.” Olelo aku no o Elepaio, ma ke ano oli no penei, Na’u ka hala, I ka pao ana, I ka hūewai, A ke kanaka. I mai la o Pueo ma ke ano oli no, penei. “Hookolo ia, i ka nui manu, o kakou.”

O ka huli aku la no ia o ua o Elepaio, o ka lele aku la no ia a liuliu, ike aku la keia ia lo, e kauahehe ana iluna o na makani kolonahe, kahea aku la o Elepaio penei. “E lo—e, E lo—la.” Huli mai la o la a ninau mai la ia. “Heaha ka’u?” Hai aku la o Elepaio penei. “Ua pa wau, i ka pohaku a ke kanaka.” Ninau mai la o lo, “na wai ka hala?” I mai o Elepaio. “Na’u ka hala, i ka pao ana, i ka hūewai a ke kaknaka.” I mai la o lo, ua like pu nae ka laua olelo me Pueo, penei. “Hookoloia, i ka nui manu, o kakou.”

I ka huli aku la no ia o Elepaio lele no, a ia lele ana a ia nei, ike aku la keia ia Amakihi alo, kahea aku la no o Elepaio. “Amakihi—e, Amakihe—la.” Huli mai la o Amakihi a ninau mai la, “Heaha ka’u?” Hai aku la o Elepaio penei. “Ua pa wai i ka pohaku a ke kanaka.” Ninau o Amakihi ma ano olioli penei. “Nawai ka hala?” I mai la o Elepaio. “Na’u ka hala, i ka pao ana, i ka hūewai, a ke kanaka.” Ia manawa, lūlūlūlū iho la ke poo o ua wahi Amakihi nei, a ea mai la ia iluna, a nana mai la ia Elepaio, a olelo aku ia ia ma ke olioli ana.

Elepaio—e, Elepaio—la,  
Hewa ha oe,  
I ka pao ana,  
I ka hūewai,  
A ke kanaka.  
A make no oe,  
A e pono,  
He kolohe oe.

Ia lohe ana o Elepaio i keia manao o Amakihi, o ka pii mai la no ia o kona hūhu, a mele oli aku la oia, penei ia Amakihiki.

Kau pono ka ia,  
Kela Amakihi,  
Pupua awaawa,  
He hohono pakui,  
Ke pulehu aku,  
He hauna e ke kai,  
Io ole e ka mole,

O ka pau no ia o ko Elepaio kāmāilio pu ana me Amakihi, o ka lele aku la no ia, ia lele ana aku o Elepaio, nui kona kaumaha no kela ike ana a Amakihi i ko Elepaio hewa, a lele aku la ia me ke kaumaha o ka manao. Aka, aole i pau loa kona manao e hele e huli i ka nui manu e like me kona manao paa. Lele aku la no ia a ike aku la o Elepaio ia liwimakapolena, kahea aku la ia e like me kona hai ana i na manu mua.

I mai la o liwi e like me ka Amakihi olelo ana aku ua hewa ia. O ka pau no ia o kona hookolo ana i ka nui manu, a kaumaha ka manao o ua o Elepaio, a mihi io iho la oia, au hewa ia.  
[S. W. K. 1862:1]

The excerpt is translated below:

While flying, he looked around to see other birds, and after flying a little while, the first bird he saw was Pueo (Owl). He flew close to Pueo and called out like this, "Oh Pueo, say Pueo." Pueo heard the call of 'Elepaio, and turned to Elepaio, encouraging him with a question, "Oh Elepaio, say Elepaio, what can I do for you?" Elepaio then told him what he had done to the water gourd of the man, and explained it in the form of a chant, "Ua pâ wau, i ka pōhaku, a ke kanaka" (I was struck with a stone by the man).

Pueo then asked 'Elepaio, "Whose fault is it." 'Elepaio answered in the form of a chant, "Na'u ka hala, i ka pao ana, i ka hue wai, a ke kanaka" (The fault is mine for pecking at the water gourd of the man). Pueo then responded in the form of a chant, "Ho'okolo ia, i ka nui manu, o kâkou" (Go inquire of other birds of our kind).

'Elepaio then went in search of others. In a little while, he saw 'Io soaring above in the gentle winds. 'Elepaio called out, "O 'Io, hail 'Io." 'Io turned and asked, "What do you want of me?" 'Elepaio said, "I have been struck with a stone by the man." 'Io asked "Whose fault was it?" Elepaio answered, "The fault is mine for pecking at the water gourd of the man.." 'Io then answered with the same words as those of Pueo, "Go inquire of other birds of our kind."

'Elepaio then turned, flying away, he flew and came in the presence of 'Amakihi. 'Elepaio called, "O 'Amakihi, hail 'Amakihi." 'Amakihi turned and asked, "What do you want of me?" 'Elepaio said, "I have been hit with a stone thrown by the man." 'Amakihi then asked in a chant, "Who's fault is it?" 'Elepaio answered, "The fault is mine for pecking at the water gourd of the man.." This time, 'Amakihi shook his head, and rising above, he looked at 'Elepaio, and spoke in a chant:

O 'Elepaio, 'Elepaio,  
Indeed you have erred  
By digging  
Into the water gourd  
Of the man.  
It is right  
That you should die,  
You are so mischievous.

When 'Elepaio heard what 'Amakihi thought, his anger rose and he chanted to Amakihi:

This is what is just  
For that 'Amakihi,  
That he be made into a condiment to go with the 'awa.  
The scent is unpleasant,

And when it is broiled,  
The gravy is foul,  
There is no meat within.

*This was the end of 'Elepaio's conversation with 'Amakihi; he then flew away. As 'Elepaio was flying, he was greatly saddened because 'Amakihi knew 'Elepaio's fault. So he flew with heavy thoughts. But he had not given up his thoughts of inquiring of the other birds about this. As he was flying, 'Elepaio saw 'Iiwimakapōlena and he called out as he had to the other birds. 'Iwi spoke the same words as 'Amakihi had, "The fault was with 'Elepaio." This was the end of his inquiring of the birds, and 'Elepaio's thoughts were truly sad. He repented within himself, saying "I was indeed at fault."*  
[Translated by Maly in Maly 1997:5-7]

Through this mo'olelo we learn about several resources and traditional cultural practices within and around the study area in Kahului Ahupua'a; a traditional value of aloha i kekahi, several manu are identified in the uplands of Kahului, and specifically that 'āmakihī was broiled and a pūpū eaten while drinking 'awa, and most importantly the importance of wai, and the work it took to collect it, and the fact that people traveled to the uplands regularly, possibly daily based on the mo'olelo, for potable water.

### *He Mo'olelo Ka'ao no Kepaka'ili'ula*

The mo'olelo of Kepaka'ili'ula is a tale of a young boy who was born prematurely, traditionally referred to by the term "e'epa;" a birth of this nature is associated with being born possessing "miraculous powers," (Pukui and Elbert 1986:37). The version of the story that will be referenced in this section is attributed to David Malo and originates from the Hawaiian language newspaper, *Ka Hoku o Hawaii*. The articles appeared weekly in *Ka Hoku o Hawaii* and was published in the newspaper from March 19, 1919 through December 9, 1920, totaling 79 printed articles. Maly introduces "He Mo'olelo Ka'ao no Kepaka'ili'ula" as follows:

Like Ka-Miki, the story of Kepaka'ili'ula is about a youth who was born in an e'epa (premature - mysterious) form, who was given up for dead by his parents. Kepaka'ili'ula's father was Maka-o-Kū, and his mother was Hina-ai-ka-malama, both of whom were descended from Kūahailo and Hina the akua - ali'i (god-chiefs) who came from Kahiki and established the highest chiefly bloodlines of Hawai'i. At the time of Kepaka'ili'ula's birth, Makaokū and Hina dwelt near Moku-ola (now called Coconut Island) and ruled the district of Hilo.

Kepaka'ili'ula's birth was accompanied by numerous displays of natural phenomena including fragmented rainbows that rested upon the ocean, rains that poured upon the land, and rivers that overflowed upon the land. His maternal uncles, Ki'inoho and Ki'ihele, took these signs as omens of Kepaka'ili'ula's supernatural nature. Without the knowledge of Makaokū or Hina, Ki'inoho and Ki'ihele rescued Kepaka'ili'ula and raised him while instructing him in all manner of fighting techniques, and in the uses of his supernatural powers. When Kepaka'ili'ula came of age, his uncles went in search of a suitably beautiful and highly ranked chiefess to whom Kepaka'ili'ula could be married. The journey took them around Hawai'i, where they met with sacred chiefesses of the island's districts. In Kona, the uncles met with the chief Keolonāhihi and his wife Kahalu'u, who were parents of the sacred chiefess Mākole'ā. Mākole'ā was found to be the

most suitable chiefess for Kepaka'ili'ula, and a wedding was arranged. When the uncles departed, Keolonāhihi was approached by Kaikipa'ananea, a chief from Maui, and he broke the betrothal between Kepaka'ili'ula and Mākole'ā. This action set in motion the events of the legend's narratives. By association with other figures identified in the legend, the time period seems to be set in the 16th century, immediately before the time of Lono-i-ka-Makahiki.

[Malo 1919-1920 in Maly 1997:24-25]

The relevancy of this ka'ao in regards to a study whose focus is Kona, lies in the recollection of the numerous place names, natural features, and practices of Hawai'i that are revealed in the telling of this story. As detailed in the summary above, Kepaka'ili'ula's uncle, Ki'ihele went in search for a suitable wahine for his nephew. Traveling through Hilo, Puna, and Ka'ū, he eventually arrived in Kona and was taken aback by the beauty of Mākole'ā, the young ali'i wahine (chiefess) of Kona. Thus, Ki'ihele returned to Hilo to retrieve Ki'inoho and their nephew, Kepaka'ili'ula so that he could take Mākole'ā as his wahine. Maly provides a summary Kepaka'ili'ula's journey and the mo'olelo that unfolds:

Once in Kona, Kepaka'ili'ula waited in the uplands of Kahalu'u at the great banana plantation of the chief Kaho'oali'i, which extended from Kaumalumalu-Kāpala'alaea to Ke'ei, while preparations were made for his meeting with Mākole'ā. When all things were made ready, Kepaka'ili'ula and his guardians descended to the shore of Kahalu'u, where they stood not far from the royal house of Mākole'ā.

Standing before them was the priest of Kahalu'u who was named Hāli'ikolomea. Through the priest's divining skills he had seen the true dual nature of Kepaka'ili'ula, and understood that he was descended from the ali'i-akua of antiquity. Hāli'ikolomea presented offerings to Kepaka'ili'ula, and when the observances were completed, Kepaka'ili'ula responded with a mele kānaenae (chant offering) to Mākole'ā and those gathered with her:

Kau iluna ka wai a ka Nāulu  
'Alohi 'ula i ka pali o Koholālele e  
Lehulehu i ka luna o Koa'ekea a  
Pa'a pono mai Kona i ka ehū a ke kai a  
Kīpū lua i ke one o Kaiakeakua  
He akua ka hoa he 'ike 'ole mai e  
'Auwe ka mea aloha oia la e ho'i a!

*The Nāulu showers which are placed above  
Appear to glow red in the light on the cliff of Koholālele  
Indeed, the multitudes are gathered at the heights of Koa'ekea  
But Kona is firmly embraced by the sea mists  
And there is two-fold calm upon the shore of Kaiakeakua  
A god [-chief] is the companion which is not seen  
But here is one that can indeed be cherished!*


Hāli'ikolomea then called Kepaka'ili'ula within the compound telling him that he was indeed welcome to know the famous waters of Kahalu'u. Because Mākole'ā desired to be near Kepaka'ili'ula, she beckoned him to join her upon her sacred platform (nu'u kapu) calling to him with her own chant of affection...

All things having been fulfilled, the chiefess Kahalu'u could not deny the value of this relationship, thus Kahalu'u the chiefess—i ka 'āina kaulana i ka wai puka iki o Helani (of the land famous for the small flowing spring of Helani) gave her blessings to Mākole'ā and Kepaka'ili'ula... (June 19-26, 1919).

Unknown to Kahalu'u, Mākole'ā and the others, Keolonāhihi had broken his agreement allowing Mākole'ā to marry Kepaka'ili'ula, and had instead promised to take the young chiefess to Maui nui a Kama (Maui great island of the chief Kama) where she would wed the high chief Kaikipa'ananea (Kaiki). Having prepared the canoes, Keolonāhihi forced Kahalu'u and Mākole'ā to travel to Maui.

This turn of events greatly angered Kepaka'ili'ula and he challenged Keolonāhihi to a fight. Frightened, Keolonāhihi fled to Maui as well, thus Keolonāhihi left behind those he loved and his favorite places. Among the favorite places of the Kona chiefs was the spring of Wai-ku'i at Kahalu'u, where the ali'i gathered to relax and play the game of kōnane (July 3-17, 1919).

[Malo 1919-1920 in Maly 1997:25-26]



Revealed in this section of Kepaka'ili'ula's story are a number of water resources and agricultural features associated with Kona. Kepaka'ili'ula is said to have waited in the **uplands of Kahalu'u** where a great **plantation of bananas** is located. This cultivated area of banana is noted to belong to the ali'i, Kaho'oali'i and stretches from **Kaumalumalu-Kāpala'alaea to Ke'ei** (Malo 1919-1920 in Maly 1997:25). When Kepaka'ili'ula meets the beauty of Mākole'ā, he offers a chant whose first lines recite: *Kau iluna ka wai a ka Nāulu*, (Malo 1919-1920). The opening of this chant translates to, *The Nāulu showers which are placed above*, poetically identifying the **Nāulu rain** as the rain of the area and the source of water placed above. Mākole'ā's mother, Kahalu'u gives the approval to Kepaka'ili'ula to take her daughter as his wife. The author of this mo'olelo references Kahalu'u as, "i ka 'āina kaulana i ka wai puka iki o Helani," which Maly translates as, "of the land famous for the small flowing spring of Helani;" thus revealing a **spring associated with Helani and the 'āina of Kahalu'u** (Malo 1919-1920 in Maly 1997:26). When Mākole'ā's father, Keolonāhihi, is challenged by Kepaka'ili'ula for having broken his promise to wed his daughter to him, the author writes that Keolonāhihi flees Kona leaving behind a favored **spring named Waiku'i located at Kahalu'u**. This spring was favored by the chiefs of Kona and was also the area ali'i took pleasure in relaxing and playing **kōnane** (ancient game resembling checkers), (Malo 1919-1920 in Maly 1997:26)

The valuable information that is gathered from this portion of Kepaka'ili'ula's mo'olelo is the acknowledgement of two named springs associated with the Kahalu'u ahupua'a—one of which is noted to be favored by the chiefs of Kona; the Nāulu rainfall of Kahalu'u; great cultivated areas of bananas located in the uplands of Kahalu'u which also holds chiefly associations having belonged to the ali'i, Kaho'oali'i; as well as the acknowledgement of ali'i passing time by playing kōnane.

Though much has been revealed of Kona, and specifically of the Kahalu'u Ahupua'a in but a small chapter of Kepaka'ili'ula's tale, the mo'olelo continues. Maly summarizes the events that unfold after Keolonāhihi is challenged by Kepaka'ili'ula:

Because many of the ali'i of Kona were related to Kahalu'u, Keolonāhihi, and Mākole'ā, they rallied to challenge Kepaka'ili'ula in battle. These chiefs included Kaho'oali'i (k) who controlled the upland plantation called Kaumalumalu which extended from Kaumalumalu-Kāpala'alaea to Ka'awaloa and Kealakekua, Kuapehu (k), Kāināliu (k), Hōlualoa (k), Onouli-ākea (k), Hōkūkano (k), and

Kailua (k). When the chief Hōlualoa took up the challenge against Kepaka'ili'ula on behalf of the Kona chiefs, Hōlualoa called upon his god **Kālaipāhoa** to assist him in his battle. Hōlualoa was the first chief to call upon the god Kālaipāhoa, and this was the beginning of this gods' use by the chiefs of Hawai'i. All of the chiefs were related, and all associated with the lands which now bear their names.

Calling upon his god **Kā'ili**, Kepaka'ili'ula defeated each of the chiefs in battle, and came to control all of Kona from Kekaha wai 'ole in the north, to Ke'ei in the south. At this time the land was greatly populated, and because Kepaka'ili'ula was found to be a just chief, the people of the land were satisfied with his benevolence, and they accepted him as the ali'i 'ai moku (chief who consumes - controls the district). Following the people's acceptance of Kepaka'ili'ula as their chief, tribute from all Kona was presented to Kepaka'ili'ula. All of the offerings of the wealth of the land were gathered at one site and presented to Kepaka'ili'ula. The mound of offerings was so great that it looked as if a hill had been formed. To this day, the site where the offerings were gathered is called Pu'u which is above the place named for Keolonāhihi.

Kepaka'ili'ula divided the wealth, offering the first portion to his god, he then provided a portion to the families of his trusted supporters, and returned the rest to the people of the land. To Kepaka'ili'ula is attributed the saying:

‘O ke ali'i mālama kānaka a ho'omana'o mau i ka mōhai i nā akua,  
'oia ana no ke ali'i e kū i ka moku — The chief who cares for his  
people and remembers to pay tribute to his gods, is the chief who  
will stand upon [be supported by] the island (July 24-November 13,  
1919).

...Seeing that there was peace in Kona, Kepaka'ili'ula then departed from the lands of the Kahalu'u area... Kepaka'ili'ula traveled to Kohala to test the Chief Kukuipahu, Mākole'ā's uncle. Kukuipahu was a just chief, who saw that Keolonāhihi had acted inappropriately, and Kukuipahu joined Kepaka'ili'ula in mounting an attack on Maui.

Kukuipahu went to the compound of Kaikipa'ananea at Olowalu, Maui and told Mākole'ā about the events that had occurred on Hawai'i, and informed her of her father's treachery, and told her that Kepaka'ili'ula still desired her as his wife (November 20, 1919).

Upon hearing these things from her uncle Kukuipahu, Mākole'ā chanted to him asking that he would give her message to Kepaka'ili'ula. In the chant she spoke of the beauty of Helani at Kahalu'u and the pleasant time which she had spent with Kepaka'ili'ula:

Ku'u hoa o ka malu niu o Helani  
E hea pua'i nei ia'u e ho'i aku wau  
Ku'u hoa i ka pe'a huli luna e Kona e  
He 'Eka ka makani o kāua e 'olu ai...

*My companion sheltered there by the coconut palms of Helani  
My call flows forth to you, I will return*



*You are my companion of the upper reaches of Kona  
Where the 'Eka breezes refresh us two...*

While Kukuipahu was on Maui, Ki'ihele journeyed to Hilo and revealed Kepaka'ili'ula's identity to his parents Makaokū and Hina, who joined him, along with over 30,000 warriors of Hawai'i, in the quest of reclaiming Mākole'ā (November 27, 1919–February 26, 1920).

When the battle preparations were completed, the canoe fleet set sail, and it stretched from Kohala, Hawai'i to Kahikinui, Maui. Landing at Pu'unoa, final battle preparations were made, and the people of Lāna'i and Moloka'i joined together in supporting Kepaka'ili'ula against Kaikipa'ananea, as well (March 4, 1920). The battle took place upon the kahua (battle field) of Waine'e, a short distance above the Waine'e Church. It was there that Kaikipa'ananea was killed by Kepaka'ili'ula, and Keolonāhihi was killed by Makaokū. So it was in this way that Mākole'ā the beautiful chiefess of Kahalu'u came to marry Kepaka'ili'ula (March 11-April 1, 1920).

As a result of the battle on Maui, Kahalu'u was killed, and Kepaka'ili'ula and Mākole'ā were reunited. Kepaka'ili'ula mā lived in Lāhaina for one year, and then Kepaka'ili'ula desired to visit O'ahu, Kaua'i, Ni'ihau, and journey on to Kahiki, the land of his ancestors. Following numerous events, Kepaka'ili'ula returned to Hawai'i and with Mākole'ā, he settled in his compound which was a short distance from the heiau of Pāka'alana at Waipi'o. Thus they lived out the rest of their lives in peace (April 8-December 9, 1920).

[Malo 1919-1920 in Maly 1997:#27]

The mo'olelo of Kepaka'ili'ula ends happily with him and Mākole'ā finally being able to live their lives out together. During the portion of the story where Mākole'ā chants out to Kepaka'ili'ula, she describes several significant resources specific to Kahalu'u. The first line of her chant recites: *Ku'u hoa o ka malu niu o Helani*, which Maly translates as, *My companion sheltered there by the coconut palms of Helani* (Malo 1919-1920 in Maly 1997:27). Mākole'ā ends her chant with the line, *He 'Eka ka makani o kāua e 'olu ai...*, translated by Maly as, *Where the 'Eka breezes refresh us two...* (Malo 1919-1920 in Maly 1997:27). What is conveyed in Mākole'ā's chant to Kepaka'ili'ula is the imagery of the natural resources and elements associated with Kahalu'u, Kona. A **niu (coconut or *Cocos nucifera*) grove** associated with Helani is described, as well as the **'Eka wind** known affectionately for belonging to Kona. It is significant to note that the Helani that is identified here with the niu grove was mentioned previously in the description of the spring in Kahalu'u, "i ka 'āina kaulana i ka wai puka iki o Helani," (Malo 1919-1920 in Maly 1997:26). Lastly, note the constant travel that is ongoing in this mo'olelo, which indicates there was voyaging between islands and across the sea to Kahiki at this time. In later sections we describe connections between the uplands of Kona, in the study area, and the koa trees prized for ka'ele (canoe hulls).

## **Pu'u o Kaloa**

From 1923 through 1924 an article series entitled "Na Hoonanea o ka Manawa," meaning, "Pleasurable Pastimes," was published in the Hawaiian language newspaper, *Ka Hoku o Hawaii*. The series was written by Isaac W. H. Kihe, a kupa of Kona, who wrote to the newspaper under the pen name "Ka Ohu Ha'aheo i na Kuahiwi Ekolu" (The Proud Mist of the Three Mountains). "Na Hoonanea o ka Manawa" celebrates the many storied places and traditions of Kona. One of the mo'olelo included in this series concerns a certain pu'u or hill and the clouds patterns that the

people of Kona observed as an indicator of rain. This landmark known as Pu‘u o Kaloa, is a significant feature of this region.

Kihe’s segment regarding Pu‘u o Kaloa was printed in the newspaper in September of 1923. The section below shares the mo‘olelo as it was printed in its original Hawaiian text, followed by an English translation interpreted by Hawaiian language translators and scholars of the Institute of Hawaiian Language Research and Translation, Emmanuel Kilikia Bennett and Puakea Nogelmeier. Regarding Pu‘u o Kaloa, Kihe writes:

He wahi puu keia aia mawaena o Kealakehe a me Keahuolu, e kokoke ana i ke puhi a Kahikini i kahakai. O ka moolelo o keia wahi puu.

I ka wa kahiko, oiai, ua maloo a papaala ka aina mai o a o aohe ua, ua neeia e ka La a pika’o aohe wai o na punawai.

Maloo na huli kalo, kalina uala maloo, aohe mea kanu ulu. Aia i kekahi manawa, e ike ia aku ana he kilihune ua e ko’iaweawe iho ana iluna pono o ua wahi puu nei.

Ae o ka poe mahiai i noho a kamaaina, a ike lakou i kela wahi hoailona ua lu iho ana iluna o ua wahi puu nei o Puu o Kaloa, oiai no ka la nee ana. Olelo ae la lakou, akahi a ola ka aina, ke hehi mai la na manamana o ka ua iluna o Puu o Kaloa. [Kihe 1923:2]

*This is a small hill between Kealakehe and Keahuolū near the blowhole of Kahikini on the shore. The story of this little hill.*

*In ancient times, there were times that the land was dry and parched everywhere, lacking rain, traversed by the sun, with no water in the springs.*

*The taro cuttings dried, so did the slips of sweet potato, and no plant grew. Sometimes light drizzle could be seen moving directly above that hill.*

*The resident farmers there, when they saw this sign of rain over this hill of Pu‘uokaloa, even though the sun was still moving along, would say, “The land shall finally prosper, for the fingers of rain tread over Pu‘uokaloa.”* [Translated by Bennet and Nogelmeier 2017]

The account relays that though the lands of Kona were dry, when clouds could be seen carrying a light drizzle over Pu‘uokaloa, the people knew that rain would come and the land would flourish. This pu‘u rests between [Kealakehe](#) and [Keahuolū](#) and is an [indicator of rain](#) for those of Kona. Anticipating the coming of rain, kama‘āina of the area readied their lands to take advantage of this precious resource. Kihe continues to write:

Ke ike ia keia hoailona e na poe kahiko, o ka hoomaka no ia e puhi makawela, a pau waiho, a huli kahi e loa ai ka lau uala.

Nana aku o ka ike hou ia o ka hoailona ua, a ina e ike hou alaila, makakau e kanu meia nui no o ka la, aohe maopopo o ka ua.

I ke kanu ana a paa ka makawela (mala i puhi la i ke ahi) i ka lau, alaila ike hou ia ka ua iluna o Puu o Kaloa, a oia ka wa e ike ia ai ka ua e ka’i lalani ana ma ke kula,

a ike na poe e no i keia ka'i hele o ka ua ma ke kula, hoomaka e waele ke pulu a kali aku la o ka ua mai alaila kanu aku la ka lau uala.

O ka mea nana ka maka wela mua loa i kinohi, ua kapuapua kana lau, a ke olohio ala, a ke apoapo mai la a pau i ka pue.

Haule hou i ke kuaua o ka hu noia o ka lau a pau i ka wili a moku mai la ka naaupua, oia ka lala, (oia ka uala e kaka ana i ke ka o ka lau i moku mai i ka pue ana, a oi a uala ke kahukahu mua).

[Kihe 1923:2]

*When this sign was seen by the people of old, they would immediately go and scorch the land, and once finished, leave it and search for a place to get sweet potato vines.*

*They would watch to see the sign of rain again, and if it was seen, then they would prepare to plant, even though the sun still beat down, with no visible sign of rain.*

*When the patch burned for cultivation was sowed with the sweet potato slips, the rain could be seen again atop Pu'uokaloa. It is at that time that the rain could be seen proceeding in a line along the plains, and when others saw the procession of clouds, they would begin to clear the mulch and wait for the rain, and whereupon they would plant the sweet potato slips.*

*For the one who first scorched the land at the outset, his sweet potato slips would have flourished, and he would be cultivating them, and hilling them all into mounds.*

*When the showers fell again, the slips would all rise to the surface, and the na'aupua would become twisted and severed, that being the branch. (This is the sweet potato clustered on the vine of the slip severed in the hilling of the mound, and this sweet potato would be the first offering of the season).*

[Translated by Bennet and Nogelmeier 2017]

The natives of Kona were attentive to the natural cycles and seasons of their environment. The cloud movement over Pu'u o Kaloa was an indicator of rain, so thus, began the preparations of the 'uala patches. Specifically, the mo'olelo describes a [makawela style of 'uala cultivation](#) which Pukui describes is a method of land cultivation that involves slashing and burning the cultivated area (Pukui and Elbert 1986:228).

Hala ae la elua a ekolu malama hoomaka mai la ka ua mai o a o o ka aina, a o ka mea mua loa hana ka makawela i kanu mua o ua puunui kana uala, a ke uhai aia ka uala a kalua i ka imu me ka puaa.

A ike aku la ka mea nohoaihalale a hele aku la malaila e noho ai e ake o ka loa mai o ka uala, a manao ke ola o ka la pololi.

Oiai e huai ana ka inu uala, a ohi aku mahai o ka imu, a ike i ikeai ai halale e noho ana, a ninau mai la i keia nimau; "Ua ka na i Puu o Kaloa ihea oe?" A ina e pane aku, I Kona nei no au, alaila aole e loa ka uala iaia. Ina hoi e pane aku, I Kohala au, ai ole i Kau paha, alaila e loa ana ka uala iaia.

No keia wahi Puu kela olelo kaulana o ka paanaau o ka poina ole a hiki i keia la, "Ua ka ua i Puu o Kaloa—I hea oe?" I Kohala au-loaa ka uala. I Kona nei no au-aole loa ka uala.

Ua hala keia poe kahiko, ko kakou mau kupuna i ka po, a eia no keia wahi puu ke ku nei no he kiahoomanao poina ole no na manao e ola ana i keia la.

He hoailona olalo loa no kela a ke ike ia nei no ia hoailona, a ke ike ia no i ka wa la keia wahi ua kamahao a kupanaha alaila, he hoike maopopo loa ia o ka ua e hoea mai ana.

Ina he wa papaala ia o ka aina a ike ia keia wahi hoailina ua ilina o keia wahi hoailoa ua iluna o keia wahi puu kuanea hoomaopopo ole ia aia he mea ano nui loa ke hoea mai ana. Aole i Pau.

[Kihe 1923:2]

*After the passing of two or three months, that rain would begin to fall all over the land, so that first person who had the burned patch and who planted first, his sweet potato would have grown large and the sweet potato would be carried off to be cooked in the oven with pork.*

*Gluttons would see and go to stay there, wanting to get some sweet potato, hoping to satisfy their hunger.*

*As the underground oven was uncovered and collected near the underground oven, and the glutton was seen sitting, the question would be asked "The rain fell atop Pu'uokaloa, where were you?" And if the answer was ["I was here in Kona[" then he would not get any sweet potato. If he were to say ["I was in Kohala" or perhaps "Ka'ū["], then he would get sweet potato.*

*For that hill was this famous memorized saying unforgotten until this day, "The rain fell at Pu'uokaloa—Where were you?" ["I was in Kohala["—one would receive sweet potato. ["I was in Kona["—one would not get sweet potato.*

*Those people of old, our ancestors, have passed over into the night, and here the hill still stands as an unforgettable memorial for the descendants living today.*

*That is a very real sign, and is still being seen. When this strange and remarkable rain is seen during the day, it is a clear sign of coming rain.*

*If it is a parched period of the land and this symbol is seen atop this desolate hill, you never know, there may be something big coming your way. To be continued.*  
[Translated by Bennet and Nogelmeier 2017]

This account informs its readers that after two to three months of the initial rainfall, those who prepared and cultivated their lands first would have yielded 'uala ready to be harvested and cooked in the imu (underground oven). Understanding the biocultural indicators such as the cloud patterns above Pu'u o Kaloa and dedicating the effort to make the necessary preparations in order to take advantage of the window of rain, paid off greatly with prosperous lands and large yields.

## Ke Puhi a Kaleikini

Similar to the mo'olelo shared above, "Ke Puhi a Kaleikini," is a story that appeared in the article series "Na Hoonanea o ka Manawa" regarding Kona that was written by Kihe. This particular story was published in *Ka Hoku o Hawaii* in 1923 and describes a blowhole named Hi'iaka-noho-lae. In Place Names of Hawai'i, Pukui, Elbert and Mookini describe the location of Hi'iaka-noho-lae to be situated in the ahupua'a of Keahuolū "between Kona Inn and the end of the wall at Kailua Village, Kona, Hawai'i," (Pukui et al: 1974:45). They interpret the literal translation of this site as, "Hi'iaka living [at] point," and also remarks that "One of Pele's Hi'iaka sisters lived here. In one legend the stone is the shark form of a priest turned to stone in response to an enemy's prayer to Pele," (Pukui et al: 1974:45). Regarding the blowhole Hi'iaka-noho-lae, Kihe shares a story which includes an individual named Kaleikini. The mo'olelo as found in *Ka Hoku o Hawaii* is as follows:

Aia keia Puhi ma ma kahi i kapaia o Hiiaka-Noho-Lae. Ka moololo o keia "Puhi."

I ka wa kahiko ke puhi keia "Puhi," pu-ko ke kai a pii iluna o ka lewa a o ke ohu kai aoia puhi ana uhi aku la iluna o ka aina a maloo na mea kanu o uka o ke kula a hiki i kaluulu.

I ka wa o Kaleikini i kaahale ai a ike i keia Puhi e pii ana ke kai iluna oia kona wa i kii ai e pani i ke kauila, a oia paa a hiki i keia la, aohe hiki hou i ke ehū kai ke hoomaloo hou ma mea kanu o uka.

He aiwawao Kaleikini, na olelo ia he ikaika papalua ko keia kanaka a he ano kupua hoi, he nui na "Puhi" ana i pani ai, a ke waiho nei ia Puhi a hiki i keia la, he mau kia hoomanao poina ole no na hana aiwaiwa pookela a ku i ka hookala kupua a kela kupueu o na la i hala o Hawaii nei, a keia hanauna hou e nana aku nei me ka paha'oha'o no keia mau hana, me he kaao aia no kekahi kupua.  
[Kihe 1923:2]

Presented below is an English translation of the account interpreted by The Institute of Hawaiian Language Research Team of 'Ike Wai.

*This blowhole is located at a place called Hi'iakanoholae. This story of this blowhole.*

*In ancient times, when this "blowhole" would blow, the sea would crash and the sea spray would rise up into the air, then that spray would cover the land until the plants on the field all the way up to the brush line dried out.*

*When Kaleikini traveled, and saw this blowhole, with the sea spray rising up, that is when he fetched and laid a grid of kauila tree branches over the hole, completely shutting it. It remains shut until this day; the sea spray could no longer dry out the vegetation on shore.*

*Kaleikini was mysterious, and it was said that he also had supernatural strength, and was a supernatural being. There are several blowholes that he shut and that remain until this day; unforgettable monuments of outstandingly wonderful and magical feats of this hero of Hawai'i's past; monuments for this new generation to look to with wonder because of these feats like a heroic tale.*

[translated by The Institute of Hawaiian Language Research Team, 'Ike Wai]

As the story recalls, Hi'iakanoholae is the blowhole that is located in the ahupua'a of **Keahuolū**. The 'ehukai or sea spray that the blowhole would shoot was problematic for the fact that the salt of the spray that blew over the 'āina caused the land to dry so that no vegetation could grow. In order to solve this problem, the author shares that Kaleikini covers the Hi'iakanoholae with kauila tree branches. In regards to the type of resources known of this area, from this account we learn that the native *kauila* (*Alphitonia ponderosa*) tree was present at Keahuolū.

## **Ka'ao Ho'onuia Pu'uwai no Ka-Miki**

Another celebrated mo'olelo that has been preserved and documented in the Hawaiian language newspaper is the epic saga, "Ka'ao Ho'onuia Pu'uwai no Ka-Miki," (The Heart Stirring Story of Ka-Miki). This mo'olelo was published serially in *Ka Hoku o Hawaii* beginning in 1914. The saga ran for four years ending its final publication in 1917. The primary authors noted to have contributed to the publication of this mo'olelo are Hawaiian historians John Wise and J.W.H.I. Kihe. The story of Ka-Miki takes place in the 1300s at the time when the ali'i, Pili-a-Ka'aiea, was the district chief of Kona (Maly 1997:10). Maly, who is credited for his synopsis of Ka-Miki summarizes the mo'olelo:

This legend is an account of two supernatural brothers, Ka-Miki (The quick, or adept, one) and Maka-'iole (Rat [squinting] eyes), who traveled around the island of Hawai'i along the ancient ala loa and ala hele (trails and paths) that encircled the island. During their journey, the brothers Ka-Miki and Maka-'iole competed alongside the trails they traveled, and in famed kahua (contest arenas) and royal courts, against 'ōlohe (experts skilled in fighting or in other competitions, such as running, fishing, debating, or solving riddles, that were practiced by the ancient Hawaiians). They also challenged priests whose dishonorable conduct offended the gods of ancient Hawai'i. Ka-Miki and Maka-'iole were empowered by their ancestress Ka-uluhe-nui-hihi-kolo-i-uka (The great entangled growth of uluhe fern which spreads across the uplands), a reincarnate form of the goddess Haumea (the creative force of nature; also called Papa or Hina; who was also a goddess of priests and competitors).

[Maly 1997:10]

Included in this section are Maly's translated summary of select excerpts of "Ka'ao Ho'onuia Pu'uwai no Ka-Miki" in which he paraphrases the important events that occurred during Ka Miki's journey. The story begins with the birth of Ka-Miki:

Born in 'e'epa (mysterious – premature) forms, Ka-Miki and Maka-'iole were the children of Pōhaku-o-Kāne (k) and Kapa'ihilani (w), the ali'i of the lands of Kohana-iki and Kaloko. Maka-'iole was the first born child and Ka-Miki was the second. Following their birth, Ka-Miki was given up for dead and placed in the cave of Pōnahanaha. Ka-uluhe retrieved Ka-Miki from the cave and reared him at Kalama'ula on the heights of Hualālai. It was there that Ka-uluhe began instructing Ka-Miki in the uses of his supernatural powers, and when Maka-'iole joined his young brother, together, they learned various techniques of contest skills, in preparation for their journey around Hawai'i Island.

[Maly 1997:12]

After a period of training and tests, the brothers joined their ancestress in an 'awa ceremony. When Ka-uluhe-nui-hihi-kolo-i-uka (Ka-uluhe) fell asleep, the brothers ventured from their residence at Kalama'ula to visit some of the places of Kona. Their journey took them as far as the cliffs of Kealakekua, and upon returning to Kalama'ula, Ka-uluhe inquired about what the brothers had seen. As they described the places visited, Ka-uluhe explained to the brothers the nature of the lands, features and people which they had seen.  
[Maly 1997:12]

Departing from Kalama'ula, Ka-Miki and Maka'iole set out on their quest. The journey took the brothers first through the lands of Kona — O Kona i ka pohu nā'ū ke keiki e kāohi ala i ke kukuna o ka lā, O Kona ia (Kona in the calm where children take in their breath and then chant, claiming the rays of the sun as their own, Indeed it is Kona). Their path took them first to the kahua (contest site) at Ahu'ena in Lanihau, where the brothers met with Kauakāhiahāola one of the contest champions of Puapua'a...  
[Maly 1997:14]

Recounted in this segment of the mo'olelo is a kahua, translated by Maly as a "contest site." Maly described that the kahua is located at Ahu'ena, Lanihau and is referred to as a *kahua mokomoko le'ale'a* or contest and game. This field was known by the name *Hinakahua* and is located in the *Kahelo plains of Puapua'a Ahupua'a* (Maly 1999:10). In the mo'olelo of Ka-Miki, Kauakahiakahaola is identified as the champion of Puapua'a and Keiki-pu'i-pu'i is noted as the champion of Kailua. Maly relays that the mo'olelo compares them to "*Ke kumu 'ulu-pū-loa o noe 'okana 'āina o Puapua'a*" (The well-formed, oval-fruited breadfruit of the lands of Puapua'a [said in praise of strength and handsome features]), (Maly 1999:12). These champions of Puapua'a and Kailua are memorialized in two heiau that bear their names. According to Maly, *Kauakahiakahaola heiau* is located in Puapua'a and Keiki-pu'i-pu'i rests in the boundary between Keōpū and Honua'ula (Maly 1997:15). Ka-Miki challenged Kauakahiakahaola on the contest grounds in Puapua'a and quickly defeated him. From there, Ka-Miki and his brother journey onward to another kahua at Hōlualoa (Wise and Kihe 1914-1917 in Maly 1999:12).

In another chapter of this saga, Ka-Miki travels along the coast of Kona to a place called *Niumalu*. Regarding the location of this wahi, Maly notes that it is described as being situated in the ahupua'a of Pua'a, (Maly 1997:22). It is also noted that there is a māla 'uala, or a sweet potato garden that stretches between Niumalu and Puapua'a Ahupua'a (Wise and Kihe 1914-1917 in Maly 1999:12). This māla 'uala is described as the place where the opponents of Ka-Miki go to recover and sleep after being defeated by the young boy (Wise and Kihe 1914-1917 in Maly 1999:12). Ka-Miki meets Pili-nui-kapu-ku'i-a-ka-lani-kua-liholiho-i-ke-kapu ("Pili bound in great sacredness, the chief with the burning back kapu" — a restriction that forbade approaching the chief from behind, and which carried a penalty of death by fire), who was an ali'i of this wahi. Referred to by the shortened name, Pili, this ali'i enjoyed the games of competitions. The games played at this wahi were:

The contests and events held at Hinakahua included *maika*, *mokomoko*, *le'ale'a*, *a me ho'opāpā* (bowling or tripping stones, wrestling and boxing, pleasurable pastimes, and contests of wit and strength). It was while the chief and his 'ōlohe champions were at Hinakahua, that Ka-Miki presented himself to some of Pili's stewards, claiming the right to care for the chief's possessions and foods. Word of this claim was carried to Pili, who in-turn called his key counselors and champions to Niumalu discuss the claims made by Ka-Miki...

(April 5, 1917)  
[Wise and Kihe 1914-1917 in Maly 1999:11]

Here in this account, specifics of the type of traditional games played at Hinakahua are described. The games associated with Hinakahua and therefore the broader *ahupua‘a* of *Puapua‘a* are *maika* (bowling), *mokomoko* (wrestling and boxing), *le‘ale‘a* (pleasurable pastimes), and *ho‘opāpā* (contest of wit and strength), (Maly 1999:11). When Ka-Miki arrived at Hinakahua and made the claim that he would come to care for the ali‘i’s possessions, Pili, the ali‘i of the ‘āina questioned Ka-Miki as to why he thought himself able to boast such statements. Ka-Miki responded that it was the chief that said anyone who excelled in lua and possessed unmatched ‘ōlohe skills would be able to gain the privileges to the favorite of the ali‘i. Being that Pili had no proof of Ka-Miki’s skill, Pili instructed the Ka-Miki should compete and defeat all 150 of Pili’s champions and secure the lū he‘e (octopus lure) from Lālāmilo. If Ka-Miki should succeed, Pili agreed to give Ka-Miki half of Kona and the privilege of being his favorite (Wise and Kihe 1914-1917 in Maly 1999:11-13). Accepting the challenge, Ka-Miki prepares for the contests by calling out to Ka-uluhe with a mele paha (spoken chant) to evoke her mana and be empowered by the gods (Wise and Kihe 1914-1917 in Maly 1999:13). The mele is offered:

|  |  |
|--|--|
| E ala e Kaulu-i-ke-kihi-o-<br>Kamalama | <i>Arise o Kaulu – [star] point of light<br/>[knowledge] of Kamalama</i> |
| E ala e kīko‘oko‘o ka lani             | <i>Arise expanse of the heavens</i>                                      |
| E ala e kīko‘oko‘o ka honua            | <i>Arise expanse of the earth</i>  |
| E ala e kīko‘oko‘o ka mauna            | <i>Arise expanse of the mountain</i>                                     |
| E ala e kīko‘oko‘o ka moana...         | <i>Arise expanse of the ocean...</i>                                     |

[Wise and Kihei 1914-1917 in Maly 1999:13]

No competitor could match the skill of Ka-Miki. Every champion Ka-Miki faced was defeated. Following through with their arrangements, Ka-Miki was named the favorite of Pili and given the power of the kingdom of Kona (Wise and Kihe 1914-1917 in Maly 1999:13). Ka-Miki ordered Pili’s ‘ele‘ele or messengers to spread the word of his victories to Kalama‘ula (Wise and Kihe 1914-1917 in Maly 1999:13). Pili sent other messengers throughout all the districts of Kona to inform the people and chiefs that Ka-Miki possessed the rights of the ali‘i over these lands (Wise and Kihe 1914-1917 in Maly 1999:13).

Having won the competitions, Ka-Miki also won the lūhe‘e of Lālāmilo which he presented to Pili. Regarding the lū he‘e, Maly summarizes this section of the mo‘olelo:

Now this leho (octopus lure) was a favorite of Pili’s, and filled his eyes with pleasure. Pili’s canoes were prepared to go octopus fishing – lawai‘a lūhe‘e as Pili wanted to see how the lure worked. The lure was made by securing the kākala (hook), and a sinker stone (‘ōahi) near the cowrie (on a wooden shaft) with three ply olonā (*Touchardia latifolia*) rope. When Pili mā arrived at the octopus fishing site, he removed the lure from a gourd container and set it in the water. The chief and all those with him were startled to see unlimited numbers of he‘e (octopus) rise up to the lure, and even lobsters were attached to some of the octopus (July 26, 1917)...

[Wise and Kihe 1914-1917 in Maly 1997:22]

As the lure was drawn up to the canoe, the he‘e followed it right into the canoe, and the moment the lure was covered, the he‘e stopped rising to the canoe. Pili returned to the shore of Niupalu at Oneō, and had the he‘e divided among all of the people.




So the fame of the lure went about the island and many chiefs, fishermen, and people traveled to see the lure as well. It was in this way that Lālāmilo learned his lure was in Kona (August 2, 1917)...

[Wise and Kihe 1914-1917 in Maly 1997:22]

Relayed in this excerpt is information regarding wa'a off shore [fishing practices](#) that occurred in Pua'a, Kona. Specifically, it is recounted that the lūhe'e method for gathering octopus was used at the shore of Niumalu at a place called Oneō (Wise and Kihe 1914-1917 in Maly 1997:22), which was near a known he'e spot, that was also rich in lobster.

Regarding the [Wai'aha and Kahului Ahupua'a](#) of Kona, Maly shares an excerpt from the mo'olelo of Ka-Miki that describes [Wai'aha stream](#), one of only two perennially flowing surface streams in Kona, which connects the two ahupua'a which is said to feed [pu'epu'e](#), a mounded style of upland farming, indicating kalo cultivation to have occurred in this area. The excerpt also recounts that a paved spring named Wai-a-Kekea is located in the same area. The account as translated by Maly reads:



...the stream of Wai'aha joins with the lands of Kahului. The waters filled the upland taro mounds of the sacred prostration chiefs Kalei'eha, Kapahu (or Kapahu-a-Lo'i), and Ka'alaea, who possessed the kapu (restrictions) of Lono-Makahiki... There too, you see — ka luawai ua kīpapa 'ia i ka pōhaku 'alā e ulu pōhai 'ia e nā lā'au loulu, o ka punawai i ka o'io'ina pali o Waiakekea — a spring paved with dense ['alā] stones and surrounded by loulu palms, this is the spring of Wai-a-Kekea, which was near the trail side resting place... (IN Ka Hōkū o Hawai'i, April 9, 1914; Maly translator)

[Wise and Kihe 1914-1917 in Maly 1998:3]

Another one of the study areas that is highlighted in the mo'olelo of Ka-Miki concerns the ahupua'a of Keahuolū. The hill, Pu'u o Kaloa is a significant feature recorded as a pu'u of Keahuolū and Kealakehe. A summary of this segment of Ka-Miki regarding Keahuolū and Pu'u o Kaloa was translated by Maly as follows:

Ka-noenoe (The mist, fogginess) The mound-hill called Pu'u-o-Kaloa sits upon the plain of Kanoenoe which is associated with both Keahuolu and Kealakehe. The settling of mists upon Pu'u-o-Kaloa was a sign of pending rains; thus the traditional farmers of this area would prepare their fields. This plain was referenced by Pili when he described to Ka-Miki the extent of the lands which Ka-Miki would oversee upon marrying the sacred chiefess Paehala of Honokōhau. The inheritance lands included everything from the uplands of Hikuhia above Nāpu'u and the lands of the waterless Kekaha, which spanned from the rocky plain of Kanikū (Keahualono) to the plain of Kanoenoe at Pu'ukaloa (Ka Hoku o Hawai'i 10/25/1917, as translated by Maly 1994:A-4).

[Wise and Kihe 1914-1917 in Simonson 2010:8]

Echoing the previous account examined by Kihe in the article "Na Hoonanea o ka Manawa," Pu'u o Kaloa is also described in the mo'olelo of Ka-Miki as being a landmark telling of signs of rain.

## ‘Ōlelo No‘eau - Hawaiian Proverbs and Poetical Sayings

‘Ōlelo no‘eau or Hawaiian proverbs and poetical sayings are valuable in perpetuating Hawaiian cultural knowledge, presenting kaona (concealed reference), and illustrating creative expressions that incorporate observational knowledge with educational values, history, and humor. They can be reflected upon to inform an individual of the conditions or characteristics of a place, group of people, common sentiments of an era, or event in history. They can be looked towards to glean insight on the peculiarities of a given landscape or the behavior of people in general or specifically, and oftentimes provide guidance in understanding the wisdom and warnings left to us by those of the past. Today, ‘ōlelo no‘eau serve as a traditional source to learn about people, places, and the environment of Hawai‘i. As one of the many celebrated works penned by Pukui during her time, the 1983 publication of *‘Ōlelo No‘eau: Hawaiian Proverbs and Poetical Sayings*, is one of which holds no end in its relevance and richness as it relates to an epistemological worldview that is Hawaiian.

Listed in this section are ‘ōlelo no‘eau gathered from Pukui’s collection of traditional sayings that reference the cultural practices, resources, and traditions related to the study areas located in the Kona Moku of Hawai‘i. Particular emphasis is placed upon traditional sayings related to water resources associated with the study areas and vicinity. Additionally, the ‘ōlelo no‘eau offered here serve to illuminate insight on various places, winds, rains, famed ali‘i, akua, and other mo‘olelo and characteristics particular to the study areas and vicinity that have been preserved in the poetics of these traditional sayings.

Though the focus of this study is centralized to arrive at a deepened understanding of Kealakehe, Keahuolū, Pua‘a, Wai‘aha, Kahului, Puapua‘a, and Keauhou Ahupua‘a, this section of the report also offers a compilation of ‘ōlelo no‘eau that pertains to the larger geographical region of Kona, Hawai‘i. Though these set of ‘ōlelo no‘eau may not always speak directly to the study area ahupua‘a, they have been selected as relevant to the holistic understanding of the cultural and environmental landscape as a whole. Inclusion of the broader Kona Moku is paramount to fully and properly grasp the significance of the study areas as it relates to the practices, resources, and traditions unique to the district. To analyze the cultural context of the study areas isolated from the cultural significance of the region it is situated upon and has coexisted within, disconnects the wealth of history embedded within the landscape. For these reasons, this section highlights ‘ōlelo no‘eau that illuminate the practices, resources, and traditions of the study areas Kealakehe, Keahuolū, Pua‘a, Wai‘aha, Kahului, Puapua‘a, and Keauhou Ahupua‘a, as well as the broader Kona Moku of Hawai‘i.

The following ‘ōlelo no‘eau offers insight regarding water resources associated with the moku of Kona. Recounted in several ‘ōlelo no‘eau, the presence and formation of **‘ōpua**, or “cumulus clouds,” and **ao ‘ōpiopio** or “young clouds,” are environmental indicators unique to Kona relaying that rain is expected to occur in the area (Pukui 1983:9,27,2134; ‘Ōlelo No‘eau #55, #232, #2134). Another water resource associated with Kona acknowledges a thriving **coconut grove in an area named Helani** where water is retained by gathering and drinking from coconuts (Pukui 1983:179, #1661). Though not a part of the immediate study area, the saying “Kekaha wai ‘ole o na Kona,” characterizes the Kekaha Ahupua‘a of Kona as a waterless place beloved by the natives of Kehaha, despite the lack of water (Pukui 1983:185:1716). These set of ‘ōlelo no‘eau which describe the natural resources of wai and the cultural traditions surrounding it are listed below:

- 55      Aia ka wai i ka maka o ka ‘ōpua.  
            *Water is in the face of the ‘ōpua clouds.*

In Kona, when the ‘ōpua clouds appear in the morning, it’s a sign that rain is to be expected.  
[Pukui 1983:9, #55]

- 232 Ao ‘ōpiopio.  
*Young cloud.*  
A cloud that rises from sea level or close to the cloud banks and is as white as steam. When seen in Kona, Hawai‘i, this is a sign of rain.  
[Pukui 1983:27, #232]
- 1661 Ka wai puka iki o Helani.  
*The water of Helani that comes from a small opening.*  
Refers to Helani, Kona, Hawai‘i. Here a coconut grove thrived, and from a small opening in the shell of the nut one could get water to drink.  
[Pukui 1983:179, #1661]
- 1716 Kekaha wai ‘ole o na Kona.  
*Waterless Kekaha of the Kona district.*  
Kekaha in Kona, Hawai‘i, is known for its scarcity of water but is dearly loved by its inhabitants.  
[Pukui 1983:185, #1716]
- 2134 Māmā Kona i ka wai kau mai i ka maka o ka ‘ōpua.  
*Kona is lightened in having water in the face of the clouds.*  
Kona is relieved, knowing that there will be no drought, when the clouds promise rain.  
[Pukui 1983:232, #2134]
- 2154 Me he makamaka la ka ua no Kona, ke hele la a kipa i Hanakahi.  
*The rain is like a friend from Kona—it goes and calls on Hanakahi.*  
These are two lines from an old chant used to express a friendly visit with one who dwells in a distant place.  
[Pukui 1983:234-235, #2154]

The ‘ōlelo no‘eau listed below identify two named winds of Kona; **Hau**, a wind belonging to Ma‘ihi and is described as a breeze that does not exceed beyond the boundaries of Kainaliu and **Keauhou**, and **‘Eka**, a particular wind associated with the moku of Kona whose presence is telling of **signs optimal for fishing**. These ‘ōlelo no‘eau regarding the winds of Kona are as follows:

- 1303 Ka Hau o Ma‘ihi.  
*The Hau [breeze] of Ma‘ihi.*  
Refers to Ma‘ihi, Kona, Hawai‘i. Because of this locality was named for Ma‘ihi-ala-kapu-o-Lono, daughter of the god Lono-a-ipu, this wind was regarded as sacred and did not blow beyond Kainaliu and Keauhou.  
[Pukui 1983:142, #1303]
- 1467 Ka makani kūkulu pe‘a nui, he ‘Eka.  
*The ‘Eka, the wind that sets up the big sails.*  
When the ‘Eka wind blew in Kona, Hawai‘i, the fishermen sailed out to the fishing grounds.

[Pukui 1983:159, #1467]

- 1690 Ke ‘Eka, makani ho‘olale wa‘a o na Kona.  
*The ‘Eka breeze of Kona that calls to the canoe men to sally forth to fish.*  
Refers to Kona, Hawai‘i.  
[Pukui 1983:182, #1690]

Several ‘ōlelo no‘eau commemorate the chiefly lineage of Kona and also offer a glimpse into the political climate that took place in the region. In particular, the sayings “Kona, kai malino a Ehu”— “*Kona land of the calm sea of Ehu,*” and “Na la‘i a Ehu”— “*The calm regions of Ehu,*” honors Ehunuikaimalino and Ehunuikaumanamana as ali‘i (chief) of Kona. Ehunuikaimalino is noted as the ali‘i of Kona who reigned during the time of Liloa (Pukui 1983:199, #1843). Ehunuikaumanamana was another named chief whose domain was Kona (Pukui 1983:246, #2248). The ‘ōlelo no‘eau, “E pale lau‘ī i ko akua ke hiki aku i Kona,” which translates to “*Place a shield of ti leaves before your god when you arrive in Kona,*” shines light upon the political climate that stirred throughout the pae ‘āina (archipelago) when the push to abolish the kapu system and traditions of old Hawai‘i was enacted in order to facilitate a transition towards Western belief systems (Pukui 1983:45, #370). The ‘ōlelo no‘eau, “Keauhou i ka ‘ihi kapu,” which translates to “*Keauhou, where strict kapu were observed,*” is a phrase descriptive of the area of particular interest for this study that highlights the level of prestige and sacredness associated with this wahi as it is acknowledged as the residence of many high ranking chiefs and the birth place of Kauikeaouli, Kamehameha III (Pukui 1983:181, #1682).

- 253 E akahēle i ka mamo a I, o kolo mai ka mole uaua.  
*Beware the descendants of I, lest the tough roots crawl forth.*  
A warning uttered by Palena, a chief of Kohala, who saw Kua‘ana-a-I cruelly treated by the chiefs of Kona. Kua‘ana later went to see the people of his mother, Ho‘oleiali‘i, in Hāna, and to help the chiefs of Hilo in fighting those of Kona.  
[Pukui 1983:31, #253]
- 370 E pale lau‘ī i ko akua ke hiki aku i Kona.  
*Place a shield of ti leaves before your god when you arrive in Kona.*  
A message sent by Ka‘ahumanu to Liholiho requesting him to free the kapu of his god Kūkā‘ilimoku. Ka‘ahumanu was at that time striving to abolish the kapu system.  
[Pukui 1983:45, #370]
- 1682 Keauhou i ka ‘ihi kapu.  
*Keauhou, where strict kapu were observed.*  
Keauhou, Kona. This was the place where many of the highest chiefs resided and where Kamehameha III was born.  
[Pukui 1983:181, #1682]
- 1843 Kona, kai malino a Ehu.  
*Kona, land of the calm sea of Ehu.*  
Ehunuikaimalino was a chief of Kona, Hawai‘i, under the ruler Liloa.  
[Pukui 1983:199, #1843]
- 2248 Na la‘i a Ehu.  
*The calm regions of Ehu.*

The districts of Kona, Hawai'i, where Ehunuikaumanamana once ruled.  
Also, an epithet for Kalākaua, taken from a name chant.  
[Pukui 1983:246, #2248]

The 'ōlelo no'ēau listed below describe natural features and boundaries related to the Kona Moku of Hawai'i:

- 1519 Ka 'ōwili makani 'ino o Kāwili.  
*The stormy wind of Kāwili.*  
Kāwili is the current that comes from Kona and goes out to sea at Kalae, Ka'ū.  
[Pukui 1983:164, #1519]
- 1731 Ke kai malino o Kona.  
*The calm sea of Kona.*  
Refers to Kona, Hawai'i.  
[Pukui 1983:186, #1731]
- 1839 Kona 'ākau, mai Keahualono a Pu'uohau.  
*North Kona, from Keahualono to Pu'uohau.*  
The boundary of North Kona, Hawai'i.  
[Pukui 1983:198, #1839]
- 1840 Kona hema, mai Pu'uohau a Kaheawai.  
*South Kona from Pu'uohau to Kaheawai.*  
The boundaries of South Kona.  
[Pukui 1983:199, #1840]
- 1842 Kona i ke kai mā'oki'oki.  
*Kona of the sea that is cut up.*  
From a distance one can see the smooth surface of the sea at Kona, Hawai'i, cut by innumerable streaks of color.  
[Pukui 1983:199, #1842]
- 1844 Kona, kai 'ōpua i ka la'i.  
*Kona, where the horizon clouds rest in the calm.*  
[Pukui 1983:199, #1844]
- 1846 Kona, mauna uliuli;  
Kona mauna ulupō.  
*Kona, of the green mountains;*  
*Kona of the dense forest.*  
North and South Kona, Hawai'i.  
[Pukui 1983:199, #1846]

Other 'ōlelo no'ēau offer insight into some of the cultural practices occurring in Kona. "Kona, po'oku'i" which translates to "Kona of the added head," cleverly articulates the farming practices that occurred in Kona by describing the imagery of a farmer carrying his/her load upon their shoulders (Pukui 1983:199, #1847). The other two 'ōlelo no'ēau regarding the named winds of Kona ('Ōlelo No'ēau #1467 and #1690), were shared previously in an earlier discussion; however, they are revisited here as pertinent to noting the cultural practices associated with Kona. As relayed in the

‘ōlelo no‘eau that describes the winds of Kona, the arrival of the ‘Eka wind meant the mobilization of fishermen in Kona who readied their canoes and headed out to their fishing grounds (Pukui 1983:159,182). Recounted in the ‘ōlelo no‘eau presented below are descriptions of the [farming and fishing practices](#) that are associated with the Kona Moku:

- 1847 Kona, po‘o ku‘i.  
*Kona of the added head.*  
Said of farmers of Kona, Hawai‘i, returning from the fields with a load on the shoulders and a child sitting atop the load.  
[Pukui 1983:199, #1847]
- 1467 Ka makani kūkulu pe‘a nui, he ‘Eka.  
*The ‘Eka, the wind that sets up the big sails.*  
When the ‘Eka wind blew in Kona, Hawai‘i, the fishermen sailed out to the fishing grounds.  
[Pukui 1983:159, #1467]
- 1690 Ke ‘Eka, makani ho‘olale wa‘a o na Kona.  
*The ‘Eka breeze of Kona that calls to the canoemen to sally forth to fish.*  
Refers to Kona, Hawai‘i.  
[Pukui 1983:182, #1690]

The following ‘ōlelo no‘eau are traditional sayings whose origin is tied to the study area of Keauhou and are descriptive of the characteristics of this ahupua‘a and its people. During background research, ‘ōlelo no‘eau associated with the Kahului, Waiaha, and Puapua‘a Ahupua‘a were not found.

- 1411 Ka ‘iole ‘aihue moa o Keauhou.  
*The chicken-stealing rat of Keauhou.*  
One who steals another’s sweetheart or mate. Any place name may be used, depending on where the “rat” is from.  
[Pukui 1983:153, #1411]
- 1682 Keauhou i ka ‘ihi kapu.  
*Keauhou, where strict kapu were observed.*  
Keauhou, Kona. This was the place where many of the highest chiefs resided and where Kamehameha III was born.  
[Pukui 1983:181, #1682]
- 1683 Keauhou, kai nehe i ka ‘ili‘ili.  
*Keauhou, where the sea murmurs to the pebbles.*  
Keauhou, Puna, Hawai‘i.  
[Pukui 1983:181, #1683]

The ‘ōlelo no‘eau compiled below are other traditional sayings associated with and descriptive of the broader district of Kona:

- 48 Aia i Kona i Honalo.  
*It is in Kona, in Honalo.*  
A play on *nalo* (lost). You’ve lost it and it is gone.  
[Pukui 1983:8, #48]

- 1072 Ho'okāhi no Hāwa'e, Iauhue Kona.  
*Only one Hāwa'e, and poisonous gourds grow all over Kona.*  
 In Kona, Hawai'i, a priest named Hāwa'e lived during the reign of Ehukaipo. In every important *heiau* in that district, an image named for this priest was kept. Many people were sacrificed to these evil namesakes of Hāwa'e.  
 [Pukui 1983:114, #1072]
- 1755 Ke kope ho'ohia'ā maka o Kona.  
*The coffee of Kona that keeps the eyes from sleeping.*  
 This saying applies not only to coffee, but also to love. To be in love with a person of Kona is to lose much sleep.  
 [Pukui 1983:188, #1755]
- 2046 "Mai hea mai 'oe?"  
 "Mai Kona mai."  
 "Pehea ka ua o Kona?"  
 "Palahī pua'a ka ua o Kona."  
 "A pehea ke aku?"  
 "Hī ka pā, hī ka malau,"  
 "Where are you from?"  
 "From Kona."  
 "How is the rain of Kona?"  
 "The rain of Kona pours like the watery excreta of a hog."  
 "How are the aku fish?"  
 "They run loose from the hook and the bait carrier."  
 Said in fun of one suffering from loose bowels. Once, a chief was out relieving himself when his bowels were very loose. A runner came by the little-traveled path through the underbrush and seeing the chief there extended his greetings. The chief began to ask questions, which the runner answered. When the chief went home he told those of his household of the sundance of rain and the run of fish in Kona. His servant, whose curiosity was roused, asked, "What were you doing at the time?" "I was excreting, and my bowels were loose," answered the chief. "He wasn't talking about the rain and fish," said the servant, "he was talking about you." The chief was angry when he heard this, but it was too late to do anything about it.  
 [Pukui 1983:222, #2046]
- 2469 O ko Kona mau no ia o ka la'i.  
*Calm is typical of Kona.*  
 Said of a Kona person who is always poised and calm.  
 [Pukui 1983:269, #2469]
- 2471 O Kona i ka paka 'ona—ke ha'u iho 'oe kūnewanewa.  
*Kona of the potent tobacco—a draw would make one stagger.*  
 Kona is said to be a land of potent lovemaking.  
 [Pukui 1983:270, #2471]
- 2645 Pili aloha o Kona, ho'oipo i ka mālie.  
*Love remains close to Kona, who woos the calm.*

Kona is a land beloved for its calm and pleasant weather.  
[Pukui 1983:290, #2645]

The remaining sayings listed below are a compilation of ‘ōlelo no‘eau associated with other ahupua‘a and wahi pana (storied places) located within the Kona Moku:

- 682 He Ke‘ei ‘oe no lalo lilo.  
*You are a person of Ke‘ei, from far below.*  
You are of no consequence. Two chiefesses peered into a pool together at Ke‘ei, in Kona, Hawai‘i. The reflection of the one from Hanauma appeared above that of the one from Ke‘ei, so she made this remark.  
[Pukui 1983:76, #682]
- 708 He kukāhi au, he wauke no Kūloli.  
*I stand alone, for I am a wauke plant of Kūloli.*  
A boast—“Like the lone wauke plant of Kūloli, I stand alone in my battles.” At Kūloli, in Kona, Hawai‘i, grew a lone wauke plant around which none other grew.  
[Pukui 1983:78-79, #708]
- 1636 Kau pō Kāneiahuea.  
*All night long rode Kāneiahuea.*  
Said of one who wastes time in useless effort. From the story of a man who started out from the inlet of Kāneiahuea, Kona, one night. Because he was unfamiliar with the place, he went back and forth all night without finding an outlet to the open sea. Similar to the saying *Na‘aupō wale o Kāneiahuea*.  
[Pukui 1983:176, #1636]
- 1730 Ke kai maka koholua o Keahole.  
*The sea of Keahole that pierces like the point of a koholua stick.*  
Keahole in Kona, Hawai‘i, is a cold place to swim.  
[Pukui 1983:186, #1730]
- 1841 Kona Honua-‘ino.  
*Kona, [the] Bad Land.*  
Said in humor of Kona, Hawai‘i, for within its boundaries is a place called Honua‘ino.  
[Pukui 1983:199, #1841]
- 2188 Moku ka ihu ia Hio la!  
*Bitten off is the nose by Hio!*  
Used by adults to frighten children into staying at home. Hio was an akua (ghost) who wandered about peering into the doors of homes and biting off the noses of those who annoyed him. He escaped when his companions were caught in a fishnet set by the supernatural hero Kamiki at Ku‘unaakeakua (Net-let-down-for-akua), Makalawena, Kona.  
[Pukui 1983:238, #2188]
- 2478 Ola aku la ka ‘āina kaha, ua pua ka lehua i kai.  
*Life has come to the kaha lands for the lehua blooms are seen at sea.*



"Kaha lands" refers to Kekaha, Kona, Hawai'i. When the season for deep-sea fishing arrived, the canoes of the expert fishermen were seen going and coming.

[Pukui 1983:271, #2478]

2515 O na hōkū o ka lani luna, o Pa'āiea ko lalo.

*The stars are above, Pa'āiea below.*

Refers to Kamehameha's great fishpond, Pa'āiea, in Kona, Hawai'i. Its great size led to this saying—the small islets that dotted its interior were compared to the stars that dot the sky. The pond was destroyed during a volcanic eruption.

[Pukui 1983:275, #2515]

2753 Pupuhi ka 'ulu o Ke'ei; ua koe ka 'a'aiole.

*The breadfruit of Ke'ei are gone; only those blown down by the wind are left.*

Said when something mysteriously vanishes. A *konohiki* of Ke'ei in Kona, Hawai'i, was placed in charge of a fine breadfruit grove. In spite of his watchfulness, the fruit were stolen as soon as they matured. Secretly he asked all of his relatives to help him watch for the culprit. However, some were related to the thief as well, who learned about the watch and evaded capture. Long after, a slip of the tongue revealed the thief.

[Pukui 1983:301, #2753]

2939 Wili i ke au wili o Kāwili.

*Swirled about by the swirling Kāwili.*

Said of a confusing, bewildering situation. Kā-wili (Hit-and-twist) is a current at Kalae, Kā'ū, Hawai'i, that comes from the Kona side and flows out to the ocean. It is the router of the two currents that meet off Kalae.

[Pukui 1983:320, #2939]

## No ka Ua - Regarding Rain

The intimacy developed by Kānaka 'Ōiwi (Native Hawaiians) in relation to the natural environment is evident in the practice of naming natural features, resources, and environmental elements. Hawaiians honored and celebrated the world around them by the careful, thoughtful, and intentionality of giving a name, and therefore, mana (authority or power) to a person, place or thing. Natural features of the landscape, oceanscape, and skyscape were observed intimately by those who were of, and frequented a place so deeply, that the particularities of the natural elements were understood and named affectionately to honor, describe, and celebrate its connection.

*Hānau Ka Ua* is a comprehensive publication that delves into the richness of rain names associated with various places throughout Hawai'i. The authors, Collette Leimomi Akana and Kiele Gonzalez, are Native Hawaiian scholars and teachers whose publication honors the unique rains of Hawai'i and the places they are associated with. Akana and Gonzalez further describe this intimacy specific to rain:

Our kūpuna had an intimate relationship with the elements. They were keen observers of their environment, with all of its life-giving and life-taking forces. They had a nuanced understanding of the rains of their home. They knew that one

place could have several different rains, and that each rain was distinguishable from another. They knew when a particular rain would fall, its color, duration, intensity, the path it would take, the sound it made on trees, the scent it carried, and the effect it had on people. [Akana and Gonzalez 2015:xv]

The collection of rain names included in *Hānau ka Ua* is often paired with a mele, or song, that references the rain and its association to a featured place. This section of the report utilizes Akana and Gonzalez’s work and the cited sources included in this publication in order to identify the rains associated with the study areas and the broader moku of Kona, Hawai‘i. Rain names specific to Kealakehe, Keahuolū, Pua‘a, Wai‘aha and Kahului Ahupua‘a of Kona were not identified during this background study; however, this is not to say that they do not exist. Named rains belonging to Puapua‘a Ahupua‘a and Keauhou Ahupua‘a as well as the broader region of Kona study were found and in listed in Table 1. The discussion that follows offers a narrative that describes the characteristics of each of the rains identified in this section so as to better understand the unique qualities and cultural significance they possess.

Table 1. Table of rain names associated with the Kona Moku of Hawai‘i.

| Ka Ua<br>The Rain | Ka Wahi<br>The Place | Nā Kūmole<br>References   |
|-------------------|----------------------|---|
| Palahī Pua‘a      | Kona, Hawai‘i        | Described as an “intermittent rain,” and translated to mean “pig diarrhea,” (Akana and Gonzales 2015:218,219).  |
|                   |                      | <p>“Mai hea mai ‘oe?”<br/>           “Mai Kona mai.”<br/>           “Pehea ka ua o Kona?”<br/>           “Palahī pua‘a ka ua o Kona.”<br/>           “A pehea ke aku?”<br/>           “Hī ka pā, hī ka malau.”</p> <p>“Where are you from?”<br/>           “From Kona.”<br/>           “How is the rain of Kona?”<br/>           “The rain of Kona pours like the watery excreta of a hog [palahī pua‘a].”<br/>           “How are the aku fish?”<br/>           “They run loose from the hook and the bait carrier.”<sup>71</sup><br/>           [Akana and Gonzales 2015:218]</p> |
|                   |                      | “Ka ua palahī pua‘a—falls, stops, falls, stops, etc.,” (Akana and Gonzales 2015:219). <sup>72</sup>   |

<sup>71</sup> Author notes: A traditional saying. Source: Pukui, *‘Ōlelo* 222. Note: Pukui says that this was “said in fun of one suffering from loose bowels,” (Akana and Gonzales 2015:218).

<sup>72</sup> Author notes: “From a list of rain names and their descriptions. Source Kelsey, “Rains,”” (Akana and Gonzales 2015:219).

| Ka Ua<br>The Rain | Ka Wahi<br>The Place | Nā Kūmole<br>References   |
|-------------------|----------------------|---|
| Kēhau             | Kona, Hawai'i        | Described as a dew and mist and is noted as both the name of specific rain and wind (Akana and Gonzales 2015:73).   |
|                   |                      | Indexed as a rain associated with Kona, Hawai'i (Akana and Gonzales 2015:316).  |
| Nāulu             | Kona, Hawai'i        | Described as a sudden shower and is noted as being also the name of a rain cloud and a wind (Akana and Gonzales 2015:187).  |
|                   |                      | <p>‘O Kona ia o ke kai malino a ‘Ehu ē!<br/>Ke ala a ‘Ehu, ke ala a kāua i hele ai<br/>I ke ao, i ka pō, pōwehiwehi i ka ua Nāulu a weli<br/>He weliweli, he maluhia i ke aloha iā ‘oe<br/>Iā ‘oe, iā ‘oe, e Kalopelekei i ka lā ē!</p> <p><i>Oh, Kona it is, of the tranquil sea of ‘Ehu, oh!<br/>The pathway of ‘Ehu, the path we two traversed<br/>By day, by night, made dim and threatening by the stormy<br/>Nāulu rains<br/>Frightful, but peaceful because of love for you<br/>For you, for you, O Kalopelekei of the day, oh!<sup>73</sup><br/>[Akana and Gonzales 2015:188,189]</i></p> |
|                   | Puapua‘a<br>Ahupua‘a | Indexed as a rain associated with Puapua‘a (Akana and Gonzales 2015:324).   |
| ‘Awa‘awa          | Kona, Hawai'i        | Described as a “bitter, cold, dark rain, vog, or smoke of the mountains; acidic rain;” and is noted as being the same as the ‘Awa rain and also the name of a wind (Akana and Gonzales 2015:17).  |
|                   |                      | Indexed as a rain associated with Kona, Hawai'i (Akana and Gonzales 2015:316).  |
|                   | Keauhou<br>Ahupua‘a  | Indexed as a rain associated with Keauhou (Akana and Gonzales 2015:315).  |
| ‘Awa              | Keauhou<br>Ahupua‘a  | Described as a “bitter, cold, dark rain, mist, fog, vog, or smoke of the mountains; acidic rain;” and is noted as being the same as the ‘Awa‘awa rain and also a name of a wind (Akana and Gonzales 2015:73).   |

<sup>73</sup> Author notes: “From a kanikau, or lament, for Kamehameha IV by his wife, ‘Emalani Kaleleonālani,” (Akana and Gonzales 2015:189).

| Ka Ua<br>The Rain | Ka Wahi<br>The Place | Nā Kūmole<br>References  |
|-------------------|----------------------|--|
|                   |                      | Indexed as a rain associated with Keauhou (Akana and Gonzales 2015:315).   |
| Kualau            | Keauhou<br>Ahupua‘a  | Described as a rain that showers over the seas and is accompanied by wind (Akana and Gonzales 2015:121).   |
|                   |                      | Indexed as a rain associated with Keauhou (Akana and Gonzales 2015:315).   |
| Nahunahu          | Keauhou<br>Ahupua‘a  | Described as a “pelting rain associated with Hawai‘i,” and translated to mean “to bite,” (Akana and Gonzales 2015:184).  |
|                   |                      | Indexed as a rain associated with Keauhou (Akana and Gonzales 2015:315).   |
| Noe               | Keauhou<br>Ahupua‘a  | Described as a fog and a mist that is “lighter than the uhiwai [heavy fog], but heavier than ‘ohu [mist, fog, vapor], ‘ehu [spray, foam, mist], and ‘ehu‘ehu [reduplication of ‘ehu];” and is noted as both a rain and wind, (Akana 2015:208). |
|                   |                      | Indexed as a rain associated with Keauhou (Akana and Gonzales 2015:315).   |

**Nāulu** is the rain associated specifically with **Puapua‘a Ahupua‘a**, as well as the general region of Kona (Akana and Gonzales 2015:324, 188-189). Nāulu is defined by Pukui and Elbert as a “sudden shower,” (Pukui and Elbert 1986:263). Not only is it noted as the name of a particular rain, Nāulu is also identified as the name of a shower cloud, a sea breeze, as well as a type of wind (Pukui and Elbert 1986:263; Akana and Gonzales 2015:187).

As a cloud or as rain, records reference many different characteristics that describe the type of rainfall and patterns typical of a Nāulu rain. Kānaka ‘Ōiwi and renowned historian, David Malo wrote that the Nāulu rain is strong in intensity but short in duration. He characterized the rain as: “He ua Nāulu he ua ‘uku ia, he ikaika na‘e.” “A Nāulu rain, a brief rain, though it is intense,” (Malo in Akana and Gonzales 2015:206; translated by Akana and Gonzales). The short and sudden characteristic that Malo described the Nāulu rain to be is also mirrored by another one of Hawai‘i’s noted historians, Samuel Mānaiakalani Kamakau. Published in the Hawaiian language newspaper, *Ke Au Okoa* in 1869, Kamakau shared an account regarding traditional cultivation methods of ‘uala (*Ipomoea batatas* or sweet potato) in which he acknowledged the Nāulu rain:

He ua Nāulu ka ua e loa‘a i ka Makali‘i, he ua kūhewa ia, aia ma kona wahi e hā‘ule ai, ua ulu ka laulele, ka pōpolo, a ua ola ia wahi i ka lau nāhelehele. [Kamakau 1869:1]

*Sudden showers (ua Nāulu) fall during the Makali‘i season. These are rains accompanied by wind gusts, and where they fall, laulele and pōpolo plants spring up, and that place comes to life with wild growth.*  
[Translated by Akana and Gonzales 2015:206]

According to Kamakau, Nāulu is again referred to here as a shower that arrives suddenly—he ua kūhewa, (Kamakau 1869:1). What is also detailed in this account is that this particular rain is often joined by wind; and with it, entices the ‘āina the rain falls upon to sprout with vegetation such as laulele (*Asclepias curassavica* or butterfly weed), pōpolo (*Solanum nigrum*), and other wild growing flora. Other accounts offer similar depictions of the life brought with the coming of the Nāulu rain as it falls upon the earth. A mele ho‘āeae or love chant poetically references the Nāulu rain as a rain that softens the forest:

He ipo aloha na‘u ka nani o Kūki‘i e waiho nei  
 I Iohia ‘ia mai e nā lehua o Hōpoe, ‘au i ke kai  
 Ke ka‘ika‘ikū ‘ia maila a Kalanamaihihi  
 Hikiwawe ka hana a ka ua i ka nahele  
 Ke ho‘owali ‘ia maila e ka ua Nāulu  
 Kū helahela ke kula o Kamā‘oa, nōpu i ka lā  
 [Pukui 1995:76 in Akana and Gonzales 2015:205]

*Kukuni wela i ka ‘ili o ka malihini  
 The beauty of Kūki‘i, my intimate lover, lies there  
 Sparkling from the lehua of Hōpoe, reaching out into the sea  
 Carried about until arriving at Kalanamaihihi  
 The rain works hastily upon the forest  
 Softened by the Nāulu rain  
 The plain of Kamā‘oa is extensive, heated by the sun  
 That scorches the skin of newcomers  
 [Translated by Akana and Gonzales 2015:205]*

A chant entitled, “Hau Kalani,” offers the imagery of the Nāulu rain as a rain that makes the land glisten: “He ‘ā, he ha‘iha‘i pua, he Nāulu kaupua liko moku.” “A booby bird, a flower breaker, a Nāulu rain cloud that gathers, making the land glisten,” (Fornander 1916-1920:381 in Akana and Gonzales 2015:205; translated by Akana and Gonzales).

A mele inoa or name chant for the chief, Kūali‘i, describes the Nāulu rain as the rain that carries the kēhau mist:

|                          |   |
|--------------------------|---|
| ‘A‘ole i like i ka Nāulu | <i>Unlike the Nāulu shower</i>            |
| Ia ua ho‘ohali kēhau     | <i>The rain that bears the kēhau mist</i> |
| Me he ipu wai i ninia lā | <i>Like a water gourd that was poured</i> |
| Nā hau o Kūmomoku        | <i>Upon the hau trees of Kūmomoku</i>     |

[Na Mele Aimoku 2001:94; translated by Akana and Gonzales 2015:204-205]

The accounts shared above each characterizes Nāulu as a rain that brings life to the ‘āina. As Kamakau recalled, ‘uala and other native wild flora began to sprout as a result of the Nāulu rain (Kamakau 1869:1). Pukui described it as a rain that softens the forest (Pukui 1995:76 in Akana and Gonzales 2015:205). Fornander wrote of a chant that described the Nāulu rain as a rain that makes the land glisten, while another chant described it as a rain that carries mist (Fornander 1916-1920:381 in Akana and Gonzales 2015:205; translated by Akana and Gonzales; Na Mele Aimoku 2001:94; translated by Akana and Gonzales 2015:204-205).

In the mo'olelo of Kamapua'a, compiled and translated by Lilikalā Kame'eiehiwa, Nāulu is recounted as a body form of one of Hina's daughter, named Leialoha. When she is born, the body manifests into rain, which is identified as Kauanāulu, meaning, the Nāulu rain:

Ua hāpai a'ela 'o Hina... 'O ka 'ehā o nā keiki i hānau mai ai, he kaikamahine, 'o ia ho'i 'o Leialoha. A i ka manawa i nui ae ai 'o ia kaikamahine, ua lele akula 'o ia i ka lani, a lilo kona kino he kino ua, a ua kapa 'ia 'o Kauanāulu.  
[Kame'eiehiwa 1996 in Akana 202-203]

*Hina was pregnant... The fourth child born was a daughter, Leialoha. And when this girl grew up, she flew into the sky, and her body took the form of rain, and it was called Kauanāulu.*  
[Translated by Akana and Gonzales 2015:202-203]

'Awa, 'Awa'awa, Kualau, Nahunahu, and Noe are rains associated with the [Keauhou Ahupua'a](#). The rains, 'Awa and 'Awa'awa, are the same type of rains that vary in its naming. Both rains are described to mean, "bitter, cold, dark rain, vog, or smoke of the mountains; acidic rain," (Akana and Gonzales 2015:17,73). Metaphorically, this type of rain is used to convey emotions of grief and tragedy and speak towards hardships of misfortune (Akana and Gonzales 2015:17; Pukui and Elbert 1986:33).

Pukui categorizes the 'Awa rain as a "cold mountain rain." Similarly, Malo described the various rains of Hawai'i and of 'Awa, he wrote: "He ua 'awa, ma ka mauna ia ua." (*An 'awa rain, this rain falls on the mountains*), (Malo 1951:14 in Akana and Gonzales 2015:15). The characterization of the 'Awa rain as rain associated with the mountains is also seen in a 1866 newspaper article titled "Manao Wehewehe" that was written by an individual named L. Z. E. Kalaaukumuole:

Ua 'Awa—He ua kēia ma ka mauna, he ua 'awa, he ua li'ili'i, 'o ke ehū wale nō; 'a'ole i loku 'o ka ua, 'o ke po'o ke kuakea me he kanaka po'o hina lā, he ua po'o nui o ke kuahiwi, 'o ke anu na'e ka mea nui, no laila mai kēia inoa ua 'Awa, he ua noe.  
[Kalaaukumuole 1866:3]

*'Awa rain—This is a rain in the mountains, a bitter rain, a fine rain; it is only mist; it doesn't pour down; the head is white like a gray-haired man, a troublesome "po'o nui" rain in the mountains, though the cold is the main problem, and therefore this name, ua 'Awa, a misty rain.*  
[Translated by Akana and Gonzales 2015:14]

The 'Awa rain is also associated with possessing a station of high rank and divinity. The 'ōlelo no'ēau, "He lupe lele a pulu i ka ua 'awa" is translated by Pukui as, *A kite that flies till it is dampened by icy cold [awa] raindrops*, (Pukui 1983:85, #775). The phrase is interpreted by Pukui as being descriptive of someone "whose station has risen very high," (Pukui 1983:85). In the mo'olelo of Keaomelemele, recorded by Hawaiian historian Moses Manu, the birth of Hina's child is detailed. During the birth, many hō'ailona or signs telling of the child's high rank and kapu (scaredness) were observed. Among them was the downpour of the 'Awa rain:

I ka manawa i 'ike maopopo loa 'ia a'e ai ua hāpai 'o Hina, ua noho aku lāua ma ia 'ano a kokoke i nā lā nahunahu hānau keiki, ua 'ike 'ia nā 'ōuli o ka lani a me nā ao polohiwa e ha'akokōhi ana i loko o ka lewa nu'u, a ke ho'okūkū maila nā 'ōpua i ka 'ili o ke kai, a ke 'ōkūkū maila nā 'ale kūpikipiki'ō o ka moana, a ke ne'e pa'a a'ela ka 'ohu e uhi i nā awāwa a me ka piko o nā mauna, a ke 'ane'ane maila 'o

Kūlanihāko‘i e ho‘ohanini iho i kona wai lani, a ‘ike ‘ia akula ka lalapa o ka uila i ka lewa, a ke lohe ‘ia akula nā leo pohāpohā nunulu o ka hekili e nākolo ana i ka honua, aia ho‘i nā ānuenuē ke ha‘aheo maila i loko o nā kilihune ua ‘awa, ka ua koko ho‘i ke ha‘aheo maila ma nā awāwa i luna o nā lau lā‘au, “me he ua ‘Ulalena lā no Pi‘iholo e kīhe‘ahe‘a ana i kukui o Liliko‘i.”  
[Manu 2002:8]

*When it became clearly known that Hina was pregnant, the two of them waited together, and when the days of birth pangs approached, the omens were seen in the heavens: there were dark, heavy clods pressing on the skies above, and the billowing clouds were heaped upon the surface of the sea, while the wild swells of the ocean rose on high, the sea spray blanketed the valleys and the mountain tops, and Kulanihako‘i was nearly read to overflow its heavenly waters when the flashes of the lighting were seen in the sky, and the rumbling roar of the thunder was shaking the earth, then the rainbows appeared proudly in the droplets of the Awa rain, and the red rainbow patches showed their glory over the tree tops of the valley, “like the Ulalena rain of Pi‘iholo, streaking the kukui leaves of Liliko‘i.”*  
[Translated by Pukui in Manu 2002:100]

As noted previously, this particular rain is also noted as being a vog. Amongst the many sources compiled by Akana and Gonzales in their comprehensive inventory of rain names, the authors share a segment of an oral interview between two native speakers, Hilda Hoohila Kawelo and Clinton Kanahēle in 1970 (Akana and Gonzales 2015:15-17). In their discussion, Kawelo describes ‘Awa as a fog and its association with Pele. She also shares with him an oli which references the ‘Awa fog. Their conversation is as follows:

Kawelo: Hele mai ‘o Pele mai Kahiki. Kona manawai i hele mai ai, hele mai nō ka ua. Hele mai ka ua Noe me ka ua ‘Awa. He aha ia mea he ua ‘Awa? Maopopo anei iā ‘oe?  
*Pele came from Kahiki. When she arrived, so too came the rain. The Noe rain and the ‘Awa rain came. What is this thing known as an ‘Awa rain? Do you know?*

Kanahēle: ‘A‘ole.  
No.

Kawelo: ‘Ae, ka ua ‘Awa, ‘o ia nō ka uahi.  
*The ‘Awa rain, it is smoke.*

Kanahēle: Oh.

Kawelo: Ka uahi o kēlā ahi, o kēlā, no ka mea, he ahi ho‘i ‘o ia i hele maila. Kēlā uahi e pōhina nei ka ‘āina āna i hele mai nei, e ‘ike ‘ia aku nei i ka maka o nā keiki a kānaka, mea, inā ‘oe e honi i kēlā, ‘ano, mea, pōniuniu nō ‘oe.  
*The smoke of that fire, of that, because she came as fire. That smoke that creates a haze over the land she came to, that is seen and felt by the eyes of the children of men, if you were to inhale that, you would get dizzy.*

Kanahēle: Ua ‘Awa kēlā?

That's the 'Awa rain?

Kawelo: Ka ua 'Awa ho'i ia. Kēlā ua, 'a'ole 'oe pulu. 'A'ole 'oe pulu i kēlā 'Awa.  
*The 'Awa rain, indeed. That rain, you don't get wet. You don't get wet from that 'Awa.*

Kanahele: He hanu wale nō 'oe i kēlā ua.  
*You just inhale that rain.*

Kawelo: 'Ae, hanu wale nō. "Hele mai 'o Pele mai Kahiki, hele mai ka ua 'Awa me ka ua Noe. Uhi a'ela, pa'a nā pali pa'a o Kahiki, 'akahi ka hikina 'ana mai o kō aloha ia'u."  
*Yes, it is just inhaled. "Pele came from Kahiki; the 'Awa rain and the Noe rain came; completely smothering the cliffs of Kahiki; your love has finally reached me."*

Kanahele: He hīmeni kēlā?  
*Is that a song?*

Kawelo: 'Ae, he olioli ho'i paha.  
*Yes, an olioli chant.*


Kanahele: He olioli?  
*An olioli?*

Kawelo: 'Ae, he olioli kēlā.  
*Yes, it is an olioli.*

Kawelo [e olioli ana]: He mai 'o Pele mai Kahiki  
Hele mai ka ua 'Awa me ka ua Noe  
Uhi 'ia a'ela, pa'a nā pali pa'a o Kahiki  
'Akahi ka hikina 'ana mai o kou aloha i o'u nei  
E Kalani mā ē  
E iho koke mai i lalo nei  
I maha a'e au  
E Kāne mā ē  
'Oki 'ia ka lili, ka inaina o lākou nei lā ē  
'Ae

Kawelo [chanting]: *Pele came from Kahiki  
The 'Awa rain and the Noe rain came  
Completely smothering the cliffs of Kahiki  
Your love has finally reached me  
O Heavenly One and company  
Come quickly down here  
That I may be at ease  
O Kāne and company  
End their jealousy and rage  
Yes*






**Kualau** is another rain associated with the Keauhou ahupua‘a (Akana and Gonzales 2015:121). When referring to the kualau rain, Malo wrote: “He ua kualau, ma ka moana ia ua.” *A kualau rain, this rain occurs at sea.* (Malo 1951:14).

**Nahunau** means “to bite,” and is characterized as a pleting rain associated with Keauhou (Akana and Gonzales 2015:184). **Noe**, is another rain of Keauhou that is also referred to as Noenoe (Akana and Gonzales 2015:208). Noe is the name of a specific type of rain as well as a general term for mist, fog, vapor, or rain (Pukui and Elbert 1986:268).

Palahī Pua‘a, Kēhau, Nāulu, and ‘Awa‘awa are rains associated with the general **Kona Moku** of Hawai‘i. **Nāulu** was described previously as a rain and a cloud also associated with the Puapua‘a Ahupua‘a. Malo characterized it as a sudden rain of strong intensity and Kamakau provided a description of Nāulu rainfall that was associated with ‘uala cultivation and the sprouting of wild native flora (Malo in Akana and Gonzales 2015:206; Kamakau 1869:1). Several chants reviewed noted that Nāulu is a “rain that softens the forest,” a “rain that makes the land glisten,” and a “rain that carries the kēhau mist,” (Pukui 1995:76 in Akana and Gonzales 2015:205; Fornander 1916-1920:381 in Akana and Gonzales 2015:205; Na Mele Aimoku 2001:94 in Akana and Gonzales 2015:204-205).



Similarly, the **‘Awa‘awa** rain was previously identified and discussed as a rain associated with the Keauhou Ahupua‘a. As noted, its overall characteristics is a dark rain or fog most commonly associated with the mountain regions. Metaphorically, it can be associated with hardships and misfortunes.

**Palahī Pua‘a** is a rain exclusively associated with the Kona Moku. Its name literally translates to mean “pig diarrhea” and is described as a rain that “falls and stops, falls and stops,” (Akana and Gonzales 2015:218-219). **Kēhau** is another rain of Kona and is also recorded as a dew and misty and is described to be “a cold fine rain floating in the air, mostly in the mountainous regions,” (Akana and Gonzales 2015:76).

## Nā Hana a ke Kupa ‘Āina – Summary of Traditional and Customary Practices

This section highlights the traditional and customary practices noted to occur within the project area ahupua‘a and the larger landscape of Kona Akau that have originated from the select mo‘olelo and ka‘ao presented in this report. These practices emphasize the generations of kupa ‘āina (native of the land) in Kona Akau who maintained a deep pilina with the vast natural and cultural resources of this ‘āina. The cultivation of the land and sea, and the gathering and utilization of freshwater resources that originate from the storied places of this ‘āina, have, and continue to feed Kona’s community physically and spiritually. These practices are a testament to the enduring legacy of Kona Akau and reaffirm the right for Kānaka ‘Ōiwi to actively maintain traditional and customary practices in these spaces today.

As is recorded in the last paukū or stanza of He Mele no Kāne—he wai e ola! Water is life. The source of all things is wai. The same is true for this report as the focal point of this study is centered around wai and the way in which the movement and presence of freshwater experienced in Kona Akau has influenced the culture, practices, and lifestyle of the community who cherish this ‘āina. Examining the influence of freshwater within Kona emphasizes the importance it imparts to the well-being of both the ‘āina it nourishes as well as the people who benefit from it. Thus, the protection of freshwater and the proper management of it is of utmost importance.

To frame this discussion, He Mele no Kāne is reflected upon to highlight the many manifestations of water sources that surface when analyzing the select mo‘olelo and ka‘ao presented in this report associated with Kona. The perseverance of mo‘olelo captures valuable knowledge sets relaying traditional practices, resources, and cultural lessons. Each of the mo‘olelo shared in this report impresses the underlying fact that Kona is not to be thought of as a place absent of water. Rather, as expressed and reiterated in He Mele no Kāne, the life-giving waters of Kāne are indeed present in all ways. *Aia i ka hikina a ka lā... A i lalo, i ka honua...* From the rising of the sun, to the aquifers that rest beneath the earth, wai is everywhere. The lessons learned in He Mele no Kāne transcends the barriers of time and resonates today as much as it did when first composed. The framing of this discussion presented in this way is intended to elevate a holistic understanding of water resources within the study areas, while also highlighting some of the traditions and practices revealed in the reflection of mo‘olelo.

He ui, he nīnau:  
E ui aku ana au iā ‘oe,  
Aia i hea ka Wai a Kāne?

*A query, a question,  
I put to you  
Where is the water of Kāne?*

### Cloud Formations

The first paukū of He Mele no Kāne establishes that freshwater can be found at the rising of the sun.

He ui, he nīnau:  
E ui aku ana au iā ‘oe,  
Aia i hea ka Wai a Kāne?

*A query, a question,  
I put to you  
Where is the water of Kāne?*

Aia i ka hikina a ka Lā  
Puka i Ha‘eha‘e,  
Aia i laila ka Wai a Kāne.

At the Eastern Gate  
Where the Sun comes in at Ha‘eha‘e,  
There is the water of Kāne.

“Aia i ka hikina a ka lā, puka i Ha‘eha‘e.” At the Eastern Gate, where the sun comes in at Ha‘eha‘e. The poetic references that introduce the sun as a source of water is an example of the deep intellect Kānaka ‘Ōiwi possessed having understood the sun’s role in creating water vapor—an essential step in the water cycle. The heat that radiates from the sun is the mechanism that enables liquid water to turn into water vapor, which is recognized universally as the process called evaporation. The water vapor that is created by the heat of the sun rises to the atmosphere and as it cools, the vapor condenses to eventually create clouds. The clouds then produce rain that will fall and recharge the honua—continuing the cycle of water. As is documented in the first paukū of the chant, the role the sun plays in radiating heat and creating the appropriate fluctuating temperatures for these atmospheric changes to occur is critical in the movement of water.

The second paukū of the chant describes the transition of water that began from the sun, now evolved into clouds. Thus, freshwater is found in the clouds.

E ui aku ana au iā ‘oe,  
Aia i hea ka Wai a Kāne?  
Aia i Kaulana a ka lā,  
I ka pae ‘ōpua i ke kai,  
Ea mai ana ma Nihoa,  
Ma ka mole mai o Lehua;  
Aia i laila ka Wai a Kāne.

A question I ask of you  
Where is the water of Kāne?  
Out there with the floating Sun,  
Where the cloud-forms rest on ocean’s breast,  
Uplifting their forms of Nihoa,  
This side the base of Lehua;  
There is the water of Kāne.

Specifically the chant recalls that wai is found, “I ka pae ‘ōpua i ke kai.” Where the cloud-form rests on ocean’s breasts. An ‘ōpua cloud is a cumulus or billow cloud that Pukui describes as “puffy clouds, as banked up near the horizon, often interpreted as omens,” (Pukui and Elbert 1986:293). This particular type of cloud is associated with interpreted omens as well as its ability to carry and release freshwater in the form of rain. Several ‘ōlelo no‘eau encapsulate this cultural understanding of ao ‘ōpua (cumulus clouds):

- 7 Aia i ka ‘ōpua ke ola: he ola nui, he ola laulā, he ola hohonu, he ola ki‘eki‘e  
*Life is in the clouds: great life, broad life, deep life, elevated life.*  
The reader of omens knows by their shape and color whether clouds promise rain and prosperity, or warn of disaster.  
[Pukui 1983:7, #42]
- 356 E nānā ana i ka ‘ōpua o ka ‘āina.  
*Observing the horizon clouds of the land.*  
Seeking to discover future events by observing the cloud omens.  
[Pukui 1983:43, #356]
- 1907 Kūkulu ka ‘ike i ka ‘ōpua.  
*Knowledge is set up in the clouds.*  
Clouds are observed for signs and omens.  
[Pukui 1983:205, #1907]

- 2328 Noho no ke kanaka a ka **lā mālie**, kau ka ipu **hōkea** o ka lawai‘a, **nānā** ana i ka ‘**ōpua**.  
*A person waits for a clear day, sets up the gourd that holds the fisherman's paraphernalia, and observes the clouds.*  
 To a fisherman, a clear day, his tools, and the signs and omens seen in the clouds are important.  
 [Pukui 1983:253, #2328]
- 2482 Ola i ka wai a ka ‘**ōpua**.  
*There is life in the water from the clouds.*  
 Rain gives life.  
 [Pukui 1983:271, #2482]
- 2487 Ola na ‘ilima wai ‘ole i ke ao ‘**ōpua**.  
*Healed are the ‘ilima of waterless places by the rain cloud.*  
 [Pukui 1983:272, #2487]

The ‘ōlelo no‘eau presented below are traditional expressions regarding ao ‘ōpua that are distinct to the Kona Moku and the study areas.

- 55 **Aia ka wai i ka maka o ka ‘ōpua**.  
*Water is in the face of the ‘ōpua clouds.*  
 In Kona, when the ‘ōpua clouds appear in the morning, it’s a sign that rain is to be expected.  
 [Pukui 1983:9, #55]
- 232 **Ao ‘ōpiopio**.  
*Young cloud.*  
 A cloud that rises from sea level or close to the cloud banks and is as white as steam. When seen in Kona, Hawai‘i, this is a sign of rain.  
 [Pukui 1983:27, #232]
- 2134 **Māmā Kona i ka wai kau mai i ka maka o ka ‘ōpua**.  
*Kona is lightened in having water in the face of the clouds.*  
 Kona is relieved, knowing that there will be no drought, when the clouds promise rain.  
 [Pukui 1983:232, #2134]

Revealed in these ‘ōlelo no‘eau is the knowledge that one of Kona’s distinct sources of freshwater rests in the ‘ōpua clouds. For this reason, knowing that the presence of ao ‘ōpua may bring rain, the practice of **nānā ao** (observing clouds) or **kilokilo** (to observe and forecast) are significant practices carried out by the natives of Kona in order to understand the nuances of their environmental seasons and inform their work.


The mo‘olelo concerning Pu‘uokaloa described this practice and its significance to informing when other practices for the people of Kona should occur. Kihe described Pu‘uokaloa as a hill situated between Kealakehe and Keahuolū (Kihe 1923:2). When the people of Kona saw clouds over Pu‘uokaloa, the kama‘āina of the area understood it as a sign of rain and readied their lands to take advantage of the bounty the rain would bring. In this perspective, the presence of clouds over Pu‘uokaloa is an environmental indicator of rain for those of Kona. Informed by the movement of clouds observed over Pu‘uokaloa, paired with being attentive to the natural cycles

and seasons of their environment, Kihe recounts that kama'āina understood this as a sign to make the necessary preparations to plant 'uala patches (Kihe 1923:2). Specifically, Kihe writes that the people of this region utilized a makawela style of 'uala planting. This style of planting involves slashing and burning the land before planting (Pukui and Elbert 1986:228). The notion of 'uala cultivation practices that occurred in Kona is also revealed in the mo'olelo of Ka-Miki. At a place called Niūmalu in the Puapua'a Ahupua'a, a māla 'uala is said to stretch throughout Puapua'a. This 'uala garden is described as the place where Ka-Miki's opponents go to recover and sleep after being defeated by the young boy (Wise and Kihe 1914-1917 in Maly 1999:12).

From the mo'olelo and 'ōlelo no'eau reviewed, several practices are revealed to occur in the study area: [nānā ao or kilokilo of clouds](#), ['uala cultivation](#), and specifically, [makawela method of cultivation](#).

## Forests and Streams

The third paukū in He Mele no Kāne describes that wai can be found in the upland areas.

|  |  |
|--|--|
|  <p>E ui aka ana au iā 'oe,<br/>Aia i hea ka Wai a Kāne?<br/>Aia i ke kuahiwi, i ke kualono,<br/>I ke awāwa, i ke kahawai;<br/>Aia i laila ka Wai a Kāne.</p> | <p><i>A question I ask of you<br/>Where is the water of Kāne?<br/>Yonder on mountain peak, on the ridges steep,<br/>In the valleys deep, where the rivers sweep;<br/>There is the water of Kāne.</i></p> |
|--|--|


"Aia i ke kuahiwi, i ke kualono. I ke awāwa, i ke kahawai..." *Yonder on the mountain peak, on the ridges steep, in the valleys deep, where the rivers sweep...* These lines of the chant speak to freshwater being found throughout the 'āina and specifically in the upland forests, valleys, and streams.

In several mo'olelo shared in this report, the individuals of the stories ventured in the mountains and discovered wai. In "He Ka'ao no ka Manu 'Elepaio," which was published in *Ka Hoku o Hawaii* in 1862, the author tells the story of a man named Pi'iwai who traveled ma uka with his huwai (water calabash) in the forests of Kahului Ahupua'a to collect wai (S. W. K. 1862:1). The [practice of gathering freshwater](#) is revealed in this mo'olelo.

In the story of Kepaka'ili'ula which appeared in *Ka Hoku o Hawaii* from 1919 through 1920, Kepaka'ili'ula and his uncles journeyed in the uplands of Kahulu'u and there they found water in the form of springs. During this chapter of the mo'olelo, the author noted that the great banana plantation of the ali'i, Kaho'oali'i was there as well (Malo 1919-1920 in Maly 1997:25-26). This cultivated area of mai'a (banana) was said to stretch from Kaumalumalu-Kāpala'alaea to Ke'ei (Malo 1919-1920 in Maly 1997:25). The mention of there being a large banana plantation dedicated to an ali'i, indicates [agriculture practices](#) to occur in Kahalu'u Ahupua'a, and specifically, [mai'a cultivation](#).

In the mo'olelo of Ka-Miki, while he and his brother are journeying through Kona, the author offers descriptions of the various places they travel through. Regarding the Wai'aha and Kahului Ahupua'a of Kona, Ka-Miki is said to travel past a [stream](#) that connects the two ahupua'a. The translated excerpt reads:

...the stream of Wai'aha joins with the lands of Kahului. The waters filled the upland taro mounds of the sacred prostration chiefs Kalei'eha, Kapahu (or Kapahu-a-Lo'i), and Ka'alaea, who possessed the kapu (restrictions) of Lono-



Makahiki... There too, you see — ka luawai ua kīpapa ‘ia i ka pōhaku ‘alā e ulu pōhai ‘ia e nā lā’au loulu, o ka punawai i ka o’io’ina pali o Waiakekea — a spring paved with dense [‘alā] stones and surrounded by loulu palms, this is the spring of Wai-a-Kekea, which was near the trail side resting place... (IN Ka Hōkū o Hawai‘i, April 9, 1914; Maly translator)  
[Wise and Kihe 1914-1917 in Maly 1998:3]

This stream is said to feed pu‘epu‘e or mounds of kalo, indicating that agriculture practices of [kalo cultivation](#) would have occurred in this area of Wai‘aha and Kahului.

Though not located in the upland forests, but still located on ‘āina, the mo‘olelo of Kepaka‘ili‘ula describes a [niu grove](#) of Kona associated with Helani (Malo 1919-1920). This grove is also mentioned in the ‘ōlelo no‘eau, “[Ka wai puka iki o Helani.](#)” *The water of Helani that comes from a small opening*, (Pukui 1983:179, #1661). Pukui states that this expression refers to “Helani, Kona, Hawai‘i. Here a coconut grove thrived, and from a small opening in the shell of the nut one could get water to drink,” (Pukui 1983:179). Culturally, coconuts are recognized as a source of freshwater as one could nourish their quench with water derived from the shells of coconuts. This understanding is conveyed in the ‘ōlelo no‘eau, “[Ka wai lewa i ka makani.](#)” *The water that sways in the breeze*, (Pukui 1983:179, #1656). Here, Pukui interprets this saying as “the coconut, which contains water and is found in clusters high up in the tree,” (Pukui 1983:179). The mo‘olelo of Kepaka‘ili‘ula and the accompanying ‘ōlelo no‘eau reveal that the [niu grove of Helani](#) is a resource that produces viable [drinking water](#).

From the mo‘olelo and ‘ōlelo no‘eau reviewed, water in the form of [streams](#), as well as [drinking water](#) derived from the [niu grove of Helani](#) come to surface. Practices associated with these accounts convey that the practice of [gathering freshwater](#), [agricultural practices](#), [mai‘a cultivation](#), and [kalo cultivation](#) occurred in the study areas.

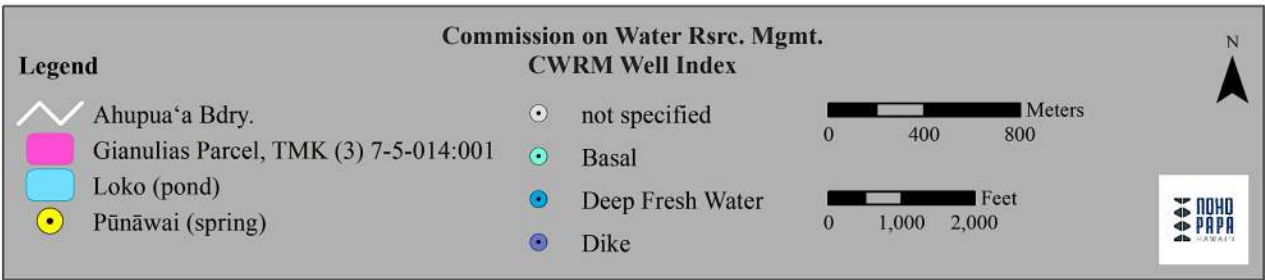
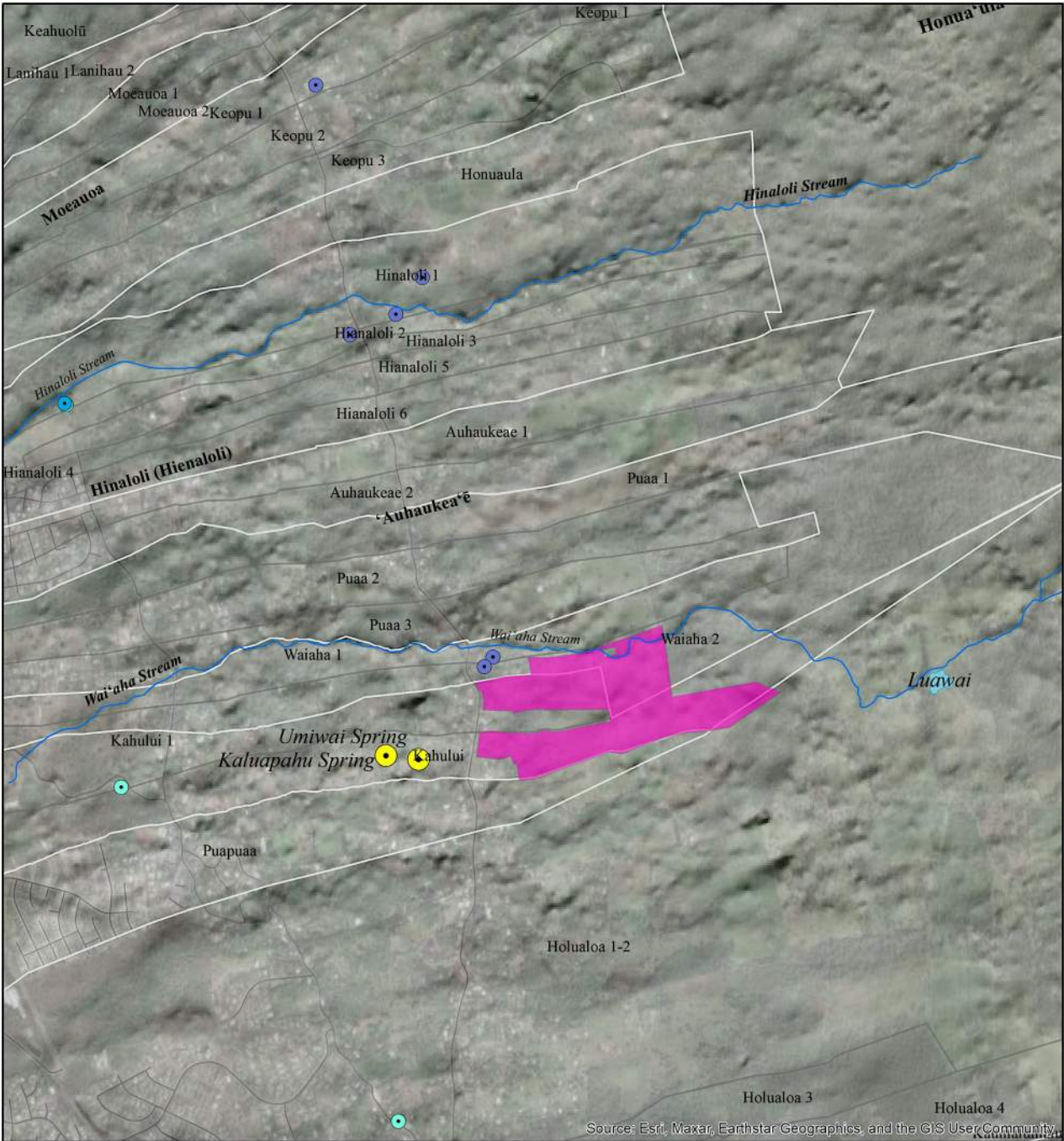


Figure 14. Wai (water) resources within and surrounding the Gianulias parcel

## Rains

The fourth paukū of the chant expresses that water is found out at sea and in the rains, rainbows, and mists.

E ui aku ana au iā ‘oe,  
Aia i hea ka Wai a Kāne?  
Aia i kai, i ka moana,  
I ke kualau, i ke ānuenuē,  
I ka pūnohu,  
i ka uakoko,

*A question I ask of you  
Where is the water of Kāne?  
Yonder at the sea, on the ocean,  
In the driving rain, in the heavenly bow,  
In the piled-up mist wraith,  
In the blood red rainfall*

A Kona expression conveys the pleasant feeling when rain visits the ‘āina of Kona—“*Me he makamaka la ka ua no Kona, ke hele la a kipa i Hanakahi.*” *The rain is like a friend from Kona—it goes and calls on Hanakahi,* (Pukui 1983:234-235, #2154). Palahī Pua‘a, Kēhau, Nāulu, and ‘Awa‘awa are rains associated with the general Kona Moku of Hawai‘i. ‘Awa, ‘Awa‘awa, Kualau, Nahunahu, and Noe are rains associated with the Keauhou Ahupua‘a. Nāulu is the rain associated specifically with Puapua‘a Ahupua‘a.

- **Palahī Pua‘a** is a rain exclusively associated with the Kona Moku. Its name literally translates to mean “pig diarrhea” and is described as a rain that “falls and stops, falls and stops,” (Akana and Gonzales 2015:218-219).
- **Kēhau** is another rain of Kona and is also recorded as a dew and misty and is described to be “a cold fine rain floating in the air, mostly in the mountainous regions,” (Akana and Gonzales 2015:76).
- **Nāulu** is described as a rain and a cloud associated with the Puapua‘a Ahupua‘a and the general Kona Moku. Malo characterized it as a sudden rain of strong intensity and Kamakau provided a description of Nāulu rainfall that was associated with ‘**uala cultivation** and the sprouting of wild native flora (Malo in Akana and Gonzales 2015:206; Kamakau 1869:1). Several chants note that Nāulu is a “rain that softens the forest,” a “rain that makes the land glisten,” and a “rain that carries the kēhau mist,” (Pukui 1995:76 in Akana and Gonzales 2015:205; Fornander 1916-1920:381 in Akana and Gonzales 2015:205; Na Mele Aimoku 2001:94 in Akana and Gonzales 2015:204-205). The Nāulu rain is also referred to in the mo‘olelo of Kepaka‘ili‘ula when he offers a mele kānaenae to Mākole‘ā:

Kau iluna ka wai a ka Nāulu  
‘Alohi ‘ula i ka pali o Koholālele e  
Lehulehu i ka luna o Koa‘ekea a  
Pa‘a pono mai Kona i ka ehū a ke kai a  
Kīpū lua i ke one o Kaiakeakua  
He akua ka hoa he ‘ike ‘ole mai e  
‘Auwe ka mea aloha oia la e ho‘i a!  
*The Nāulu showers which are placed above  
Appear to glow red in the light on the cliff of Koholālele  
Indeed, the multitudes are gathered at the heights of Koa‘ekea  
But Kona is firmly embraced by the sea mists  
And there is two-fold calm upon the shore of Kaiakeakua  
A god [-chief] is the companion which is not seen  
But here is one that can indeed be cherished!*



- **Kualau** is a rain associated with the Keauhou ahupua‘a (Akana and Gonzales 2015:121). When referring to the kualau rain, Malo wrote: “He ua kualau, ma ka moana ia ua.” *A kualau rain, this rain occurs at sea.* (Malo 1951:14).
- **Nahunau** means “to bite,” and is characterized as a pleting rain associated with Keauhou (Akana and Gonzales 2015:184).
- **Noe** is a rain of Keauhou that is also referred to as Noenoe (Akana and Gonzales 2015:208). Noe is the name of a specific type of rain as well as a general term for mist, fog, vapor, or rain (Pukui and Elbert 1986:268).
- **‘Awa** is a rain of Keauhou and is described by Pukui as a cold mountain rain (Pukui and Elbert 1986:33) Malo wrote: “He ua ‘awa, ma ka mauna ia ua.” (*An ‘awa rain, this rain falls on the mountains*), (Malo 1951:14 in Akana and Gonzales 2015:15). Metaphorically, this type of rain is used to convey emotions of grief and tragedy and speak towards hardships of misfortune (Akana and Gonzales 2015:17; Pukui and Elbert 1986:33). This rain is also associated with being of high rank and divinity. The ‘ōlelo no‘eau, “He lupe lele a pulu i ka ua ‘awa” is translated by Pukui as, *A kite that flies till it is dampened by icy cold [‘awa] raindrops*, (Pukui 1983:85, #775). The phrase is interpreted by Pukui as being descriptive of someone “whose station has risen very high,” (Pukui 1983:85). In the mo‘olelo of Keaomelemele, recorded by Hawaiian historian Moses Manu, the birth of Hina’s child is detailed. During this birth, many hō‘ailona telling of the child’s high rank and kapu (scaredness) were observed. Among them was the downpour of the ‘Awa rain.
- **‘Awa‘awa** is a rain noted to be the same as the ‘Awa’ rain. It is a rain associated with the Keauhou Ahupua‘a. As noted, its overall characteristics is a dark rain or fog most commonly associated with the mountain regions. Metaphorically, it can be associated with hardships and misfortunes.

The recollection of inoa ua (rain names) detail that the **Palahī Pua‘a, Kēhau, Nāulu, ‘Awa, ‘Awa‘awa, Kualau, Nahunahu,** and **Noe** rains sources of wai ua that belong to the study areas and broader Kona Moku, each with various characteristics and qualities. In the account detailed by Malo, the Nāulu rain is associated with agricultural practices of **‘uala cultivation** (Malo in Akana and Gonzales 2015:206; Kamakau 1869:1).

## Springs

The fifth paukū of the chant details the movement of water from the ‘āina, cycling back into the atmosphere in the form of clouds. The sixth and final paukū of He Mele no Kāne speaks to the recharge of the honua when water seeps underground and is retained in aquifers, springs and estuaries. “Aia i lalo, i ka honua, i ka wai hū. I ka wai kau a Kāne me Kanaloa.” *Deep in the ground, in the gushing spring. In the ducts of Kāne and Kanaloa.*

|  |  |
|--|--|
| E ui aku ana au iā ‘oe,<br>Aia i hea ka Wai a Kāne?<br>Aia i luna ka Wai a Kāne,<br>I ke ao uli, i ke ao ‘ele‘ele,<br>I ke ao pōpolo hua mea a Kāne iā, ē!<br>Aia i laila ka Wai a Kāne. | <i>A question I ask of you<br/>Where is the water of Kāne?<br/>Up on high is the water of Kāne,<br/>In the heavenly blue, in the black piled cloud,<br/>In the black mottled sacred cloud of the gods;<br/>There is the water of Kāne.</i> |
|--|--|

|  |   |
|--|---|
| E ui aku ana au iā ‘oe,<br>Aia i hea ka Wai a Kāne?<br>Aia i lalo, i ka honua, i ka wai hū,<br>I ka wai kau a Kāne me Kanaloa.<br>He wai puna, he wai e inu, | <i>A question I ask of you<br/>Where is the water of Kāne?<br/>Deep in the ground, in the gushing spring,<br/>In the ducts of Kāne and Kanaloa,<br/>A well spring of water, to quaff,</i> |
|--|---|

He wai e mana, he wai e ola.  
E ola nō ‘eā!

*A water of magic power—the water of life!  
Life! O give us this life!*

“He Kaa no ka Manu ‘Elepaio” detailed a **pūnāwai** located in the uplands of Kahului, Kona. In this story, Pi‘iwai journeys ma uka and is able to collect water in his huiwai before the mischievous ‘Elepaio had his way with the calabash, causing it to leak. From this account, both the presence of a freshwater spring in Kahului, as well as the **practice of kānaka gathering water** from its source is revealed.

“He Moololo Kaa no Kepaka‘ili‘ula” included two references of springs. When Kepaka‘ili‘ula and his uncles journey through Kahalu‘u Ahupua‘a in search of Mākole‘ā for whom he is to marry, the author refers to Kahalu‘u as, “i ka ‘āina kaulana i ka wai puka iki o Helani,” which Maly translates as, “of the land famous for the small flowing spring of Helani;” thus revealing a **spring associated with Helani and the ‘āina of Kahalu‘u** (Malo 1919-1920 in Maly 1997:26). In another chapter of this mo‘olelo, Mākole‘ā’s father is challenged by Kepaka‘ili‘ula for breaking his promise to wed his daughter to him. As a result, her father flees Kahalu‘u, leaving behind a favored **spring named Waiku‘i located at Kahalu‘u**. This spring is said to have been a favorite of the chiefs of Kona (Malo 1919-1920 in Maly 1997:26).

“Kaa Hooniua Puuwai no Ka-Miki” briefly noted the **Waiakekea spring** located near the stream that joins Wai‘aha and Kahului. This pūnāwai is described as being paved with ‘alā stones (dense waterworn volcanic stones) and surrounded by loulou (fan palms or *Pritchardia*). The passage translated by Maly reads:

There too, you see — ka luawai ua kīpapa ‘ia i ka pōhaku ‘alā e ulu pōhai ‘ia e nā lā‘au loulou, o ka punawai i ka o‘io‘ina pali o Waiakekea — a spring paved with dense [‘alā] stones and surrounded by loulou palms, this is the spring of Wai-a-Kekea, which was near the trail side resting place... (IN Ka Hōkū o Hawai‘i, April 9, 1914; Maly translator)  
[Wise and Kihe 1914-1917 in Maly 1998:3]

From these mo‘olelo, it is recorded that **freshwater springs** are significant features associated with the study area—the pūnāwai found in the uplands of Kahului, the spring associated with Helani in Kahalu‘u, the Waiku‘i spring at Kahalu‘u, and the Waiakekea spring near Wai‘aha and Kahului.

The water that surges from the pūnāwai and all the other manifestations of water discussed in this section are indeed the life-giving waters of Kāne. The mo‘olelo and oral traditions examined in this discussion are a testament to the presence of water associated with the study areas and broader moku of Kona, as well as the practices and traditions that are a result of, and sustained by the gift of wai.

He wai puna, he wai e inu, He wai e mana, he wai e ola.  
*A water of magic power—the water of life! A well spring of water, to quaff.*

E ola nō ‘eā!  
*Life! O give us this life!*


## **Additional Practices**

Woven into the telling of these mo‘olelo are tidbits of information that describe certain resources and other practices to occur within and around the study areas.

## Regarding Agricultural Practices

As discussed in the mo'olelo concerning Pu'uokaloa, Kepaka'ili'ula, and Ka-Miki, agricultural practices of 'uala, kalo, and mai'a cultivation occurred in the ahupua'a study areas (Kihe 1923:2; Wise and Kihe 1914-1917 in Maly 1999:3,12; Malo 1919-1920 in Maly 1997:25-26). A Kona 'olelo no'eau offers additional insight into understanding that agriculture practices occurred in Kona. The 'olelo no'eau, "[Kona, po'o ku'i](#)" which translates to "[Kona of the added head](#)," cleverly articulates the farming practices that occurred in Kona by describing the imagery of a farmer carrying his/her load upon their shoulders (Pukui 1983:199, #1847).

Supporting these mo'olelo and 'olelo no'eau that describe agricultural practices, authors of *Native Planters in Old Hawai'i*, E.S. Craighill Handy, Elizabeth Green Handy, and Mary Kawena Pukui, describe the environment of Kona and briefly discuss the agricultural practices associated with this moku. According to Handy, Handy, and Pukui, Kona was one of the places where the [cultivation of 'uala and ipu](#) (gourd) was frequent (Handy, Handy, and Pukui 1972:14). It is documented that:



The sweet potato and gourd were suitable for cultivation in the drier areas of the islands. The cult of Lono was important in those areas, particularly in Kona on Hawaii and 'Ulupalakua on Maui. At both of these places there were temples dedicated to Lono. The sweet potato was particularly the food of the common people. The festival of Lono, preceding and during the rainy season, was essentially a festival for the whole people, in contrast to the war rite in honor of Ku which was a ritual identified with Ku as god of battle.  
[Handy, Handy, and Pukui 1972:14]

Because of the specific crops and agricultural practices associated with Kona, Handy, Handy, and Pukui share that the akua Lono is associated with Kona; and therefore the [religious practices and ceremonies](#) such as [makahiki](#) are tied to this place:

...he is plainly identified with Kona, Hawaii and is said to have introduced the main food plants, taro, sweet potato, yams, sugar cane, and bananas to Hawaii, and also 'awa. Hogs were likewise identified with Lono, but there is no mention of his having brought them to Hawaii. The fact that the *Makahiki* festival and the rituals for inducing rainfall and fertility centered in Kona comes out clearly in the description of the *Makahiki*.  
[Handy, Handy, and Pukui 1972:523]

These traditional mo'olelo and historical accounts demonstrate that [agricultural practices and religious ceremonies associated with agriculture](#) were significant traditions that occurred in Kona.

## Regarding Fishing Practices

In the chapter of "Kao Hooniua Puuwai no Ka-Miki," after defeating all of his opponents, Ka-Miki is gifted the [lūhe'e of Lālāmilo](#) (Wise and Kihe 1914-1917 in Maly 1997:13). He presents the lūhe'e to the ali'i, Pili-nui-kapu-ku'i-a-ka-lani-kua-liholiho-i-ke-kapu, and the mo'olelo recounts that the chief and his entourage excitedly ready their canoes to [lawai'a lūhe'e](#)—the method of fishing for gathering he'e (octopus) with a lure. The passage details the following regarding the favored lūhe'e and the fishing practice associated with it:

Now this leho (octopus lure) was a favorite of Pili's, and filled his eyes with pleasure. Pili's canoes were prepared to go octopus fishing – lawai'a lūhe'e as Pili wanted to see how the lure worked. The lure was made by securing the kākala (hook), and a sinker stone ('ōahi) near the cowrie (on a wooden shaft) with three ply olonā (*Touchardia latifolia*) rope. When Pili mā arrived at the octopus fishing site, he removed the lure from a gourd container and set it in the water. The chief and all those with him were startled to see unlimited numbers of he'e (octopus) rise up to the lure, and even lobsters were attached to some of the octopus (July 26, 1917)...

[Wise and Kihe 1914-1917 in Maly 1997:22]

As the lure was drawn up to the canoe, the he'e followed it right into the canoe, and the moment the lure was covered, the he'e stopped rising to the canoe. Pili returned to the shore of Niūmalu at Oneō, and had the he'e divided among all of the people. So the fame of the lure went about the island and many chiefs, fishermen, and people traveled to see the lure as well. It was in this way that Lālāmilo learned his lure was in Kona (August 2, 1917)...

[Wise and Kihe 1914-1917 in Maly 1997:22]

Relayed in this account is information regarding the [lawai'a lūhe'e](#) practice to have occurred in Pua'a, Kona at the shore of Niūmalu at a place called Oneō (Wise and Kihe 1914-1917 in Maly 1997:22). Additional 'ōlelo no'eau provide information regarding fishing practices occurring in the Kona Moku. 'Eka is a named wind of Kona whose presence is an environmental indicator telling of [signs optimal for fishing](#). These 'ōlelo no'eau regarding the makani 'Eka of Kona and fishing are as follows:


1467 Ka makani kūkulu pe'a nui, he 'Eka.  
*The 'Eka, the wind that sets up the big sails.*  
When the 'Eka wind blew in Kona, Hawai'i, the fishermen sailed out to the fishing grounds.  
[Pukui 1983:159, #1467]

1690 Ke 'Eka, makani ho'olale wa'a o na Kona.  
*The 'Eka breeze of Kona that calls to the canoemen to sally forth to fish.*  
Refers to Kona, Hawai'i.  
[Pukui 1983:182, #1690]

As relayed in the 'ōlelo no'eau that describes the winds of Kona, the arrival of the 'Eka wind meant the mobilization of fishermen in Kona who readied their canoes and headed out to their fishing grounds (Pukui 1983:159,182).

### *Regarding Recreations*

The premise of Ka-Miki's mo'olelo is his journey to become the most skillful champion and defeat any challenger he is met with. Throughout this saga, Ka-Miki battles on a [kahua mokomoko le'ale'a](#) or contest and game known by the name [Hinakahua](#), and is said to be located in the Kahelo plains of Puapua'a Ahupua'a (Maly 1999:10). Ka-Miki challenged his opponent, Kauakahiakahaola on the contest grounds in Puapua'a and quickly defeated him. From there, Ka-Miki and his brother journeyed onward to another [kahua](#) at Hōlualoa (Wise and Kihe 1914-1917 in Maly 1999:12). The author of this account names the different types of traditional games played at Hinakahua. The games associated with Hinakahua and therefore the broader ahupua'a of



Puapua‘a are [maika](#) (bowling), [mokomoko](#) (wrestling and boxing), [le‘ale‘a](#) (pleasurable pastimes), and [ho‘opāpā](#) (contest of wit and strength), (Maly 1999:11).

Another type of recreation past time is [kōnane](#), which is often likened to Hawaiian checkers. In the mo‘olelo of Kepaka‘ili‘ula, Malo references Waiku‘i spring. This pūnāwai is described as a favored spring of the chiefs of Kona. Included in the description of this place, Malo writes that this was also the area where ali‘i took pleasure in relaxing and enjoying a game of [kōnane](#) (Malo 1919-1920 in Maly 1997:26).

### *Additional Resources*

Mention of resources included in the details of the selected mo‘olelo of this report are significant to note in this discussion as the presence of resources is telling of the potential of particular practices to have occurred in the study areas.


The mo‘olelo of Kepaka‘ili‘ula describes Waiku‘i spring in Kahalu‘u as the favored pūnāwai of the Kona chiefs. The description of where Waiku‘i is located highlighted that the spring was paved with [‘alā stones](#) and that the native [loulu](#) palm grew surrounding the pūnāwai (Wise and Kihe 1914-1917 in Maly 1998:3). The details of these resources existing in this area provides information that other practices associated with these resources could have occurred.

A spring paved with ‘alā stones indicates that ‘alā was available in this area. Pukui describes that ‘alā is a type of stone that could be used for [pōhaku ku‘i ‘ai](#) (poi pounders), [adzes](#), and [hula](#) (Pukui and Elbert 1986:16).

Loulu is an endemic fan palm of Hawai‘i. Botanist, teacher, and historian, Beatrice H. Krauss, author of *Plants in Hawaiian Cultural*, offers a description of loulu:


Loulu is a name applied to several native Hawaiian fan palms. The leaves are borne in a cluster at the top of a ringed trunk, the rings being the scars of once-attached leaf stems. The leaves are very large, most are rigid, ordinarily broadly wedge-shaped and shallowly cut with numerous bifid segments (twice-divided clefts). The underside of the leaves, the strong spineless leaf stems, and the flower stems may have a waxy or feltlike covering. The numerous flowers occur in clusters; they are perfect, having a three-toothed calyx and a tubular corolla with three segments, the segments falling off upon the opening of the flower. There are six stamens, and a three-lobed and three-celled ovary, one cell only of color ranging from green to yellow to brown or black at maturity. It is externally smooth, with a fleshy or fibrous later covering a thin woody shell, which, in turn, covers a hard seed.  
[Krauss 1993:216]

The characteristics of this plant, and specifically its leaves, presents itself as being pliable. Krauss also notes that the loulu leaves were used in [weaving practices](#) (Krauss 1993:31). Kānaka ‘Ōiwi scientist, mānaleo (fluent Hawaiian language speaker), and educator Dr. Isabella Abbott published *Lā‘au Hawai‘i: Traditional Hawaiian Uses of Plants* in which she discusses the various uses and cultural significance of Hawai‘i’s plants. Regarding loulu, Abbott notes that “*Loulu* palm (*Pritchardia* species), used to construct *heiau loulu*, where gods of fishing were seasonally propitiated,” (Abbott 1992:17). The insight that Abbott provides deepens an understanding of loulu with association to constructing a type of temple referred to as [heiau loulu](#). According to Abbott, this heiau is associated with the fishing gods and therefore, [fishing practices](#).



Ke Puhī a Kaleikini is one of the mo‘olelo that appeared in the article series “Na Hoonanea o ka Manawa” regarding Kona that was written by Kihe. This particular story was published in *Ka Hoku o Hawaii* in 1923 and described a blowhole named Hi‘iaka-noho-lae. As the story recalls, Hi‘iakanoholae is the blowhole that is located in the ahupua‘a of Keahuolū. The ‘ehukai or sea spray that the blowhole would shoot was problematic for the fact that the salt of the spray that blew over the ‘āina caused the land to dry so that no vegetation could grow. In order to solve this problem, the author shares that a man named Kaleikini covered Hi‘iakanoholae with branches of kauila. In regards to the type of resources known of this area, from this account we learn that the native [kauila](#) (*Alphitonia ponderosa*) tree was present at Keahuolū.

Kauila, also seen spelt as “kauwila” is a plant endemic to Hawai‘i. Krauss writes that:



The name *kauila* or *kauwila* is given to two different native Hawaiian trees, both members of the buckthorn family: *Alphitonia ponderosa* and *Colubrina oppositifolia*. The former is found on all six of the main Hawaiian islands. It has alternate, thin, oblong to narrow leaves that are grayish or rusty-woolly on the underside; petioles are up to an inch long. The wood is hard and red-and-black streaked. The latter species has opposite, thin, pale green, ovate or oblong leaves that may be up to seven inches long; petioles are up to two inches long. A conspicuous gland is found at the base of each vein on the underside of the leaves. The wood is hard (even harder than the first-mentioned *kauila*), heavy and dark red. *Colubrina oppositifolia* is only found on O‘ahu and Hawai‘i.  
[Krauss 1993:182]

The characteristic of kauila is that it is a hard wood. Abbott shares that ‘ō‘ō (digging sticks) used for farming and other [agricultural practices](#) were made of kauila (Abbott 1992:11-12). In a discussion regarding featherwork and [ceremonial regalia](#), Abbott writes that the poles in which [kāhili](#) (feather standard) which were symbolic of royalty were suspended and carried were primarily made out of koa (*Acacia koa*) and kauila (Abbott 1992:107-108). Kauila was also used in creating [hula implements](#) and was the wood of choice for making [kāla‘au](#) (stick dancing), (Abbott 1992:120). Kauila was used in [religious ceremonies](#) and in [carving sacred images](#) (Abbott 1992:20,114). Particularly, the wood of kauila was used in [makahiki ceremonies](#) as the [staff of the akua Lono](#) was made of kauila (Abbott 1992:20-21). Abbott writes that it is likely that kauila was used in these types of religious ceremonies dedicated to Lono because the word kauila means lightning, which is one of the kinolau or manifestations of Lono (Abbott 1992:21). Another usage of kauila was seen in the making of [weaponry](#). Kauila was the hardwood used in making [pāhoa](#) or daggers (Abbott 1992:111).

## Boundary Commission Proceedings Of The Boundary Commission Lands Of: Keahuolū, Pua‘a, Wai‘aha, Kahului, Puapua‘a and Keauhou – by Kumu Pono Associates

The Māhele and Land Grant program of the Kingdom of Hawai‘i saw a rapid growth of business interests. In an address before the Annual Meeting of the Royal Hawaiian Agricultural Society (1857), J. F. B. Marshall spoke of the growing business ventures in the islands which included—the cultivation of sugar and coffee; harvesting pulu for mattresses and pillows, and kukui for oil; ranching and export of hides, tallow and wool; farming for trade and export, and salt manufacture (see *Pacific Commercial Advertiser*; November 5, 1857). As a part of growing business interests, large land owners pursued the establishment of formal boundaries on their land holding, in order to protect their private property “rights.”

In 1862, a Commission of Boundaries (the Boundary Commission) was established in the Kingdom of Hawai‘i to legally set the boundaries of all the ahupua‘a that had been awarded as a part of the Māhele. Subsequently, in 1874, the Commissioners of Boundaries were authorized to certify the boundaries for lands brought before them (cf. W. D. Alexander in *Thrum* 1891:117-118). Rufus A. Lyman served as the Commissioner of Boundaries for the Third Judicial Circuit (J. C.)—the island of Hawai‘i. The primary informants for the boundary descriptions were old native residents of the area being discussed. Some of the native witnesses were born as early as the 1770s, and the youngest (for the early proceedings, born at least by ca, 1840).

Most of the witnesses were either born on in the ahupua‘a under consideration, or they had lived there for extended periods of time. All of the witnesses had learned of the boundaries from their elders, and described the landscape by the nature of the terrain, presence of resources, land use, and features which were of significance to the residents of the land. Their testimonies demonstrate the relationship of lands, residency, practices and access to resources that span the biocultural landscape from the ocean to the mountain lands and top of ahupua‘a being described. Some of the testimonies also describe the relationships shared between ahupua‘a in management of the natural resources. These records describe many resources which are in traditional lifeways.

The native witnesses spoke in Hawaiian, and their testimony was usually translated into English and transcribed as the proceedings occurred. Readers here will note in the verbatim transcript prepared from the original handwritten documents that there are often inconsistencies in spelling of particular words such as place names, people names and natural or man-made features (see Appendix D). Furthermore, it will be noted that there are often multiple spellings of the same name or word. Examples of this include, but are not limited to Honokōhau, written as “Honokahau,” and Hienaloli, written as “Hinaloli, Hianaloli, Hiananaloli, and Hianalole,” and pūhala, written as “puuhala” etc.

Over several years of researching the Boundary Commission testimonies, we have also observed that often, when two of the same vowels were written by the original translator/transcriber, it indicated that he heard a lengthened pronunciation of a particular vowel. This emphasis of pronunciation is now indicated by a macron mark—for example, the place name “Kahiihiia” (where the two Honokōhau and Kealakehe meet one another) would now be written “Kahīhīa.”

The narratives include the testimonies, surveys and proceedings for the ahupua‘a cited at the top of this section—several of the ahupua‘a were further identified by “nui” (big/large), “iki” (little or small), and by numbers such as “1, 2, 3,” etc. The narratives also cover some details from the



adjoining lands which were not part of the Commission proceedings. We have used underlining and square brackets in selected narratives to emphasize references of importance—those which identify noted practices, resources and other interesting descriptions that identify valued cultural assets.

As a part of the certification of title and boundaries, surveyors produced a series of maps covering the ahupua'a. Some of those maps have survived that passing of time, and help us place given locations and resources (natural and manmade). When available, reductions of the maps are cited as figures in their respective Boundary Commission proceedings.

Readers, please note that the date sequence of the applications, witness testimony and issuance of certificates are not always recorded in chronological sequence. Sometimes the testimony is cited (by date) previous to the title holder's application of survey and certification.





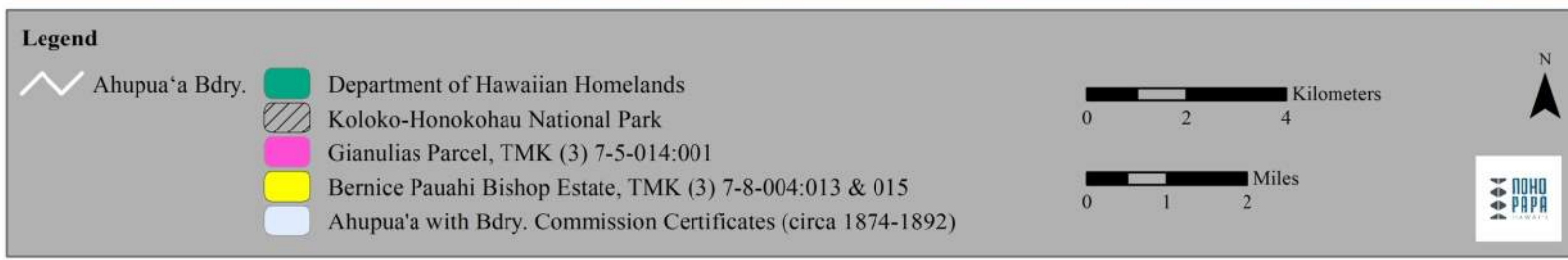


Figure 15. GIS map depicting ahupua'a with Boundary Commission Certificates

## Excerpts from the Boundary Commission for ahupua‘a in and around study parcels – by Nohopapa Hawai‘i

### Kamehameha Schools Parcel Boundary Commission Testimony Discussion

Kahului Ahupua‘a was the subject of a Boundary Certificate, it includes the Kamehameha Schools well site subject parcel (See Table 2). The following discussion details the kanaka who lived in these ahupua‘a and gave testimony, as well as excerpts from the testimony and certificate tied to places, practices and resources in the subject ahupua‘a. Also see full Keauhou testimonies in Appendix D.

#### Keauhou Ahupua‘a

Table 2. Select Ahupua‘a with named localities and kama‘āina cited in Boundary Commission proceedings in Keauhou Ahupua‘a, location of the Kamehameha Schools subject parcel.

| Ahupua‘a    | Place Names   | Kama‘āina Residents   |
|-------------|---|---|
| Keauhou 1st | Halelaau<br>Kamauae (Kamauai Heiau)<br>Kanakaliikapu<br>Kewa<br>Nanunuakalupe [?]<br>Napueuala<br>Ohiki<br>Paaniau (Paniau)<br>Pohakunahaha<br>Puainaldo<br>Waikui<br>Waikulukulu   | Kakio<br>Keakaikawai<br>Kuluahi<br>Lono   |
| Keauhou 2nd | Aahuwela (Ahuwela)<br>Ahua Um<br>Anakolekolea<br>Haalulu (Ana Halulu)<br>Haliilaukoa (storied place of Umi)<br>Hapukaa (Hapuukaa)<br>Honuaula Hill (Puu Honuaula)<br>Hopea<br>Huaikaumauma <sup>(74)</sup><br>Hualalai<br>Judd road (Boundary also called Nahuina)<br>Ka Hale o Umi<br>Kaalapuali (Kealapuali)<br>Kaawa<br>Kaekuakapuaa<br>Kahooplu | Aalona<br>Hukikee<br>Kahilo<br>Kahueai<br>Kahulialo (w.)<br>Kakio<br>Kamakainai<br>Kanahuna<br>Kaoiwi<br>Kapohakaimokumahe [?]<br>Kauluahi (Kuluahi)<br>Keaka (w.)<br>Keakaokawai (Keakaikawai)<br>Kealoha Maui |

<sup>74</sup> Huaikaumauma – “junction of Kaumalumu, Kahaluu and Keauhou. it is an ahua in the koa woods, where the canoe makers used to have a heiau.”

| Ahupua'a | Place Names  | Kama'āina Residents  |
|----------|--|--|
|          | Kahulinanui<br>Kaimuhapu (Kaimuhapuu)<br>Kakai a lae<br>Kalalakoukolo<br>Kalalua<br>Kaluamakani<br>Kalulu<br>Kamakaulaula<br>Kamoike<br>Kamomoku<br>Kaneeneenui<br>Kanekii<br>Kanohoana o Umi<br>Kanupa<br>Kaonohi<br>Waiau<br>Kapapakauheana<br>Kapukaiki<br>Kauhi<br>Kauhikahua<br>Kaukahoku<br>Kawahapele<br>Keahialoa<br>Keahou<br>Keakui<br>Kealaehu<br>Keanaaipu<br>Keanaakala (where canoe makers used to live)<br>Keanakiha (Keana o Kiha)<br>Keanaokalehuna<br>Keanapaki<br>Keikinanahu | Keeaumoku<br>Kehepo<br>Kekai<br>Keliikanakaole<br>Keohi<br>Komaka<br>Kupakoa<br>Makaike<br>Mauna<br>Nauwe<br>Niihoa (Nihoa)<br>Palauolelo<br>Palea<br>Papa<br>Puihi<br>Uluhiwa |

Keauhou is divided into two ahupua'a, Keauhou 1 and Keauhou 2. Listed below in this section are selections from Boundary Commission testimonies recorded for Keauhou 1 and Keauhou 2 Ahupua'a.

Kakio, kama'āina of Keauhou, mentions Ohiki, an old cultivating site, Waikulukulu and Waikui, which are both caves with water inside.

Kakio, K., Sworn

I have lived on Keauhou until I am an old man and know the boundaries of the land. Kahaluu bounds Keauhou on the North side. The boundary at seashore is a pali called Paaniau [Paniau] and a long wall from Kewa to road; thence mauka to Puuainako, an oiaina on old trail; said trail being made for the ohia trees, which in the time of Governor Adams were drawn down to Kailua for a church [Mokuaikaua]. Said church was burnt some years ago.

From Puainako to Kanihinihula [Kahinihiniula], at the mauka Government road where there are two ahua pohaku, on the boundary; thence to the North side of Awapuhi, in the woods; thence to Ohiki, an old cultivating ground on the boundary; thence mauka to Napueuala, an oiaina; the boundary being on the

North side of it and Keauhou in the middle of it; thence to Waikulukulu, a cave with water in it; thence to Halelaau; these places are all on the boundary of Keauhou, they're on Keauhou 1st; between [page 318] Napueuala and Nanunuakalupe [?]. I do not know the boundaries on the mountain of Mauka and of lands. Waikui is a large cave of water; the boundary half way between said cave and Ohiki.

I cannot point out boundaries in the woods. Keakawai is a kamaaina, and used to go into the mountain with his father, Kuluahi.  
[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A 1, p270]

Lono, kama'aina of Keauhou, mentions a fishing heiau named Kamauai (Kamauae) and expands upon Ohiki mentioning that it was a spring as well as an old mahi'ai place in the woods.

Lono, K., Sworn

I was born at Keauhou at the time of Kaoku [Mai Okuu, 1804-1805] and have lived here most of my life; Lived in Kau a few years; am a kamaaina of the boundaries of Keauhou as far mauka as the Government road. The boundary at the shore between Keauhou 1<sup>st</sup> and Keauhou 2<sup>nd</sup> is at Kamauae [Kamauai], a heiau for fishermen situated above the beach, on the hill where the houses stand; thence mauka to a breadfruit tree; thence to the head of Holua; thence mauka to Kanakaliikapu, an ahua pohaku at the Government road; this is as far as I know the boundaries. Have heard that the boundaries of the two Keauhous run through the woods to Palahinui, where koa trees grow on Keauhou 2<sup>nd</sup>. Keauhou is bounded by the sea and the land has ancient fishing rights extending out to sea.

Kahaluu bounds Keauhou 1<sup>st</sup> on the North side, the boundary at seashore is Paaniau, a large stone wall reaching from shore a short distance mauka. There is a pali at seashore by the same name; thence mauka to the Government road; thence straight mauka on aa to two piles of stones at government road. Kahinihiniula is on the high ground, just before you descend [sic] into the hollow; going from Kealakekua to Ohiki, a spring and old mahiai place in the woods. I do not know boundaries above this place. Have not heard where the land ends.  
[Boundary Commission Testimony: Keauhou 1 Ahupua'a, Lono 1873:v.A1, p318-320]

Keakaokawai, a kama'aina of Kona, mentions a plethora of place names and mentions six different watering holes and also Kalulu and Kilohana, which were places that he and his father would catch birds.

Keakaokawai<sup>75</sup> K., Sworn

I was born at Kealakekua a few years before the death of Kamehameha 1<sup>st</sup> [in ca. 1810] (Note; this is the same witness that was on Kahuku boundaries). I moved at time of Kaua o Kekuaokalani (1820) to Lehuula (was grown at that time); I now live at Hookukano [Hokukano], North Kona and am a kamaaina of Kona.

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<sup>75</sup> "Keakaokawai" is usually written as "Keakaikawai." He was a notable kama'aina witness across a number Kona lands.

I used to go on the mountain with my Father collecting sandalwood and catching birds; his name was Kauluahi, and old bird catcher and kamaaina now dead; Honalo bounds Keauhou 2 at sea shore on South side; A pali aa called Lekeleke is the boundary at sea shore between these lands; thence the boundary runs mauka along lands on Honalo sold to different parties on Honalo, to a place called Nohomoanahoaiuku, in the woods on the makai side of pali; Thence along the Government portion of Honalo to Kapapakauheana, a round water hole in the woods in the centre of Honalo. Thence the boundary runs mauka to Kaimuhapu [Kaimuhapuu], a water hole; thence to Kipukauki, most of this place is on Keauhou, and a small portion on Honalo [page 256]; said land being now overgrown in aa; thence to Komomoku, a pali which is the boundary between Keauhou and Honalo.

There Keauhou turns south and cuts Honalo off, nearly through the woods; thence to Kaukahoku, junction of Lehuula nui; said place is an Ahuapohaku, a small hill of pahoehoe covered with scrub ohia and mamani; thence along Lehuula nui to Keanakiha, a small cave where natives used to sleep; Thence to an ahu pohaku, mauka of the ana, built in olden times and now knocked down by the goats; this is an open spot with scrub ohia and mamani growing all around; thence along Lehuulanui to a place called Kepuhi at Governor Adams road through the woods, scrub koa and other trees growing there.

The land of Hookukano cuts of Lehuulanui at Governor Adams road; thence along the land of Hookukano. This land runs mauka. In olden times, Keaumokunui [Keeaumokunui], the Alii nui of Keauhou claimed all the geese on Hookukano, Kealakekua and other lands and used to divide the geese. The uwao [uwau or 'uao] were left for konohiki of these lands. The land was not the property of the Keauhou chief when my Father and I divided the geese with the Keauhou konohiki; but the Uwau we had to divide with the Konohiki of Hookukano and not with the konohiki of Keauhou, unless we took the uwao on Keauhou; thence mauka from Kepulu to Kamoike along Hookukano, the aa on Keauhou, and from thence the boundary runs to Keanaakala, a small cave, thence to Kikikiaeae, a long hill (puu lepo) at mauka corner of Hookukano, trees of all kinds growing all around; thence South again to Kamakaulaula, pahoehoe along mauka end of Hookukano in woods; thence up aa called Kainapahoa; thence down on to pahoehoe to a cave called Aahuwela, corner of Kealakekua and Hookukano, said cave used to have water in it; thence along Kealakekua, running mauka about one half of a mile to Umi's road. Kanoahoana o Umi; aa with mamani trees growing both sides of the road. When I used to go up with my father, these were only a few mamani trees growing makai of the road, now there are a great many, both sides of the road.

[Thence] turn south again across aa to Haliilaukoa [page 257] (where Umi sat and they spread Koa leaves for him; old tradition). Few koa and ohia trees grow there; they are mostly mamani; thence the boundary runs up an Ahua to Kanekii, a small water hole which dries up in dry weather. Keauhou mauka and Kealakekua makai; thence to Kalulu; Keauhou mauka and Kealakekua makai (pahoehoe); which is where we used to catch birds in olden times; the Uwau [uwau] belonging to both lands. At Kanekii, the boundary leaves Umi's road and goes makai of it; From Kalulu to a place called Kakai a lae Koa (Koa grove on Pahoehoe, the South East corner[]); thence turn makai along Kealakekua, to a large



mawae called Kawahapele; thence down along said mawae to Puuloa, a pali on the mauka corner of land of Honaunau. The woods extend there now; In olden times there were hardly any trees there. I have forgotten the names of the places beyond here on boundary of Keauhou and other lands along there. I have not been along there often. Kanupa is the place where Keauhou joins Kaulanamauna, a Kipapale ana, junction of Keauhou, Manuka and Kaulanamauna. All kinds of trees grow there, also small spots of pahoehoe in the aa. I have only been there once when I went with my father before I was fully grown. Do not know as I could find it now; thence mauka to Kilohana, on an aa flow where we used to catch birds and where Kahuku joins Keauhou.

Thence along Kahuku to Kulauala, on Umi's road; From Puuloa to Kanupa Keauhou used to take the pahoehoe above the woods and the Kona lands reached to the mauka edge of the woods from Kilohana along Kapapala to Pohakuhalei, a hill on the top of the mountain [Mauna Loa]; thence the boundary runs down to Kolekole, a hill where Humuula joins Keauhou and cuts Kapapala off; thence down the side of the mountain to Kaaawa, along Humuula, there Puanahulu [Puu Anahulu] joins Keauhou and Humuula stops. Kaaawa is pahoehoe with small ohia trees, and also other kinds of trees growing there; thence the boundary runs to a hill called Kalalua, along the land of Puanahulu. A large hill can be seen from Ahua Umi, which is at Hualalai.

Thence the boundary runs down to pili land, to Palahinui, along Puanahulu; thence to Hapukaa, on Umi's road to Waimea [page 258] on the pahoehoe; thence Kanupa 2, a cave in pili land, now covered with the lava flow of 1859 to Kiholo; thence to Kanupa 3, a cave near the base of Hualalai, where the land of Puuawaa [Puu Waawaa] joins Keauhou; thence the boundary runs up the mountain to a cave on the side of the mountain, above the woods called Waikulukulu, thence to Puuakawai, an old water hole now filled up by cattle tramping around it; this place is the junction of the land Kaopulehu [Kaupulehu] with Keauhou.

Thence the boundary runs to the mauka side of a hill called Haalulu in a hollow between the hill and an Ahua; Thence along to Kaluamakani, a large hole or crater; there Kapulehu [Kaupulehu] ends and Honuaula joins Keauhou; thence along this land to Puulalaau [Puu Laalaau], a hill where the land of Puuaa [Puua 1<sup>st</sup>] is on the makai side, Honuaula is very narrow at the mauka end. The boundary of Keauhou runs along the mauka edge of woods above Puulalaau, and along to Mawae, there the land of Kaomalumalu [Kaomalumalu] joins Keauhou; thence along to Kamomoku to Judd road, on the mauka edge of the woods; thence along what used to be the edge of the woods (the trees are now all grown along Kaomalumalu) to aa where Kahaluu joins Keauhou.

I do not know the boundaries between the land of Kahaluu and Keauhou, or between the two Keauhous.

[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256]

Kahilo, is a kama'āina of Keauhou, mentions several important features including a crack in the rock that they would place the dead called Lekeleke, and a spring called Waio.

Kahilo K., Sworn

I was born at Keauhou at the time of the building of the first Kiholo [ca. 1810-1812], and have always lived there, in Kona, Hawaii.

Honalo bounds it on the South side, an awaawa and ilina kupapau (a crack in the rock where the natives used to put their dead) called Lekeleke is the boundary.

Thence the boundary between these lands runs mauka, the Kualapa on Honalo and Awaawa on Keauhou to Mawawae Nuuanu at the Government road mauka; thence follow up Kualapa an awaawa to Kamomoku, a pali surrounded by small trees, koa, ohia, mamani, naio, &c. The tall woods are makai of this place; there is an ancient pile of stones here at the mauka corner of Honalo. There the boundary turns towards Kau to lae aa, along Honalo, to another Ahu built in olden times, which is at the corner of Honalo and Lehuulanui, called Kukaiaina. The mamani mostly growing mauka of this place. Thence along Lehuulanui to Paliroomana on Honuainonui; thence along Honuaino (called Kamomona) (J. G. Hoapili says it is Makaie's land, Honuaino III); thence to a small pali, along Honuaino, in scraggy woods to Waio, Governor Adams road crossing the boundary at the Pali Hoomana [illegible] where Honuaino ends, and where Hookukano joins Keauhou. Thence along Hookukano to Waio, which place is on Hookukano and Kanauweuwe [Kanaueue]. I do not know which side of the spring the boundaries are; pili and trees are growing around there; the mamani trees extend makai of this point.

Thence along Kanauweuwe the boundary turning directly mauka to a hill called Kikikiaeae. I do not know the names of the lands that join Keauhou here. From Kikikiaeae, which place is on Keauhou, I do not know the boundaries beyond Waio.

I have heard that Kealakekua joins Keauhou and other Kona lands run up to the mamani and to the poha; Pahoehoe that breaks through when trod upon. My Parents and Grandparents used to go bird catching for feathers as far as Waiea, and they said that there were only pu-keawe [pukiawe] trees on Keauhou. I have heard that Kahuku of Kau joins Keauhou on Mauna Loa, but I have not heard where. Kamauae [Kamaui], a cave at the sea shore is the boundary between Keauhou 1<sup>st</sup> and Keauhou 2<sup>nd</sup>; thence the boundary between these two lands runs mauka to the Poo Hoohia, above Keauhou; thence into groves of ohia trees, below the Government road, to a cave called Kaekuakapuaa; thence to a place called Kanokaliikapu [?], which is on the Government road. An Ahu used to stand at this place, but was knocked down when the road was built. Thence the boundary runs to Laaunui, a large ohia tree; said tree is in the woods about the end of where people work.

Running from the Government road mauka, there is a kualapa, and Keauhou 2d is on the low ground, this side, and Keauhou 1<sup>st</sup> on high ground. From Laaunui the boundary runs to a pali called Paakai; Keauhou 2d at the foot and Keauhou 1<sup>st</sup> on top of the pali. Thence along the pali till you come into koa woods and aa, there the pali ends. Thence out of the woods to Piipaa, a cave on Keauhou 1<sup>st</sup>; the boundary being on the Kau side of the cave. Thence turning toward Kohala the boundary runs to Kawaha o Pele, a hill with a crater; here Keauhou 1<sup>st</sup> ends and Kahaluu; There are a great many hills with craters there, tall woods on lands makai and mamani on Keauhou; Thence to Kawaha; Pele 2d. I do not know what lands join Keauhou there; thence to the Government road; thence to Hoikekanaka.

(Kahua hoike kanaka o Umi); thence to Pohakuloa, a large rock by a water hole, on the Kau slope of Ahuaumi, above Hualalai. Thence along aa to Waiakapee, a small water hole on the aa; Keauhou does not extend to the top of Hualalai, but runs along the Kau slope of the mountain; Honualua [Honuaula] takes in the top of Hualalai, [page 262] and joins Keauhou at a hill called Kaumoku which is on Honuaula at Hoikekanaka. From Waiakapee, I have been told the boundary runs to Ka-amoku, but I have not been further than Waiakapee. Have heard that Waikoloa, Kaohe, and Humuula bound Keauhou on the further side.  
[Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Kahilo K. 1873:v.A1, p261]

Palea, a kama‘āina of Kalahiki, mentions some information regarding bird catching in Keauhou as well as a spring named Lumia.

Palea K., Sworn

I was born at Kalahiki, South kona, Hawaii and have always lived there; was born at the time of Kuewai o ka Lae [Kui wai o Kalae, ca. 1782]. Know the land of Keauhou. Lekeleke is the boundary at sea shore between Honalo and Keauhou. I know the boundaries between Kalahiki and Keauhou. My Father, Kanahuna (now dead) was appointed by Keauhou konohiki to watch the bird catchers on our land and other lands, to see if they did not take the geese and uwao [uwau], which belonged to Keauhou and he told me the boundaries between these lands and Keauhou. He said that Kalahiki ran through the woods; small ohia trees, kapiopio, and mamani to the pahoehoe; then you come to Keauhou. I do not know where the boundary of Kauhako and Kalahiki on Keauhou is. Thence the boundary runs along the head of Kalahiki to lae aa, in lae aa Waiea joins Keauhou cutting off Kalahiki. Thence along above the mamani to Lumia, junction of Honokua (a punawai) water hole on a hill. I do not know the boundaries beyond this point; Have seen Umi’s road, when we were on the mountain gathering sandalwood. Have heard that Kahuku joins Keauhou.

[Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Palea K. 1873:v.A1, p263]

Kahulialo, a kama‘āina of Kona who shares the same father as Keakaokawai, mentions similar localities as Keakaokawai as well as Makaulaula, a place they lived whilst bird catching, and Ahuwela, which is a cave with water in it.

Kahulialo W., Sworn

I was born at Honalo, North Kona, Hawaii on a place called Kealaehu, and at the time of the first Kiholo [1810-1812]. Know the land of Keauhou and part of its boundaries, mauka, in the woods and above the woods. My Father, Kuluahi, who was the kamaaina of Kona, on the mountain, showed them to me. Kaana o Kiha, a cave with a large pile of stones mauka of it, is the boundary between Keauhou and Lehuulanui and the corner of Honalo. I have not been with my Father along the boundary of Honalo and Keauhou. At that time this place was above the woods and you could see from Kiha to Waio, now the trees are all grown up. Thence the boundary of Keauhou runs along Lehuula to lae aa and to Kepulu, a spot where there is soil and no rocks mauka of Palihoomana; there Lehuulanui ends, and the land of Hookukano joins Keauhou. The boundary between Hookukano and Lehuula is a small stream of aa on the South side of Kepulu; from thence the boundary runs along Hookukano to Kiikiaeae, an awaawa where by husband used



to live. A large kualapa on the left side, as you face mauka, is the boundary. Thence to Makaulaula, where we used to live when bird catching. Thence to Kaonohi, a cave; thence to Ahuwela, a cave with water in it; there Hookukano ends and Kealakekua joins and bounds Keauhou; thence to Haliilaukoa (I do not remember the names of all the points along Kealakekua[]). Keakaokawai K. is the one who knows them all. I have not seen the place called Haliilaukoa (An old tradition says Umi used to sit there because he liked [page 264] the koa). Thence to Kalulu. I have been there; there is a water hole there and it used to be a place for catching birds. Kolekole is an Ahua with koa on it in the middle of Kealakekua, and the boundary of Keauhou is just mauka of it. The place called Kukai is the further boundary of Kealakekua. I have been there with my Father and he told me it was on Kealakekua. Have heard Keauhou turns makai at this place. Honaunau ends in the mauka edge of the woods. I do not know the boundaries (perhaps Kawahapele is the boundary between Kealakekua and Keauhou going towards the woods.[])]

I have been to Pupuawai. It is on Keauhou. Honaunau does not reach there. [illegible side note] My Father also told me that Kapapala, Humuula and Kaohe reached Keauhou on the top of Mauna Loa.

Na Elemakule where the lava flow went that destroyed Kiholo [1859], is where Kaohe joins Keauhou at Uauakahoa [?] cave. Have not heard where Kahuku joins Keauhou. Uauakahoa cave is where the Kaohe Elemakule came to at the time of the settlement of lands. These are all the boundaries that I know. [Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahulialo 1873:v.A1, p263]

Kakio, a kama'aina born in the time of Kamehameha I, mentions a few place names including Holua, which was an ancient sliding place.

Kakio K., Sworn

I was born at Keauhou at the time Kamehameha I came from Hilo to Kealakekua and from there to Honolulu, at the time of Oku [Mai Okuu, 1804-1805]. I have always lived here and know the land of Keauhou 2d and its boundaries. I used to go after sandalwood on the mountain, with Kapohakaimokumahe [?] (now dead). He was a kamaaina in the mountain and used to go across to Hilo. Lekeleke is the boundary between Honalo and Keauhou. at seashore is kualapa; Keauhou being at the [page 266] foot of the ridge on this side; thence the boundary runs mauka along Honalo to Kukuikomo on the makai side of the Government road; thence along the awaawa to the mauka side of the Government road; place called Leiohapu; thence along awaawa into the woods; I do not know the boundaries. Know a place called Palahinui, a cave where people used to live. Honalo ends makai of this cave at the mauka edge of the woods. The mamani and scrub koa being on Keauhou. Have heard that Kealakekua and other lands, only run through the tall koa; have never been there.

The boundary at shore between the two Keauhous is at a place called Kamauae [Kamauai] at the beach; Thence it runs mauka to the head of Holua (an old sliding place); thence to the South side of Keahialoa, the boundary running in a hollow; thence to Mauka of the Government road to a place called Kanaokeliikapu; thence mauka in the woods to Kualapa Kahoopulu; this is as far as I know the boundary

in the woods. On the mauka side of the tall koa trees at Nanunuakalupe [?], an oioina, Keauhou 1<sup>st</sup> ends; and the boundary runs towards Kohala.

Kahaluu ends at the mauka edge of the tall koa trees. They say in the days of Keauaumoku [Keeaumoku] the Akule used to belong to Keauhou 2d and the birds to Keauhou 1<sup>st</sup>, but the Chief of Keauhou 2 married a chief of Keauhou 1<sup>st</sup> and after that all the fish were given to Keauhou 1<sup>st</sup> and the birds and land mauka to Keauhou 2nd.

Mauna Loa is called the Kuaiwi of Kau. I have been told that Keauhou joins Hilo and Hamakua on Mauna Loa, at the edge of the aa flow from the summit of the mountain, the pili is on Keauhou and the aa on Kaohe. Have heard Kaupulehu joins Keauhou, but do not know where.

[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A1, p266]

Papa, mentions a few names that have also been mentioned by other testimony.

Papa K., Sworn (a very old man)

I was born at Kahaluu at the time of Holuanui, and have always lived there. Kaumalumalu ends at Mawae, mauka of a hill called Hiinau; thence along Kaumalumalu. Kaupulehu joins Keauhou and takes in Hualalai. Keauhou on this side. Kahulinanee [?] is on Napu. Kau joins Keauhou at Kalulu near the top of the mountain, at grove of mamani and pukiawe. Keauhou on this side and Kau above to top of mountain. (I used to go to the mountains after sandal woos, but never went after birds.[]]

Have always heard that Kahuku cut all off. South Kona Lands, and takes the mountain. Keauhou ends at Puulehua, above Kainaliu, above the wood at the foot of the mountain. I heard this when I used to go after sandal wood. Do not remember the names of the Kamaainas, who are now all dead. Kau is on the other side of the mountain.

[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Papa K. 1873:v.A1, p268]

Waiiau, a kama'āina from North Kona, mentions Kaneki'i and Pu'ulepo, as well as provides some information surrounding bird catching customs and places in which they used to fight with Ka'ū people.

Waiiau K., Sworn

I was born at Kanauwaue [Kanaueue], North Kona, Hawaii at the time Kamehameha 1<sup>st</sup> returned from Honolulu; at the time of Papakee. Lived at Kainaliu [Kainaliu] until about eleven years ago when I moved to Kealia, South Kona [page 268].

Know the land of Keauhou, used to go after birds with my father, Nauwe, an old bird catcher and he pointed out the boundaries to me, as it was kapu to go after birds and not divide them with the konohiki; used to go frequently not vary far above here. Honalo bounds Keauhou 2 on the South side, as you go into the lower edge of the woods. I do not know the boundaries.

A place in Okolea, in the woods called Kaimuhapu, a water hole, is on the boundary between Honalo and Keauhou; Thence mauka to Kipupuike [Kipukaiki], a small spot of soil with scrub ohia in the toll woods; the tall ohia being on the aa each side of this place; thence mauka to Kamomoku, a small pali, at the upper edge of the woods, thence to Keikinahanu, close to scrub trees of various kinds; There Honalo ends. Thence along the head of Honalo to Kaukahoku, a large rock at the corner of the land Lehuulanui; thence along Lehuula to Keanakiha, an ahu pohaku mauka of a cave; thence to Kepulu where there is soil. When I was young there were no trees there but now the trees have grown up.

Governor Adam's road is at the end of Lehuulanui; thence along Hookukano; thence mauka along the Government road, between two aa flows to Kamoomoo; thence to Keanaakala, a cave; thence to Kikikiaeae, where we used to live. The canoe makers of Hookukano also lived there. There is a hill called Puulepo, with a crater on it. There is a water hole makai of said hill. Thence the boundary turns directly towards Kau to a place called Kamakaulaula, a pahoehoe kipuka in laau, mamani growing all around; thence to Aahuwela, a cave with water (I do not know the place called Kanapahoa) there Kealakekua cuts off Hookukano; from thence the boundary runs along Kealakekua to Haliilaukoa, a place near Umi's road; Kuluahi said it reached to Umi's road, but this place is only near it. It is on the soil across aa, where bird catchers used to live; thence to Kukai, along a grove of koa trees, small pahoehoe. I do not know the points between. We did not go beyond there in olden times. We used to fight with Kau people here. Kuluahi and Kalalahu's father were chased by Kau people a little above Pupuawai. [page 269]

I do not know boundaries above this point. Have heard that Waiakea, Humuula and Kaohe run up the mountain. Kaalaala had a road extending to the top of Mauna Loa. I do not know where Kahuku and Keauhou end. Have not heard whether Honaunau reaches to Pupuawai or not. I have not heard that they reach far above the woods. Do not know the boundaries of Keauhou and North Kona Lands. [Boundary Commission Testimony: Keauhou 2 Ahupua'a, Waiiau K. 1873:v.A1, p268-269]

Keliikanakaole, a kama'āina who also gave testimony on Holualoa, mentions various place names including the name of a road made by bird catchers named, Keakui.

Keliikanakaole K., Sworn

Niihoa [Nihoa], Uncle to my mother, is the one who went to look out boundaries of Keauhou. I saw him when I was young and heard him tell what the boundaries were on the North side.

A place called Keakui, a road across the aa made by bird catchers, a puu pahoehoe and a Mawae in the centre, is the place where Keauhou 2 turns North and cuts off Keauhou 1<sup>st</sup>. Niihoa and Kekai, the men who made the road which is the boundary between the two, told me thus. I went with Kekai after sandalwood. [page 270]

The road runs t the North at Hopea, where you come off of the aa; there Keauhou cuts across the head of Kahaluu; thence along Kahaluu through pili and mamani to an ana called Naohuleelua, North corner of Kahaluu. (I can point this place out.) Thence Keauhou turns makai along Kahaluu to Kepulu, the mauka corner of Kaumalumalu, a pulu lepo, at the edge of the forest, thence along the head of

Kaumalumalu to Kapukaike [Kapukaiki], makai of Walls house on Judd road (Nahuina is one name of this place).

Thence to Huaikaumauna, a lae koa on kualapa; thence along Holualoa to Apiipi; thence along the head of Holualoa to Puualalaau [Puu Laalaa]; thence along Honuaula to Hualalai, a hill on the North side<sup>[76]</sup> with a deep crater in it; said hill is the junction of Kaupulehu with Keauhou, and the mauka corner of Honuaula. The brow of the precipice is Honuaula and the land back is Keauhou. Kaupulehu comes to the pahoehoe at the base of Hualalai hill; Thence along the head of Kaupulehu to the hills called Napuumahoe, on makai side, the aa being on Kaupulehu, and pukeawe on Keauhou. Thence to makai side of a hill mauka of lae koa, where my makuakane lived; Kaupulehu ends at the koa grove.

I do not know whether Puawaa joins Keauhou or not. I do not know what lands join along here; thence the boundary of Keauhou runs to Kanupa, a cave near the new lava flow where the trees are dried up.

Thence mauka along the boundary of Napuu on this side of the lava flow to Kahulinanui [?], an ahua pohaku built by Hamakua men and now covered by the lava flow on boundary of Kaohe.

Thence mauka towards Mauna Loa to a place called Keanaokalehuna, where a Hamakua man was killed for stealing food at Keauhou; thence to Kolekole, a hill; a waha pele on the East side of Kolekole is the boundary; thence up pahoehoe eleele, this is as far as I have been.

CX'd.

I have heard Kahuku and Kapapala and Kaalaala join at the top of the mountain. Have not heard where Keauhou cuts off South [page 271] Kona Lands, and joins Kahuku. I know the place called Kaaawa, it is a grove of Naio and Alii [aalii], towards Kealakekua from Kolekole. Kalalua is a cave which was covered up by lava in the flow of 1859.

Know a place called Palahinui; it is a large cave on Keauhou. Hapukaa is mauka of Umi's road. Know a cave called Waikulukulu, at the base of Hualalai, towards Ahuami, the place called Kaluamakani or Kalalakaukolo is on the top of the mountain.

[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keliikanakaole K. 1873:v.A1, p269-270]

Kupakoa, a kama'āina from Holualoa, mentions that Keauhou ends where they used to cut koa for canoes, and also mentions Ohiapapaawai, a water hole among the ohi'a trees, and that all the koa that they used to make canoes is all on makai lands and Keauhou is mauka.

Kupakoa K., Sworn

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<sup>76</sup> This description identifies the crater near Hainoa at summit of Hualalai.

I was born at Holualoa, North Kona, Hawaii at the time of building Kiholo [1810-1812], lived at Kona until the year 1867, when I moved to Honolulu and I still reside here. Know the land of Keauhou and a part of its boundaries. Puhi, K., a cousin of Keakaokawai's now living at Kalihi, pointed out the boundaries to me. He was a kamaaina of the mountain having been born and brought up there. (S. K. Kaai says he is old and sick). I do not know the boundaries at shore, only on the mountain.

Keauhou 2d cuts off Keauhou 1<sup>st</sup> a little mauka of a place called Nakipapaakalehuna some koa trees in the woods. Keauhou 1<sup>st</sup> does not reach mauka of the koa, but ends where they used to cut canoes. Thence the boundary of Keauhou 2d runs across the head of Keauhou 1<sup>st</sup> to Keanaaipu (a cave) at the junction of Kahaluu.

Thence along Kahaluu (in the woods) to Kanoa, a point of koa and mamani trees, the place where the fire from Kau, on the mountain went out. Thence along the land of Kaumalumalu to Huaikaumauma, koa trees and mamani, on the Kohala side of Judd road. Keauhou taking the land mauka of the woods and Kaumalumalu the woods.

Thence the boundary runs towards the mountain along Holualoa 4<sup>th</sup> to Laenaia [Laenaio] (a grove of trees). Thence along Holualoa 2d (Laenaia being on that land) along the mauka edge of the woods to a gulch called Waiaha, an awaawa where water flows when it rains, thence along the land of Puaa to a hill called Puulalaau, to land of Honuauula; thence along this land to the top of Hualalai mountain to a hill called Honuauula. This hill is on the land of Honuauula, and the boundary [page 448] of Keauhou 2<sup>nd</sup> running along at the foot of the hill. Thence along this land to Kilohana, a resting place on the pali, where the mountain slopes towards Waimea; thence down to Keanapaki, a small cave where bird catchers used to live; the mauka corner of Honuauula and junction of Kaupulehu with Keauhou and with Puaawaa; thence the boundary runs along Puaawaa mauka to Kuhaalele, a cave; thence to Ohiapapaawai, a water hole in among ohia trees. Thence to Kahulinanui, a lae aa, where Puawaa ends and Kaohe and Kapapala corner on the boundary of Keauhou (this is a place where the bird catchers used to quarrel).

Thence along around land of Kaohe (the aa being on Keauhou 2<sup>nd</sup>) up Mauna Loa to the alohi pahoehoe; thence along the land of Kapapala (pahoehoe on Kapapala) to the Keanakalehuna Akako [?], a water hole in a cave on the side of the mountain; thence up the mountain to Puumau, a hill on Keauhou near the boundary; thence to where the snow covers the mountain, where Keauhou 2d ends, so my informant told me, as there was no waiwai there, and Keauhou 2d does not reach to Mokuweoweo; thence to Pohakuhanalei, a rock on the Southern slope of the mountain. Thence down to Puulonalona, a hill along Kahuku, where Kapua joins Keauhou. I have been there. Thence towards Kona along the mauka edge of the woods, cutting off South Kona lands, to Honaunau, to a place called Ohiakuapu, a grove of koa trees that runs mauka. Honaunau takes the koa; thence along mauka edge of woods, the grove of koa mauka being on Keauhou to Keahou, an old lava flow, junction of Kealakekua; thence along Kealakekua to a place I do not remember the name of; Thence along Onouli (it runs out on old aa flow); thence along Kanauaauwe [Kanaueue], along the mauka edge of the woods to Uwaukanipo, a kualapa mauka of Waio; thence to Kaneeneenui taking in Waio; thence to Anakolekolea, a cave mauka of the boundary of Honalo. I do not know where these lands join Keauhou. the koa from which we used to make canoes, is all

on makai lands and Keauhou is mauka. All that I know about [page 449] the boundaries, is what Puhi told me.

[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449]

Puhi, an old kama'aina born in Kona, mentions Mawae, a water hole and burial cave and that Huaikaumana was a place where the canoe makers used to have a heiau.

Puhi K. Sworn (quite an old man)

I was born in Kona time of the Peleleu [ca. 1793-95], at Hokukano, Keakaokawai knows a part of the boundaries. His brother knew them. I have forgotten the names of the places on the boundary. The ones Kupakoa testified to are the right boundaries; he told me the points he testified to yesterday. I cannot remember the places.

Keauhou 1<sup>st</sup> ends in the koa woods. It is cut off by Keauhou 2d at a place called Mawae where there is a water hole, and a cave where my relations are buried. The boundary is way makai of this place. Keauhou 2d takes the land where they used to catch uwau, on the mauka side of the woods, cutting off Kahaluu and Kaumalumalu. Do not remember the names of the points Kaumalumalu reaches to Huaikaumauna, junction of Kaumalumalu, Kahaluu and Keauhou. it is an ahua in the koa woods, where the canoe makers used to have a heiau. Keauhou cuts off Holualoa 2 (do not remember names of places); thence Honuaula bounds Keauhou and runs up the mountain. I do not remember the name of the point where Honuaula joins Keauhou.

[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Puhi K. 1874:v.A1, p450]

Chas. Hall, a kama'aina of Kona, mentions Puepuewai which is a spring in the pahoe-hoe and Ahuami.

Chas. Hall K., Sworn (same witness as on Kahuku)

I have lived in Kona thirty-seven years, and know the land of Keauhou 2d; am a kamaaina of Kona and know a part of the boundaries of Keauhou. Kahilo, Kuluahi; father of Keakaikawai and Kini pointed them out to me at different times. Kahilo is still living and I hear he gave his testimony on this land last year. The other two men are dead. I do not know the makai boundaries. Kahilo went with Captain Cummins and myself and pointed out the boundaries when Cummins leased this land. Kahilo and Kaluahi pointed out boundaries at the same place on the south side of Governor Adam's road, but Kini pointed them out as being further mauka but nearly the same place. Kini pointed out the boundary as being a short distance makai of Puulehua on Governor Adam's road and running straight to Waiio, Puulehu is a hill. There is a pali on Governor Adam's road, on the boundary of Keauhou, and near the pali there is a sandal wood tree; the only one I know of that grows so far down on the road, towards Kau. They did not show me boundaries as we went to Kau way above the woods on the pahoe-hoe. I cannot say anything about boundaries beyond Waiio. Kuluahi and Kahilo pointed out the boundaries as being about one mile [page 253] makai of Waiiu [Waiio]. Going to Kau with Kini we went from Waiiu to Hale o Umi, since destroyed by the lava flow. I cannot give the boundaries from Waiiu to Kukuio-pae as I have not been along there in the woods.

Keauhou cuts Manukaa [Manuka] off to the westward of Halepohaha. I know the boundary as I used to drive goats there. I have always heard that Keauhou cuts all South Kona lands off at the mauka edge of the woods. On the North side Kahilo pointed out the boundary as running along the base of Hualalai, passing Kohala side of Huaumi (or Ahuaumi). He is the only one who pointed this out to me. I have always heard that Keauhou joins Kaohe of Hamakua; the boundary runs to the kipuka running past Keamoku, to a point among the hills mauka of these clinkers.

CX'd.

I cannot point out the boundaries from Puulehua to Waiio. I put more confidence in what Kuluahi showed me than in what Kini showed me, as he was a much older man and had been living longer in the mountain. I know a spring called Puepuewai. It is one the pahoehoe some distance mauka of the woods. I do not know that Kaupulehu reaches to Keauhou. I have never heard that Keauhou takes to the top of Hualalai.

Evidence taken on Kahuku March 13<sup>th</sup> 1873 for boundaries of Keauhou, adjoining Kahuku as Mr. Hall states that he will give his testimony just the same as at that time.

See Folio 143 and 144, Book A.

Know the land of Keauhou in Kona. I have often gone onto the plains above the woods and have come across from Kona to Kau twice; above the woods. It was a long time ago. Came up through the woods to Hale a Umi, and looked at it, it is about eight or ten miles above the woods, but was covered up by the lava flow of 1845 or thereabouts. From there I went to Ahuaumi up above there and slept there in a crack of the pahoehoe. [page 254]

The father of Keakaikawai was my kamaaina from there we went to the Bay. I think Hale o Umi is mauka of Kipahoehoe, the distance between this and Ahua Umi is about fifteen or eighteen miles. Hale o Umi is on Keauhou. Heard that Ahua Umi on the boundary of Kau and Kona, about nine or ten miles from here. Kini was my kamaaina the second time I came across. Keakaikawai's father piloted me all over Maunaloa and Maunakea. One Ahua Umi is near Hualalai (2d Ahu a Umi); he told me Kahuku and Keauhou ran straight up Maunaloa, following a ridge all the way.

I have heard Ahu a Umi, near Hualalai is on Keauhou. Keauhou runs over to Puanahululu and meets Kaohe and Humuula; thence runs up the mountain with Humuula, on the Hilo slope to Pohakuhanalei. Different kamaaina have pointed out these different places. Kuakini of Puako and others showed me these places. The father of Keiki and Kini showed me the boundaries on this side. Keakaikawai is the son of one of my kamaaina and he himself is a kamaaina on the mountain.

CX'd.

I could talk better native when I came across from Kona to Kau than at the present day. Came down here from Ahua Umi. I have been up from Kapua to Ahu a Umi and understood that Keauhou cuts off Kapua below Ahu a Umi. Also Kaulanamauna is cut off and from there the boundary of Kau and Kona runs direct to the top of the mountain. My opinion of the direction of the line of boundary

between the Districts is based on the direction at shore. There is no land in South Kohala running side by side with Kona lands, to the top of Mauna Loa, cut off by Hamakua. Kona and Kau run to the top of the mountain. Humuula runs up a long way but not to the top. There are two places on the mountain called Pohakuhanalei, one is a rock on the Northeast slope, the other is a crater on the South slope. The latter is not pointed out as a boundary. I have only crossed the boundary they pointed out to me; a ridge running up to the top of the mountain and to the other side. [page 255]; said ridge running between the craters of Mokuweoweo and Pohakuhanalei.

Pohakuhanalei is about south of Mokuweoweo and I think that is in Kau.

Have never heard what land Mokuweoweo is on. Have always heard that Kahuku joins Keauhou mauka and that Kahuku and Kapapala join at Pohakuhanalei, on the northeast slope of Mauna Loa, but I do not know how far this way they join. Have worked in the woods and above Kahuku mauka of Waiohinu, catching goats and heard that Waiohinu cuts off all the lands of Kapapala. I can show pretty nearly the place where Hale o Umi was. Hale o Umi was built of six stones and was so close to the mountain that I could not see far towards Kau or Kohala. At Ahu a Umi on the boundary of Kona there are four or five piles of stones in a mawae or crack; there are two red hills in an easterly direction from Ahu a Umi, and a water hole near one of them. From this point it is two or three miles directly towards the sea, before you come to the thick woods.

[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Chas. Hall K. 1874:v.B, p253]

Kahueai mentions Umiwai, a place with water in the woods.

Kahueai K., Sworn (same as on Kaupulehu)

I know the land of Keauhou and the boundaries on this side and mauka. I do not know the boundaries between Keauhou and Kahalu [Kahaluu]. I know the boundary Kaumalumu and Keauhou. It is at Palinui at the lae mamani beyond Hall's premises (Kekuakua ma told me boundaries.[])] Thence to a place called Kapunalei, thence [page 256] to a cave called Pihapono; thence across the head of Holualoa to the kahawai and thence to Kapukaiki, a cave. Boundary running across the head of Puuaa [Puaa]; it runs to a place where a dog that came from Waipio staid, Pupuaalenalena. Thence to Puulaalaau; thence to Umiwai, the boundary follows along mauka of Puulaalaau to mauka of Umiwai, water in the koa woods. Thence to a gulch called Pohakuloa; thence mauka along this gulch to the hill called Honuaula; thence to Hualalai, junction of Kaupulehu and Keauhou; thence along Kaupulehu to the aa, makai of Pualala.

Commencing at Hualalai, the junction of Kaupulehu with Keauhou, thence to Napuumahoe thence to Ihuano [Ihuanu]; thence to Puualala; thence to lae aa, where you see Mailihahei beyond aa. Thence along Puawaa to Keanapakii, a cave; thence to Kuhalele, a cave covered by the lava flow; thence to Ohiapapawai, in the lava flow; thence to Naohuleelua junction of Kaohe, Kapapala and Keauhou; there used to be three ahus there; perhaps they are now covered by the flow. This is as far as I know the boundaries.

CX'd.



I have heard that Uwauliilii is on the boundary between Keauhou and Kaawa.

Have heard that Waiio is on the boundary of Keauhou. Have never been to Kau. I do not know where Kahuku is; have never heard of the land. I do not know whether Keauhou extends to Mokuweoweo or not.

[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahueai K. 1874:v.B, p256-257]

Komaka, is listed as giving testimony prior, mentions Ulimau, a pūnāwai, and a water hole that Komaka found called Komakawai.

Balance of the testimony of Komaka

From Folio 259 of this book

From Ka Hale o Umi, junction of Keauhou and Kahuku I have always heard that Keauhou cuts off the Kona lands at the mauka edge of the woods. Do not know what lands run through woods. Heard Kaapuna ends at Ahinui; Opihale [Opihiale] 2d at Ulimau, a punawai about as far as [page 319] from here to Capt. Gates' house, above woods.

Thence along edge of koa along Opihale 1<sup>st</sup>; thence along Olelomoana 2d, along koa grove, thence along edge of woods along land of Kolo; thence along Kukuiopae, along koa grove. I pointed out the place to Keanapaakai. Thence to Kukuiopae 1<sup>st</sup> along hollow Kapai, mauka end of Kukuiopae 1<sup>st</sup>. Runs up as far as hollow extends. The Kau boundary is the Kona side of goat pen above the water hole where we got water the first night. Thence along Kaohe 5, 4, 3, 2, 1 along edge of woods. Kaohe of Kaopua ends mauka of Polewai at Kapualei, a short distance from where we ate. The lands this side of there end at the koa. Have heard Pahoehoe ends at Kamakaili, the lae mamani in awaawa; thence along Alae to Puoluamanu; thence along Honokua 2 to Kaopapa, a cave near the koa; thence along Honokua 1st.

Have heard it ends at the koa at Puuikaiole, the goat pen mauka of Lumia, a hill. From there I do not know where Waiea ends. Have (not) (heard) from my makua that it runs to the Alohi; thence to water hole I found, named Komakawai, because I found it where we slept. Do not know what land it is on. I have always heard that Kealia and Hookena do not reach above woods. Have heard that Hookena reached to a few scattering koa trees on Kau side of Kealia trail, but not to Laemamani out on Pahoehoe. This is as far as I know the boundaries between Keauhou & shore lands. I have been around there chasing goats on this side.

[Boundary Commission Testimony: Keauhou 2 Ahupua'a, Komaka. 1874:v.B, p319-320]

Table 3. Keauhou Ahupua‘a Inventory of Inoa ‘Āina, Wai Resource, and Other Resources & Practices from Boundary Commission Testimonies.

| Inoa ‘Āina   | Wai Resource  | Other Resources & Practices  |
|--------------|---|--|
| Aahuwela     | Cave that used to have water in it (Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Keakaokawai K. 1873:v.A1, p256). | -  |
| Ahuwela      | Cave with water in it (Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Kahulialo 1873:v.A1, p263).                   | -  |
| Anakolekolea | -   | A cave mauka of the boundary of Honalo (Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Kupakoa K. 1874:v.A1, p448-449).  |
| Haalulu      | -   | A hill (Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Keakaokawai K. 1873:v.A1, p256).  |
| Halelaau     | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Kakio 1873:v.A 1, p270).  |
| Haliilaukoa  | -   | Place where ‘Umi sat and they spread koa leaves for him (Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Keakaokawai K. 1873:v.A1, p256).<br>An old tradition says Umi used to sit there because he liked the koa (Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Kahulialo 1873:v.A1, p263). |
| Hapukaa      | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Keakaokawai K. 1873:v.A1, p256).  |
| Hoikekanaka  | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua‘a, Kahilo K. 1873:v.A1, p261).   |
| Holua        | -   | Name of old (hōlua) sliding place  |

| Inoa 'Āina             | Wai Resource                                       | Other Resources & Practices  |
|------------------------|--|--|
|                        |  | (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A1, p266).  |
| Huaikaumauna           | -  | <p>A lae koa on the kualapa (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keliikanakaole K. 1873:v.A1, p269-270).</p> <p>A junction of Kaumalumu, Kahaluu and Keauhou, and an ahua in the koa forest where canoe makers used to have a heiau (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Puhi K. 1874:v.A1, p450).</p> |
| Kaaawa                 | -  | <p>Pahoehoe with ohi'a and other kinds of trees growing (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).</p> <p>Grove of naio and a'ali'i (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).</p>   |
| Kahinihiniula          | -  | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A 1, p270).  |
| Kahulinanui            | -  | <p>An ahua pohaku built by Hamakua men and now covered by lava (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keliikanakaole K. 1873:v.A1, p269-270).</p> <p>A place where the bird catchers used to quarrel (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449).</p>                           |
| Kaimuhapuu (Kaimuhapu) | Water hole (Boundary Commission Testimony: Keauhou | -  |

| Inoa 'Āina                  | Wai Resource   | Other Resources & Practices  |
|-----------------------------|--|--|
|                             | <p>2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).</p> <p>A water hole in Okolea that is on the boundary between Honalu and Keauhou (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Waiiau K. 1873:v.A1, p268-269).</p> |  |
| Kakai a lae Koa             | -  | Koa grove (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).   |
| Kaluamakani / Kalalakaukolo | -  | Name of place at the top of Hualalai (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keliikanakaole K. 1873:v.A1, p269-270).               |
| Kalulu                      | Water hole and place for catching birds (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahulialo 1873:v.A1, p263).  | Place where they would catch birds (Uawau) in olden times (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256). |
| Kamauae [Kamauai]           | -  | Fishing heiau (Boundary Commission Testimony: Keauhou 1 Ahupua'a, Lono 1873:v.A1, p318-320).   |
| Kamoike                     | -  | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256)   |
| Kamomoku                    | -  | A small pali (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Waiiau K. 1873:v.A1, p268-269)  |
| Kanakaliikapu               | -  | An 'āhua pōhaku (Boundary Commission Testimony: Keauhou 1 Ahupua'a, Lono 1873:v.A1, p318-320).   |
| Kanauaauwe / Kanaueue       | -  | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1,   |

| Inoa 'Āina       | Wai Resource   | Other Resources & Practices   |
|------------------|--|---|
|                  |  | p448-449).  |
| Kaneeneenui      | -  | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449).   |
| Kanekii          | <p>A small water hole that dries up in dry weather (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).</p> <p>A water hole on Kealakekua near the boundary (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Waiau K. 1873:v.A1, p268-269).</p> | -   |
| Kanoa            | -  | A point of koa and mamani trees, where a fire from Ka'ū went out (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449). |
| Kanoanoana o Umi | -  | 'Umi's road (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Kanupa           | -  | A cave (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keliikanakaole K. 1873:v.A1, p269-270)   |
| Kaonohi          | -  | A cave (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahulialo 1873:v.A1, p263).  |
| Kapapakauheana   | Round water hole (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  | -   |
| Kapapala         | -  | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).   |

| Inoa 'Āina    | Wai Resource | Other Resources & Practices  |
|---------------|--------------|--|
| Kaukahoku     | -            | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Kaumalumalu   | -            | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Kaumoku       | -            | A hill (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahilo K. 1873:v.A1, p261).   |
| Kawaha o Pele | -            | A large māewa (fissure or crevice), (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).<br>A hill with a crater (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahilo K. 1873:v.A1, p261).       |
| Keahou        | -            | An old lava flow (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449).<br>"Ancient fishing rights extending out to sea," (Boundary Commission Testimony: Keauhou 1 Ahupua'a, Lono 1873:v.A1, p318-320). |
| Keakui        | -            | A road made by bird catchers (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keliikanakaole K. 1873:v.A1, p269-270).   |
| Keanaakala    | -            | A cave (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Keanakiha     | -            | Small cave where natives used to sleep (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |

| Inoa 'Āina     | Wai Resource  | Other Resources & Practices  |
|----------------|---|--|
| Keanaokalehuna | A water hole in a cave on the side of the mountain (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449). | Place where a Hamakua man was killed for stealing food at Keauhou (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keliikanakaole K. 1873:v.A1, p269-270).  |
| Keanapaki      | -   | A place where bird catchers used to live (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449).  |
| Kepuhi         | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Kepulu         | -   | A place where there is soil and no rocks (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahulialo 1873:v.A1, p263).<br><br>A "pulu lepo," (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keliikanakaole K. 1873:v.A1, p269-270). |
| Kikikiaeae     | -   | Place where canoe makers used to live (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Waiou K. 1873:v.A1, p268-269).   |
| Kilohana       | -   | Place for bird-catching (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).   |
| Kipukauki      | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Kolekole       | -   | An 'āhua with koa in the middle (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahulialo 1873:v.A1, p263).<br><br>Hill where Humuula joins Keauhou (Boundary Commission   |

| Inoa 'Āina       | Wai Resource  | Other Resources & Practices  |
|------------------|---|--|
|                  |   | Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Komakawai        | A water hole (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Komaka. 1874:v.B, p319-320).         | -  |
| Kulaulala        | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Laaunui          | -   | Name of large ohi'a tree (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahilo K. 1873:v.A1, p261).                                 |
| Laenaio /Laenaia | -   | A grove of tree (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449).                                     |
| Lehuulanui       | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Lekeleke         | -   | A crack in the rock where natives used to put their dead (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahilo K. 1873:v.A1, p261). |
| Lumia            | Water hole and pūnāwai (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Palea K. 1873:v.A1, p263). | -  |
| Makaulaula       | -   | Place to live while bird catching (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahulialo 1873:v.A1, p263).                        |
| Mawae            | Water hole (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Puhi K. 1874:v.A1, p450).              | A burial cave (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Puhi K. 1874:v.A1, p450).  |
| Naohuleelua      | -   | A cave (Boundary Commission  |



| Inoa 'Āina       | Wai Resource  | Other Resources & Practices  |
|------------------|---|--|
|                  |   | Testimony: Keauhou 2 Ahupua'a, Keliikanakaole K. 1873:v.A1, p269-270).   |
| Napueuala        | -   | An "oi'oina" or point, cape, headland, (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A 1, p270).  |
| Nohomoanahoaiuku | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).  |
| Ohiakuapu        | -   | A grove of koa trees that runs mauka (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449).  |
| Ohiapapaawai     | A water hole amongst the ohi'a trees (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449). | -  |
| Ohiki            | A spring (Boundary Commission Testimony: Keauhou 1 Ahupua'a, Lono 1873:v.A1, p318-320)                                    | Old cultivating ground, old mahi 'ai place in the woods.   |
| Onouli           | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kupakoa K. 1874:v.A1, p448-449).  |
| Paaniau [Paniau] | -   | A pali, a long stone wall (Boundary Commission Testimony: Keauhou 1 Ahupua'a, Lono 1873:v.A1, p318-320).   |
| Palahinui        | -   | A koa tree forest (Boundary Commission Testimony: Keauhou 1 Ahupua'a, Lono 1873:v.A1, p318-320).<br><br>A large cave where people used to live (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A1, p266). |
| Piipaa           | -   | A cave (Boundary Commission Testimony: Keauhou 2 Ahupua'a,   |

| Inoa 'Āina    | Wai Resource  | Other Resources & Practices  |
|---------------|---|--|
|               |   | Kahilo K. 1873:v.A1, p261).  |
| Pohakuhanalei | -   | Hill on Mauna Loa (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).     |
| Pohakuloa     | -   | Large rock near water hole (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahilo K. 1873:v.A1, p261). |
| Poo Hoohia    | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahilo K. 1873:v.A1, p261).               |
| Puainako      | -   | A place name (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A 1, p270).                  |
| Puepuewai     | Spring on the pāhoehoe (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Chas. Hall K. 1874:v.B, p253).         | -  |
| Pupuewai      | Water hole (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256).                   | -  |
| Puuakawai     | Old water hole now filled up (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai K. 1873:v.A1, p256). | -  |
| Puulaalaau    | -   | A place name (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).             |
| Puulepo       | Hill with a water hole below (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Waiau K. 1873:v.A1, p268-269).   | -  |
| Waiaha        | A gulch where water flows when it rains (Boundary Commission Testimony: Keauhou 2 Ahupua'a,                       | -  |

| Inoa 'Āina  | Wai Resource   | Other Resources & Practices   |
|-------------|--|---|
|             | Kupakoa K. 1874:v.A1, p448-449).   |   |
| Waiea       | -  | Extent of which bird feathers were gathered (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahilo K. 1873:v.A1, p261). |
| Waikui      | Large cave of water (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A 1, p270).           | -   |
| Waikulukulu | Cave with water in it (Boundary Commission Testimony: Keauhou 1 Ahupua'a, Lono 1873:v.A1, p318-320).       | -   |
| Waio        | Spring (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahilo K. 1873:v.A1, p261).                     | -   |
| Ulimau      | Pūnāwai (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Komaka. 1874:v.B, p319-320).                   | -   |
| Umiwai      | Water in the koa woods (Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kahueai K. 1874:v.B, p256-257). | -   |

## Gianulias Parcel Boundary Commission Testimony Discussion

All of the ahupua‘a that the Gianulias subject parcel spans were also included in the Boundary Commission Certification Process. This includes the ahupua‘a of Pua‘a, Wai‘aha, Kahului, and Puapua‘a (See Table 4). The following discussion details the kanaka who lived in these ahupua‘a and gave testimony, as well as excerpts from the testimony and certificate tied to places, practices, and resources in the subject ahupua‘a.

Table 4. Select Ahupua‘a with Named Localities and Kama‘āina cited in Boundary Commission proceedings in the area of the Gianulias Subject Parcel

| Ahupua‘a         | Place Names  | Kama‘āina Residents  |
|------------------|--|--|
| Gianulias Parcel |  |  |
| Puaa             | AianiniHilia (punawai)<br>Hilio<br>Holoke (Punawai)<br>Honu (an upland punawai)<br>Honuaula<br>Kaalaeia<br>Kahawai o Holualoa<br>Kahuku<br>Kainakelekele (olona growth)<br>Kanakehipahoa (?)<br>Kanuawa<br>Kanenehu<br>Kanoweana<br>Kaopapa<br>Kapapai<br>Kawi<br>Keahupuaa<br>Kekawa (Kekapa)<br>Kiai<br>Kipukaiki<br>Kolioaio<br>Kuinakihei<br>Liuike (Luaiki)<br>Namahana (Olona growth – canoe making site)<br>Nakakai<br>Nuanulapalapa (Nuuanulapalapa)<br>Pahuaukii<br>Pali Kookoolau<br>Palule (water source)<br>Pohakuloa<br>Poholua<br>Puakauahi<br>Puepuelenalena<br>Puulalalaau (Puulaalaau)<br>Puuokaloa<br>Puuomaio (Puu o Naio?)<br>Umiwai<br>Waiialala<br>Wainakelekele | Kahaunele<br>Kahio<br>Kahueai<br>Kamahiai<br>Kapana<br>Kauwa<br>James Kole<br>Makahiehie<br>Naihe<br>Napuwailuna<br>Pupule |

| Ahupua'a         | Place Names  | Kama'āina Residents  |
|------------------|--|--|
| Gianulias Parcel |  |  |
| Waiaha           | Maiahuna (banana grove)<br>Makaihuliwaa<br>Papalanui<br>Pupuula<br>Puuokaloa<br>Waialipi (water hole)  | Kapukui<br>Makahiehie<br>Peahi   |
| Kahului          | Kaaipaka<br>Kakapa<br>Kalalii<br>Kealaehu (also Alau a koele)<br>Palule<br>Papalanui<br>Pohakuhano<br>Popoulu<br>Puukehoi<br>Puukohia<br>Puuokaloa<br>Puuokoheo<br>Waiakalaho spring<br>Waiakekua spring<br>Waiahuna (Waihuna) spring<br>Waikee  | Kapae<br>Makuakane<br>Niniha   |
| Puapuaa          | Kaaiiau<br>Kahananuialewa<br>Kahiaholo<br>Kaluaele (water hole)<br>Kaopapa (punawai)<br>Kauhiapapa (water hole)<br>Kaumupoalua<br>Keawapuapua (Keawapuapuaa)<br>Puapae<br>Pahoa<br>Poomaka<br>Puapai<br>Puapualoa<br>Puhanoi<br>Puhuihiu (awaawa)<br>Pukahano<br>Puukiihoe<br>Puuopelu | Kahaunele<br>D. Alawa<br>Kalimapaa<br>Kawaihoa<br>Keawe<br>Mahalo<br>Piki<br>Simeona<br>Ukumea |

## Pua‘a Ahupua‘a

Listed below in this section are the boundary commission testimonies recorded for the ahupua‘a of Pua‘a.

Kauwa, a kama‘āina of Pua‘a, mentions Holoke, Palule, and Honu which were all sources of water. Also mentions many place important place names.

Kauwa W., Sworn

I was born at Puaa, North Kona, Hawaii, at time of Keoua [ca. 1792], and have always lived there, and am acquainted with the boundaries of the land. Kahio, my father (now dead), who was a kamaaina, and bird catcher told me the boundaries.

Puaa is bounded makai by the sea and the land has ancient fishing rights near the shore, but not extending out to sea. Thence commencing at a punawai by the seashore called Holoke, between the lands of Puaa and Auhaukeae and running mauka to Poholua, a huli pali near the shore and just above a house; thence along iwi aina, the boundary runs mauka to Kuinakihei, an oioina way above pa aina; or Governor Adam's wall; thence to Puukole, a breadfruit tree; thence to Nuanulapalapa [Nuuanulapalapa?], a kualapa; thence mauka to Keahupuaa, the [page 376] boundary follows the iwi aina, along all these places; thence to a kihapai by the mauka Government road; thence to an Ahupohaku; thence along the iwi aina to Kanoweana, an old kauhale, a [illegible] bushes and a Puuhala tree are at this place from thence to Kanakehipahoa [?], a banana grove at the edge of the woods, said grove is the mauka end of Auhaukeae. Thence the boundary runs towards Kohala; first cutting off the land of Hianaloli 1, 2, 3, 4, 5 & 6 and then Auhaukeae 1 & 2 to Luaike [Luaiki], junction with Honuaula. I have not seen this place. I have only heard about it being on the edge of the woods. Thence Puaa runs along the land of Honuaula to Mamahana wai olona [Mamahana a damp area of olona growth].

(I have only heard of the boundaries in the woods, have never seen them[]).

Thence mauka to Kainakelekele, wai olona, and where olona grows; thence the boundary runs mauka to the side of a gulch called Honuaula (said gulch comes out of woods on Hianaloli); thence mauka along the South side of the gulch to Kapapai, a place where two old roads used to meet on a pali above the woods, from thence the boundary turns toward Kau. Along Honuaula to Pulalalaa [Puu Laalaa], a hill; Keauhou 2d is mauka of the hill and Honualua [Honuaula] is on the North side, Puaa and Holualoa corner there.

Thence makai along Holualoa to kahawai – o – Holualoa, the boundary line passing to the North side of it; thence makai along the gulch to Palule, a pahihi and Wai aoao [auau?]; thence makai leaving the gulch and running to a place called Puuokaloa; passing along Kahului 2<sup>nd</sup>, through a lae mana (sharp ferns like uluhi [uluhe]); thence cutting across Kahului 1<sup>st</sup>, Kahului 2<sup>nd</sup>, Waiaha 1<sup>st</sup> and Waiaha 2d and Puaa 3d and running mauka to a punawai at the mauka corner of Puaa 2d called Honu; at the makai edge of the forest. Thence makai to Kanenehu, an old kauhale; thence makai along the iwi aina and through the fern to Pahuaukii, a kihapai at the Government road; and in the middle of the land; This is a mistake; I should have said to Palikookoolau, a small pali on the road and thence to

Pahuaukii; Thence to a huli pali on the North side of some houses, and thence to banana trees growing on the huli pali; thence makai to Kawi, and thence to Pailima; thence makai to Hiilia, a punawai; thence to Kekawa, at the seashore. Hiilia is mauka of [page 377] Governor Adam’s wall, and Kekapa [?] is the awaawa kai, with points each side. The boundary is between the two.

Puaa has ancient fishing rights extending to the squid grounds.  
 [Boundary Commission Testimony: Pua’a 1 Ahupua’a, Kauwa K. 1873:v.A1, p376]

Kahueai, a kama’āina of Kona that lives in Puaa, mentions Namahana, a place where they used to make canoes, Aianini, which is a water hole and few other place names within Pua’a.

Kahueai K., Sworn (same witness as on Keauhou 2d)  
 I now live on Puaa 2d. The boundary at shore on the Kau side is Nakakai, owned by Pupule, the mauka corner of Pupule’s land on Puaa 2d is at Kaopapa. There it leaves the gulch and runs toward Kau to a place called Puuokaloa cutting of [f] Puaa 2d and Puaa 3d. Waiaha 1st and Waiaha 2d and two Kahuluis to the gulch. Adjoining Holualoa, thence along the kahawai to Kipukamana, a kipuka in the woods; Thence to Palule where koa grows; thence mauka along the kahawai to Namahana, where we used to make canoes; thence along the gulch to Aianini [?], a water hole in the gulch; thence up to Kipukaiki a cave; thence along Keauhou to Puepuelenalena; to Puulaalaau; thence to mauka of Umiwai; thence to Pohakuloa, a gulch the junction of Puaa 1<sup>st</sup> with Honuaula; Thence down the gulch to Kolioaio, a kauhale kalaiwaa; thence makai to Wainakelekele, crater in gulch; thence to Waialaala, a kauhale, thence to [page 244] the lower edge of the woods, to Kahuku, a banana grove; thence the boundary leaves the gulch, and runs across the heads of the Hianalolii and Auhaukeae to Kaalaeia (the koa is on all Puaa); thence to Kunuawa, a large banana grove, thence makai along Hauiio’s land and thence along Ukumea’s land and then along Kole to the sea shore. Bounded makai by the sea. Ancient fishing rights extending out to sea.

CX’d.

Note: J.G. Hoapili states that he can find no more kamaaina of this land. Copy testimony on Keauhou 2d and Holualoa adjoining Puaa 1<sup>st</sup>, as evidence on Puaa 1<sup>st</sup>. [Boundary Commission Testimony: Pua’a 1 Ahupua’a, Kahueai K. 1874:v.B, p244-245]

Table 5. Pua’a Ahupua’a Inventory of Inoa ‘Āina, Wai Resource, and Other Resources & Practices from Boundary Commission Testimonies.

| Inoa ‘Āina | Wai Resource   | Other Resources & Practices   |
|------------|--|---|
| Auhaukeae  | -  | A place name (Boundary Commission Testimony: Pua’a 1 Ahupua’a, Kauwa K. 1873:v.A1, p376). |
| Aianini    | A water hole (Boundary Commission Testimony: Pua’a 1 Ahupua’a, Kahueai K. 1874:v.B, p244-245). | -   |

| Inoa 'Āina         | Wai Resource   | Other Resources & Practices  |
|--------------------|--|--|
| Auhaukeae          | -  | A place name (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).                            |
| Hianalolii         | -  | A place name (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).                       |
| Hiilia             | Pūnāwai (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).                                 | -  |
| Holoke             | Pūnāwai at the seashore (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).                 | -  |
| Honu               | Pūnāwai at the makai edge of the forest (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376). | -  |
| Kaalaeia           | -  | A place name (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).                       |
| Kahuku             | -  | A banana grove (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).                     |
| Kainakelekele      | -  | A place where olonā grows (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).               |
| Kanakehiapaho<br>a | -  | A banana grove at the edge of the woods (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376). |
| Kanenehu           | -  | An old kauhale (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).                          |
| Kanoweana          | -  | An old kauhale (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).                          |



| Inoa 'Āina         | Wai Resource  | Other Resources & Practices  |
|--------------------|---|--|
| Kapapai            | -   | A place where two old roads used to meet (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).    |
| Kipukamana         | -   | A kīpuka in the woods (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).                  |
| Kolioaio           | -   | A kauhale kālai wa'a (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).                   |
| Kole               | -   | A place name (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).                           |
| Kuinakihei         | -   | An 'oi'oina (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).                                 |
| Kunuawa            | -   | A large banana grove (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).                   |
| Mamahana wai olona | "A damp area of olona growth," (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376). | -  |
| Namahana           | -   | A place where they used to make canoes (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245). |
| Nuanulapalapa      | -   | A kualapa (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).                                   |
| Pahuaukii          | -   | A kīhāpai (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).                                   |
| Pailima            | -   | A place name (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).                                |

| Inoa 'Āina     | Wai Resource   | Other Resources & Practices  |
|----------------|--|--|
| Palule         | A pāhihi and wai 'au'au (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376). | -  |
| Poholua        | -  | A huli pali near the shore (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).  |
| Pua'a          | -  | The ahupua'a of Pua'a has ancient fishing rights extending out to sea and to the squid grounds, (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376). |
| Puepuelenalena | -  | A place name (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).   |
| Puukole        | -  | Name of a breadfruit tree (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kauwa K. 1873:v.A1, p376).   |
| Waialaala      | -  | A kauhale (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).  |
| Wainakelekele  | -  | A crater in the gulch (Boundary Commission Testimony: Pua'a 1 Ahupua'a, Kahueai K. 1874:v.B, p244-245).  |

### Wai'aha Ahupua'a

Peahi, a resident of Wai'aha for 16 years, recounts a watering hole called Waialipi and a banana grove named Maiahuna.

Peahi K. Sworn

I was born at Kohala at the time of Kiholo [XX 18 XX], when I was married I came here and have lived here ever since. Know the land of Waiaha. Lived there sixteen years. A water hole called Waialipi is on the boundary between the two Waiahas. Waiaha 2d is bounded by Waiaha 1<sup>st</sup> to a banana grove at the edge of the woods, called Maiahuna. Waiaha 2d is bounded on the South side by Kahului. The land is sold to Kapae K. from shore to the Government road. Thence along Kahului 2d to

Puukaloa, where I had heard it is cut off by Holualoa. Waiaha 1<sup>st</sup> was surveyed from shore to Maiahuna and I do not think it extends far beyond there.

Waiaha 2d is bounded makai by the sea.

Ancient fishing rights extending out to sea.

[Boundary Commission Testimony: Wai’ahu 2 Ahupua’a, Peahi K. 1874:v.B, p269]

Makahiehie, mentions Pamakani and Makaihuliwaa, two resting places of ancient time.

Makahiehie K., Sworn

I was born at Puaa, Kona, at the time of Kumoalii [XX Kaumualii ?], so my parents told me. I know the boundaries of Waiaha; have always lived on these lands. My father told me the boundaries. Waiaha 2d is bounded on the North side by Waiaha 1<sup>st</sup>. Saw Fuller survey Waiaha 1<sup>st</sup> from the shore to Maiahuna; the mauka end of it. Kahului 1<sup>st</sup> bounds Waiaha 2d on the South side. A place called Pamakani is the mauka corner of Kapae’s land. It is a resting place; thence to Papalanui, between Kahului, Aupuni, and Waiaha 2d; thence to Makaihuliwaa, an old resting place; thence to Popoula, the mauka corner of Kahului 1<sup>st</sup> from thence the boundary turns and Waiaha is cut off by Puaa to Maiahuna.

[Boundary Commission Testimony: Wai’ahu 2 Ahupua’a, Makahiehie K. 1874:v.B, p267]

Table 6. Wai’aha Ahupua’a Inventory of Inoa ‘Āina, Wai Resource, and Other Resources & Practices from Boundary Commission Testimonies.

| Inoa ‘Āina    | Wai Resource | Other Resources & Practices   |
|---------------|--------------|---|
| Maiahuna      | -            | Banana grove (Boundary Commission Testimony: Wai’ahu 2 Ahupua’a, Peahi K. 1874:v.B, p269).              |
| Makahihuliwaa | -            | An old resting place (Boundary Commission Testimony: Wai’ahu 2 Ahupua’a, Makahiehie K. 1874:v.B, p267). |
| Pamakani      | -            | A resting place (Boundary Commission Testimony: Wai’ahu 2 Ahupua’a, Makahiehie K. 1874:v.B, p267).      |
| Papalanui     | -            | A place name (Boundary Commission Testimony: Wai’ahu 2 Ahupua’a, Makahiehie K. 1874:v.B, p267).         |
| Popoula       | -            | A place name (Boundary Commission Testimony: Wai’ahu 2 Ahupua’a,  |

|           |  |  |
|-----------|--|--|
|           |  | Makahiehie K. 1874:v.B, p267).   |
| Puuokaloa | -  | A place name (Boundary Commission Testimony: Wai'ahu 2 Ahupua'a, Peahi K. 1874:v.B, p269).                                   |
| Wai'aha   | -  | "Ancient fishing rights extending out to sea," (Boundary Commission Testimony: Wai'ahu 2 Ahupua'a, Peahi K. 1874:v.B, p269). |
| Wai'alipi | A waterhole; described by Peahi as being on the boundary between the two Waiahas (Boundary Commission Testimony: Wai'ahu 2 Ahupua'a, Peahi K. 1874:v.B, p269). | -  |

### Puapua'a Nui Ahupua'a

Ukumea, born in Puapua'a and kama'aina of Puapua'anui, mentions an iwi aina, Kaumupoalua which is a Neneleau grove, Kaluaeale which is a watering hole, and Kaopapa, a pūnāwai.

Ukumea K., Sworn

I was born on Puapua [Puapuaa] at the time of Kauaokekuakalani [XX 18 XX]. I now live at Puapuanui [Puapuaanui]; have lived there most of my lifetime; am a kamaaina and know the boundaries. Kelinopa (now dead), my cousin, showed them to me. Bounded on the North side by Piki, the boundary at shore between these two lands is Keawapuapua [Ke-awa-Puapuaa] on the south side of the awa; thence to Puhano, aa above Governor Adams wall. There is an iwi aina from makai up. Kaumupoalua, a neneleau grove; thence along the iwi to the Government road, passing on the South side of Kaluaeale, a water hole, thence mauka to Kaiaua kihapai, the iwi is on the South side of the kihapai; thence to Kahananuialewa, a large rock at the mauka corner of the land, where Puapuanui is cut off by Holualoa. Thence turn towards the sea along Holualoa 1<sup>st</sup> to Kaopapa a punawai; thence along the iwi aina Uwaunui, an [page 260] old kauhale, the boundary runs through this place and to Puapualoa, a cave on the North side of the boundary; thence to Huloa, a resting place above Governor Adams wall; thence to seashore. I do not know the name of this makai point. Bounded makai by the sea.

Ancient fishing rights extending out to sea.

[Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Ukumea K. 1874:v.B, p260-261]

Mahalo, got control of land for five years, mentions a water hole named Kauhipapa.

Mahalo K., Sworn

I was born at Holualoa. Do not know when. Have always lived there. I had charge of Puapuanui for five years, and looked at the boundaries. Keawe was the man who told them to me. Puapuaiki bounds it on the North side.

Commencing at the seashore on the Kau side of the Awaawa Puhuihu, the awaawa being on the Kau side of the canoe landing; thence to Pakuhano, aa mauka of the wall. The boundary runs along the iwi aina to Kaumupoalua; thence to the South side of Kaluaele following up the Government road; thence to Kaaiau, and through this place to a big stone, the name I have forgotten; there Holualoa cuts Puapuanui off.

Thence makai along his land to Puapualoa; thence to Kauhiapapa, a water hole; thence to the North side of Kauhiaholo; thence to Pahoa; thence makai to Ahuloa; thence to Puuopelu; thence to Kuapae at the seashore. Bounded makai by the sea.

Ancient fishing rights extending out to sea.

Testimony closed

[Boundary Commission Testimony: Puapua‘a Nui Ahupua‘a, Mahalo K. 1874:v.B, p261-262]

Table 7. Puapua‘a Ahupua‘a Inventory of Inoa ‘Āina, Wai Resource, and Other Resources & Practices from Boundary Commission Testimonies.

| Inoa ‘Āina     | Wai Resource   | Other Resources & Practices   |
|----------------|--|---|
| Huloa          | -  | Resting place (Boundary Commission Testimony: Puapua‘a Nui Ahupua‘a, Ukumea K. 1874:v.B, p260-261).                                   |
| Kaaiau         | -  | A kīhāpai (Boundary Commission Testimony: Puapua‘a Nui Ahupua‘a, Ukumea K. 1874:v.B, p260-261).                                       |
| Kahananuialewa | -  | “A large rock at the mauka corner of the land,” (Boundary Commission Testimony: Puapua‘a Nui Ahupua‘a, Ukumea K. 1874:v.B, p260-261). |
| Kahiaholo      | -  | A place name (Boundary Commission Testimony: Puapua‘a Nui Ahupua‘a, Ukumea K. 1874:v.B, p260-261).                                    |
| Kaluaele       | Water hole (Boundary Commission Testimony: Puapua‘a Nui Ahupua‘a, Ukumea K. 1874:v.B, p260-261). | -   |
| Kaopapa        | Pūnāwai (Boundary Commission Testimony: Puapua‘a Nui Ahupua‘a, Ukumea K. 1874:v.B,               | -   |

| Inoa 'Āina                 | Wai Resource   | Other Resources & Practices  |
|----------------------------|--|--|
|                            | p260-261).   |  |
| Kauhiapapa                 | Water hole (Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Mahalo K. 1874:v.B, p261-262). | -  |
| Kaumupoalua                | -  | Neneleau grove (Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Ukumea K. 1874:v.B, p260-261).<br><br>Lennox mentions it as being used to make "calabash and lomilomi sticks" (Lennox, C. 1967. Auwahi Forest Report; Appendix 6. Unpublished report, 3pp.). |
| Keawapuapua / Keawapuapuaa | -  | A place name (Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Ukumea K. 1874:v.B, p260-261).   |
| Pakuhano                   | -  | A place name (Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Mahalo K. 1874:v.B, p261-262).   |
| Pua'a Nui                  | -  | "Ancient fishing rights extending out to sea," (Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Ukumea K. 1874:v.B, p260-261).   |
| Puapai                     | -  | A place name (Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Ukumea K. 1874:v.B, p260-261).   |
| Puapualoa                  | -  | A cave (Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Ukumea K. 1874:v.B, p260-261).   |
| Puhano                     | -  | A place name (Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Ukumea K. 1874:v.B, p260-261).   |
| Puhiuhiu                   | -  | An awaawa or valley (Boundary Commission Testimony: Puapua'a Nui Ahupua'a, Mahalo K. 1874:v.B, p261-262).  |
| Puuopelu                   | -  | A place name (Boundary Commission Testimony: Puapua'a Nui Ahupua'a,  |

| Inoa ‘Āina | Wai Resource | Other Resources & Practices   |
|------------|--------------|---|
|            |              | Mahalo K. 1874:v.B, p261-262).  |
| Uwaunui    | -            | Iwi ‘āina and old kauhale (Boundary Commission Testimony: Puapua‘a Nui Ahupua‘a, Ukumea K. 1874:v.B, p260-261). |

### *Kahului Ahupua‘a*

Kahului is divided into two ahupua‘a, Kahului 1 (north) and Kahului 2 (south). In an initial overview of the boundary commission, no testimonies submitted for Kahului 1 Ahupua‘a documented water resources, inoa ‘āina, or practices. Listed below in this section are the boundary commission testimonies recorded for Kahului 2 Ahupua‘a.

Niniha, a kupa ‘āina of Kahului, Kona recounts the boundaries of Kahului and mentions several water holes referred to by the names Waiakalaho, and Waiakekua. Niniha testified the following:

Niniha, K., Sworn

I was born at Kahului, North Kona, Hawaii at the time of Kaoku [Mai Okuu, 1804-1805] and have always lived there. My parents (now dead) pointed out the boundaries to me.

Boundary at the seashore between Kahului 2 and Puapuaaiki is at the right hand side of Kakapa, a rocky point in the sea; thence mauka along an iwi aina to Governor Adam’s wall; thence to Waiakalaho, a water hole; thence mauka to Waiakekua, a water hole near the iwi aina and a little above the Government road; thence to Kaaipaka, a kulana kauhale, ahua hulipali; thence mauka a short distance to where Puapuaaiki ends; thence to Puuokoheo, a high hill outside of the woods; now overgrown with koa; there Holualoa corners at Pohakuhano; thence along Holualoa to Waikee, a [page 327] kahawai; thence across said gulch and follow the gulch up to Puuokaloa, a pali in the woods on the North side of the gulch; thence to Palule where Holualoa and Puaa cut off Kahului; said place is a puu pahoehoe and kahawai; thence makai along the boundary of Puaa to Popoulu, mauka corner of Kahului 1<sup>st</sup> near the lower edge of the woods; thence along Government portion of Kahului to Papalanui, a kihapai koele, below Puukohia; thence along iwi aina, makai to Alau in the fern above the Government road. There is a pile of stones set up there. I pointed out the boundaries of Kahului 1<sup>st</sup> when it was surveyed; thence along the land sold, to Kalalii, a pulu lepo a seashore.

Ancient fishing rights extending out to sea.

[Boundary Commission Testimony: Kahului Ahupua‘a, Niniha K. 1873:v.A1, p327-328]

Makuakane was a kanaka from Hāmākua who came to reside in Kahului during his younger years. He mentions the two springs of the area being Waiakalaho and Waiakekua:

Makuakane, Kane, Sworn (rather a young man)

I was born at Hamakua, Hawaii; came to Kahului when I was young and have resided here ever since; know the boundaries of said land; Kapee [Kapae?] (now dead) former konohiki of the land with whom I lived four years told me the boundaries, and also pointed them out to me.

Commencing at seashore between Kahului and Puapuaa at a rocky point called Kakapa; thence mauka along an iwi aina to Governor Adam's wall; thence mauka, the boundary still following the iwi aina to Waiakalaho, a water spring; said spring being about three kihapai to North of the boundary of Puapuaa; thence to Waiakekua, spring mauka of the road; said spring is on Kahului near the iwi aina; thence to Kaaipaka, an Ahuapuu, kauhale kahiko, boundary at the South side of it; thence to Waikē (I do not know where Puapuaa ends; Holualoa joins Kahului at Waikē; thence to Popoula, a kahawai with koa growing in it; thence to Puuokaloo, a pali; thence to Palule where Puaa and Holualoa cut Kahului off; thence makai along Puaa to Puuokaloo; thence to Popoulu, the land is very narrow here; thence makai to Puukehoi [?], a hill in fern; thence makai along the iwi aina to Waihuna, a water hole on the boundary between Kahului 1<sup>st</sup> [page 328] and Kahului 2<sup>nd</sup>. Kahului 1<sup>st</sup> reaches to Puuokaloo at the foot of the pali; makai of the Government road you come to Waihuna which is the boundary of Kapai's [Kapae's] land. The mauka corner of Kapai's land is at Kealaehu, sometimes called Alau a koele. Thence the boundary runs along land sold, to the sea, and the land has ancient fishing rights extending out to sea.

[Boundary Commission Testimony: Kahului Ahupua'a, Makuakane Kane 1873:v.A1, p328-329]

Table 8. Kahului Ahupua'a Inventory of Inoa 'Aina, Wai Resource, and Other Resources & Practices from Boundary Commission Testimonies.

| Inoa 'Aina | Wai Resource | Other Resources & Practices   |
|------------|--------------|---|
| Alau       | -            | A place name (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).  |
| Kaaipaka   | -            | An 'āhua pu'u, 'āhua hulipali, kūlana kauhale, and kauhale kahiko, (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328; Boundary Commission Testimony: Kahului Ahupua'a, Makuakane Kane 1873:v.A1, p328-329). |
| Kahului    | -            | "Ancient fishing practices extending out to sea," (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).   |
| Kakapa     | -            | A rocky point out at sea  |



| Inoa 'Āina                      | Wai Resource  | Other Resources & Practices   |
|---------------------------------|---|---|
|                                 |   | (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).                               |
| Kalalii                         | kahawai: "along Holualoa to Waikee"   | A "pulu lepo" at the seashore (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328). |
| Kealaehu<br>(also Alau a koele) | -   | A place name (Boundary Commission Testimony: Kahului Ahupua'a, Makuakane Kane 1873:v.A1, p328-329).             |
| Palule                          | A kahawai (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).                             | A pu'u pāhoehoe (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).               |
| Papalanui                       | -   | A kīhāpae kō'ele (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).              |
| Pohakuhano                      |   | A place name (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).                  |
| Popoula                         | A kahawai with koa growing in it (Boundary Commission Testimony: Kahului Ahupua'a, Makuakane Kane 1873:v.A1, p328-329). |   |
| Popoulu                         | -   | A place name (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).                  |
| Puukehoi                        | -   | A hill (Boundary Commission Testimony: Kahului Ahupua'a, Makuakane Kane 1873:v.A1, p328-329).                   |
| Puukohia                        | -   | A place name (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).                  |

| Inoa 'Āina | Wai Resource  | Other Resources & Practices   |
|------------|---|---|
| Puuokaloa  | -   | A pali (Boundary Commission Testimony: Kahului Ahupua'a, Makuakane Kane 1873:v.A1, p328-329).   |
| Puuokoheo  | -   | a high hill outside of the woods now overgrown with koa (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328). |
| Waiakalaho | A waterhole (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).           |   |
| Waoakekua  | A waterhole (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).           |   |
| Waihuna    | A waterhole name (Boundary Commission Testimony: Kahului Ahupua'a, Makuakane Kane 1873:v.A1, p328-329). |   |
| Waikee     | A kahawai (Boundary Commission Testimony: Kahului Ahupua'a, Niniha K. 1873:v.A1, p327-328).             | -   |

## DHHL Kona Parcels Boundary Commission Testimony Discussion

The Department of Hawaiian Homelands has parcels in the ahupua‘a of Kealakehe and Keahuolū. Although not the subject parcel of the proposed undertaking these lands serve to benefit from water resource development in the subject parcels, and are included here as such.

Table 9. Ahupua‘a of Keahuolū with named localities and kama‘āina cited in Boundary Commission proceedings in Keauhou Ahupua‘a, location of the Kamehameha Schools subject parcel.

| Ahupua‘a | Place Names   | Kama‘āina Residents                     |
|----------|---|---|
| Keauholū | Halelaau<br>Kamauae (Kamaui Heiau)<br>Kanakaliikapu<br>Kewa<br>Nanunuakalupe [?]<br>Napueuala<br>Ohiki<br>Paaniau (Paniau)<br>Pohakunahaha<br>Puainako<br>Waikui<br>Waikulukulu | Kakio<br>Keakaikawai<br>Kuluahi<br>Lono |

### Keahuolū Ahupua‘a

Below are excerpts from the Boundary Commission Testimony for Keahuolū Ahupua‘a. The ahupua‘a of Keahuolū describes the southern boundary of Kealakehe Ahupua‘a

J.Z. Waiau, a kama‘āina from Honuaula, mentions a few water holes including, Keanawai and Waiakamalama. Also mentions a heiau named, Kalualapauila and a place called Kawauhooni, where people would rest on the way to taking their dead to rest in the crater of Hualalai.

J. Z. Waiau K., Sworn

I was born at Honuaula, Kona, Hawaii at the time of the fight of Keakuaokalani [Kekuaokalani in 1819]. I now live at Lanihauiki. Know the land of Keahuolu and its boundaries, have seen a part, and have heard where a part of them are from my parents and kamaaina on the land. I leased the land in former times. Kealakehe bounds it on the North side and Lanahaunui on the South side. A round rock on the sea shore called Pohakuloa is on the boundary between Lanahaunui and Keahuolu; thence the boundary between these two lands run mauka about one hundred fathoms and then turns South, to the North side of an old village, on Lanihau, called Makaeo. Thence the boundary runs straight mauka to Hoenui, a pile of stones makai of the wall of Governor Adams. If you look makai [makai] from mauka near the Government road, it looks like a wall or iwi aina on the pahoehoe, but you cannot see it from makai. From Hoenui to Maili along [page 354] the boundary runs along an iwi aina, a wall or iwi aina from some way above Adams wall. Maili is an old village at Puuokaliu, a pali, pali ahua, where houses used to stand; thence to the mauka Government road at Kahuoli; an old kihapai koele, there are two kuleanas there, on Lanihau, adjoining Keahuolu. Said kuleanas belong to Kaawa and Luhei.

Thence mauka along the iwi aina to Puukoai, a very small ahua, of dirt and stones; thence to Keanawai, a water hole where there used to be a great many houses. Thence to Kaopapa, a place in the woods in Akolea fern a punawai, where Lanihauiki cuts of Lanihaunui. This place is a grove of young koa trees about the distance of a mile from the edge of the woods. I have heard Sleeper surveyed the line from Piilani down, that is mauka of Keanawai, on the boundary between Lanihaunui and Lanihauiki; from Kaopapa to Puulepo, a kualapa; this is above the young koa trees, in the ohia. From Puulepo the boundary runs direct mauka to Waiakamalama, a water hole where the natives get water when it fails below the woods. You have to dig to get it; have been to this place once.

Thence to Kawauhooni, a kupapau, a place where the natives used to sleep when on their way with dead bodies to throw into the crater on Hualalai; the koa woods are on Lanihauiki, and ohia on Keahuolu [Keahuolu]; thence turn North to kahawai Opilopilo, the mauka corner of Kealakehe. I do not know the boundaries in the woods between Keahuolu and Kealakehe; know where the mauka corner of Kaahui's land is, it is at a pile of stones on Kealakehe, at the junction of Kaahui's land of Kealakehe and Keahuolu; thence to an ahu pohaku called Laeaniau, at the Government road; thence makai along an iwi aina to a few fathoms on the North side of a heiau called Kalualapauila; thence to Puunahaha, a large red hill on the mauka side of the makai Government road, thence to Puuokaloa, an oioina or small hill; thence to Kaiwi a lae pohaku on the middle of point. Ancient fishing rights extending out to sea.

CX'd.

I saw the haole survey the line down the road, between the lands of Lanihau nui and Lanihauike [page 355], said road runs down an iwi between these two lands. I do not know whether he surveyed to the boundaries of Keahuolu or not.

[Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354]

Kealakai, a kama'āina of Keahuolu, mentions a few inoa 'āina including Piilani, a mahina 'ai and Kalioniau which is an 'ahu.

Kealakai K., Sworn

I was born at Keahuolu, North Kona, Hawaii at the time of [name illegible] & saw building Kiholo 2<sup>nd</sup>. Have always lived there, and know the makai boundaries. My parents; makuakane hanai Kaohimahi [name is Kauhimahi] (now dead) told them to me.

The boundary at sea shore between Lanihaunui and this land is at Pohakuloa; thence towards Kailua; the sand on Lanihau and the pahoehoe on Keahuolu; Thence mauka along raised lava (flat lava being on Lanihau) passing some distance on the North side of Puuopalena; thence mauka to Hoenui, a good ways makai of Governor Adams wall; thence mauka along an iwi aina to the mauka Government road; thence mauka to Puukoae, a puuolepo; thence mauka to Piilani, a mahina ai; the boundary passing to the North side of it; thence to Puulepo. I do not know where Lanihaunui ends; as I have never been there; have only heard of these boundaries. The mauka corner of Keahuolu is an ahua called Kaohiamoekanaka; thence makai along Kealakehe, but I do not know the points on the line.

At Government road there is an ahu, called Kalaioniau, a puu makai of said road which can be seen from the road. Thence makai along an iwi aina to Kalualapauila, a heiau; thence makai to the North side of a hill called Puuouliuli; thence to Puunahaha; the boundary passing on the North side; from thence to Puuokaloa; thence makai to Kaiwi, the kula in middle of point and lae pohaku on the point at sea shore.

Ancient fishing rights extending out to sea and claiming the opelu.  
[Boundary Commission Testimony: Keahuolū Ahupua‘a, Kealakai K. 1873:v.A1, p356]

Kahuanui, a kama‘āina of Kealakehe, mentions Puulaula, Puunahaha, Kaenaena and Kaeeku, all hills within Keahuolū. He also mentions Pukalua which is a water hole above in the young koa.

Kahuanui K., Sworn

I live at Kealakehe, and have always lived there, know the boundaries between Keahuolu and Kealakehe. I have bought a piece of the latter land, but have not received the Patent. Have seen the boundaries of adjoining. Kaiwi is the boundary at the shore between Kealakehe and Keahuolu; thence mauka to Puukaloa, thence [page 356] to Puulaula, mauka side of the Government road, thence to Puunahaha; thence to Kaenaena, a hill; thence to Kaeeku, a hill; thence to Kalualapauwila; thence to Lainiau, the iwi or the South side; thence to Keahupuaa, an ahua pohaku at the mauka Government road; thence along the iwi aina (the land below the road was surveyed by Wiltse for me); thence mauka to Ohiakaukanaka;<sup>77</sup> a pali in the woods where you can look down to the sea shore. It is the long pali that runs across all the lands.

This is the mauka end of Keahuolu and is here cut off by Lanihauiki (in koa) and by Kaloko; thence makai along Lanihauiki to Puulepo; thence makai to Piilani, in woods, at which place Lanihaunui ends and Lanihauiki leaves Lanihaunui and Keahuolu boundary. Lanihaunui ends at Pukalua, a water hole above the young koa. Piilani is way below the woods.

[Boundary Commission Testimony: Keahuolū Ahupua‘a, Kahuanui K. 1873:v.A1, p356-357]

Kapea, a resident of Moeauoa, Kona, mentions Kaopapa which is a pūnāwai.

Kapea K., Sworn

I live on Moeauoa, Kona, Hawaii, have lived there several years, know the land of Keahuolu, and have been up the road to the woods, after water. The mauka corner is on a pali at Koohiahoomoekanaka. The koa is on Lanihau and Kaloko; thence makai along Lanihauiki, to Puulepo; thence to Nohonoa, the mauka corner of Lanihaunui, where there is an ahua; thence down the pali to Kaopapa, a punawai; thence to Piilani outside of the woods. There is young koa growing at Kaopapa. I

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<sup>77</sup> Also cited as Kaohiahoomoekanaka.

have been there with the kamaaina after water. I do not know the boundaries on the other side.

[Boundary Commission Testimony: Keahuolū Ahupua‘a, Kapea K. 1873:v.A1, p357]

Mahu, a kama‘āina of Keahuolū, mentions Ohiawela which is a spring, an Kauwau, a grove of large trees where they used to lay dead bodies.

Mahu K., Sworn

I was born on the land of Keahuolu at the time of the birth of Kamehameha II [ca. 1797], and my parents who were kamaainas of the land told me its boundaries. Kealakehe bounds it on the North side, the boundary at shore between the two lands is at Kaiwi; thence it runs mauka to Puuokaloa; thence to Puunahaha; thence to Kaunauhila [?], a puu aa. Thence to Kalualapapauaia [Kalualapauwila]; thence mauka to Kalaeoniau; thence to Keahupuaa at the Government road; thence to Kahuaakaulei in the woods (I have not been there) then into Ohiawela (I have not been there, but have heard that there is a spring there). Thence to Kahihia [Kahihia], the mauka corner of Keahuolu where Lanihauiki cuts it off. I do not know whether Kaupulehu or Kaloko cuts if off on the North side.

Thence makai along Lanihauiki, all the koa except what is just on the lower edge of the woods being above the boundary of Keahuolu. Thence makai to Kauwau, a grove of large trees where they used to lay dead bodies; from thence makai to Ohiapiipa; thence to Waiakamalama. (I have been up to the mauka corner of the land on the road between Keahuolu and Lanihauiki but I have not been on the North side.)

Thence makai to Kapulehu, an oioina; thence to Nohoana o maa, an oioina, at the mauka corner of Lanihauiki, near the lower edge of the woods. My father's name was Kamaha and my mother's name was Loma.

[Boundary Commission Testimony: Keahuolū Ahupua‘a, Mahu K. 1873:v.A1, p358]

Table 10. Keahuolū Ahupua‘a Inventory of Inoa ‘Āina, Wai Resource, and Other Resources & Practices from Boundary Commission Testimonies.

| Inoa ‘Āina        | Wai Resource | Other Resources & Practices   |
|-------------------|--------------|---|
| Makaeo            | -            | Name of old village in Lanihau (Boundary Commission Testimony: Keahuolū Ahupua‘a, J.Z. Waiau K. 1873:v.A1, p354). |
| Hoenui            | -            | Pile of stones (Boundary Commission Testimony: Keahuolū Ahupua‘a, J.Z. Waiau K. 1873:v.A1, p354).                 |
| Kahihia / Kahihia | -            | A place name (Boundary Commission Testimony: Keahuolū Ahupua‘a, Mahu K. 1873:v.A1, p358).                         |
| Kahuoli           | -            | An old kīhāpai kō‘ele with two kuleana  |

| Inoa 'Āina      | Wai Resource  | Other Resources & Practices  |
|-----------------|---|--|
|                 |   | belonging to Kaawa and Luhei (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).  |
| Kaiwi           | -   | A lae pōhaku (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).  |
| Kalaioniau      | -   | An ahu, a pu'u (Boundary Commission Testimony: Keahuolū Ahupua'a, Kealakai K. 1873:v.A1, p356).  |
| Kalualapauila   | -   | A heiau (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).   |
| Kaohiamoekanaka | -   | An 'āhua (Boundary Commission Testimony: Keahuolū Ahupua'a, Kealakai K. 1873:v.A1, p356).  |
| Kaopapa         | A pūnāwai in the woods amongst the Akolea fern (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354). | -  |
| Kapulehu        | -   | An 'oi'oina (Boundary Commission Testimony: Keahuolū Ahupua'a, Mahu K. 1873:v.A1, p358).   |
| Kauwau          | -   | A grove of large trees where they used to lay dead bodies (Boundary Commission Testimony: Keahuolū Ahupua'a, Mahu K. 1873:v.A1, p358).   |
| Kawauhooni      | -   | A kupapa'u, a place where natives used to sleep when on their way with dead bodies to throw into the crater of Hualalai (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354). |
| Keahuolū        | -   | "Ancient fishing rights extending out to sea and claiming the 'ōpelu," (Boundary Commission Testimony: Keahuolū Ahupua'a, Kealakai K. 1873:v.A1, p356)   |
| Keanawai        | A water hole where there  | -  |

| Inoa 'Āina    | Wai Resource  | Other Resources & Practices   |
|---------------|---|---|
|               | used to be a great many houses (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).   |   |
| Laeaniau      | -   | Ahu pōhaku (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).   |
| Lanihauiki    | -   | A place of young koa grove (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).   |
| Maili         | -   | An old village at Puuokaliu where houses used to stand (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).   |
| Nohoana o Maa | -   | An 'oi'oina at the ma uka corner of Lanihaunui (Boundary Commission Testimony: Keahuolū Ahupua'a, Mahu K. 1873:v.A1, p358).   |
| Ohiakaukanaka | -   | A pali in the woods, (Boundary Commission Testimony: Keahuolū Ahupua'a, Kahuanui K. 1873:v.A1, p356-357).<br><br><i>Same as Kaohiamoekanaka (Kahuanui, Boundary Commission Testimony, 1873, Keahuolū)</i> |
| Ohiapiipa     | -   | A place name (Boundary Commission Testimony: Keahuolū Ahupua'a, Mahu K. 1873:v.A1, p358).   |
| Ohiawela      | A place where a spring is said to exist (Boundary Commission Testimony: Keahuolū Ahupua'a, Mahu K. 1873:v.A1, p358) | -   |
| Opilopilo     | A kahawai (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).                        | -   |



| Inoa 'Āina   | Wai Resource  | Other Resources & Practices  |
|--------------|---|--|
| Piilani      | -   | A mahina 'ai (Boundary Commission Testimony: Keahuolū Ahupua'a, Kealakai K. 1873:v.A1, p356).                            |
| Pohakuloa    | -   | A round rock on the seashore (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).          |
| Pukalua      | A water hole above the young koa (Boundary Commission Testimony: Keahuolū Ahupua'a, Kahuanui K. 1873:v.A1, p356-357). | -  |
| Puukoai      | -   | a very small 'āhua of dirt and stones (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354). |
| Puulepo      | -   | A kualapa or ridge (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).                    |
| Puunahaha    | -   | Large red hill (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).                        |
| Puuokaliu    | -   | A pali, pali 'āhua (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).                    |
| Puuokaloa    | -   | An 'oi'oina or small hill (Boundary Commission Testimony: Keahuolū Ahupua'a, J.Z. Waiau K. 1873:v.A1, p354).             |
| Puuopalena   | -   | A place name (Boundary Commission Testimony: Keahuolū Ahupua'a, Kealakai K. 1873:v.A1, p356).                            |
| Puuouliuli   | -   | A hill (Boundary Commission Testimony: Keahuolū Ahupua'a, Kealakai K. 1873:v.A1, p356).                                  |
| Waiakamalama | A water hole where natives get water when it fails below the woods (Boundary  | -  |



| Inoa 'Āina | Wai Resource  | Other Resources & Practices |
|------------|---|-----------------------------|
|            | Commission Testimony:<br>Keahuolū Ahupua‘a, J.Z.<br>Waiiau K. 1873:v.A1, p354). |                             |



## The Māhele ‘Āina and Issuance Of Kuleana To Hoa ‘Āina - By Kumu Pono Associates

In pre-western contact Hawai‘i, all land and natural resources were held in trust by the high chiefs (ali‘i ‘ai ahupua‘a or ali‘i ‘ai moku). The use of lands and resources were given to the hoa‘āina (native tenants), at the prerogative of the ali‘i and their representatives or land agents (konohiki), who were generally chiefs of some standing as well. In 1848, the Hawaiian system of land tenure was radically altered by the Māhele ‘Āina. This change in land tenure was promoted by the missionaries, the growing Western population, and business interests in the island kingdom. Foreigners were hesitant to enter business deals on lease-hold lands.

The Māhele (division) defined the land interests of Kamehameha III (the King), the high-ranking chiefs, and the konohiki. As a result of the Māhele, all land in the Kingdom of Hawai‘i came to be placed in one of three categories: (1) ‘Āina Lei Ali‘i (Crown Lands) for the occupant of the throne, (2) ‘Āina Aupuni (Government Lands); and (3) Konohiki Lands.

### 1848-1855: The Māhele ‘Āina (Land Division)

Disposition of the ‘āina between Keauhou 2<sup>nd</sup> to Kaloko was largely settled between the King, Kamehameha III, some 250 chiefs and a few foreigners in the 1848 “Buke Mahele” (*Land Division Book*). Most of the awardees were either closely related to the Kamehameha line and supported the rise and rule of the Kamehamehas, or had been given tracts of land in payment for services to the King. As part of the process of reaching agreements with each of the participants in the Māhele, the applicants released selected ahupua‘a or land areas from their larger claims as a means of paying fees for processing their claims. These relinquished ‘āina were then retained by the King as ‘Āina Lei Ali‘i or given by the King to the ‘Āina Aupuni inventory. Title to the awarded lands was subsequently confirmed and assigned for ahupua‘a under the provisions of the Kuleana Act. Table 11 identifies the original disposition the ‘āina—north to south—from Kaloko to Keauhou 2<sup>nd</sup>.

Table 11. Kaloko to Keauhou 2<sup>nd</sup>: Disposition of ‘Āina in the Māhele — ‘Āina Lei Ali‘i (Crown Lands), Konohiki Lands, and ‘Āina Aupuni (Government Lands)

| Inoa ‘Āina<br>North to South | Helu (Land Commission<br>Award Number & Royal Patent) | Awardee<br>and Acreage   |
|------------------------------|---|--|
| Kaloko                       | 7715:11 – R.P. 8214<br>Buke Mahele 1848:8             | Kapuaiwa Lot Kamehameha V<br>Son of Kinau and Mataio Kekuaaoa.<br>(4230.00 Acs.)   |
| Honokōhau Nui (1)            | 11216:36 – R.P. 7587<br>Buke Mahele 1848:28           | Mikahela Kekuniahi Kekauonohi<br>Daughter of Kinau kane and<br>Wahinepio.<br>(2653.00 Acs.)  |
| Honokōhau Iki (2)            | 9971:9 – R.P. 6855                                    | Wm. P. Leleiohoku<br>Son of Kalanimoku (Paalua) and<br>Kiliwehi. He was first married to<br>Nahienaena, then to Ruta Keelikolani<br>Following Nahienaena’s death.<br>(480.00 Acs.) |
| Kealakehe                    | —   | Government Land<br>Not cited in Buke Mahele. Transferred   |

|                           |  |  |
|---------------------------|--|--|
|                           |  | to Government Land Inventory by Kamehameha III.  |
| Keahuolū                  | 8452:12 – R.P. 6851<br>Buke Mahele 1848:10   | Ane Keohokalole, daughter of Aikanaka and Kamaeokalani; mother of David Kalakaua and Lydia Liliuokalani mā (4071.00 Acs.)  |
| Lanihau Nui (1)           | 8559 B:11 – R.P.7456   | Wm. C. Lunalilo (302.00 Acs.)  |
| Lanihau Iki (2)           | —<br>Buke Mahele 1848:157, 181   | Government Land. Relinquished by Kaopua  |
| Moeauoa                   | 107474:3 – R.P. —<br>Buke Mahele 1848:175  | Nueku Namauu (— Acs.)  |
| Moeauoa 2nd               | 9971:27 – R.P. 8126  | Wm. P. Leleiohoku (130.00 Acs.)  |
| Keōpū 1                   | 11216:39 – R.P. 7874<br>Buke Mahele 1848:28  | Mikahela Keahikuni Kekauonohi (7120.00 ac.)  |
| Keōpū 2                   | —  | Government Land  |
| Keōpū 3                   | 7713:5 – R.P. 4475<br>M. Kekuanaoa and Kinau. Sister of Moses Kekuaiwa, Lot Kapuaiwa and Alexander Liholiho. On of the grandchildren of Kamehameha I | Victoria Kamamalu, daughter of<br><br>(Ahp. — Acs.)  |
| Keōpū House Lots          | 9971:36 – R.P. 6690<br>9971:37 – R.P. 6694<br>9971:38 – R.P. 6690  | Wm. P. Leleiohoku<br>Wm. P. Leleiohoku<br>Wm. P. Leleiohoku  |
| Niumalu House Lot         | 9971:39 – R.P. 6690  | Wm. P. Leleiohoku  |
| Kailua House Lots         | 9971:41 – R.P. 6694<br>9971:42 – R.P. 6694<br>9971:45 – R.P. 6693<br>9971:46 – R.P. 6693<br>9971:47 – R.P. 6693<br>9971:68 – R.P. 6693               | Wm. P. Leleiohoku<br>Wm. P. Leleiohoku<br>Wm. P. Leleiohoku<br>Wm. P. Leleiohoku<br>Wm. P. Leleiohoku<br>Wm. P. Leleiohoku   |
| Honua'ula 1 <sup>st</sup> | —<br>Buke Mahele 1848:181  | Government Land.<br>Relinquished by Kamehameha III.  |
| Honua'ula                 |  | XX (Ahp. — Acs.)   |
| Hienaloli 1               | —<br>Not cited in the Buke Mahele  | Government Land  |
| Hienaloli 2               | 7716:5 – R.P. —  | Ruta (Ruth) Keelikolani, daughter of Pauahi-nui and M. Kekuanaoa. She was the half sister of Kamehameha IV and V, and Victoria Kamamalu. She was also married to Kuakini's hanai, Leleiohoku.<br>(Ahp. — Acs.) |

|  |   |  |
|--|---|--|
| Hienaloli 3  | —   | Government Land  |
| Hienaloli 4 <sup>th</sup>                            | 387 Part 4, Section 2 No. 1   | A.B.C.F.M.<br>(Church lands)   |
| Hienaloli 5 <sup>th</sup>                            | 8524 B:3 – R.P. —<br>Buke Mahele 1848:167   | Peke<br>(Ahp. — Acs.)  |
| Hienaloli 6 <sup>th</sup>                            | —   | Government Land  |
| Auhaukea'e 1 <sup>st</sup>                           | 11216:37 – R.P. 7580<br>Buke Mahele 1848:28   | Mikahela Keahikuni Kekauonohi<br>(334.00 Acs.)   |
| Auhaukea'e XX 2 <sup>nd</sup>                        | Buke Mahele 1848:8, 179<br>—  | Relinquished by Kapuaiwa Lot<br>Kamehameha. Relinquished by<br>Kamehameha III to Government<br>Land Inventory. |
| Pua'a 1 <sup>st</sup>                                | 7715:13 – R.P. 7845<br>Buke Mahele 1848:8   | Kapuaiwa Lot Kamehameha<br>(859.00 Acs.)   |
| Pua'a 2 <sup>nd</sup>                                | —   | Check Crown / Government Land  |
| Pua'a 3 <sup>rd</sup>                                | Buke Mahele 1848:14, 179  | Government Land. Relinquished by<br>Moses Kekuaiwa.  |
| Wai'aha 1 <sup>st</sup>                              | 387 Part 4, Section 2, No. 3  | A.B.C.F.M. (Mission Station land)<br>(— Acs.)  |
| Wai'aha 2 <sup>nd</sup>                              | Crown Land Crown Land   | (1890, pursuant to "Act to Declare<br>Certain lands to be a part of the<br>Crown Lands and Royal Domain)       |
| Kahului 1 <sup>st</sup><br>Buke Mahele 1848:163      | 8516-B:3 – R.P. 1669<br>Kaoanaeha and John Young Sr.,<br>one of Kamehameha I's haole<br>advisors. Sister of Kekelaokalani,<br>Keoni Ana and Lahilahi. Kamaikui<br>adopted her niece Emma (daughter of<br>Kakelaokalani), who was born at<br>Kahului 2nd, and later the wife of<br>Alexander Liholiho, and known as<br>Queen Emma. | Grace Kamaikui, the daughter of<br><br>(Ahp. — Acs.)   |
| Kahului 2 <sup>nd</sup>                              | —   | Government Land. (846 Acs.)  |
| Puapua'a iki (1st)                                   | 4887:2<br>received land in return for services to   | Thomas Sam, a foreigner who<br>the Kamehameha line.  |
| Puapua'a nui (2nd)<br>Not cited in Buke Mahele       | 8559-B:8 – R.P. 7819<br>grandson of Kaleimamahu, half<br>brother of Kamehameha I.   | William C. Lunalilo, the son of<br>Kekauluohi and Kanaina, and   |
| Hōlualoa 1 <sup>st</sup> & 2nd<br>Buke Mahele 1848:4 | 7713:43 – R.P. 4475<br>(Ahp. 7330 Acs.)   | Victoria Kamamalu  |
| Hōlualoa 3rd   | —   | Government Land  |
| Hōlualoa 4th   | 7228 – R.P. —   | Loe, daughter of Kapiiwi and   |

|  |   |   |
|--|---|---|
| Buke Mahele 1848:131   | Kahikoloa of Holualoa and sister of Kinimaka.<br>(638 Acs.)                                     |   |
| Kaumalumu<br>Not cited in Buke Mahele  | 9971:28 – R.P. —  | William Pitt Leleiohoku.<br>(Ahp. — Acs.)   |
| Pāhoehoe 1 <sup>st</sup> & 2 <sup>nd</sup><br>Buke Mahele 1848:5   | —<br>Relinquished by Victoria Kamamalu.   | Government Land.  |
| Pāhoehoe 2 <sup>nd</sup><br>Buke Mahele 1848:28  | 11216:35<br>(1190 ac.)  | Mikahela Keahikuni Kekauonohi.  |
| Pāhoehoe 3 <sup>rd</sup><br>Buke Mahele 1848:163   | 8520-B:3 – R.P. 1668<br>Kaoanaeha, and John Young Sr.<br>Mother of Queen Emma.<br>(Ahp. — Acs.) | Gini Lahilahi. Daughter of  |
| Pāhoehoe 4 <sup>th</sup>   | —   | Government Land   |
| La'aloa 1 <sup>st</sup><br>Buke Mahele 1848:16   | 7716:4 – R.P. —<br>(Ahp. — Acs.)  | Ruth Keelikolani  |
| La'aloa 2 <sup>nd</sup>  | Buke Mahele 1848:91, 183  | Relinquished by Kaunuohua,<br>Relinquished by Kamehameha III to<br>Government Land Inventory. |
| Kāpala'alaea 1 <sup>st</sup><br>Buke Mahele 1848:147   | 4452:2 – R.P. —<br>Naihekukui and Kepooku. Wife of<br>Kamehameha III. (— Acs.)                  | Hazaleleponi Kalama, daughter of  |
| Kāpala'alaea 2 <sup>nd</sup>   | Buke Mahele 1848:181  | Government Land   |
| Kahalu'u<br>Buke Mahele 1848:6   | 7713:6 – R.P. 6856<br>(5443.00 Acs.)  | Victoria Kamamalu   |
| Keauhou 1 <sup>st</sup><br>Buke Mahele 1848:6  | 7713:7 – R.P. 4475<br>(Ahp. 5146 Acs.)  | Victoria Kamamalu   |
| Keauhou 2 <sup>nd</sup><br>(kahi i hanau ai o Kauikeaouli—<br>birth place of Kamehameha III)<br>Buke Mahele 1848:8 | 7715:12 – R.P. 7844   | Kapuaiwa Lot Kamehameha.<br>(109,600 Acs.)  |

## ‘Āina of the Crown and Government

At the time of recording the “Buke Mahele,” issues with the completeness of the records were already evident. On July 14, 1848, “*Ka Elele Hawaii*” the Kingdom newspaper published a list of lands which King Kamehameha III transferred to the ‘Āina Aupuni (Government Land) as a mean of providing hoā‘āina with access to lands more suited to their needs, and as a means of developing revenue for the government. The list also includes those ‘āina which the King retained for the benefit of the use and Crown. *Ka Elele Hawaii* identified the following ‘āina between Keauhou to Kaloko:

Puaa (Crown)  
Kealakehe (Government)  
Honuaula (Government)  
Auhaukeae (Government)  
Kahului (Government)

Elepaio Ili no Honokohau (Government)  
Lanihau 2 (Government)  
Hienaloli 1 & 2 (Government)  
Puaa 2 & 3 (Government)  
Laula Ili i Holualoa (Government)

Kooai Ili o Holualoa 3 (Government)  
Kamakaolohe Ili i Pahoehoe (Government)  
Laaloa (Government)  
[Ka Elele Hawaii, Iulai 14, 1848:1]

Kaulehua Ili (Government)  
Pahoehoe (Government)  
Kapalaaea 2 (Government)...

## **Hoā'āina (Native Tenants) Allowed To Make Claims For 'Āina They Resided on and Actively Cultivated**

As the Māhele between the King and his chiefs was underway, provisions were also being established for the hoā'āina. This was manifest in the "Enabling" or "Kuleana Act" (December 21, 1849) laid out the framework by which native tenants could apply for, and be granted fee-simple interest in "Kuleana" or property rights, and also confirmed their rights of access to collection of resources necessary to their life upon the land in their given ahupua'a. The Act reads:

August 6, 1850

An Act confirming certain resolutions of the King and Privy Council passed on the 21<sup>st</sup> day of December 1849, granting to the common people allodial titles for their own lands and house lots, and certain other privileges.

Be it enacted by the Nobles and Representatives of the People of the Hawaiian Islands in Legislative Council assembled;

That the following parcels which were passed by the King in Privy Council on the 21<sup>st</sup> day of December A.D. 1849 when the Legislature was not in session, be, and are hereby confirmed, and that certain other provisions be inserted, as follows:

Section 1. Resolved. That fee simple titles, free of commutation, be and are hereby granted to all native tenants, who occupy and improve any portion of any Government land, for the land they so occupy and improve, and whose claims to said lands shall be recognized as genuine by the Land Commission; Provided, however, that the Resolution shall not extend to Konohikis or other persons having the care of Government lands or to the house lots and other lands, in which the Government have an interest, in the Districts of Honolulu, Lahaina and Hilo.

Section 2. By and with the consent of the King and Chiefs in Privy Council assembled, it is hereby resolved, that fee simple titles free of commutation, be and are hereby granted to all native tenants who occupy and improve any lands other than those mentioned in the preceding Resolution, held by the King or any chief or Konohiki for the land they so occupy and improve. Provided however, this Resolution shall not extend to house lots or other lands situated in the Districts of Honolulu, Lahaina and Hilo.

Section 3. Resolved that the Board of Commissioners to quiet Land titles be, and is hereby empowered to award fee simple titles in accordance with the foregoing Resolutions; to define and separate the portions belonging to different individuals; and to provide for an equitable exchange of such different portions where it can be done, so that each man's land may be by itself.

Section 4. Resolved that a certain portion of the Government lands in each Island shall be set apart, and placed in the hands of special agents to be disposed of in lots of from one to fifty acres in fee simple to such natives as may not be otherwise

furnished with sufficient lands at a minimum price of fifty cents per acre.

Section 5. In granting to the People, their House lots in fee simple, such as are separate and distinct from their cultivated lands, the amount of land in each of said House lots shall not exceed one quarter of an acre.

Section 6. In granting to the people their cultivated grounds, or Kalo lands, they shall only be entitled to what they have really cultivated, and which lie in the form of cultivated lands; and not such as the people may have cultivated in different spots, with the seeming intention of enlarging their lots; nor shall they be entitled to the waste lands.

Section 7. When the Landlords have taken allodial titles to their lands the people on each of their lands shall not be deprived of the right to take firewood, aho cord, thatch, or ti leaf from the land on which they live, for their own private use, should they need them, but they shall not have a right to take such articles to sell for profit. They shall also inform the Landlord or his agent, and proceed with his consent. The people shall also have a right to drinking water, and running water, and the right of way. The springs of water, and running water, and roads shall be free to all should they need them, on all lands granted in fee simple. Provided that this shall not be applicable to wells and water courses which individuals have made for their own use.

Done and passed at the Council House, Honolulu this 6<sup>th</sup> day of August 1850.  
[copied from original hand written "Enabling Act"<sup>78</sup> – DLNR 2-4]

The lands awarded to the *hoāina* (*native tenants*) became known as "*Kuleana Lands*." All of the claims and awards (the Land Commission Awards or LCA) were given a "Helu" or number, generally referred to as Land Commission Awards. These Helu (LCA) remain in use today to identify the original owners of lands in Hawai'i.<sup>79</sup>

The work of the Land Commission was brought to a close on March 31, 1855. The program, directed by principles adopted on August 20, 1846, met with mixed results. In its' statement to the King, the Commissioners to Quiet Land Titles (George M. Robertson, March 31, 1855) summarized events that had transpired during the life of the Commission:

...The first award made by the Commission was that of John Voss on the 31<sup>st</sup> March 1847... ..The time originally granted to the Board for the hearing and settlement of all the land claims in the kingdom was two years, ending the fourteenth day of February, 1848.

Before the expiration of that term it became evident that a longer time would be required to perform a work... Accordingly, the Legislature on the 26<sup>th</sup> day of August

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<sup>78</sup> See also Kanawai Hoopai Karaima no ko Hawaii Pae Aina (Penal Code) 1850.

<sup>79</sup> While on the surface, this statement is correct, over the last 175-years, layers of transposition have been added to maps and records. Thus the Real Property Tax Maps (TMK), are often erroneous, with Helu and the names of original awardees are inaccurate.



1847, passed an Act to extend the duration of the Board to the 14<sup>th</sup> of February, 1849, adding one year to the term first prescribed, not however, for the purpose of admitting fresh claims, but for the purposes of hearing, adjudicating and surveying those claims that should be presented by the 14<sup>th</sup> February, 1848. It became apparent to the Legislature of 1848 that the labors of the Land Commission had never been fully understood, nor the magnitude of the work assigned to them properly appreciated, and that it was necessary again to extend the duration of the Board. An act was accordingly passed, wisely extending the powers of the Commissioners "for such a period of time from the 14<sup>th</sup> day of February 1849, as shall be necessary for the full and faithful examination, settlement and award upon all such claims as may have been presented to said Board." ...[T]he Board appointed a number of Sub-Commissioners in various parts of the kingdom, chiefly gentlemen connected with the American Mission, who from their intelligence, knowledge of the Hawaiian language, and well-known desire to forward any work which they believed to be for the good of the people, were better calculated than any other class of men on the islands to be useful auxiliaries to the Board at Honolulu...

...During the ten months that elapsed between the constitution of the Board and the end of the year 1846, only 371 claims were received at the office; during the year 1847 only 2,460, while 8,478 came in after the first day of January 1848. To these are to be added 2,100 claims, bearing supplementary numbers, chiefly consisting of claims which had been forwarded to the Board, but lost or destroyed on the way. In the year 1851, 105 new claims were admitted, for Kuleanas in the Fort Lands of Honolulu, by order of the Legislature. The total number of claims, therefore, amounts to 13,514, of which 209 belonged to foreigners and their descendants. The original papers, as they were received at the office, were numbered and copied into the Registers of the Commission, which highly necessary part of the work entailed no small amount of labor...

...The whole number of Awards perfected by the Board up to its dissolution is 9,337, leaving an apparent balance of claims not awarded of say 4,200. Of these, at least 1,500 may be ranked as duplicates, and of the remaining 2,700 perhaps 1,500 have been rejected as bad, while of the balance some have not been prosecuted by the parties interested; many have been relinquished and given up to the Konohikis, even after surveys were procured by the Board, and hundreds of claimants have died, leaving no legal representatives. It is probable also that on account of the dilatoriness of some claimants in prosecuting their rights before the Commission, there are even now, after the great length of time which has been afforded, some perfectly good claims on the Registers of the Board, the owners of which have never taken the trouble to prove them. If there are any such, they deserve no commiseration, for every pains has been taken by the Commissioners and their agents, by means of oft repeated public notices and renewed visits to the different districts of the Islands, to afford all and every of the claimants an opportunity of securing their rights... [Minister of Interior Report, 1856:10-17]

## **‘Āina Kuleana: Summary of Claims For Kuleana Made by the Hoa‘āina**

One of the requirements of the Māhele for hoa‘āina was that they produce proof of their use of the lands being claimed. A careful review of claims made by native residents of the lands between Keauhou 2<sup>nd</sup> to Kaloko reveals that in the time preceding, and during the time of registering

claims, Hawaiian use of the land was ongoing in a wider area than reflected on historic and TMK maps. Indeed, of particular importance to this current study is that the number of claims for land on the kula (open lands behind the shore in reaching to the forested zone) was greater than the number of claims for other agricultural zones of Kona.

A number of *hoa'āina* made verbal claims which were transcribed as spoken, and others forwarded written claims to the Land Commission in order to register their claims for land. This process created the volumes of the Native and Foreign Register of Claims. The next phase of documentation was the presentation of supporting "Testimony" by individuals who were family with the applicants and the lay of their kuleana. The record of the witnesses was recorded in the volumes of the Native or Foreign Testimony. This was followed by conducting of surveys, recorded in the "Mahele Award Books," and in many cases, further confirmed by issuance of a Palapala Sila Nui (Royal Patent on Kuleana Claims).

As a part of the present study, we reviewed thousands of records from the *hoa'āina* which include lands between Keauhou 2<sup>nd</sup> to Kaloko to identify residency, land use, agricultural zones and crops, and access to resources claimed by applicants. Table 12 is a summary of information recorded from the Keauhou-Kaloko region.


Table 12. Summary of Crops Identified in Māhele/Kuleana Claims

| Food Plants                 | Number of Citations     | Other Plants                 | Number of Citations |
|-----------------------------|-------------------------|------------------------------|---------------------|
| Kalo (taro)                 | 54                      | Loulu (Pritchardia palms)    | 15                  |
| Uala/Uwala (sweet potatoes) | 45                      | Kou (Cordia) trees           | 6                   |
| Niu (coconut trees)         | 15                      | Hala (pandanus)              | 5                   |
| Ipu (gourds)                | 3                       | Noni (Indian mulberry)       | 1                   |
| Maia (bananas or plantains) | 3                       | Hau (hibiscus)               | 1                   |
| Uhi (yams)                  | 1                       | Olonā (Touchardia latifolia) | 2                   |
| Ulu (breadfruit)            | 3                       |                              |                     |
|                             | Introduced Crops        | Number of Citations          |                     |
|                             | Kope (coffee)           | 12                           |                     |
|                             | Alani (orange trees)    | 14                           |                     |
|                             | Hala kahiki (pineapple) | 2                            |                     |
|                             | Momona (Cherimoya)      | 1                            |                     |
|                             | Pu (squash/pumpkin)     | 2                            |                     |

It should be remembered that the Māhele records are incomplete because native tenants who were living upon and working on the land were often hesitant to make personal claims for kuleana. The Hawaiian commoners had difficulty—spiritually and in practice—with the foreign notion of being able to "own" land. This naturally limited the number of tenants who came forward to apply for kuleana. Of those who did come forward, many reported that their *mākua* (parents) and *kūpuna* (grandparents or elders) had used the lands prior to their inheritance of the parcels.

#### *Some Hoa'āina Were Reluctant to Register Claims for Kuleana*

Reviewing the results of the Māhele and awarding of Kuleana, some readers might wonder, "why?" The cultural-social context in which private land title was a foreign concept was in itself a




predominant issue, but other concerns also contributed to the low response. In Kona, John Fuller was appointed land agent, and served as one of the primary surveyors of the kuleana claims. In 1853, Fuller wrote a number of letters to Land Commissioners describing difficulties he encountered in having applicants come forward. Among the problems was that some of the ali'i, konohiki and their representatives used fear tactics to intimidate their hoa'āina. This had implications across the region and all the Hawaiian Islands. Among the letters are the following:

The Kingdoms' policy of providing land grants to native tenants was further clarified in a communication from Interior Department Clerk, A. G. Thurston, on behalf of Keoni Ana (John Young), Minister of the Interior; to J. Fuller, Government Land Agent-Kona:

*February 23, 1852*

...His Highness the Minister of the Interior instructs me to inform you that he has and does hereby appoint you to be Land Agent for the District of Kona, Hawaii.



You will entertain no application for the purchase of any lands, without first receiving some part, say a fourth or fifth of the price; then the terms of sale being agreed upon between yourself and the applicant you will survey the land, and send the survey, with your report upon the same to this office, for the Approval of the Board of Finance, when your sales have been approved you will collect the balance due of the price; upon the receipt of which at this office, the Patent will be forwarded to you.

Natives who have no claims before the Land Commission have no Legal rights in the soil. They are therefore to be allowed the first chance to purchase their homesteads. Those who neglect or refuse to do this, must remain dependent upon the mercy of whoever purchases the land: as those natives now are who having no kuleanas are living on lands already Patented, or belonging to Konohikis.

Where lands have been granted, but not yet Patented, the natives living on the land are to have the option of buying their homesteads, and then the grant be located, provided this can be done so as not to interfere with them.

No Fish Ponds are to be sold, neither any landing places.

As a general thing you will charge the natives but 50 cents pr. acre, not exceeding 50 acres to any one individual.

Whenever about to survey land adjoining that of private individuals, notice must be given them or their agents to be present and point out their boundaries...  
[Interior Department Letter Book 3:210-211]

On October 11, 1852, Fuller wrote to J. Smith (Secretary, Board of the Land Commission); Describing extent of survey work completed—including the consolidation of multiple 'āpana into

a single parcel<sup>80</sup>— and also reported that Naheana or Kaheana, Konohiki of several lands in vicinity of Kailua has been “abusive.” Fuller wrote:

...He [Naheana] says his chiefs have given orders not to allow any Kuleana on their lands... ..But I should like to know how to proceed with such a villain... ..He has prevented quite a number from showing their Kuleanas and I leave them until Mr. Robertson or some other of the Commission come up...

...Most of the claimants here have taken all their land in one piece, besides their pahale – and I must say their claims are very moderate, generally not more than from 1 to 3 acres, according to what they have planted... [DLNR s-1- Box 1]

*J. Fuller, Kona Land Agent, Surveyor, to  
J. H. Smith, Secretary to Board of Land Commissioners  
August 5, 1853, Kona, Hawai‘i*

... I am happy to inform you that I have completed the surveys of Kuleanas in this District so far as I have been able to find them. There are, however, quite a number scattered through the District which have not been pointed out to me, and a few in the neighborhood of Kailua which the Konohiki, Kaheana, prevented the people showing me. I am now making a tour through the whole district as Land Agent, and shall survey all the scattering claims which are pointed out to me... [HSA – Interior Department Land Files]

It should be noted here that several Native Hawaiians in the Kona District, also submitted letters regarding the character of Fuller, claiming that he was rude and impatient with them—even asking that he be replaced as the land agent.<sup>81</sup>

### *Native Terms Found in Cited Kuleana Claims*

In the translated texts that follow, native terms are used. The glossary in Table 13, below, provides readers with translations of various words and terms used in the Māhele claims; and that describe plants cultivated, and garden features in the study area.

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<sup>80</sup> This action resulted from the massive job of surveying claims for the Land Commission. Today, it provides us with some background in the difference between Register and Testimony claims with multiple ‘āpana across several “wao” (environmental zones) which traditionally had been an important aspect of ho‘āina residency. The multiple ‘āpana enabled residents to access lands and sustain themselves through the varying seasons of weather and the availability of wai (water) resources.

<sup>81</sup> See Kahookaumaha to Keoni Ana, Augate 21, 1854 (HSA-Int. Dept. Misc. Box 146).

Table 13. Glossary of Selected Hawaiian Terms Cited in Kuleana Claims

Ahupuaa Ahupua'a

An important sub-division of land (usually extending from a fishery to an area on the mountains), generally containing varied environmental zones and resources necessary to sustain a community. Such zones and resources were managed in smaller land parcels—among which are 'ili, kīhāpai, kula, lele, māla, mo'ō and paukū— which were delineated within given ahupuaa.

Aina (Āina)

General term for land, earth – that which sustains.

Aina waiho wale (Āina waiho wale)

Idle land (that which was being rested or untended; also an unclaimed parcel.

Alaloa Long trail.

The main ancient trail used to provide access through the district and around the island, generally the trail situated near the shoreline (near the present day Ali'i Drive). Sometimes, the mauka trail Ke-ala-ehu was also referred to as the ala loa.

Alani Orange trees.

Alanui A trail; in the early system of trails, one that was larger than the ala hele (local paths and accesses), yet smaller than the alaloa Alanui Aupuni – Government Road.

Alanui Aupuni

Government Road System established by law in 1848 and protected in the "Highways Act of 1892." In the context of the claims below, use of "Alanui Aupuni" might refer to both the coastal and mauka roads around the island. In many places, overlaid on the Alaloa and Kealaehu.

Alanui pii Ascending trail (i.e., trail leading to the uplands, the mauka-makai trail system which occurred in all ahupua'a.).

Amau (Āma'u or Āma'uma'u)

The Sadleria fern forest zone, a region of upland agricultural fields.

Anana A unit of measurement extending from tip of longest finger to longest finger, with arms stretched out.

Apaa (Āpa'a)

An arid area of dry land cultivation.

Apana (Āpana)

Parcels or lots within given kuleana (i.e. Apana 1, Apana 2...). In texts below, 'āpana identified on historical maps as being within the primary study area are identified by "Āp." followed by the number of the specific 'āpana.

Eamaia (E'a mai'a)

A variety of mountain banana tree.

Ili (Īli) Small units of land within an ahupua'a, often described as long narrow parcels of land that run mauka-makai, and cross several agricultural zones.

### Ipu (Gourds)

Used as containers for storing valuable items, for the collection of water, for food, in ceremonial observance (particularly those associated with Lono), and as musical instruments.

### Iwi aina (Iwi 'āina)

A boundary wall, identifying any one of several features, as an ahupua'a boundary wall, a boundary wall of a planting area and/or the boundary between two separately held 'āpana of land.

Iwilei A unit of measure with arm extended out from Collar bone to tip of mid-finger.

Kahakai Beach, shoreline.

Kahuahale House site.

### Kalo (Taro)

Kalo served as one of the major starch foods of Hawaiians around the islands. Kalo is used in ceremonies, is a part of the Hawaiian stories of creation and birth of kānaka, and was developed into many varieties, some of which were particularly valued in the Kona district. While often thought of as being grown in lo'i Kalo (irrigated taro pond fields), the cultural record reveals that there was more kula (dryland) Kalo grown in the islands than that grown in lo'i Kalo..

### Kaluulu (Kanu-'ulu & Ka-ulu-'ulu)

The region of 'ulu cultivation and growth. Providing an important starch food source, wood valued in making canoes and various tools; in some accounts young 'ulu branches were harvested and used in making kama (bark cloth). The canopy of 'ulu provided shade and helped retain moisture from important under-story cultigens.

### Kealaehu (Ala Ehu)

The ancient upland trail that passed through the 'āma'uma'u (fern forest agricultural zone) in the vicinity of the present day Māmalahoa (Belt) Highway. It's development is associated with the reigns of Ehu and 'Umi.

### Kealakowaa (Kealakōwa'a)

The trail on which canoes were dragged from the uplands to the shore; crosses several ahupua'a including Kahului to Hōlualoa.

### Kihapai (Kīhāpai)

A dry land garden; cultivated areas, or patch; generally written in cited texts as "kihapai ua mahiia" (planted garden). "Kīhāpai Kalo" and "kīhāpai 'uala (dry land taro and sweet potato fields). in the larger Kona Field System, the planting areas are often marked by walls, clearings, stone mounds, and planting pits, etc...

Ko (Kō) Sugar cane.

### Koele (Kō'ele)

A parcel of land cultivated in support of the King. These parcels were held under title of the Crown or in the Kingdom Land Inventory

Konohiki Land overseer, chief or owner of the larger land division.

- Kope Coffee trees.
- Kou The *Cordia subcordata* tree.
- Kula Plain or grassy flat land; generally, an area between the shoreline and lower forest zone. In the early usage, the term describes lowland agricultural fields. In the later 1800s, usage of “kula” in describing land areas was used to describe pasture land. This usage postdates claims of the Māhele, and if taken in the latter meaning changes actual forms of land use. This is particularly problematic when a Kuleana claim text reads something like “1 kula Kalo” and the later translations state, for example, “1 one taro pasture,” which leads to inaccurate or misleading descriptions of lands use.
- Kuleana In the context of the Māhele, kuleana are property rights. In larger context there are several meanings, but “responsibility” is one of the important uses of the word.
- Kumu In this context, Tree as in “kumu loulu.”
- Kupuna Ancestor, Elder. Kūpuna (Ancestors, Elders).
- Lele (and ‘ili lele)
- A separate or detached section of an ‘ili (e.g., pieces of a land parcel separated by environmental zones, but carrying the same name); may also even be a parcel of land associated with a different ahupua‘a, and extends across various “wao” elevational zones.
- Lihi A narrow strip of arable land.
- Loulu *Pritchardia* palm.
- Maia Bananas.
- Makai Towards the sea (shoreward).
- Makua Parent(s), elders.
- Mala (Māla)
- A dryland garden, planted field, or patch; e.g., “mala uala” (sweet potato field), “mala Kalo” (taro field).
- Mau or Amau (Ma‘u; cf. ‘Ama‘u above)
- A damp fern region of the uplands in which cultivation occurred.
- Mauka Towards the mountain (upland).
- Mea ana aina (Mea ana ‘āina) Surveyor.
- Niu Coconut trees.
- Olonā (Olonā)
- An endemic Hawaiian shrub (*Touchardia latifolia*), which was used to produce extremely strong fiber for cordage and ceremonial kapa.
- Pa (Pā) depending on context of documentation, use of “pa” indicates a fence, wall, enclosure, lot/parcel of land, or house lot (see “Pahale”).
- Paahao (Pa‘ahao)
- Prison/Jail. Parcels of land work by convicts in public service. Pa‘ahao parcels were held under title of the Kingdom Land Inventory.

Pa aina (Pā 'āina)

Land division wall (see discussion about the history of the Pā Kuakini or Great Wall in this study).

Paakai (Pa'akai)

Salt (literally, hard ocean water) sometimes identified in claims.

Pahale (Pāhale)

A house lot (also hale, kahuahale, kauhale).

Pahee (Pahe'e)

A moist (shaded) area of dry land agricultural fields.

Pahulu Land that is worn out, lying fallow to restore its productivity.

Pali A cliff.

Papipi (Pā pipi)

Cattle wall or enclosure, depending on context (see the section that discusses history of the Pā Kuakini or Great Wall). Depending on context, and written "pa pipi" it describes a cattle enclosure.

Pauku (Paukū)

A segment of land, generally a long narrow cultivated section of land, described "pauku ua mahiia" (a cultivated trip of land).

Poaha (Pō'ahā)

Thursday parcel of land worked in lieu of paying taxes. These parcels were held under title of the Kingdom Land Inventory.

Poalima (Pō'alima)

Friday parcel of land worked in support of the chiefs. These parcels were held under title of the chiefs or in the Kingdom Land Inventory.

Pu (Pū) Squash or pumpkin.

Puhala (Pūhala)

Growth of hala (pandanus) trees.

Punawai (Pūnāwai)

A freshwater spring.

Uala ('Uala or 'Uwala)

General name of Hawaiian sweet potatoes, one of the major crops of the Kona district and associated with the ritual of Lono. Later, "'uala kahiki" was the native name given to introduced Irish potatoes.

Uhi Yams.

Ulu ('Ulu) Breadfruit trees.

Wahi waiho wale Unused or untended land.



# Excerpts from Kuleana Claims in the Ahupua‘a of Keauhou 1 & 2, Kahalu‘u, Wai‘aha-Kahului, Keahuolū-Kealakehe – by Kumu Pono Associates

## Background

The claim and award narratives below are generally cited in order from South (Keauhou) to North (Kealakehe and adjoining lands). Some of the claims cite kuleana (property rights) across more than one ahupua‘a—particularly those of Ali‘i and foreign claimants. The claims also span a wide cross section of “wao” (traditional environmental zones), ranging from kai and kahakai” (ocean and shore lands) to the “ulu lā‘au,” or “mauka loa” (forest or distant uplands). The extensive use of lands across several wao as cultivating fields, residences, water resources and collection of natural resources such as stone, birds and plants/trees—was integral to the long-term wellbeing and sustainability of ho‘āina. This practice allowed the native tenants, to adjust their cultivation and residency practices based on weather and environmental conditions. As noted earlier in this section on development of the Māhele/Kuleana rights limited claimants’ ability to claim ‘āina, as the act required that they were actively living on their house lots (approximately one quarter acre), and the agricultural land claims were limited to the ‘āina that were actively under cultivation (“Enabling Act”<sup>82</sup> – DLNR 2-4, August 6, 1850).

Because of the scope of this project spans multiple ahupua‘a, we focused on land use claims identified on historic maps within a portion of most ahupua‘a within the study area, generally in the region from the shore to c. 2,000-foot elevation. Kepā Maly, then prepared verbatim translations—in some instances excerpts of larger claims—of the identified Native/Foreign Register claim documents. We then looked through the Native/Foreign Testimony documents, preparing excerpts of the documents.<sup>83</sup> Also included in the “Testimony” documents are cited the boundary references/adjoining parcels as those provided documentation of neighboring residents, features and adjoining land uses, which demonstrate the extent of land use across the region at the time.

It is important to remember that additional documentation of kuleana claims exists in the notes of survey documented in the “Mahele Award Books” and in “Royal Patents” issued upon confirmation of the claims.<sup>84</sup> Where the cited claims include parcels identified on maps as being within the primary study zone—shore to c. 2,000-foot elevation. The ‘āpana (parcels) identified as “‘Āp.” (followed by a number), indicate those ‘āpana which are in the upper region of the project area. Also, the writing is at times illegible, and because the spelling of place and people names is

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<sup>82</sup> See also Kanawai Hoopai Karaima no ko Hawaii Pae Aina (Penal Code) 1850.

<sup>83</sup> Typically, the Register and Testimony volumes recorded the application and initial description of the kuleana claims, followed by refined descriptions and witness support of the application. Between 1848 to 1855, many of the initial applications and supporting documentation were lost in transit. As a result, some of the Kuleana cited below include only one record prior to accepting or denying the claim.

<sup>84</sup> While it was the original intention of the Commission to issue Palapala Sila Nui (Royal Patents) on awarded claims, the monumental task of recording the Māhele and Kuleana, proved to be too much, and also extended beyond the allotted time frame for completing the commission’s work. As a result, many awards were confirmed without issuance of the Royal Patent.

inconsistent, the correct spelling may be unclear. In such cases we have used the “[?]” following the word where it is uncertain.

Regardless, a review of the claim documentation provides us with a rich and varied collection of inoa ‘āina (place names) across the landscape. Table 14 is a list of names across various ahupua‘a which we could identify through the cited documents. Some of the names occur in multiple ahupua‘a

Table 14. Inoa ‘Āina (Place Names)

Ahupua‘a, ‘Ili, Paukū, Mo‘o, Kīhāpai Found in Cited Kuleana Claims

| Inoa ‘Āina   | Ahupua‘a                  |
|--------------|---------------------------|
| Ahualoa      | Honokohau                 |
| Alanaio      | Lanihau                   |
| Auliilii     | Lanihau                   |
| Elepaio      | Honokohau                 |
| Haleamahuka  | Honokohau                 |
| Haleape      | Keauhou                   |
| Haleokane    | Keauhou                   |
| Haleokaupaku | Keauhou                   |
| Haleolai     | Keauhou                   |
| Haleolono    | Moeauoa, Honokohau        |
| Halewaawaa   | Kahului                   |
| Haliipalala  | Keauhou, Kahaluu          |
| Hanamauloa   | Waiaha                    |
| Hanapouli    | Honokohau                 |
| Hapaipapa    | Kahului                   |
| Helekamahina | Kahaluu                   |
| Hokio        | Kahaluu                   |
| Hopeloa      | Lanihau                   |
| Hulihee      | Keopu                     |
| Hulihuli     | Kealakehe                 |
| Hulilau      | Kahului                   |
| Ililoa       | Kahaluu, Keauhou, Puapuaa |
| Inaimoa      | Kahului                   |
| Kaaipuaa     | Kahului                   |
| Kaaipuhi     | Keopu                     |
| Kaaki        | Kealakehe                 |
| Kaeamaia     | Kealakehe                 |
| Kaeo         | Honokohau                 |
| Kahea        | Moeauoa                   |
| Kahuamoa     | Kahaluu                   |
| Kahuki       | Kahului                   |
| Kaiakeakua   | Lanihau                   |
| Kaimuloa     | Kahaluu                   |
| Kalamaunu    | (Kailua Vicinity)         |
| Kaloaulu     | Kahaluu                   |
| Kaluaaina    | Keauhou                   |
| Kaluaolena   | Kahului                   |
| Kaluaoliloa  | Keopu                     |



|                         |  |
|-------------------------|--|
| Kaluapaa                | Keopu  |
| Kamakahonu              | Lanikai  |
| Kamuku                  | Kahaluu, Lanikai   |
| Kamumu                  | Kahului  |
| Kaniohale               | Kealahou   |
| Kanuaawa                | Moeauoa  |
| Kaohia                  | Kealahou, Moeauoa  |
| Kapio                   | Kahaluu  |
| Kauailoa                | Kahului, Waiaha  |
| Kaulukauheana           | Kealahou   |
| Kealahou (Alaehu)       | An ancient trail attributed to Umi-a-Liloa that crosses all of the ahupuaa in the Kona District. |
| Kealahou (Alakoua)      | Kahului  |
| Kealahou (Kalahou)      | Kealahou   |
| Kealahou (Alaloa)       | A part of the ancient trail system that crosses through Kona, encircling the island.             |
| Kihikihi                | Kahaluu  |
| Kikiaiolo               | Kahului  |
| Kionalua                | Kealahou   |
| Koaie                   | Kahaluu  |
| Kohekaua                | Lanikai  |
| Kohelele                | Kealahou   |
| Kohelo                  | Lanikai  |
| Kueka                   | Kealahou   |
| Kukuihaa                | Kahaluu  |
| Kukuiokahinu            | Kahaluu  |
| Kukuiomino (Kukuiomino) | Kealahou   |
| Kukuiominoiki           | Kealahou   |
| Kukuiominonui           | Kealahou   |
| Kukuipuloa              | Kahului  |
| Kumuhawane              | Kahaluu, Kealahou  |
| Kumuni                  | Kealahou   |
| Lapaloa                 | Kahului  |
| Lauekielele             | Kealahou   |
| Lauhulu                 | Puapuaa  |
| Laulaulahili            | Kealahou   |
| Lehuakona               | Kahaluu  |
| Lualualiki              | Kahaluu, Lanikai   |
| Maalo                   | Kealahou   |
| Maili                   | Kealahou, Keahuolu   |
| Makaihuliwaa            | Waiaha   |
| Makakaulii              | Kealahou   |
| Makakiloia              | Kahaluu, Kealahou  |
| Makolea                 | Kahaluu  |
| Malaiula                | Kealahou   |
| Moelaepuni              | Lanikai 2  |
| Mokuaikaua              | Kealahou   |
| Naalapa                 | Kahului  |
| Niukini                 | Kahului  |
| Niukukahi               | Lanikai  |
| Niumalu                 | Keopu  |



Nuuhiwa  
Ohiki  
Ohuahale  
Opukaha or Opuokaha  
Pahauopu  
Pahoa  
Pahukauila  
Pakii (Paki)  
Pakohe  
Pamaki  
Papaakoko  
Papaawela  
Papala  
Papalanui  
Papiha  
Papipi

Papuaa  
Papuaaiki  
Papuaanui  
Paulu  
Pawaalae (wahi pana)  
Pohakupalahalaha  
Poolani  
Puakahi  
Punaio  
Puuhinahina  
Puukehoe  
Puuki  
Puukou  
Puukukaeke  
Puuloa  
Puunoni  
Puohe  
Puuokaa  
Puuokaliu  
Ukakoni  
Ulumoe  
Umiwai (Punawai)  
Waiapuko  
Waiha  
Waipio

Honokohau  
Kahului, Puaa  
Kahului  
Keauhou  
Kahaluu  
Kahaluu  
Waiaha  
Keauhou, Kahaluu  
Keauhou  
Kahaluu  
Honokohau  
Lanikai  
Keauhou  
Keauhou  
Kahului  
Localities identified as the "Great Wall" in various  
ahupuaa, and as cattle enclosures.  
Kahaluu, Kahului, Moeauoa, Lanikai  
Kealakehe  
Kealakehe  
Kahaluu  
Puaa  
Honokohau  
Keopu  
Kahaluu  
Waiaha  
Kahaluu  
Kahului  
(not named)  
Honokohau  
Waiaha  
Keauhou, Lanikai  
Keauhou  
Kealakehe  
Keauhou  
Lanikai, Keahuolu  
Honokohau  
Kahaluu  
Kahului  
Kahului  
Honokohau  
Keauhou, Kahaluu

## Māhele Discussion: Land Use Model in Kona

This section highlights select excerpts from the Māhele Awards Books, including Native Testimony, Native Register, and Land Commission Awards. Transcriptions and translations from original Awards Books were completed by Kumu Pono Associates; the discussions featured below were completed by Nohopapa Hawai‘i.

### Kamehameha School Parcel - Keauhou Ahupua‘a

#### Keauhou 2 Ahupua‘a and Environs

Multiple ‘āpana under cultivation, predominantly with taro and ‘uala, although foreign-introduced oranges and even coffee were also cultivated, and one or more walled pāhale at the shoreline typify Keauhou 2 land claims. Many claims reference lands as ancestral places traditionally occupied by members of one ‘ohana across multiple generations. A cluster of helu within the land division sit north of the Kamehameha Schools well site, at a similar 1,500 amsl (above mean sea level) elevation, and are described below:

*Kukahi, Helu 7366*

Kukahi issued a Native Register claim for "...a land claim and a pahale claim on the shore," and 20 kīhāpai in the ‘ili ‘āina of Puunoni (Kukahi was awarded 2 ‘āpana in Keauhou 2 (MA:v5, p578). Native testimony issued by Kapela on behalf of Kukahi (NT:v4, p653-654) describes mauka lands in the ‘ili ‘āina of Maili containing oranges and olonā<sup>85</sup> tended by Kukahi as well as "very old land" in the ‘ili ‘āina of Kohelemu inherited from his parents and planted by his wife. Kapela goes on to describe Kukahi's residence in Keauhou 2: "1 Apana Pahale, Mauka and all surrounding boundaries idle land. It was enclosed with a wall by him. 1 hale is his, and he resides there," (NT:v4, p653-654). Notably, Kapela also described the oranges and olonā as "with Kane" on February 21, 1849, evincing continuation of Hawaiian cultural beliefs and practices in Keauhou 2 during the mid-nineteenth century.

Native Register, Volume 8:430, Helu 7366 (‘Āp. 1), Kukahi.  
January 23, 1848

...Here is this, there are some planted trees, an orange tree and olona which is in another Ili aina.

The Land Commissioners: Here am I, with a land claim and a pahale claim on the shore. I hereby tell you of the size of my land claim and the pahale claim. Here is the length of my land 810 long, 262 wide, from the kula to the distant uplands. Here is the length of my pahale claim, 40 long by 20 wide; Here is the name of the ili aina, Puunoni. Here is the number of my kihapai, 20.

Done by Kukahi and Kinimaka 2.

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<sup>85</sup> *Touchardia latifolia* – a bush with many uses cultivated primarily in wet mauka locations whose fibers were frequently crafted into cordage (Kraus 1993:27, 28).

Keauhou, Kona, Hawaii.

Native Testimony, Volume 4:653-654,  
February 21, 1849

...In the ili aina of Puunoni, Keauhou 2 ahupuaa. 2 Apana aina. There in Kohelemu, 1 Apana. The boundaries are not known to me [Kapela. He [Kukahi] will make them known when the surveyor comes. They are cultivated.

Planted Apana in the ili aina of Maili. There Kukahi planted olona and oranges. He does not have them at this time, they are with Kane. I believe that he has submitted his petition for the claim, but I do not know who planted. I have seen that Kukahi is the one who cares for the oranges.

There in the ili aina of Kohelemu, 1 kumu alani, planted by his wife. This is very old land [right] from the parents in the time of Kamehameha I, and they are his at this time. No one has objected to him. There is one who opposes the planted things.

1 Apana Pahale, Mauka and all surrounding boundaries idle land. It was enclosed with a wall by him. 1 hale is his, and he resides there...<sup>86</sup>

Foreign Testimony, Volume 5:89-91, Kue Konohiki (In opposition to the Konohiki), 13, February. 1852, [Note: *This document is largely illegible.*]

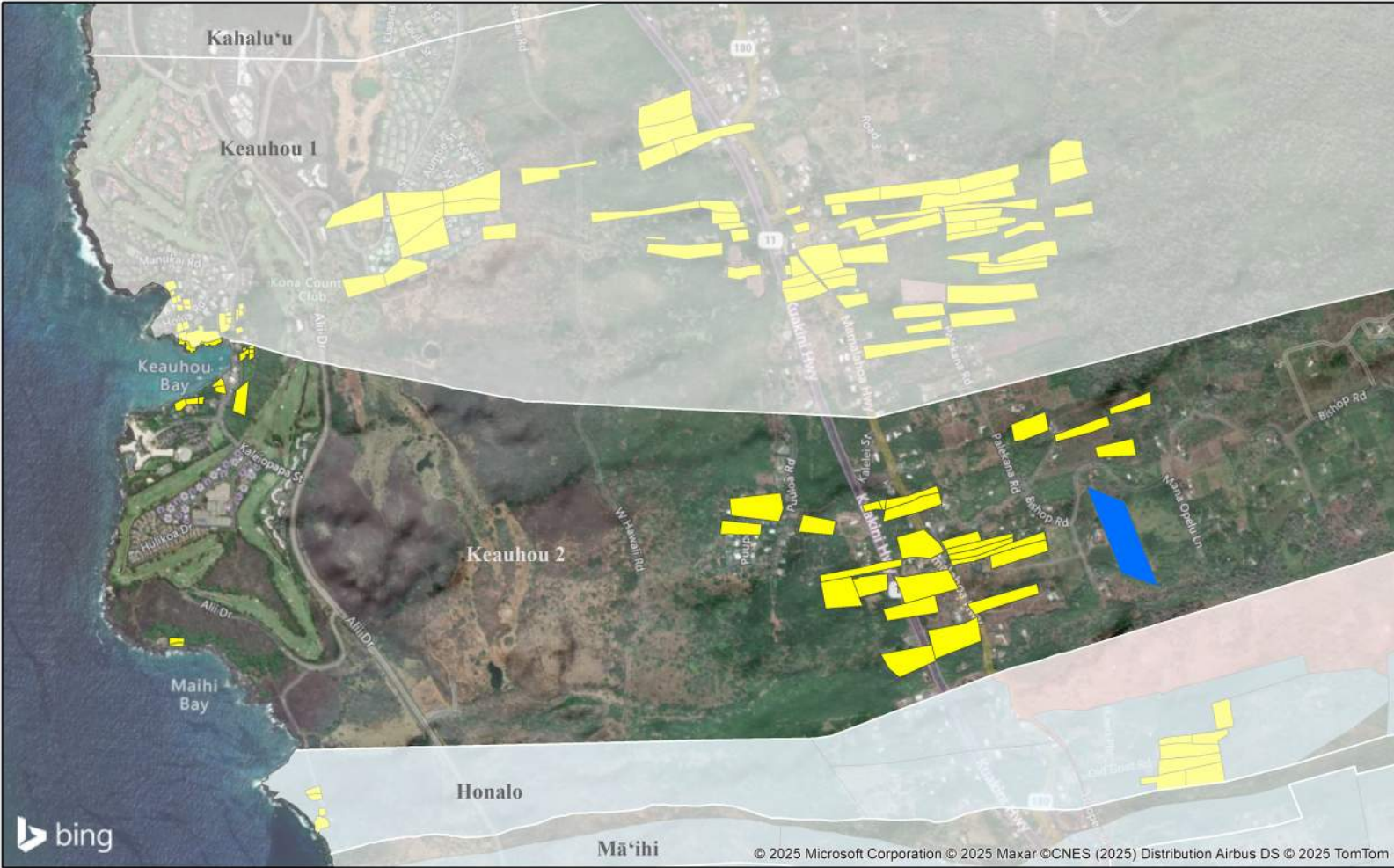
Konohiki Petition of Kukahi to the Land Commissioners for the remainder, an orange tree outside of the claim. That orange tree was spoken of in his petition. (Kapela, Witness for Kukahi)

G.L. Kapeau: Do you swear publicly and before God concerning the truth of Kukahi's claim to the orange tree in the Ili named Maili in the Ahupuaa of Keauhou, Kona, Hawaii?

Kapela, yes; Kalona, yes; Naholowaa, yes. Kapela: Maheha[?] is the konohiki...

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<sup>86</sup> Helu 7366; Keauhou 2 N. Kona. 1 'Āp. 0.14 Ac., Royal Patent 7044; Keauhou 2 Kona. 2 'Āp. 2.37 Acs.



**Legend**

|  |                                  |                     |       |
|--|----------------------------------|---------------------|-------|
| Ahupua'a Bdry.                             | Hawaiian Kingdom Crown Land      | Kilometers<br>Miles | N<br> |
| Bernice Pauahi Bishop Estate (BPBE) Parcel | Government Grant                 |                     |       |
| Kuleana Land Commission Award (LCA)        | Hawaiian Kingdom Government Land |                     |       |

\*Unlabelled areas (color coded) are Konohiki LCA, but were left un-marked to highlight Kuleana LCA in and around the Project Area

Figure 16. Keauhou 2 Land Commission Award GIS map showing the KS parcel in blue

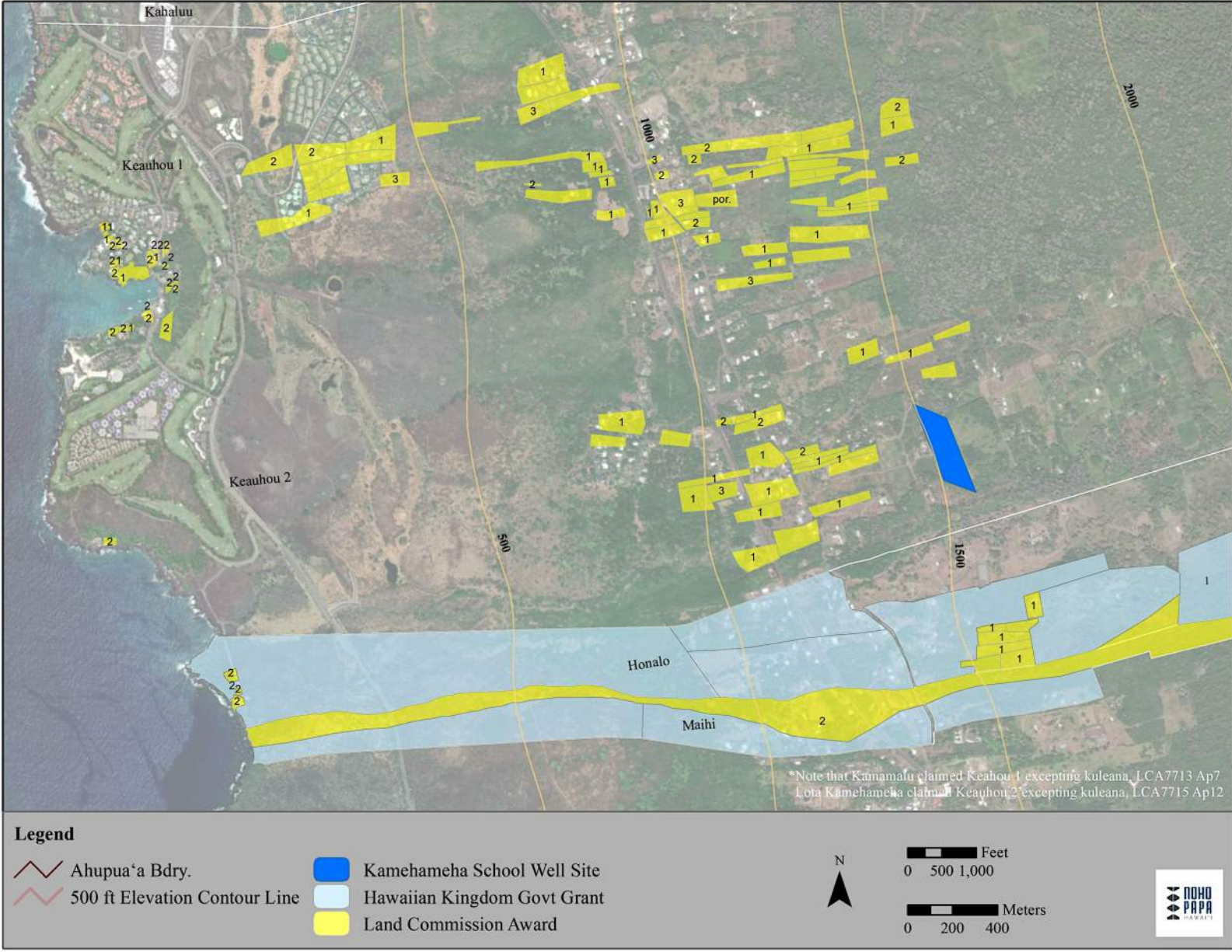
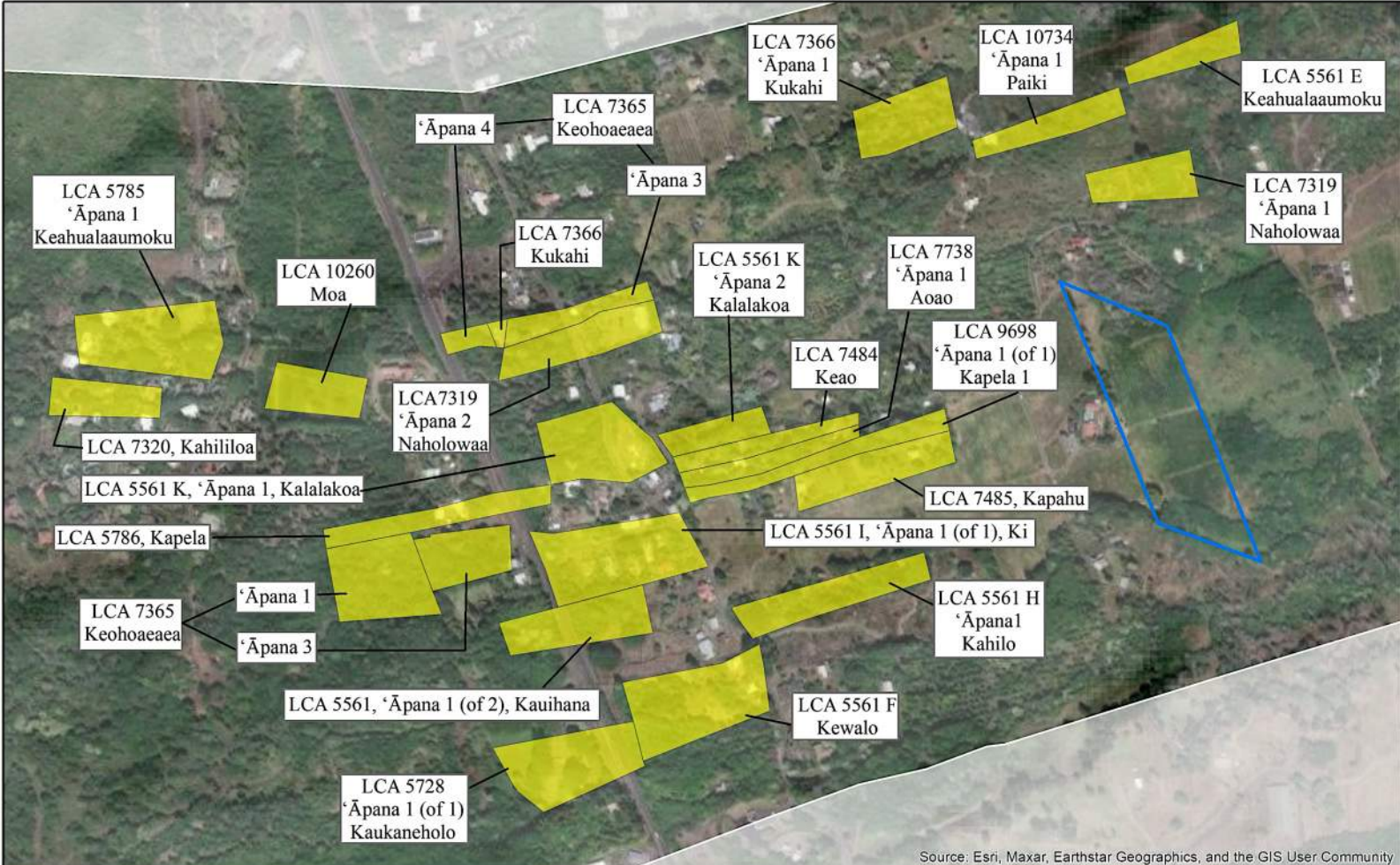


Figure 17. Keauhou 1 and 2 Land Commission Awards and Apana colored in yellow with the KS well site location in blue





**Legend**

- Bernice Pauahi Bishop Estate (BPBE) Parcel
- Kuleana Land Commission Award (LCA)
- Ahupua'a Bdry.

\*Unlabelled area, non-kuleana portion of Keauhou 2 Ahupua'a is a konohiki LCA 7715 (Awards Book 10, p622). Awarded to Lot, who would become Kamehameha V.

Meters  
0 100 200 400

Feet  
0 250 500 1,000

Figure 18. Close up GIS map showing the LCAs around the KS parcel in Keauhou 2 Ahupua'a

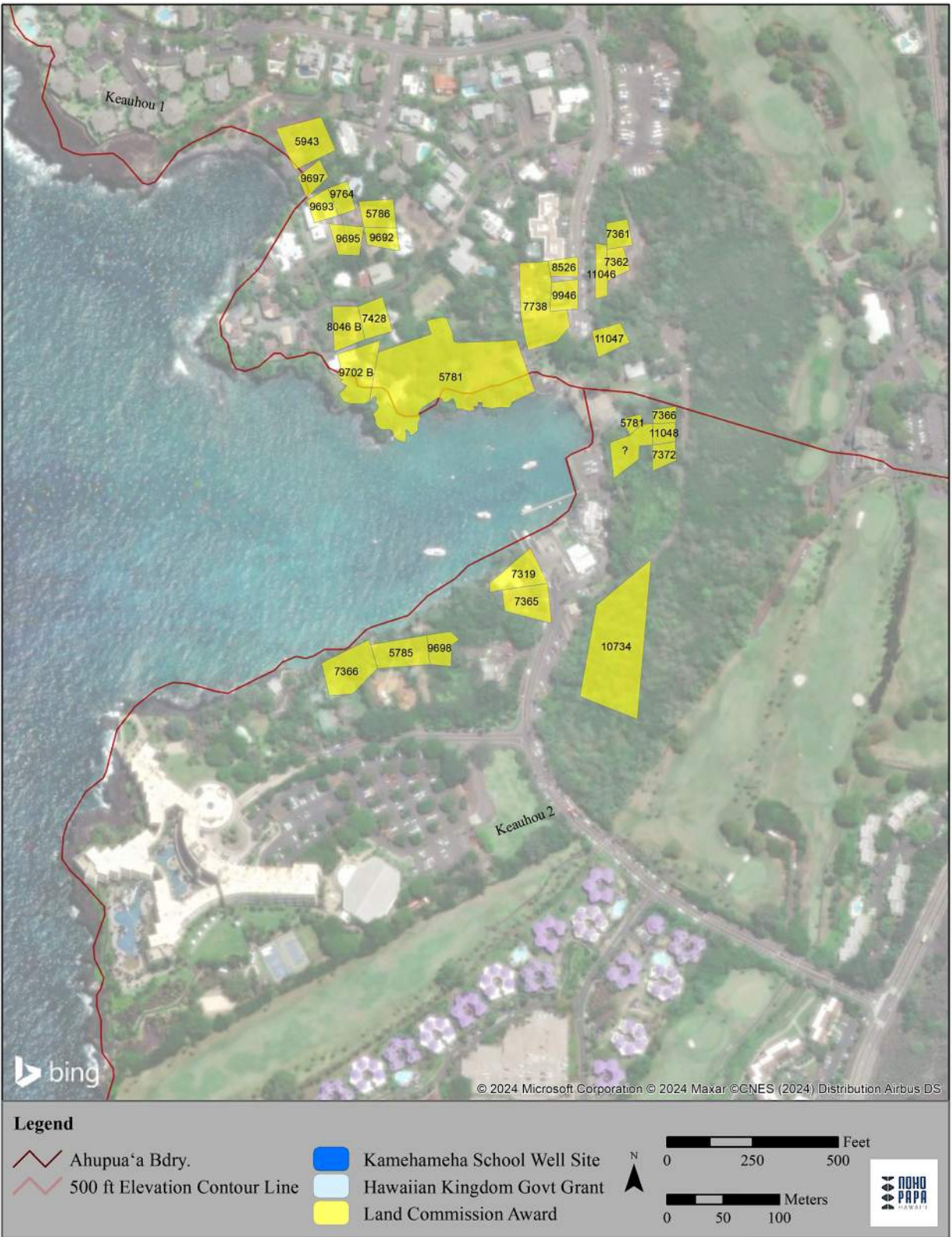


Figure 19. Land Commission Awards located in Keauhou 1 and 2 makai, downslope of the KS well site location.

*KePaiki, Helu 10734*

Māhele records indicate Paiki made five Native Register claims and two were awarded, including Helu 10734 in the ‘ili ‘āina of Maili, Keauhou 2, in 1848. Native testimony issued by Kauhiahiwa W. (NT:v4, p653) described Paiki’s land as being cultivated, and that Paiki’s kuleana tract of land served as Paiki’s residence.

Native Testimony, Volume 4:653, Helu 5903 & 10734,  
February 21, 1849

...In the ili aina of Maili, Keauhou 2 Ahupuaa. 5 Apana aina; 1 Apana kahuahale; also 1 Apana pahale in the ili aina of Waipio 4, Keauhou 1 Ahupuaa. 3 Apana. The boundaries are not known to me [Kauhiahiwa W.], he will show them accurately to the surveyor when he comes. The land is cultivated.

The pahale is enclosed with a wall made by him [Paiki], with 1 hale. The house is for Hoapili, and Paiki lives there. His kuleana is as a residence for him. He received the ili aina of Maili in the Yr. 1847. His interest in the ili aina of Waipio 4 was from Kanehoa in the Yr. 1848. No one has objected to him...<sup>87</sup>

*Naholowaa, Helu 7319*

In Native Register claims, Naholowaa described their ancestral land and house lot, occupied by their kūpuna and mākua (parents) before them during the time of Kamehameha I in the eighteenth century (NR:v8, p408). Naholowaa also claimed 11 kīhāpai (NR:v8, p421). In addition to their Native Register claims (NR:v8, p421), Māhele records show Naholowaa issued Native Testimony for other associates (NT:v4, p661-662).

Native Register, Volume 8:408, Helu 6029 (‘Āp. 2), Nakea & 6030, Naholowaa,  
Kahalu‘u, Hawai‘i, January 10, 1848

Aloha to you the Land Commissioners. We hereby tell of our house lots, and old lot from olden, in the time of Kamehameha I. Our kupuna and makua have occupied it until ourselves at present. Therefore we state the size of our lot. On two sides, the length is 360 feet; on the other two sides the width is 183 feet. The circumference of four sides is 443. That is it for you to hear.

Nakea  
Naholowaa

Native Register, Volume 8:421, Helu 7319 (‘Āp. 1), Naholowaa.  
Keauhou, January 22, 1848

Aloha to you Land Commissioners. See my kihapai which I am thinking of taking in Alodial title. Those which are mode know below. Showing the length and width

---

<sup>87</sup> Helu 5903; Royal Patent 6842; Keauhou 2 Kona. 3 ‘Āp. 5.53 Acs. (see also Helu 10734).

Kihapai 1. Anana, length 100, width 16

Kihapai 2. Anana, length 33, width 11

Kihapai 3. Anana, length 34, width 14

Kihapai 4. Anana, length 73, width 23

Kihapai 5. Anana, length 49, width 32

Kihapai 6. Anana, length 63, width 11

Kihapai 7. Anana, length 60, width 17

Kihapai 8. Anana, length 21, width 14

Kihapai 9. Anana, length 40, width 30

Kihapai 10. Anana, length 80, width 21

Kihapai 11. Anana, length 37, width 10  
590                      99

The combined length and width is 780. Here also is this, my house lot is 63 long by 40 wide, combined being 103.

Done by me, Naholowaa

*Kahualaaumoku, Helu 5561E*

In 1848, Kahualaaumoku filed Native Register claim for their house lot (NR:v8, p400). Native testimony supporting Kahualaaumoku's claim was issued by Kahilo in 1849 (NT:v4, p662). Kahilo described Kahualaaumoku's house lot in the 'ili 'āina of Pakohe as being cultivated lands consisting of "2 Apana aina, and 2 Apana Pahale," which housed Kahualaaumoku's residence and was planted with "...1 Niu and 1 Kou..." (NT:v4, p662). Kahilo noted the presence of four additional trees in another lot.

Native Register, Volume 8:400, Helu 5785, Kahualaaumoku.  
Keauhou 2, January 17, 1848

Aloha to you Z. Kaaui and all the esteemed Land Commissioners. Here is my claim the lot and my hale. That is my claim.

By Kahualaaumoku

Native Testimony, Volume 4:662, Keahualaaumoku,  
February 22, 1849

...In the ili aina of Pakohe, Keauhou 2 Ahupuaa. 2 Apana aina, and 2 Apana Pahale. The boundaries are not known to me [Kahilo]. He [Keahualaaumoku] will accurately make them known to the surveyor when he comes. They are cultivated.

The pahale in enclosed with a wall. 1 hale is for him, also 4 kumu are in another lot. 1 Niu, also 1 Kou planted by him. It is and old land right from the time of Kamehameha I. No one has objected...<sup>88</sup>

At least twenty additional helu cluster ma kai of the Kamehameha Schools well site, at an elevation of between 750 and 1400 amsl, and are discussed below:

*Keao, Helu 7484*

Keao issued a land claim for 15 kīhāpai in the Keauhou 2 Ahupua‘a of Kona in 1848 (NR:v8, p443-444).

Native Register, Volume 8:443-444, Helu 7484, Keao,  
Kona, Hawai‘i, January 22, 1848

Hear ye, o Land Commissioners: I hereby explain to you size of my Kihapai, there are 15, here is the length 1061, that I have a total of 15 kihapai. The length is 1061, the combined width is 168. Finished. Aloha to all you Commissioners.

By Keao  
Keauhou 2

*Kapahu, Helu 7485*

Kapahu issued a land claim for an entire ‘ili in Keauhou 2 and described the boundaries of the ‘ili ‘āina to extend from Kaneaa as the headlands of the ‘āina and ‘Ulalena as the ma kai extent of the claimed ‘āina (NR:v8, p444).

Native Register, Volume 8:444, Helu 7485, Kapahu.  
Kona, Hawai‘i, January 23, 1848

Hear ye, o Land Commissioners. I hereby explain my land claim for an entire ili. The head (top) of the land is from Kaneaa to Ulalena, which is the tail (bottom) of the land. Finished. Aloha to all of you.

Done by me, Kapahu  
Keauhou 2

*Ki, Helu 5561 I*

Native testimony issued in favor of Ki’s claim (NT:v8, p641) described their ‘āpana parcel in the ‘ili ‘āina of Pu‘uloa, and also stated that the land was given to them the year prior by Kalalakoa. The ‘āpana claimed is described to be comprised of four kīhāpai cultivated with kalo and ‘uala (NT:v8, p641).

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<sup>88</sup> Helu 5785: Keauhou 2 N. Kona. 2 ‘Āp. 4.42 Acs.

Native Testimony, Volume 8:641, Helu 5561 I, Ki

An Apana parcel with 4 kihapai Kalo and uala in the ili of Puuloa, Keauhou. Given to him by Kalalakoā in the Yr. 1846. No one objected to him.<sup>89</sup>

*Kahilo, Helu 5561 H*

Māhele records show that Kahilo's pāhale, located in the 'ili 'āina of Pakohe, Keauhou 2, was given to them by their parents in 1819. They cultivated kalo and 'uala on their 'āpana parcels which are also located in Keauhou 2 Ahupua'a.

Native Testimony, Volume 8:641, Helu 5561H ('Āp. 1), Kahilo

...Apana 1., Ili of Haleolai, Keauhou 2 Ahup. Given by Kaikuahine in the Yr. 1846.

Apana 2. 8 Kihapai Kalo & uala, at Ililoa, Keauhou 2. Gotten from Kaikuahine in Yr. 1846.

Apana 3. Pahale in the ili of Pakohe, Keauhou 2. Gotten from his parents the Yr. 1819. No one has objected.<sup>90</sup>

*Kauihana, Helu 5561 D*

Kauihana claimed two 'āpana in the Keauhou Ahupua'a. 'Āpana 1 was claimed for the 'ili of Kaalakupou and 'Āpana 2 was claimed for a pāhale located on the Kaalakupou 'ili 'āina (NT:v8, p640). Kauihana testified that the 'āpana were inherited to him from his parents in 1819.

Native Testimony, Volume 8:640, Helu 5561D ('Āp. 1), Kauihana – Heir, Kumau

...Apana 1 – Ili of Kaalakupou ili in Keauhou 2 Ahup.

Apana 2 – Pahale at Kealakupou, also at Keauhou.

These Pana were from his parents in the Yr. 1819. No one objected to him.<sup>91</sup>

*Kalalakoā, Helu 5561 K*

Kalalakoā claimed five kīhāpai which were cultivated with kalo and 'uala located in the 'ili 'āina of Haleokaupaku, Keauhou 2 Ahupua'a (NT:v8, p641). It is noted that Kalalakoā received the lands from Kaikuahine in 1839 with no objections.

Native Testimony, Volume 8:641, Helu 5561 K ('Āp. 1, 2), Kalalakoā

...5 Kihapai Kalo & uala in the ili of Haleokaupaku, Keauhou 2 Ahupuaa.

<sup>89</sup> Helu 5561I; Keauhou 2 N. Kona; 1 'Āp. 0.5 Ac.; Keauhou 2. 1 'Āp. 4.85 Acs.

<sup>90</sup> Helu 5561H; Royal Patent 7757; Keauhou Kona. 2 'Āp. 3.07 Acs.

<sup>91</sup> Helu No. 5561D; Royal Patent 3680; Keauhou 2 Kona. 2 'Āp. 2.88 Acs.

It was from Kaikuahine in the Yr. 1839. No one objected.<sup>92</sup>

*Kapela, Helu 5786*

Kapela issued a claim for their house lot in Keauhou 2. Testimony supporting their claim (NT:v4, p662) indicates that their pāhale and additional cultivated lands were located in the ‘ili ‘āina of Pu‘uloa in the Keauhou 2 Ahupua‘a.

Native Register, Volume 8:400, Helu 5786 (‘Āp. 1), Kapela. Keauhou

Hear year ye, Kaauwai and Keoni Ii. I hereby petition you two, the Ministers of the King, for my house lot.

By Kapela

Native Testimony, Volume 4:662, Helu 5786 & 7482,  
February 22, 1849

...In the ili aina of Puuloa, Keauhou 2 Ahupuaa. 3 Apana. In the ili aina of Pakohe, 1 Apana is a lele. 1 Apana pahale. The boundaries are not known to me [Kahilo]. He [Kapela] will show the correct boundaries to the surveyor when he comes. The are cultivated.

*Keohoaee, Helu 7365*

Keohoaee’s land claim described a land division extending “from the kula to the distant uplands,” (NR:v8, p429-430) as well as a coastal pāhale and a land claim in a flat place called “Nuuanu” in Ililoa, Keauhou 2.

Native Register, Volume 8:429-430, Helu 7365 (‘Āp. 1, 3), Keohoaee,  
September 23, 1847

Here is my land claim. The length is 910 from the kula to the distant uplands. Here is the width, one is 5 one is 7, one is 9 one is 10, and the width is 5 in part, 7 in another part, 9 in another part, 10, 6 different places. Some are less in width. Here also is this, my pahale claim on the shore. It is 35 long, by 23 wide There is also a land claim on this papa [flat area], named Nuuanu. The moo aina is Ililoa.

Done by me, Keohoaee  
Keauhou 2, Kona, Hawaii

*Kapela, Helu 9698*

Land claim records indicate Kapela claimed three kīhāpai and grew kalo and oranges on their lands in Keauhou 2 (NR:v8, p467). Testified in the Native Testimony given for this claim, Kapela

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<sup>92</sup> Helu 5561K; Royal Patent 3741; Keauhou N. Kona. 2 ‘Āp. 4.86 Acs.

is said to have three ‘āpana in the ‘ili ‘āina of Paki, Keauhou Ahupua‘a, as well as, one ‘āpana at Haliipalala 2 and a house lot. Kapela’s land is noted to have been partially cultivated and was inherited from Kupaka during the era of Kamehameha I and (NT:v4, p652).

Native Register, Volume 8:467, Helu 9698 (‘Āp. 2), Kapela,  
Keauhou, January 18, 1848

Greetings to the Esteemed Land Commissioners. 3 kihapai Kalo, 3 kumu alani.

By Kapela

Native Testimony, Volume 4:652, February 20, 1849

...In the ili aina at Paki 2, Ahupuaa of Keauhou, 3 apana.

1 parcel at Haliipalala 2; and 1 house lot parcel.

The land is partially cultivated. It was from Kupaka in the time of Kamehameha I, no one has objected to Kapela.<sup>93</sup>

*Moa, Helu 10260*

Moa issued land claims for their coastal pāhale, ma uka lands “from the kula to the distant uplands,” (NR:v8, p476) as well as 22 kīhāpai in the ‘ili ‘āina of Kumuniu.

Native Register, Volume 8:476, Helu 10260, Moa.  
Keauhou 2, Kona, Hawai‘i, January 24, 1848

Here is my land claim and my pahale claims. I tell you the size of my land, a claimant of land and a house lot at the seashore, hereby state the size of my land. The length is 100.008 [?], 263 from the kula to the distant uplands. Here is the number of my kihapai, 22. Also, the pahale. Here is the size of the pahale, 30 long, 21 wide. Here is the name of the ili aina, Kumuniu.

Done by Moa.

*Keahualaaumoku, Helu 5785*

Keahualaaumoku claimed two pāhale, which at least one of them was walled, and claimed an additional two ‘āpana in the ‘ili ‘āina of Pakohe, Keauhou 2. It is noted that four trees grew on another ‘āpana which included one niu and one kou tree (NT v4: p662).

Native Register, Volume 8:400, Helu 5785, Kahualaaumoku.  
Keauhou 2, January 17, 1848

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<sup>93</sup> Helu 9698, Royal Patent 6816; Keauhou 2 Kona. 1 ‘Āp. 2.3 Acs.



Aloha to you Z. Kaauwai and all the esteemed Land Commissioners. Here is my claim the lot and my hale. That is my claim.

By Kahualaaumoku

Native Testimony, Volume 4:662, Keahualaaumoku,  
February 22, 1849

...In the ili aina of Pakohe, Keauhou 2 Ahupuaa. 2 Apana aina, and 2 Apana Pahale. The boundaries are not known to me [Kahilo]. He [Keahualaaumoku] will accurately make them known to the surveyor when he comes. They are cultivated.

The pahale in enclosed with a wall. 1 hale is for him, also 4 kumu are in another lot. 1 Niu, also 1 Kou planted by him. It is and old land right from the time of Kamehameha I. No one has objected...<sup>94</sup>

*Kahililoa, Helu 7320*

Kahililoa claimed six kīhāpai, as well as, one pāhale in Keauhou 2 Ahupua‘a (NR:v8, p421-422).

Native Register, Volume 8:421-422, Helu 7320, Kahililoa,  
January 20, 1848

Hear ye, o Land Commissioners. That you may know about my kihapai, which I desire to have Alodial title to. They are known below, showing the length and the width

Kihapai 1. Anana length, 47, width 10

Kihapai 2. Anana length, 36, width 12

Kihapai 3. Anana length, 50, width 16

Kihapai 4. Anana length, 54, width 12

Kihapai 5. Anana length, 84, width 12

Kihapai 6. Anana length, 74, width 16

Here also is my pahale, 28 long by 8 wide, a total of 36 anana.

By Kahililoa

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<sup>94</sup> Helu 5785: Keauhou 2 N. Kona. 2 ‘Āp. 4.42 Acs.

## Summary in Brief: Kamehameha School Parcel - Keauhou Ahupua‘a

Hawaiian primary source historical records contained in the Native Testimony, Native Register, and Buke Māhele mention, or are indicative of cultural resources and practices associated with the ahupua‘a of Keauhou 2, site of the Kamehameha Schools well acquisition, Keauhou 1, and Keauhou (Table 15 through Table 20). Keauhou 2 contained pāhale and kīhāpai used to cultivate unspecified crops as well as kalo and ‘uala. Alongside kalo and ‘uala, Hawaiians cultivated niu, olonā, loulou, kou, ‘alani, and kope in Keauhou 2. Significantly less cultural resources are mentioned in the neighboring land division of Keauhou 1, which seemed to predominantly host kīhāpai kalo and ‘uala. Of the land divisions surveyed, the richest array of cultural resources and practices is recorded for Keauhou. Kalo, ‘uala, and foreign-introduced kope were prevalent cultivars, alongside uhi and ipu. Flowers and forest resources are also referenced.

Table 15. Cultural Resources Recorded in Māhele Records for Keauhou 2 Ahupua‘a\*

| Cultural Resource                            | Use   | Number of Citations** |
|--|---|-----------------------|
| <i>Canoe Plants (Indigenous)</i>             |   |                       |
| Kalo (taro)                                  | Food, medicine, spiritual                                 | 4                     |
| ‘Uala/‘Uwala (sweet potatoes)                | Food, medicine  | 5                     |
| Niu (coconut trees)                          | Food, medicine, utensils, cordage<br>(see Krauss 1993:27) | 1                     |
| Olonā ( <i>Touchardia latifolia</i> )        | Food, medicine, cordage (see Krauss 1993:27)              | 1                     |
| <i>Other Plants (Indigenous and Endemic)</i> |   |                       |
| Loulou ( <i>Pritchardia</i> spp. palm trees) | Cordage (see Krauss 1993:27)                              | 2                     |
| Kou ( <i>Cordia subcordata</i> ) trees       | A dry land garden; cultivated areas, or patch             | 4                     |
| <i>Foreign-introduced Crops</i>              |   |                       |
| Kope (coffee)                                | Food  | 1                     |
| ‘Alani (orange trees)                        | Food  | 3                     |

\*Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice not amounts recorded

Table 16. Cultural Practices Recorded in Māhele Records for Keauhou 2 Ahupua‘a\*

| Cultural Practice       | Definition  | Number of Citations** |
|-------------------------|---|-----------------------|
| Mala (Māla) kalo        | A dryland garden, planted field, or patch of taro               | 1                     |
| Mala (Māla) ‘uala       | A dryland garden, planted field, or patch of sweet potatoes     | 1                     |
| Pahale (Pāhale)         | House lot   | 9                     |
| Kihapai (Kīhāpai)       | A dry land garden; cultivated areas, or patch; crop unspecified | 4                     |
| Kihapai (Kīhāpai) kalo  | A dry land garden; cultivated areas, or patch of taro           | 5                     |
| Kihapai (Kīhāpai) ‘uala | A dry land garden; cultivated areas, or patch of sweet potatoes | 6                     |

|              |  |    |
|--------------|--|----|
| ‘Āpana ‘Āina | Parcels or lots within given kuleana tract of land | 11 |
|--------------|--|----|

\*Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 17. Cultural Resources Recorded in Māhele Records for Keauhou 1 Ahupua‘a\*

| Cultural Resource                                   | Use                       | Number of Citations** |
|---|---------------------------|-----------------------|
| <i>Canoe Plants (Indigenous)</i>                    |                           |                       |
| Kalo (taro)   | Food, medicine, spiritual | 1                     |
| ‘Uala/‘Uwala (sweet potatoes)                       | Food, medicine            | 1                     |
| <i>Other Plants (Indigenous and Endemic) - none</i> |                           |                       |
| <i>Foreign-introduced Crops - none</i>              |                           |                       |

\*Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 18. Cultural Practices Recorded in Māhele Records for Keauhou 1 Ahupua‘a

| Cultural Practice      | Definition  | Number of Citations* |
|------------------------|---|----------------------|
| Mala (Māla) kalo       | A dryland garden, planted field, or patch of taro               | 1                    |
| Mala (Māla) ‘uala      | A dryland garden, planted field, or patch of sweet potatoes     | 1                    |
| Pahale (Pāhale)        | House lot   | 13                   |
| Kihapai (Kīhāpai)      | A dry land garden; cultivated areas, or patch; crop unspecified | 8                    |
| Kihapai (Kīhāpai) kalo | A dry land garden; cultivated areas, or patch of taro           | 1                    |
| ‘Āpana ‘Āina           | Parcels or lots within given kuleana tract of land              | 37                   |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 19. Cultural Resources Recorded in Māhele Records for Keauhou Ahupua‘a\*

| Cultural Resource                            | Use  | Number of Citations** |
|--|--|-----------------------|
| <i>Canoe Plants (Indigenous)</i>             |  |                       |
| Kalo (taro)                                  | Food, medicine, spiritual                              | 8                     |
| ‘Uala/‘Uwala (sweet potatoes)                | Food, medicine   | 8                     |
| Uhi (yams)                                   | Food, medicine   | 1                     |
| Ipu (gourds)                                 | Food, medicine, utensils                               | 1                     |
| Niu (coconut trees)                          | Food, medicine, utensils, cordage (see Krauss 1993:27) | 3                     |
| Noni (Indian mulberry)                       | Medicine   | 1                     |
| Lauhala                                      | Arts and crafts; charcoal; sails                       | 1                     |
| <i>Other Plants (Indigenous and Endemic)</i> |  |                       |

| Cultural Resource                           | Use   | Number of Citations** |
|---|---|-----------------------|
| Loulu ( <i>Pritchardia</i> spp. palm trees) | Cordage (see Krauss 1993:27)                  | 2                     |
| Kou ( <i>Cordia subcordata</i> ) trees      | A dry land garden; cultivated areas, or patch | 4                     |
| Pū  | Squash or pumpkin                             | 2                     |
| Pūhala (hala)                               | Crafts, cordage (see Krauss 1993:27)          | 1                     |
| Flowers, generally                          | Arts and crafts, medicine                     | 1                     |
| Forest zone                                 | Array of associated cultural uses             | 1                     |
| <i>Foreign-introduced Crops</i>             |   |                       |
| Kope (coffee)                               | Food  | 5                     |
| ‘Alani (orange trees)                       | Food  | 4                     |
| Hala kahiki (pineapple)                     | Food  | 2                     |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 20. Cultural Practices Recorded in Māhele Records for Keauhou Ahupua‘a\*

| Cultural Practice      | Definition   | Number of Citations** |
|------------------------|--|-----------------------|
| Mala (Māla) ‘uala      | A dryland garden, planted field, or patch of sweet potatoes  | 8                     |
| Mala (Māla) kope       | A dryland garden, planted field, or patch of coffee  | 5                     |
| Mala (Māla) kalo       | A dryland garden, planted field, or patch of taro  | 6                     |
| Ma uka kalo            | Mountain kalo – mauka cultivation area   | 4                     |
| Mala (Māla) ipu        | A dryland garden, planted field, or patch of gourds  | 1                     |
| Mala (Māla) uhi        | A dryland garden, planted field, or patch of yams  | 1                     |
| Mala (Māla) pū         | A dryland garden, planted field, or patch of squash or pumpkin                                     | 3                     |
| Pahale (Pāhale)        | House lot  | 17                    |
| Kihapai (Kīhāpai)      | A dry land garden; cultivated areas, or patch; crop unspecified                                    | 13                    |
| Kihapai (Kīhāpai) kalo | A dry land garden; cultivated areas, or patch of taro  | 1                     |
| ‘Āpana ‘Āina           | Parcels or lots within given kuleana tract of land   | 23                    |
| Forest zone            | Array of associated cultural practices, including gathering and access, affiliated with this place | 1                     |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

## The Gianulias Parcel – Ahupua‘a of Puaa, Wai‘aha, Kahului, and Puapua‘a

This section highlights select excerpts from the Māhele Awards Books, including Native Testimony, Native Register and Land Commission Awards. Transcriptions and translations from original Awards Books provided are by Kumu Pono Associates. The discussions are composed by Nohopapa Hawai‘i. The awards presented in this section are discussed from north to south across the ahupua‘a of Pua‘a, Wai‘aha 1 and 2, Kahului 1 and 2, and Puapua‘a.

### Puaa 3 Ahupua‘a

Within the Puaa 3 Ahupua‘a, at least six claimants were revealed to have made claims to kuleana ‘āina associated with the ahupua‘a whose proximity borders near the Gianulias well parcel. The Native Registry, Native Testimonies, LCA’s, and Royal Patents which were issued for the various land claims provide insight into the various resources and land uses associated with Puaa 3 Ahupua‘a. For instance, many of the descriptions concerning the kuleana lands within the ahupua‘a are remarked as being cultivated parcels of lands located in the uplands of Puaa 3, while others similarly described their landholdings as consisting of ma uka kīhāpai. The ‘āpana claimed and awarded throughout this ahupua‘a are described also as having pāhale on them; which illuminates the perspective that properties associated with both residential and agricultural land use types were prevalent in Puaa 3 Ahupua‘a. Presented below are the summarized descriptions, and in some cases, the transcriptions of the Māhele claims associated with the Puaa 3 Ahupua‘a.

#### *Kahuakailoa, Helu 7077*

According to Māhele records, Kahuakailoa was awarded two ‘āpana in the Puaa 3 Ahupua‘a of Kona; one of which included a pāhale (MA:v8, p641-642; NT:v4, p512-513; NR:v8, p417).

#### *Kaiwikui, Helu 7081 (‘Āp.1)*

Kaiwikui was another claimant associated with the Puaa 3 Ahupua‘a. Kaiwikui was awarded an ‘āpana in the ahupua‘a (MA:v4, p554). The Native Testimony submitted on behalf of this claim recounts that this kuleana ‘āina is located ma uka of a kīhāpai and that there is also a pāhale associated with the ‘āpana (NT:v4, p560).

#### *Makai, Helu 10266 (‘Āp. 1)*

Makai issued several land claims for ‘āina in the Puaa 3 Ahupua‘a; however, only one was awarded. According to the Native Testimony associated with Makai’s claim, three ‘āpana located in the ‘ili ‘āina of Opulehelehe said to have been cultivated, along with two ‘āpana in the ‘ili ‘āina of Ilipahu, and a ‘āpana with a pāhale on it was claimed by Makai (NT:v4, p538-539). The one ‘āpana that was awarded to Makai was the ‘āpana described to have a pāhale on it located in the ma kai region of the Puaa 3 Ahupua‘a in Kona (LCA 10266; NR:v8, p476).

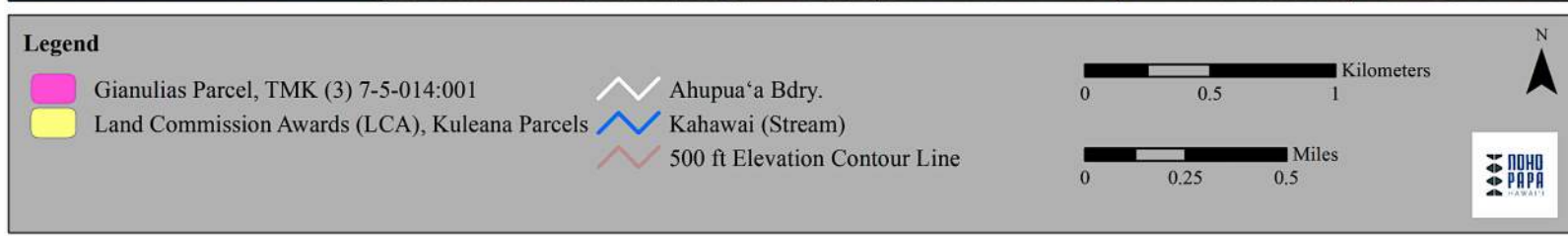
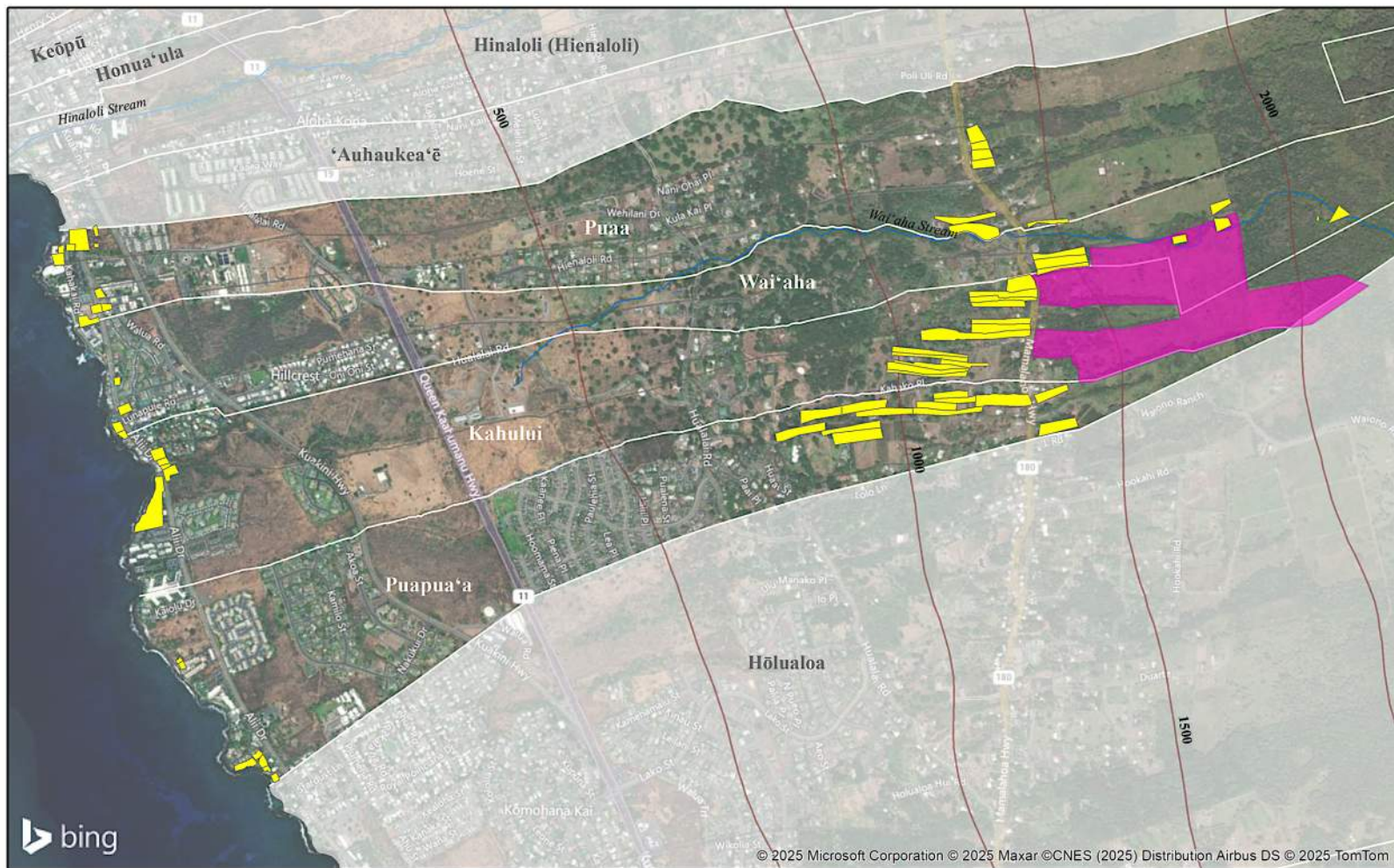
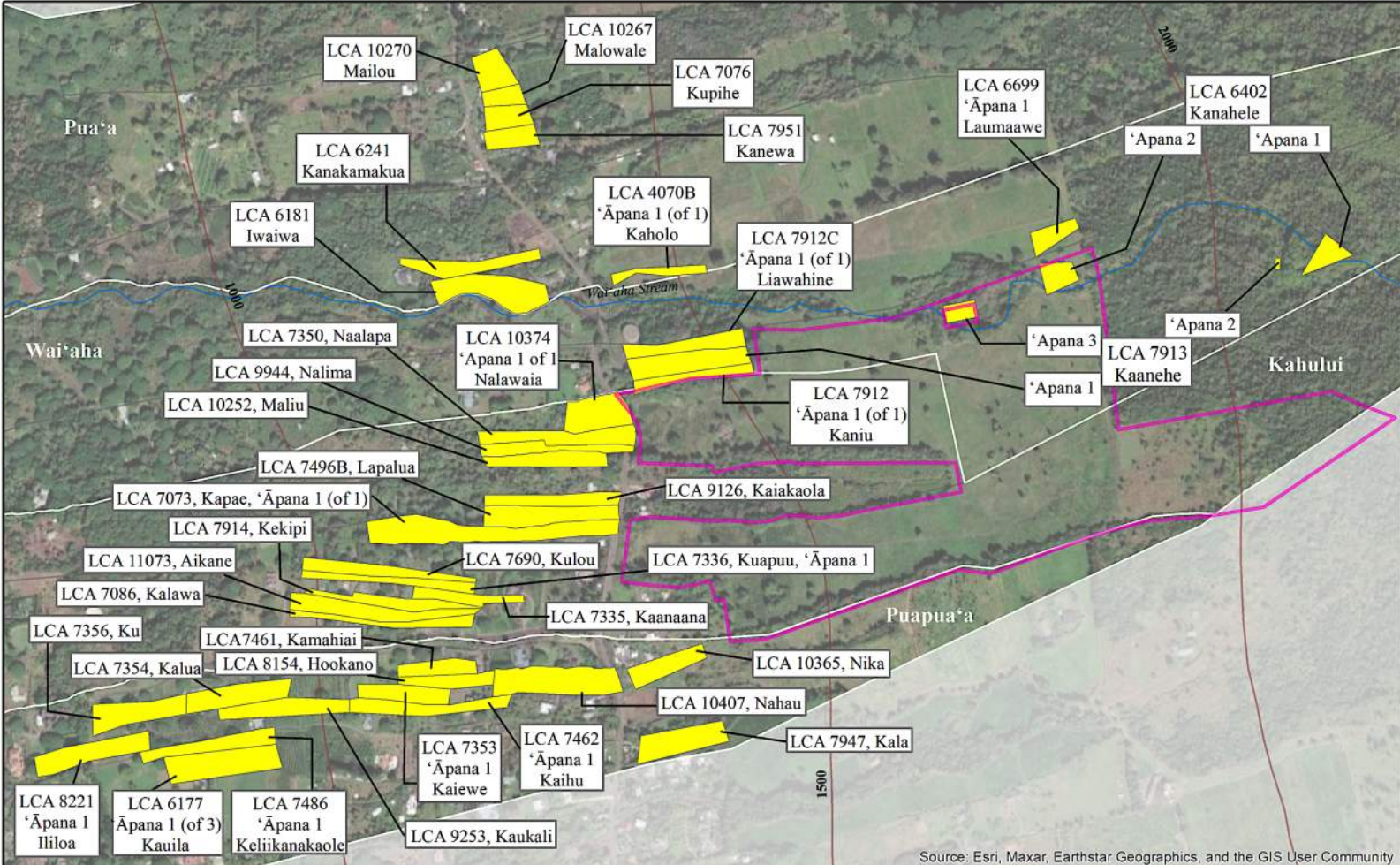


Figure 20. Land Commission Awards located around the Gianulias Parcel



**Legend**

- Kahawai (Stream)
- Land Commission Awards (LCA), Kuleana Parcels
- Gianulias Parcel, TMK (3) 7-5-014:001
- Ahupua'a Bdry.

Scale bars: 0 to 400 Meters and 0 to 1,000 Feet.

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

\*Only kuleana LCA within the focus area ahupua'a (Pua'a, Wai'aha, Kahului, and Puapua'a) are depicted on this map

Figure 21. Close up of LCAs in and around the Gianulias Parcel

*Kanakamakua, Helu 6241 (‘Āp. 1)*

Kanakamakua claimed two parcels; a pāhale that was taken by the konohiki at the coast, and an upland cultivated parcel. Kanakamakua was awarded the one ‘āpana whose location is described to be in the uplands, a paukū ‘āina. It is in the ‘ili of Kamuku, an upland ‘ili that spans some distance across many cultivated kuleana.

According to the Native Testimony (NT & FT:v8, p675) Kanakamakua did not live on his upland kuleana award. It is noted that the Konohiki Makai had taken Kanakamakua’s land because of a fence built on the Labor Days. Labor days were also mentioned in Kapae’s claim in Kahului 2 Ahupua‘a (Helu 7073), where he managed labor days at the behest of the konohiki, who was most likely Makai.

Native Register, Volume 5:266,  
January 25, 1848, Kailua

Aloha to you the Land Commissioners. I have a little ili at Puaa, the land of Makai, adjoins on the North by the ili aina of Kanakaloa, and on the South it adjoins the ili aina of Nakipi.

Here also is this, I have a Pahale, which taken by the konohiki and he has built his house there. That pahale is in Puaa. I lived on that lot from olden times, and my house destroyed by fire. Then the konohiki took my lot.

By Kanakamakua

Native & Foreign Testimony, Volume 8:675

...It is an Ili called Kamuku in the Ahupuaa of Puaa 3, Kona. Clt does not live on it at present. His house lot was taken from him by Makai, a konohiki in 1849. Claimant has not cultivated any of this land since. The House Lot was taken away because the fence was built on the Labor Days.<sup>95</sup>

*Iwaiwa, Helu 6181 (‘Āp. 1)*

Iwaiwa claimed a pāhale and cultivated lands in the uplands in the ‘ili ‘āina of Kamuku (NR:v8, p188-189). Iwaiwa’s claim is supported in testimony that the ‘āina was inherited through Iwaiwa’s parents in 1819 (NT:v8, p649).

Native Register, Volume 8:188-189,  
January 26, 1848, Kailua

Aloha to you the Land Commissioners. I hereby state my claims, in accordance with your directions. They are in the Ahupuaa of Puaa, 3 ili aina, of Kamuku and Waiaha Ahupuaa, Kamuku I and Kamuku II. The length of the right of the Kamuku, and Waiaha is from A. Bishop, Preacher, and then it was left to Dr. Andrews and I was

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<sup>95</sup> Helu 6241; Royal Patent 8071; Puaa 3 N. Kona. 1 ‘Āp. 1.35 Acs.



the man who lived here. The length of this right at Kamuku Ili in Puaa Ahupuaa, it was from the time of Kahahana, mother of Kahonu.

There is also a pahale claim there, which is 13 anana long by 7 anana wide.

By Iwaiwa w.  
Kauka k.

Native Testimony, Volume 8:649,  
January 12, 1850

...His Apana is in the Ili of Kamuku in Puaa 3. It was from his parents in 1819, and long before then. No one has objected to him.<sup>96</sup>

*Kaholo, Helu 4070 B (‘Āp. 1)*

Kaholo claimed and was awarded one ‘āpana in the ‘ili of Kamuku, Puaa 3 Ahupua‘a which is described as a cultivated upland ‘āpana (BM:v8, p644).

Native Testimony, Volume 8:651

Kaiwikuia, Sworn... His apana is in the Ili of Kamuku, Puaa 3 Ahupuaa. It was I who gave it to him in the Yr. 1840. No one objected to him.

Boundaries of the land are surrounded by the land of the Konohiki.<sup>97</sup>

## **Wai‘aha Ahupua‘a**

According to the Māhele ‘Āina documents examined during this study, two claims were submitted for the Wai‘aha 1 Ahupua‘a associated with the study area, while five claims were submitted with association to the Wai‘aha 2 Ahupua‘a of the study area. Throughout these claims, descriptions of various resources associated with Wai‘aha Ahupua‘a were provided, such as the mention of the pūnāwai referred to as Waiki‘i, other unnamed springs, ‘ili ‘āina, paukū ‘āina, pāhale, hale, pā pipi, and mountain bananas referred to as ‘e‘a mai‘a. Majority of the ‘āpana mentioned in claims and testimonies are described as being cultivated ‘āina, which evidences agricultural practices to have occurred in the Wai‘aha Ahupua‘a and surrounding areas. However, several other ‘āpana claimed throughout this ahupua‘a did not indicate the land use associated with the specified parcel. Provided below are the descriptions and select excerpts obtained from the Māhele Awards Books, including Native Testimony, Native Register, and Land Commission Awards for Wai‘aha 1 and 2 Ahupua‘a of Kona whose location is associated with the study area.

## **Wai‘aha 1 Ahupua‘a**

*Kalama, Helu 7241 B (‘Āp. 1)*

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<sup>96</sup> Helu 6181; Royal Patent 8031 & 8034 Puaa 3 Kona. 1 ‘Āp. 1.56 Acs

<sup>97</sup> Helu 4070B; Royal Patent 3742, XX Royal Patent 5503, Kamuku in Puaa 3 N. Kona. 1 ‘Āp. .75 Acs.

Kalama was a claimant who was only awarded a single ‘āpana, although Kalama claimed paukū ‘āina abutting the pā pipi in the uplands. Most claimants who only received one ‘āpana but claimed two, generally were granted their upland claim. Kalama’s case is unusual in that he was only awarded his ma kai pāhale claim and not his cultivated upland claim. The name of the ‘ili ‘āina is given in the Native Testimony (NT:v4, p514) but was illegible to make it out clearly.

*Kalae, Helu 7481 (‘Āp. 1)*

Kalae was awarded two ‘āpana during the Māhele process associated with the Wai‘aha 1 Ahupua‘a (LCA 7481). According to the Native Registry and Native Testimony associated with Kalae’s claim, the ‘āpana are located in the ‘ili ‘āina of Kamuku.

## **Wai‘aha 2 Ahupua‘a**

*Kanahele, Helu 6402 (‘Āp. 1, 2)*

Kanahele claimed land that is in and ma uka of the current Gianulias subject parcel. Kanahele’s pāhale, per the accompanying Native Testimony (NT:v4, p555), below, is ma uka; as are two paukū ‘āina described to have been cultivated. Kanahele claimed and was awarded these two ‘āpana. Based on Māhele claims, testimony, and awards, Kanahele did not have any ma kai parcels. This claimant lived and farmed ma uka of the ala nui and the pā pipi.

According to Kalama, Kanahele’s ‘āpana was bounded to the west by Waiki‘i Spring, south by Kahului I, north by Waiahanui and east by mountain banana (‘E‘a mai‘a). Kalama also testified for Kaula and described one of his ma uka parcels as also being bounded ma kai by Waiki‘i Spring (Awards Books-NT:v4, p514).

Native Register, Volume 8:413

Aloha to you the Land Commissioners. I have a pauku land far mauka, which is occupied at present, a firmly established right of residency. There is no kula, nor any middle parcel. My pauku land is only mauka. It is 400 long on the north, and the same on the south, to the east it is 40, and on the west, 40. On the north is Waiahanui, on the south is Kahului, This claim is for you to hear.

Done by Kanahele  
Kona, Kailua, Waiaha.

Native Testimony, Volume 4:555,  
January 9, 1849

Kalama Sworn... There in the Ahupuaa of Waiaha, 1 pauku aina.

Mauka by Maiahuna, Ea maia (mountain banana), Kau by Kahului I aina, Makai by Waikii punawai, Kohala by Waiaha nui. 1 cultivated pauku aina. 2 hale for him and he resides there.

Land from Kaanehe in the Yr. 1846. No objections to him.<sup>98</sup>

*Liawahine, Helu 7912 C (‘Āp. 1 of 1)*

Liawahine only claimed one ‘āpana, ma uka of the uka ala nui and pā pipi that is located next to Kaanehe’s ‘Āpana 1 and Kaniu’s ‘Āpana 1. Liawahine also did not specify what the land use for the parcel was for. However, in Kekipi’s testimony for Kaanehe’s ma kai pāhale claim (NT:v4, p533-534), Kekipi indicated that there were three houses on Kaanehe’s pāhale (LCA 7913 ‘Āp. 4), which one of them was identified as belonging to Kaliawahine. As detailed in this account, it is understood that Kaliawahine lived at the coast and the claimed parcel awarded as LCA 7912C was likely a cultivated paukū ‘āina, as was Kaanehe’s adjoining ma uka lot. It is notable to mention here that in this instance, the claimant is referred to as “Kaliawahine” as opposed to “Liawahine.”

In the Native Registry, two of Liawahine’s neighbors testified that their lands were given to them by Liawahine (also Kaliawahine); including one of the houses in Kaanehe’s pāhale claim at the coast and one of the paukū ‘āina whose location is described as being ma uka in the ‘ili ‘āina of Kamuku 2 (NT:v4, p533-534). This paukū ‘āina is said to have been given to them during the time of Kuakini; while Kaniu’s only ‘āpana (LCA 7912) was said to be given to Kaniu in 1839 (Awards Book, NT:v8, p649).

Native Testimony, Volume 8:649

Kaniu and Lumaawe, sworn... ..His Apana is in the Ili of Hanamauloa, Waiaha 2 Ahp.

Kaaea gave it to him on the Yr. 1824. No one objected to him. The boundaries are surrounded by the land of the Konohiki.<sup>99</sup>

*Kaanehe, Helu 7913*

At Kaanehe’s ma kai parcel, three houses were identified. One hale was described as belonging to Kaanehe, one to Kaliawahine (Liawahine) who claimed a ma uka paukū ‘āina, and one house to belonging to Kaaweha. In the Native Register, Kaanehe claimed an entire ‘ili ‘āina, which was explained as portions of ‘ili ‘āina in the Native Testimony. Kaanehe has significant land holdings ma uka and ma kai in an area within Kona abundant with wai, including a pāhale at the coast that neighbors a pūnāwai. Kaanehe also gave ma uka lands in Wai’aha to Kanahale (LCA 6402), in 1846 (Native Testimony by Kalama for Kanahale, NT:v4, p555). Evidenced in Kaanehe’s claims, awards, and gifting of lands to Kanahale, it is likely that Kaanehe was an ali’i, though not the named konohiki of the area.

Native Register, Volume 8:453,  
Kailua, January 31, 1848

Aloha to you the land commissioner. I hereby tell you about by pahale claim, it is there makai in Waiaha 2, Ahupuaa; the length and with is 91 anana. My lands claim is also in this ahupuaa mentioned above. Two ili aina, Pahukaula is one, and

<sup>98</sup> Helu 6402; Royal Patent 5214; Waiaha 2 N. Kona. 2 ‘Ap. 1.7 Acs.

<sup>99</sup> Helu 7912C; Waiaha 2, N. Kona. 1 ‘Āp. 1.3 Acs.

Kamuku a is the other. The ili lands are not fully cultivated. The boundaries of this ili are Hanamauloa on the north, Kamuku 2 on the south, Paupuhi on the west and Makaihuliwaa on the east.

Kaanehe.

Native Testimony, Volume 4:533-534,  
December 29. 1848

Kekipi Sworn... There in the ili aina of Pahukauila, Waiaha ahupuaa (There was an error by including the whole ili in claim), the place he cultivated is correct.

1. Mauka by Konohiki, Kau by ili aina of Kauailoa, Makai by the pa pipi, Kohala by the ili aina of Hanamauloa. 1 pauku aina.

2. Mauka by Konohiki, Kau by ili aina of Kamuku, Makai by Konohiki, Kohala by ili aina of Hanamauloa. 1 cultivated pauku aina

3. At Kaluulu. Mauka by konohiki, Kau by ili aina of Kamuku 1, Makai by Konohiki, Kohala by ili aina of Hanamauloa. 1 cultivated pauku aina.

4. Mauka by konohiki, Kau by Kamuku 2, Makai by konohiki, Kohala by ili aina of Hanamauloa. 1 cultivated pauku aina.

5. Mauka by konohiki, Kau by Kauailoa ili Makai by konohiki, Kohala by ili aina of Hanamauloa. 1 cultivated pauku aina.

6. In the ili aina of Kamuku 2. Mauka by konohiki, Kau by ili aina of Kauailoa, Makai by konohiki, Kohala by Kamuku 1. One cultivated pauku aina. His interest was from Kaliawahine in the time of Kuakini on Hawaii. NO one has objected to him.

7. Pahale. Mauka by the Alanui Aupuni, Kau by Kaulua's lot, Makai by kahakai, Kohala by a punawai (spring). He has enclosed it with a wall. There are 3 houses. 1 hale for Kaanehe. One house is from Kaliawahine. One hale is from Kaawehea. It is only a house claim for Kaawehea and Kaliawahine. It is a true claim for Kaanehe...<sup>100</sup>

*Kaniu Helu 7912 (‘Āp. 1 of 1)*

Kaniu's claim and Land Commission Award do not give any clues to the land use associated with the ‘āina. Similar to Kaniu's ma uka neighbor, Kanahale, Kaniu only listed the ma uka lands in the claim submitted. Kaniu was given lands in 1839 by his neighbor to the north, Liawahine (LCA 7912C).

Native Register, Volume 8:514,

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<sup>100</sup> Helu 7913; Royal Patent 5221; Waiaha 2 N. Kona. 1 ‘Āp. 2.1 Acs; Royal Patent 7815; Waiaha 2 N. Kona. 3 ‘Āp. 1.02 Acs; Waiaha 2 N. Kona.1 ‘Āp. 565 anana. (Note: this Kuleana includes a portion of the Waiaha, Kona Inn Water Tank parcels.)

January 31, 1848, Kailua

Aloha to you the Land Commissioners. I hereby state my land claim there in the ahupuaa of Waiaha 2. Kauwiloa is the name of the ili aina. The boundaries of this ili aina are, Pahukauila on the north; Halewaawaa on the south; Punaio on the west; and Makaihuliwaa on the east.

By Kaniu

Native Testimony, Volume 8:649

Liawahine & Lumaawe, Sworn... His Apana is in the Ili of Kauailoa in Waiaha 2 Ahupuaa.

It was given to him by Liawahine in the Yr. 1839.<sup>101</sup>

*Laumaawe, Helu 6699 (‘Āp. 1, 2)*

Laumaawe claimed two parcels and was awarded both of the parcels; ‘Āpana 1 located in the uplands of Wai‘aha and ‘Āpana 2 on the coast described as a pāhale (NR:v8, p413-414).

### **Kahului Ahupua‘a**

Unlike Wai‘aha, most of the kuleana LCA awarded in Kahului are single ‘āpana that consist, per the Native Register claims, of cultivated lands, but not pāhale. It is likely that some mahi‘ai lived in the uplands, and more likely, many of these maka‘āinana also had houses at the coast but were unclaimed. In several pāhale coastal claims, descriptions in the testimonies support the kuleana pāhale claim, while describing multiple houses on the claim and sometimes naming the people who lived in those hale. The same is true in the Wai‘aha Ahupua‘a claims. It is clear that there is a strong connection ma uka to ma kai and across ahupua‘a in the uplands. The discussion that follows are a summarized description of the Māhele claims associated with the Kahului 1 and 2 Ahupua‘a of Kona.

### **Kahului 1 Ahupua‘a**

*Kaulua, Helu 7083 (‘Āp. 1 of 1)*

Kaulua claimed in the Native Register (NR:v8, p418) a pāhale at the coast in the ahupua‘a of Kahului 1 which is the sole ‘āpana Kaulua was awarded in LCA 7083 (MA:v7, p324). However, Kaulua also claimed at least seven kīhāpai in the uplands, like many claims in the neighboring Wai‘aha Ahupua‘a, Kaulua described them as being bounded on the ma kai side by the pā pipi, which ran just north of the ala loa, or modern day Māmalahoa Hwy. Kalama testified on behalf of Kaulua’s claim and elaborated on it. Kalama confirmed that in 1848 Kaulua received his pāhale, just ma kai of the coastal ala nui in Kahului (NT:v4, p513-514). Kalama went on to describe at least six kīhāpai in the uplands of Kahului that were cultivated by Kaulua (NT:v4, p514).

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<sup>101</sup> Helu 7912; Royal Patent 7923; Waiaha 2 Kona. 1 ‘Āp. 1.2 Acs.

Kalama described the pūnāwai of Waiki'i as being ma kai of Kaulua's ma uka claim (NT:v4, p514). Kalama also testified for an awarded claim for Kanahale (NT:v4, p555), which described Waiki'i spring as being to the west. It was likely that at least one kīhāpai of Kaulua's was near the Wai'aha Ahupua'a border beside LCA 6402, 'Āpana 1; unawarded, it was subsumed by the konohiki LCA 8516 B to Kamaikui (MA:v3, p63-66, Part 2).

*Nalawaia, Helu 10374 ('Āp. 1, 2)*

Nalawaia was awarded both of the 'āpana he claimed (NR:v8, p479-480). Nalawaia was awarded a pāhale at the coast, ma kai of the "Alanui Kohala" and a large paukū 'āina cultivated ma uka of the "Kealakowaa," or Māmalahoa Hwy. today. However, Nalawaia had claimed more cultivated lands in the uplands, though at least two additional 'āpana were not awarded.

Maliu, gave a sworn account for the Native Testimony of Nalawaia's claim. Maliu named the 'ili 'āina of the ma kai parcel ('Āp.2) as Halewaawaa (NT:v4, p529-530). Maliu also named the ma uka ala loa "Kealakowaa" which speaks to wa'a, from tree to coast, as a practice impressed on the naming of the wahi of Kahului. Maliu supported Nalawaia's ma uka and ma kai claims in some detail. Maliu explained that, like other ma kai parcels, Nalawaia's pāhale had two houses on it; one for Nalawaia and one belonging to Kalou.

Native Register, Volume 8:479-480,  
January 24, 1848, Kailua

Aloha to you the Land Commissioners. I hereby tell you of pahale claim. It is makai in the ahupuaa of Kahului 1. It is 30 anana long by 28 anana wide, and it was given me in the entirety by the one who had the lot in 1848. My land claim is in the ahupuaa as above. The pauku lands are as follows: Mauka of the Papipi, 400 anana long, and the width is 20 anana. A Pauku of land above the Kaluulu,, the length being 220 anana, and the width 15 anana. A Pauku of land mauka of Kealaloa, the length is 280 anana and the width is 17 anana. The boundaries of these pauku lands are Kauailoa on the North Naalapa on the South, the Papipi on the west, and Kaalapahu on the east.

By Nalawaia

Native Testimony, Volume 4:529-530,  
December 29, 1848

...There in the ili aina of Halewaawaa, Kahului ahupuaa.

1. Mauka by Hapaipapa, Kau by Naalapa ili aina, Makai by the pa aina, Kohala by Kauailoa ili aina. 1 cultivated pauku.

2. Kaluulu [upland agricultural field]. Mauka by the Alanui of Kealakowaa, Kau by Naalapa ili aina, Makai by Ahuakahewa land, Kohala by Kauailoa land. 1 partially cultivated pauku aina. No hale.

3. Mauka by Kaalapahee [?] land, Kau by Naalapa ili aina, Makai by the alalao, highway Kohala by Kauailoa. 1 cultivated pauku aina.

4. Pahale. Mauka by wahi waiho wale (idle land), Kau by Kalawa's lot, Makai by the Alanui, Kohala by wahi waiho wale. It is enclosed with a wall made by Maliu. 2 hale, 1 hale for Nalawaia, and 1 hale for Kalou, It is a true kuleana for Nalawaia, and he resided there.

It is and old land (right) received from Kamehameha by Nalawaia to this time. His hale was from Maliu in the Year 1848. No one has objected.

Maliu, Sworn, He has given his kulana lot interest by me in 1848. In the nature as a younger sibling [or male cousin]... I have no intentions to object...<sup>102</sup>

*Kialoa, 7350 (‘Āp. 1)*

Kialoa claimed a contiguous parcel of cultivated kīhāpai that extended from below Māmalahoa Hwy. across the highway, ma uka and beyond the "Great Wall" which was likely the pā pipi. However, Kialoa was only awarded lands below the ala loa. The ma uka unawarded portion of Kialoa's lands are part of the study area. Ipunui gave a testimony that described 15 patches partly in cultivation" (NT:v8, p671).

Native Register, Volume 8:262,  
January 24, 1848

For the Land Commissioners. Here is my claim for land at Kahului akahi (1<sup>st</sup>), a kihapai. On the East, 20 anana, on the West 20 anana, on the South 130 anana, on the North 130 anana.

A kihapai in Kaapaa [the apaa zone]. East 6 anana, West and 6, the Southern boundary 60 anana, the Northern boundary, 60 anana

A kihapai in Kauluulu. East, 12 anana, West, 12 anana, Southern boundary 60 anana, Northern boundary 60 anana.

Kihapai on Kula. East, 15 anana, West, 15 anana, Southern boundary 180 anana, Northern boundary 180 anana.

Those are my kihapai that are applied for.

By Kialoa  
Niumalu, Kailua, Kona, Hawaii

Native & Foreign Testimony, Volume 8:671

Ipunui, sworn says, he knows the claim of Kialoa in Kahului, Kona. It consists of 15 patches partly in cultivation. They all lie together in one piece. Claimant derived the land from the Konohiki in 1844 and has held it ever since without dispute. This piece is intersected by the Road.

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<sup>102</sup> Helu 10374; Kahului 1 N. Kona. 2 ‘Āp. 2.97 Acs.

It has also 14 patches in another piece makai of the first piece. It is bounded On Kohala side by Niniha's land. On Kau side by Nalima's land. Mauka by a road.

He has also a piece of Kula land near the Great Wall. It is bounded makai by the Great Wall. Kohala side by Niniha's land On Kau side by Nalima's land.<sup>103</sup>

*Nalima (Lima), 9944 (‘Āp. 1)*

Ipunui described two ‘āpana held by Nalima; one in the ‘ili ‘āina of Niukini, which based on its name, appears to be a coastal parcel, as well as a paukū ‘āina in the ‘ili ‘āina of Kukuipuloa (NT:v4, p517). According to the documents associated with this claim, it appears that Nalima was only awarded the ma uka parcel.

Native Register, Volume 8:472,  
January 25, 1848,

Aloha to all of your the Land Commissioners: A kihapai at ke alaloo, E. 8, W. 20, south side 300, north side 300. A kihapai in apaa. E. 8, W. 13, south side 130, north side 130.

Done by Nalima

Native Testimony, Volume 4:517,  
December 22, 1848

Ipunui (Konohiki), Sworn... There in the ili aina of Niukini, Ahupuaa of Kahului I. 2 Apana and a Pauku aina at Kukuipuloa 1. The boundaries are not known to not well known to me, the length by anana or the width. When the surveyor comes he [Lima] will accurately describe the boundaries when he comes.

He received these lands in the time of Kuakini, and in this time they are from me [Ipunui]. No one has objected to him (Nalima).<sup>104</sup>

*Maliu, Helu 10252 (‘Āp. 1)*

Maliu is a claimant who only claimed his cultivated lands (NR:v8, p475). Maliu is unique to other claims in that this claimant described their land similar to a mahi‘ai, describing the wao of their three land claims. Of the three ‘āina claimed; one is described as being in the ma‘ū (moist wet area, probably the upland most claim), one in the ‘āpa‘a (dry arid area, maybe one with soil, but it could be rocky) and one in the kula area (connotating openness or a plain, kula is often described as pasture, dryland, or a fallow field).

It should be noted that Maliu offered a Native Testimony for Nalawaia's claim for LCA 10374 (NT:v4, p529-530), in which Maliu testified that he constructed the wall enclosing Nalawaia's pāhale (‘Āp.2).

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<sup>103</sup> Helu 7350; Royal Patent 7059; Kahului 1 N. Kona. 1 ‘Āp. 1.65 Acs.

<sup>104</sup> Helu 9944; Royal Patent 6278; Kahului 1 N. Kona. XX ‘Āp., XX Acs.



Native Register, Volume 8:475,  
January 26, 1848

Aloha to you the Land Commissioners. I hereby explain to you about my land claim in Kahului 1. My claim is from Kekupuohi. Here is the length of my kihapai, 58 long by 18 wide. At the head of one, the width is 6 anana. Another is far mauka in the mau, it is 8 long by 20 wide. On the kula, one is 80 long by 14 wide, at its head it is 13. I also have 3 puhala.

I have three land claims far mauka. 1 is in the mau, 1 in the apaa, and 1 on the kula. There are three kuleana of mine. That is it, for you to hear, and to see if it is right or in error.

Done by Maliu

Native Testimony, Volume 4:538,  
December 29, 1848

There in the ili aina of Kamuku Kahului I ahupuaa.

1. Kula. Mauka, Kaluapahu punawai (spring of Kaluapahu), Kau by ili aina of Ililoa, Makai by Makai, Ohuahale a kihapai, Kohala Niukini. 1 cultivated pauku aina.

2.: Mauka, Laie kihapai, Kau by ili aina of Ililoa, Makai by the Alakowaa, Kohala, Niukini ili aina.

3. Mauka is Umiwai punawai (Umiwai spring), Kau, Lapalua ili aina, Makai by Puukehoe a puu (hill), Kohala, Papalanui land. 1 cultivated kihapai.

4. In the ili of Halewaawaa. Mauka, the Alaloo, Kau, by Naalapa ili aina, Makai, Kealakowaa, Kohala by Ahupuaa of Waiaha. 1 cultivated parcel land.

5. At Kamuku 2. Mauka by Alapai's land, Kau by Kukuipuloo ili aina, Makai by Kealaloo, Kohala by ili aina of Ililoa. 1 cultivated kihapai.

6. Kahuahale. Mauka by the alanui, Kau by Ililoa ili land, Makai by konohiki, Kohala by ili aina of Ohiki. It is not enclosed, there is one house and 3 cultivated kihapai.

It is an old land (right) for him from the time of Kamehameha II, and the from Ipunui at the present time. No one has objected...<sup>105</sup>

*Kaiakaola, Helu 9126 (‘Āp. 1)*

Kaiakaola claimed several mo‘o ‘āina and stated that the land was held in possession from the time of Kekupuohu. Kalama, who offered a testimony stated that Kaiakaola's ‘ohana had the

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<sup>105</sup> Helu 10252; Royal Patent 6742, Kahului Kona. 1 ‘Āp. 1.4 Acs.

parcel since the time of Kīwala‘ō before 1782, which is an unusually deep genealogy to present for land. Kalama also described in detail the crops that Kaiakaola cultivated such as kalo, coffee, and ‘uala (FT:v8, p677).

It is unclear if Kaiakaola's house was in the same area as the cultivated lands; one is not inclined to think so because Kalama described Kaiakaola's house lot as being in a separate place. The parcel is also described as having three patches of kalo, which could be an indicator of the ‘āina being located in the uplands. It is possible that Kaiakaola was not awarded all the lands he claimed, or that he was awarded them in a long contiguous parcel; considering the inequity of the Māhele. It was unfortunately likely the former.

Native Register, Volume 8:541,  
January 26, 1848

Aloha to you, Z. Kaauwai and the Land Commissioners. I hereby petition for kuleana moo land there in Kahului 1. Kukuipulua is the name of the moo aina. It has been my land from the time of Kekupuohi, from then to the present time. Naheana is the one over Kahului 1.

Here I am on my little moo aina. Here are the places that I desire. At another place it is 103 long by 12 wide, Another place is 112 long, by 12 wide. At another place 74 long by 12 wide; at another place, 210 long by 44 wide; and at another place 430 long by 20 wide. These are the places I desire. The witnesses are Maliu and Nalawaia.

By Kaiakaola

Foreign Testimony, Volume 8:677, Helu 9126 & 9255

Kalama, sworn says, he knows the kuleana of Clt. in Kahului 1, Kona. It consists of several pieces of cultivated land scattered over the ahupuaa, viz. 3 Kalo patches, 3 patches of coffee, 2 patches of potatoes.

He has a house lot also and 3 patches of Kalo in another place. The house site is not enclosed.

Clt. derived the land from his ancestors, who got it in the days of Kiwalao [prior to 1782], and holds it without dispute.<sup>106</sup>

*Keaweehu, Helu 7496 B (‘Āp. 1)*

No land ma uka of Māmalahoa Hwy., and the Kealakowaa, was awarded in Kahului 1 Ahupua‘a, although many maka‘āinana claimed land in the kula area below the highway and above the pā pipi. Keaweehu, was one such individual who claimed land in this kula region above the Kealakowaa. Instead, Keaweehu was only awarded the ma uka lands claimed that lay just seaward of Kealakowaa.

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<sup>106</sup> Helu 9126; Royal Patent 8059; Kahului N. Kona. 1 ‘Āp. 1.5 Acs.

Native Register, Volume 8:444-445,  
January 26, 1848

Aloha to all of you the Land Commissioners. Pertaining to some kihapai in the mau [zone]. On the east it is 8 long; west, 9 wide; south side 350 long; north side, 350 long. Kihapai in the Kaluulu, 8 wide; west 6 wide; south side 150 long; north side, 150 long. Kihapai on the kula, east 10 wide; west 9 wide; on the east, 9; west side 400 long; north side 400 long  
Done by me, Keaweehu

Native Testimony, Volume 4:515-516,  
December 22, 1848

There in the ili aina of Lapalua, Ahupuaa of Kahului 3 Apana Aina.

1. Kula [open dryland field]. Mauka by konohiki, Kau by Ililoa land, Makai a pa pipi, Kohala by Ohiki ili aina. 1 cultivated pauku aina. [unawarded]
2. Kaluulu [upland agricultural field]. Mauka by the Alanui, Kau by Kahului 2 land, Makai by Kuauulu (Kaulana [a resting place]), and Kohala by Kukuipulua ili aina. 1 partially cultivated pauku aina.
3. Mauka by Papuaa, land of konohiki, Kau by Kahului 2 land, Makai by Kaluaolena land, Kohala by Kukuipulua ili aina. 1 cultivated pauku aina.

His interest was from Ipunui (Konohiki) in the Yr. 1845. No one had objected to him...<sup>107</sup>

## **Kahului 2 Ahupua‘a**

*Neniha, Helu 10373 (‘Āp. 1)*

Interestingly, Neniha is one of the only awardees not to claim a cultivated upland parcel. Neniha's only claim is for a pāhale that is located on the coast which was awarded (NR:v8, p479). Kalama gave a sworn testimony for Neniha's claim (NT:v4, p533) which was based on Neniha's wife's family, who received the lands from Kamehameha I.

*Kapae, Helu 7073 (‘Āp. 8)*

Kapae claimed a good amount of land. Of those relevant to the study area, Kapae claimed one ma kai parcel and four ma uka parcels. Kapae received one of each. Kapae's ma kai parcel at Kahului 2 included a house and cultivated land that was received in 1846 when an individual by the name of Puna, who is mentioned to be the husband of Kaoanaeha, gave Kapae "administration of the konohiki labor days for the konohiki on this land" (NR: v8, p414-415).

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107 Helu 7496B; Royal Patent 6277A; Kahului 1. 1 ‘Āp. 1.9 Acs.

If Kapae's ma kai lot was claimed because of his work, the ma uka claims for portions of the upland 'ili of Inaimoa and Kamuku were on behalf of his wife's connections, through her parents and kūpuna kāne. It is unclear how many of the four paukū claims are included in Kapae's extensive ma uka award. Kapae was awarded the parcel above the pā pipi, an extensive upland award just below Māmalahoa Hwy.

Kapae claimed residence at the coast where Kapae administered konohiki labor days. Kapae also testified that he farmed the upland parcels with his wife's family "from 1838 until today (1848, or ten years). Here, we see a clear connection between the uplands and the coast that can trace more than one generation, even for people that might have had a higher status.

Native Register, Volume 8:414-415  
January 24, 1848, Kailua

Aloha to you the Land Commissioners. I hereby state my pahale, which is there makai in Auhaukeae 1, Ahupuaa, in Kona, Hawaii. It was given to me in its entirety by Unualoha and Kaikainalii. It was given me absolutely by Ulualoha and Kaikainalii at the time I became a teacher for the children, in the Year 1838.

There are some other places beside this lot which I worked again on the west and the northeast. I and some others purchased a mans house, selling his lot for \$4.50 in 1846. [For which] I asked Kamanawa. On the east side is my place. it was given to me and was combined into one lot with a circumference of 196 3/6 anana; some of the border of the lot enters into Hianaloli 6.

Here is the, a pahale in the Ahupuaa of Kahului 2. It was received in this way. Puna, husband of Kaoanaeha, gave me the administration of the konohiki labor days for the konohiki on this land. The konohiki was living on that land, and the lot was from ancient times until the present. There is a pahale on the side of this lot, and cultivated place on the other side and the other in from former times. The length and width is 345 anana. This lot was gotten by me in 1846.

Here is the, the land claims as stated by Limaikaika, for us to apply to you the land Commissioners, describing the nature of our claims as explained below.

Pauku Aina 1, mauka of the papipi, the length is 187 3/6 anana, the width is 13 anana.

Pauku aina 2, in the mid kula [region], the length is 117 3/6 anana by 17 3/6 anana.

Pauku lands 3, within the Kaluulu, reaching maki to Inaimoa. The length is 362 anana by 44 3/6 anana, being the same in some places and more in other places.

Pauku 4, mauka of Kealaloo to makai of Hulilau. The length is 73 anana by 13 anana

The boundaries of these pauku aina described above are Lapalua on the north, Kahuku 1 on the south, the papipi on the West, and Hulilau on the east.

These land claims are in Kahului 2, that is the ahupuaa. There are three ili are in this claim, Inaimoa and 2 Kamuku. These land claims are from my wife's parents, and an ili from her kupunakane. This was their land which they cultivated, from

the time they occupied the land, until the present. But they gave the property to my wife and I. It is there that we have farmed t with them from 1838 until today. All the things I have planted are there now.

Here is a kihapai at Kahuku 1, acquired by me as follows. The annual tax of this ili had not been fully paid to the tax collector and I paid the remaining quarter, and I asked for some of kihapai from the one who had the ili and it was given (to me). The total of these kihapai is 61 3/6 anana long by 14 anana wide. The boundaries of the pauku aina are Kamumu 2 on the North, Kahuki 2 on the South, the Uluniu (Coconut grove) on the west, and Kaohia on the east.

I am with aloha,  
Kapae.

Native Testimony, Volume 4:501-502,  
December 20, 848 [See also Helu 2415 B]

There in the ahupuaa of Auhaukeae.

1. Pahale. Mauka by idle land, Kau by Kealoha folks lot, Makai kahakai (shore), Kohala by Kaiamakini's lot. Kapu enclosed with a wall in 1829. 1 house for Kapae, he is living there. It was given to him by Kealoha in 1838. He has lived there to the present day.

2. Pahale in Ahupuaa of Kahului. Mauka by Alanui Aupuni, Kau by idle kula land, Makai by kahakai, Kohala by idle land. It is enclosed with a wall. 1 house for Kapae. Kapae lives there. His interest was from Puna in the Yr. 1846.

3. Pauku aina. Above the pa pipi, the ili aina of Kahului. Mauka by idle land, Kau by Kahuki I, Makai by Papipi, Kohala by Lapalua ili aina. 1 pauku partially cultivated in various areas.

4. Pauku Aina on the Kula. Mauka by idle land, Kau by Kahuki ili aina, Makai by idle land, Kohala ili aina. It is cultivated.

5. At the Kaluulu. Mauka by Konohiki, Kau by Kahuki I ili aina, Makai by idle land, Kohala by Lapalua ili aina. 1 cultivated pauku aina., 1 hale for him.

6. Pauku aina. Above Kealaloo. Mauka, Hulilau a kihapai for the Konohiki, Kau by Kahuki 1 land, Makai by the Alanui, Kohala by Lapalua. Cultivated land.

7. Ili aina at Kahuki 1. Mauka by idle land, Kau by Kahuki 2, Makai by idle land, Kohala by Kamuku 2 land.

Kihapai gotten from Kalou[?] in the Yr. 1844. Apana 1 from Kealoha, Apana 2 from Puna, The Apana Aina are old lands [rights] from the kupuna of his wife. No one has objected...

Native Testimony, Volume 8:646, Helu 2415 B, Kapae  
January 10, 1850

...Kalama and Kaili, Sworn. We know his apana, Ili of Lapalua in Kahului 2 Ahupuaa, from Kaoanaeha in the Yr. 1846. No one has objected to him. It is surrounded on all side by the land of the Konohiki, they have seen his parcel in Lapalua ili of Kahului 2 ahupuaa from Kaoanaeha in 1846. No one objected to him. Boundaries are surrounded by the land of the konohiki.<sup>108</sup>

*Kulou, Helu 7690 (‘Āp. 1)*

Kulou, through the claim of his wife’s ‘ohana claimed six paukū of ma uka lands. He described them at the end of his claim (NR:v8, p445-446) as contiguous parcels. The pā pipi is a western boundary of the ‘āpana and must run between the ma kai and ma uka ala loa, rather than being above Māmalahoa Hwy. It is likely that Kulou’s claim was awarded in a single parcel.

Native Register, Volume 8:445-446,  
January 24, 1848, Kailua

Aloha to you the Land Commissioners. I hereby state to you my land claim which is in Kahului 2 Ahupuaa. Thus, it is for your understanding of my places of cultivation, pursuant to the words of Limaikaika (Armstrong), I petition to you for my land claims, the cultivated places.

A pauku of land, mauka of the papipi. 500 anana long by 5 anana wide.  
A pauku of land in the mid kula region 500 anana long by 5 anana wide  
A pauku of land mauka there is 300 anana long by 7 anana wide.  
A pauku mauka of Kaluulu is 90 anana long by 5 anana wide.  
A pauku o land above there that is 82 anana long by 5 anana wide.  
A pauku of lands that is mauka of the alaloha, 240 anana long by 6 anana wide.

The boundary of this land is Kamuku 2 on the north, Kahuku 3[?] on the south, the papipi on the west and by , by Hulilau on the east.

This land claim was from my wife, and her keiki, Kapeleaumoku, in 1843 when I /began to/ cultivate this land, until the present.

By Kulou

Native Testimony, Volume 4:516,  
December 22, 1848

Kekipi (konohiki), Sworn... There in the ili aina of Kahuki, Ahupuaa of Kahului 2.

It is just as it was described by him [Kulou] in his claim document, that is what I know. however, I [Kekipi] do not know the length of the boundaries. It is my thought that when the surveyor comes, he will establish the boundaries. 6 Pauku aina

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<sup>108</sup> Helu 7073; Royal Patent 8072; Kahului 2 N. Kona. 1 ‘Āp. 3.4 Acs. Kahului 2 N. Kona. 6 ‘Āp. 7.72 Acs. Royal Patent 8073; Kahului 2 N. Kona. 1 ‘Āp. 2.19 Acs.; Auhaukeae 2 Kona. 2 ‘Āp. 1.92 Acs.

His interest was from Kapae, to this time, but it is an old [right] for his wife, in the time of Kamehameha 1. No one has objected to him...<sup>109</sup>

*Kuapuu, Helu 7336 (‘Āp. 1, 2)*

Kuapuu claimed six to seven ‘āpana and was awarded two of them; one ma kai pāhale at the coast and a partially cultivated kīhāpai in the uplands. It is likely that Kuapuu’s ma uka award, ‘Āpana 1, included several of his claimed paukū that were contiguous.

Native Register, Volume 8:424,  
January 26, 1848, Kailua

Aloha to you the Land Commissioners. I hereby state my pahale claim, there makai, Kahului 2, Ahupuaa. The length and width are 43 anana.

My land claim is in Kahului 2, and known as follows, 500 anana long by 5 anana wide.

A pauku of land mauka of this, reaching the Kaluulu, 300 anana long by 5 anana wide.

A Pauku of land from Kealakowaa to Manuwa, 400 anana long by 5 anana wide.

A pauku of land mauka of Kealaloo is 100 anana long by 5 anana wide.

These pauku are bounded by Kahuki 1 on the north, by Kikiaiole on the south, by the Papipi on the west, and by Kaaipuaa on the East.

A pauku of land at Kikiaiole 2, 500 anana long by 6 anana wide

Pauku of land that is above Pahanui to Kamakahalau, 300 anana long, by 5 anana wide. The boundaries of these lands are Kikiaiole 1 on the north, Ohia on the south, the Papipi on the west, and Kamakahalau on the east.

By Kuapuu

Native Testimony, Volume 4:500,  
December 20, 1848

...There in the ili aina o Kahuki, Kahului 2 Ahupuaa. 7 Apana.

1. Pahale. Mauka by idle land, Kau by Niniha’s lot, Makai by an Alanui Aupuni, Kohala by Kalawa’s lot. Enclosed. 1 house for Kuapuu, he is living there.

2. Mauka of Papipi. Mauka by idle land. Kau by Kikiaiole land, Makai by a papipi,

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<sup>109</sup> Helu 7690; Kahului 2 N. Kona. 1 ‘Āp. 1.75 Acs.

Kohala by Kahuki land. 1 cultivated kihapai.

3. Kaluulu [Inland agricultural zone]. Mauka by idle land. Kau by Kikiaiole, Makai by idle land, Kohala by Kahuki land.

4. At Kealakowaa. Mauka by konohiki, Kau by Kikiaiole, Makai by Konohiki, Kohala by Kahuki land.

5. The Alaloa. Mauka by idle land, Kau by Kikiaiole land, Makai by Konohiki, Kohala by Kahuki land.

6. There in Kikiaiole ili aina. Mauka by Konohiki, Kau by Ohia land, Makai by Konohiki, Kohala by Kikiaiole 2. 1 partially cultivated kihapai.

7. Mauka by Konohiki, Kau by Ohia land, Makai a papipi, Kohala by Kikiaiole 2 land. 1 partially cultivated kihapai.

It is and old land (right) belonging to Kuapuu's wife, given to her by her parents in the time of Kamehameha I. No one has objected...<sup>110</sup>

*Kaanaana, Helu 7335 (‘Āp. 1)*

Kaanaana only claimed the cultivated lands which are described as being in the uplands and having had been cultivated since 1840 (NR:v8, p423). It is documented that Kaanaana received the ‘āina from his parents who had gotten the land themselves during the time of Kamehameha I. (NT:v4, p449). Kaanaana claimed no house lot. The lands claimed where paukū ‘āina and paukū kula (NR:v8, p 423).

Native Register, Volume 8:423,  
January 24, 1848, Kailua

Aloha to you the Land Commissioners. I hereby tell you of my land claim in the ahupuaa of Kahului 2.

It is described as follows. My cultivated place, as I understand it having heard from Limaikaika, "You are to petition for your land claims to the Commissioners.

A pauku of land mauka of the pa pipi, 700 anana long by 9 anana wide.

A pauku mauka of the kula, 30 anana long by 10 anana wide.

A pauku of lands above there is 46 anana long, by 12 anana wide.

A pauku of lands mauka of the Kaluulu to makai of Manuwa is 290 anana long by 9 anana wide. This boundaries of the land above described, are Kahuki 2 on the north, the papipi on the west, and Manuwa on the east.

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<sup>110</sup> Helu 7336; Royal Patent 3740; Kahului N. Kona. 2 ‘Āp. 1.35 Acs.



These place have all been cultivated from the time I received these ili aina. That is in the year 1840, up to this time. It is for you to hear.  
I am Kaanaana 2

Native Testimony, Volume 4:499,  
December 20, 1848

...There in the ili aina of Kikiaiole, 1 Apana, Kahului 2 Ahupuaa. 3 Apana Aina.

1. Mauka idle land for the Konohiki, Kau by Kikiaiole 2, Makai a pa pipi, Kohala by Kahuku [Kahuki] Aina. 1 uncultivated kihapai.

2. Kula (land). Mauka by idle land, Kau by Kikiaiole land, Makai by Konohiki, Kohala by Kahuki aina. 1 cultivated kihapai.

3. Kaluulu [regions extending to) Manuwa. Mauka by Konohiki, Kau by Kikiaiole, Makai by Konohiki, Kohala by Kahuki aina. 1 cultivated pauku.

It is an old land (right) from Kaanaana's parents to him. His parents received it in the time of Kamehameha I. No objections...<sup>111</sup>

*Kekipi, Helu 7914 ('Āp. 1)*

Kekipi claimed one paukū 'āina from Kealakowaa to a wahi called Waiapuka to the east. A kīhāpai is also mentioned associated with this 'āina.

*Aikane (Aekane), Helu 11073 ('Āp. 1)*

Aikane claimed cultivated kula lands in Kahului and a pāhale in the ahupua'a of Hinaloli located to the north. Aikane was only awarded the paukū 'āina in the uplands (NR:v8, p610). An individual by the name of Kekipi presented a testimony that Aikane's 'āpana was located in the 'ili 'āina of Ohia and Papahia in the Kahului Ahupua'a and that it was Aikane's 'āina since 1839 (NT:v8, p651).

Native Register, Volume 8:610,  
Feb. 7, 1848, Kailua

Aloha to you're the Land Commissioners. I hereby describe my claim for land, a house lot and kula. The land claim is in the Ahupuaa of Kahului in Kona, Kailua. The size of the land is 296 anana long, and 31 anana wide. That is the size of the pauku of land. And my kula is 100 anana long by 20 anana wide. There is a pahale claim also, in the Ahupuaa of Hianaloli at Kailua. It is 15 anana long by 7 anana wide. They were given me by Malo and Kaohao. Those are my claims which are stated to you.

By Aekane [Aikane]

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<sup>111</sup> Helu 7335; Royal Patent 7066; Kahului 2 N. Kona. 1 'Āp. 1.2 Acs.

Native Testimony, Volume 8:651,  
January 12, 1850

Kekipi, sworn... ..His Apana is in the Ili of Ohia & Papiha, Kahului Ahupuaa. From lino in the Yr. 1839. No one objected to him.  
Boundaries of the land are surrounded by the land of the Konohiki.<sup>112</sup>

*Kalawa (also Kalaua), Helu 7086 (‘Āp. 1, 2)*

According to the Native Testimony (NT:v4, p557) and Native Register (NR:v8, p419) submitted for this claim, Kuapuu claimed three ‘āpana, two paukū ‘āina in the uplands, and a pāhale at the coast. Kalawa was awarded two ‘āpana which included one house site located at the shore and one in the uplands. It is unclear if one of Kalawa’s ma uka cultivated claims was unawarded, or they were awarded as one large ‘āpana.

A wahine by the name of Kaili offered a testimony on behalf of this claim (NT:v4, p557). In this testimony, Kaili described the ma kai pāhale parcel as having had two houses; one which belonged to Kalaua and another which belonged to herself (NT:v4, p557). Both house sites are said to have been enclosed by a wall (NT:v4, p557).

Native Register, Volume 8:419,  
January 26, 1848, Kailua

Aloha to you the Land Commissioners. I hereby tell you of my land claim as follows.  
A pauku land from the papipi to Kahului-loa, being 500 anana long by 5 anana wide.

A pauku of lands Ke Alakowaa [Kealakowaa] to Waiapuko, being 500 anana long by 5 anana wide.

Pahale claim the makai of Kahului 1, Ahupuaa. The length and width are 42 anana.

The Pauku of land explained above are in the Ahupuaa of Kahului 2. The boundaries of these lands are Kikiaiole on the north, Papiha on the south, the Papipi on the West, and Waiapuko on the east.

By Kalawa

Native Testimony, Volume 4:557,  
January 10, 1849

...There in the ili aina of Puki, Ahupuaa of Kahului 2. 3 Apana.

1. Mauka by konohiki, Kau by Papiha ili aina, Makai by pa pipi, Kohala by Ohia ili aina. 1 kihapai not cultivated.

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<sup>112</sup> Helu 11073; Royal Patent 7058, Kahului 2 N. Kona. 1 ‘Āp. 1.8 Acs.

2. Mauka by konohiki, Kau by Papiha ili aina, Makai by Ohia ili aina, Kohala by Kikiaiole. 1 cultivated kihapai.

3. Pahale. Mauka by idle land, Kau by Kuapuu's lot, Makai by the Alanui Aupuni, Kohala by Nalawaia's lot. It is enclosed with a wall. 2 hale. 1 hale for Kalawa, and 1 for me (Kaili W.). It is a kuleana hale Kalawa. They are residents since Kamehameha I, to this day. No one has objected.<sup>113</sup>

## **Puapuaa Ahupua'a**

As opposed to the other ahupua'a examined in this study, Puapua'a 1 and 2 Ahupua'a appears to have had the most claimants submit a claim during the Māhele process. A total of 16 claimants associated with the Puapuaa region were analyzed. According to the Native Testimonies, Native Registry, Land Commission Awards, and supporting Māhele records, this region reported many kīhāpai, malā, and other cultivated lands; thus indicating agricultural practices to have occurred in the area. Similar to the other ahupua'a examined, many of the claims submitted for Puapua'a describe majority of the cultivated lands to have been located in the ma uka or kula zone of the ahupua'a, while the house sites claimed were situated ma kai of the ahupua'a. Presented below are a summarized description of each of the claims submitted for the Puapua'a 1 and 2 Ahupua'a.

### **Puapuaa 1 Ahupua'a**

*Nika, Helu 10365 ('Āp. 1)*

In the Puapuaa 1 Ahupua'a, Nika was awarded a single 'āpana (LCA 10365). This 'āpana is described as a kīhāpai that is located in the ma uka region of the ahupua'a (NR:v8, p479). The types of crops and vegetation cultivated in this kīhāpai is not specified in any of the Māhele documents associated with Nika's claim.

*Kaiewe, Helu 7353 ('Āp. 1, 2)*

Kaiewe claimed nine parcels, a kīhāpai 'ai (kalo garden) in the kula region, an 'āpana in the 'āpa'a zone which consisted of four kīhāpai and a pāhale, an 'āpana in the 'āma'uma'u zone, as well as other 'āpana noted to have at least ten other cultivated kīhāpai on them. These 'āpana are said to be located in the 'ili of Iiiloa, Haliipalala and Lauhulu (NR:v8, p427-428). Kaiewe was ultimately awarded two 'āpana; one long parcel in the uplands, that included the claim submitted for the 'āina in the 'āpa'a region of Puapuaa, as well as one 'āpana on the coast that is located beside Kawainui's LCA 7353 'Āpana 2.

Native Register, Volume 8:427-428,  
January 20, 1848

Hear ye, o Land Commissioners. I, Kaiewe, hereby state my claims to you by length and width.

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<sup>113</sup> Helu 7086; Royal Patent 5225; Kahului 1 Kona. 1 'Āp. .270 Ac. Kahului 2 Kona. 1 'Āp. 1.3 Acs.

On the N. 10 anana; to the E., adjoining the lot of Kawainui, 11 anana, and on the So. 11 anana. To the W. adjoining the lot of Nahau, 12 anana. The length is on the E. and the W. The width is on the N. and the S. There is nothing planted. This lot is finished.

Here is the claim for a kihapai ai (Kalo garden) on the kula. The length of that place worked by my own hands is 107 anana long on the E., adjoining the kihapai of Ku; that is the length on the W.; adjoining the kihapai of Kawainui it is 42 anana wide; on the N. it adjoins the kihapai of Nahau. The N. and S. are the same.

Mauka of this, it is 120 long on the E, and the same on the W. The width of this to the N. is 15 anana, at the place adjoining the Kihapai of Kalua. The N. and S. are the same. This claim is finished. It is Kula land.

Here also is this claim in the Kaluulu. To the N., 6. To the E. adjoining the kihapai of Ainoa, it is 27 anana. To the S. it is 6. To the W. adjoining kihapai of Ikeole it is 27 anana, there to the S. it is 6. to the E. adjoining the kihapai of Ainoa it is 27 anana. The length is on the W. and the with is to the N. and S. This claims is finished. Kaluulu.

Here is another claim, mauka in the Apaa, there are growing various plants. The length on the E. is 18 anana, also on the W., and to the N. adjoining Kaukali, it is 6 anana wide, and the same on S.

There on the N. W. to N. of the Kihapai is 5 anana, and the same on the E. On the E. it adjoins the kihapai of Kamahiai, 25 anana, and the same on the W.

Another is to the S. N. and E. it is 14 anana long, at the place where it bounds Kaukali's kihapai. It is the on the W. where it bounds Kauila's kihapai. N. 15 anana, to the place where it bounds the Kihapai of Nahau. On the N. and the S. the width is the same as the above anana

Other kihapai are to the N. the length is 47 anana; also the length on the E., at the place bounding Kaihu's kihapai, and being 20 anana wide, That is also on the N. and the S.; the W. is it 47 anana. This claim on the Apaa is finished.

-Here is this claim in the Amaumau [zone]. This claim is in the distant uplands, being 34 anana long, to the E. and the same on the W. The width is 15, the same on the N. and S.

By me I. Kaiewe  
Puapua [Puapuaa] 1, District a. Kona, Hawaii.

Native Testimony, Volume 4:565-566,  
February 2, 1849

(Nahau, Konohiki, Sworn) ...There in the ili aina of Iiiloa, Puapuaa 2 Ahupuaa; in the ili aina of Haliipalala and Lauhulu. Puapuaa 2 Ahupuaa.

1. Pahale. Mauka by Idle land, Kau by Kawainui's land, Makai by shore; Kohala my [Nahau's] lot. It has been enclosed by a wall. 2 hale with for him, and he resides there.

2. Kihapai in ili aina of Haliipalala. Mauka by my land, Kau by Ku's land, Makai by the pa aina (land boundary wall), Kohala by Kahookano's land. 2 cultivated kihapai.

3: Mauka by Kalua's land, Kau by my land, Makai by Kawainui's land Kohala by my land. 2 cultivated kihapai.

4. At the Apaa [upland agricultural zone]. Mauka by Konohiki, Kau by Kaihu's land, Makai by my land, Kohala by Konohiki. 4 cultivated kihapai. 1 house for him.

3. Ili aina of Lauhulu. Mauka by Konohiki, Kau by Kamahiai's land, Makai Konohiki, and the same towards Kohala. 1 cultivated kihapai.

6 - At ili aina in Waipio. Mauka by my land, Kau by Ainoa's land, Makai by Konohiki, Kohala by Ainoa's land. 1 cultivated kihapai.

7. In the ili aina of Ililoa. Mauka by Keliikanakaole's land, Kau by Ainoa's land, Makai by Konohiki, Kohala by Ikeole's land. 2 cultivated kihapai.

8. Mauka by Kaihu's land, Kau by Ikeole's land, Makai by Kauhi's land, Kohala by Konohiki. 1 cultivated kihapai.

9. Mauka, Konohiki, the same towards Kau and Makai, Kohala by Ahupuaa of Kahului. 1 cultivated kihapai.

His interest was from me (Nahau) in the Yr. 1844. No one has objected.<sup>114</sup>

*Kawainui, Helu 7355 ('Āp. 1)*

Kawainui issued a claim for five 'āpana; however, only one of the five parcels were awarded (LCA 7355). The one 'āpana received by Kawainui during the Māhele was an 'āpana comprised of a pāhale. The remaining four parcels that went unawarded were three 'āpana that consisted of at least seven cultivated kīhāpai and a kahua hale or house site (NT:v4, p564-565).

*Ikeole, Helu 8221 ('Āp. 1)*

Ikeole only claimed one 'āpana in the 'ili 'āina of Ililoa. This 'āpana was the location of Ikeole's pāhale, which consisted of one house enclosed by a wall, according to Nahau (NT:v4, p569), and where Ikeole cultivated at least six kīhāpai in the 'āpa'a (upland dryland agricultural zone). Nahau's pāhale and goat pen is described as being nearby.

Native Register, Volume 8:460,  
January 29, 1848

Aloha to you Excellencies. I hereby tell you of my kihapai which I made with my own hands and are cultivated by me. It is 110 long by 18 wide.  
Ikeole

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<sup>114</sup> Helu 7353; Royal Patent 4304; Puapuaa 1 Kona. 2 'Āp. 1.2 Acs.

Native Testimony, Volume 4:569,  
February 2, 1849

There in the ili aina of Iiiloa, Ahupuaa of Puapuaa 1. 5 Apana.

1. At the Apana [upland dry ag. zone]. Mauka by Konohiki, Kau by Puapuaa 2. Makai by Konohiki, Kohala by Kaihu's land. 6 cultivated kihapai.

2. Mauka by Konohiki, Kau by Puapuaa 2, Makai by Konohiki, Kohala by Kaiewe's land. 13 cultivated kihapai.

3. Mauka by Konohiki, Kau by Puapuaa 2, Makai by Konohiki, Kohala by my [Nahau's] land. 3 cultivated kihapai.

4. Mauka by Konohiki, Kau by Puapuaa 2, Makai by Konohiki, Kohala by my [Nahau's] land. 2 cultivated kihapai.

5. Pahale. Mauka by my [Nahau's] pa kao goat enclosure, Kau by my [Nahau's] lot, Makai by kahakai, Kohala by wahi waiho wale (Idle land). It is enclosed with a wall. 1 hale for him.

The are old residents from the time of Kamehameha, No one has objected...<sup>115</sup>

*Ku, Helu 7356 (‘Āp. 1)*

During the Māhele, claimant, Ku, claimed four ‘āpana. The Native Register associated with Ku described that the kula lands being claimed had kīhāpai on them (NR:v8, p428). According to the Native Testimony, there are a total of six cultivated kīhāpai mentioned; one in the ‘ili ‘āina of Waipio, two in the ‘ili ‘āina of Iiiloa, two in the ‘ili ‘āina of Haliipalala, and another one mentioned associated with the ‘ili ‘āina of Lauhulu in the Puapua‘a 1 Ahupua‘a (NT:v4, p563).

Native Register, Volume 8:428, Helu 7356, Ku

He ye o Land Commissioners. Here I am, Ku, making known to you my land claims. There are some kihapai there on the Kula lands, 120 long on the East, and the same on the West 120 anana. It is at the place adjoining Kaiewe's kihapai, being 18 wide. There to northwest one is 40 anana long on the east at the place adjoining the kihapai of Nahau. The length that place made known is 40 anana long and the 4 wide. Towards the East is another, that is 30 anana long, 11 wide; on the north of the kihapai that is 40 anana long by 14, wide.

Done by me, Ku  
Puapua [Puapuaa] 1, Kona, Hawaii. January 20, 1848.

Native Testimony, Volume 4:563,

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<sup>115</sup> Helu 8221; Royal Patent 4263; Puapuaa 1 N. Kona. 2 ‘Āp. 1.762 Acs.

February 2, 1849

...There in the ili aina of Lauhulu, Ahupuaa of Puapuaa 1, Hawaii. 4 Apana

1. Mauka by Nahau's land, Kau by my [Kawainui's] and Kaiewe's land, Makai by Kaiewe's land Kohala by Hookano's land. 1 cultivated kihapai.

2. In the ili aina of Waipio. Mauka by Konohiki, the same towards Kau, Makai by pa aina, Kohala by Kaiewe's land. 1 cultivated kihapai.

3. In the ili aina of Ililoa. Mauka by konohiki, and the same towards Kaua and all around. 2 cultivated kihapai.

4. In the ili aina of Haliipalala. Mauka by Konohiki, the same towards Kau, Makai by Kalua's land, Kohala by Kamahiai's land 2 cultivated kihapai.

His interest was from Nahau [Konohiki] in the year 1843. No one has objected to him..<sup>116</sup>

#### *Kalua, Helu 7354 ('Āp. 1)*

According to Kalua's Native Testimony, four 'āpana were claimed during the Māhele, though only one was awarded a LCA. The parcel that was awarded to Kalua was a ma uka 'āpana whose land use was not specified (LCA 7354). The three other 'āpana that went unawarded were two parcels described as being ma uka 'āpana, and one described as a kula 'āpana. Collectively, a total of six kīhāpai were noted to have been cultivated in Kalua's three unawarded parcels (NT:v4, p561-562).

#### *Kaukali, Helu 9253 ('Āp. 1)*

As a result of the Māhele, Kaukali was awarded one parcel described to be in the ma uka region of the ahupua'a (LCA 9253). Kaukali testified a claim to for three 'āpana; one described as a ma uka 'āpana 'āina, another ma uka 'āpana that contained a total of six kīhāpai, and a final 'āpana that had two kīhāpai (NT:v4, p584). The types of crops cultivated in the kīhāpai were not specified in the Māhele records.

#### *Kamahiai, Helu 7461 ('Āp. 1)*

Kamahiai received an award for a single 'āpana in the ma uka region of the Puapua'a 1 Ahupua'a (LCA 7461). Originally, Kamahiai testified to having a total of nine 'āpana, though only one was awarded. As described in Kamahiai's Native Testimony, this claimant had one 'āpana in the kula region that contained one kīhāpai, a ma uka 'āpana, another ma uka 'āpana with one kīhāpai, four more 'āpana—each containing two kīhāpai on each parcel, as well as two additional 'āpana described as cultivated paukū 'āina (NT:v4, p505-506). Māhele records indicate that Kamahiai had a total of 12 parcels in cultivation.

#### *Kaihu, Helu 7462 ('Āp. 1)*

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<sup>116</sup> Helu 7356; Royal Patent 4356; Puapuaa 1 Kona. 1 'Āp. 2 Acs.

Kaihu was awarded two ‘āpana in the Puapua‘a 1 Ahupua‘a; one listed as an ‘āpana ‘āina, and the other, a pāhale. Kaihu’s Native Testimony recounts that though only two parcels were awarded as a result of the Māhele, Kaihu had claimed a total of four ‘āpana; one ‘āpana pāhale and three ‘āpana kīhāpai (NT:v4, p506). One parcel was noted to have one cultivated kīhāpai on the property, another parcel and three kīhāpai, and the third parcel was described as a cultivated paukū ‘āina. The descriptions provided in Kaihu’s claims indicate cultivation practices to have occurred on these ‘āpana.

*Hookano, Helu 8154 (‘Āp. 1)*

Māhele Records indicated that Hookano was awarded a single ‘āpana ‘āina in Puapua‘a 1 Ahupua‘a (LCA 8154), though the claimant had testified to have at least seven ‘āpana (NT:v4, p566). *Hookano attests to having a total of at least 21 cultivated kīhāpai and one cultivated paukū ‘āina across the seven ‘āpana in the ahupua‘a.*

*Nahau, Helu 10407 (‘Āp.)*

Nahau was awarded two ‘āpana in the Puapua‘a 1 Ahupua‘a which consisted of an ‘āpana ‘āina and a pāhale (LCA 10407). Though Nahau was awarded two ‘āpana, this individual had originally testified to have claimed a total of 11 ‘āpana. The nine ‘āpana that went unawarded were described to have had cultivated kīhāpai associated with the parcels. Nahau attested to having had a total of 20 kīhāpai (NT:v4, p562-563). The type of crops cultivated in these kīhāpai were not identified in any of the documents associated with Nahau’s claim.

## **Puapua‘a 2 Ahupua‘a**

*Keliikanakaole, Helu 7486 (‘Āp. 1)*

During the Māhele process, Keliikanakaole described having had five ‘āpana associated within the Puapuaa 2 Ahupuaa; however, Keliikanakaole was only awarded two of the five land claims made. The two claims awarded to Keliikanakaole consisted of an ‘āpana of ‘āina and a pāhale (LCA 7486). The other three that Keliikanakaole were ma uka parcels of ‘āina (NT:v4, p570).

*Kauila, Helu 6177 (‘Āp. 1, 2, 3)*

Kauila was awarded three ‘āpana in the Puapua‘a 2 Ahupua‘a of Kona during the Māhele. Two of the three ‘āpana awarded to Kauila are listed as house sites or pā on the ma kai region; while the other parcel is an ‘āpana ‘āina in the ma uka area (LCA 6177).

*Kala, Helu 7947 (‘Āp. 1, 2)*

Kala was awarded two ‘āpana during the Māhele in the Puapua‘a 2 Ahupua‘a. One of the parcels awarded was an ‘āpana of ‘āina, while the second awarded was for a pāhale (LCA 7947). Though Kala was awarded two ‘āpana, this claimed had actually submitted a claim for a total of eight different parcels. The various ‘āpana described by Kala in the Native Testimony mention at least twelve kīhāpai of cultivated ‘āina to have belonged to Kala. The first ‘āpana is described as having one kīhāpai in the uplands of Puapua‘a, the second ‘āpana is also said to have had a kīhāpai, the third ‘āpana is said to have had two, the fourth ‘āpana is said to have three kīhāpai, the fifth ‘āpana had two more kīhāpai, the sixth ‘āpana is a paukū ‘āina, the seventh ‘āpana had three kīhāpai, and the final ‘āpana is described as a being a ma uka parcels that was held since the time of Kamehameha I (NT:v4, p564).



### *Kalimapaa, Helu 7743 (‘Āp. 2)*

Kalimapaa had made claim to five parcels of ‘āina; however, during the Māhele process, was awarded only two of the five claims made; one of which was a pāhale (LCA 7743). The Native Registry regarding Kalimapaa’s landholdings described Kalimapaa to have had many kīhāpai which grew an abundance of native crops and vegetation. The Native Registry associated with Kalimapaa recounts that there were three māla ‘uala in the kula region in the ‘ili of Kapahu, two māla kalo on the ‘āpa‘a and ‘āma‘u zones of the ahupua‘a, ten other māla kalo in another parcel, two additional māla kalo in a kīhāpai along with another māla ‘uala, a māla in the kula lands which grew ipu, a māla of lauhala, and another māla of pahulu ‘uala or a garden of volunteer sweet potatoes (NR:v8, p446). As exemplified from the testimonies and registry associated with Kalimapaa’s claim, a variety of native vegetation and crops were cultivated and cared for in the Puapua‘a Ahupua‘a.

### *Keawe, Helu 5849 (‘Āp. 1)*

Keawe claimed and was awarded an ‘āpana that included a pāhale in the Puapua‘a 2 Ahupua‘a. According to the Native Testimony submitted for this claim, this ‘āpana was in Keawe’s possession before the time of Kamehameha I (NT:v4, p590). The Native Registry attests that there were several different plants which grew on the property. Among the plants described, there were two loulou trees, a noni grove, hala kahiki or pineapple, and coconuts trees which were said to have been planted by “ka poe kahiko,” or the ancients (NR:v5, p158).

## **Summary in Brief: The Gianulias Parcel – Ahupua‘a of Pua‘a, Wai‘aha, Kahului, and Puapua‘a**

Hawaiian primary source historical records contained in the Native Testimony, Native Register, and Buke Māhele mention, or are indicative of cultural resources and practices associated with the ahupua‘a of Pua‘a 3, Wai‘aha 1 and 2, Kahului 1 and 2, and Puapua‘a 1 and 2, site of the Gianulias Parcel well. Spanning across these focus area ahupua‘a, the Māhele records indicate that agricultural practices were common practices that occurred in these regions when one takes into account the numerous cultivated kīhāpai, māla, and paukū ‘āina that were described. Puaa 3 Ahupua‘a contained at least six claimants whose land use consisted of cultivated kīhāpai and residential house sites. Similarly, Wai‘aha Ahupua‘a 1 and 2 evidenced agriculture practices and also mentioned the named pūnāwai, Waiki‘i and other resources existing in the region such as the native mountain banana patch, termed ‘e‘a mai‘a. Kahului 1 and 2 Ahupua‘a continued the similar claims being made for ‘āina which consisted of paukū ‘āina, cultivated ma uka lands, and ma kai house lots. Puapua‘a 1 and 2 Ahupua‘a also reflected an abundance of kīhāpai and māla. Of the land divisions surveyed, Puapua‘a and Kahului Ahupua‘a appeared to host the richest array of cultural resources and practices associated with the study area scope. Collectively, cultural resources such as kalo, ‘uala, ‘uala pahulu, lauhala, loulou, niu, kope, hala kahiki, pūnāwai, wai, and the practices associated with these resources were noted to occur throughout the Puaa, Wai‘aha, Kahului and Puapua‘a Ahupua‘a. The tables below reflect the cultural resources and practices for each ahupua‘a that were revealed in an analysis of the various Māhele records.

Table 21. Cultural Resources Recorded in Māhele Records for Puaa 3 Ahupua'a\*

| Cultural Resource   | Use | Number of Citations** |
|---|-----|-----------------------|
| <i>Canoe Plants (Indigenous) - none</i>   |     |                       |
| * no specific resources were noted or legible in the Māhele documents to note associated with the Puaa 3 Ahupua'a; however this is not to say that no cultural resources exist. Many of the 'āpana claimed in the ahupua'a were cultivated tracts of parcels. Though the types of crops and plant species cultivated in these areas were not specified, it can likely be assumed that cultural resources of crops existed in these cultivated 'āpana. |     |                       |
| <i>Other Plants (Indigenous and Endemic) - none</i>   |     |                       |
| <i>Foreign-introduced Crops - none</i>  |     |                       |

\*Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice not amounts recorded

Table 22. Cultural Practices Recorded in Māhele Records for Puaa 3 Ahupua'a\*

| Cultural Practice | Definition  | Number of Citations** |
|-------------------|---|-----------------------|
| Pahale (Pāhale)   | House lot   | 5                     |
| Kihapai (Kīhāpai) | A dry land garden; cultivated areas, or patch; crop unspecified | 5                     |
| 'Āpana 'Āina      | Parcels or lots within given kuleana tract of land              | 14                    |

\*Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice not amounts recorded

Table 23. Cultural Resources Recorded in Māhele Records for Wai'aha 1 Ahupua'a\*

| Cultural Resource   | Use | Number of Citations** |
|---|-----|-----------------------|
| <i>Canoe Plants (Indigenous) - none</i>   |     |                       |
| * no specific resources were noted or legible in the Māhele documents to note associated with the Wai'aha 1 Ahupua'a; however this is not to say that no cultural resources exist. One of the three 'āpana claimed in the ahupua'a were described as being cultivated. This 'āpana was ultimately not awarded and the types of crops and plant species cultivated in this parcel was not specified. |     |                       |
| <i>Other Plants (Indigenous and Endemic) - none</i>   |     |                       |
| <i>Foreign-introduced Crops - none</i>  |     |                       |

\*Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice not amounts recorded

Table 24. Cultural Practices Recorded in Māhele Records for Wai'aha 1 Ahupua'a\*

| Cultural Practice | Definition  | Number of Citations** |
|-------------------|---|-----------------------|
| Pahale (Pāhale)   | House lot   | 1                     |
| Kihapai (Kīhāpai) | A dry land garden; cultivated areas, or patch; crop unspecified       | 1                     |
| 'Āpana 'Āina      | Parcels or lots within given kuleana tract of land                    | 3                     |
| Paukū 'Āina       | A segment of land, generally a long narrow cultivated section of land | 1                     |

\*Includes Native Testimony, Native Register, and Buke Māhele  
 \*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 25. Cultural Resources Recorded in Māhele Records for Wai‘aha 2 Ahupua‘a\*

| Cultural Resource                                   | Use                              | Number of Citations** |
|---|----------------------------------|-----------------------|
| <i>Canoe Plants (Indigenous)</i>                    |                                  |                       |
| ‘E‘a Mai‘a<br>(a variety of mountain bana)          | Food, medicine                   | 1                     |
| Pūnāwai (freshwater spring)                         | Nourishment, medicine, spiritual | 2                     |
| Wai (freshwater)                                    | Nourishment, medicine, spiritual | 1                     |
| <i>Other Plants (Indigenous and Endemic) - none</i> |                                  |                       |
| <i>Foreign-introduced Crops - none</i>              |                                  |                       |

\*Includes Native Testimony, Native Register, and Buke Māhele  
 \*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 26. Cultural Practices Recorded in Māhele Records for Wai‘aha 2 Ahupua‘a\*

| Cultural Practice | Definition   | Number of Citations** |
|-------------------|--|-----------------------|
| Pahale (Pāhale)   | House lot  | 6                     |
| ‘Āpana ‘Āina      | Parcels or lots within given kuleana tract of land   | 13                    |
| Paukū ‘Āina       | A segment of land, generally a long narrow cultivated section of land  | 2                     |
| ‘Ili ‘Āina        | Small units of land within an ahupua‘a, often described as long narrow parcels of land that run mauka-makai, and cross several agricultural zones. | 2                     |

\*Includes Native Testimony, Native Register, and Buke Māhele  
 \*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 27. Cultural Resources Recorded in Māhele Records for Kahului 1 Ahupua‘a\*

| Cultural Resource                            | Use                               | Number of Citations** |
|--|-----------------------------------|-----------------------|
| <i>Canoe Plants (Indigenous)</i>             |                                   |                       |
| Kalo (taro)                                  | Food, medicine, spiritual         | 4                     |
| ‘Uala/‘Uwala (sweet potatoes)                | Food, medicine                    | 1                     |
| Pūnāwai (freshwater spring)                  | Nourishment, medicine, spiritual  | 1                     |
| <i>Other Plants (Indigenous and Endemic)</i> |                                   |                       |
| Forest zone                                  | Array of associated cultural uses | 3                     |
| <i>Foreign-introduced Crops</i>              |                                   |                       |
| Kope (coffee)                                | Food                              | 1                     |

\* Includes Native Testimony, Native Register, and Buke Māhele  
 \*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 28. Cultural Practices Recorded in Māhele Records for Kahului 1 Ahupua‘a\*

| Cultural Practice | Definition   | Number of Citations** |
|-------------------|--|-----------------------|
| Mala (Māla) ‘uala | A dryland garden, planted field, or patch of sweet potatoes  | 1                     |
| Mala (Māla) kope  | A dryland garden, planted field, or patch of coffee  | 1                     |
| Mala (Māla) kalo  | A dryland garden, planted field, or patch of taro  | 4                     |
| Pahale (Pāhale)   | House lot  | 3                     |
| Kihapai (Kīhāpai) | A dry land garden; cultivated areas, or patch; crop unspecified                                    | 29                    |
| ‘Āpana ‘Āina      | Parcels or lots within given kuleana tract of land   | 12                    |
| Paukū ‘Āina       | A segment of land, generally a long narrow cultivated section of land                              | 2                     |
| Mo‘o ‘Āina        | Narrow strips of land within an ‘ili   | 1                     |
| Forest zone       | Array of associated cultural practices, including gathering and access, affiliated with this place | 3                     |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice not amounts recorded

Table 29. Cultural Resources Recorded in Māhele Records for Kahului 2 Ahupua‘a\*

| Cultural Resource   | Use | Number of Citations** |
|---|-----|-----------------------|
| <i>Canoe Plants (Indigenous) - none</i>   |     |                       |
| * no specific resources were noted or legible in the Māhele documents to note associated with the Kahului 2 Ahupua‘a; however this is not to say that no cultural resources exist. At least four ‘āpana were described as being cultivated kīhāpai. Though the types of crops and plant species cultivated in these areas were not specified, it can likely be assumed that cultural resources of crops existed in these cultivated ‘āpana. |     |                       |
| <i>Other Plants (Indigenous and Endemic) - none</i>   |     |                       |
| <i>Foreign-introduced Crops - none</i>  |     |                       |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice not amounts recorded

Table 30. Cultural Practices Recorded in Māhele Records for Kahului 2 Ahupua‘a\*

| Cultural Practice | Definition  | Number of Citations** |
|-------------------|---|-----------------------|
| Pahale (Pāhale)   | House lot   | 6                     |
| Kihapai (Kīhāpai) | A dry land garden; cultivated areas, or patch; crop unspecified | 4                     |
| ‘Āpana ‘Āina      | Parcels or lots within given kuleana tract of land              | 18                    |

| Cultural Practice | Definition   | Number of Citations** |
|-------------------|--|-----------------------|
| Paukū 'Āina       | A segment of land, generally a long narrow cultivated section of land  | 15                    |
| 'Ili 'Āina        | Small units of land within an ahupua'a, often described as long narrow parcels of land that run mauka-makai, and cross several agricultural zones. | 1                     |
| Forest zone       | Array of associated cultural practices, including gathering and access, affiliated with this place   | 2                     |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 31. Cultural Resources Recorded in Māhele Records for Puapua'a 1 Ahupua'a\*

| Cultural Resource                            | Use                               | Number of Citations** |
|--|-----------------------------------|-----------------------|
| <i>Canoe Plants (Indigenous)</i>             |                                   |                       |
| Kalo (taro)                                  | Food, medicine, spiritual         | 1                     |
| <i>Other Plants (Indigenous and Endemic)</i> |                                   |                       |
| Forest zone                                  | Array of associated cultural uses | 6                     |
| <i>Foreign-introduced Crops - none</i>       |                                   |                       |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 32. Cultural Practices Recorded in Māhele Records for Puapua'a 1 Ahupua'a\*

| Cultural Practice  | Definition   | Number of Citations** |
|--------------------|--|-----------------------|
| Pahale (Pāhale)    | House lot  | 3                     |
| Kahuahale          | House site   | 1                     |
| Kihapai (Kīhāpai)  | A dry land garden; cultivated areas, or patch; crop unspecified                                    | 93                    |
| Kīhāpai 'Ai (kalo) | Cultivated area for food   | 1                     |
| 'Āpana 'Āina       | Parcels or lots within given kuleana tract of land   | 58                    |
| Paukū 'Āina        | A segment of land, generally a long narrow cultivated section of land                              | 4                     |
| Forest zone        | Array of associated cultural practices, including gathering and access, affiliated with this place | 6                     |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 33. Cultural Resources Recorded in Māhele Records for Puapua‘a 2 Ahupua‘a\*

| Cultural Resource                            | Use   | Number of Citations** |
|--|---|-----------------------|
| <i>Canoe Plants (Indigenous)</i>             |   |                       |
| Kalo (taro)                                  | Food, medicine, spiritual                                 | 14                    |
| ‘Uala/‘Uwala (sweet potatoes)                | Food, medicine  | 3                     |
| Ipu (gourds)                                 | Food, medicine, utensils                                  | 1                     |
| Niu (coconut trees)                          | Food, medicine, utensils, cordage<br>(see Krauss 1993:27) | 1                     |
| Noni (Indian mulberry)                       | Medicine  | 1                     |
| Lauhala                                      | Arts and crafts; charcoal; sails                          | 1                     |
| <i>Other Plants (Indigenous and Endemic)</i> |   |                       |
| Loulu ( <i>Pritchardia</i> spp. palm trees)  | Cordage (see Krauss 1993:27)                              | 1                     |
| <i>Foreign-introduced Crops</i>              |   |                       |
| Hala kahiki (pineapple)                      | Food  | 1                     |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

Table 34. Cultural Practices Recorded in Māhele Records for Puapua‘a 2 Ahupua‘a\*

| Cultural Practice | Definition   | Number of Citations** |
|-------------------|--|-----------------------|
| Mala (Māla) ‘uala | A dryland garden, planted field, or patch of sweet potatoes  | 2                     |
| Māla pahulu ‘uala | A dryland garden, planted field, or patch of volunteer sweet potato shoots                         | 1                     |
| Mala (Māla) ipu   | A dryland garden, planted field, or patch of gourds  | 1                     |
| Mala (Māla) kalo  | A dryland garden, planted field, or patch of taro  | 14                    |
| Māla Lauhala      | A dryland garden, planted field, or patch of lauhala   | 1                     |
| Noni Grove        | Grove of noni  | 1                     |
| Pahale (Pāhale)   | House lot  | 6                     |
| Kihapai (Kīhāpai) | A dry land garden; cultivated areas, or patch; crop unspecified                                    | 13                    |
| ‘Āpana ‘Āina      | Parcels or lots within given kuleana tract of land   | 22                    |
| Forest zone       | Array of associated cultural practices, including gathering and access, affiliated with this place | 3                     |

\* Includes Native Testimony, Native Register, and Buke Māhele

\*\*Denotes the mention of a resource or practice *not* amounts recorded

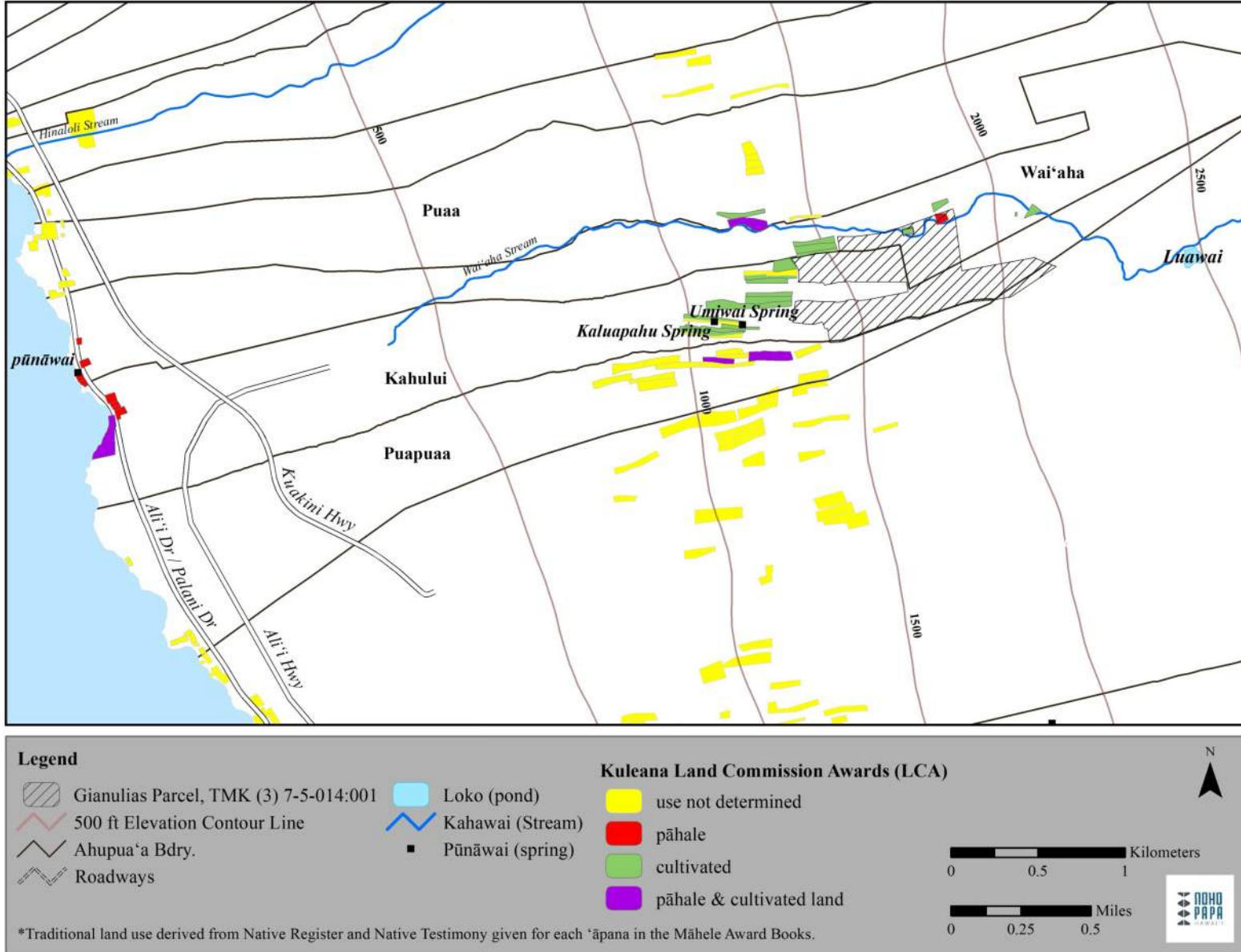


Figure 22. Traditional land use as noted in the Kuleana LCAs in and around the Gianulias Parcel.

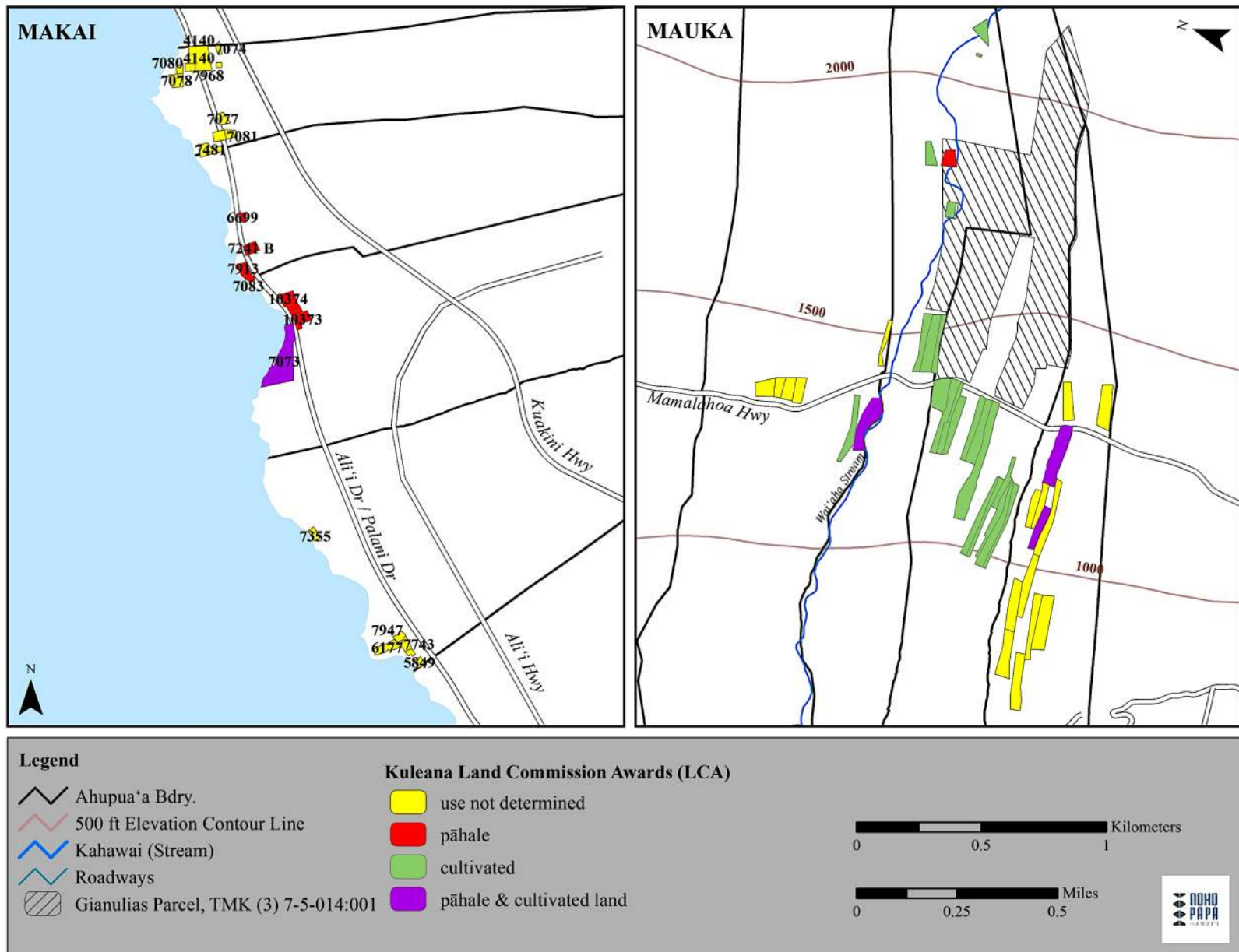


Figure 23. Close up of traditional land use as noted in the Kuleana LCAs in and around the Gianulias Parcel.





## **Māhele & Wahi Inoa**

During the extensive analysis of the Māhele records associated with the study area ahupua‘a; Keauhou, Puaa, Wai‘aha, Kahului, and Puapua‘a, many wahi inoa or site names surfaced during this study. An inventory of the names, feature type, details about the wahi, as well as any cultural practices, resources, or mo‘olelo connected to the area are listed in Table 35. The inclusion of a table of this nature is intended to provide a deeper understanding of the wealth of resources associated with the study area sites.



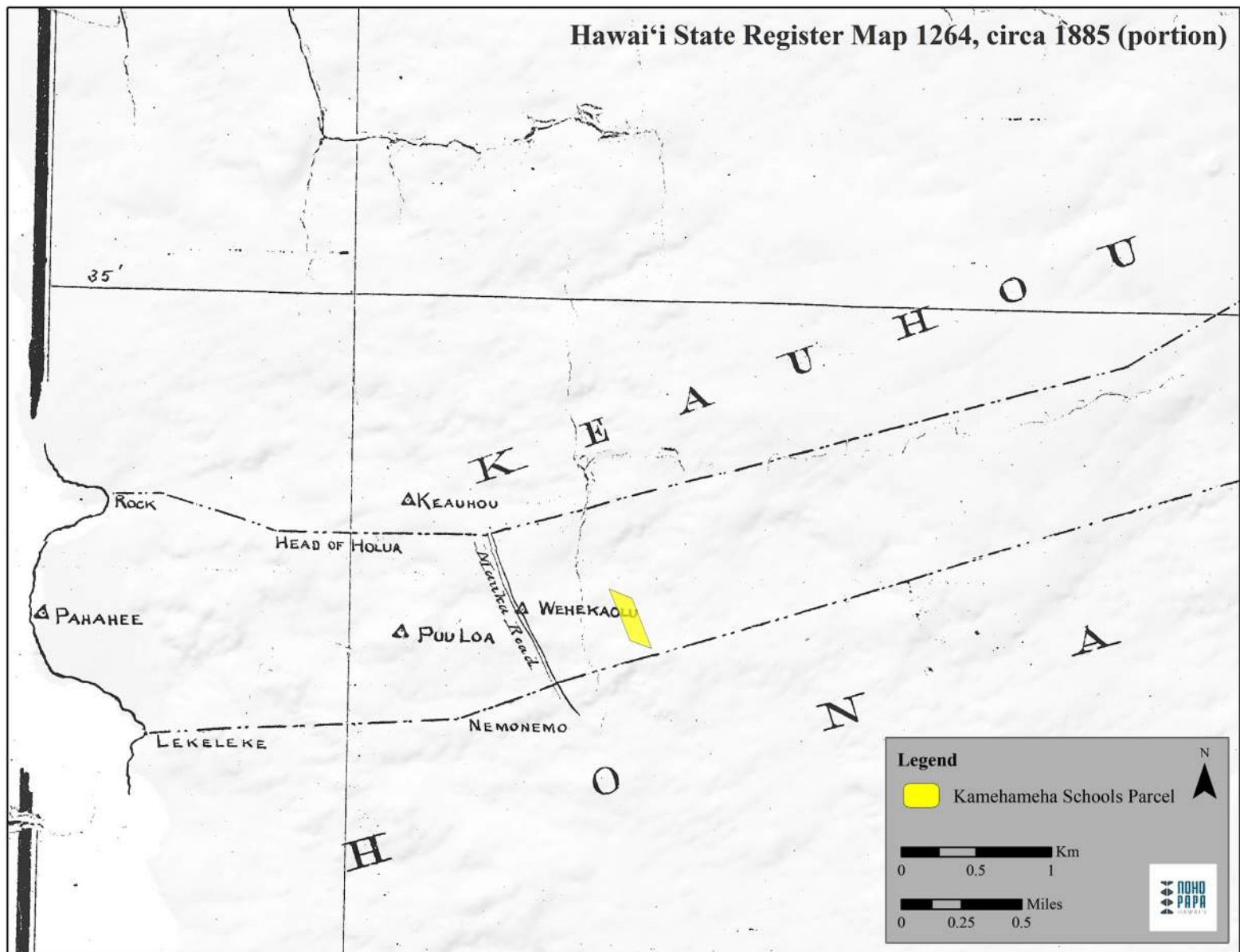


Figure 24. circa 1885 map of Keauhou 2nd, Kona Hawaii. Surveyed by J.M. Alexander and J.S. Emerson, map by J.M. Alexander, copy by W. A Wall, 1886. Hawaiian Government Survey. Hawai'i State Register Map No.1264

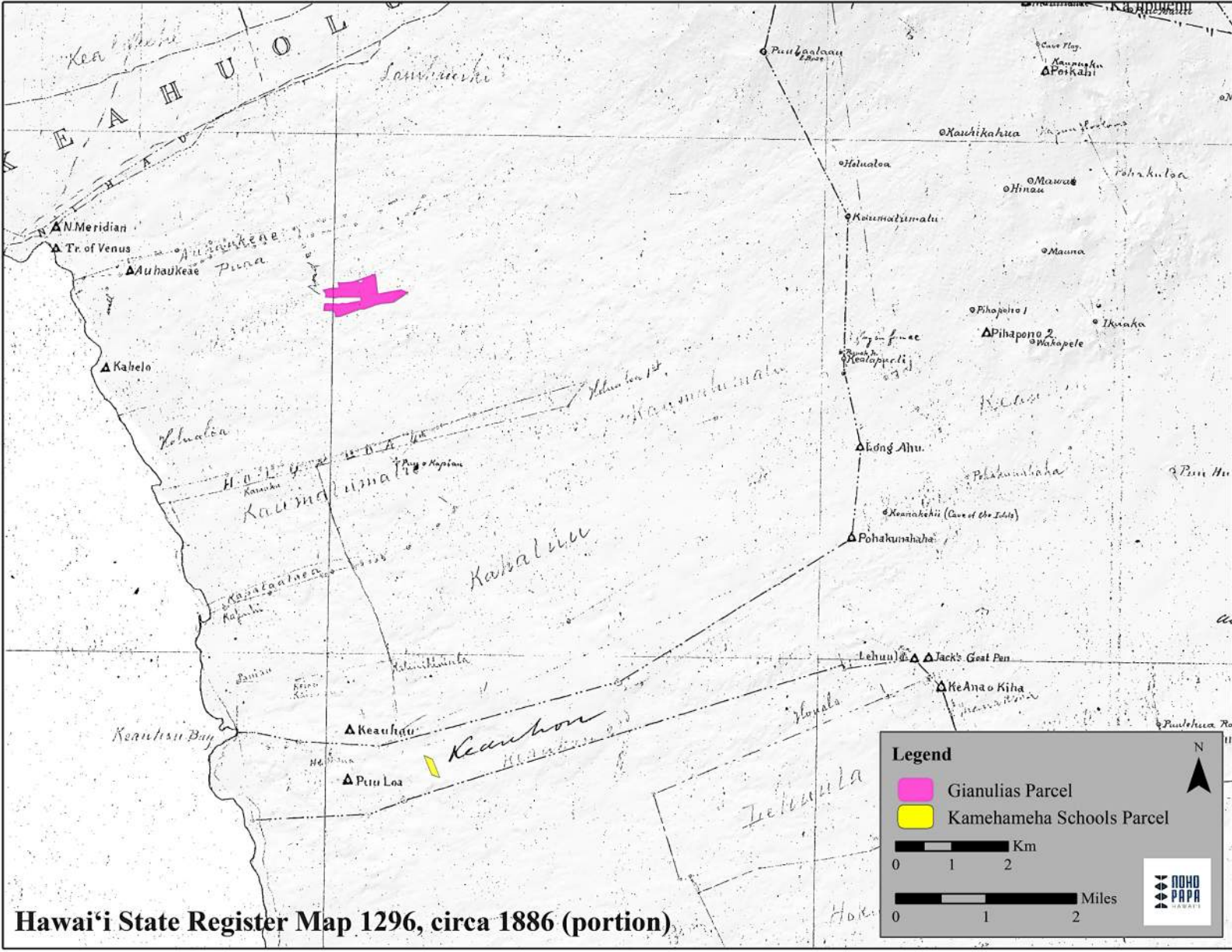


Figure 25. circa 1886 map of North Kona showing the locations of the Gianulias and KS parcels. Register Map 1296

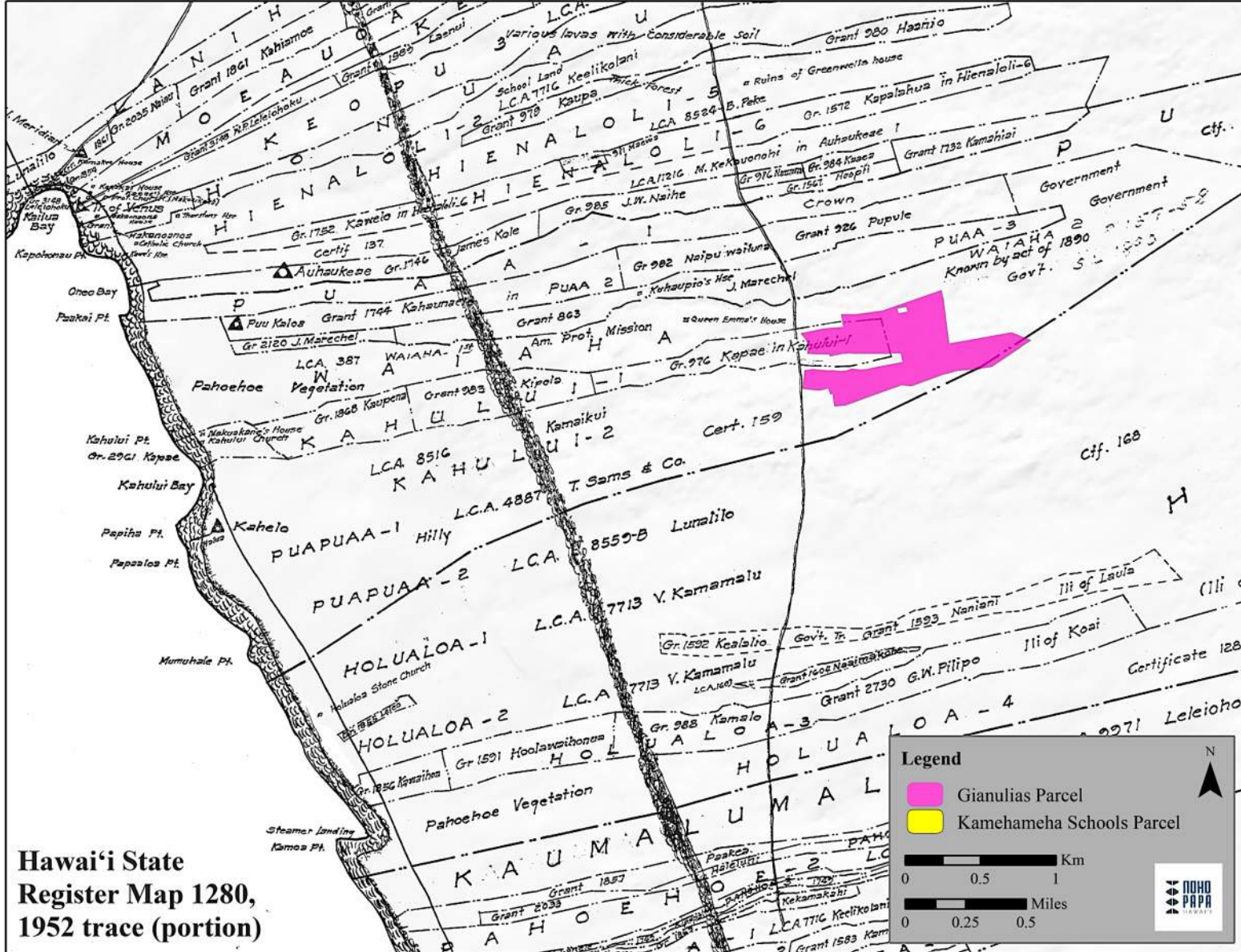


Figure 26. 1952 (trace) map of North Kona, surveyed by T. Y. Awana, Register Map No.1280

Table 35. Inventory of Wahi Inoa Documented in Māhele Records Associated with the Study Area Ahupua‘a of Keauhou, Puaa, Wai‘ahu, Kahului, and Puapua‘a.

| Inoa                  | Type  | Ahupua‘a | Information Description   | Cultural Practice &/or Resource   | Connections other Mo‘olelo, Practices, ‘Ohana, or Places           | Source(s)   |
|-----------------------|-------|----------|---|---|--|---|
| Kealakowaa (Alakowaa) | Heiau | Kahului  | Listed as the name of a heiau said to have been built by ‘umi for the dedication of canoes. The canoes were felled and brought here for dedication and then launch by the shoreline at Pu‘u spring and the surf of Pu‘u. Was misnamed Hale-hau in recent times. (Kekahuna)  | Ties to families of ‘umi as well as canoe carving and dedication practices. The path to drag the canoe<br>*Kawika Translation |  | Henry E.P. Kekahuna Collection, MS Group 312, Map: 50-HA-D8.  |
| Makolea               | heiau | Kahaluu  | "Built or restored by Lonoikamakahiki for prayers in general (Stokes). Once the dwelling place of Makole‘a, a most beautiful chiefess, daughter of Kahaluu (k) and Keauhou (w) (Kekahuna), or of Kahaluu and Keolanahihi (w) (Reinecke). Also called Keekuapuaa." (Soehren) |   | Because of connection to Lono, could be related to water and rain. | Stokes, "Heiau of the Island of Hawai‘i", 1991, p.80-81., Kekahuna & Kelsey, "Kamehameha in Kailua", p.20., Catalog of Hawaiian Place Names, Lloyd J. Soehren., John Reinecke, "Archaeology of West Hawai‘i, 1929-1930, Kailua to |

| Inoa         | Type       | Ahupua‘a | Information Description  | Cultural Practice &/or Resource | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s)  |
|--------------|------------|----------|--|---------------------------------|--|--|
|              |            |          |  |                                 |  | Kalahuipuaa", (3) p. 4.  |
| Helekamahina | ‘ili ‘āina | Kahaluu  | Listed in Native Register 5690:1 to Kanakaole in Kihikihi 2 ‘ili is bounded on the south by Helekamahina, 5964:6 by Hanakoekoe in Hokio 3 ‘ili (not awarded) is bounded makai by Helekamahina.   |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5690:1 to Kanakaole, 5964:6 to Hanakoekoe. |
| Hokio        | ‘ili ‘āina | Kahaluu  | Listed in Native Register 5673 to Kamalo is "i ka ilia aina i Hokio 2. 1 apana aina." Apana 1,2,3 and 4 are bounded on the south by Hokio 3, on the north by Hokio 1. Also written Hookio. Also, claim 5694 by Kanakoekoe is "i ka ili aina i Hokio ahupuaa Kahaluu, Hawaii, he 12 kihapai ua lelele nae." Apana 3,4,5,6 are bounded south by Hokio 4, north by Hokio 2. |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5673 to Kamalo, 5694 to Hanakoekoe.        |



| Inoa     | Type       | Ahupua'a | Information Description  | Cultural Practice &/or Resource | Connections other Mo'olelo, Practices, 'Ohana, or Places | Source(s)  |
|----------|------------|----------|--|---------------------------------|--|--|
| Kahuamoa | 'ili 'āina | Kahaluu  | Listed in Native Register 5831B by Kanalu is "i ka ili aina o Kahuamoa ahupuaa Kahaluu. 5 apana.", 3449B to Luukia was not awarded.  |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5831B to Kanalu, 3449B to Luukia.      |
| Kaimuloa | 'ili 'āina | Kahaluu  | Listed as one of the 'ili in the claim 9971 to W. P. Leleiōhōkū. No other information found.   |                                 |  | Native Register 9971 to W. P. Leleiōhōkū.  |
| Kaloaulu | 'ili 'āina | Kahaluu  | Listed in Native Register 6091 to Malaihi is "i ka ili aina i Kaloaulu ahupuaa Kahaluu...5 nae apana." (Soehren)   |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 6091 to Malaihi.                       |
| Kapio    | 'ili 'āina | Kahaluu  | Listed in Native Register 6029:1-5 to Nakoa in Paulu 'ili are bounded on the south by "Kapio ili aina". (Soehren)  |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 6029:1-5 to Nakoa.                     |
| Kihikihi | 'ili 'āina | Kahaluu  | Listed in Native Register 5690 to Kanakaole as "i ka ili aina o Kihikihi 2, ahupuaa Kahaluu. 5 apana." Apana 1,2 are bounded on the north by Kihikihi 1, 3445B to Kahananui is "i ka |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5690 to Kanakaole, 3445B to Kahananui. |

| Inoa         | Type       | Ahupua‘a | Information Description  | Cultural Practice &/or Resource | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s)  |
|--------------|------------|----------|--|---------------------------------|--|--|
|              |            |          | ili aina i Kihikihi [1] ahupuaa Kahaluu. Eha apana." Apana 2 is bounded on the south by Kihikihi 2. (Soehren)  |                                 |  |  |
| Koaie        | ‘ili ‘āina | Kahaluu  | Claim no. 3443B by Kuia is "i Koaie 3 ahupuaa Kahaluu. 5 apana." Apana 1,2,3,4 are bounded on the north by Koaie 2. Claim no. 10766 by Pio is "i ka ili aina o Koaie 2 a me Kamuku, ahupuaa Kahaluu." Apana 3 is in Kamuku, 3444B to Kapihe is in Koaie 3. (Soehren) |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 3443B to Kuia, 10766 to Pio, 3444B to Kapihe |
| Kukuiokahinu | ‘ili ‘āina | Kahaluu  | Listed in Native Register 5966B to Imakakoloa is "i ka ili aina o Kukuiokahinu ahupuaa o Kahaluu. 2 apana." (Soehren)  |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5966B to Imakakoloa.                         |
| Pahauopu     | ‘ili ‘āina | Kahaluu  | Listed in Native Register 5672 to Kahalelahaole is "i ka ili aina o Pahauopu ahupuaa Kahaluu. 4 apana." (Soehren)  |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5672 to Kahalelahaole.                       |
| Pahoa        | ‘ili ‘āina | Kahaluu  | Listed in Native Register 6032:7 to  |                                 |  | Catalog of Hawaiian Place  |



| Inoa              | Type       | Ahupua‘a | Information Description  | Cultural Practice &/or Resource | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s)  |
|-------------------|------------|----------|--|---------------------------------|--|--|
|                   |            |          | Napio is "i ka ili aina o Pahoa.", 5690:3 to Kanakaole, 6091:1,2,3,4 to Malaihi in Kaloaulu ‘ili are bounded on the south and north by the "aina o Pahoa", and 3442B to Kaniaa in Pahoa 1 and 2 was not awarded. (Soehren) |                                 |  | Names, Lloyd J. Soehren., Native Register 6032:7 to Napio, 5690:3 to Kanakaole, 6091:1,2,3,4, to Malaihi, 3442B to Kaniaa. |
| Pamaki            | ‘ili ‘āina | Kahaluu  | Listed in Native Register 5678 to Kauwale is "i ka ili aina i Pamaki ahupuaa Kahaluu. 8 apana." (Soehren)  |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5678 to Kauwale.                                       |
| Paulu             | ‘ili ‘āina | Kahaluu  | Listed in Native Register 6029 to Nakea is "i ka ili aina i Paulu ahupuaa [not named]. 7 apana." (Soehren)   |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 6029 to Nakea.   |
| Puakahi / Puekahi | ‘ili ‘āina | Kahaluu  | Listed in Native Register 5673C:1 to Naauhau is "i ka ili aina Puekahi ahupuaa Kahaluu. 3 apana." Written "Puakahi" in claim no. 6094. (Soehren)   |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5673C:1 to Naauhau.                                    |
| Puu Hinahina      | ‘ili ‘āina | Kahaluu  | Listed in Native Register 5676 to  |                                 |  | Catalog of Hawaiian Place  |

| Inoa      | Type                  | Ahupua‘a | Information Description  | Cultural Practice &/or Resource | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s)  |
|-----------|-----------------------|----------|--|---------------------------------|--|--|
|           |                       |          | Keliiahue is "i ka ili aina o Puuhinahina ahupuaa Kahaluu. 3 apana." (Soehren)   |                                 |  | Names, Lloyd J. Soehren., Native Register 5676 to Keliiahue.   |
| Ulumoe    | ‘ili ‘āina            | Kahaluu  | Listed in Native Register 5688B:4 to Kameeui is "i ka ili aina o Ulumoe.", 5632:8 to Keikihookama, 6032:3 by Napio, 3440B:6 to Naaho, 5691:5,6 by Kamaui in Makolea ‘ili are bounded on the south by Ulumoe. (Soehren)   |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5688B:4 to Kameeui, 5632:8 to Keikihookama, 6032:3 to Napio, 3440B:6 to Naaho, 5691:5,6 to Kamaui.                                     |
| Lehuakona | ‘ili ‘āina, inoa hōkū | Kahaluu  | Listed in Native Register 5688 to Kaleola is "i ka ili aina i Lehuakona ahupuaa Kahaluu. 3 apana.", 5632:5 to Keikihookama, 3440B:3 to Kaluahinenui, 3440B:9 to Naaho, and 5691:1 to Kamaui in Pakii 1 is bounded on the south by Lehuakona. (Soehren)<br>Also listed in the Hawaiian Dictionary |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 5688 to Kaleola, 5632:5 to Keikihookama, 3440B:3 to Kaluahinenui, 3440B:9 to Naaho, 5691:1 to Pakii, "Lehuakona", Hawaiian Dictionary, |

| Inoa     | Type                         | Ahupua‘a | Information Description   | Cultural Practice &/or Resource | Connections other Mo‘olelo, Practices, ‘Ohana, or Places                                    | Source(s)  |
|----------|------------------------------|----------|---|---------------------------------|---|--|
|          |                              |          | as the name of a star in the Milky Way, perhaps Antares (Pukui & Elbert).   |                                 |   | Puku‘i and Elbert, 1986.   |
| Kukuihaa | ‘ili ‘āina, inoa wahi kahiko | Kahaluu  | Listed in Native Register 6128 to Napipi is "i ka ili aina o Kukuihaa [sic] ahupuaa Kahaluu." Apana 2 is bounded on the south by Kukuihaa 3, on the north by Kukuihaa 1, 5831 to Kaeha is "i ka ili aina o Kukuihaa 4 ahupuaa Kahaluu. 3 apana." Apana 1,2 are bounded on the south by Kukuihaa 5, on the north by Kukuihaa 3. Also, 5689 to Nahoounauna, 3446B to Kahue "i ka ili aina o Kukuihaa 1" was not awarded. Also, 3455B to Maikeiki is "i ka ili aina o Kukuihaa 3. 2 apana aina." Apana 1,2 are bounded on the south by Kukuihaa 4, on the north by Kukuihaa 2, 3447B to Palaukai is "i ka ili aina i |                                 | Name is connected to Haumea and is the name of her homeland ( <i>Ka Na‘i Aupuni 1906</i> ). | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 6128 to Napipi, 5831 to Kaeha, 5689 to Nahoounauna, 3446B to Kahue, 3455B to Maikeiki, 3447B to Palaukai., "Moolelo Hawaii Kahiko", <i>Ka Na‘i Aupuni</i> , July 13, 1906, p. 1. |

| Inoa       | Type       | Ahupua‘a | Information Description  | Cultural Practice &/or Resource           | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s)   |
|------------|------------|----------|--|---|--|---|
|            |            |          | Kukuihaa 5, ahupuaa Kahaluu. 4 apana." All 4 apana are bounded on the south by Kukuihaa 6, on the north by Kukuihaa 4. (Soehren) It is also listed in the article "Moolelo Hawaii Kahiko", where it mentions that in the Kumulipo, it mentions Kukuiha‘a as a place in Nu‘umea that Haumea comes from ( <i>Ka Na‘i Aupuni</i> 1906). |   |  |   |
| Halewaawaa | ‘ili ‘āina | Kahului  | Listed in Native Register 10374 by Nalawaia is "i ka ili aina o Halewaawaa, ahupuaa Kahului. (NT 10374)" Claim no. 7241B by Kalama is "i ka ili aina o Halewaawaa, ahupuaa Kahului 1. (NT 7241B)" Claim no. 10252:4 by Maliu is "i ka ili i Halewaawaa." (NT 10252:4)  | House full of gulches *Kawika Translation |  | Native Register for LCA 10374 to Nalawaia, 7241B to Kalama, 10252:4 to Maliu. |
| Hapaipapa  | ‘ili ‘āina | Kahului  | Listed in Native Register 10374:1 by Nalawaia in ‘ili of   |   |  | Native Register for LCA 10374:1 to Nalawaia.                                  |

| Inoa       | Type       | Ahupua‘a | Information Description   | Cultural Practice &/or Resource                  | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s)  |
|------------|------------|----------|---|--|--|--|
|            |            |          | Halewaawaa is bounded on the mauka side by Hapaipapa.   |  |  |  |
| Kahuki     | ‘ili ‘āina | Kahului  | Listed in Native Register 7336 to Kuapuu is "i ka ili aina o Kahuki ahupuaa o Kahului 2." Also claim no. 7690 by Kulou. Claim no. 7073:7 by Kapa in Kahuki 1 is bounded on the south by Kahuki 2. (Soehren) | The pull *Kawika Translation                     |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 7336 to Kuapuu, 7690 to Kulou, 7073:7 to Kapa.                 |
| Kamuku     | ‘ili ‘āina | Kahului  | Listed in Native Register 7083:2 to Kaulua is for a "kihapai aia i Kamuku". Claim no. 10252 by Maliu is "i ka ili aina i Kamuku ahupuaa Kahului 1." (Soehren)   |  |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 7083:2 to Kaulua.  |
| Kukuipuloa | ‘ili ‘āina | Kahului  | Listed in Native Register 9944 by Nalima included a "Pauku aina i Kukuipuloa 1", LCA 7496B:2 by Keaweehu in the kaluulu region of Lapalua (TMK 7516:19) is bounded "Ma Kohala o                             | The elongated candlenut tree *Kawika Translation |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register for LCA 9944 to Nalima, 7496B:2 to Keaweehu, 10252:5 to Maliu. |

| Inoa     | Type       | Ahupua‘a | Information Description  | Cultural Practice &/or Resource       | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s)  |
|----------|------------|----------|--|---------------------------------------|--|--|
|          |            |          | Kukuipulua ili aina", and LCA 10252:5 by Malia "i Kamuku 2" is bounded on the south by "Kukuipulua ili aina." (Soehren)    |                                       |  |  |
| Lapalua  | ‘ili ‘āina | Kahului  | Listed in Native Register 7496B to Keaweehu is "i ka ili aina Lapalua ahupuaa Kahului 1, 3 apana aina." (Soehren)          |                                       |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register for LCA 7496B to Keaweehu.   |
| Papiha   | ‘ili ‘āina | Kahului  | Listed in Native Register 7086:1,2 by Kalawa in the ‘ili of Puki are bounded on the south by the ‘ili of Papiha. (Soehren) | Full enclosure (Parker 1992)          |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register for LCA 7086:1,2 to Kalawa., A Dictionary of the Hawaiian Language, Parker 1922. |
| Papuaa   | ‘ili ‘āina | Kahului  | Listed in Native Register 7496B:3 by Keaweehu in Lapalua (TMK 7516:19) is bounded "Mauka Papuaa aina konohiki". (Soehren)  | Pig-pen enclosure *Kawika Translation |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register for LCA 7496B:3 to Keaweehu.   |
| Waiapuko | ‘ili ‘āina | Kahului  | Listed in Native Register 7914 by Kekipi is "i ke  |                                       |  | Catalog of Hawaiian Place Names, Lloyd J.  |

| Inoa     | Type                   | Ahupua‘a | Information Description   | Cultural Practice &/or Resource           | Connections other Mo‘olelo, Practices, ‘Ohana, or Places   | Source(s)  |
|----------|------------------------|----------|---|---|--|--|
|          |                        |          | ahupuaa o Kahului 2, he pauku aina. [Bounded] Mauka o Waiapuko he ili aina." (Soehren)  |   |  | Soehren., Native Register for LCA 7914 to Kekipi.  |
| Niukini  | ‘ili ‘āina             | Kahului  | Listed in Native Register 9974 to Nalima is "i ka ili aina o Niukini ahupuaa Kahului 1, 2 apana."(Soehren). Is also mentioned in the Kanikau of Kamehameha IV stating "... ma ka pae opua i Niukini..." (Nupepa Kuokoa 1864) "...at the cluster of clouds on the horizon at Niukini..." *Kawika Translation | Multitude of coconuts *Kawika Translation |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register for LCA 9974 to Nalima., "Kanikau No Ka Moi.", Ka Nupepa Kuokoa, January 23, 1864. |
| Kaaipuaa | ‘ili ‘āina, loko, māla | Kahului  | Named in the story of Kamiki as a food patch for the chiefs, mentioned that there was a fishpond in which the mo‘o lived at the center of the pond at a place called Kapakolea (HEN 1911) Listed in Native Register 7557 to Kalapuna: "...Uka lilo kekahi, o Kaaipuaa                                       | The eating of pig *Kawika Translation     | Longer story in the mo‘olelo of Kamiki and the summary can be found in HEN Newspapers: May 3, 1911. The original mo‘olelo with full story can be found Ke Au Hou, Feb. 22, 1911 "Kamiki". This is a great resource to pull information | HEN Newspapers: May 3, 1911, "Kamiki"., Native Register 7557 to Kalapana., Ke Au Hou, Feb. 22, 1911 "Kamiki".  |

| Inoa     | Type    | Ahupua‘a | Information Description   | Cultural Practice &/or Resource                          | Connections other Mo‘olelo, Practices, ‘Ohana, or Places  | Source(s)  |
|----------|---------|----------|---|--|---|--|
|          |         |          | kona inoa". "...one was lost, Ka‘aipua‘a is it’s name". *Kawika Translation   |  | about wai within the region.  |  |
| Ohuahale | kīhāpai | Kahului  | Listed in Native Register 10252:1 to Maliu "i ka ili aina i Kamuku ahupuaa Kahului 1" is bounded "Makai o Ohuahale he kihapai". (Soehren) | House for/of Retainers *Kawika Translation               |   | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register for LCA 10252:1 to Maliu.  |
| Umiwai   | pūnāwai | Kahului  | Listed in Native Register 10252:3 by Maliu "i Kamuku ahupuaa Kahului 1....Mauka o Umiwai punawai." (Soehren)                              | To hold breath [in] water, or water [of] ‘Umi. (Soehren) | Mentioned in the story of Halemano as a place where they stopped at saying: "Holo aku la lakou a pae ma Umiwai, Kohala, i Hawaii. A ku lakou ma Umiwai ma Kohala, noho a olulo iho malaila..." (Ke Alakai o Hawaii 1928) "The sailed until they landed at Umiwai, Kohala, on Hawai‘i. And they stopped at Umiwai in Kohala, where they lived as castaways..." *Kawika Translation | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register for LCA 10252:3 to Maliu., "He Moolelo Kaao Hawaii no Halemano", Ke Alakai o Hawaii, May 10, 1928. |
| Puukehoe | pu‘u    | Kahului  | Listed in Native Register 10252:3 by Maliu "i Kamuku  |  |   | Catalog of Hawaiian Place Names, Lloyd J.  |



| Inoa       | Type       | Ahupua‘a                    | Information Description   | Cultural Practice &/or Resource                                 | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s)   |
|------------|------------|-----------------------------|---|---|--|---|
|            |            |                             | ahupuaa Kahului 1.... Makai o Puukehoe [sic] he puu." (Soehren)   |   |  | Soehren., Native Register for LCA 10252:3 to Maliu.   |
| Hulilau    |            | Kahului                     | N/A   | Would like to see source of name, as nothing found in research. |  |   |
| Inaimoa    |            | Kahului                     | N/A   | Would like to see source of name, as nothing found in research. |  |   |
| Kaluaolena |            | Kahului                     | No information found on region, only mentions place in Wai‘ehu, Maui.   |   |  |   |
| Kamumu     |            | Kahului                     | No information found.   |   |  |   |
| Kikiaiole  |            | Kahului                     | No information found.   |   |  |   |
| Papipi     |            | Kahului                     | Localities identified as the "Great Wall" in various ahupua‘a, and as cattle enclosures.  |   |  |   |
| Ililoa     | ‘ili ‘āina | Keauhou, Puapuaa, Kealakehe | Listed in Native Register 7365:1 by Keohoeae is "i ka ili aina i Ililoa ahupuaa Keauhou. 2 apana.", 7485 by Kapahu, 5561H:2 by Kahilo. (Soehren) [Keauhou] Also listed in Native Register for LCA | The long ‘ili [land division] *Kawika Translation               |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register for LCA 7365:1 to Keohoeae, 7485 to Kapahu, 5561H:2 to Kahilo, 8608:5 |

| Inoa      | Type                                     | Ahupua'a           | Information Description   | Cultural Practice &/or Resource | Connections other Mo'olelo, Practices, 'Ohana, or Places | Source(s)   |
|-----------|--|--------------------|---|---------------------------------|--|---|
|           |  |                    | 8608:5 to Kaahui is "i ka ili i Ililoa." Claim no. 10671 by Pepe is for 2 kihapai in the ili of Ililoa (Soehren). [Kealakehe]   |                                 |  | to Kaahui, 10671 to Pepe.   |
| Papalanui | palena<br>'āina,<br>point, 'ili<br>'āina | Keauhou,<br>Waiaha | Listed in Native Register 7360:2 to Kaaiwana is for "1 apana i Papalanui 1, ahupuaa Keauhou.", 7372:1 by Kaikuaana, 10257 to Manohili, 10768 by Palapala is "i ka ili aina o Papalanui 2 ahupuaa Keauhou. 3 apana aina.", and 5781:1 to Kanekoa is "i ka ili aina i Papala [sic] 2...ahupuaa Keauhou." (Soehren) Also listed as "a kihapai koele, below Puu Koheo" [sic: Puu Kehoi is meant]. On north boundary Kahului 2, between Alau & Popoulu. LCA 7083:7 in Waiaha 1 to Kaulua is bounded mauka by Papalanui, and LCA 10252:3 by Maliu "i Kamuku |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register for LCA 7360:2 to Kaaiwana, 7372:1 to Kaikuaana, 10257 to Manohili, 10768 to Palapala, 5781:1 to Kanekoa, 7083:7, 10252:3 to Maliu. |

| Inoa     | Type       | Ahupua‘a | Information Description   | Cultural Practice &/or Resource | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s)  |
|----------|------------|----------|---|---------------------------------|--|--|
|          |            |          | ahupuaa Kahului 1" is bounded on the north by "Papalanui aina". (Soehren)   |                                 |  |  |
| Ohiki    | ‘ili ‘aina | Puaa     | Listed in Native Register 7076 to Kupihe is "i ka ili aina i Ohiki ahupuaa Puaa 2", 10267 to Malowale is "i ka ili aina o Ohiki 2, ahupuaa Puaa 2." (Soehren)   |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 7076 to Kupihe, 10267 to Malowale.   |
| Pawaalae | wahi pana  | Puaa     | Listed in Native Register 10267:3 to Malowale in Ohiki 2 ‘ili is bounded "Makai o Pawaalae he wahi pana."   |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 10267:3 to Malowale.   |
| Lauhulu  | ‘ili ‘aina | Puapuaa  | Listed in Native Register 7461 to Kamahiai is "i ka ili aina i Lauhulu, ahupuaa o Puapua[a], Hawaii. 9 apana.", 8154 to Hookano, 7356 to Ku, 7355 to Kawainui is "i ka ili aina i Lauhulu 1, i ka ili aina i Lauhulu 2, i ka ili aina i Haliipalala a me Kamuku.", 7353 to Kaiewe is "i ka ili aina o Haliipalala a |                                 |  | Catalog of Hawaiian Place Names, Lloyd J. Soehren., Native Register 7461 to Kamahiai, 8154 to Hookano, 7356 to Ku, 7355 to Kawainui, 7353 to Kaiewe. |



| Inoa | Type | Ahupua‘a | Information Description  | Cultural Practice &/or Resource | Connections other Mo‘olelo, Practices, ‘Ohana, or Places | Source(s) |
|------|------|----------|--|---------------------------------|--|-----------|
|      |      |          | me Lauhulu ahupuaa Puapuaa 2...[apana] 5 i ka ili aina o Lauhulu..." Quad uncertain. (Soehren) |                                 |  |           |





## **Community Consultation**

*For inclusion in this FEA, consultation sections were redacted per Nohopapa's informed consent obligation to honor and respect consultees' Intellectual Property Rights*



# Ka Pa‘akai Framework Analysis Application

## Ka Pa‘akai Framework Analysis Questions:

- 1) What are the valued cultural, historical, or natural resources in the project area and the extent to which traditional and customary native Hawaiian rights are exercised in the area?
- 2) What is the extent to which those resources – including traditional and customary native Hawaiian rights – will be affected or impaired by the proposed action?
- 3) What feasible action(s), if any, to be taken to reasonably protect any identified cultural, historical, or natural resources, and exercise of traditional and customary native Hawaiian rights in the affected area?<sup>117</sup>

### **1) What are the valued cultural, historical, or natural resources in the project area and the extent to which traditional and customary native Hawaiian rights are exercised in the area?**


It is unreasonable to assume it is possible to inventory all the traditional and customary native Hawaiian rights being exercised in a single area. Firstly, because it is a well-known truth, embodied in an ‘Ōlelo Noe‘au, that “‘A‘ohe pau ‘ike i ka hālau ho‘okāhi. All knowledge is not taught in the same school” (Pukui 1989:24, #203). This can be taken to mean that one can, and should, learn from many sources and that one cannot at the same time hold all the sources of knowledge. Secondly, to place the burden on practitioners to come forward in a timeline subject to an undertaking such as this one is unreasonable and impossible for many reasons. The most important to acknowledge, is that many kumu, practitioners, and ‘ohana have Native Hawaiian traditions and customs that are not for frivolous sharing. As in many hālau, knowledge must be earned and entrusted.

To address the challenges of assembling an inventory of customs and valued resources in an area, and to relieve the burden from the community to come forward in a tight timeframe and under the assumption of un-requested knowledge sharing, this study approaches the inventory through:

- 1) early and meaningful consultation
- 2) primary source research
- 3) the understanding that if a resource exists or can be restored then the right or practice exists
- 4) consultation is an ongoing process that agencies compiling with Ka Pa‘akai will continue to engage in.

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<sup>117</sup> Ka Pa‘akai o Ka ‘Āina v. State of Hawai‘i Land Use Com’n [Ka Pa‘akai], 94 Haw. 31, 47, 7 P.3d 1068, 1084 (2000).



Traditional and Customary Native Hawaiian rights are exercised through practice, whether one that is continued or restored. Practice relies on resources. If a resource exists, a practice exists. If a resource existed historically and has the potential to be restored, then the practice exists. These are the premises on which Nohopapa bases its inventory of valued cultural and historical or natural resources in the project area. To fulfill the requirements of Ka Pa‘akai, this inventory includes what we are calling resources, or cultural resources, which refer to “valued cultural, historical, or natural resources...” that stand alone or are part of a practice. For the purposes of this inventory, we will refer to “traditional and customary Native Hawaiian rights” as practices. Practices often require resources to be exercised, and the two go hand in hand.

### Inventory of Practices & Resources

This section presents an inventory of practices and resources tied to the project area that have been collected from consultation and primary source historical and archival materials that include mo‘olelo, oli, mele, ‘ōlelo no‘eau, Māhele records and testimonies, Boundary Commission Certificates and testimonies. These practices emphasize the generations of kupa ‘āina (native of the land) in Kona Akau who maintained a deep pilina with the vast natural and cultural resources of this ‘āina. The cultivation of the land and sea, and the gathering and utilization of freshwater resources that originate from the storied places of this ‘āina, have and continue to feed Kona’s community physically and spiritually. These practices are a testament to the enduring legacy of Kona Akau and reaffirm the right for Kānaka ‘Ōiwi to actively maintain traditional and customary practices in these spaces today.

Mea Wai - Water Resources and Collection

Table 36. Table of Practices and associated resources in and around the study area tied to Wai

| Practice                       | Resource(s)  | Location                               | Information  | Source  |
|--------------------------------|--|--|--|---|
| Water collection               | Wai<br>pūnāwai   | Kahului Ahupua'a                       | In upland Kahului, a freshwater spring journeyed to to gather wai in huewai for daily use. "It was at Kahului, in Kona, Hawai'i. Indeed, all around this place of Kona, the water in the lowlands was salty, it was brackish and bitter to drink.<br>The cool sweet water for drinking came from the uplands on the mountain. It is still the same to this day, the fresh water is fetched from the mountain."                           | Mentioned in <i>He Kaa no ka Manu Elepaio</i> (S.W.K.: 1862, in the nūpepa Ka Hoku o ka Pakipika) |
| Water collection               | Pūnāwai<br>offshore springs<br>cave water<br>collection<br>rain<br>anchialine<br>ponds | Kona Study Area                        | Kona is an arid and dry place. There were only certain ways to get water for customary use. Four ways of acquiring water for sharing:<br>1) Collect water with ipu from the plumes of freshwater emissions in the ocean.<br>2) Collect water with ipu from drips/condensation in caves.<br>3) Freshwater springs bubbling up i.e. Kaloko.<br>4) Rain.<br>5) Brackish water collection from ponds/wells for consumption and everyday use. | Consultation  |
| Water collection<br>kilo       | Pūnāwai<br>Subsurface<br>flowing water   | Kailua to Keauhou<br>Kailua to Keauhou | Deep sea fresh water present from Keauhou to Keāhole. Smooth areas on the ocean are indicative of fresh water springs.<br>Keauhou to Kailua has springs in the sand that enter into the water at many beaches along the Kona coast. Smooth areas on the ocean are indicative of fresh water springs.   | Consultation  |
|                                | Brackish<br>habitat  | Kona makai                             | Water wells in caves or down by the ocean.   | Consultation  |
|                                | Puhi Spring<br>Anchialine<br>ponds   | Hulihe'e, at<br>Niumalu                | Puhi Spring flowed underground from Keōpū Forest Reserve down to ponds at Hulihe'e, Niumalu.   | Consultation  |
| Kia'i loko<br>Water collection | 'Ilinawai<br>Anchialine<br>ponds   | Kona Study Area                        | 'Ilinawai; an underground river/stream. Brackish water.  | Consultation  |
|                                | Kilo   | Waikū                                  | Water in Kahalu'u is Waikū.  | Consultation  |



| Practice         | Resource(s)                     | Location                  | Information  | Source   |
|------------------|---------------------------------|---------------------------|--|--|
| Water collection | Waiku'i<br>a spring             | Kahalu'u                  | a favored Kahalu'u, Kona spring where ali'i relaxed and played kōnane, at the coast.   | From the mo'olelo of Kepaka'ili'ula, (Malo 1919-1920, translated in Maly 1996:25)              |
| Water collection | Waiku'i<br>a spring<br>& a Cave | Keauhou 1 & 2<br>Ahupua'a | Kakio, kama'āina of Keauhou 2, mentions Ohiki, an old cultivating site, Waikulukulu and Waikui, which are both caves with water inside.  | Boundary Commission<br>Testimony: Keauhou 2<br>Ahupua'a, Kakio 1873:v.A1,<br>p318-320          |
|                  | Waikulukulu<br>a spring         |                           | "From Puainako to Kanihinhula [Kahinihiniula], at the mauka Government road where there are two ahua pohaku, on the boundary; thence to the North side of Awapuhi, in the woods; thence to Ohiki, an old cultivating ground on the boundary; thence mauka to Napueuala, an oioina; the boundary being on the North side of it and Keauhou in the middle of it; thence to Waikulukulu, a cave with water in it; thence to Halelaau; these places are all on the boundary of Keauhou |  |
|                  | Waikulukulu<br>a cave           |                           | ...I do not know the boundaries on the mountain of Mauka and of lands. Waikui is a large cave of water; the boundary half way between said cave and Ohiki."<br><br>In Kakio's testimony for Keahou 1 he again mentions Waikui, "Waikui is a large cave of water; the boundary half way between said cave and Ohiki."   |  |
| Water Collection | Ke ana (caves)                  | Kona Study Area           | Water collection in caves  | Consultation   |
| Water collection | Keanaakala<br>a cave            | Keauhou 2<br>Ahupua'a     | According to Kahulialo's Boundary Commission testimony "Keanaakala is on Hookukano, mauka of Waio."  | Boundary Commission<br>Testimony: Keauhou 2,<br>Kahulialo W. 1873: v.A1<br>P261-265            |
| Water collection | Ohiki<br>a spring               | Hianaloli Ahupua'a        | Haleokoane, K. Says that Ohiki is "a punawai, at the corner of Kaupa's land"   | Boundary Commission<br>Testimony: Hianaloli 1 & 2<br>Ahupua'a, Haleokane<br>1873:v.B p281-282. |

| Practice                      | Resource(s)        | Location                              | Information   | Source  |
|-------------------------------|--------------------|---------------------------------------|---|---|
| Water Collection              | Mawae a spring     | Keauhou 2 Ahupua'a                    | Described as "quite an old man", Puhi K. Gives his sworn testimony describing a water hole in the, "Keauhou 1st ends in the koa woods. It is cut off by Keauhou 2d at a place called Mawae where there is a water hole, and a cave where my relations are buried."  | Boundary Commission Testimony: Keauhou2 Ahupua'a, Puhi K. 1874:v.A 1, p450-451. |
| Water collection mahi'ai 'ana | Kaluapahu a spring | Kahului 1 Ahupua'a kula zone          | In Kahului 1, Maliu was awarded 1 upland 'āpana, LCA 10252. In the testimony supporting his claim (NT: v4, p538) two springs were described as bordering his claim. Umiwai and Kaluapahu. "1. Kula. Mauka, Kaluapahu punawai (spring of Kaluapahu), Kau by ili aina of Ililoa, Makai by Makai, Ohuahale a kihapai, Kohala Niukini. 1 cultivated pauku aina." Kaluapahu spring bounds his kula claim on the mauka side.  | LCA 10252 to Maliu, NT: v4, p538.   |
| Water collection mahi'ai 'ana | Umiwai a spring    | Kahului uplands                       | In Kahului 1, Maliu was awarded 1 upland 'āpana, LCA 10252. In the testimony supporting his claim (NT: v4, p538) two springs were described as bordering his claim. Umiwai and Kaluapahu. "3. Mauka is Umiwai punawai (Umiwai spring), Kau, Lapalua ili aina, Makai by Puukehoe a puu (hill), Kohala, Papalanui land. 1 cultivated kihapai." Umiwai spring is located mauka of this cultivated kihapai.   | LCA 10252 to Maliu, NT: v4, p538.   |
|                               | Waikii a spring    | Wai'aha 2 Ahupua'a Kahului 1 ahupua'a | According to Kalama, Kanahale's 'āpana was bounded to the west by Waikii spring, south by Kahului I, north by Waiahanui and east by mountain banana (Ea maia). Kalama also testified for Kaulua and described one of his mauka parcels as also being bounded makai by Waikii Spring   | LCA 6402 to Kanahale, NT: v4, p514, Waiaha 2.                                   |
|                               |                    | Waiaha 2                              | Kekipi, who gives native testimony (NT: v4,p533-534) for Kaanehe's pahale in Waiaha 2 (LCA 7913, 'Āp. At the coast) describes the housetlot as being bounded on the Kohala side by a punawai. "7. Pahale. Mauka by the Alanui Aupuni, Kau by Kaulua's lot, Makai by kahakai, Kohala by a punawai (spring). He has enclosed it with a wall. There are 3 houses. 1 hale for Kaanehe. One house is from Kaliawahine. One hale is from Kaawehe. It is only a house claim for Kaawehe and Kaliawahine. It is a true claim for Kaanehe... " The spring is named as Waikii in NT: v4, p514, for LCA 6402 to Kanahale, in Waiaha 2. | LCA 7913 to Kaanehe, NT: v4,p533-534.   |

| Practice                               | Resource(s)                  | Location                       | Information  | Source  |
|--|------------------------------|--------------------------------|--|---|
| Kilo                                   | Ua                           | Kona Moku                      | ‘Ōlelo No‘eau #213,<br>“Māmā Kona i ka wai kau mai i ka maka o ka ‘ōpua. Kona is lightened in having water in the face of the clouds. Kona is relieved, knowing that there will be no drought, when the clouds promise rain.”  | Pukai 1983:232, #213  |
| Kilo                                   | Ua                           | Kona Moku                      | ‘Ōlelo No‘eau #2154,<br>“Me he makamaka la ka ua no Kona, ke hele la a kipa i Hanakahi. The rain is like a friend from Kona—it goes and calls on Hanakahi. These are two lines from an old chant used to express a friendly visit with one who dwells in a distant place.”   | Pukai 1983: 234-235, #2154  |
| Mālama ‘Āina                           | Wai<br>balanced<br>ecosystem | Kona Study Area                | Understanding that water has a big impact on the ecosystem.  | Consultation  |
| Mālama ‘Āina<br>Mauli ola              | Wai<br>balanced<br>ecosystem | Kona Study Area                | The physical/tangible form of wai weaves the fabric for subsistence well-being.  | Consultation  |
| Water Collection                       | Pūnāwai<br>wai               | Kahului Ahupua‘a<br>Uplands    | A drinking water pūnāwai in upland Kahului identified in mo‘olelo. It was an upland spring one would travel to daily from the coast or lowlands to collect drinking water for the ‘ohana. Whether a real spring or a representative of many the mo‘olelo carries a moral of the waiwai, the value, of wai and daily travel and long term care of the resource people exerted to get it.. | Mentioned in <i>He Kaa no ka Manu Elepaio</i> (S.W.K.: 1862, in the nūpepa “Ka Hoku o ka Pakipika”) |
| Mālama ‘Āina<br>Ahupua‘a<br>Management | Wai                          | Kona Study Area                | Conservation of water.   | Consultation  |
| Water collection                       | Holoke<br>a spring           | Pua‘a Ahupua‘a<br>at the coast | "Puaa is bounded makai by the sea and the land has ancient fishing rights near the shore, but not extending out to sea. Thence commencing at a punawai by the seashore called Holoke, between the lands of Puaa and Auhaukeae and running mauka to Poholua, a huli pali near the shore and just above a house..."  | Boundary Commission<br>Testimony: Puaa 1 Ahupua‘a,<br>Kauwa 1873: v.A1 p376-378                     |

| Practice                              | Resource(s)                       | Location                          | Information  | Source  |
|---------------------------------------|-----------------------------------|-----------------------------------|--|---|
| Water collection                      | Waiakalaho a spring               | Kahului 2 Ahupua'a                | "Thence to Waiakalaho, a water hole; thence mauka to Waiakekua, a water hole near the iwi aina and a little above the Government road; thence to Kaaipaka, a kulana kauhale, ahua hulipali..."   | Boundary Commission Testimony: Kahului 2 Ahupua'a, Niniha 1873: v.A1 P327-329<br><br>Boundary Commission Testimony: Kahului 2 Ahupua'a, Makuakane 1873: v.A1 P327-329 |
|                                       | Waiakekua a spring                |                                   | "Commencing at seashore between Kahului and Puapuaa at a rocky point called Kakapa; thence mauka along an iwi aina to Governor Adam's wall; thence mauka, the boundary still following the iwi aina to Waiakalaho, a water spring; said spring being about three kihapai to North of the boundary of Puapuaa; thence to Waiakekua, spring mauka of the road; said spring is on Kahului near the iwi aina..." |   |
| Mālama 'Āina masonry water collection | Pūnāwai 'alā stones loulou        | Wai'aha Ahupua'a Kahului Ahupua'a | "There too, you see — ka luawai ua kīpapa 'ia i ka pōhaku 'alā e ulu pōhai 'ia e nā lā'au loulou, o ka punawai i ka o'io'ina pali o Waiakekea — a spring paved with dense ['alā] stones and surrounded by loulou palms, this is the spring of Wai-a-Kekea, which was near the trail side resting place..."   | Wise & Kihe 1914-1917, in the nūpepa "Ka Hōkū o Hawai'i," translated by and in Maly 1998:3.   |
| Water collection                      | Waihuna (Waiahunā) a spring       | Kahului 2 Ahupua'a                | "...thence makai along the iwi aina to Waihuna, a water hole on the boundary between Kahului 1 <sup>st</sup> [page 328] and Kahului 2 <sup>nd</sup> . Kahului 1 <sup>st</sup> reaches to Puuokaloa at the foot of the pali; makai of the Government road you come to Waiahunā which is the boundary of Kapai's [Kapae's] land."  | Boundary Commission Testimony: Kahului 2 Ahupua'a, Makuakane 1873: v.A1 P327-329  |
| Water collection                      | Helani a niu grove                | Kahaluu, at Helani                | From a chant from Mākole'ā as a message to Kepaka'ili'ula, she asked her uncle Kukuipahu to convey; remembering her time w/ him at Kahalu'u. "Ku'u hoa o ka malu niu o Helani: My companion sheltered there by the coconut palms of Helani"  | From the mo'olelo of Kepaka'ili'ula, (Malo 1919-1920, translated in Maly 1996:25)   |
|                                       |                                   |                                   | Another water resource associated with Kona acknowledges a thriving coconut grove in an area named Helani where water is retained by gathering and drinking from coconuts  | Pukui 1983:179, 'Ōlelo No'eau #1661   |
|                                       | Niu coconuts wai niu              | Kona Moku from Puaa to Keauhou    | 15 mentions of niu trees or groves are made in Māhele records for area spanning just north of Pua'a to south of Keauhou.   | Awards Books: Native Register and Native Testimony  |
|                                       | Ka wai puka iki o Helani a spring | Kahalu'u Ahupua'a                 | Kahalu'u, a chiefess from Kahalu'u was referred to as "...Kahalu'u the chiefess—i ka 'āina kaulana i ka wai puka iki o Helani (of the land famous for the small flowing spring of Helani)" identifying a pūnāwai in Kahaluu.   | From the mo'olelo of Kepaka'ili'ula, (Malo 1919-1920, translated in Maly 1996:25)   |

Lawai‘a & Wa‘a (Paddling, Sailing, Voyaging)

Table 37. Table of Practices and associated resources in and around the study area tied to Lawai‘a and Wa‘a

| Practice   | Resource(s)  | Location   | Information  | Source   |
|--|--|--|--|--|
| Lawai‘a<br>Mālama ‘Āina<br>(stewardship)<br><br>Community<br>Managed Fisheries | ‘Anaē, ‘awa, weke,<br>‘oama, manini,<br>pākukui<br>yellow tang<br>White limu<br>brackish water | Kona Study Area  | Care and knowledge of white limu, that grows in brackish water as food for important fish species, Mullet, ‘awa, weke, ‘oama, manini, pākukui, yellow tang.  | Consultation   |
|  | Fishery<br>Squid (he‘e)<br>grounds   | Pua‘a Ahupua‘a   | "Puaa is bounded makai by the sea and the land has ancient fishing rights near the shore, but not extending out to sea." > "Puaa has ancient fishing rights extending to the squid grounds."                         | Boundary Commission<br>Testimony: Puaa 1<br>Ahupua‘a, Kauwa 1873: v.A1<br>p376-378   |
|  | Limu ‘ele‘ele<br>Nenuē   | Kona Study Area  | Limu ‘ele‘ele for bait for nenuē.  | Consultation   |
|  | Fishery<br>ocean<br>i‘a  | Keahuolū<br>Puaa<br>Waiaha<br>Kahului<br>Puapuaa<br>Kahalu‘u<br>Keauhou<br>Hōlualoa 1 and 4<br>Kaumalumu | "Ancient fishing rights extending out to sea."<br><br>Is a phrase seen again and again in the Boundary Commission by multiple Testifiers across Kona; only a select few in and around the study area are cited here. | Boundary Commission<br>Testimony: Keahuolū<br>Ahupua‘a, J. Z. Waiau, 1873:<br>v.A1 p354-357. Puaa 1<br>Ahupua‘a, Kahueai 1873: v.B<br>p244-245. Wai‘aha<br>Ahupua‘a, Peahi 1873: v.B<br>p269-270 and Mahalo 1873:<br>v.B p260-262. Puapuaa nui<br>Ahupua‘a, Ukumea 1873:<br>v.B p260-262. Keauhou 2,<br>Makuakane, 1873: v.A1<br>P327-329 and Niniha, 1873:<br>v.A1 P327-329. Kahaluu,<br>Papa, 1873: v.A1 p321-323.<br>Keauhou, Lono, 1873: v.A1<br>p318-320 and Papa, 1873:<br>v.A1 p321-323.<br>Kaumalumu Ahupua‘a,<br>Kamakahoohia, 1873: v.A1<br>p324-326 |
| Lawai‘a<br>Wa‘a<br>‘ōpelu traditions   | Ocean<br>‘ōpelu  | Kona Study Area  | Wa‘a, sailing and paddling for lawai‘a, specifically ‘ōpelu.   | Consultation   |

| Practice   | Resource(s)  | Location                               | Information  | Source  |
|--|--|--|--|---|
| Limu cultivation<br>Ko'a traditions<br>'Ōpelu traditions | 'Ōpae'ula<br>'ōpae lōlō<br>'Ōpelu<br>Akule<br>Ko'a     | Kona Study Area                        | 'Ōpae'ula, or 'ōpae lōlō, propagated to be used as bait for 'ōpelu fishing. Used to maintain the fishing ko'a to acquire 'ōpelu and akule.   | Consultation  |
| Lawai'a<br>Stewardship                                   | 'Ōpae'ula<br>Anchialine ponds<br>Brackish water        | Kealakehe Ahupua'a<br>Lanihau Ahupua'a | 'Ōpae'ula ponds present in Kealakehe, Keahuolū, and Lanihau. Part of anchialine system.  | Consultation  |
|  |  | Kaloko to<br>'Anaeho'omalu             | Anchialine system from Kaloko to 'Anaeho'omalu.  |   |
| 'Ōpelu traditions  | Ahi<br>'ōpelu  | Mā'ihi Ahupua'a<br>Keauhou Ahupua'a    | "Ancient fishing rights extending out to sea, the Ōpelu belonged to Maihi and the Ahi to Keauhou; bounded makai by the sea."   | Boundary Commission<br>Testimony: Maihi Ahupua'a,<br>Ehu 1873: v.A1 p311-312  |
| Community<br>Managed Fisheries                           | 'Ōpelu   | Keahuolū Ahupua'a                      | "Ancient fishing rights extending out to sea and claiming the opelu."  | Boundary Commission<br>Testimony: Keahuolū<br>Ahupua'a, J. Z. Waiau, 1873:<br>v.A1 p354-357   |
| Lawai'a lūhe'e<br>Wa'a<br>Community<br>Managed Fisheries | Lobster<br>he'e grounds<br>wa'a                        | Pua'a Ahupua'a,<br>at Ōneo             | "Now this leho (octopus lure) was a favorite of Pili's, and filled his eyes with pleasure. Pili's canoes were prepared to go octopus fishing – lawai'a lūhe'e as Pili wanted to see how the lure worked. The lure was made by securing the kākala (hook), and a sinker stone ('ōahi) near the cowrie (on a wooden shaft) with three ply olonā (Touchardia latifolia) rope. When Pili mā arrived at the octopus fishing site, he removed the lure from a gourd container and set it in the water. The chief and all those with him were startled to see unlimited numbers of he'e (octopus) rise up to the lure, and even lobsters were attached to some of the octopus (July 26, 1917)..." | Wise and Kihe 1914-1917,<br>the series <i>Ka'ao Ho'oniua<br/>Pu'uwai no Ka-Miki</i> , in the<br>nūpepa, "Ka Hoku o<br>Hawaii." Translated by<br>Kumu Pono Associates<br>(Maly 1999: 22, and 11-13). |
|  | He'e<br>Leho (cowrie)                                  |  | In the mo'olelo of Ka-Miki, there was a competition between 'ōlohe at Ōneo in Pua'a Ahupua'a, and a renowned and favored lū he'e was the prize.  |   |
| Lawai'a  | Marine species<br>springs<br>Brackish water            | Kona Study Area                        | Fishing by pole, throw net, diving for fish that relied on fresh/brackish water  | Consultation  |
| Lawai'a<br>Beliefs &<br>Ceremony                         | Kamaui Heiau<br>(Kamauae)<br><br>a heiau<br>a sea cave | Keauhou 1 & 2                          | Lono, a kupā'āina born at Keauhou talks about a fishing heiau near the coast at the border of Keauhou 1 and 2. "The boundary at the shore between Keauhou 1st and Keauhou 2nd is at Kamauae [Kamaui], a heiau for fishermen situated above the beach, on the hill where the houses stand..."   | Boundary Commission:<br>Keauhou 1 Ahupua'a, Lono<br>1873:v.A1 P318-320  |

| Practice             | Resource(s)                               | Location                           | Information  | Source   |
|----------------------|---|------------------------------------|--|--|
|                      |   |                                    | Kakio, Like Lono speaks of Kamauae (Kamauai) on the border of Keauhou 1 and 2, but unlike Lono, he doesn't mention a heiau, he speaks of a sea cave or shoreline cave. "The boundary at shore between the two Keauhous is at a place called Kamauae [Kamauai] at the beach; Thence it runs mauka to the head of Holua (an old sliding place)..."   | Boundary Commission: Keauhou 2 Ahupua'a, Kakio K. 1873:v.A1 p265-268.  |
| Voyaging Wa'a        | Various (for canoe making)                | Kahalu'u Ahupua'a                  | Fleets of canoe were known to set sail from Kahalu'u Ahupua'a as recorded in the mo'olelo of Kepaka'ili'ula.   | In <i>Kepaka'ili'ula</i> , (Malo 1919-1920). Translated in Maly 1996:25)   |
| Wa'a Canoe making    | Namahana                                  | Pua'a 2 Ahupua'a<br>In the uplands | Kahueai testifies for BC of a koa tree growing a wa'a place, mauka long Wai'aha stream, this would be at the same elevation, possible within the Gianulias study area. We pick up his boundary description of the south (Ka'u) side of Puaa, bounding Wai'aha, heading upland.<br><br>"Thence to Palule where koa grows; thence mauka along the kahawai to Namahana, where we used to make canoes; thence along the gulch to Aianini [?], a water hole in the gulch; thence up to Kipukaiki a cave..." | Boundary Commission Testimony: Puaa 2 Ahupua'a, Kahueai, 1873: v.B:244-245. *also gives testimony for Keahou 2. Olonā growth (Kumu Pono Associates BC notes) |
| Voyaging Wa'a kilo   | Calm seas                                 | Kona Moku                          | "Ke kai malino o Kona. The calm sea of Kona. Refers to Kona, Hawai'i." Including this one, there are four 'Ōlelo No'eau that talk about the calm seas of Kona Moku 1842, 1844, 1731  | Pukui 1983:186, 'Ōlelo No'eau #1731, 1842, 1844, 1731  |
|                      | Kona sailing winds<br><br>'Eka (a makani) |                                    | Three 'Ōlelo No'eau speak of winds and conditions that tell it is time to launch sailing canoes for fishing in Kona. One references 'Eka, a particular wind associated with the moku of Kona whose presence is telling of signs optimal for fishing. Another talks about filling big sails, and the last calls canoe men to sally forth.   | Pukui 1983:159, 'Ōlelo No'eau #1467 and #182, #1690  |
| Kilo Nānā Ao Lawai'a | Clouds<br>Rain<br>Calm seas               | Kona Study Area                    | Clouds would carry water from mountains to the ocean, bringing rain from ma uka to ma kai.<br><br>Understanding cloud patterns to know when it was safe to fish, etc.  | Consultation   |

Table 38. Table of Practices and associated resources in and around the study area tied to Forestry and Hana Wa‘a.

| Practice                 | Resource  | Location  | Information  | Source  |
|--------------------------|---|---|--|---|
| Forestry<br>Canoe Making | Huaikaumauna<br>Lae Koa<br>Koa Forest<br>Koa and Mamani<br>trees<br>Mawae | Keauhou 2 Ahupua‘a<br>Hōlualoa Ahupua‘a<br>Kahalu‘u Ahupua‘a<br>Kaumalumalu<br>Ahupua‘a | Mentioned by Keliikanakaole K. In his sworn testimony, "Thence to Huaikaumauna, a lae koa on kualapa."   | Boundary Commission<br>Testimony: Keauhou 2<br>Ahupua‘a, Keliikanakaole<br>1873:v.A 1, p270, Folio<br>448 |
|                          |   |   | Mentioned by Kupakoa K. In his testimony, "Thence along the land of Kaumalumalu to Huaikaumauna, koa trees and mamani, on the Kohala side of Judd road. Keauhou taking the land mauka of the woods and Kaumalumalu the woods."   | Boundary Commission<br>Testimony: Keauhou 2<br>Ahupua‘a, Kupakoa<br>1874:v.A 1:448-450                    |
|                          |   |   | Described as a "quite an old man", Puhī gives his sworn testimony and describes Huaikaumauna as more than just a koa forest, but a sacred place, where a heiau not far from a water hole and a burial cave, "Keauhou 1st ends in the koa woods. It is cut off by Keauhou 2d at a place called Mawae where there is a water hole, and a cave where my relations are buried. The boundary is way makai of this place. Keauhou 2d takes the land where they used to catch uwau, on the mauka side of the woods, cutting off Kahaluu and Kaumalumalu. Do not remember the names of the points Kaumalumalu reaches to Huaikaumauna, junction of Kaumalumalu, Kahaluu and Keauhou. it is an ahua in the koa woods, where the canoe makers used to have a heiau." | Boundary Commission<br>Testimony: Keauhou2<br>Ahupua‘a, Puhī K.<br>1874:v.A 1, p450-451.                  |
| Forestry                 | Kanoa<br>Koa Forest<br>Koa and Mamani<br>trees                            | Keauhou 2 Ahupua‘a<br>Kahalu‘u Ahupua‘a   | Mentioned by Kupakoa K. In his testimony, "Thence along Kahaluu (in the woods) to Kanoa, a point of koa and mamani trees, the place where the fire from Kau [Ka‘ū], on the mountain went out."   | Boundary Commission<br>Testimony: Keauhou 2<br>Ahupua‘a, Kupakoa<br>1874:v.A 1:448-450                    |
| Canoe Making             | Keanaakala  | Keauhou 2 Ahupua‘a  | where canoe makers used to live  |   |
| Forestry<br>Canoe Making | Huaikaumauna  | Keauhou 2 Ahupua‘a<br>Hōlualoa Ahupua‘a   | Keliikanakaole in his sworn testimony for Hōlualoa 1 mentions Huaikaumauna in Keauhou 2, remembering the felling of a tree. "Thence mauka along old trail to Kalaenaio where Naio trees are growing, in Koa woods; thence to Huaikaumauna, a kualapa, from which a big tree was taken, where Kaumalumalu is cut off by Keauhou 2."   | Boundary Commission<br>Testimony: Hōlualoa<br>Ahupua‘a,<br>Keliikanakaole K.<br>1874:v.A 1, p336-339.     |



| Practice              | Resource                                  | Location   | Information  | Source  |
|-----------------------|---|--|--|---|
| Forestry              | Waikulukulu<br>(a forest)                 | Keauhou 2 Ahupua'a   | Waikulukulu is the name of a woods or forest near Puuakawai water hold, "thence the boundary runs up the mountain to a cave on the side of the mountain, above the woods called Waikulukulu, thence to Puuakawai, an old water hole now filled up by cattle tramping around it; this place is the junction of the land Kaopulehu [Kaupulehu] with Keauhou."  | Boundary Commission Testimony: Keauhou 2, Keakaokawai, K. 1873:v.A1, p256-260                                 |
| Forestry Historical   | Haliilaukoa                               | Keauhou 2 Ahupua'a   | A storied place of Umi, "Haliilaukoa (where Umi sat and they spread Koa leaves for him; old tradition)"  | Boundary Commission Testimony: Keauhou 2, Keakaokawai K. 1873: v.A1 p257.                                     |
| Canoe Making Trails   | Kealakōwa'a<br>(Kealakowaa)<br>(Alakowaa) | Kahului Ahupua'a   | Listed as the name of a heiau said to have been built by 'umi for the dedication of canoes. The canoes were felled and brought here for dedication and then launch by the shoreline at Pu'u spring and the surf of Pu'u. Was misnamed Hale-hau in recent times. (n.d. Kekahuna)<br><br>Ties to families of 'umi as well as canoe carving and dedication practices. <i>Lit.</i> The path to drag the canoe, (translation Kawika Aspili, Nohopapa Hawai'i)                                     | Henry E.P. Kekahuna Collection, MS Group 312, Map: 50-HA-D8.  |
|                       |   | Kahului Ahupua'a<br><br>'Ili 'āina of Puki<br>'Ili 'āina of Kahuki<br>'Ili 'āina of Kamuku<br>'Ili 'āina of Halewaawaa | A place where logs destined to become canoes, travelled to on their journey down from the uplands to the shore<br><br>Several Māhele land claims reference Kealakōwa'a as bounding their pauku 'āina.  | LCA 7086 (NR:v8p419)<br>LCA 7336 (NR:v8p424, NT:v4p500)<br>LCA 10252 (NT:v4p538)<br>LCA 10374 (NT:v4p529-530) |
|                       |   | Kahului Ahupua'a to Hōlualoa Ahupua'a  | The trail on which canoes were dragged from the uplands to the shore; crosses several ahupua'a including Kahului to Hōlualoa.  | From Buke Māhele records, Kumu Pono Associates in Māhele Section, Glossary                                    |
| Forestry Canoe Making | Kikikiaeae<br>(canoe making place)        | Keauhou 2 Ahupua'a   | In Waiiau's testimony for the Keauhou 2 Boundary Commission he described Kikikiaeae as a canoe maker place. "Governor Adam's road is at the end of Lehuulanui; thence along Hookukano; thence mauka along the Government road, between two aa flows to Kamoomoo; thence to Keanaakala, a cave; thence to Kikikiaeae, where we used to live. The canoe makers of Hookukano also lived there. There is a hill called Puulepo, with a crater on it. There is a water hole makai of said hill. " | Boundary Commission Testimony: Keauhou 2, Waiiau K., 1873: v.A1 P268-272                                      |

| Practice | Resource                | Location                        | Information   | Source   |
|----------|-------------------------|---------------------------------|---|--|
| Forestry | Kaimuhapu<br>(a forest) | Keauhou 2 Ahupua'a<br>At Okolea | The KS study area is in Keahou 2 near its boundary with Hōnalo. Waiiau testified of a forest and a waterhole at the border in a place called Okolea. "A place in Okolea, in the woods called Kaimuhapu, a water hole, is on the boundary between Honalo and Keauhou..." | Boundary Commission<br>Testimony: Keauhou 2,<br>Waiiau K., 1873: v.A1<br>P268-272. |

Bird Catching

Table 39. Table of Practices and associated resources in and around the study area tied to Bird Catching

| Practice      | Resource                   | Location                             | Information  | Source  |
|---------------|----------------------------|--------------------------------------|--|---|
| Bird catching | Manu                       | Kahului Ahupua'a                     | Several manu were referenced as living in upland Kahului, these species were important enough to mention and would have been resources tied to cultural, religious and subsistence practices. They are also biological indicators of a healthy forest system and watershed. Included area: 'elepaio, pueo, 'Io, and 'amakihī   | In He Kaa no ka Manu <i>Elepaio</i> , found in the nūpepa "Ka Hoku o ka Pakipika" (S.W.K.: 1862)  |
| Bird catching | Huaikaumauma (Huaikamauna) | Keauhou 2 Ahupua'a Hōlualoa Ahupua'a | Ihihi testified for the Hōlualua Boundary Commission hearings, "Know the place in the woods called Kahiihiie; it is the junction of Kaumalumalu and Holualoa 1st; thence the boundary runs mauka along old trail to Kalokau; a grove of banana trees on a pali; thence to Kanoa, an old kauhale kawilimanu; thence to Kalaemaia, an ahua and kualapa; thence to Huaikaumauma, a kualapa; thence to Apiipii, where Keauhou 2 cuts these lands off, from there the boundary turns North to Puulalaau [Puulaalaau]."<br><br>"Keauhou cuts Kaumalumalu off at Pukaiki and Huaikaumauma and boundary of this & Keauhou runs up in the middle to Hiinau. This is what the bird catchers say, as I hear now. Kaumalumalu runs to Pukaiki and Huaikaumauma." | Boundary Commission Testimony: Hōlualoa Ahupua'a, Ihihi K. 1874:v.A 1, p336-339.                  |
| Bird catching | Keakui                     | Keauhou 2 Ahupua'a                   | Mentioned by Keliikanakaole K. in his sworn testimony, "A place called Keakui, a road across the aa made by bird catchers, a puu pahoehoe and a Mawae in the center, is the place where Keauhou 2 turns North and cuts off Keauhou 1st. Niihoa and Kekai, the men who made the road which is the boundary between the two, told me thus. I went with Kekai after sandalwood."  | Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A 1, p270, Folio 448              |
| Bird catching | Kilohana                   | Keauhou 2 Ahupua'a                   | In BC testimony for Keauhou 2, Keakaokawai (Keakaikawai), a noted kama'āina witness in Kona, he identifies a bird catching place, notably on an 'a'ā flow.<br>"...thence mauka to Kilohana, on an aa flow where we used to catch birds and where Kahuku joins Keauhou.<br>Thence along Kahuku to Kulaula, on Umi's road; From Puuloa to Kanupa Keauhou used to take the pahoehoe above the woods and the Kona lands reached to the mauka edge of the woods from Kilohana along Kapapala to Pohakuhanalei, a hill on the top of the mountain [Mauna Loa]"   | Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai (Keakaikawai) 1874:v.A1, p256-260. |

| Practice                | Resource                     | Location                           | Information   | Source  |
|-------------------------|------------------------------|------------------------------------|---|---|
| Bird catching           | Makaulaula                   | Keauhou 2 Ahupua'a                 | According to Kahulialo, a dwelling for bird catchers, "Thence to Makaulaula, where we used to live when bird catching. Thence to Kaonohi, a cave; thence to Ahuwela, a cave with water in it; there Hookukano ends and Kealakekua joins and bounds Keauhou..."  | Boundary Commission Testimony: Keauhou 2, Kahulialo W. 1873: v.A1 p261-265                        |
| Bird catching           | 'Amakihi as a pūpū with 'awa | Kahului Ahupua'a                   | Specifically identified as a practice occurring in the ahupua'a of Kahului; "broiled" 'amakihi as "a condiment to go with 'awa" in a chant from 'Elepaio to 'Amakihi in <i>He Kaa no ka Manu Elepaio</i>  | Mentioned in <i>He Kaa no ka Manu Elepaio</i> in the nūpepa Ka Hoku o ka Pakipika (S.W.K.: 1862). |
| Bird catching, konohiki | Manu                         | Keauhou 2 Ahupua'a Hōnalo Ahupua'a | Waiiau testified for Bdry Commission of Keauhou 2, he was born at Kanaeue during Kamehameha I's reign and talked about bird catching and the konohiki take.<br>"Know the land of Keauhou, used to go after birds with my father, Nauwe, an old bird catcher and he pointed out the boundaries to me, as it was kapu to go after birds and not divide them with the konohiki; used to go frequently not vary far above here. Honalo bounds Keauhou 2 on the South side, as you go into the lower edge of the woods. I do not know the boundaries." | Boundary Commission Testimony: Keauhou 2, Waiiau K., 1873: v.A1 P268-272                          |
| Bird catching           | Manu                         | Keauhou Ahupua'a Hōnalo Ahupua'a   | "I used to go on the mountain with my Father collecting sandalwood and catching birds; his name was Kauluahi, and old bird catcher and kamaaina now dead..."  | Boundary Commission Testimony: Keauhou 2 Ahupua'a, Keakaokawai (Keakaikawai) 1874:v.A1, p256-260. |

Mahi ‘ai ‘ana – Cultivation

Table 40. Table of Practices and associated resources in and around the study area tied to Mahi ‘ai ‘ana - Cultivation.

| Practice  | Resource  | Location   | Information  | Source  |
|---|---|--|--|---|
| Mahi ‘ai ‘ana (Cultivation)   | Farmable soils, wai, upland fields  | Kona Study Area  | Kona field system including the water systems to support it.   | Consultation  |
|   | Pūnāwai, springs, cultivated upland fields  |  | ‘Uala, kalo, ‘ulu and other cultivated crops fed by the rain and water wells.  | Consultation  |
|   | Alani (orange tree), Hala, Hala Kahiki (pineapple), Hau, Ipu (gourd), Kalo, Kope (coffee), Kou, Loulu, Maia, Momona (Cherimoya), Niu Nonu (Indian mulberry), Olonā, Pu (squash), ‘uala (sweet potato), Uhi (yam), ‘ulu (breadfruit) | Just north of Pua‘a Ahupua‘a down to the south of Keauhou Ahupua‘a                   | Crops mentioned in Māhele records as being cultivated in and around the project area as resources for the people who lived and exercised their traditional rights in this region of Kona   | Māhele Awards Books, Native Testimony and Native Register   |
| Mahi ‘ai Makawela, a ‘uala farming practice                               | Kanoenoe (a plain) (a misty rain)   | Kealakehe Ahupua‘a Keahuolū Ahupua‘a   | Indicator, when mist sat upon Pu‘uokaloa (Puukaloa) it was a sign rain would come and to prep the ‘uala fields of Kanoenoe plain. A rain fed plain that was under ‘uala cultivation. Rains could be seen coming from afar. Practiced Makawela style of ‘uala cultivation here.   | Ka Hoku o Hawai‘i 10/25/1917, as translated by Maly 1994:A-4. In Wise and Kihe 1914-1917 in Simonson 2010:8 |
| Nānā Ao (cloud observation)   |   |  | Makawela cultivation. A slash and burn agricultural practice, but predicated on actual kilo of predicting the imminent onset of rain   | Pukui & Elbert 1986: 228, Bennet & Nogelmeier 2017  |
| Pu‘upu‘e a kalo farming practice hale building thatching water collection | Wai-a-Kekea a spring loulu  | Wai‘aha Ahupua‘a Kahului Ahupua‘a  | "There too, you see — ka luawai ua kīpapa ‘ia i ka pōhaku ‘alā e ulu pōhai ‘ia e nā lā‘au loulu, o ka punawai i ka o‘io‘ina pali o Waiakekea — a spring paved with dense [‘alā] stones and surrounded by loulu palms, this is the spring of Wai-a-Kekea, which was near the trail side resting place..." Located near pu‘epu‘e kalo cultivation in the uplands at the boundary of Wai‘aha and Kahului. | Wise and Kihe 1914-1917, in the series <i>Ka Hōkū o Hawai‘i</i> (in Maly 1998:3).                           |
| Mahi ‘ai ‘ana (cultivation)   | Wai‘aha Stream Upland taro mounds   | Pua‘a Ahupua‘a Wai‘aha Ahupua‘a Kahului Ahupua‘a Puapua‘a Ahupua‘a Hōlualoa Ahupua‘a | "...the stream of Wai‘aha joins with the lands of Kahului. The waters filled the upland taro mounds of the sacred prostration chiefs Kalei‘eha, Kapahu (or Kapahu-a-Lo‘i), and Ka‘alaea, who possessed the kapu (restrictions) of Lono-Makahiki..."  | Wise and Kihe 1914-1917, translation by Kumupono Associates, (in Maly 1998:3)                               |

| Practice  | Resource   | Location                                     | Information  | Source  |
|---|--|--|--|---|
| Water collection<br>Mahi 'ai 'ana (cultivation) | Pūnāwai<br>offshore springs<br>cave water collection<br>rain<br>anchialine ponds | Kona Study Area                              | Kona is an arid and dry place. There were only certain ways to get water for customary use. Four ways of acquiring water for sharing:<br>1) Collect water with ipu from the plumes of freshwater emissions in the ocean.<br>2) Collect water with ipu from drips/condensation in caves.<br>3) Freshwater springs bubbling up i.e. Kaloko.<br>4) Rain.<br>5) Brackish water collection from ponds/wells for consumption and everyday use. | Consultation  |
| Mahi 'ai 'ana (cultivation)                     | Mala 'uala   | Puapua'a Ahupua'a<br>At the coast at Niumalu | there is a māla 'uala, or a sweet potato garden that stretches between Niumalu and Puapua'a Ahupua'a (Wise and Kihe 1914-1917 in Maly 1999:12). This māla 'uala is described as the place where the opponents of Ka-Miki go to recover and sleep after being defeated by the young boy (Wise and Kihe 1914-1917 in Maly 1999:12).  | Wise and Kihe 1914-1917, translation by Kumu Pono Associates, (in Maly 1998:3)  |
| Mahi 'ai 'ana                                   | Banana plantation  | Kahalu'u Ahupua'a                            | located in the uplands of Kahalu'u "Once in Kona, Kepaka'ili'ula waited in the uplands of Kahalu'u at the great banana plantation of the chief Kaho'oali'i, which extended from Kaumalumalu-Kāpala'alaea to Ke'ei" -Malo 1919-1920.  | Discussed by Maly (1996: 24-25) and mentioned in the mo'olelo of Kepaka'ili'ula, by David Malo, appearing in series in the nūpepa <i>Ka Hoku o Hawaii</i> (1919-1920) |
| Mahi 'ai 'ana<br>Palena                         | Pā pipi<br>(pa pipi)<br>(papipi)   | Kona Moku<br>At and below<br>Mamalahoā Hwy   | Cattle wall or enclosure, depending on context (see the section that discusses history of the Pā Kuakini or Great Wall). Depending on context, and written "pa pipi" it describes a cattle enclosure.  | Māhele Awards Books<br>Kumu Pono Associates,<br>Mahele Section, Glossary  |
| Mahi 'ai 'ana                                   | 'Ulu   | Puapua'a Ahupua'a                            | Famous bounty of the 'ulu from Puapua'a Ahupua'a. "Ke kumu 'ulu-pū-loa o noe 'okana 'āina o Puapua'a. (The well-formed, oval-fruited breadfruit of the lands of Puapua'a [said in praise of strength and handsome features])"  | Maly 1999:12, from <i>Ka'ao Ho'oniua Pu'uawai no Ka-Miki</i> (Wise and Kihe, 1914-1917)   |
| Mahi 'ai 'ana                                   | Upland fields  | Kona   | "Kona, po'o ku'i. Kona of the added head. Said of farmers of Kona, Hawai'i, returning from the fields with a load on the shoulders and a child sitting atop the load."   | Pukui 1983:199, 'Ōlelo No'eau #1847   |

| Practice                                 | Resource                                 | Location                        | Information  | Source   |
|--|--|---------------------------------|--|--|
| Upland cultivation zone                  | Kula                                     | Upland Kona                     | Plain or grassy flat land. Generally, an area between the shoreline and lower forest zone. In the early usage, the term describes lowland agricultural fields. In the later 1800s, usage of "kula" in describing land areas was used to describe pasture land.<br><br>"This usage postdates claims of the Māhele, and if taken in the latter meaning changes actual forms of land use. This is particularly problematic when a Kuleana claim text reads something like "1 kula Kalo" and the later translations state, for example, "1 one taro pasture," which is leads to inaccurate or misleading descriptions of lands use." | From Buke Māhele records, Kumu Pono Associates in Māhele Section, Table 3. Glossary        |
| Upland cultivation zone                  | Kaluulu<br>(Kanu-'ulu)<br>(Ka-ulu-'ulu)  | Upland Kona                     | "The region of 'ulu cultivation and growth. Providing an important starch food source, wood valued in making canoes and various tools; in some accounts young 'ulu branches were harvested and used in making kama (bark cloth). The canopy of 'ulu provided shade and helped retain moisture from important under-story cultigens."   | From Buke Māhele records, Kumu Pono Associates in Māhele Section, Glossary                 |
| Upland cultivation zone                  | Amaumau<br>(Amau, 'Ama'u)<br>'Āma'uma'u) | Upland Kona<br>Kona Kuaheua     | The Sadleria fern forest zone, a region of upland agricultural fields.   | From Buke Māhele records, Kumu Pono Associates in Māhele Section, Glossary                 |
| Coastal cultivation                      | Hi'iaka-noho-lae<br>blowhole             | Keahuolū<br>Ahupua'a,<br>Kailua | Dwelling place of Hi'iaka and a blowhole at Kailua that would cover fields and dry them out (salt). Kaleikini grids a cover of kauila he uses to cap this blowhole, and others, so crops can grow close to the sea.  | From Kihe 1923:2, translated by The Institute of Hawaiian Language Research Team, 'Ike Wai |
| Mālama 'Āina cultivation<br>Connectivity | La'au                                    | Kona study area                 | Relationship of water to plants and plants to people and plants as trade items and economic development amongst and between families and across ahupua'a.  | Consultation   |
| Cultivation<br>Hana No'eau<br>Ma'awe     | Hala<br>hala groves                      | Coastal and upland<br>Kona Moku | Growth of hala (pandanus) trees.   | Kumu Pono Associates in Mahele Section, Glossary   |

| Practice      | Resource                                 | Location   | Information   | Source  |
|---------------|--|--|---|---|
| Mahi 'ai 'ana | Ohiki<br>A spring<br>A cultivation place | Uplands of<br>Hienaloli Ahupua'a<br>Keauhou Ahupua'a | Lono describes Ohiki, as an old cultivating site, that is also a spring, "Kahaluu bounds Keauhou 1st on the North side, the boundary at seashore is Paaniau, a large stone wall reaching from shore a short distance mauka. There is a pali at seashore by the same name; thence mauka to the Government road; thence straight mauka on aa to two piles of stones at government road. Kahinihiniula is on the high ground, just before you descend [sic] into the hollow; going from Kealakekua to Ohiki, a spring and old mahiai place in the woods. I do not know boundaries above this place. Have not heard where the land ends." | Boundary Commission<br>Testimony: Hianaloli 1 &<br>2 Ahupua'a, Kakio<br>1873:v.A 1, p318, Folio<br>448 and Lono, K. |
| Mahi 'ai 'ana | Kalo<br>wai<br>kula lands                | Kona Moku  | Kalo served as one of the major starch foods of Hawaiians around the islands. Kalo is used in ceremonies, is a part of the Hawaiian stories of creation and birth of k̄anaka, and was developed into many varieties, some of which were particularly valued in the Kona district. While often thought of as being grown in lo'i Kalo (irrigated taro pond fields), the cultural record reveals that there was more kula (dryland) Kalo grown in the islands than that grown in lo'i kalo.   | Kumu Pono Associates,<br>Mahele Section,<br>Glossary.   |



Trails and Connectivity

Table 41. Table of Practices and associated resources in and around the study area tied to Trails and Connectivity

| Practice                         | Resource(s)                         | Location   | Information   | Source  |
|----------------------------------|-------------------------------------|--|---|---|
| Connectivity                     | Trails<br>Trade<br>Reciprocity      | Kona Study Area  | Trade and reciprocity ma uka and ma kai, allowing different family units to interface with each other ensuring quality of life.   | Consultation  |
| Connectivity<br>Travel           | Ke Alaehu<br>(Kealaehu)<br>(Alaehu) | Kona Moku  | An ancient trail attributed to Umi-a-Liloa that crosses all of the ahupua'a in the Kona District. Mentioned in <i>Na Hunahuna no Ka Moolelo Hawaii</i> as, "...a hui pu me ke ala mauka, i kapaia ke Alaehu, mawaena konu o ke amaumu mai Kona Hema mai... A ua mana'ia, ma keia ala no paha o Kauhiakama o ka holo kaapuni ana ia Hawaii, a puni ai i na la pokole." (I'i 1870)<br>"...and connects with the upland trail, called Ke Alaehu, right between the 'ama'uma'u ferns from South Kona... and it is thought, that on this trail perhaps that Kauhiakama encircled the Hawai'i, and encircled in a short amount of days" | I'i 1870, Translated by Kawika Aspili (Nohopapa Hawai'i).   |
|                                  |                                     | Kahaluu Ahupua'a<br>'Ili 'aina of Kamuku<br>'Ili 'aina of Kukuihaa<br>'Ili 'aina of Haliipalala<br>'Ili 'aina of Kahuamoia<br>'Ili 'aina of Paulu<br>'Ili 'aina of Kukuiohaa | The ancient upland trail that passed through the 'ama'uma'u (fern forest agricultural zone) in the vicinity of the present day Māmalahoa (Belt) Highway. It's development is associated with the reigns of Ehu and 'Umi (Kepa & Onaona Maly, Kumu Pono Associates).   | LCA 3447 (NT: v4p640-641.<br>LCA 5773 B (NT: v4p615-616<br>LCA 5673 B & 5673 (NT: v4p615-616).<br>LCA 5677 (NT: v4p621)<br>LCA 5689 (NT: v8p396)<br>LCA 5695 (NT:v4p624-625)<br>LCA5831B (NT: v4p637)<br>LCA 6029 (NT:v4p627)<br>LCA6128 (NR:v8p410-411, NT:v4p621) |
|                                  |                                     | Pua'a 2 Ahupua'a<br>'Ili 'aina of Ohiki  |   | LCA 7076 (NR: v8p416, NT: v4p512)   |
|                                  |                                     | Honokohau 1<br>'Ili Haleamahuka  |   | LCA10521 (NR:v8p596, NT:v8p602)   |
| Connectivity<br>Trails<br>Travel | Alanui Pii                          | Kona Moku  | Ascending trail that connected the coast to the uplands (i.e., trail leading to the uplands, the mauka-makai trail system which occurred in all ahupua'a). Not always a public road.  | Kepa Maly, Mahele Section, Glossary   |

| Practice                                     | Resource(s)              | Location                              | Information   | Source   |
|--|--------------------------|---------------------------------------|---|--|
|  | Ala                      | Keauhou 2                             | Mauka-makai trail used for transporting 'ōhi'a down from the uplands, "...trail being made for ohia trees..." - Kakio.  | Boundary Commission Testimony: Keauhou 2 Ahupua'a, Kakio 1873:v.A 1, p270, Folio 448                       |
| Connectivity Hana wa'a                       | Kealakōwa'a (Kealakowaa) | Kahului Ahupua'a to Hōlualoa Ahupua'a | The trail on which canoes were dragged from the uplands to the shore; crosses several ahupua'a including Kahului to Hōlualoa.   | Kumu Pono Associates in Mahele Section, Glossary   |
| Connectivity Messengers Communication Trails | 'Elele (messengers)      | Kona                                  | Ka-Miki ordered Pili's 'ele'ele or messengers to spread the word of his victories to Kalama'ula (Wise and Kihe 1914-1917 in Maly 1999:13). Pili sent other messengers throughout all the districts of Kona to inform the people and chiefs that Ka-Miki possessed the rights of the ali'i over these lands (Wise and Kihe 1914-1917 in Maly 1999:13). | Wise & Kihe (1914-1917), in <i>Ka'ao Ho'oniua Pu'uwai no Ka-Miki</i> , translated by Kumu Pono Associates. |
| Connectivity Mālama 'Āina                    | Wai kaiāulu              | Kona Study Area                       | What keeps us [Hawaiians] together is our shared belief in cooperation, support, respect, and a continuous system of reciprocity when it comes to water resources.  | Consultation   |

Kilo and Weather – Environmental Indicators

Table 42. Table of Practices and associated resources in and around the study area tied to environmental indicators through Kilo – Keen Observation.

| Practice                                      | Resource(s)                  | Location                           | Information  | Source  |
|---|------------------------------|------------------------------------|--|---|
| Kilo  | Ua                           | Kona Study Area                    | Learned to listen for the rain.  | Consultation  |
| Kilo<br><br>Weather &<br>Ocean<br>Observation | ‘Eka<br>(a wind)             | Kahalu‘u Ahupua‘a<br>at Helani     | From a chant from Mākole‘ā as a message to Kepaka‘ili‘ula, she asked her uncle Kukuipahu to convey; remembering her time with him at Kahalu‘u.<br>“Ku‘u hoa i ka pe‘a huli luna e Kona e He ‘Eka ka makani o kāua e ‘olu ai...: You are my companion of the upper reaches of Kona Where the ‘Eka breezes refresh us two...”  | From the mo‘olelo of Kepaka‘ili‘ula, (Malo 1919-1920, translated in Maly 1996:25) |
|   | Hau<br>(a wind)              | Kainaliu<br>to<br>Keauhou Ahupua‘a | "Ka Hau o Ma‘ihi. The Hau [breeze] of Ma‘ihi. Refers to Ma‘ihi, Kona, Hawai‘i. Because of this locality was named for Ma‘ihi-ala-kapu-o-Lono, daughter of the god Lono-a-ipu, this wind was regarded as sacred and did not blow beyond Kainaliu and Keauhou." Hau, a wind belonging to Ma‘ihi, described as a breeze that does not reach beyond the boundaries of Kainaliu and Keauhou | Pukui 1983:142, ‘Ōlelo No‘eau #1303   |
|   | Kāwili<br>(wind & current)   | Kona Moku<br>to<br>Ka‘ū Moku       | "Ka ‘ōwili makani ‘ino o Kāwili. The stormy wind of Kāwili. (Kāwili is the current that comes from Kona and goes out to sea at Kalae, Ka‘ū)."  | Pukui 1983:164, ‘Ōlelo No‘eau #1519   |
| Kilo<br><br>Rain & Weather<br>Observation     | ‘Awa‘awa<br>‘Awa<br>(a rain) | Keauhou Ahupua‘a                   | A "bitter, cold, dark rain, vog, or smoke of the mountains; acidic rain;" and is noted as being the same as the ‘Awa rain and also the name of a wind . Per Pukui, a cold mountain rain  | Malo 1951:14 in Akana and Gonzales 2015:15  |
|   | Kēhau<br>(a rain)            | Kona Moku                          | A dew and mist and is noted as both the name of specific rain and wind   | Akana & Gonzales 2015:73  |
|   | Kualau<br>(a rain)           | Keauhou Ahupua‘a                   | A rain that showers over the seas and is accompanied by wind   | Akana & Gonzales 2015:121   |
|   | Nahunahu<br>(a rain)         | Keauhou Ahupua‘a                   | A "pelting rain associated with Hawai‘i," and translated to mean "to bite,"  | Akana & Gonzales 2015:184   |
| Kilo<br><br>Rain & Weather<br>Observation     | Noe<br>(a rain)              | Keauhou Ahupua‘a                   | Described as a fog and a mist that is "lighter than the uhiwai [heavy fog], but heavier than ‘ohu [mist, fog, vapor], ‘ehu [spray, foam, mist], and ‘ehu‘ehu [reduplication of ‘ehu];" and is noted as both a rain and wind.   | Akana & Gonzales 2015:208   |
|   | Palahī Pua‘a<br>(a rain)     | Kona Moku                          | "Ka ua palahī pua‘a–falls, stops, falls, stops, etc.," Intermittent rain. Exclusively associated w/ Kona   | Akana & Gonzales 2015:219   |

| Practice                                  | Resource(s)   | Location          | Information  | Source  |
|---|---|-------------------|--|---|
| Kilo<br>Rain & Weather<br>Observation     | Nāulu<br>a rain   | Puapua‘a Ahupua‘a | <p>A sudden shower and is noted as being also the name of a rain cloud and a wind</p> <p>Published in the Hawaiian language newspaper, Ke Au Okoa in 1869, Kamakau shared an account regarding traditional cultivation methods of ‘uala (Ipomoea batatas or sweet potato) in which he acknowledged the Nāulu rain:</p> <p>He ua Nāulu ka ua e loa‘a i ka Makali‘i, he ua kūhewa ia, aia ma kona wahi e hā‘ule ai, ua ulu ka laulele, ka pōpolo, a ua ola ia wahi i ka lau nāhelehele. [Kamakau 1869:1]</p> <p>Sudden showers (ua Nāulu) fall during the Makali‘i season. These are rains accompanied by wind gusts, and where they fall, laulele and pōpolo plants spring up, and that place comes to life with wild growth.</p> <p>According to Kamakau, Nāulu is again referred to here as a shower that arrives suddenly—he ua kūhewa, (Kamakau 1869:1). What is also detailed in this account is that this particular rain is often joined by wind; and with it, entices the ‘āina the rain falls upon to sprout with vegetation such as laulele (Asclepias curassavica or butterfly weed), pōpolo (Solanum nigrum), and other wild growing flora.</p> | <p>Akana &amp; Gonzales 2015:187</p> <p>From Kamakau 1869:1 (Akana &amp; Gonzales 2015:206)</p> |
|   |   | Kahalu‘u Ahupua‘a | Mentioned in a chant for the uplands of Kahalu‘u   | from the mo‘olelo of Kepaka‘ili‘ula, (Malo 1919-1920, translated in Maly 1996:25)               |
| Kilo<br>Nānā Ao<br>Weather<br>observation | ‘Ōpua<br>(cumulus),<br>ao ‘ōpiopio<br>(young clouds),<br>ua | Kona Moku         | <p>Recounted in several ‘ōlelo no‘eau, the presence and formation of ‘ōpua, or “cumulus clouds,” and ao ‘ōpiopio or “young clouds,” are indicators unique to Kona relaying that rain is expected to occur in the area</p>  | Pukui 1983:9,27,2134; ‘Ōlelo No‘eau #55, #232, #2134  |

Mālama ‘Āina – Care for Resources and Place-based Stewardship (Ahupua‘a Management)

Table 43. Table of Practices and associated resources in and around the study area tied to Mālama ‘Āina and the long-term care and stewardship of people, resources, and place.


| Practice   | Resource(s)   | Location   | Information   | Source   |
|--|---|--|---|--|
| Mālama ‘Āina<br>Connectivity<br>Kilo<br>Ahupua‘a<br>Management<br>Mahi‘ai‘ana<br>(cultivation) | Wai<br>healthy<br>environment<br>la‘au                              | Kona Study Area  | Mālama ahupua‘a specific resources.   | Consultation   |
|  |   |  | Relationship of water to plants and plants to people and plants as trade items and economic development amongst and between families and ahupua‘a.  |  |
|  | Wai creates a community that facilitates skilled resource managers. |  |   |  |
|  | Malama i ka wai   |  |   |  |
| Wai  |   |  | Mālama our resources, including ourselves. People within each ahupua‘a have a kuleana to take care of their specific resources. When diligent and responsible, we survive.  |  |
| Crops<br>wai<br>pūnāwai<br>ua  | Kona Study Area<br>Uplands  | ‘Uala, kalo, ‘ulu and other cultivated crops fed by the rain and water wells.<br>(As mentioned in previous tables above, the importance of water wells for cultivation and their re-injection of water whether from the ground or the heavens) |   |  |
| Mālama iwi<br>kūpuna   | Burial caves<br>Mawae   | Keauhou 2<br>Ahupua‘a  | Described as "quite an old man", Puhi K., a cousin of Keakaokawai who lived at Kalihi at the time (BC) gives his sworn testimony describing a family burial cave in the uplands, "Keauhou 1st ends in the koa woods. It is cut off by Keauhou 2d at a place called Mawae where there is a water hole, and a cave where my relations are buried. The boundary is way makai of this place." | Boundary Commission<br>Testimony: Keauhou2<br>Ahupua‘a, Puhi K. 1874:v.A 1,<br>p450-451. |
| Connectivity<br>Ahupua‘a<br>Management<br>Mālama ‘Āina   | Puhi spring<br>subsurface<br>waterflow                              | Niumalu, ponds at<br>Hulihe‘e<br>Keōpū Reserve   | Puhi Spring flowed underground from Keōpū Forest Reserve down to ponds at Hulihe‘e Palace, Niumalu.   | Consultation   |
|  | var.  | Kona Study Area  | Responsible and accountable place based resource stewardship/management   |  |

Other Practices, including Hana No’eau, Beliefs, and Spirituality (not already included above)

Table 44. Table of Practices and associated resources in and around the study area tied to Other Practices

| Practice  | Resource(s)  | Location  | Information   | Source   |
|---|--|---|---|--|
| Ho’okupu water collection<br>Spirituality<br>Beliefs  | Wai halau wai (source waters)<br>pūnāwai                       | Kona Study Area   | Religious/ceremonial significance and uses of freshwater (wai as a ho’okupu, given from the place you are from or a special source of water is always an appropriate and valued form of ho’okupu, arguably the most noa).   | Consultation   |
| Beliefs<br>Spirituality<br>Mālama’Āina                | Balanced ecosystem<br>traditional cultural practices exercised | Kona Study Area   | Cultural familial and religious practices of respect and an interrelationship with nature.  | Consultation   |
| Mauliola  | Beliefs<br>var. resources (integral to practices)              | Kona Study Area   | Need to blend regular routines with spiritual/emotional tasks for pono/balance.   | Consultation   |
| Contest site for games<br>Makahiki grounds<br>Beliefs | Hinakahua  | Puapua’a Ahupua’a the Kahelo plains at Niumalu at the coast | A kahua mokomoko le’ale’a, game site for competitions, Visited by La-Miki and Maka-i’ole. Games played at Hinakahua: maika (bowling), mokomoko (wrestling and boxing), le’ale’a (pleasurable pastimes), and ho’opāpā (contest of wit and strength), (Maly 1999:11). Pili-nui-kapu-ku’i-a-ka-lani-kua-liholiho-i-ke-kapu is the ali’i at the time of Ka-Miki and presided over these ‘ōlohe grounds. | (Wise & Kihe 1914-1917) <i>Ka’ao Ho’oniua Pu’uwai no Ka-Miki</i> , in the nūpepa, “ <i>Ka Hoku o Hawaii</i> .” Translated by Kumu Pono Associates (Maly 1999”10, 11, 12, 13) |
| Spirituality<br>Kaiaulu                               | Kahua mokomoko le’ale’a  | Lanihau Ahupua’a  | A famous kahua site for competitions (‘ōlohe) was at Ahu’ena, in Lanihau Ahupua’a. Visited by La-Miki and Maka-i’ole  |  |
| Hana No’eau   | Kauakahiakahaola a heiau                                       | Puapua’a Ahupua’a   | Kauakahiakahaola is a famous ‘ōlohe of Puapua’a and Keiki-pu’i-pu’i is noted as the champion of Kailua. Also, the name of a heiau in Puapua’a   |  |
| Lawai’a   | He’e leho (cowrie)   | Pua’a Ahupua’a at Ōneo                                      | A kaulana and favored lū he’e was an ‘ōlohe prize   |  |
| Beliefs   | Kā’ili an akua of Kona   | Kahalu’u Ahupua’a   | Akua invoked by the Kahalu’u ali’i Kepaka’ili’ula in battle before unifying Kona Moku   | From the mo’olelo of Kepaka’ili’ula, (Malo 1919-1920, translated in Maly 1996:25)  |
| Spirituality  | Kālaipāhoa an akua of Kona                                     | Hōlualoa Ahupua’a   | Akua invoked by the ali’i Hōlualoa in battle  | From the mo’olelo of Kepaka’ili’ula, (Malo 1919-1920, translated in Maly 1996:25)  |


| Practice  | Resource(s)  | Location            | Information   | Source   |
|---|--------------|---------------------|---|--|
| Beliefs<br>Spirituality<br>Ahupua'a<br>Management | Kapu<br>laws | Keauhou Ahupua'a    | "Keauhou i ka 'ihi kapu. Keauhou, where strict kapu were observed. Keauhou, Kona. This was the place where many of the highest chiefs resided and where Kamehameha III was born."   | Pukui 1983:181, 'Ōlelo No'eau #1682  |
| Beliefs<br>Hana no'eau<br>Forestry                | Kauila       | Kona Moku<br>Kailua | In a mo'olelo discussed, Keleikini uses a cap of lashed kauila wood to plug a blowhole at the coast that is salting out valuable and scarce coastal fields and causing them to "dry out". Kauila, a Hawaiian hardwood that is difficult to cut through because of its density must have been a somewhat common resource in the uplands if Keleikini was able to use it at the coast to plug a blowhole. It is rare now. | From Kihe 1923:2, translated by The Institute of Hawaiian Language Research Team, 'Ike Wai |
| Ho'okupu<br>Wahi pana<br>Ahupua'a<br>Management   | Pu'u         | Kahalu'u Ahupua'a   | "All of the offerings of the wealth of the land were gathered at one site and presented to Kepaka'ili'ula. The mound of offerings was so great that it looked as if a hill had been formed. To this day, the site where the offerings were gathered is called Pu'u which is above the place named for Keolonāhihi."   | from the mo'olelo of Kepaka'ili'ula, (Malo 1919-1920, translated in Maly 1996:25)          |



**2) What is the extent to which those resources – including traditional and customary native Hawaiian rights – will be affected or impaired by the proposed action?**

*For inclusion in this FEA, consultation sections were redacted per Nohopapa's informed consent obligation to honor and respect consultees' Intellectual Property Rights*





**3) What feasible action(s), if any, should be taken to reasonably protect any identified cultural, historical, or natural resources, and exercise of traditional and customary native Hawaiian rights in the affected area**

*For inclusion in this FEA, consultation sections were redacted per Nohopapa's informed consent obligation to honor and respect consultees' Intellectual Property Rights*



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## **APPENDIX F**

Pre-Assessment Consultation

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January 7, 2020  
2018.70.0500 / 21P-102ADDRESSEE  
AGENCY  
ADDRESS  
CITY STATE ZIP

**Pre-Consultation for an Environmental Assessment  
Proposed DHHL Kona Wells Project – Gianulias Property  
Tax Map Key: TMK: [3] 7-5-014:001  
Hōlualoa, Hawai‘i Island, Hawai‘i**

On behalf of the Department of Hawaiian Homelands (DHHL) we wish to inform you that DHHL is proposing to develop a new potable water source on a privately-owned site in Hōlualoa, Hawai‘i Island. The purpose of this project is to provide a sufficient water source for future homestead development and community uses on DHHL’s lands in the Kealakehe-La‘i’ Ōpua region located approximately six miles to the north on DHHL land in Kealakehe. The project site will be located on an approximately three-acre portion of a larger 129-acre site (TMK: [3] 7-5-014:001) mauka of Māmalahoa Highway currently used for growing coffee trees.

The project is proposed to be constructed in two phases. In the first phase, DHHL will drill an exploratory water well at the project site. If the testing of water quality and quantity are satisfactory, DHHL will proceed to the second phase to develop two permanent wells, a two-million-gallon storage tank, a control building and new 16-transmission line that would connect the well facilities to the County DWS pipeline. DHHL may also widen the private access road within project site to facilitate the construction and operation of this new facility.

DHHL may seek funding from the United States Department of Agriculture (USDA) for the development of this production facility. As such, DHHL will also coordinate with USDA to perform a concurrent environmental review pursuant to the National Environmental Policy Act (NEPA).

Pursuant to Chapter 343, Hawai‘i Revised Statutes, an Environmental Assessment (EA) will be prepared for this project and subsequently made available for public review. If you wish to provide preliminary input on the project at this time or be a consulted party while the EA is being prepared, please review the attached maps and submit your written comments to the address below by November 19, 2021. Comments received during this period will be considered in the preparation of the Draft EA. When the Draft EA is complete, a copy will be sent to you for further review and input.

Mr. Paul J. Conry  
October 20, 2021 / 21P-102  
Page 2

We thank you for your interest and participation in this project. If you have any questions, please contact the undersigned at 521-5361 or by email at [mkodama@bowersandkubota.com](mailto:mkodama@bowersandkubota.com)

Sincerely yours,

BOWERS + KUBOTA CONSULTING

A handwritten signature in black ink, appearing to read "Matthew Kodama". The signature is fluid and cursive, with a large initial "M" and a stylized "K".

Matthew Kodama  
Project Manager

MK/RA:kc

Enclosures:

1. Figure 1: Location Map
2. Figure 2: Example Site Plan

RECEIVED  
DAVID Y. IGE  
GOVERNOR OF HAWAII

2020 MAR -4 PM 2:34

BELT COLLINS HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
**COMMISSION ON WATER RESOURCE MANAGEMENT**  
P.O. BOX 621  
HONOLULU, HAWAII 96809

SUZANNE D. CASE  
CHAIRPERSON

BRUCE S. ANDERSON, PH.D.  
KAMANA BEAMER, PH.D.  
MICHAEL G. BUCK  
NEIL J. HANNAHS  
WAYNE K. KATAYAMA  
PAUL J. MEYER

M. KALEO MANUEL  
DEPUTY DIRECTOR

March 2, 2020

REF: RFD.5309.8

TO: Mr. Allen Kam, Senior Project Manager  
Belt Collins Hawaii LLC

FROM: M. Kaleo Manuel, Deputy Director *M. Manuel*  
Commission on Water Resource Management

SUBJECT: Pre-Consultation for an Environmental Assessment Proposed DHHL Kona Wells Project -  
Gianulias Property

FILE NO.: RFD.5309.8  
TMK NO.: (3) 7-5-014:001

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at <http://dlnr.hawaii.gov/cwrm>.

Our comments related to water resources are checked off below.

1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at <http://www.usgbc.org/leed>. A listing of fixtures certified by the EPA as having high water efficiency can be found at <http://www.epa.gov/watersense>.
5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at <http://planning.hawaii.gov/czm/initiatives/low-impact-development/>
6. We recommend the use of alternative water sources, wherever practicable.
7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at <http://energy.hawaii.gov/green-business-program>.
8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at

- [http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH\\_Irrigation\\_Conservation\\_BMPs.pdf](http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf).
- 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
  - 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.
  - 11. A Well Construction Permit(s) is (are) are required before the commencement of any well construction work.
  - 12. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
  - 13. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
  - 14. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
  - 15. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a stream channel.
  - 16. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.
  - 17. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
  - 18. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

- OTHER: Planning - On August 17, 2015, the Commission approved a reservation of water for the Department of Hawaiian Home Lands (DHHL) for 3.398 million gallons per day of ground water from the Keauhou Aquifer System Area, based on DHHL land holdings totaling 1,510 acres. The proposed well is located in the Keauhou Aquifer System Area and is one of four new proposed water supply wells to meet the foreseeable future development of DHHL lands.

The State Water Code provides water reservations pursuant to Section 174C-49(d) HRS. The water reservation will be documented in the Water Resource Protection Plan (WRPP) and is consistent with the State's long-range Hawaii Water Plan.

The proposed well is approximately 1,500 feet south of the Hawa'ii Department of Water Supply's high-level Waiaha Well 3857-004, which has a water level of approximately 60 ft above mean sea level and extremely freshwater (6-10 mg/l chlorides). If the opportunity presents itself, 3857-004 should be used as a monitor well during pump tests for this new DHHL well.

Also, this new well source is located south of the Keahuolu Queen Liliokalani Trust Well 4057-001 that makes it consistent with the draft Keauhou Water Use and Development Plan.

If you have any questions, please contact Lenore Ohye of the Planning Branch at 587-0216 or W. Roy Hardy of the Regulation Branch at 587-0225.



RECEIVED  
COMMISSION ON WATER  
RESOURCE MANAGEMENT  
2020 JAN -9 PM 1:18

January 7, 2020  
2018-70-0500 / 19P-068

Mr. M. Manuel  
Deputy Director  
Department of Land and Natural Resources  
Commission on Water Resource Management  
1151 Punchbowl Street, Room 227  
Honolulu, HI 96813

Dear Mr. Manuel,

**Pre-Consultation for an Environmental Assessment  
Proposed DHHL Kona Wells Project – Gianulias Property  
Tax Map Key: TMK: [3] 7-5-014:001  
Hōlualoa, Hawai‘i Island, Hawai‘i**

On behalf of the Department of Hawaiian Homelands (DHHL) we wish to inform you that DHHL is proposing to develop a new potable water source on a privately-owned site in Hōlualoa, Hawai‘i Island. The purpose of this project is to provide a sufficient water source for future homestead development and community uses on DHHL’s lands in the Kealakehe-La‘i-Ōpua region located approximately six miles to the north on DHHL land in Kealakehe. The project site is located on an approximately three-acre portion of a larger 129-acre site (TMK: [3] 7-5-014:001) mauka of Māmalahoa Highway currently used for growing coffee trees.

The project is proposed to be constructed in two phases. In the first phase, DHHL will drill an exploratory water well at the project site. If the testing of water quality and quantity are satisfactory, DHHL will proceed to the second phase to develop a well field and associated production facilities to agreed upon standards with the County and dedicate the improvements to the County for long-term operation and maintenance. In addition to well construction, DHHL also anticipates construction of an on-site storage tank possibly up to two-million gallons in size, a control building, and 16-inch transmission line that would connect the well field facilities to the County DWS pipeline. DHHL may also widen the access road off of Māmalahoa Highway to facilitate the construction and operation of this new facility.

DHHL may seek funding from the United States Department of Agriculture (USDA) for the development of this production facility. As such, DHHL will also coordinate with USDA to perform a concurrent environmental review pursuant to the National Environmental Policy Act (NEPA).

|          |            |
|----------|------------|
| FILE ID: | RFD.5309.8 |
| DOC ID:  | 22116 ✓    |



Pursuant to Chapter 343, Hawai'i Revised Statutes, an Environmental Assessment (EA) will be prepared for this project and subsequently made available for public review. If you wish to provide preliminary input on the project at this time or be a consulted party while the EA is being prepared, please review the attached maps and submit your written comments to the address below by March 9, 2020. Comments received during this period will be considered in the preparation of the Draft EA. When the Draft EA is complete, a copy will be sent to you for further review and input.

We thank you for your interest and participation in this project. If you have any questions, please contact the undersigned at 521-5361 or by email at [akam@bchdesign.com](mailto:akam@bchdesign.com).

Sincerely yours,

BELT COLLINS HAWAII LLC



Allen Kam  
Senior Project Manager

AK:hp

Enclosures:

1. Figure 1: Location Map
2. Figure 2: Preliminary Site Plan

cc: Mr. Andrew Choy – DHHL



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard  
Honolulu, Hawaii 96850



In Reply Refer To:  
01EPIF00-2020-TA-0134

January 27, 2020

Mr. Allen Kam  
Senior Project Manager  
Belt Collings Hawaii LLC  
2153 North King Street, Suite 200  
Honolulu, Hawaii 96819

**Subject:** Technical Assistance for the Pre-Consultation for an Environmental Assessment for the Proposed Department of Hawaiian Homelands (DHHL) Kona Wells Project in Holualoa, Island and County of Hawaii

Dear Mr. Allen Kam:

The U.S. Fish and Wildlife Service (Service) received your correspondence on January 9, 2020, requesting technical assistance for the Pre-Consultation for an Environmental Assessment for the proposed DHHL Kona Wells Project located in Holualoa. The Service offers the following comments to assist you in your planning process so that impacts to trust resources can be avoided through site preparation, construction, and operation. Our comments are provided under the authorities of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C 1531 *et seq.*).

## **Project Description**

The DHHL is proposing to develop a new potable water source on a privately-owned site (Gianulias Property) in Holualoa. The purpose of the project is to provide a sufficient water source for future homestead development and community uses on DHHL lands in Kealakehe-Laiopua region. The site is on an approximately three-acre portion of a larger 129-acre site mauka of Mamalahoa highway that is currently used for growing coffee trees.

There are two phases to the project. In the first phase, DHHL will drill and exploratory water well at the site, if the testing of water quality and quantity are satisfactory, DHHL will proceed with phase two. In phase two, a well field will be developed and associated production facilities to agreed upon standards with the County as well as improvements for long-term operation and maintenance. DHHL anticipates the construction of an on-site covered storage tank, possibly up to two-million gallons in size, a control building, and a 16-inche transmission line that would connect the well field to the County's Department of Water Supply pipeline. DHHL may also widen the access road off of Mamalahoa highway to facilitate the construction of this project. Based on information you provided in the Use Permit Application and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Project, there are

four listed animal species in the immediate vicinity of the project area: the federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), Hawaiian petrel (*Pterodroma sandwichensis*), band-rumped storm-petrel (*Oceanodroma castro*), and the threatened Newell's shearwater (*Puffinus auricularis newelli*). The State-listed Hawaiian hawk (*Buteo solitarius*) may also occur within the project area.

The Service recommends the following measures to avoid and minimize project impacts to the following listed species:

### **Hawaiian hoary bat**

The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. Additionally, Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project description:

- Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat birthing and pup rearing season (June 1 through September 15).
- Do not use barbed wire for fencing.

### **Hawaiian petrel, Newell's shearwater, and band-rumped storm petrel**

Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable.

To avoid and minimize potential project impacts to seabirds we recommend you incorporate the following applicable measures into your project description:

- Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

### **Hawaiian hawk**

The Hawaiian hawk, which was recently removed from the federal list of threatened and endangered species, continues to be State-listed as endangered under HRS 195-D. The Hawaiian

hawk is known to occur across a broad range of forest habitats throughout the Island of Hawaii. Loud, irregular and unpredictable activities, such as using heavy equipment or building a structure, near an endangered Hawaiian hawk nest may cause nest failure. Harassment of Hawaiian hawk nesting sites can alter feeding and breeding patterns or result in nest or chick abandonment. Nest disturbance can also increase exposure of chicks and juveniles to inclement weather or predators.

To avoid and minimize impacts to Hawaiian hawks we recommend you incorporate the following applicable measures into your project description:

- If work must be conducted during the March 1 through September 30 Hawaiian hawk breeding season, have a biologist familiar with the species conduct a nest search of the project footprint and surrounding areas immediately prior to the start of construction activities.
  - Pre-disturbance surveys for Hawaiian hawks are only valid for 14 days. If disturbance for the specific location does not occur within 14 days of the survey, conduct another survey.
- No clearing of vegetation or construction activities should occur within 1,600 feet of any active Hawaiian hawk nest during the breeding season until the young have fledged.
- Regardless of the time of year, no trimming or cutting trees containing a hawk nest, as nests may be re-used during consecutive breeding seasons.

### **Biosecurity and Invasive Species**

Please see the attached Biosecurity Protocols to prevent the introduction and spread of harmful invasive species on the island of Hawaii. We encourage you to incorporate these measures into your project plans to avoid impacts to listed species.

If this potential project should receive federal funding, federal permits, or any federal authorization, it will require a Section 7 consultation with the Service. The Service only conducts Section 7 consultations with the federal action agency or their designated representative.

Thank you for participating with us in the protection of our endangered species. If you have any further questions or concerns regarding this consultation, please contact Eldridge Naboia, Fish and Wildlife Biologist, 808-933-6964, e-mail: [eldridge\\_naboia@fws.gov](mailto:eldridge_naboia@fws.gov). When referring to this project, please include this reference numbers: **01EPIF00-2020-TA-0134**.

Sincerely,

Michelle Bogardus  
Island Team Manager  
Maui Nui and Hawaii Island

## BIOSECURITY PROTOCOL – HAWAII ISLAND (JULY 2018)

The following biosecurity protocol (based on National Park Service, State of Hawaii, U.S. Fish and Wildlife, U.S. Geological Survey, and the DOI Office of Native Hawaiian Relations guidance) should be followed when operating on Hawaii Island to prevent the introduction of harmful invasive species including frogs, ants, weeds, and fungi into local natural areas (e.g., Hawaii Volcanoes National Park, Hakalau Forest National Wildlife Refuge, State of Hawaii “Natural Areas”) and areas with native habitat (habitat that is primarily composed of native vegetation), other islands in Hawaiian archipelago, or the U.S. mainland. The protocol also includes suggestions for keeping field staff safe from certain invasive species.

### **1. All work vehicles, machinery, and equipment should be cleaned, inspected by its user, and found free of mud, dirt, debris and invasive species prior to entry into the natural areas or native habitat.**

a. Vehicles, machinery, and equipment must be thoroughly pressure washed in a designated cleaning area and visibly free of mud, dirt, plant debris, insects, frogs (including frog eggs) and other vertebrate species such as rats, mice and non-vegetative debris. A hot water wash is preferred. Areas of particular concern include bumpers, grills, hood compartments, areas under the battery, wheel wells, undercarriage, cabs, and truck beds (truck beds with accumulated material (intentionally placed or fallen from trees) are prime sites for hitchhikers).

b. The interior and exterior of vehicles, machinery, and equipment must be free of rubbish and food. The interiors of vehicles and the cabs of machinery must be vacuumed clean. Floor mats shall be sanitized with a solution of >70% isopropyl alcohol or a freshly mixed 10% bleach solution.

c. Any machinery, vehicles, equipment, or other supplies found to be infested with ants (or other invasive species) must not enter natural areas or native habitat. Treatment is the responsibility of the equipment or vehicle owner and operator.

### **2. Little Fire Ants – All work vehicles, machinery, and equipment should be inspected for invasive ants prior to entering the natural areas or native habitat.**

a. A visual inspection for little fire ants should be conducted prior to entry into natural areas or native habitat.

b. Hygiene is paramount but even the cleanest vehicle can pick up a little fire ant. Place MaxForce Complete Brand Granular Insect Bait (1.0% Hydramethylnon; <http://littlefireants.com/Maxforce%20Complete.pdf>) into refillable tamper resistant bait stations. An example of a commercially available refillable tamper resistant bait station is the [Ant Café Pro \(https://www.antcafe.com/\)](https://www.antcafe.com/). Place a bait station (or stations) in vehicle. Note larger vehicles, such as trucks, may require multiple stations. Monitor bait stations frequently (every week at a minimum) and replace bait as needed. If the station does not have a sticker to identify the contents, apply a sticker listing contents to the station.

c. Any machinery, vehicles, equipment, or other supplies found to be infested with ants (or other invasive species) must not enter natural areas or native habitat until it is sanitized and re-tested following a resting period. Infested vehicles must be sanitized following recommendations by the Hawaii Ant Lab (<http://www.littlefireants.com/>) or other ant control expert and in accordance

with all State and Federal laws. Treatment is the responsibility of the equipment or vehicle owner.

d. Gravel, building materials, or other equipment such as portable buildings should be baited using MaxForce Complete Brand Granular Insect Bait (1.0% Hydramethylnon; <http://littlefireants.com/Maxforce%20Complete.pdf>) or AmdroPro (0.73% Hydramethylnon; <http://littlefireants.com/Amdro%20Pro.pdf>) following label guidance.

e. Storage areas that hold field tools, especially tents, tarps, and clothing should be baited using MaxForce Complete Brand Granular Insect Bait (1.0% Hydramethylnon; <http://littlefireants.com/Maxforce%20Complete.pdf>) or AmdroPro (0.73% Hydramethylnon; <http://littlefireants.com/Amdro%20Pro.pdf>) following label guidance.

### **3. Base yards and staging areas inside and outside areas must be kept free of invasive species.**

a. Base yards and staging areas should be inspected at least weekly for invasive species and any found invasive removed immediately. Pay particular attention to where vehicles are parked overnight, keeping areas within 10-meters of vehicles free of debris. Parking on pavement and not under trees, while not always practical is best.

b. Project vehicles or equipment stored outside of a base yard or staging area, such as a private residence, should be kept in a pest free area.

### **4. All cutting tools must be sanitized to prevent the Rapid Ohia Death (ROD) fungus.**

a. Avoid wounding ohia trees and roots with mowers, chainsaws, weed eaters, and other tools. Cut only the minimum amount of trees and branches as approved for the project.

b. All cutting tools, including machetes, chainsaws, and loppers must be sanitized to remove visible dirt and other contaminants prior to entry into natural areas or areas with native habitat, and when moving to a new project area within the native habitat area. Tools may be sanitized using a solution of >70% isopropyl alcohol or a freshly mixed 10% bleach solution. One minute after sanitizing, you may apply an oil based lubricant to chainsaw chains or other metallic parts to prevent corrosion.

c. Only dedicated tools and chainsaws should be used to sample known or suspected ROD infected trees.

d. Vehicles, machinery, and equipment must be cleaned as described in (1) above.

### **5. Imported firewood, logs, and ohia parts:**

a. Ohia firewood, ohia logs, and ohia parts should not be transported.

### **6. For individuals working in the field:**

a. **Before going into the field**, visually inspect and clean your clothes, boots, pack, radio harness, tools and other personal gear and equipment, for seeds, soil, plant parts, insects, and other debris. A small brush is handy for cleaning boots, equipment and gear. Soles of shoes should be sanitized using a solution of >70% isopropyl alcohol or a freshly mixed 10% bleach solution.

b. **Immediately before leaving the field**, visually inspect and clean your clothes, boots, pack, radio harness, tools, and other personnel gear and equipment, for seeds, soil, plant parts, insects, and other debris. Soles of shoes should be sanitized using a solution of >70% isopropyl alcohol or a freshly mixed 10% bleach solution.

c. **Little fire ants nest in trees.** If you are under a tree and that tree is bumped or somehow stressed, the threat response of the ants is to fall from the leaves and sting the person under the tree. If you are subject to an ant attack, do not panic. The ants are extremely small but their stings are painful so make sure you remove all ants from your body and clothing. The stings cause inch long welts that are itchy and painful, and can last for weeks. Treat stings as you would other insect stings. In some persons stings can produce life threatening reactions. Stocking antihistamine in the first aid kit is a reasonable precaution.

d. **Rat Lungworm disease** is caused by a parasite that can infect humans who consume raw or undercooked infected snails or slugs or consume raw produce that contains a small infected snail or slug. Infection is rare but can be serious. Symptoms can include severe headache, neck stiffness, low grade fever, nausea, and vomiting anywhere from 1-6 weeks after exposure. The disease is not spread person to person. Anyone who handles snails or slugs should wear gloves and/or wash hands. Eating unwashed produce is discouraged.

DAVID Y. IGE  
GOVERNOR

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2020 JAN 20 AM 11:50

BELT COLLINS HAWAII



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

JADE T. BUTAY  
DIRECTOR

Deputy Directors  
LYNN A.S. ARAKI-REGAN  
DEREK J. CHOW  
ROSS M. HIGASHI  
EDWIN H. SNIFFEN

IN REPLY REFER TO:  
DIR 0025  
STP 8.2834

January 21, 2020

Mr. Allen Kam  
Senior Project Manager  
Belt Collins Hawaii LLC  
2153 North King Street, Suite 200  
Honolulu, Hawaii 96819

Dear Mr. Kam:

Subject: Pre-Consultation for an Environmental Assessment  
Proposed Department of Hawaiian Homelands (DHHL) Kona Wells Project –  
Gianulias Property  
Holualoa, Hawaii  
Tax Map Key: (3) 7-5-014:001

The Hawaii Department of Transportation (HDOT) understands that DHHL is proposing to develop a new potable water source in Holualoa, Hawaii Island. The proposed project is to provide a sufficient water source for future homestead development and community uses on DHHL lands in the Kealakehe-LaiOpua region.

Based on the project description and location, the project does not appear to have any significant impacts to State highway facilities. HDOT has no comments to provide at this time.

If there are any questions, please contact Mr. Blayne Nikaido of the HDOT Statewide Transportation Planning Office at (808) 831-7979 or via email at [blayne.h.nikaido@hawaii.gov](mailto:blayne.h.nikaido@hawaii.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Jade T. Butay".

JADE T. BUTAY  
Director of Transportation



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2020 JAN 30 PM 1:10

CUST 3-3-1  
H-W/G

BELT COLLINS HAWAII

January 24, 2020

Mr. Allen Kam  
Senior Project Manager  
Belt Collins Hawai'i LLC  
2153 North King Street, Suite 200  
Honolulu, HI 96819-4554

Gentlemen:

Subject: Pre-Consultation for an Environmental Assessment  
Proposed DHHL Kona Wells Project – Gianulias Property  
Hōlualoa, North Kona, Hawai'i Island, Hawai'i  
Tax Map Key: 3-7-5-014:001

Thank you for the opportunity to comment on the subject's Pre-Consultation Environmental Assessment (EA). Hawaiian Electric will be able to provide electrical service to the proposed development in North Kona. A detailed analysis will be performed after the receipt of the consultant's detailed design drawings and estimated load. The following is a summary of our comments:

1. Generation capacity – As of January 2020, Hawaiian Electric's current system peak load is 192.1MW and our total generation system capability is 242.2MW. Our firm generating reserve margin is 26.1% and may have adequate generation to serve the above.
2. Electrical Substation - The area is served by our existing Keahuolu Substation and a 12,470 volt overhead distribution along Mamalahoa Highway. The capacity of our existing substation may be adequate to serve the anticipated load.
3. Off-Site Electrical Distribution System – The existing off-site 12,470 volt distribution system along Mamalahoa Highway is adequate to serve the proposed project. A new 12,470 volt overhead distribution system will be required between the existing electrical system to the proposed development.
4. On-Site Electrical Distribution System – On-site distribution line extensions and easements may be required on the developer's property to serve the anticipated load.

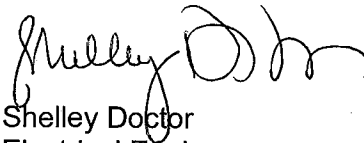
After the development's detailed loading and civil plans are submitted, Hawaiian Electric will prepare a firm cost to provide electrical power to this development.

Belt Collins Hawai'i LLC  
Page 2  
January 24, 2020

Hawaiian Electric recommends energy efficient and conservation measures to reduce the maximum electrical demand and energy consumption. The developer may call Hawaiian Electric's Customer Field Services division at (808) 935-1171 for questions or details on available programs.

It is encouraged that the developer's electrical consultant open a service request with Hawaiian Electric Engineering division as soon as practicable to ensure timely electrical facility installation. If you have any questions, please email me at [shelley.doctor@hawaiianelectric.com](mailto:shelley.doctor@hawaiianelectric.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Shelley Doctor". The signature is written in a cursive style with a large, looped initial "S".

Shelley Doctor  
Electrical Engineer  
Transmission and Distribution Engineering

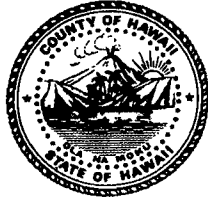
cc: M. Mather via email

Harry Kim  
Mayor

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2020 FEB -6 PM 3:10

BELT COLLINS HAWAII



Paul K. Ferreira  
Police Chief

Kenneth Bugado, Jr.  
Deputy Police Chief

## County of Hawai'i

### POLICE DEPARTMENT

349 Kapi'olani Street • Hilo, Hawai'i 96720-3998  
(808) 935-3311 • Fax (808) 961-2389

January 30, 2020

Mr. Allen Kam  
Senior Project Manager  
Belt Collins Hawaii LLC  
2153 N. King Street, Suite 200  
Honolulu, HI 96819

Dear Mr. Kam:

RE: PRE-CONSULTATION FOR AN ENVIRONMENTAL ASSESSMENT  
PROPOSED DHHL KONA WELLS PROJECT - GIANULIAS PROPERTY  
TAX MAP KEY: TMK: [3] 7-5-014:001  
HOLUALOA, HAWAII ISLAND, HAWAII


This is in response to your letter dated January 7, 2020, requesting comments related to your project.

Thank you for allowing the Hawai'i Police Department the opportunity to participate. At this time, the Hawai'i Police Department has no comments.

Should you have any questions, please contact Captain Gilbert Gaspar Jr., Commander of the Kona District, at (808) 326-4646, extension 299.

Sincerely,

PAUL K. FERREIRA  
POLICE CHIEF

  
ROBERT WAGNER  
ASSISTANT POLICE CHIEF  
AREA II OPERATIONS

GG/jaj  
20HQ0028

## Allen Kam

---

**From:** Zimpfer, Jeff <jeff\_zimpfer@nps.gov>  
**Sent:** Friday, January 24, 2020 3:01 PM  
**To:** Allen Kam  
**Subject:** NPS comments on a proposed DHHL Kona Well

Aloha Mr. Kam,

Thank for the opportunity to comment for the pre-consultation for an Environmental Assessment for a proposed Department of Hawaiian Home Lands Kona Well Project - Gianulias Property Tax Map Key: TMK: [3] 7-5-014:001, Holualoa, on Hawai'i Island.

Based on the most recent USGS model, we do not believe that withdrawals from the proposed well will impair cultural and natural resources in Kaloko-Honokōhau National Historical Park. The proposed location for the well is within the area identified by the County of Hawai'i Department of Water Supply for future well development. Thus, the proposed location is consistent with our understanding of the intent of the Keauhou update to the Hawai'i County Water Use and Development Plan. This plan is awaiting approval from Hawai'i County Council and the State of Hawai'i Commission on Water Resource Management.

We have no further comments at this time.

Sincerely,

~Jeff

Jeff Zimpfer, Ph.D.  
National Park Service  
Environmental Protection Specialist  
Kaloko-Honokōhau National Historical Park  
73-4786 Kanalani St., #14  
Kailua Kona, HI 96740  
ph: 808-329-6881 x1500  
fax: 808-329-2597  
[jeff\\_zimpfer@nps.gov](mailto:jeff_zimpfer@nps.gov)  
<http://www.nps.gov/kaho/index.htm>

**The National Park Service cares for special places saved by the American people so that all may experience our heritage**

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## **APPENDIX G**

Draft EA Comments

## Draft Environmental Assessment Comments and Responses

| # | Agency/Organization/<br>Individual | Date<br>Received | Comments Received   | Response  |
|---|------------------------------------|------------------|---|---|
| 1 | Dave Lucas, Koa Realty             | 1/28/2025        | <p>Aloha</p> <p>In the Environmental Assessment filed January 14, 2025 there is a rather large error in the published map.</p> <p>I have attached the correct project location map from the Hawaii County online parcel locator. This is the link. Note in your assessment you have the property straddling the Mamalahoa Hwy. when in fact it is entirely mauka of the Mamalahoa Hwy. This is the County link. I have attached maps.</p> <p>Mahalo,</p> <p>Dave Lucas, PB<br/>Koa Realty, Inc<br/>76-5909 Mamalahoa Hwy.<br/>Holualoa HI 96725</p> | <p>Aloha Mr. Lucas,</p> <p>Thank you for catching this. It appears to be a graphics error on our end – the boundary in Figure 1-1 is projected incorrectly, as you’ve noted. After reviewing the other figures, it looks like only Figure 1-1 was projected incorrectly.</p> <p>Your comment will be documented in the Final EA and the Figure 1-1 project location map will be revised to show the correct location mauka of Māmalahoa Hwy.</p> <p>Thank you again for your comment.</p> |
| 2 | Lois Modesitt                      | 1/28/2025        | <p>The "Figure 1-1: Project Location Map" shows an inaccurate location of the project location denoted by the red lines. The figure shows the TMK stretching across the Mamalahoa highway when in fact the TMK is all mauka of Mamalahoa highway. The red line also shown in Figure 1-1 is north of the actual TMK 750140010000.</p> <p>Mahalo,<br/>Lois Modesitt</p>   | <p>Aloha Ms. Modesitt,</p> <p>Thank you for catching this. It appears to be a graphics error on our end – the boundary in Figure 1-1 is projected incorrectly, as you’ve noted.</p> <p>Your comment will be documented in the Final EA and the Figure 1-1 project location map will be revised to show the correct location mauka of Māmalahoa Hwy.</p> <p>Thank you again for your comment.</p>  |

## Draft Environmental Assessment Comments and Responses

| # | Agency/Organization/<br>Individual                         | Date<br>Received | Comments Received   | Response  |
|---|--|------------------|---|---|
| 3 | Hawai'i State<br>Department of Health,<br>Clean Air Branch | 2/7/2025         | <p>To Malachi Krishok,<br/>Bowers + Kubota consulting, Inc.,</p> <p>Thank you for allowing us to review the DHL North Kona Wells Project – Gianulias Well Site published in the January 23rd edition of TENs. Please go to the Clean Air Branch (CAB) website to download and utilize our Standard Comments for Land Use Reviews. The link is included below.</p> <p><a href="#">Clean Air Branch   Standard Comments for Land Use Reviews</a></p> <p>Katt Marshall<br/>Planner I   Clean Air Branch   Planning &amp;<br/>Administrative Support Staff (PASS)<br/>Hawai'i State Department of Health   Ka 'Oihana<br/>Olakino<br/>2827 Waimano Home Road #139   Pearl City, Hawaii<br/>96782<br/>Office: (808) 586-4200</p> | <p>Aloha Ms. Marshall,</p> <p>Thank you for your email providing comments on the Draft Environmental Assessment (DEA) for the Department of Hawaiian Home Lands North Kona Wells - Gianulias Well Site project. We acknowledge that Hawaii Department of Health, Clean Air Branch would like to provide comments per the "Standard Comments for Land Use Reviews Clean Air Branch Hawaii State Department of Health" document dated July 3, 2024 as provided via weblink.</p> <p>The project will implement mitigation measures to address the potential temporary impacts to air quality during construction including emission of fugitive dust and air pollutants. This mitigation is included in section 3.9 of the EA and states that construction activities will implement Best Management Practices (BMPs) in accordance with HAR §11-60.1, Air Pollution Control.</p> <p>If you have any further questions or comments, please contact me by email at <a href="mailto:mkrishok@bowersandkubota.com">mkrishok@bowersandkubota.com</a>, or by phone at (808) 521-5361.</p> |
| 4 | Hawai'i Police<br>Department                               | 2/13/2025        | Aloha Malachi,  | Aloha Mr. Tanaka,   |



## Draft Environmental Assessment Comments and Responses

| # | Agency/Organization/<br>Individual  | Date<br>Received | Comments Received  | Response  |
|---|---|------------------|--|---|
|   |   |                  | <p>Thank you for the information you provided regarding the project. I wanted to check in and see if there's anything on the Police Department's side that you would need assistance with in relation to this project, or if it was simply for our information. Please let me know how we can support you moving forward.</p> <p>Mahalo,</p> <p>Aaron Tanaka<br/>Acting Administrative Sergeant – Kona Patrol<br/>Hawaii Police Department<br/>74-611 Hale Makai Place<br/>Kailua Kona, HI 96740<br/>Ph: 808-326-4646, ext 249</p>   | <p>Mahalo for your response. The email was for your information only and to notify you that the comment period is open until 2/24. Hawai'i Police Department was also consulted in 2020, prior to the drafting of the EA and had no comments at that time. We just wanted to keep you folks informed throughout the process.</p>  |
| 5 | State of Hawai'i<br>Department of<br>Transportation,<br>Statewide Transportation<br>Planning Office | 2/24/2025        | <p>Thank you for your letter, dated January 24, 2025, requesting the Hawaii Department of Transportation's (HDOT) review and comments on the subject Draft EA. HDOT understands that the DHHL is proposing to develop a new water source to convey water to the residents of the Villages of Lai Opua.</p> <p>The HDOT's position remains the same as stated in our pre-consultation letter STP 8.2834 dated January 21, 2020. Based on the project description and location, the project does not appear to have any significant impacts to State highway facilities. Therefore, the HDOT has no comments.</p> <p>Please submit any subsequent land use entitlement-related requests for review or correspondence</p> | <p>Aloha,</p> <p>Thank you for your email and letter providing comments on the Draft Environmental Assessment (DEA) for the Department of Hawaiian Home Lands North Kona Wells - Gianulias Well Site project. We acknowledge that HDOT has no comments and that the project does not appear to have any significant impacts to State highway facilities.</p> <p>If you have any further questions or comments, please contact me by email at <a href="mailto:mkrishok@bowersandkubota.com">mkrishok@bowersandkubota.com</a>, or by phone at (808) 521-5361.</p> |

## Draft Environmental Assessment Comments and Responses

| # | Agency/Organization/<br>Individual                                       | Date<br>Received | Comments Received   | Response   |
|---|--|------------------|---|--|
|   |  |                  | <p>to the HDOT Land Use Intake email address, DOT.LandUse@hawaii.gov.</p> <p>If there are any questions, please contact Mr. Blayne Nikaido, Planner, Land Use Section of the HDOT Statewide Transportation Planning Office at (808) 831-7979 or via email at <a href="mailto:blayne.h.nikaido@hawaii.gov">blayne.h.nikaido@hawaii.gov</a>.</p>  |  |
| 6 | U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office | 2/28/2025        | <p>Hello Mr. Malachi Krishok,</p> <p>The US Fish and Wildlife Service (Service) has received the draft EA for the DHHL North Kona Wells project. Thank you for including conservation measures to minimize the potential impacts to listed species.</p> <p>The Service has updated how we process technical assistance. The very first step in our updated technical assistance process is to obtain an Official Species List (OSL) in our new Information for Planning and Consultation (IPaC) online tool by accessing this link: <a href="https://ipac.ecosphere.fws.gov/">https://ipac.ecosphere.fws.gov/</a>.</p> <p>Please see the attached pdf with detailed directions on how you obtain an OSL in IPaC.</p> <p>Once you have entered your basic project information, including a map of the project (you can use the map drawing tool or upload a GIS polygon that contains the project area(s)), you will need to formally submit the OSL. A copy will automatically be sent to our office. Each submitted project is assigned a unique Project Code in IPaC. This Project Code</p> | <p>Aloha,</p> <p>Thank you for your email acknowledging receipt of the Draft Environmental Assessment (DEA) for the Department of Hawaiian Home Lands North Kona Wells - Gianulias Well Site project. We acknowledge that USFWS has no further comments and thank you for the information on the updated technical assistance process via IPaC.</p> <p>If you have any further questions or comments, please contact me by email at <a href="mailto:mkrishok@bowersandkubota.com">mkrishok@bowersandkubota.com</a>, or by phone at (808) 521-5361.</p> |

## Draft Environmental Assessment Comments and Responses

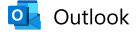
| # | Agency/Organization/<br>Individual | Date<br>Received | Comments Received  | Response |
|---|------------------------------------|------------------|--|----------|
|   |                                    |                  | <p>should be provided to our office with any correspondence relating to a given project.</p> <p>Your IPaC generated OSL will include all federally listed species, critical habitat, migratory birds, and wetland habitat that occurs, or may transit through, the project area(s). Each species on your OSL will have a link directly below it that provides the Service's recommended avoidance and minimization measures (AMMs) for that species.</p> <p>Please note, an Official Species List is valid for only 90 days because the status of a species can change and new occurrences of federally listed species could be found.</p> <p>A few IPAC tips:</p> <ul style="list-style-type: none"> <li>• If you option to upload a polygon for your project area, please include all TMKs/sites in a single polygon. Otherwise, you will get a different project code for every TMK/site. However, if your project spans distinct habitat types, you may want to obtain a separate OSL for each site to better distinguish which species/critical habitat/migratory birds/wetland habitat are present at, or may transit through, each site.</li> <li>• At this time, unless you are a federal agency with a programmatic consultation with us, you can ignore any requests to further your consultation in IPaC and prompts to utilize D Keys. The only thing you need to do is enter your basic project information and submit for an OSL.</li> </ul> |          |

## Draft Environmental Assessment Comments and Responses

| # | Agency/Organization/<br>Individual | Date<br>Received | Comments Received   | Response |
|---|------------------------------------|------------------|---|----------|
|   |                                    |                  | <ul style="list-style-type: none"> <li>• Additional background information on IPaC:               <ul style="list-style-type: none"> <li>○ Your official IPaC species list is based on species' ranges. IPaC generates a list of all federally listed species and other trust resources that are or could potentially be in the project area.</li> <li>○ If your IPaC species list includes a species you do not think occurs in or will transit through the project area, explain why in your consultation letter.</li> <li>○ Implementing surveys is a good way to determine if a species is present or not.</li> <li>○ We recommend our partners incorporate all the species and their associated AMMs in their impacts analysis.</li> <li>○ The AMMS are there to help you avoid and minimize effects to listed species, critical habitat, migratory birds, and wetland habitat. The AMMS can be found using the links below:</li> </ul> </li> </ul> <p><a href="https://www.fws.gov/media/animal-avoidance-and-minimization-measures-may-2023-0">https://www.fws.gov/media/animal-avoidance-and-minimization-measures-may-2023-0</a></p> <p><a href="https://www.fws.gov/media/plant-avoidance-and-minimization-measures-may-2023">https://www.fws.gov/media/plant-avoidance-and-minimization-measures-may-2023</a></p> <p>Please do not hesitate to contact me if you need additional assistance.</p> <p>Deena Gary<br/>Fish and Wildlife Biologist</p> |          |

**Draft Environmental Assessment Comments and Responses**

| # | Agency/Organization/<br>Individual | Date<br>Received | Comments Received  | Response |
|---|------------------------------------|------------------|--|----------|
|   |                                    |                  | Pacific Islands Fish and Wildlife Office<br>300 Ala Moana Boulevard, Room 3-122<br>Honolulu, Hawai'i 96850<br>Phone: 808-460-7709<br>Email: Deena_Gary@fws.gov |          |



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[External] (3) 7-5-014:001; DHHL North Kona Wells Project - Gianulias Well Site;

---

From Dave Lucas <d Lucas@koarealty.com>

Date Tue 1/28/2025 7:31 AM

To lilliane.k.makaila@hawaii.gov <lilliane.k.makaila@hawaii.gov>; Malachi Krishok <mkrishok@bowersandkubota.com>; dbedt.opsd.erp@hawaii.gov <dbedt.opsd.erp@hawaii.gov>

1 attachment (4 KB)

favicon.ico;

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

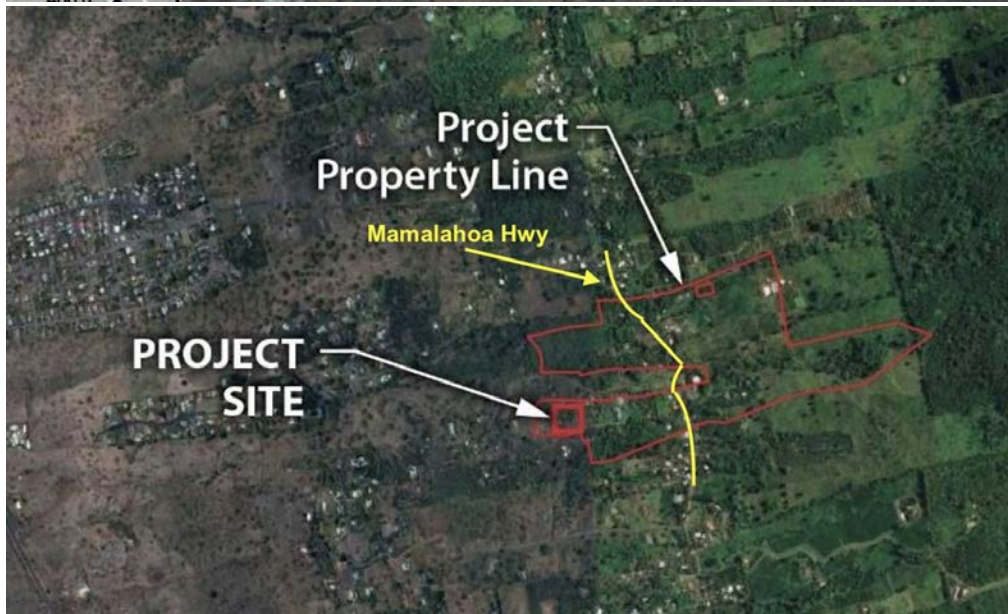
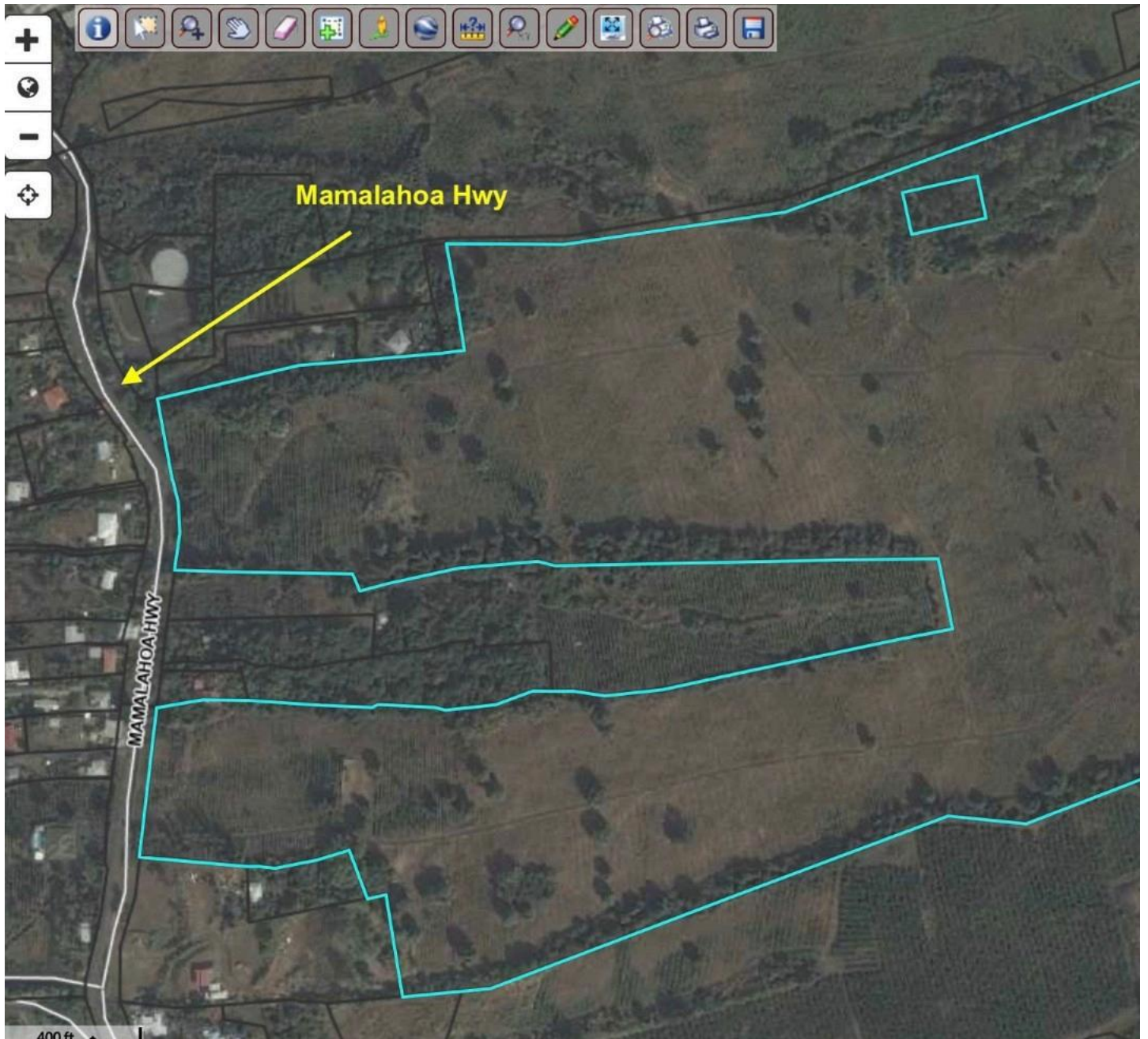
Aloha

In the Environmental Assessment filed January 14, 2025 there is a rather large error in the published map.

I have attached the correct project location map from the Hawaii County online parcel locator. This is the link. Note in your assessment you have the property straddling the Mamalahoa Hwy. when in fact it is entirely mauka of the Mamalahoa Hwy. This is the County link. I have attached maps.

qPublic.net - Hawaii County, HI - Map  
qpublic.schneidercorp.com





Mahalo,

Dave Lucas, PB  
Koa Realty, Inc  
76-5909 Mamalahoa Hwy.  
Holualoa HI 96725

Office : 808.334-1562  
Mobile : 808.989.2760  
dlucas@koarealty.com  
<http://www.koarealty.com/>





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**[External] DHHL North Kona Wells Project - Gianulias Well Site – Draft EA (AFNSI)**

---

**From** Lois Modesitt <loismodesitt@gmail.com>

**Date** Tue 1/28/2025 9:22 PM

**To** Malachi Krishok <mkrishok@bowersandkubota.com>

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

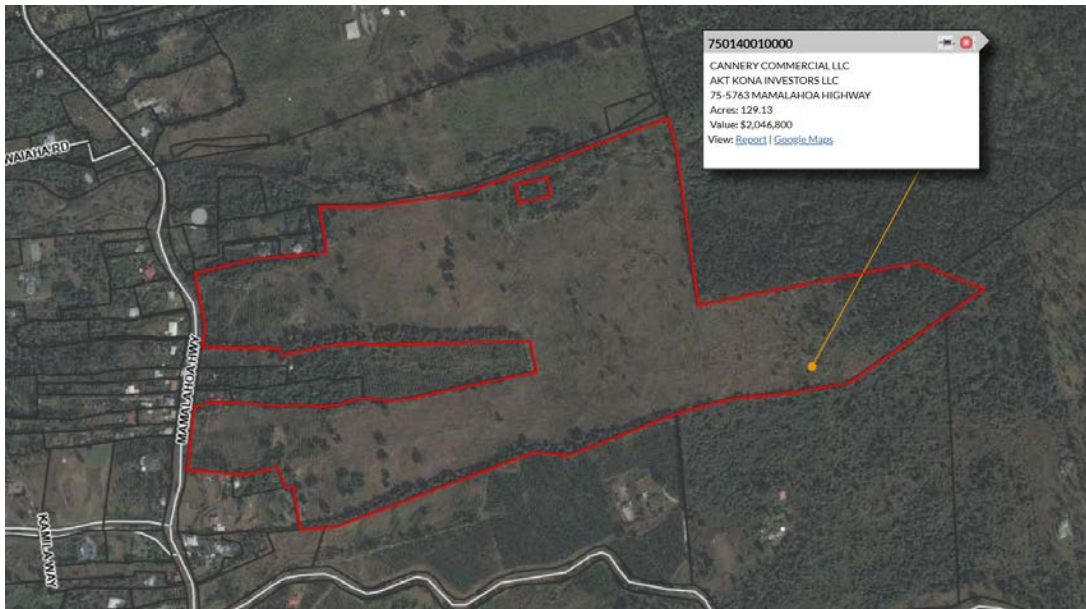
The "Figure 1-1: Project Location Map" shows an inaccurate location of the project location denoted by the red lines. The figure shows the TMK stretching across the Mamalahoa highway when in fact the TMK is all mauka of Mamalahoa highway. The red line also shown in Figure 1-1 is north of the actual TMK 750140010000 .

Here is Figure 1-1 showing the inaccurate location of the TMK:



The following is the correct location of the TMK 750140010000 from the property tax database:

<https://qpublic.schneidercorp.com/Application.aspx?AppID=1048&LayerID=23618&PageTypeID=1&PageID=9875&Q=1015549731&KeyValue=750140010000>



Mahalo,  
Lois Modesitt



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**[External] CAB Comments: DHL North Kona Wells Project – Gianulias Well Site**

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**From** DOH.CABPASS <DOH.CABPASS@doh.hawaii.gov>  
**Date** Fri 2/7/2025 3:30 PM  
**To** Malachi Krishok <mkrishok@bowersandkubota.com>

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

To Malachi Krishok,  
Bowers + Kubota consulting, Inc.,

Thank you for allowing us to review the DHL North Kona Wells Project – Gianulias Well Site published in the January 23rd edition of TENS. Please go to the Clean Air Branch (CAB) website to download and utilize our Standard Comments for Land Use Reviews. The link is included below.

[Clean Air Branch | Standard Comments for Land Use Reviews](#)

Katt Marshall  
Planner I | Clean Air Branch | Planning & Administrative Support Staff (PASS)  
Hawai'i State Department of Health | Ka 'Oihana Olakino  
2827 Waimano Home Road #139 | Pearl City, Hawaii 96782  
Office: (808) 586-4200

**CONFIDENTIALITY NOTICE:** This mail message (and attachments) is for the sole use of the intended recipient(s). It may contain confidential and/or privileged information. It might also be protected from disclosure under the Hawaii Uniform Information Practice Act (UIPA) or other laws and regulations. Review, use, disclosure, or distribution by unintended recipients is prohibited. If you are not the intended recipient, please contact the sender immediately in a separate e-mail and destroy the original message and any copies.

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This email has been scanned for spam and viruses by Proofpoint Essentials. Click [here](#) to report this email as spam.

**Standard Comments for Land Use Reviews**  
**Clean Air Branch**  
**Hawaii State Department of Health**  
**July 3, 2024**

**All project activities shall comply with Hawaii Administrative Rules (HAR), Chapter 11-59 and 11-60.1.**

**If your proposed project:**

**Requires an Air Pollution Control Permit**

- You must obtain an air pollution control permit from the Clean Air Branch and comply with all applicable conditions and requirements. If you do not know if you need an air pollution control permit, please contact the Permitting Section of the Clean Air Branch.
- Permit application forms can be found here: <https://health.hawaii.gov/cab/permit-application-forms/>

**Has the potential to generate fugitive dust**

- You must reasonably control the generation of all airborne, visible fugitive dust. Note that construction activities that occur near existing residences, businesses, public areas and major thoroughfares exacerbate potential dust concerns. It is recommended that a dust control management plan be developed which identifies and mitigates all activities that may generate airborne, visible fugitive dust. The plan, which does *not* require Department of Health approval, should help you recognize and minimize potential airborne, visible fugitive dust problems.
- Construction activities must comply with the provisions of Hawaii Administrative Rules, §11- 60.1-33 on Fugitive Dust. In addition, for cases involving mixed land use, it is strongly recommended that buffer zones be established, wherever possible, in order to alleviate potential dust concerns.
- You must provide reasonable measures to control airborne, visible fugitive dust from the road areas and during the various phases of construction. These measures include, but are not limited to, the following:
  - Planning the different phases of construction, focusing on minimizing the amount of airborne, visible fugitive dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
  - Providing an adequate water source at the site prior to start-up of construction activities;
  - Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;
  - Minimizing airborne, visible fugitive dust from shoulders and access roads;
  - Providing reasonable dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
  - Controlling airborne, visible fugitive dust from debris being hauled away from the project site.
- If you have questions about fugitive dust, please contact the Enforcement Section of the Clean Air Branch. Please also see fugitive dust fact sheet at: <https://health.hawaii.gov/cab/files/2024/02/Hawaii-Fugitive-Dust-Fact-Sheet-February-2024.pdf>.

**Includes construction, demolition, or renovation activities that involve potential asbestos and lead containing materials**

- Please contact the Indoor and Radiological Health Branch at (808) 586-4700 or visit: <https://health.hawaii.gov/irhb/>

**Increases the population and potential number of vehicles in an area**

- The creation of apartment buildings, complexes, and residential communities may increase the overall population in an area. Increasing the population in an area may inadvertently lead to more air pollution via vehicle exhaust. Vehicle exhaust releases pollutants in the air that can negatively impact human health and air quality, including lung irritants, carcinogens, and greenhouse gases.
- Ensure that drivers keep vehicle idling times to three (3) minutes or less.
- Consider and incorporate support for alternative transportation options such as bike racks and/or electric vehicle charging stations where possible.

If you have any questions, please contact the Clean Air Branch at (808) 586-4200 or at [cab@doh.hawaii.gov](mailto:cab@doh.hawaii.gov).



Outlook

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**FW: [External] DHHL, DHHL North Kona Wells Project – Gianulias Well Site, Draft EA-AFONSI**

---

**From** Tanaka, Aaron <Aaron.Tanaka@hawaiicounty.gov>

**Date** Thu 2/13/2025 12:20 PM

**To** Malachi Krishok <mkrishok@bowersandkubota.com>

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

Aloha Malachi,

Thank you for the information you provided regarding the project. I wanted to check in and see if there's anything on the Police Department's side that you would need assistance with in relation to this project, or if it was simply for our information. Please let me know how we can support you moving forward.

Mahalo,

**Aaron Tanaka**  
**Acting Administrative Sergeant – Kona Patrol**  
**Hawaii Police Department**  
**74-611 Hale Makai Place**  
**Kailua Kona, HI 96740**  
**Ph: 808-326-4646, ext 249**



Outlook

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**[External] STP 8.3894 Department of Hawaiian Home Lands North Kona Wells Project (25-025).pdf**

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**From** Torres, Natasha P <Natasha.P.Torres@hawaii.gov>

**Date** Mon 2/24/2025 2:45 PM

**To** Malachi Krishok <mkrishok@bowersandkubota.com>

**Cc** Pant, Pradip R <Pradip.R.Pant@hawaii.gov>; Fujioka, Robyn YF <robyn.yf.fujioka@hawaii.gov>; Murata, Masatomo <Masatomo.Murata@hawaii.gov>; Nikaido, Blayne H <blayne.h.nikaido@hawaii.gov>

 1 attachment (167 KB)

STP 8.3894 Department of Hawaiian Home Lands North Kona Wells Project (25-025).pdf;

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

Aloha,

The attached is for your viewing and handling. No hard copy will be transmitted.

Kindly acknowledge receipt of this email.

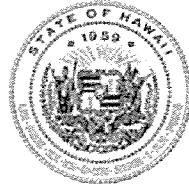
Thank you,

Natasha Torres



**Natasha Torres**  
Administrative Assistant  
Statewide Transportation Planning Office  
200 Rodgers Boulevard  
Honolulu, Hawaii 96819  
**Phone : 808-831-7973**

JOSH GREEN, M.D.  
GOVERNOR  
KE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'  
DEPARTMENT OF TRANSPORTATION | KA 'OIHANA ALAKAU  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

EDWIN H. SNIFFEN  
DIRECTOR  
KA LUNA HO'OKELE

Deputy Directors  
Nā Hope Luna Ho'okele  
DREANALEE K. KALILI  
TAMMY L. LEE  
CURT T. OTAGURO  
ROBIN K. SHISHIDO

IN REPLY REFER TO:

STP 00712.25  
STP 8.3894

February 24, 2025

VIA EMAIL: [mkrishok@bowersandkubota.com](mailto:mkrishok@bowersandkubota.com)

Mr. Malachi Krishok  
Bowers and Kubota Consulting, Inc.  
2153 North King Street, Suite 200  
Honolulu, Hawaii 96819

Dear Mr. Krishok:

Subject: Draft Environmental Assessment (EA)  
Department of Hawaiian Home Lands (DHHL)  
North Kona Wells Project – Gianulias Well Site  
North Kona, Hawaii  
Tax Map Key: (3) 7-5-014: 001

Thank you for your letter, dated January 24, 2025, requesting the Hawaii Department of Transportation's (HDOT) review and comments on the subject Draft EA. HDOT understands that the DHHL is proposing to develop a new water source to convey water to the residents of the Villages of Lai Opuu.

The HDOT's position remains the same as stated in our pre-consultation letter STP 8.2834 dated January 21, 2020. Based on the project description and location, the project does not appear to have any significant impacts to State highway facilities. Therefore, the HDOT has no comments.

Please submit any subsequent land use entitlement-related requests for review or correspondence to the HDOT Land Use Intake email address, [DOT.LandUse@hawaii.gov](mailto:DOT.LandUse@hawaii.gov).

If there are any questions, please contact Mr. Blayne Nikaido, Planner, Land Use Section of the HDOT Statewide Transportation Planning Office at (808) 831-7979 or via email at [blayne.h.nikaido@hawaii.gov](mailto:blayne.h.nikaido@hawaii.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Ed Sniffen".

EDWIN H. SNIFFEN  
Director of Transportation






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**[External] DHHL North Kona Wells draft EA**

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**From** Gary, Deena T <deena\_gary@fws.gov>  
**Date** Fri 2/28/2025 3:46 PM  
**To** Malachi Krishok <mkrishok@bowersandkubota.com>  
**Cc** Javar-Salas, Chelsie <chelsie\_javar-salas@fws.gov>

 1 attachment (31 KB)

How to IPAC template response email\_July 2024.docx;

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe]

Hello Mr. Malachi Krishok,

The US Fish and Wildlife Service (Service) has received the draft EA for the DHHL North Kona Wells project. Thank you for including conservation measures to minimize the potential impacts to listed species.

The Service has updated how we process technical assistance. The very first step in our updated technical assistance process is to obtain an Official Species List (OSL) in our new Information for Planning and Consultation (IPaC) online tool by accessing this link: <https://ipac.ecosphere.fws.gov/>.

Please see the attached pdf with detailed directions on how you obtain an OSL in IPaC.

Once you have entered your basic project information, including a map of the project (you can use the map drawing tool or upload a GIS polygon that contains the project area(s)), you will need to formally submit the OSL. A copy will automatically be sent to our office. Each submitted project is assigned a unique Project Code in IPaC. This Project Code should be provided to our office with any correspondence relating to a given project.

Your IPaC generated OSL will include all federally listed species, critical habitat, migratory birds, and wetland habitat that occurs, or may transit through, the project area(s). Each species on your OSL will have a link directly below it that provides the Service's recommended avoidance and minimization measures (AMMs) for that species.

Please note, an Official Species List is valid for only 90 days because the status of a species can change and new occurrences of federally listed species could be found.

A few IPAC tips:

- If you option to upload a polygon for your project area, please include all TMKs/sites in a single polygon. Otherwise, you will get a different project code for every TMK/site. However, if your project spans distinct habitat types, you may want to obtain a separate OSL for each site to

better distinguish which species/critical habitat/migratory birds/wetland habitat are present at, or may transit through, each site.

- At this time, unless you are a federal agency with a programmatic consultation with us, you can ignore any requests to further your consultation in IPaC and prompts to utilize D Keys. The only thing you need to do is enter your basic project information and submit for an OSL.
- Additional background information on IPaC:
  - Your official IPaC species list is based on species' ranges. IPaC generates a list of all federally listed species and other trust resources that are or could potentially be in the project area.
  - If your IPaC species list includes a species you do not think occurs in or will transit through the project area, explain why in your consultation letter.
  - Implementing surveys is a good way to determine if a species is present or not.
  - We recommend our partners incorporate all the species and their associated AMMs in their impacts analysis.
  - The AMMS are there to help you avoid and minimize effects to listed species, critical habitat, migratory birds, and wetland habitat. The AMMS can be found using the links below:

<https://www.fws.gov/media/animal-avoidance-and-minimization-measures-may-2023-0>

<https://www.fws.gov/media/plant-avoidance-and-minimization-measures-may-2023>

- Please do not hesitate to contact me if you need additional assistance.

Deena Gary  
Fish and Wildlife Biologist  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122  
Honolulu, Hawai'i 96850  
Phone: 808-460-7709  
Email: Deena\_Gary@fws.gov

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS

March 17 - 18

To: Chairman and Members, Hawaiian Homes Commission (HHC)  
Through: Andrew H. Choy, Planning Program Manager  
From: Cherie-Noelle Ka`anana, Water Program Specialist  
Subject: Native Hawaiian Rehabilitation Fund Revenue Update

RECOMMENDED MOTION/ACTION

None; for information only.

DISCUSSION

At the January 2024 Hawaiian Homes Commission (HHC) meeting, Commissioners expressed interest in receiving further information on the Native Hawaiian Rehabilitation Fund (NHRF). A draft report has been produced to expand upon the background of the NHRF and with suggested areas of improvement. This draft report is attached as Exhibit A. This submittal will cover a brief background of the NHRF and an overview of the draft report "Auditing and Advocacy Plan for the Native Hawaiian Rehabilitation Fund (NHRF)."

**I. Background on the Native Hawaiian Rehabilitation Fund**

The Hawaiian Homes Commission Act (HHCA) of 1921 set aside 200,000 acres of land to establish a permanent homeland to protect and improve the lives of native Hawaiians. The HHCA holds the primary mission to "rehabilitate" native Hawaiian beneficiaries by awarding residential, agricultural, or pastoral homestead leases at a rate of \$1.00 per year for 99 years. However, rehabilitation extends beyond just land; it includes economic, social, and cultural well-being. The Native Hawaiian Rehabilitation Fund (NHRF) is a mechanism to support this broader mission.

This arrangement originated in the HHCA as it was passed in 1921, and later codified including in [HSC Art, XII, §1](#). The NHRF provides a wide range of "rehabilitation" programs that

addresses educational, economic, political, social, and cultural opportunities. Development in these areas improves the general welfare and conditions of native Hawaiians.

The NHRF is funded by a 30 percent share of revenues from sugar land leases and water licenses. This is to provide a pool of financial resources that can be dispersed to programs, projects, and services that are deemed necessary for "rehabilitation".

Thirty percent of the state receipts derived from the leasing of cultivated sugarcane lands under any provision of law or from water licenses shall be transferred to the native Hawaiian rehabilitation fund, section 213 of the Hawaiian Homes Commission Act, 1920, for the purposes enumerated in that section. Thirty percent of the state receipts derived from the leasing of lands cultivated as sugarcane lands on the effective date of this section shall continue to be so transferred to the native Hawaiian rehabilitation fund whenever such lands are sold, developed, leased, utilized, transferred, set aside or otherwise disposed of for purposes other than the cultivation of sugarcane. There shall be no ceiling established for the aggregate amount transferred into the native Hawaiian rehabilitation fund. [Ren and am Const Con 1978 and election Nov 7, 1978]

In addition to the NHRF, per HHC Resolution Number 257 adopted on June 21, 2011, a set aside sum of up to 15 percent of the general lease revenues is to be used for the purpose of supplementing the Native Hawaiian Development Program Plan (NHDPP). The NHDPP identifies priority programs and services that should be provided for the next two years. It also determines how the NHRF and the 15 percent set aside will be allocated in the next fiscal biennium to support these priorities.

The NHDPP focuses on two areas of development: 1) Individual Development; and 2) Community Development. NHDPP grants are available to 501(c)(3) nonprofit organizations or nonprofit organizations using a fiscal sponsor with a federal 501(c)(3) tax exemption. Grants may support priority projects identified by homestead communities through the DHHL Regional Planning process or other projects and initiatives for building the organizational capacity of homestead organizations.

**II. DRAFT Auditing and Advocacy Plan  
for the Native Hawaiian Rehabilitation Fund (NHRF)**

Sugar land leasing and water licenses once provided the NHRF with the bulk of its revenues, sustaining NHRF purposes for decades through receipts from state leases for sugar lands and waters uses to irrigate those lands, as well as any other state water leases. However, as documented in previous reports, revenues into the NHRF have declined significantly due in part to the demise of the sugar industry.

Previous reviews of the NHRF entitlements have focused on whether the Department of Land and Natural Resources (DLNR) and DHHL have been complying with the black letter requirements of the Hawaiian Homes Commission Act (HHCA) §213(i) and its corollary in article XII, §1 of the Hawai'i Constitution by ensuring an accurate, uniform inventory of NHRF assets. Recognizing the limitations of previous approaches, the Hawaiian Homes Commission (HHC) approved the development of this strategic recommendations report, also known as the Auditing and Advocacy Plan for NHRF. This report takes a broader look at how the changing conditions of Hawai'i's economy, governance of public trust lands and water resources, and political landscapes call for new advocacy and policy approaches to the NHRF.

The contract to develop the Auditing and Advocacy Plan for NHRF had the following four major Scope of Work Areas: (1) NHRF research; (2) prioritizing NHRF actions; (3) identifying NHRF audit scope; and (4) developing and implementing a NHRF advocacy plan. DHHL issued a notice to proceed on this contract to consultant Jonathan Likeke Scheuer, Ph.D., who worked with sub-consultants Darrell Yagodich and Bianca Isaki, Ph.D., Esq. (consultants).

Documents reviewed include State audits, DHHL audits, submittals to the Board of Land and Natural Resources (BLNR), alternative water pricing research, existing DHHL files, 1978 Constitutional committee reports, attorney general opinions, and the water license inventory in the State Lands Information Management System (SLIMS). Consultants met with the Office of Hawaiian Affairs' public policy and corporation counsel divisions; the DLNR Land Division and Information Technologies, Agricultural Development Corporation (ADC), Department of Agricultural (DOA) staff, and DHHL Land Management Division, Administrative Services, and Fiscal Office staff.

This Auditing and Advocacy Plan for NHRF was developed based on the above work. It identifies programmatic causes of NHRF revenue decline, feasible short-term steps for improvement, and specific actions that could be taken to ensure the long-term sustainability of NHRF revenues.

Chapter 1 of this report provides a historical timeline and overview of the NHRF, including its purpose, legislative origin and amendments, a description of past NHRF inventories, and historical shifts in revenue. Chapter 2 reviews historic audits and previous recommendations for the NHRF, and Chapter 3 provides updates to those previous recommendations, and provides steps to update inventories of NHRF lands. Chapter 4 of this report underscores the potential of expanding water licenses as a means of increasing NHRF revenue. Chapter 5 highlights additional revenue-maximizing opportunities, including water column leases, ocean water sales, and submerged land leasing.

Given the legal bases for DHHL's entitlement to a portion of state water lease revenues, a more assertive stance on securing these funds is necessary. The public trust doctrine further affirms the importance of equitable water resource allocation, strengthening DHHL's claims to a share of these revenues. These innovative approaches align with the shifting economic and environmental landscape of Hawai'i. The expansion of these revenue streams would not only fortify the financial sustainability of NHRF but also support broader initiatives for Native Hawaiian economic self-sufficiency and resource stewardship.

#### RECOMMENDATION

None; for information only.

**DRAFT Auditing and Advocacy Plan  
for the Native Hawaiian Rehabilitation Fund (NHRF)**

**Submitted by  
Jonathan Likeke Scheuer, Kahālawai Consulting LLC**

**For the  
Department of Hawaiian Home Lands  
Under Contract for Professional Services No. 64884, NHRF Strategic Plan**



**Hawaiian Home Lands, Ho'olehua, Moloka'i**

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## **Executive Summary**

In part because Congressional Delegate Jonah Kūhiō Kalanianaʻole had to defend his homesteading proposal against accusations that the program was discriminatory and would be funded by moneys from the pockets of “the white taxpayers of the Territory”<sup>1</sup>, the Hawaiian Homes Commission Act (HHCA) of 1921 was drafted so that the new homesteading program would be funded in part by receipts from lands and water used to cultivate sugar cane. It specified that “There is hereby established in the treasury of the territory a revolving fund, to be known as the ‘Hawaiian home loan fund.’ The entire receipts derived from any leasing of public lands under the provisions of section 212 of this title and 30 per centum of the Territorial receipts derived from the leasing of cultivated sugar-cane lands under any other provision of law or from water licenses shall be covered into the fund until the total amount of the moneys paid therein equals \$1,000,000.” A form of this provision survives to this day, now stating that “thirty

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<sup>1</sup> Pp. 10-11 in HEARINGS BEFORE THE COMMITTEE ON TERRITORIES, UNITED STATES SENATE, SIXTY-SIXTH CONGRESS, THIRD SESSION, ON H.R. 13500 A BILL TO AMEND AN ACT ENTITLED “AN ACT TO PROVIDE A GOVERNMENT FOR THE TERRITORY OF HAWAII” APPROVED APRIL 30, 1900, AS AMENDED, TO ESTABLISH AN HAWAIIAN HOMES COMMISSION, AND FOR OTHER PURPOSES. (DECEMBER 14, 1920)

percent of the state receipts derived from the leasing of cultivated sugarcane lands under any provision of law or from water licenses shall be transferred to the native Hawaiian rehabilitation fund, section 213 of the Hawaiian Homes Commission Act, 1920.”<sup>2</sup>

The Department of Hawaiian Home Lands (DHHL) was established in 1960 to implement the HHCA. To help implement the original provision of the HHCA, regarding sugarcane lands and water licenses, since November 7, 1978, the Department of Hawaiian Home Lands (DHHL) has been entitled to have “thirty percent of the state receipts, derived from lands previously cultivated as sugarcane lands under any other provision of law and from water licenses” deposited into the Native Hawaiian Rehabilitation Fund (NHRF).<sup>3</sup>

Sugar land leasing and water licenses once provided the NHRF with the bulk of its revenues, sustaining NHRF purposes for decades through receipts from state leases for sugar lands and waters uses to irrigate those lands, as well as any other state water leases. However, as documented in previous reports, revenues into the NHRF have declined significantly due in part to the demise of the sugar industry.

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<sup>2</sup> Hawai‘i State Constitution, Article XII Section 1.

<sup>3</sup> Hawaiian Homes Commission Act §213(i) provides in relevant part:

Native Hawaiian rehabilitation fund. Pursuant to Article XII, Section 1, of the Hawaii Constitution, thirty per cent of the state receipts, derived from lands previously cultivated as sugarcane lands under any other provision of law and from water licenses, shall be deposited into this fund. The department shall use this money for the rehabilitation of native Hawaiians, native Hawaiian families, and Hawaiian homestead communities, which shall include the educational, economic, political, social, and cultural processes by which the general welfare and conditions of native Hawaiians are thereby improved and perpetuated.

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Given the legal bases for DHHL's entitlement to a portion of state water lease revenues, a more assertive stance on securing these funds is necessary. The public trust doctrine further affirms the importance of equitable water resource allocation, strengthening DHHL's claims to a share of these revenues. These innovative approaches align with the shifting economic and environmental landscape of Hawai'i. The expansion of these revenue streams would not only fortify the financial sustainability of NHRF but also support broader initiatives for Native Hawaiian economic self-sufficiency and resource stewardship.



## **Chapter 1: Overview of the Native Hawaiian Rehabilitation Fund (NHRF) and its Management over time**

This chapter provides an overview of the origins of NHRF and milestones in the provision's development over time. In 1921, the NHRF was created as part of a series of compromises needed to secure passage of the Hawaiian Homes Commission Act (HHCA). This allocation of 30% of revenues from public lands in sugarcane cultivation and water licenses has continued to this day, but has been subject to different terms and used for different purposes.

This chapter goes on to detail the legislative origins, funding mechanisms, amendments, and ongoing challenges. Over time, constitutional and statutory amendments expanded the fund's scope and secured its perpetual funding, but legal ambiguities, administrative issues, and declining revenues due to the decline of the sugar industry have created challenges in its implementation. The chapter also examines the legal framework governing NHRF entitlements, summarizes past inventories and audits, and the general categories of the lands and waters subject to NHRF claims, including contributory, set-aside, and easement lands. The NHRF remains a crucial financial resource for Native

Hawaiian communities, and remaining chapters provide an in-depth exploration of past and current recommendations to improve NHRF revenue generation.

## **Legislative Origin of the NHRF in Political Compromise**

The entitlement to 30% of receipts from lands cultivated in sugar and water licenses was included in the original Hawaiian Homes Commission Act (HHCA) which stated as follows:

There is hereby established in the Territory a revolving fund, to be known as the "Hawaiian home loan fund." The entire receipts derived from any leasing of public lands under the provisions of section 212 of this title and 20 percentum of the Territorial receipts derived from leasing of cultivated sugar-cane lands under any other provision of law or from water licenses shall be covered into the fund until the total amount of the moneys paid therein equals \$1,000,000.

In a related provision a different Territorial Agency (which has evolved to become the Department of Land and Natural Resources) was responsible for administering and managing all non-homesteaded lands set aside in the Act, as well as the sugarcane leases and water licenses under Section 73 of the Organic Act.<sup>4</sup>

What is now referred to as the NHRF and its sources of revenue were crafted in response to at least two efforts by opponents to oppose passage of the NHRF. One had to do with a struggle over who would own and have access to the most prime agricultural lands formerly held by the Kingdom and now controlled by the Territory. The second had to do with general opposition to the entire proposed homesteading scheme, and the sources of revenue to fund the new homesteading program.

The "Organic Act" was passed by Congress in 1900 to provide a government for the new Territory of Hawaii. Section 73 of the Organic Act as amended in 1910,<sup>5</sup> required government land leases be subject to withdrawal provisions that allowed withdrawal of those leases whenever 25 or more citizens applied for homesteading on that land.<sup>6</sup> Because some of the Territories most profitable sugar companies leased these lands at that time, and many of those leases were set to be renewed, this homesteading provision for the general public threatened these companies. They would lose some of their very best lands if this provision was allowed to stand. Additionally, during the more than decade long effort led by Delegate Kalaniana'ole to secure a homesteading program for Hawaiians, these same planters opposed any attempt to make these most agriculturally suited lands available for Hawaiian homesteading.

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<sup>4</sup> See Revised Laws of Hawai'i, Chapter 103; 1991 State Audit at 9.

<sup>5</sup> Act of May 27, 1910, ch. 258, § 5, 36 Stat. 443.

<sup>6</sup> See Auditor, State of Hawai'i, Study of Revenue Entitlements of the Department of Hawaiian Home Lands, Rep. No. 91-9, at 7 (Feb. 1991) ("1991 State Audit") citing U. S. Congress, House Committee on the Territories, *Hearings*, at 9-10, February 1920.

To address the interests of this economically and politically powerful group, the HHCA as passed (crafted as an amendment to the Organic Act) specifically permitted the best of these public lands to be set aside for sugarcane leases, and protected those lands from the 1910 amendment's homesteading provision. However, since this was a huge compromise by limiting the lands available for homesteading under the HHCA, it allowed the new program to derive some revenue from the land leases and water licenses that would now be "protected". "In short, [HHC] was given its 30-percent share of the sugarcane lease receipts for its program in exchange for excluding sugarcane lands from homesteading."<sup>7</sup>

The need to fund homesteading from land leases and water licenses also arose in response to a direct lobbying effort against passage of the Act which alleged that funding the program through taxpayer funds would mean that the funds for this program for Hawaiians would be discriminatory as they would "...come out of the pockets of the white taxpayers of the Territory."<sup>8</sup> Former Hawai'i Territorial Supreme Court Chief Justice A G M Robertson travelled to Washington DC in December 1920 to lobby against the proposed Act, making this and similar statements. Funding the implementation of the Act from revenues generated by lands and waters once held by the Kingdom countered these arguments and also appealed to a fundamental sense of justice.

### **Amendments over time**

Amendments to the HHCA and related statutes over time have impacted the management of what has become the NHRF.

The \$1 million ceiling for deposits into the fund was later raised to \$5 million in 1952.

The 1959 Admissions Act creating the State of Hawai'i assigned title for approximately 1.2 million acres of land from the federal government to the new state, including the former "protected" sugar lands, and areas that were the sources of water for water licenses. The new State also agreed to adopt the HHCA as a constitutional provision as a condition of admission to the Union, and to not reduce or impair its funds.

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<sup>7</sup> 1991 State Audit at 7. HHC, however, did not receive sufficient funds for its administrative costs. The homesteading program under HHCA was further criticized because Hawaiian beneficiaries were put on inaccessible, poorly watered lands and given limited funding.

<sup>8</sup> Pp. 10-11 in HEARINGS BEFORE THE COMMITTEE ON TERRITORIES, UNITED STATES SENATE, SIXTY-SIXTH CONGRESS, THIRD SESSION, ON H.R. 13500 A BILL TO AMEND AN ACT ENTITLED "AN ACT TO PROVIDE A GOVERNMENT FOR THE TERRITORY OF HAWAII" APPROVED APRIL 30, 1900, AS AMENDED, TO ESTABLISH AN HAWAIIAN HOMES COMMISSION, AND FOR OTHER PURPOSES. (DECEMBER 14, 1920)

In 1962, the legislature enacted state laws for managing and disposing of public lands. In 1965, the State's public land laws were recodified as Chapter 171, HRS.

In 1978, at the Constitutional Convention, they importantly recognized that the reliance on sugarcane lease revenues to support the Hawaiian homestead program alone was recognized as infeasible and they proposed sufficient general fund appropriations to DHHL in addition to continuing the agency's entitlement to 30% of sugar cane lease revenues. Regarding the latter, the Committee on Hawaiian Affairs of the 1978 convention stated in its report:

Your committee found that . . . The original Act provides that 30 percent of the State receipts derived from revenues originating from cultivated cane lands and water licenses be transferred to the department [DHHL] to provide a means of developing farm, ranch and home lots. Your Committee understands that approximately 36,615 acres of public lands (17,753 – Kauai, 15,150 – Hawaii, 3,712 – Maui) are presently under sugar cane cultivation. . .

Your Committee has decided that this source of moneys should be protected and preserved and therefore provided that, regardless of the use to which these lands are put, the revenues derived therefrom would be subject to these provisions [30 percent to be diverted to DHHL in perpetuity]. Only when these lands are sold in fee simple would these lands not be subject to the provisions of this proposal. However, the proceeds received from the sale of the land would be subject to the provisions of this proposal. . .

Upon the effective date of this amendment, these lands, as well as any other lands presently under cane cultivation, shall be subject to this provision.<sup>9</sup>

As a result of those amendment proposals adopted by Hawai'i voters, the cap on the amount of revenue that could be deposited into the fund was finally abolished in 1978, when the "thirty percentum" clause was also made part of the Hawai'i constitution.<sup>10</sup> Pursuant to article XII, §1 of the Hawai'i Constitution:

Thirty percent of the state receipts derived from the leasing of cultivated sugarcane lands under any provision of law or from water licenses shall be transferred to the native Hawaiian rehabilitation fund, section 213 of the Hawaiian Homes Commission Act, 1920, for the purposes enumerated in that section. Thirty percent of the state receipts derived from the leasing of lands cultivated as sugarcane lands on the effective date of this section shall continue to be so transferred to the native Hawaiian rehabilitation fund whenever such lands are sold, developed, leased, utilized, transferred, set aside or otherwise disposed of for purposes other than the cultivation of sugarcane. There shall be no ceiling established for the aggregate amount transferred into the native Hawaiian rehabilitation fund.

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<sup>9</sup> 1991 State Audit at 8 quoting *Proceedings of the Constitutional Convention of Hawai'i at 1978*, Vol. 1, at 632-33 (Hawaiian Affairs Committee, Standing Committee Report No. 56, August 29, 1978).

<sup>10</sup>



Article XII, § 1 of the 1978 Constitution provided that the revenues would be deposited into NHRF to finance rehabilitation programs, “to include, but not limited to, educational, economic, political, social and cultural processes by which the general welfare and conditions of native Hawaiians are thereby improved[.]” Subsequently, the HHCA was amended to include a new Section 213(i) establishing NHRF as a new trust fund:

Native Hawaiian rehabilitation fund. Pursuant to Article XII, Section 1, of the Hawaii Constitution, thirty percent of the state receipts, derived from lands previously cultivated as sugarcane lands under any other provision of law and from water licenses, and fifteen percent of all revenues from lease agreements granted lease extensions pursuant to section 228, shall be deposited into this fund.

The department shall use this money for the rehabilitation of native Hawaiians, native Hawaiian families, and Hawaiian homestead communities, which shall include the educational, economic, political, social, and cultural processes by which the general welfare and conditions of native Hawaiians are thereby improved and perpetuated.

The state Constitution, HHCA, the people of Hawai‘i, and Legislature intended that NHRF be very expansive in its purpose, target population, sources of financing, and program design. It is the only fund not focused exclusively on homestead planning, design, development, and financing. Instead, it is to be used for a much wider range of purposes “including but not limited to . . . educational, economic, political, social, and cultural processes.” Unlike other program benefits focused on native Hawaiians as individuals, the NHRF can be used for native Hawaiian families and communities, in addition to individuals. Other HHCA programs require applicants to be 18 years and older; NHRF has no age requirement. It is a perpetual fund with no fund ceiling.

As will be discussed further in this report, the amendments to date have not addressed all problems. Significantly, outdated references in NHRF provisions have led to controversies over its implementation. Specifically, the term “government-owned waters” referred to a prior and erroneous interpretation of Hawai‘i’s water rights regimes that was not corrected in U.S. courts until the 1973 *McBryde* decision.<sup>11</sup>

An annotated timeline of NHRF can be found in Appendix D and is summarized below in Figure 1.

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<sup>11</sup> *McBryde Sugar Co. v. Robinson*, 504 P.2d 1330 (1973)

# NHRF TIMELINE

## SUMMARY OF ANNOTATED TIMELINE (APPENDIX D)

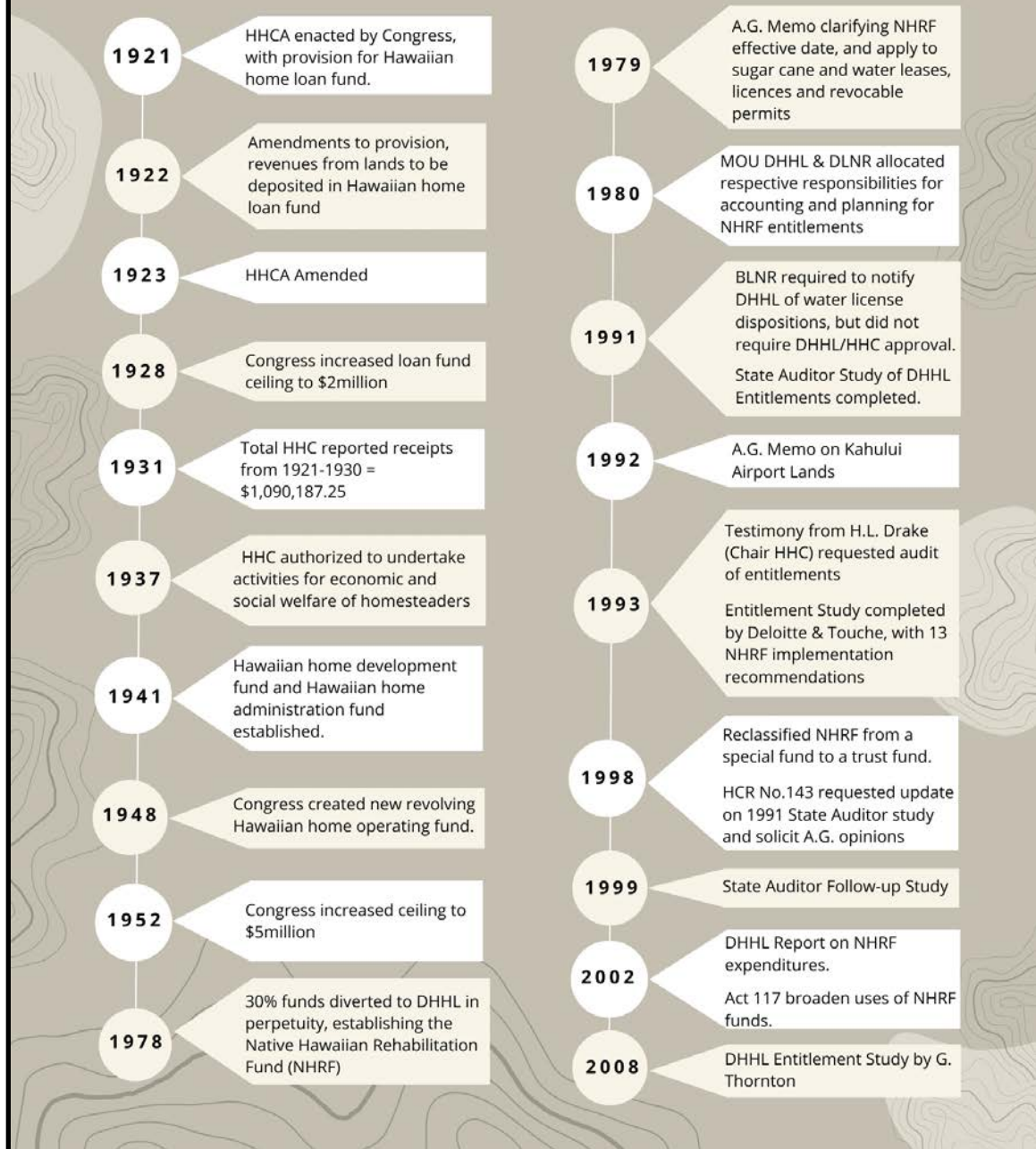


Figure 1. Summary of NHRF timeline (see Appendix D for complete annotated timeline).

## General Categories of Lands and Waters Subject to NHRF Claims

Under NHRF, DHHL holds entitlement interests in at least three kinds of lands, as well as all water licenses:

1. DHHL or “available lands” – lands set aside to the Hawaiian Homes Commission (HHC) in 1920. DLNR previously managed some of these lands under sugarcane leases but no longer does so. DHHL is entitled to 100% of lease revenue from “available” lands.
2. Sugarcane or “protected” lands - public lands in sugarcane production as of November 7, 1978, from which DHHL is entitled to 30% of lease revenue in perpetuity.
3. Other sugarcane lands – state lands disposed of after November 7, 1978 for the cultivation of sugarcane of which DHHL is also entitled to 30% of receipts.
4. Water licenses – water licenses, permits, or other instruments authorizing the use of government owned water in existence or effective on November 7, 1978 and/or issued subsequent to November 7, 1978.

### “Contributory lands”

NHRF entitlements require that 30% of State receipts from “lands previously cultivated as sugarcane lands under any other provision of law” shall be deposited into NHRF. In 1979, the state Attorney General advised that sugarcane lands include “contributory lands”, that is, lands considered to be a necessary and integral part to cane cultivation.<sup>12</sup> These contributory lands include lands used for irrigation ditches and reservoirs, loading areas, cane haul roads and are subject to NHRF.

Another key finding was that the intent of NHRF is to provide a source of revenues, not only from leases and licenses, but also from land and water revocable permits. The Attorney General opined that although NHRF did not explicitly reference revocable permits, its intent is to provide a source of revenue. To exclude revocable permits would negate such an intent. “We conclude, therefore, the intent of Article XII (NHRF) is to include revenues from revocable permits.” State agencies currently forward receipts from revocable permits for use of lands previously cultivated in sugar.

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<sup>12</sup> Memorandum from Edwin P. Watson, Deputy Attorney General, State of Hawai‘i, to Susumu Ono, Chairman, Board of Land and Natural Resources, Subject: Request for Interpretation of Provisions in Amendments to Article XI [*sic*] of the Hawaii State Constitution (Hawaiian Homes Commission Act), (dated Aug. 30, 1979) (on file with DHHL) (“1979 AG Opinion letter”).

The Deputy Attorney General further advised that entire parcels of land leased for both sugar and pasture purposes, but used only for pasture purposes due to their unsuitability for sugar cane cultivation, would not be subject to NHRF.<sup>13</sup> However, this interpretation is at odds with the rationale of “contributory lands.” Pasture areas were often used to pasture oxen, cattle, and horses which contributed to the production of sugar. Oxen were used to transport sugar to the mills. Cattle provided beef and milk for sugar workers. Horses provided transportation for plantation workers. As time passed and the need for these animals changed, the original sugar leases were periodically renewed, but the maps remained unchanged. As different irrigation systems were introduced and technology changed, portions of these lands were now suitable for sugarcane cultivation.

### **NHRF entitlements to “set aside” lands.**

HRS §171-11 addresses with lands “set aside” for public use or purposes by the Governor to State departments, Counties or other political subdivisions of the state, and the United States. While under the authority of other public entities (HRS §171-11):

in managing such lands shall be authorized to exercise all of the powers vested in the board [of land and natural resources] in regard to the issuance of leases, easements, licenses, revocable permits, concessions, or rights of entry covering such lands for such use as may be consistent with the purposes for which the lands were set aside . . . All such dispositions being subject to the prior approval of the board . . .

Lands not utilized or being used for the public purpose may be withdrawn and returned to DLNR. Aside from set asides, leases, licenses, and revocable permits, there are other types of dispositions authorizing the use of State land and water assets and facilities which generate State receipts and are subject to NHRF. For example, HRS §171-18.5 covers public lands conveyed by DLNR to the Hawai‘i Housing Finance and Development Corporation (HHFDC), including fee simple public land transactions.

### **Easements covering lands previously cultivated in sugar, used as cane haul roads, or for water transmission lines.**

The lack of NHRF receipts from easements was previously identified in a 1993 Deloitte and Touche NHRF study prepared for DHHL.<sup>14</sup> In that exchange, DLNR expressed its position that lands transferred to the Kā‘anapali Water Corporation concerned an easement, then valued at \$3,960, and not a lease, therefore no entitlement was due.<sup>15</sup> Water transmission line easements are discussed further in Chapter 5.

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<sup>13</sup> 1979 AG Opinion letter at 3.

<sup>14</sup> Department of Hawaiian Home Lands, Entitlement Study, prepared by Deloitte & Touche (Nov. 29, 1993) (“1993 D&T Report”) (on file with DHHL).

<sup>15</sup> In regard to sale of protected land to Kaanapali Water Corporation, the DLNR wrote: The above heading in the preliminary entitlement report is incorrect. This section discussed the sale of a non-

In 1999, the State Auditor noted eight instances in which protected lands were transferred for easements and from which DHHL did not receive its NHRF entitlement.<sup>16</sup>

*Case Study- Kahoma Land Co.* The State owns 584.305 acres at TMK No. (2) 4-5-021:022, a portion of which is owned by Kahoma Land Co. upon which is situated the Wahikuli Reservoir. Also on this parcel are parts of the Honokōhau ditch, owned by Maui Land & Pineapple, Co. (MLP), and the Crater Reservoir. This portion of the Honokōhau ditch appears unlined and unused. Crater reservoir and Wahikuli reservoir are both sometimes dry.

Kahoma owns properties adjacent to the State parcel at TMK Nos. (2) 4-5-021:002, 006, and 024. In 2010, Kahoma Land prepared an environmental assessment for its proposed non-exclusive re-locatable easements over state lands to create two mauka/makai and three 40 foot wide right of ways. Both Kahoma lands and State Lands were previously used by Pioneer Mill plantation for planting sugar.<sup>17</sup> At its December 9, 2011 meeting, BLNR granted two perpetual nonexclusive relocatable easements for utility purposes for Kahoma to General Growth Properties.<sup>18</sup> The submittal showed that these easements were not subject to DHHL entitlements, although it also recognized that the 119 acres subject to the easement were previously leased to Pioneer Mill.

Kahoma Ranch Tours utilizes roads running through TMK No. (2) 4-5-021:022 for its ATV Tours and also water slides emptying into Crater Reservoir, which is also on state land.<sup>19</sup> Recently, however, Kamehameha Schools has released more water into Kahoma stream for lo'i restoration and ecosystem purposes, such that Kahoma Ranch can no longer use the water slides. ATV tour rates range from \$222.29 for adults and \$82.71 for children, with a maximum of 20 seats per tour. During the summer (June 15-August 31), tours run

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exclusive and perpetual easement for a water pipeline and water tank site, and not Sale of Protected Land to Kaanapali Water Corporation. If the DLNR confirms that 30% of the consideration paid by the Kaanapali Water Corporation for the Grant of Easement Deed No. S-27,422, dated June 24, 1984, was not transmitted to the DHHL, steps will be taken to rectify this error. DLNR Response to 1993 D&T Report at 8.

<sup>16</sup> Auditor, State of Hawai'i, Follow-Up to the Study of Revenue Entitlements to the Department of Hawaiian Home Lands, Rep. No. 99-13 (Mar. 1999). Eight cases involved utilities easements that merely cross part of protected lands. *Id.* at 2-3.

<sup>17</sup> Final Environmental Assessment for Proposed Kahoma Access Easements, prepared for Kahoma Land, LLC, at 11 (Oct. 8, 2010) *available at*: [http://oeqc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Maui/2010s/2010-04-08-MA-FEA-Kahoma-Access.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Maui/2010s/2010-04-08-MA-FEA-Kahoma-Access.pdf).

<sup>18</sup> Dep't of Land and Natural Resources, State of Hawai'i, Staff Submittal, Item D-14 "Grant of Two (2) Perptual, Non-Exclusive (Re-Locatable) Easements and Grant of a Right of Entry to Kahoma Land, LLC, and General Finance Group, Inc., Collectively "Kahoma", for Access and Utility Purpose, Wahikulia, Lahaina, Maui, Hawai'i, Portions of Tax Map Keys (2) 4-5-21:04 and 22" (Dec. 9, 2011) *available at*: <http://hawaii.gov/dlnr/chair/meeting/submittals/111209/D-Land-Submittals-D14.pdf>.

<sup>19</sup> Kahoma Ranch Tours was registered on June 12, 2013 and its agent is Glenn Tremble, who also is an owner of West Maui Land, Olowalu Partners, and Makila Land Companies. Kahoma Ranch Tours is registered under West Maui Mountain Adventures, LLC, whose agent is also Glenn Tremble.

from 7:30 am to 5:00 pm with four tours daily. During other seasons, only three tours run a day. Tours are offered seven days a week.<sup>20</sup>

- Assuming only half of the tours are run, the tours are a ¼ full, and all people share vehicles, the total annual gross revenue for Kahoma Ranch Tours would be \$427,309.95.<sup>21</sup>
- If all tours were run at maximum capacity with individual adults, the annual gross revenue would be \$5,206,031.80.<sup>22</sup>

This exercise may be useful in establishing a DHHL's interest in DLNR's re-opening of the easement determination and/ or a separate determination that Kahoma Ranch Tours' use of former cane haul roads is subject to the DLNR administration of HRS chapter 171.

The FEA prepared for the proposed Kahoma access easements represented that the easements were necessary "to allow the applicants to continue to attend to, develop and manage diversified agricultural pursuits on their agriculturally zoned lands including, but not limited to cattle ranching, water reservoir management and agricultural tour operations."<sup>23</sup> It is unclear whether the Kahoma Ranch Tours utilize only the two 40-foot easements, or other cane haul roads. In any case, the ATV tours utilize cane haul roads that were not privately owned as all roads existing in Hawai'i became public property by operation of Queen Lili'uokalani's Highway's Act of 1892, codified at HRS chapter 264. Pursuant to HRS §264-1, all trails and roads became public rights of way. Because the "cane haul" roads and the lands of which they are comprised were used for sugar cultivation, they constitute protected lands and subject to NHRF entitlements.

DLNR staff represented that Kahoma Land, LLC sought a State easement "to continue its pursuit of diversified agricultural activities on its Mauka Lands including, but not limited to, cattle ranching, water reservoir management, agricultural tour operations, and an agricultural subdivision as a potential future secondary use."<sup>24</sup> An agricultural tour operation is not defined by any DLNR rule, but may not include a tour that highlights the use of an ATV rather than the agricultural operation itself. In any case, the recommendation adopted by BLNR was subject to requirements including:

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<sup>20</sup> Kahoma Ranch Tours website "Book online now," (accessed Aug. 15, 2017) *available at*: [http://www.kahomaranch.com/location\\_contact/](http://www.kahomaranch.com/location_contact/).

<sup>21</sup> 76 summer days x 5 adults x 2 tours x \$149.38 shared vehicle = \$113,528.80289 days x 5 adults x 1.5 tours x \$149.38 shared vehicle = \$323,781.15

<sup>22</sup> This equates to 76 summer days x 20 adults x 4 tours x \$222.29 solo vehicle = \$1,351,523.20289 days x 20 adults x 3 tours x \$222.29 solo vehicle = \$3,854,508.60

<sup>23</sup> Kahoma Access Easements FEA at 2.

<sup>24</sup> DLNR Submittal Item D-14, at 5.

[2](5) the easements are used for access and utility purposes, or any other agricultural purposes permitted under the County of Maui's Comprehensive Zoning Code, as said code may be amended from time to time; and . . .<sup>25</sup>

Under the Maui County Comprehensive Zoning Code (CZO), principal permitted uses in agricultural districts do not include agricultural tours, much less commercial ATV tours.<sup>26</sup> However, accessory uses permitted include "guided tours that are accessory to principal uses, such as farm or plantation tours, petting zoos, and garden tours[.]"<sup>27</sup> Kahoma Ranch Tours are not "accessory" but rather an opportunity to commercialize public roads into a tourism operation wholly unsuited to Kahoma agricultural lands in violation of both the Maui CZO and the BLNR's grant of easement.

In conclusion, the Kahoma Ranch Tours appears to be violating its grant of easement from BLNR or utilizing cane haul roads for commercial purposes. No monies were paid to BLNR and as a result, none were paid forward to NHRF. DHHL should consider contacting BLNR to require them to rescind the easement and reissue it for a proper amount, subject to NHRF entitlements, or bringing a lawsuit against BLNR for failing to do so. OHA may also be interested in taking legal action because public roads are part of the 5(b) public land trust from which they receive a twenty percent pro rata share.

### **Description of previous and current inventories**

As part of the scope of work for the Audit and Advocacy Plan for NHRF, a review was conducted of several past inventories of NHRF protected land and water licenses. The purpose was to identify any land inventory considered reliable and accurate to accept, as a whole, to represent the NHRF assets.

### **Summary of Audit of sugar and water leases at DLNR in January 1979 by DHHL Paul Dolan**

*Summary* - Within weeks of the approval of the Hawai'i Constitution and creation of NHRF on November 7, 1978, DLNR and DHHL met to compile a list of NHRF parcels. The result was an inventory of cane and water leases on DLNR and DHHL lands.

*Methodology* - DLNR and DHHL compiled information from original files on location and TMK, use of land, acreage, lease rents, lease terms, reopeners. The process included a Reconciliation Process where differences would be identified, and meetings held to resolve and reconcile these differences.

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<sup>25</sup> DLNR Submittal Item D-14, at 8.

<sup>26</sup> CZO §§19.30A.050, 19.30A,072.

<sup>27</sup> CZO §19.30A.050(B)(10).

*Comment* - The process was undertaken very soon after NHRF enacted into law. Since DLNR had no automated database, staff had to go through files and annual reports to find the information. Staff from both agencies worked on the reconciliation of differences. The 1979 Dolan Audit identified three sugar cultivation general leases on Hawaiian home lands in 1978 which fit the definition of NHRF Protected Lands. 30% of the revenues from these lands - no longer in sugar - should continue to be transferred within DHHL to the NHRF (not the Administrative Account). Those general leases requiring follow-up include GLS-3787 (12.48 acres, Waiehu, Maui), GLS-4222 (14,558.0 acres, Kekaha, Kauai) and GLS-4576 (3,086.08 acres, Anahola, Kauai).

### **Protected Lands Study by R.M. Towill, January 1987**

*Summary* - DHHL provided tabular lists of sugar lease/permit data and provided access to more detailed files. The Towill Report uses the most reliable data collected in detail (State lease/permit information and boundary maps, USGS orthophoto maps, and sugar company field books. Experienced survey and mapping staff used map digitizing equipment and software and their professional judgment to combine these different types of data from different sources.

*Methodology to Define NHRF Sugar/Water Land* - Four sets of original data used:

- (1) tabular lists of sugar leases/permits provided by DHHL
- (2) boundary maps of lease/permit parcels for November 1978 on clear acetate overlays produced by an independent surveyor
- (3) USGS mylar orthophoto maps, highly accurate in scale, with aerial photographs taken in 1977 and 1978 showing uses of land
- (4) field books from sugar companies with State sugar lands circa 1978 showing acreage, locations, and canefields and contributory uses.

USGS mylar orthophoto maps and lease/permit boundary acetate maps were combined. Mapping personnel with experience in interpreting aerial photographs, using sugar company field maps to verify active cane fields and contributory uses. Senior surveyor consulted State survey maps to confirm or modify the boundary data sheet by sheet. Computer-driven map digitizing equipment and software was used to compute the acreage figures by coordinating differentials.

This methodology resulted in a level of accuracy for the acreage figures at about 95% (high or low by as much as 5%). The mapping methodology cannot be improved without a significantly more costly special mapping and survey program.

*Comment* - Aerial maps for 1977-1978 showing actual sugar fields and contributory uses (also roads, pasture, and waste land), natural land features (e.g. ridges, streams, gullies, shorelines), and man-made features (e.g. houses, highways, stores, schools, parks) were used to confirm acreage figures. A variety of detailed map information from different



sources was used by professional, experienced staff with the latest equipment and software to combine and confirm NHRF-related data. The methodology used is described in detail. The report's findings are considered highly reliable.

**Study of Revenue Entitlements to DHHL by the Auditor, State of Hawai'i Report No. 91-9, February 1991**

*Summary* - This 1991 State Audit does not define the inventory of public land subject to NHRF entitlements. Instead, it is focused on State land formerly in sugarcane cultivation being acquired by the State Housing Agency for affordable housing development. It notes that DHHL was not notified of the upcoming actions, which appraisal methods used were inconsistent, and BLNR was not informed of DHHL's NHRF entitlements.

*Comment* - The 1991 Auditor's Report does not cover, and is not useful, in defining the inventory of public land subject to NHRF entitlements.

**DHHL Entitlement Study by Deloitte Touche Tohmatsu International November 29, 1993**

*Summary* - D&T conducted detailed reviews of leases and permits identified by DHHL as being subject to NHRF by sugar cultivation and water uses as of November 7, 1978. After further review of 83 agricultural general leases and all sugarcane and water revocable permits, additional leases/permits were identified which were not on the list provided by DHHL.

*Methodology to Define NHRF Sugar/Water Land* - First, D&T obtained a listing of general leases that were used for sugarcane cultivation and water licenses on November 7, 1978. Second, D&T selected 83 general leases denoted as agricultural from the DLNR "Report to the Governor 1978-1979" to test the listing for understatement of protected lands. If the land was used for sugarcane. D&T traced the lease to the listing of protected lands as of November 7, 1978. Third, D&T obtained a listing of revocable permits that were used for sugarcane cultivation and water licenses on November 7, 1978. D&T obtained a numerical list of revocable permits maintained by DLNR for the period 1979 to present. D&T reviewed the numerical list, noting which permits were issued for sugarcane cultivation, and traced such permits to the listing of revocable permits of which DHHL was receiving 30% of the receipts generated from the lease. Fourth, D&T obtained the lease document files for all general leases and revocable permits identified by DHHL as leases/permits used for sugarcane cultivation or water licenses as November 7, 1978. D&T also performed the above procedures for leases/permits which D&T identified as leases to which DHHL should be entitled to 30% of the receipts, but which were not on the list provided to D&T by DHHL.

*Comment* - DHHL can confirm the source of its list of sugarcane cultivation and water leases/permits as of November 7, 1978, provided to the D&T Auditor. D&T did not know the source of information for other leases/permits identified by D&T as subject to NHRF.

### **Follow-Up to the Study of Revenue Entitlements to DHHL by the Auditor, State of Hawai'i, Report No. 99-13, March 1999**

*Summary* - The Report found that DLNR lacks a comprehensive inventory of sugarcane lands and water licenses and related leases, permits, and licenses. It recommends that DLNR develop a comprehensive inventory.

*DLNR Recommended Methodology* - In its letter dated March 5, 1999, in response to the 1999 State Audit, DLNR outlined three methods to identify NHRF protected lands: (1) use a database to attach DHHL 30% entitlements to tax map key numbers, (2) manually use maps, and (3) utilize GIS technology. All three start with the use of the R.M. Towill air photo maps that identify the lands under sugar cultivation in 1978. Each method varies as to accuracy, cost, and long-term benefits.

*Comment* - The 1999 Auditor's Report does not cover, and is not useful, in defining the inventory of public land subject to NHRF entitlements.

### **DHHL DLNR MOU**

DLNR's State Lands Information System (SLIMS) is currently the primary database used to define the scope of NHRF land entitlements. Adoption of any expanded definitions of lands subject to NHRF entitlements will require coordination and updating of SLIMS. DLNR and DHHL currently operate under a 1979 Memorandum of Agreement (MOU) that outlines basic responsibilities of each agency in implementing NHRF. For lands in sugarcane cultivation on November 7, 1978, and which continue to provide revenues even after sugarcane cultivation ends, the MOU specifies the type of notice to be provided to DHHL, opportunities for DHHL review and comment, and copies of public notices to DHHL, Land Board actions, and minutes.

Section II. A. of the MOU outlines procedures for implementing article XII, §1 of the Hawai'i Constitution concerning the transfer of State receipts derived from the leasing of cultivated sugarcane lands and from water licenses, and provides in part (Emphasis added):

- A. Definitions: As used throughout this Memorandum:
  1. "State lands" means lands title to which vests in the State of Hawaii excluding Hawaiian home lands.

2. “Protected lands” means all State lands that were, on November 7, 1978, leased for the cultivation of sugarcane.

However, the Hawai‘i Constitution and HHCA do not refer to “State lands”, but instead, to “State receipts derived from lands previously cultivated as sugarcane lands under any other provision of law.” Under the constitutional and HHCA provisions, NHRF can apply to any public and private land cultivated as sugarcane lands on November 7, 1978, and which produce “State receipts” and not only “State lands” as set forth in the MOU (see Chapter 3, Table X for recommendations of how the MOU should be revised).

### Historical shifts in revenue

NHRF monies are held in a special fund and are considered to be Trust funds, and used to fund DHHL rehabilitation projects.<sup>28</sup> Currently, the trust fund finances community-based programs and development projects, including Hui Kako‘o ‘Āina Ho‘opulupula (an organization representing applicants on the DHHL waiting list), education scholarship programs, ‘ohana subdivisions, and other programs intended to benefit native Hawaiians.<sup>29</sup> With the decline of the sugar industry in the islands, revenues to the NHRF have also declined.

Table 1. DHHL Sugar & Water Revenue, NHRF Fund (rounded to the nearest dollar)

| Revenue Source | 2018             | 2019             | 2020             | 2021             | 2022             | 2023             | 2024             | Total              |
|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|
| Water          | \$54,369         | \$63,808         | \$69,336         | \$91,750         | \$73,744         | \$85,223         | \$15,311         | \$453,541          |
| Land           | \$177,963        | \$381,207        | \$170,161        | \$157,821        | \$420,617        | \$140,459        | \$171,014        | \$1,619,241        |
| <b>Total</b>   | <b>\$232,332</b> | <b>\$445,015</b> | <b>\$239,497</b> | <b>\$249,571</b> | <b>\$494,361</b> | <b>\$225,682</b> | <b>\$186,325</b> | <b>\$2,072,782</b> |

Source: Department of Hawaiian Home Lands, 2024

Sources of revenue to NHRF are sugarcane lands, water licenses, sales of protected land, and investments. Sales of protected land in FYs 1994-1996 by the Hawai‘i Housing Finance Development Corporation (HHFDC) have been the largest source of NHRF revenues.

<sup>28</sup> Act 27, Session Laws of Hawai‘i 1998 reclassified the fund from a special fund to a trust fund, however as of FY 2015, the special fund remained open with a balance of \$140,000 and subject to encumbrances of \$34,000. Auditor, State of Hawai‘i, Review of Special Funds, Revolving Funds, Trust Funds, and Trust Accounts of the Department of Hawaiian Home Lands, Rep. No. 15-15, at 16 (Dec. 2015).

<sup>29</sup> DHHL, Report on the Status of the Native Hawaiian Rehabilitation Fund (NHRF) FY 1997-2001, Legislative Resource Bureau Report, at 8-10 (2002).

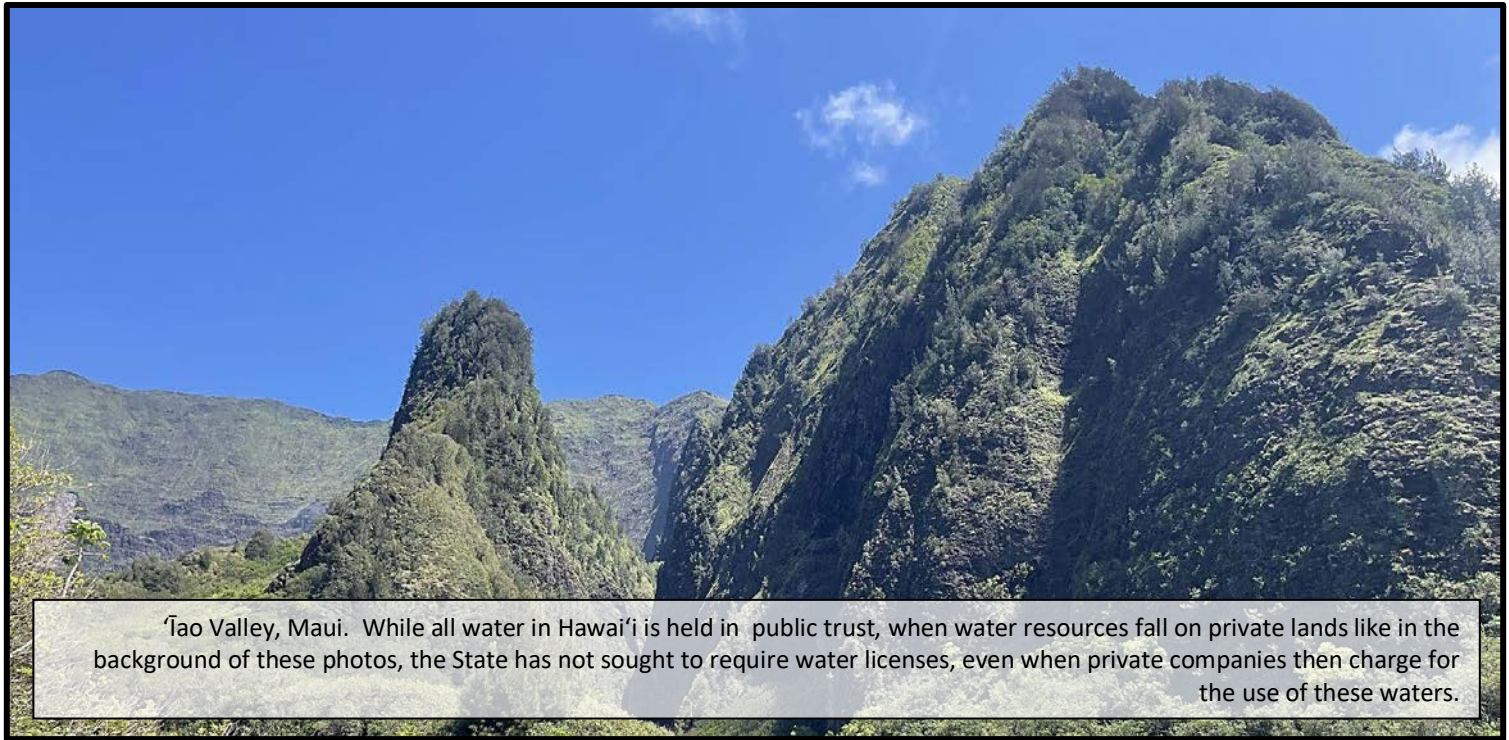
Table 2. NHRF sources of revenue FY1993 through 1998

|                          | <b><i>FY1993-94</i></b> | <b><i>FY1994-95</i></b> | <b><i>FY1995-96</i></b> | <b><i>FY1996-97</i></b> | <b><i>FY1997-98</i></b> |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Water licenses</b>    | \$92,134                | \$121,499               | \$61,346                | \$129,932               | \$99,407                |
| <b>Sugar land leases</b> | \$430,918               | \$191,127               | \$470,940               | \$98,109                | \$105,905               |
| <b>Sugar land sales</b>  | ---                     | \$8,360,407             | \$1,539,000             | ---                     | ---                     |
| <b>Total FY revenues</b> | \$523,052               | \$8,673,033             | \$2,071,286             | \$228,041               | \$205,312               |

Source: State Auditor Report No. 99-13.<sup>30</sup>

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<sup>30</sup> 1999 State Audit at 4 (Exhibit 1.1).



ʻĀo Valley, Maui. While all water in Hawaiʻi is held in public trust, when water resources fall on private lands like in the background of these photos, the State has not sought to require water licenses, even when private companies then charge for the use of these waters.

## **Chapter 2: Historical Audits & Previous Recommendations for the NHRF**

### **Overview of Previous Audits of the NHRF**

The following section describes previous recommendations aimed at improving implementation of NHRF collection entitlements. These recommendations include those made in the 1991 State Auditor Report on NHRF entitlements;<sup>31</sup> responses to that 1991 Auditor Report; a 1993 DHHL Entitlement Study by Deloitte & Touche (D&T);<sup>32</sup> responses to the 1993 DHHL Report;<sup>33</sup> the 1999 State Auditor Follow-Up Report on

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<sup>31</sup> Auditor, State of Hawaiʻi, Study of Revenue Entitlements of the Department of Hawaiian Home Lands, Rep. No. 91-9 (Feb. 1991) (“1991 State Audit”).

<sup>32</sup> Department of Hawaiian Home Lands, *Entitlement Study*, prepared by Deloitte & Touche (Nov. 29, 1993) (on file with DHHL) (“1993 D&T Report”).

<sup>33</sup> Letter from Keith Ahue, Chairperson, Board of Land and Natural Resources, to Hoaliku L. Drake, Chairman, Hawaiian Homes Commission, Subject: Preliminary Entitlement Study Relative to Audit of Department of Hawaiian Home Lands’ (DHHL) Native Hawaiian Rehabilitation Fund Entitlements Under Article XII, Section 1, Hawaii State Constitution,” Doc. No. 9312GA01, at 3 (dated Dec. 21, 1993) (“DLNR Response to 1993 Report”).

DHHL entitlements;<sup>34</sup> responses to the 1999 Follow-Up Report;<sup>35</sup> and DHHL's 2008 Entitlement Study by Grant Thornton (GT).<sup>36</sup> Recommendations for the use of these studies in confirming NHRF asset inventories is further discussed in Chapter 3.

## **Previous recommendations from audits of the NHRF and history of attempts to implement them**

There are only two audits that fully address recommendations out of all the reports that our research identified. They include the following from the 1991 State Auditor Study:

### **1. Moratorium on Sale of Sugar Lands**

The 1991 State Auditor Study reviewed the procedures in place to ensure Hawaiian beneficiary programs received entitlement revenues from ceded lands and NHRF lands. A specific concern was that NHRF programs were not receiving entitlements when sugar lands were transferred between government agencies – for example, for the purpose of affordable housing for sale to the general public. The Auditor recommended that a moratorium be placed on the sale of sugar lands pending resolution of issues. OHA concurred; however DLNR did not concur.

In response to these concerns, Act 176, SLH 2009, required extensive legislative notification, public hearings, and approval process for any proposed sale of ceded land to take effect. Chapter 171-18.5 also requires that DHHL receive fair market value for public lands transferred to the HHFDC for affordable housing purposes.

### **2. DHHL should receive payment for lands transferred to HHFDC.**

The 1991 State Auditor Report first flagged the lack of compensation paid to DHHL for lands transferred to the HHFDC for public purposes. Since then, DHHL has received compensation for public lands transferred to HHFDC at Leialī'i, Honokōwai, Hanapēpē on the basis of wholesale land appraisals of public lands, rather than when lots or homes were sold to or rented to individual buyers at retail prices as required by Act 318, 1992 Haw. Sess. Laws. All future protected lands transferred to HHFDC are also subject to NHRF.

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<sup>34</sup> Auditor, State of Hawai'i, Follow-Up to the Study of Revenue Entitlements to the Department of Hawaiian Home Lands, Rep. No. 99-13, at 19 (Mar. 1999) ("1999 Audit").

<sup>35</sup> Letter from Timothy E. Johns, Chairperson, DLNR, to Marion Higa, State Auditor, Subject: "Follow-Up to the Study of Revenue Entitlements to the Department of Hawaiian Home Lands," at 2 (Mar. 5, 1999) (attachment no. 2 to the 1999 Audit) ("DLNR Response to 1999 Audit"); Letter from Raynard C. Soon, Interim Chairman, Hawaiian Homes Commission, to Marion M. Higa, State Auditor, Office of the Auditor, (Mar. 3, 1999) (attachment 2 to the 1999 Audit) ("DHHL Response to 1999 Audit").

<sup>36</sup> DHHL, Entitlement Study of the Department of Hawaiian Home Lands, July 1, 1993 to June 30, 2008, prepared by Grant Thornton, LLP (Apr. 30, 2008) ("2008 GT Study").

| HHFDC Project | Amount received in NHRF    |
|---------------|----------------------------|
| Leiali'i      | \$ 8,360,407 <sup>37</sup> |
| Honokawai     | \$ 995,483 <sup>38</sup>   |
| Hanapēpē      | \$1,539,000 <sup>39</sup>  |
| <b>TOTAL</b>  | <b>\$10,894,890</b>        |

## Partially or unimplemented recommendations

The vast majority of the recommendations articulated in past audits and reports have remained either partially or entirely unimplemented. There are at least 16 partially implemented recommendations in total, which are divided into three subcategories:

1. Verifying revenue from existing agreements/dispositions.
2. Maximizing revenue from existing revenue streams.
3. Maximizing revenue from new revenue sources.

Table 3 outlines all the partial or unimplemented recommendations found in the high-level audit review, and background of each of these recommendations is described in greater detail below.

Table 3. Partially or unimplemented past recommendations

| Category  | Recommendation                                     | Source  | Implementation Status |
|---|--|---|-----------------------|
| <b>1. Verifying revenue from existing agreements/dispositions</b> |  |   |                       |
| <b>1.A</b>  | Clarify Possible Entitlements                      | 1993 DHHL NHRF Entitlement Report prepared by Deloitte & Touche | Partial               |
| <b>1.B</b>  | Clarify Entitlements of Easements Subject to NHRF  | 1999 State Audit  | Partial               |
| <b>1.C</b>  | Seek clarification about DHHL entitlement to sugar | 1993 DHHL NHRF Entitlement Report                               | Unknown               |

<sup>37</sup> Letter from HHFDC to OHA & DHHL, re: Villages of Leialii Master Planned Community - Agreement on Fair Market Value, Terms, and Conditions for Sale of Ceded Land (Aug. 29, 1994) (on file at DHHL).

<sup>38</sup> Letter from Office of State Planning to DHHL, re: Payment of Entitlement for Former Sugarcane Leases on Public Lands at Honokowai, Maui (Apr. 2, 1993) (on file at DHHL).

<sup>39</sup> Letter from Office of State Planning to DHHL, re: Appraisal Value of the Cliffside at Hanapepe Housing Project Site, Kaua'i (Jan. 4, 1993) (on file at DHHL).

|  |   |  |               |
|--|---|--|---------------|
|  | experiment station land revenue   |  |               |
| <b>1.D</b>                                     | Update State Land Disposition (SLD) Form  | 1993 DHHL NHRF Entitlement Report                                  | Partial       |
| <b>1.E</b>                                     | Improve Lease Files and Create Review Process   | 1993 DHHL NHRF Entitlement Report; 1999 State Audit; 2008 GT Audit | Partial       |
| <b>1.F</b>                                     | Update NHRF Land Inventory  | 1993 DHHL NHRF Entitlement Report; 1999 State Audit; 2008 GT Audit | Partial       |
| <b>1.G</b>                                     | Reconciliation between acreage listed in DLNR fiscal records and lease documents.   | 1993 DHHL NHRF Entitlement Report                                  | Partial       |
| <b>1.H</b>                                     | DLNR should be required to provide information required under the 1980 Memorandum of Understanding                            | 1993 DHHL NHRF Entitlement Report                                  | Partial?      |
| <b>2. Maximize existing sources of revenue</b> |   |  |               |
| <b>2.A</b>                                     | Amend HRS §171-95 to require appraisals prior to set aside or transfer of public lands  | 1991 State Auditor's Study of DHHL Entitlements                    | Partial       |
| <b>2.B</b>                                     | Entitlement to Interest Due to Delayed Rent Re-openings   | 1993 DHHL NHRF Entitlement Report                                  | Unimplemented |
| <b>2.C</b>                                     | DHHL should seek payments from DLNR for lease rents from protected lands for rent credits, rent reductions, and rent waivers. | 1993 DHHL NHRF Entitlement Report                                  | Unimplemented |
| <b>2.D</b>                                     | Assign Responsible Division Within DHHL   | 1993 DHHL NHRF Entitlement Report                                  | Unimplemented |
| <b>2.E</b>                                     | Review and revise the 1980 Memorandum of  | 1999 State Audit   | Unimplemented |



|  |                                     |   |                            |
|--|-------------------------------------|---|----------------------------|
|  | Understanding Between DLNR & DHHL   |   |                            |
| <b>3. Maximizing revenue from new sources of revenue</b> |                                     |   |                            |
| <b>3.A</b>   | Renewal of Revocable Permits        | 1993 DHHL NHRF Entitlement Report   | Unimplemented              |
| <b>3.B</b>   | Plan for Future Uses of Sugar Lands | 1991 State Auditor's Study of DHHL Entitlements; 1993 DHHL NHRF Entitlement Report; 1999 State Audit; | Unimplemented? Or Partial? |

### Verifying revenue from existing agreements/dispositions

#### *Previous Recommendation 1A. Clarify Possible Entitlements*

The 1993 D&T Audit identified several uses of cultivated sugarcane lands by public agencies and questioned whether payments were being made to the State and NHRF. One set of claims involved the State Department of Transportation, as former sugarcane lands were included within airport boundaries at Kahului, Maui and Līhu'e, Kauai. The Deputy Attorney General opined on August 17, 1992, that these former cultivated sugarcane lands were not subject to NHRF based on airport land covenants and Federal Aviation Administration regulations preventing the diversion of airport revenues to non-airport purposes.

Former cultivated sugarcane lands used by the State Department of Transportation for highways and State Department of Education for a school were also identified, with the Deputy Attorney General opining on August 30, 1979 that DHHL should be entitled to 30% of revenues generated. These set-asides produce no revenues, however, and consequently, *no payments are due* to DHHL.

In 1993 the auditor identified HHFDC projects on former sugarcane lands at Hanapēpē, , Kauai and Honokōwai, Maui, as being subject to NHRF. DLNR, however, determined that the Kaua'i lands were not sugarcane lands and thus not subject to NHRF. The HHFDC did eventually make payments to NHRF to cover 30% of land costs for its affordable housing project at Honokōwai, Maui.

In another example, Maui County acquired new land for a park by exchanging former sugarcane land and selling an easement to the Ka'anapali Water Corporation. Per DLNR, the third parties would be responsible for any payments due to NHRF. The Constitutional Convention deliberations in 1978 made clear that NHRF was intended to be a perpetual trust subject to all former sugarcane lands that "are sold, developed,

leased, utilized, transferred, set aside or otherwise disposed of.” The intent of NHRF is to provide revenues; excluding the value of land exchanges and land easements would negate the original intent.

*Previous Recommendation 1B. Clarify Entitlements of Easements Subject to NHRF*

The 1999 State Auditor Follow-Up Study found 21 cases in which DLNR failed to transfer NHRF entitlements to DHHL. DLNR agreed with the findings. The present status of the 21 cases identified in 1999 State Audit are:<sup>40</sup>

- Two were not subject to NHRF;
- Eight were for easements; uncertain if easements apply to NHRF;
- Four may or may not apply; need to check detailed maps; and
- Seven were subject to NHRF and payments were made.

DHHL should seek legal advice to understand if easements over protected land are subject to payment to NHRF, such as in eight identified cases discussed in this report.

*Previous Recommendation 1C: DLNR should be required to provide information required under the 1980 Memorandum of Understanding*

The 1993 D&T Report recommended ensuring that DLNR provided DHHL with pertinent information set forth in the 1980 MOU and updated the State Land Disposition (SLD) forms to require identification of DHHL-encumbered lands. DLNR agreed with this 1993 recommendation.<sup>41</sup> Currently, DLNR includes a field to identify NHRF protected lands in its State Land Inventory Management System (SLIMS) public land inventory database. DLNR transmits its draft submittals to DHHL for comment. DLNR has revised its BLNR submittals to include a section identifying whether NHRF lands and entitlements are affected. DHHL’s comments are also included in the submittal.

Recently, DLNR provided a list of public lands subject to DHHL entitlements as identified in their SLIMS database. This list does not include water licenses. The list also does not identify all lands held by other agencies and counties; it is also unclear whether these government entities have procedures for notifying DHHL about dispositions of NHRF-entitled lands. For example, the consultants met with Agribusiness Development Corporation (ADC) and Department of Agriculture (DOA) staff and confirmed that no notification procedures were in place for NHRF-entitled lands held by these respective

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<sup>40</sup> 1999 State Audit at 28-29.

<sup>41</sup> Letter from Keith Ahue, Chairperson, Board of Land and Natural Resources, to Hoaliku L. Drake, Chairman, Hawaiian Homes Commission, Subject: Preliminary Entitlement Study Relative to Audit of Department of Hawaiian Home Lands’ (DHHL) Native Hawaiian Rehabilitation Fund Entitlements Under Article XII, Section 1, Hawaii State Constitution,” Doc. No. 9312GA01, at 3 (dated Dec. 21, 1993) (“DLNR Response to 1993 D&T Report”).

agencies. Meanwhile, DHHL has no staff assigned to monitor compliance with the 1980 MOU with DLNR or other state agencies and counties.

*Previous Recommendation 1D: State Land Disposition (SLD) Form*

The 1993 D&T Audit noted that the DLNR should update its State Land Disposition (SLD) forms to be standardized across all islands and contain identification codes for NHRF-protected lands, other sugar lands, and water licenses. DLNR agreed with and adopted this recommendation.

While the form's update was a necessary step forward there are thousands of acres of other NHRF-protected land that have been transferred or set-aside to other state and county agencies. It is not clear whether these government entities follow the same NHRF-identification procedures in their land management practices or land database systems.

*Previous Recommendation 1E: Improve lease files and create review process*

The 1993 D&T Audit requested that DLNR and DHHL improve the filing of lease documents, a finding that DLNR agreed with. The 1999 State Audit noted later improvements in DLNR record keeping. Nearly a decade later, DHHL's 2008 GT Audit noted that there were discrepancies between DLNR lease files and SLIMS. The audit found that TMK Nos. were not always identified and correspondence was incomplete in the DLNR lease files. There is no information on whether other government entities with NHRF-protected land were notified of these requirements and follow the same procedures.

At present, there are no resources available for DHHL to undertake the costly process of maintaining its own NHRF-protected land inventory with regular input from DLNR. There are also no DHHL staff assigned to monitor land inventory and lease file information.

*Previous Recommendation 1F: Update NHRF Land Inventory*

Various audits in 1993, 1999, and 2007 recommended that the DLNR and DHHL maintain a comprehensive inventory of former cultivated sugarcane lands (leases, permits, set asides, etc...) and water licenses that are subject to NHRF entitlements. But before launching further examination into land inventories, there must be agreement on the definition of NHRF "protected land," which is subject to NHRF entitlements in perpetuity regardless of whether "such lands are sold, developed, leased, utilized, transferred, set aside or otherwise disposed of." Under the 1979 DLNR-DHHL Memorandum of Understanding (MOU):

“protected land” is defined as all State lands that were, on November 7, 1978, leased for the cultivation of sugarcane.

However, the Hawai‘i Constitution and HHCA do not refer to “State lands”, but instead, to: “State receipts from lands previously cultivated as sugarcane lands under any other provision of law.” In other words, NHRF can apply to any land, public or private, that was cultivated as sugarcane lands on November 7, 1978, and which produce “State receipts”. Under this reading of the language in the HHCA, “protected land” is defined as all State lands and other land that were on November 7, 1978, leased for the cultivation of sugar and which involve state receipts.

The 1979 DLNR-DHHL MOU working definition of “protected land” needs to be reviewed since it affects the inventory of land subject to NHRF entitlements. The 1979 study relies on DLNR sources of information. Meanwhile, the 1999, 2008, and SLIMS audits and studies instead rely on the 1993 audit’s inventory, which draws on information from the DHHL’s R.M. Towill report, which in turn relies on the 1979 study, DLNR sources, and USGS 1977-78 orthophoto maps to define the public land leases in sugarcane cultivation subject to NHRF (i.e. protected lands) (Figure 2).

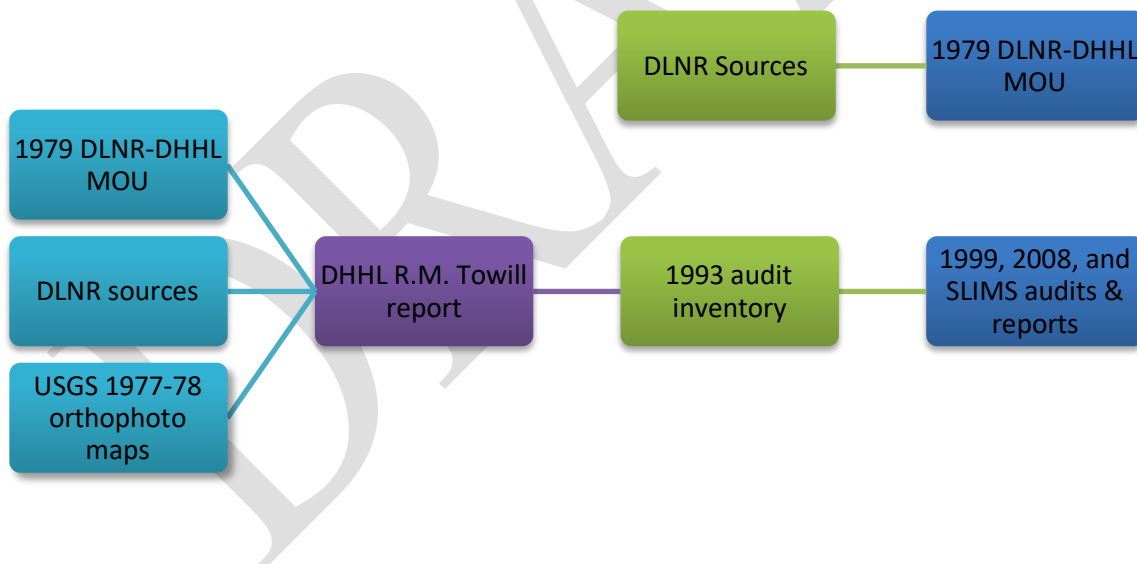


Figure 2. Data Sources for inventories of protected lands from various audits and reports.

The 1999 State Audit found that DLNR “lacks a comprehensive inventory”.<sup>42</sup> DLNR responded that a new computer system was being implemented (i.e. SLIMS) and a field is dedicated to identify NHRF parcels. The recently developed Public Land Trust

<sup>42</sup> 1999 State Audit at 9-10.

Information Systems (PLTIS) also provides a system to track NHRF-protected lands, including lands under the jurisdiction of DLNR, other state agencies and counties, as well as private entities.

*Previous Recommendation 1G: Reconciliation between acreage listed in DLNR fiscal records and lease documents.*

The 1993 D&T Report identified three cases where DLNR land division did not notify its fiscal office of changes to lease terms and payment amounts.<sup>43</sup> DHHL consultants recommended DHHL request explanations for acreage differences between DLNR's Fiscal Office records and related lease documents. In its response, DLNR agreed that there was a discrepancy and promised to investigate the issue and correct the situation.<sup>44</sup>

*Previous Recommendation 1H: DLNR should be required to provide information required under the 1980 Memorandum of Understanding*

The 1993 D&T Report recommended ensuring that DLNR provided DHHL with pertinent information set forth in the 1980 MOU and updated the State Land Disposition (SLD) forms to require identification of DHHL-encumbered lands. DLNR agreed with this 1993 recommendation.<sup>45</sup> Currently, DLNR includes a field to identify NHRF protected lands in its State Land Inventory Management System (SLIMS) public land inventory database. DLNR transmits its draft submittals to DHHL for comment. DLNR has revised its BLNR submittals to include a section identifying whether NHRF lands and entitlements are affected. DHHL's comments are also included in the submittal.

Recently, DLNR provided a list of public lands subject to DHHL entitlements as identified in their SLIMS database. This list does not include water licenses. The list also does not identify all lands held by other agencies and counties; it is also unclear whether these government entities have procedures for notifying DHHL about dispositions of NHRF-entitled lands. For example, the consultants met with Agribusiness Development Corporation (ADC) and Department of Agriculture (DOA) staff and confirmed that no

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<sup>43</sup> 1993 D&T Report at 10.

<sup>44</sup> In regard to leases covering both available lands and protected lands, DLNR responded, "A review of Land Management Division and Fiscal Office records seems to indicate that additional revenue entitlements covering General Lease Nos. -4222 and S-4576, issued to Kekaha Sugar Co., Ltd. and Lihue Plantation Co., Ltd., respectively, are owed to the DHHL for the 1990, 1991 and 1992 calendar years. Therefore, we will investigate this allegation to determine whether there are any additional revenue entitlements to the DHHL." DLNR Response to 1993 D&T Report at 10.

<sup>45</sup> Letter from Keith Ahue, Chairperson, Board of Land and Natural Resources, to Hoaliku L. Drake, Chairman, Hawaiian Homes Commission, Subject: Preliminary Entitlement Study Relative to Audit of Department of Hawaiian Home Lands' (DHHL) Native Hawaiian Rehabilitation Fund Entitlements Under Article XII, Section 1, Hawaii State Constitution," Doc. No. 9312GA01, at 3 (dated Dec. 21, 1993) ("DLNR Response to 1993 D&T Report").

notification procedures were in place for NHRF-entitled lands held by these respective agencies. Meanwhile, DHHL has no staff assigned to monitor compliance with the 1980 MOU with DLNR or other state agencies and counties.

### **Maximize Existing Sources of Revenue**

*Previous Recommendation 2A: Amending HRS §171-95 to require appraisals prior to set aside or transfer of public lands subject to DHHL entitlements.*

HRS § 171-95 governs disposition of public lands to governments, governmental agencies, public utilities, and renewable energy producers. This recommendation to require appraisal first surfaced with the 1991 State Auditor’s Study of DHHL Entitlements.<sup>46</sup> The Auditor observed DLNR had taken sugarcane lands out of DHHL’s intended revenue stream for public purposes “without considering DHHL’s loss of revenues and or what might be fair compensation for this loss.”<sup>47</sup>

During the 1992 legislative session, HB No. 3474 was introduced to amend HRS §171-95 to require independent appraisals of public lands as part of project initiation.<sup>48</sup> While concurring that “government agencies using public lands for public purposes which entail the payment of revenue entitlements and, from which revenues are/will be generated, be required to compensate OHA and DHHL.” However, BLNR opposed payments to OHA/DHHL for public lands used for public purposes (parks, schools, roads, etc.).<sup>49</sup> Further, BLNR was “completely against” authorizing both OHA and DHHL to approve the selection, instruction, and report of the appraiser because that authority was vested in BLNR. BLNR noted “the appraisal community does have a code of ethics which would ensure a fair appraisal[.]”<sup>50</sup>

Finally, BLNR argued the Hawai’i Constitution is silent on the matter of requiring compensation “when no revenues are anticipated from said disposition.”<sup>51</sup> By memorandum dated August 30, 1979, the State Attorney General (AG) opined that protected lands set aside for public purposes to other agencies and counties would only be required to pay compensation to DHHL if the land uses were revenue generating.<sup>52</sup> The AG determined that NHRF-encumbered lands set aside by executive order for

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<sup>46</sup> Auditor, State of Hawai’i, Study of Revenue Entitlements of the Department of Hawaiian Home Lands, Rep. No. 91-9, 21-22 (Feb. 1991) (“1991 State Audit”) (including recommendation to amend HRS §171-95(a) to require appraisal of all public lands prior to transfer to other agencies).

<sup>47</sup> 1991 State Audit at 15.

<sup>48</sup> See Hoaliku L. Drake, Chairman, Hawaiian Homes Commission, Subject: Testimony on H.B. 3474, to the House Committee on Water, Land Use and Hawaiian Affairs (Feb. 8, 1992).

<sup>49</sup> Testimony of William W. Paty, Chairperson, Board of Land and Natural Resources to the house Commission on Water, Land Use and Hawaiian Affairs, House Bill No. 3474, at 1 (Feb. 4, 1992).

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> 1979 AG Memo at 5.

purposes that do not generate funds, such as a county park, would result in a \$0 transfer to DHHL, unless and until the county generated funds from the land.<sup>53</sup> Similarly, a set aside of NHRF-encumbered lands to another agency would result in the other agency becoming obligated to forward a 30% share of revenues to DHHL.

In 1986, the State Auditor criticized a 1983 AG opinion that distinguished “set asides” of public lands from other dispositions subject to OHA public land trust entitlements under HRS chapter 10.<sup>54</sup> “As a footnote,” the Auditor observed the AG’s opinion would make it “possible for income from the use of public trust lands (a share of which income OHA might otherwise be legitimately entitled to) to be shielded from the claims of OHA by simply setting aside and transferring the lands to a governmental agency for such use.”<sup>55</sup> Similarly, the State cannot shield sugarcane lands from legitimate entitlements to DHHL for sugarcane land revenues by simply shifting them to other agencies or counties.

Act 318, 1992 Haw. Sess. L. (codified at HRS §171-18.5) provided specific guidelines for transfer of sugarcane lands for State housing projects. It requires DLNR to conduct Fair Market Value (FMV) land appraisals of public lands for transfer to Hawai‘i Housing Finance & Development Corporation (HHFDC) at wholesale rates, rather than when lots/homes are sold or rented to individual buyers at retail rates. On this basis, for instance, DHHL received compensation for public lands transferred to HHFDC at Leiali‘i, Honokōwai, and Hanapēpē.

The 1999 State Auditor Follow Up Study again recommended amending HRS §171-95 to require professional appraisal of all public lands where trust obligations are involved and/or lands are to be transferred to other agencies.<sup>56</sup> While recognizing DHHL had been compensated for lands set aside to HHFDC in Lahaina, Honokōwai, and Hanapēpē, the Auditor again criticized the lack of an appraisal requirement for land exchanges between government agencies in HRS §171-95.<sup>57</sup>

DLNR disagreed with this recommendation, arguing section 5(f) of the Admission Act imposed five trust purposes and OHA/DHHL entitlements should be denied where other trust purposes were fulfilled on the lands. “Consequently, it is our position that the State is not obligated to compensate either the Office of Hawaiian Affairs or DHHL where public trust, protected lands are used to fulfill any one or more of the trust

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<sup>53</sup> *Id.*

<sup>54</sup> Tany S. Hong, Deputy, Office of the State Attorney General, to Ryokichi Higashionna, Director, Hawai‘i Department of Transportation, at 4 (Sep. 23, 1983).

<sup>55</sup> Auditor, State of Hawai‘i “Final Report on the Public Land Trust, Act 121, §3,” at 113 (Report to the Hawai‘i Legislature, 1986) *available at*: [http://lrbhawaii.info/reports/legrpts/auditor/1987/act121\\_slh82.pdf](http://lrbhawaii.info/reports/legrpts/auditor/1987/act121_slh82.pdf).

<sup>56</sup> Auditor, State of Hawai‘i, Follow-Up to the Study of Revenue Entitlements to the Department of Hawaiian Home Lands, Rep. No. 99-13 (Mar. 1999) (“1999 State Audit”).

<sup>57</sup> 1999 State Audit at 18.

purposes.”<sup>58</sup> DLNR further responded, “valuation procedures for land conveyances between government agencies do not exist.”<sup>59</sup> This is largely because public purposes are not revenue-generating.

Currently, set asides of public lands are subject to 2/3<sup>rd</sup> legislative disapproval (HRS § 171-11). Under a DLNR Memo dated June 10, 1998, land agents should 1) Request DHHL comments on NHRF lands; 2) indicate NHRF encumbrance on Board submittals; 3) provide DHHL with Board submittal prior to meeting. However, DLNR argued that the cost of tracking such efforts may outweigh NHRF revenues, estimated at around \$200,000 to \$250,000.<sup>60</sup>

*Previous Recommendation 2B: Entitlement to Interest Due to Delayed Rent Re-openings*

The 1993 D&T Audit observed several cases where sugar lease rental re-openings were delayed due to protracted appraisal and rent issues. After the issues were settled, the DLNR did not seek interest payments from the lessee to cover time losses and delays. DLNR maintains its position that no payments were received by DLNR until the time of closing, therefore, no payments were made to NHRF. It is not clear whether DLNR has a late payment law, rule, or policy.

*Previous Recommendation 2C: DHHL should seek payments from DLNR for lease rents from protected lands for rent credits, rent reductions, and rent waivers*

The 1993 D&T Report recommended that DHHL seek payments from DLNR for lease rents from protected lands, credits for overpayments, and rent waivers. In 1992, BLNR authorized rent waivers to lessees and permittees affected by Hurricane Iniki, which represented \$170,654 in lost entitlements to NHRF.<sup>61</sup> This recommendation initially targeted specific DLNR leases and accounts, which DLNR largely defended on the basis of unique circumstances surrounding those accounts. DLNR refused to recognize a DHHL entitlement due consequent to rent waivers.<sup>62</sup> Specified instances of rent waivers were needed to assuage Hurricane Iniki damage and keep sugar growers in business.<sup>63</sup> DLNR

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<sup>58</sup> Letter from Timothy E. Johns, Chairperson, DLNR, to Marion Higa, State Auditor, Subject: “Follow-Up to the Study of Revenue Entitlements to the Department of Hawaiian Home Lands,” at 7 (Mar. 5, 1999) (attachment no. 2 to the 1999 State Audit) (“DLNR Response to 1999 State Audit”).

<sup>59</sup> DLNR Response to 1999 State Audit at 6.

<sup>60</sup> DLNR Response to 1999 State Audit at 5-6.

<sup>61</sup> 1993 D&T Report at 22.

<sup>62</sup> In regard to Rent Waivers, DLNR wrote, “Again, the DLNR reiterates that the DHHL is entitled to receive only 30% of State revenues collected from lessees and permittees. The claim for \$170,654 as the DHHL’s share of the total minimum rent waived will not be recognized by the DLNR.” DLNR Response to 1993 D&T Report at 9.

<sup>63</sup> In regard to entitlements based on rent reductions, “The DLNR believes the DHHL is entitled to only 30% of State revenues collected from State lessees and permittees. The matter of the rental



took the position that DHHL is entitled only to 30% of received revenues, not those outstanding or waived.

The intent of HHCA §213, however, was to provide revenue to DHHL, regardless of whether other agencies decide that other public purposes warrant a waiver or reduction of rent. As a general policy matter, the AG has determined that the 30% clause would extend to revocable permits of sugarcane lands and water, even though “no expressed reference is made to revocable permits” in the committee reports or text of the constitution.”<sup>64</sup>

Providing a 30% share of interest on delayed lease reopening, interest on late payments, and equivalent payments for rent waivers would implement the intent to provide a source of revenue to DHHL without obstructing DLNR’s authority to dispose of public lands and waters under HRS chapter 171.

*Previous Recommendation 2D: Assign Responsible Division Within DHHL*

Starting with the 1993 Audit, it was recommended that DHHL assign NHRF MOU enforcement functions to a specific division. The DHHL Land Management Division (LMD) was assigned responsibility to enforce the NHRF MOU and be a liaison with DLNR. Due to loss of staff, however, this function was not continued.

*Previous Recommendation 2E: Review and revise the 1980 Memorandum of Understanding Between DLNR & DHHL*

The 1999 Audit recommended that DLNR develop policies and protocols to comply with the 1980 MOU, while maintaining up-to-date lease, permit, and license information. At the time, DLNR responded that the new State Land Inventory System (SLIMS) was being designed to fill in the gaps caused by absent policies and protocols.

Yet with the demise of sugarcane production, termination of leases, transfer of lands to other agencies, and lack of activity and revenues, less attention has been paid to the 1980 MOU.

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decreases is at the discretion of the BLNR who felt that the rental decreases were appropriate due to the devastating effects of Hurricane Iniki, and because of the tenable state of the sugar industry on the Island of Kauai and the prospect of possible sugar plantation closures. It was important to keep the sugar plantations in operation rather than to close them down altogether and not have any revenue entitlements to the DHHL.” DLNR Response to 1993 D&T Report at 10.

<sup>64</sup> Memorandum from Edwin P. Watson, Deputy Attorney General, State of Hawai‘i, to Susumu Ono, Chairman Board of Land and Natural Resources, Subject: Request for Interpretation of Provisions in Amendments to Article XI of the Hawaii State Constitution (Hawaiian Homes Commission Act), at 3 (Aug. 30, 1979) (on file with DHHL) (“1979 AG Memo”).

## Maximize Revenue from New Sources

### *Previous Recommendation 3A: Renewal of Revocable Permits*

**Short term dispositions under Revocable Permits.** The 1993 Audit noted that revocable permits should be temporary, often for three years or less. Annual revocable permits, however, have been re-issued year after year for far longer than that timeframe, raising the question of how many renewals should be allowed before long-term leases must be issued. A DLNR Task Force is reviewing current DLNR revocable permit practices.

**Lack of fair market value rent.** In the 1993 Audit, DLNR argued that NHRF was only entitled to 30% of the revocable permit revenue received by DLNR. DHHL asserted that its interest extends to the proper management of revocable permits. By continuous renewal of revocable permits, DHHL is likely to have experienced a loss in NHRF revenue from rents lower than market rates, and there has been less scrutiny of related environmental and watershed management issues. An analysis should be conducted to examine the amount of lost revenue due to NHRF due to renewal of revocable permits.

**BLNR discretion to waive or reduce rents.** The 1993 Audit noted that DLNR insisted that increasing or decreasing revocable permit rents was a responsibility held solely by BLNR, which for years prioritized the benefit of the sugar industry over increasing agency revenues. Yet as trustees of the public trust and NHRF, BLNR should be responsible for ensuring comprehensive analysis prior to waiving or reducing rent.

**State receipts from water licenses.** An expanded definition of “receipts” would encompass any state agreement for use of water resources, including:

- The right to an allocation of water
- Use of water at different levels of salinity such as sea water, brackish or potable water
- Use of water in any state and temperature such as solid, liquid, gas
- Use of water at different levels of purity or contamination such as from sewer re-claimed water or desalinated water
- Use of water from any source such as groundwater, surface water, and water from the ocean, rivers, and rainfall
- Use of water from any facility such as wells, storage/reservoirs, intakes, treatment plants, and distribution/collection lines

*Previous Recommendation 3B: Plan for Future Uses of Sugar Lands*

Audits in 1991, 1993, and 1999 discussed the need to plan for the future use of sugarcane lands. “The future of the sugar industry is uncertain . . . These lands may need to be given over to residential, commercial, and industrial purposes.”<sup>65</sup> In the 1991 State Audit, DLNR concurred with the recommendation to plan for future use of sugar lands.<sup>66</sup>

And eight years later in the 1999 State Audit, DLNR continued to question whether “there are more effective, practical methods of accomplishing the objective of ensuring a permanent revenue stream to DHHL. Instead, in the years that followed, the Legislature passed Act 90, SLH 2003, that required the DLNR to transfer (non-ag park) agricultural lands in fee to the State Department of Agriculture.

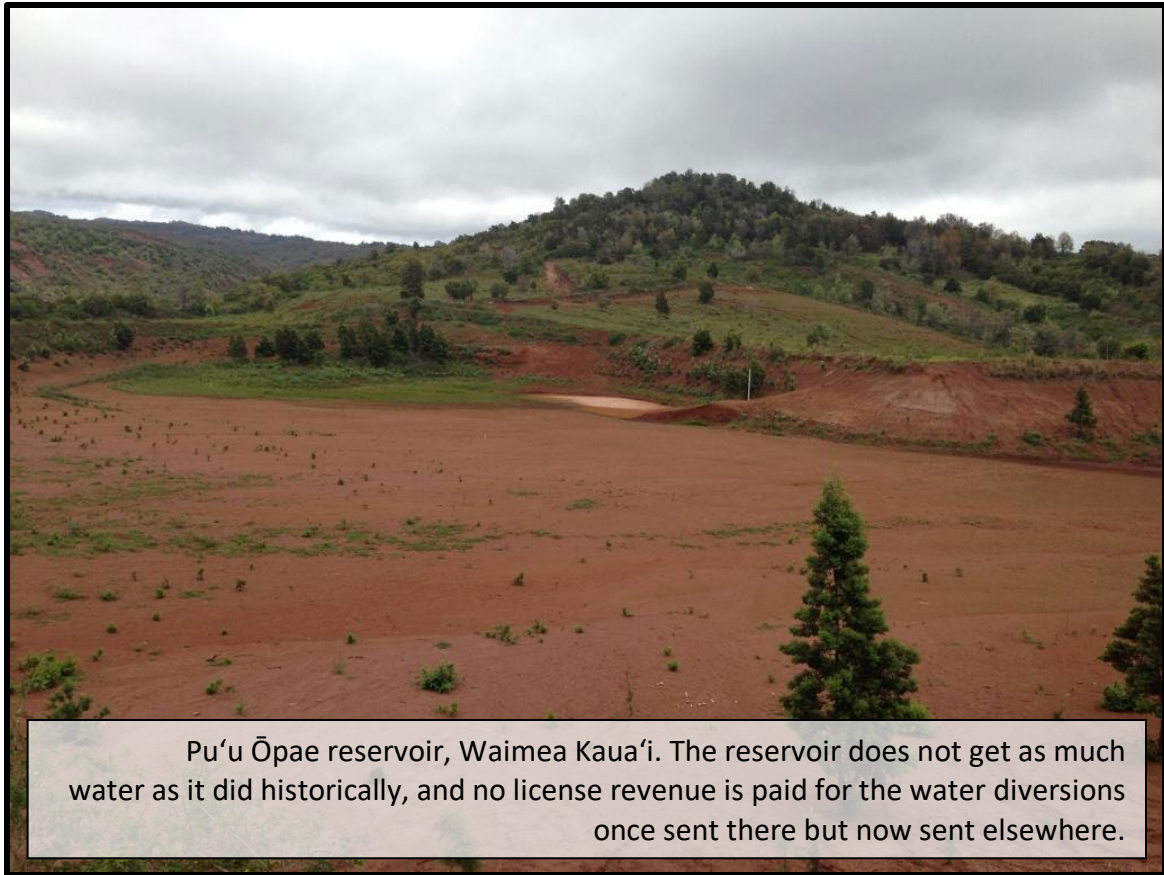
There is limited information on the status of these transfers. One thing, however, is clear: Other agencies using NHRF protected lands do not generate significant revenues. As a result, NHRF receives 30% of very little – or nothing at all. In general, DHHL should shift from a passive role of waiting for benefits, to a more active role of directly managing selected assets.

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<sup>65</sup> 1991 State Audit, at 20-21.

<sup>66</sup> 1991 State Audit, at 37.



### **Chapter 3: Recommendations for the Future Auditing and Management of the NHRF**

This chapter sets forth a more detailed discussion of the challenges and recommendations to increase NHRF revenue from lands previously cultivated in sugar. Such challenges include: (1) “set asides” of lands and waters from DLNR to other state agencies and counties that have muddled accurate inventories of NHRF assets; (2) the exclusion of easements from NHRF entitlements; and (3) incomplete and conflicted inventories of NHRF assets (Table 4). This chapter thus develops preliminary analyses of the reasons “set asides” and easement lands are subject to NHRF claims, steps toward defining a methodology to identify all land parcels subject to NHRF, identifies short- and long-term actions needed to implement that strategy, and organizes those into actions that specific divisions of the Department and HHC can take. In addition, it provides updated recommendations from historical audits (Table 5) that were summarized in Chapter 2 (Table 3).

Table 4. NHRF Strategy Recommendations for contributory lands, set-aside lands, and Kahoma Land Co.

| Topic                            | Recommendation  |
|----------------------------------|---|
| <p><b>Contributory Lands</b></p> | <p>The NHRF strategy should include the production of legal memoranda setting forth the argument and basis for including receipts from contributory lands.</p>  |
| <p><b>Set Aside Lands</b></p>    | <p>The Audit and Advocacy Plan for NHRF reviewed and analyzed previous audits completed by the State Auditor and DHHL as well as other studies of NHRF and consultations with DLNR Land Division; DHHL Fiscal, Administrative, and Land Management Divisions; and the Office of Hawaiian Affairs (OHA). The following recommendations are based on those consultations and analyses.</p> <ol style="list-style-type: none"> <li>1. Department of Agriculture (DOA)/ Agricultural Development Corporation (ADC) procedures for processing NHRF entitlements must be clarified.                     <p><i>Issue:</i> DLNR does not have revenue producing lands and declines responsibility to plan for revenue production. Preferred lands have largely been set aside to other agencies, primarily ADC/ DOA, although DLNR is attempting to prevent “cherry picking” of lands by forcing other agencies to take the “junk” lands as well. DLNR planning for NHRF entitlements would have been more effective if implemented prior to Act 90, Sess. L. Hawai’i 2003, when agricultural lands were required set aside to ADC/ DOA.</p> </li> <li>2. Inter-agency transfer of entitled lands process should be further investigated.                     <ol style="list-style-type: none"> <li>a. Land transferred to counties is for public purposes – like parks, etc., and therefore</li> <li>b. HCDA transferred lands to the county, resulting in loss of protections requiring a legislative vote to approve/ disapprove sale of land.</li> </ol> </li> <li>3. Water licenses may not be a source of revenue, but should be a focus of NHRF audits.                     <ol style="list-style-type: none"> <li>a. Water lease amount = Cost of a watershed management plan + 50% (30% to DHHL and 20% to OHA)</li> <li>b. Implementation of a “donut” or “sandwich” policy. DLNR issues leases to nonprofits at nominal cost, but once the nonprofit</li> </ol> </li> </ol> |

|  |   |
|--|---|
|  | <p>generates revenue, then the nonprofit has to pay rent. E.g., UH rent for Mauna Kea may implement this policy.</p> <p><b>The NHRF strategy</b> should include:</p> <p>1) Convening an intra-agency working group on NHRF entitlements;</p> <p>2) Expanding to NHRF receipts Executive Order (“EO”) No. 06-06/ Act 178 required agencies to report revenues received from public trust lands. OHA indicated pushing for expansion of EO 06-06/ Act 178 may open opportunities to deprive OHA of their existing benefits; and</p> <p>3) producing legal memoranda setting forth the argument and basis for including receipts from lands set aside to other agencies, including the County.</p> |
| <p><b>Kahoma Land Co. Case Study</b></p> | <p><b>The NHRF strategy</b> should include the production of legal memoranda setting forth the argument and basis for including receipts from easements and further legal analysis as to whether specific advocacy for receipts from Kahoma access easements is warranted.</p>  |

## Recommendations for defining NHRF lands

### Procedures for reviewing DLNR Land Division records.

If the parcel under review is not in one or both 1978 Protected Land Inventories, consult with the original lease/permit files and documents at the DLNR Land Division to establish if the land parcel is subject to NHRF. In conducting the review, be sure to cite original data sources:

- Certified Survey File (CSF) No. assigned by the Survey Division, State Department of Accounting and General Services
- Tax Map Key (TMK) No. assigned by the Real Property Tax Division, County Departments of Finance
- Proper DLNR document numbers for State General Lease (GLS), Revocable Permit (RP), License Agreement (LA), Right of Entry (ROE), Right of Way (ROW), Governor’s Executive Order (GEO), Governor’s Proclamation (GP), Land Office Deed (LOD)

Collect the following data to establish whether or not the land parcel was cultivated in sugarcane on November 7, 1978, and subject to NHRF:

- EFFECTIVE DATE of Land Conveyance - Was the land conveyance in effect on or before November 7, 1978 or was it issued after November 7, 1978?
- ACREAGE - Identify accurate, detailed parcel boundaries and acreage as established by the TMK and CSF
- LOCATION - General location on island, position within a larger plantation, possibly by ahupua'a, ili, or place name
- CHARACTER OF USE - Was the land conveyed for "Sugarcane cultivation"? Does the file contain maps of the cane, contributory, pasture, and other categories of land use? Cite the source of your map information.
- LAND OWNER - Define whether the property is owned by DLNR, other State entity (DOA, ADC, HHFDC, DOT, DOE); another public entity (County, Federal), or a private entity (Private for profit, private nonprofit, church).
- USER OF LAND - Identify the Lessee, Permittee, Licensee, or other holder of the land interest. Specify who the land was conveyed to.

Review the information collected and prepare a memo, with supporting documents attached, justifying the recommendation that the land reviewed is subject to NHRF or is not subject to NHRF, and why. These memos would serve to form the basis of a land management information system on NHRF Protected Land.

### **Recommended approaches to defining NHRF land assets.**

DHHL should include the following actions:

- 1) developing in-house rationale and legal arguments for regarding the applicability or coverage of NHRF provisions;
- 2) developing a legal analysis on whether to pursue entitled receipts;
- 3) defining issues and best way to proceed, such as, by seeking an opinion from the Attorney General, securing private attorney services, or filing a petition for instructions the courts;
- 4) renegotiating a new MOU with DLNR and other agencies holding NHRF assets.

### **Inventories of NHRF land assets**

Having a complete and accurate inventory of lands in sugarcane cultivation (Protected Lands) is important because these lands form the basis for NHRF now and in the future,

whether the lands are "sold, developed, leased, utilized, transferred, set aside, or otherwise disposed of for purposes other than the cultivation of sugarcane".

### **Processes for determining NHRF land assets**

The following recommends a process for ascertaining a definitive list of the original inventory of protected land parcels as of November 7, 1978, the current inventory of these lands, as well as a potential inventory that would properly include a range of NHRF land assets.

#### *Original inventory of NHRF lands.*

The process for determining the original inventory would include the following three components. First, confirm that parcels were in sugarcane cultivation on November 7, 1978. In order to establish an inventory of the original Protected Lands in effect on November 7, 1978, the methodologies used in several inventories were reviewed by staff as to quality and accuracy of data, reasonableness of process. It is recommended that the following inventories be used to determine the original Protected Lands: the 1979 DHHL Audit of DLNR Sugar Cane Leases, and the 1987 Protected Land Study. Use the existing Protected Land Inventories with acceptable methodologies. Next, use original DLNR parcel file information to ascertain whether a State land parcel meets the definition of Protected Land.

Second, confirm land is owned by the state of Hawai'i. Find evidence of acquisition such as deeds, quitclaim deeds, BLNR actions, acquisition or condemnation agreements, or court orders and opinions that confirm the status of the land in regard to NHRF and/or whether sugar was being cultivated on the parcel at any time on or before November 7, 1978.

Third, confirm that state receipts are derived from former sugarcane lands whenever such lands are sold, developed, leased, utilized, transferred, set aside, or otherwise disposed of.

#### *Current inventory of NHRF lands.*

For the current inventory of State protected land parcels, first DLNR's Public Land Trust Information System (PLTIS) should be used to determine whether the protected land has been: "sold, developed, leased, utilized, transferred, set aside, or otherwise disposed of" to another agency or private entity or used "for purposes other than the cultivation of sugarcane" and further describe the current use of the land.



### *Potential inventory of NHRF lands.*

In order to identify the potential inventory of protected land parcels, that is, still under non-State ownership, the following resources should be consulted and cross-referenced: the U.S. Geological Survey mylar orthophoto maps taken statewide in 1977 and 1978 showing actual uses of land, including sugarcane cultivation; plantation maps and field books, as available, from sugar companies circa 1978 showing the locations and acreages of sugarcane fields and contributory uses; and tax agent field book notes, as available, from County Real Property Tax Offices circa 1978 showing the locations and acreages of sugarcane fields and contributory uses.

### **NHRF strategies for confirming and expanding inventories**

The following steps should be taken to confirm and expand inventories of NHRF land assets.

- 1) Develop legal arguments to support applicability of NHRF in an expansive form, such as (a) to any type of land conveyance, (b) to any public or private entity. How should these legal arguments be processed? By seeking an Attorney General opinion, file a petition for instructions from Circuit Court, lawsuits?
- 2) Compile the information from the 1978 Dolan and Towill reports, discussed *infra*, into one definitive report on Protected Land as of November 7, 1978. From this date, compile a record of each parcel's history going forward such as any subdivisions of the parcels, changes in land conveyances, changes in character of use, changes in owner.
- 3) Compile the information from DLNR files and memoranda justifying whether or not the land under review is or is not subject to NHRF. A responsive memoranda should be filed at DHHL.
- 4) Establish a way for DHHL to interface with the DLNR SLIMS in order to conduct research on current land conveyances.

### **Coordinating inventories**

Proper monitoring of NHRF-related land and water transactions to other “departments and subdivisions of the State” are complex involving layers of transactions, for example:

- Within DLNR, for example, from the Land Division to other divisions
- Between DLNR and other Federal, State, and County agencies
- From agencies who originally received public lands from DLNR to other public and private, non-profit and for-profit, entities

Once a master inventory of public lands subject to the NHRF is confirmed, there are a number of reports and databases which can be corrected, as needed, and used on an ongoing basis to monitor NHRF related transactions, State receipts, and NHRF revenues.

### **Annual Report on Land Dispositions Made of Public Lands by Calendar Year**

Pursuant to HRS §171-29, DLNR submits a report annually to the Legislature of all land dispositions made by DLNR the preceding calendar year. The report lists all land dispositions by DLNR, including with other DLNR divisions, but not by other agencies. The report identifies each land parcel involved by Tax Map Key No., therefore, the TMK can serve as a primary way to identify NHRF-related land parcels and connect parcel information among different monitoring mechanisms. Of all data collected, the TMK is least likely to change over time. Further, once NHRF-related TMK parcels are confirmed, a specific field in the report should be dedicated to identify NHRF-related parcels.

### **Annual Accounting of All Receipts from Lands Described in Section 5(f) of the Admission Act by Fiscal Year**

Pursuant to Act 178, SLH 2006, the DLNR submits a report annually of all receipts from lands described in Section 5(f) of the Admission Act (“ceded land”) in the preceding fiscal year. A portion of Section 5(f) ceded lands are covered by NHRF. All 19 agencies submit reports to DLNR which form the basis of the accounting. The report is used to determine the amounts to be transferred to the Office of Hawaiian Affairs. The report lists all land dispositions by all agencies, but is oriented to satisfy fiscal reporting needs.

The report identifies each land parcel involved by Tax Map Key No., therefore, the TMK can serve as a primary way to identify NHRF-related land parcels and connect parcel information among different monitoring mechanisms. Of all data collected, the TMK is least likely to change over time. Further, once NHRF-related TMK parcels are confirmed, a specific field in the report should be dedicated to identify NHRF-related parcels.

### **Public Land Trust Information System (PLTIS) Continuous Updates**

Pursuant to Act 54, SLH 2011, the DLNR operates a comprehensive information system to inventory and maintain information about the lands of the public trust as described in Section 5(f) of the Admission Act and Article XII, Section 4 of the Hawai‘i State Constitution. The PLTIS is a GIS-based system of all State and County owned lands, as well as a complete inventory of encumbrances issued by State and County agencies. PLTIS is updated continuously. The database system identifies each land parcel involved by Tax Map Key No., therefore, the TMK can serve as a primary way to identify NHRF-related land parcels and connect parcel information among different monitoring mechanisms. Of all data collected, the TMK is least likely to change over time. Further,

once NHRF-related TMK parcels are confirmed, a specific field in the report should be dedicated to identify NHRF-related parcels.

### Updated recommendations from previous NHRF Audits

As part of the review of previous audits conducted on the NHRF in Chapter 2, and the associated partially or unimplemented recommendations from those past audits (Table 3), we have updated those recommendations as part of the Audit and Advocacy NHRF Report. Table 5 compares the previous recommendations with the new recommendation based on our analysis of current framework and opportunities.

Table 5. Updated recommendations from previous NHRF Audits

| Previous Recommendation   | New Recommendation  |
|---|---|
| <b>1. Verifying revenue from existing agreements/dispositions</b>       |   |
| <p><b>1.A</b><br/>Clarify Possible Entitlements</p>                     | <ul style="list-style-type: none"> <li>• No further action on former sugarcane lands within State airport boundaries.</li> <li>• No further action on former sugarcane lands which do not produce State revenues, such as State highways and public schools.</li> <li>• No further action needed for former sugarcane lands used for affordable housing projects which are covered by Chapter 171-18.5, HRS.</li> <li>• Seek legal analysis to confirm that new land acquired by land exchange or used as easements involving former sugarcane land shall continue to be subject to NHRF. NHRF is intended to continue in perpetuity and the value of the trust corpus must be maintained even when a land exchange or easements are involved.</li> </ul> |
| <p><b>1.B</b><br/>Clarify Entitlements of Easements Subject to NHRF</p> | <p>Reconciling past DLNR Land Division and Fiscal Office records is not recommended at this time. Instead, it is recommended to: conduct a definitive inventory of NHRF protected lands; update the transferred status; resolve legal and procedural issues; conduct a financial analysis to correct discrepancies; and determine past NHRF payments still due; and replace the 1980 MOU with a Manual .</p> <p>DHHL should seek legal advice to understand if easements over protected land are subject to payment to NHRF, such as in eight identified cases discussed in this report. Detailed maps should</p>   |

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|   | be reviewed to determine the specific locations of NHRF-protected lands in use.   |
| <b>1.C<br/>Seek clarification about DHHL entitlement to sugar experiment station land revenue</b> | Revenues from former sugar experiment stations lands may not warrant specific action on this issue. This issue is important because a determination that DHHL would <i>not</i> be entitled to these revenues could bear an adverse interpretation of the constitutional provision entitling DHHL to “thirty per cent of the state receipts, derived from <u>lands previously cultivated as sugarcane lands under any other provision of law</u> and from water licenses.” <sup>67</sup> This provision entitles DHHL to revenues from private lands “cultivated as sugarcane lands” as of November 7, 1978, later acquired by the State, and should include former sugar cane experiment station lands as well as any other private lands previously used by commercial sugar operations. |
| <b>1.D<br/>Update State Land Disposition (SLD) Form</b>   | DHHL will need to confirm which agencies and counties have current jurisdiction over NHRF-protected lands and investigate whether these government entities have implemented related land management and data processing procedures.  |
| <b>1.E<br/>Improve Lease Files and Create Review Process</b>                                      | DHHL should assess any discrepancies within files of NHRF-protected land that are held by DLNR and other state and county agencies. A detailed survey of a sample of files would help DHHL understand whether there is a financial argument in support of assigning DHHL staff to conduct an expanded, systematic review and ongoing monitoring of land inventory and lease file information. DLNR Land Division’s filing system should be reviewed to ensure it complied with auditor recommendations.   |
| <b>1.F<br/>Update NHRF Land Inventory</b>   | Develop legal arguments to support the applicability of NHRF in a more expansive form such as (a) to any type of land conveyance (b) to any public or private entity. Having an updated, accurate, and comprehensive inventory of NHRF-protected land is fundamental in ensuring proper monitoring and management of entitlements due to DHHL. Compiling the 1979 DHHL Audit and 1987 R.M. Towill Study into one report on parcels subject to NHRF in perpetuity is one possible effort that could offer additional clarity on the span of NHRF-protected   |

<sup>67</sup> Hawaiian Homes Commission Act §213(i) (emphasis added).

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|  | lands. A further recommendation is to establish a pathway for DHHL to interact with DLNR’s State Land Inventory Management System and the Public Land Trust Information System. These are discussed further in Chapter 4.  |
| <p><b>1.G</b><br/> <b>Reconciliation between acreage listed in DLNR fiscal records and lease documents.</b></p>                  | <p>Reconciling land division and fiscal records is not recommended at this time. Rather, a definitive inventory of NHR- protected lands and waters should be conducted, along with conducting a financial analysis to correct discrepancies and determine past NHRF payments still due. Dispositions of land cultivated as sugarcane on November 7, 1978, should include a clause/lien informing current and future users of the land,(in perpetuity, that the land is subject to entitlements through NHRF and HHCA.</p>  |
| <p><b>1.H</b><br/> <b>DLNR should be required to provide information required under the 1980 Memorandum of Understanding</b></p> | <p>The 1980 MOU should be renewed with DLNR and further MOUs should be executed with other agencies and counties now holding lands subject to DHHL entitlements. DHHL needs to confirm which agencies and counties have current jurisdiction over NHRF-protected lands and examine whether these agencies and counties have implemented related procedures.</p> <p>DLNR should continue to identify DHHL-encumbered lands in its submittals to BLNR and notify DHHL of upcoming decisions concerning NHRF lands and related dispositions of water resources.</p> <p>Accordingly, the MOU should be amended to read:</p> <ol style="list-style-type: none"> <li>1. “State lands” means lands title to which vests in the State of Hawaii excluding Hawaiian home lands.</li> <li>2. “Protected lands” means all <u>State lands and other land acquired by the State of Hawaii</u> that were, on November 7, 1978, leased for the cultivation of sugar.</li> </ol> |
| <p><b>2. Maximize existing sources of revenue</b></p>  |  |
| <p><b>2.A</b><br/> <b>Amend HRS §171-95 to require appraisals prior to set aside or</b></p>                                      | <p>Public lands subject to DHHL entitlements should be subject to specific assessments, including appraisals of land value, prior to the decision to set aside or transfer between agencies or counties. The purpose of requiring an assessment is to ensure that the Board of Land and Natural Resources (BLNR) is fully informed of the potential “highest and best use” of the land and</p>   |

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| <p><b>transfer of public lands</b></p>  | <p>possible loss of significant revenues to DHHL. While an appraisal provides one mode of assessment, a broader array of considerations – including DHHL oversight, procedural safeguards, subletting or revenue-sharing – could meet the purpose of providing fair compensation to DHHL. Set asides should not be used to shield public lands from encumbrances favoring DHHL. In addition, DHHL should be specifically notified of BLNR actions to set aside lands subject to NHRF and be consulted prior to such actions. In summary, we recommend:</p> <ul style="list-style-type: none"> <li>● Set aside of lands should be subject to public notification and specific notification to DHHL</li> <li>● Appraisal at “highest and best use” should be required to inform the BLNR of potential use of the land and its value, relative to the set aside of land.</li> <li>● Dispositions of land cultivated as sugarcane on November 7, 1978, should include a clause/lien informing current and future users of the land (in perpetuity) that the land is subject to HHCA/NHRF entitlements.</li> </ul> |
| <p><b>2.B Entitlement to Interest Due to Delayed Rent Re-openings</b></p>   | <p>Investigate DLNR laws, rules, and policies whether NHRF is authorized to receive interest payments due to delays in rental re-openings. Seek legal advice whether the law requires that late payments be subject to interest/penalty to the state.</p>   |
| <p><b>2.C DHHL should seek payments from DLNR for lease rents from protected lands for rent credits, rent reductions, and rent waivers.</b></p> | <p>DLNR’s practice of waiving rents is at odds with its fiduciary duties to the public trust. However, each instance of rent waiver and reduction previously examined was later explained to have a basis in a public purpose -- for example, mitigating impacts of Hurricane Iniki. DHHL should continue to seek repayment for specific rent credits, waivers and reductions, and should further:</p> <ul style="list-style-type: none"> <li>● Require that deliberation over support for competing public trust purposes should be made explicit in the lease rent waiver or reduction determinations.</li> <li>● Require a robust examination of alternatives, such as deferral of rent, late payment installments, and the addition of penalties and interest; and,</li> <li>● Procure a legal opinion concerning whether rent credits, waivers, or reductions that serve one public purpose over another are permissible and if so, which authorities govern DLNR’s unequal service.</li> </ul>  |

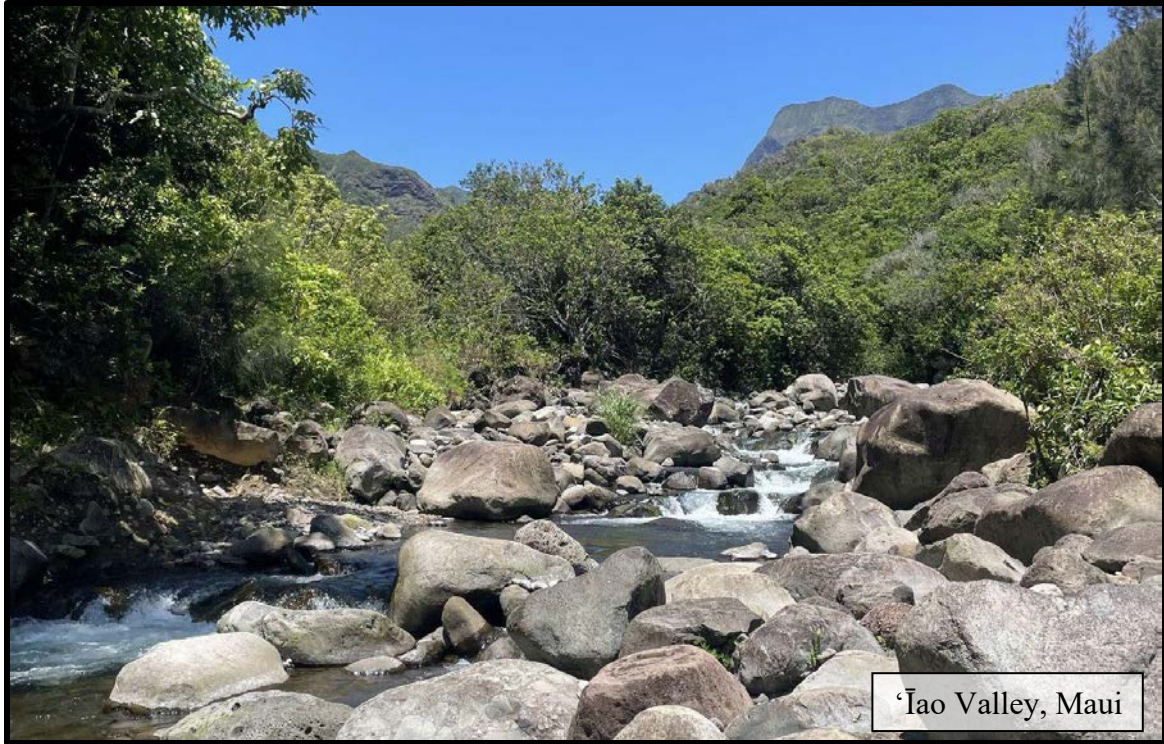
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| <p><b>2.D</b><br/> <b>Assign Responsible Division Within DHHL</b></p>  | <p>One of the purposes of this study is to define a scope of work for future work by DHHL staff and/or consultants, in an attempt to make monitoring and oversight more efficient. It is recommended that HHC includes resources in future administrative budget requests per the Nelson decision (141 Haw. 411 (Haw. 2018) to accomplish this.</p>   |
| <p><b>2.E</b><br/> <b>Review and revise the 1980 Memorandum of Understanding Between DLNR &amp; DHHL</b></p> | <p>In order to revise the 1980 MOU between DLNR &amp; DHHL, it is recommended to conduct a definitive inventory of NHRF-protected lands; resolve legal and procedural issues; conduct a financial analysis to correct discrepancies and determine past NHRF payments still due; and then examine the 1980 MOU to assess its utility and need for revision. DHHL should assess whether the potential benefits merit the expenditure of staff time and funds by DHHL.</p>   |
| <p><b>3. Maximizing revenue from new sources of revenue</b></p>  |   |
| <p><b>3.A</b><br/> <b>Renewal of Revocable Permits</b></p>   | <p>DHHL should advocate for a set of guiding principles and rules to formulate a methodology for pricing water allocated by the Commission on Water Resource Management and BLNR. This methodology can then be applied to appraisal processes for awarding revocable. DHHL should also assess whether past DLNR management practices constituted a breach of trust that merits payment for past loss of revenues, with interest, compounded annually, and for damages to the capacity for NHRF to provide benefits to native Hawaiians. Administrative or legal action may be required. These new rules should be applied to all future decisions involving the allocation of water resources.</p>  |
| <p><b>3.B</b><br/> <b>Plan for Future Uses of Sugar Lands</b></p>  | <p>A permanent, reliable revenue stream is needed to support NHRF rehabilitation programs and projects. In general, DHHL should shift from a passive role of waiting for benefits, to a more active role of directly managing selected assets. DHHL should seek a policy decision from the BLNR or Legislature authorizing the transfer of selected public lands in fee to DHHL. The justification includes: (a) the public land trust has five purposes, one being the benefit of native Hawaiians as defined in the HHCA, (b) NHRF requires a transfer of 30% of state receipts from protected land and water licenses, and (c) NHRF revenue has dropped dramatically due to the decline of sugar, and the transfer of NHRF-protected lands to other government</p> |

agencies for public use provides no additional revenue for the critical funding source.

DHHL should conduct planning evaluations and studies of selected public lands as an avenue to identify those with the highest revenue-generating potential. DLNR would be authorized to subdivide these identified lands and transfer parcels for DHHL to manage, develop, and lease for revenues. In addition, if public lands are transferred to the DHHL as HHCA trust assets, but not as “available lands”, the DHHL would have more discretion over management of the land.

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## **Chapter 4: NHRF Advocacy Plan: Applying Water License Entitlements**

This chapter offers an overview of NHRF water license entitlements, including definition and meaning of water licenses, its legal basis, an overview of how it has been applied since the 1990s, the scope of the NHRF water entitlement and how it applies to the public trust doctrine. Further we discuss the opportunities and challenges presented by water license entitlements, and recommendations for negotiating those opportunities and challenges. These recommendations include: (1) identifying systematic lack of types of issuances of NHRF resources; and (2) defining water resources subject to the water license provisions of NHRF.

### **Post-*McBryde* definition of “water licenses”**

**Definition of “water license”:** Since the *McBryde* decision in 1973, water has been recognized as a public trust resource, and therefore all waters are managed by the state as trustee.<sup>68</sup> The HHCA §221 definition of “water license” does not exclusively define water licenses subject to NHRF entitlement. Further, the HHCA §221 clause is anachronistic inasmuch as it refers to “government-owner water[.]”. HHCA §221 was

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<sup>68</sup> *McBryde Sugar Co. v. Robinson*, 54 Haw. 174, 504 P.2d 1330, aff'd upon rehearing, 55 Haw. 260, 517 P.2d 26 (1973) (cert. denied, 417 U.S. 976, 94 S. Ct. 3183, 41 L. Ed. 2d 1146, appeal dismissed, 417 U.S. 962, 94 S. Ct. 3164, 41 L. Ed. 2d 1135 (1974) (hereinafter “*McBryde*”)

written prior to *McBryde*, at which time “government owned” water referred to water appurtenant to government lands by way of konohiki, riparian, appurtenant, or possibly correlative rights.<sup>69</sup> Today, all water is now managed as a public trust resource by the government, rather than owned by the same. “Water license” therefore refers to all instruments through which the state, its agencies not limited to BLNR, and its political subdivisions dispose of rights to use water.

Defining “water license” to only refer to BLNR-issued leases for irrigation for sugar cultivation would be overly restrictive in light of constitutional provisions for NHRF revenues beyond the era of sugar cultivation. A Review of Hawai‘i constitutional convention committee meeting minutes and other materials did not disclose an attempt to limit “water licenses” as a revenue source for NHRF. The provision for water license revenues was made explicit in the 1978 Hawai‘i Constitution and no connection between “sugar water” and “water license” was anticipated by the drafters of the constitution.<sup>70</sup>

Rather, the plain language of the constitutional provision keeps 30% of water licenses in NHRF in perpetuity. The State Attorney General (AG) surmised that the intent of including “water licenses” in DHHL’s entitlement was to provide a consistent source of revenue to DHHL.<sup>71</sup> Referring to the Standing Committee Report, the AG wrote that although “no expressed reference is made to revocable permits, the intent is to provide a source of revenue and, therefore, to exclude revocable permits would negate such an intent.”

**Meaning of “water license”:** The 1978 State Constitution and HHCA state that “thirty percent of the state receipts derived from . . . water licenses shall be deposited into this fund.” The term “receipts” is defined as “to acknowledge in writing the receipt of (something, esp. money).”<sup>72</sup> The term goes beyond the receipt of money to include other types of consideration received. The term “water” is defined as “a transparent, odorless, tasteless liquid, a compound of hydrogen and oxygen, H<sub>2</sub>O, freezing at 32°F or 0°C and boiling at 212°F or 100°C, that in a more or less impure state constitutes rain, oceans, rivers, lakes, etc. . . .” The term includes the properties of water in liquid, solid, and gas states. The term “water” includes a wide range of states including solid, liquid, gas; and including from very hot (steam) to very cold (ice); from sea water to brackish water to potable water. The term “license” is defined as “an authority to do a particular

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<sup>69</sup> Williamson B. Chang, “Water Code Development in Hawaii: History and Analysis, 1978-1987,” Univ. of Hawai‘i Water Resources Research Center, Technical Rep. No. 173, 23 (Feb. 1987).

<sup>70</sup> State of Hawai‘i, *Proceedings of the Constitutional Convention of Hawaii of 1978*, Standing Committee Report No. 56, Vol. 1. at 632-33

<sup>71</sup> Memorandum from Edwin P. Watson, Deputy Attorney General, State of Hawai‘i, to Susumu Ono, Chairman, Board of Land and Natural Resources, Subject: Request for Interpretation of Provisions in Amendments to Article XI [*sic*] of the Hawaii State Constitution (Hawaiian Homes Commission Act), at 3 (dated Aug. 30, 1979) (on file with DHHL).

<sup>72</sup> “Receipt,” Black’s Law Dictionary 10<sup>th</sup> Edition, 2014.

act or series of acts upon another's land without possessing any estate therein."<sup>73</sup> The term goes beyond typical water licenses to include other forms of an "authority to do something" such as by permits, bills of sale, agreements, and contracts.

In reviewing these provisions collectively, the meanings of "state receipt" and "water license" encompasses any State receipt for payment of consideration for any formal permission for an allocation of water. DHHL holds the following rights to reserve and use the following forms to include:

- Use of water in any state (solid, liquid, gas) at any temperature.
- Use of water at different levels of salinity such as sea water, brackish, or potable water.
- Use of water at different levels of purity or contaminants such as re-claimed water and desalinization water.
- Use of water from any source such as groundwater, surface water, and water from the ocean, rivers, rainfall.
- Use of water from any facility such as wells, storage/reservoirs, intakes, treatment, and distribution lines.

Water licensing should thus be imposed on government authorizations for use of water, including the following examples:

- CWRM administered permits: well construction, pump installation, stream diversion, and water use permits
- Waters diverted and pumped by Counties
- Easements for private water systems and ditches passing through State lands
- Ocean water pumped for resort lagoon areas
- Ocean water pumped for retail sale as bottled water
- Use of watershed lands
- Use of submerged lands or seawall easements
- Use of open-ocean water column areas for commercial aquaculture
- Use of stream waters (diverted or otherwise) for hydroelectricity generation purposes
- Surface water stream diversions and irrigation distribution lines in specific geographic locations (e.g., Moloka'i Irrigation and Waimānalo Irrigation systems)
- Ground water wells, pumps, reservoirs, and distribution lines in specific geographic locations

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<sup>73</sup> "License," Black's Law Dictionary (10<sup>th</sup> Edition 2014)

## Legal bases for NHRF water license entitlement

The 1978 Hawaii State Constitutional Convention discussed these HHCA provisions at length, seeking to greatly expand its term, use, and Native Hawaiian beneficiary group. The Hawaiian Affairs Committee of the Constitutional Convention wrote:

Your committee found that . . . The original Act provides that 30 percent of the State receipts derived from revenues originating from cultivated cane lands and water licenses be transferred to the department [DHHL] to provide a means of developing farm, ranch and home lots.<sup>74</sup>

Review of 1978 Hawai'i constitutional convention committee meeting minutes and other materials did not disclose the origins of the inclusion of "water licenses" as a revenue source for NHRF. No necessary connection exists between sugarcane lands and water licenses - meaning that the entitlement to revenue from water licenses was not only for lands cultivated for sugar.<sup>75</sup> The people of Hawai'i voted to approve the final language in article XII, §1 in the Hawai'i Constitution to create NHRF:

Thirty percent of the state receipts derived from the leasing of cultivated sugarcane lands under any provision of law or from water licenses shall be transferred to the native Hawaiian rehabilitation fund, section 213 of the Hawaiian Homes Commission Act, 1920, for the purposes enumerated in that section. . . . There shall be no ceiling established for the aggregate amount transferred into the native Hawaiian rehabilitation fund.<sup>76</sup>

The HHCA was amended to include a new Section 213(i) establishing NHRF as new trust fund:

Pursuant to Article XII, Section 1, of the Hawaii Constitution, thirty percent of the state receipts, derived from lands previously cultivated as sugarcane lands under any other provision of law and from water licenses, and fifteen percent of all revenues from lease agreements granted lease extensions pursuant to section 228, shall be deposited into this fund.

The department shall use this money for the rehabilitation of native Hawaiians, native Hawaiian families, and Hawaiian homestead communities, which shall include the educational, economic, political, social, and cultural processes by which the general welfare and conditions of native Hawaiians are thereby improved and perpetuated.<sup>77</sup>

The effective date for NHRF was November 7, 1978, when the current constitution was ratified by the people of Hawai'i. In order to begin implementing NHRF provisions, the

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<sup>74</sup> Hawai'i State Constitutional Convention, Hawaiian Affairs Committee, Standing Committee Report No. 56, August 29, 1978. (Emphasis added.)

<sup>75</sup> State of Hawai'i, *Proceedings of the Constitutional Convention of Hawaii of 1978*, Standing Committee Report No. 56, Vol. 1. at 632-33

<sup>76</sup> Article XII, §1 Hawai'i Constitution, 1978 (emphasis added).

<sup>77</sup> Section 213(i), HHCA (emphasis added).

DLNR sought advice from the Office of the Attorney General. In its letter opinion, dated August 30, 1979, the Office of the Attorney General responded to several key issues including that the intent of the NHRF is to provide a source of revenues, not only from leases and licenses, but also from revocable permits. The Attorney General opined that the NHRF entitlement was not restricted to water licenses per se, but also “The use of portions of the land for contributory purposes, i.e., irrigation ditches, reservoirs, loading areas, and roadways are considered a necessary and integral part of cane cultivation by both the Land Department and the Lessee.”

Also in 1979, DLNR and DHHL entered a Memorandum of Understanding (MOU) to outline the basic responsibilities of each agency in implementing the NHRF. Section II. A. of the MOU defines “water licenses” to refer only to “water licenses and permits and other instruments authorizing the use of state government owned water in existence or effective on November 7, 1978, and/or issued subsequent to November 7, 1978.” *This administrative definition for “water licenses” is overly restrictive and severely limits the applicability of NHRF provisions to “state government owned water” and, for reasons discussed further below, the current MOU needs to be revised.*

### **Water licenses and receipts since the 1990s**

On July 20, 2016, DLNR was administering revocable permits for 11 permittees.<sup>78</sup> Act 126, Session Laws of Hawai‘i 2016, required DLNR to report to the 2017 Legislature on: (1) the status of applications to continue previously authorized dispositions of water rights; (2) actions taken on applications during the fiscal period July 1, 2016 to November 30, 2016; and (3) relevant recommendations for legislative action or appropriation.<sup>79</sup> More generally, DLNR is studying ways to convert state lands disposed of under revocable permits to long term leases.<sup>80</sup>

In 2015, DLNR’s SLIMS database listed 32 water leases or permits that paid a total of \$341,700.18, which would amount to approximately \$102,510 owed to NHRF.<sup>81</sup> In the 2008 DHHL Grant Thornton study, NHRF water license revenues to DLNR were approximately \$237,108.40, which would equate to a \$71,132.53 share for NHRF.<sup>82</sup>

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<sup>78</sup> Dep’t Land & Natural Resources, Report to the Twenty-Ninth Legislature, State of Hawai‘i, Relating to Water Rights, at 2 (Dec. 2016); *see* Exhibit “A” (listing permittees).

<sup>79</sup> Dep’t Land & Natural Resources, Report to the Twenty-Ninth Legislature, State of Hawai‘i, Relating to Water Rights (Dec. 2016).

<sup>80</sup> *See* DLNR, Report and Recommendations from the Department of Land and Natural Resources Revocable Permits Task Force (Jun. 24, 2016) *available at*: <https://dlnr.hawaii.gov/wp-content/uploads/2016/06/D-7.pdf>.

<sup>81</sup> *See* Filename “SLIMS download – DLNR water leases as of 7.24.15” (on file with author).

<sup>82</sup> This amount excludes water license revenues from Waiāhole, which were in flux at the time.

Table 6. NHRF sources of revenue FY1993 through 1998. *Source:* State Auditor Report No. 99-13.<sup>83</sup>

|                          | <b>FY1993-94</b> | <b>FY1994-95</b>   | <b>FY1995-96</b>   | <b>FY1996-97</b> | <b>FY1997-98</b> |
|--------------------------|------------------|--------------------|--------------------|------------------|------------------|
| <b>Water licenses</b>    | \$92,134         | \$121,499          | \$61,346           | \$129,932        | \$99,407         |
| <b>Sugar land leases</b> | \$430,918        | \$191,127          | \$470,940          | \$98,109         | \$105,905        |
| <b>Sugar land sales</b>  | ---              | \$8,360,407        | \$1,539,000        | ---              | ---              |
| <b>Total FY revenues</b> | <b>\$523,052</b> | <b>\$8,673,033</b> | <b>\$2,071,286</b> | <b>\$228,041</b> | <b>\$205,312</b> |

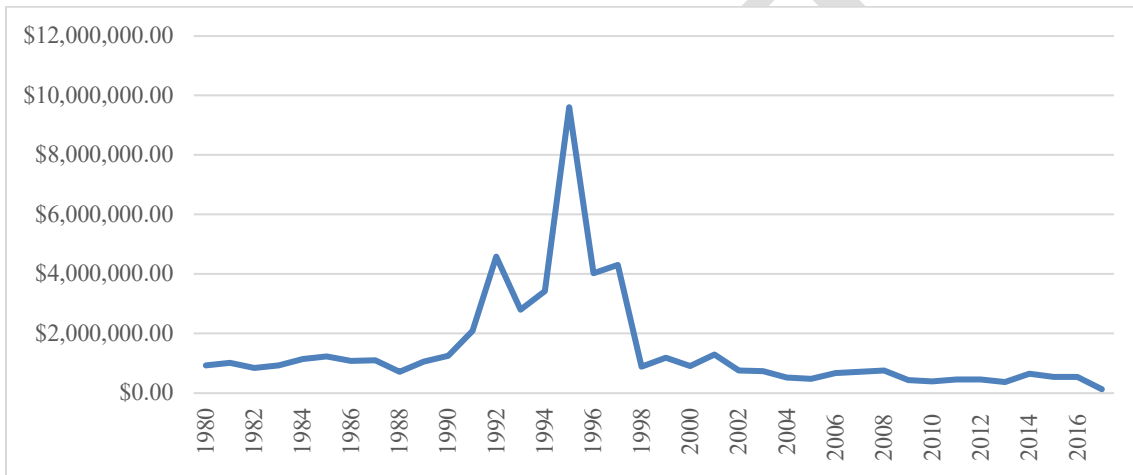


Figure 3. Total NHRF revenues 1981-2017. *Source:* DHHL Administrative Offices, updated Jun. 20, 2017 (revenues during 1994-96 included receipts from land sales).

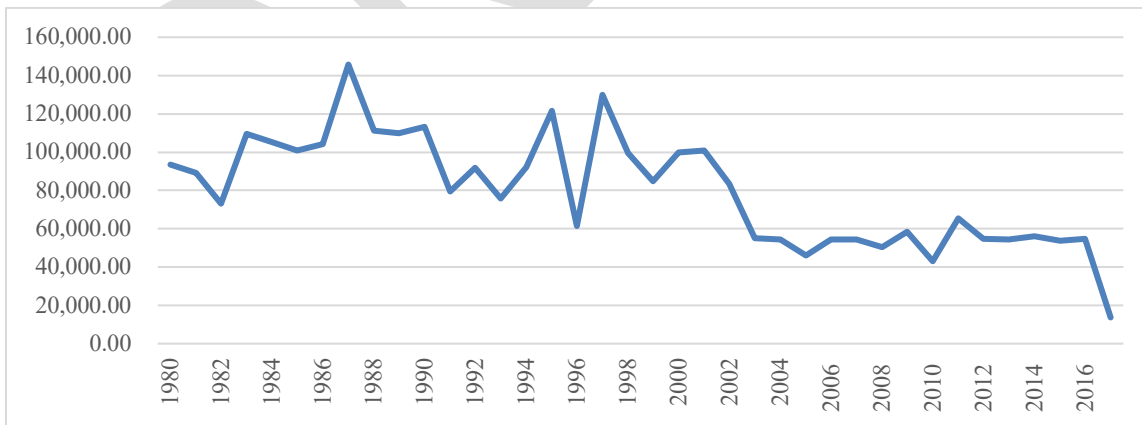


Figure 4. Water license revenues 1981-2017. *Source:* DHHL Administrative Offices, updated Jun. 20, 2017.

<sup>83</sup> 1999 State Audit at 4 (Exhibit 1.1)

SLIMS is a better source of water license data than BLNR's annual reports to the legislature of Land Disposition. BLNR stopped including water dispositions in their "land dispositions" report to the legislature in 2010.<sup>84</sup> The 2010 BLNR Land Disposition report included only one water lease to the Edmund Olson Trust, with annual revenue of \$0. By contrast, in 2001, BLNR reported \$158,434.84 in leases from water leases and permits, which amounts to approximately \$47,530.45 in receipts to NHRF.<sup>85</sup> Currently, BLNR is required to notify DHHL of water license dispositions, but these dispositions do not require DHHL/HHC approval.<sup>86</sup> In its testimony on Act 325, which addressed DHHL water rights, HHC agreed that requiring its approval for each water lease would be too burdensome. Of note, in 2001, HCR No. 53 was introduced to request a report on water licenses for the purpose of establishing whether the state was meeting NHRF obligations, but the measure was held. HCR No. 53 would have applied to BLNR-issued licenses granting any person the right to use government-owned water.

### Scope of NHRF water entitlement

DHHL's entitlement to a 30% share of "water license" receipts has not been extensively discussed by the courts or legal scholars. Under HHCA §221, however, "water license" means any "license issued by the board of land and natural resources granting to any person the right to the use of government-owned water[.]"<sup>87</sup> HHCA §213 provides in relevant part:

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<sup>84</sup> Pursuant to HRS §171-29 titled, "Report to legislature on all dispositions," DLNR is required to BLNR is required to submit a report to the legislature on "all land dispositions made in the preceding year, including sales, leases, leases with options to purchase, licenses, concessions, permits, exchanges, and setting aside of lands by executive orders, the persons to whom made, the size of each disposition, the purpose for which made, the land classification of each, the tax map key number, the per unit price paid or set, and whether the disposition was by auction, by drawing, or by negotiation" as well as dispositions made subject to the disapproval of the legislature.

<sup>85</sup> DLNR Report to the Legislature pursuant to HRS §171-29, FY 2001:  
[http://lrhawaii.info/reports/legrpts/dlnr/2002/171\\_29hrs\\_02.pdf](http://lrhawaii.info/reports/legrpts/dlnr/2002/171_29hrs_02.pdf)

<sup>86</sup> Act 325, Haw. Sess. L. 1991 (H.B. No. 1230). In its testimony on H.B. No. 1230, HHC agreed that requiring its approval for each water lease would be too burdensome.

<sup>87</sup> HHCA §221 provides in relevant part:  
In order adequately to supply livestock, the aquaculture operations, the agriculture operations, or the domestic needs of individuals upon any tract, the department is authorized (1) to use, free of all charge, government-owned water not covered by any water license or covered by a water license issued after the passage of this Act or covered by a water license issued previous to the passage of this Act but containing a reservation of such water for the benefit of the public, and (2) to contract with any person for the right to use or to acquire, under eminent domain proceedings similar, as near as may be, to the proceedings provided in respect to land by sections 101-10 to 101-34, Hawaii Revised Statutes, the right to use any privately owned surplus water or any government—owned surplus water covered by a water license issued previous to the passage of this Act, but not containing a reservation of such water for the benefit of the public. Any such requirement shall be held to be for a public use and purpose. The department may institute the eminent domain proceedings in its own name.

Pursuant to Article XII, Section 1, of the Hawaii Constitution, thirty per cent of the state receipts, derived from lands previously cultivated as sugarcane lands under any other provision of law and from water licenses, . . . shall be deposited into this fund.

HHCA §213, which includes NHRF provisions, does not specifically define “water license,” and is not thereby restricted to the definition described in HHCA §221.

Although not within the scope of NHRF, a common misperception regarding DHHL’s water rights is that HHCA §221 entitles homesteaders to free water delivery. HHCA §221 authorized DHHL to use “free of all charge, government-owned water not covered by any water license or covered by a water license . . .” for agricultural and domestic uses on its lands. In 1994, Hawai’i Island Corporation Counsel requested that the Attorney General clarify whether the term “free of all charge” indicated that homesteaders should receive water *delivery* free of all charge. The Deputy Attorney General, William Tam, who would later serve as a deputy director for CWRM, responded in the negative. Tam reasoned that the phrase “government owned” water referred to an earlier regime under which water could be “owned” by non-government entities.<sup>88</sup> Therefore the “charge” referenced in HHCA §221 concerned the charge for the resource itself and not the delivery fees.

### **Public trust doctrine and NHRF entitlements**

The HHCA, as amended, was required to be incorporated into the Hawai’i constitution as a provision of the 1959 Admission Act, §4.<sup>89</sup> Referencing Section 5(b) of the Admission Act, the Hawai’i Supreme Court in *Kepo’o* wrote “in managing and disposing of the land, the State is bound by its fiduciary duty to the Native Hawaiian beneficiaries...”<sup>90</sup> This fiduciary duty is imposed on the State pursuant to its duties to administer lands classified under section 5(b) of the Admission Act, which lands include “public lands and all other public property” and “available lands” as defined under HHCA §203.

The State thus has a fiduciary duty towards Native Hawaiians, which are of the same class that comprises NHRF beneficiaries. NHRF revenues from water licenses are put towards the purpose of:

the rehabilitation of native Hawaiians, native Hawaiian families, and Hawaiian homestead communities, which shall include the educational, economic, political, social, and cultural

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<sup>88</sup> Letter from Attorney General, State of Hawai’i, to Richard D. Wurdeman, Corporation Counsel, County of Hawai’i, Re: Section 221, Hawaiian Homes Commission Act Use of Water (Aug. 22, 1994).

<sup>89</sup> Act of March 18, 1959, Pub. L. No. 86-3, § 4, 73 Stat 4.

<sup>90</sup> *Kepo’o v. Watson*, 87 Hawai’i 91, 97, 952 P.2d 379, 385 (1998).



processes by which the general welfare and conditions of native Hawaiians are thereby improved and perpetuated.<sup>91</sup>

This purpose serves a mandate under the HHCA and is consistent with the public trust purposes defined in the 1959 Admission Act. Under section 5(f) of the Admission Act, certain lands “together with the proceeds from the sale or other disposition of any such lands and the income therefrom” are part of a trust held by the State for five purposes, including the “betterment of the conditions of native Hawaiians, as defined in the Hawaiian Homes Commission Act, 1920[.]”<sup>92</sup>

BLNR and other state agencies have a constitutional public trust duty to protect water resources. Water is well recognized as a public trust resource under article XI, §1 of the Hawai‘i Constitution and case law. BLNR and other state agencies have a fiduciary duty to actively manage water resources in the interest of the beneficiary public. State agencies also have “public trust obligations pursuant to article XI, section 1 of the Hawai‘i Constitution [that] extend ‘to all water resources.”<sup>93</sup> Water resources subject to the State’s constitutional and common-law public trust duties specifically include marine waters and submerged lands.<sup>94</sup> Any permission from the State granted for use of water resources, thus must ensure the use is in the public interest *and* be obtained for a value that ensures the protection of the trust.

DHHL’s exercise of its water reservation rights constitute a public trust purpose pursuant to article XI, §§ 1 and 7 of the Hawai‘i Constitution, HHCA § 220(d), and HRS § 174C–101(a).<sup>95</sup> The *Waiola* court reasoned that “a reservation of water is an essential mechanism by which to effectuate the State’s public trust duty to ‘ensure the continued availability and existence of its water resources for present and future generations’”, and therefore would be “entitled to the full panoply of constitutional protections afforded the other public trust purposes enunciated by this court in *Waiāhole*.”<sup>96</sup> DHHL’s rights to water effectuate public trust purposes inasmuch as they ensure water will be available for present and future generations.<sup>97</sup> Under *Waiola*, DHHL rights that are consistent with and “effectuate” article XI, §1 public trust purposes may also be considered public trust purposes.

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<sup>91</sup> HHCA §213(i).

<sup>92</sup> Admission Act §5(f).

<sup>93</sup> *Umberger v. Dep’t of Land & Nat. Res.*, No. SCWC-13-0002125, 2017 WL 3887456, at \*16 (Haw. Sept. 6, 2017) quoting *In re Water Use Permit Applications (Waiāhole)*, 94 Hawai‘i 97, 133, 9 P.3d 409, 445 (2000); *Kauai Springs, Inc. v. Planning Comm’n of the Cty. of Kaua‘i*, 133 Hawai‘i 141, 172, 324 P.3d 951, 982 (2014) (“[T]he public trust doctrine applies to all water resources without exception or distinction.” (quoting *Waiāhole*, 94 Hawai‘i at 133, 9 P.3d at 445)).

<sup>94</sup> *Umberger*, No. SCWC-13-0002125 slip. op. at 50, citing *Kepo ‘o*, 87 Hawai‘i at 97–98, 952 P.2d at 385–86; *Waiāhole*, 94 Hawai‘i at 133, 9 P.3d at 445.

<sup>95</sup> *In re Waiola O Molokai, Inc.*, 103 Hawai‘i 401, 431, 83 P.3d 664, 694 (2004).

<sup>96</sup> *Waiola*, 103 Hawai‘i at 431, 83 P.3d at 694 (citations omitted).

<sup>97</sup> *Waiola*, 103 Hawai‘i at 431, 83 P.3d at 694.

The state’s authority to protect public trust purposes is not meant to conflict with NHRF purposes or entitlements.<sup>98</sup> In its 2014 opinion, the State attorney general noted water enjoyed heightened constitutional protections, but did not opine that State public trust duties to water resources conflicted with DHHL authority under HHCA.<sup>99</sup> This intention to both protect public trust resources and uphold HHCA provisions was also explicitly recognized in HRS §174C-101, titled “Native Hawaiian water rights,” which expressly states “[p]rovisions of this chapter shall not be construed to amend or modify rights or entitlements to water as provided for by the Hawaiian Homes Commission Act, 1920,” and CWRM decisions:

relating to the planning for, regulation, management, and conservation of water resources in the State shall, to the extent applicable and consistent with other legal requirements and authority, incorporate and protect adequate reserves of water for current and foreseeable development and use of Hawaiian home lands as set forth in section 221 of the Hawaiian Homes Commission Act.<sup>100</sup>

Water licenses are administered by BLNR pursuant to HRS §171-58, which provides in relevant part that DLNR (HRS §171-58(g)):<sup>101</sup>

shall notify the department of Hawaiian home lands of its intent to execute any new lease, or to renew any existing lease of water rights. After consultation with affected beneficiaries, these departments shall jointly develop a reservation of water rights sufficient to support current and future homestead needs. Any lease of water rights or renewal shall be subject to the rights of the department of Hawaiian home lands as provided by section 221 of the Hawaiian Homes Commission Act.

DHHL and DLNR have discussed these notice and consultation provisions and proposed a procedure for conducting them.

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<sup>98</sup> See Atty Gen. Op. No. 14-1 at 8 (Mar. 17, 2014) (“the supremacy of the Admission Act as federal law, which required the adoption of the HHCA as a provision of the Hawaii Constitution, counsels against an interpretation of the public trust doctrine that would deny DHHL control over geothermal resources on its lands”).

<sup>99</sup> Atty Gen. Op. No. 14-1 at 8 (Mar. 17, 2014) citing *Robinson v. Ariyoshi*, 65 Haw. 641, 667, 658 P.2d 287, 306 (1982).

<sup>100</sup> HRS §174C-101(a).

<sup>101</sup> HRS §171-58(c) limits the conditions under which BLNR may dispose of water rights through revocable permits (RPs), subsection (d) provides guidance to BLNR in determining lease rental prices, subsections (e) and (f) address watershed management requirements, and subsection (g) provides:

(g) The department of land and natural resources shall notify the department of Hawaiian home lands of its intent to execute any new lease, or to renew any existing lease of water rights. After consultation with affected beneficiaries, these departments shall jointly develop a reservation of water rights sufficient to support current and future homestead needs. Any lease of water rights or renewal shall be subject to the rights of the department of Hawaiian home lands as provided by section 221 of the Hawaiian Homes Commission Act.

## Examples of water licenses issued for non-sugar land uses

BLNR's current practice already includes various authorizations of water uses beyond irrigation of sugar cane crops in "water licenses" subject to DHHL entitlements pursuant to NHRF.<sup>102</sup> For instance, in its 2003 action concerning a set aside of Kekaha lands and a revocable permit hydroelectric power generation from Waimea waters to the Agribusiness Development Corporation (ADC), BLNR inexplicably determined the set aside is subject to the DHHL 30% entitlement, but the Revocable Permit was not subject to the same.<sup>103</sup> The set aside was for "Agricultural and related purposes" and the revocable permit "Hydro-electric power generation." No DHHL comment was discussed amongst "Agency Comments."

Another hydroelectric water-use general lease was being pursued for Kaua'i Island Utility Cooperative (KIUC) use of North Fork Wailua stream water. Currently, KIUC's use is under Revocable Permit No. S-7340 and the proposed long term lease was subject to a contested case with OHA.<sup>104</sup> DHHL discussed the KIUC Lease as part of its January 2016 discussions with OHA and DLNR concerning the conversion of revocable permits to long term water leases, and has continued to initiate discussions regarding consultation, public auction, and lease rent issues with KIUC representatives.<sup>105</sup> KIUC had intended to

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<sup>102</sup> See BLNR Meeting Minutes, Item D-31: "Issuance of Revocable Permit to Hawaii Electric Light Company, Inc., Keahole, North Kona, Hawaii, TMK: 7-3-49:36," at 8-10 (Dec. 12, 2003) (approving RP for brackish water to replace the potable water used for fire suppression needs, and pending application for a general lease later granted, GL5706, from 8/1/04-7/31/2069);

<sup>103</sup> BLNR Staff Submittal re: Amend Prior Board Action of October 26, 2001 (Agenda Item D-11) Authorizing a direct Lease to, now Authorizing a Set Aside to the Agribusiness Development Corporation for Agricultural Purposes, Kekaha, Waimea, TMK (4) 1-2-02 parcel 1; Issuance of a Revocable Permit to ADC for Kekaha, Waimea, Kaua'i, TMK (4) 1-5-01: parcel 1 (portion), 2 (Jul. 11, 2003).

<sup>104</sup> Revocable Permit No. S-7340 was issued in 2003 to KIUC for water from the Wailua "Blue Hole" diversion to operate two hydroelectric plants. KIUC requested a water lease from the Board at its meeting of December 10, 2004, Item D-26, but the Board took no action on the request. OHA requested a contested case hearing and subsequently, OHA and KIUC entered into a memorandum of agreement dated November 9, 2006 whereby OHA agreed to withdraw its request for a contested case if KIUC committed to performing specified studies in connection with the use of surface water. OHA and KIUC have agreed on the scope of the studies and OHA has withdrawn its request, and KIUC recently released its draft cultural impact assessment for the project. See Nicole Ishihara and Hallett H. Hammatt, Cultural Surveys Hawai'i, Inc., Draft Cultural Impact Assessment for Kaua'i Island Utility Cooperative Blue Hole Diversion Long-Term Lease Project, Wailua and Hanamā'ulu Ahupua'a, Līhu'e District, TMKs: Multiple, Job Code: WAILUA 35 (Oct. 2017).

<sup>105</sup> By letter dated July 20, 2016, Land Division notified its current water permit holders on the islands of Hawaii and Kauai of the enactment of Act 126, and asked them to submit applications for water leases if they intended to seek a holdover of their water permits. In response, DLNR received eight applications for water leases from seven of its current water permittees. Additionally, Kauai Island Utility Cooperative (KIUC) has a pending application (received July 20, 2001) for an existing hydroelectric power project in Lihue, Kauai. KIUC is relying on its prior application for this use. DHHL provided comments on the leases for Hawai'i and Kaua'i county areas, including the KIUC lease. DLNR's submittal does not indicate the water lease will be subject to DHHL's 30% entitlement. See DLNR, Report to the Twenty-Ninth Legislature, State of Hawai'i, 2017 Regular Session, Relating to Water Rights (Dec. 2016) *available*

obtain a water lease, but is relying on its lease application submitted on July 20, 2001.<sup>106</sup> This is one instance in which DHHL might easily assert its NHRF entitlement to water lease revenues. The current status of this effort is unknown, however.

## Contributory uses of water subject to NHRF

All water licenses are subject to NHRF. However, not all uses of water have been subject to water licensing requirements by BLNR. Permits, licenses, rights of entry, and easements that facilitate “contributory uses” of water should be subject to water licensing provisions under the Attorney General’s discussion of NHRF entitlements.

The use of portions of the land for contributory purposes, i.e., irrigation ditches, reservoirs, loading areas, and roadways are considered a necessary and integral part of cane cultivation by both the Land Department and the Lessee. Hence the entire parcel is considered as being used for cane cultivation and, accordingly, the lease rental is based on the use of the entire parcel for sugarcane cultivation.

We conclude, therefore, that the [NHRF] provisions of Article XII are applicable.<sup>107</sup>

Due to the timing of the development of NHRF, at least three kinds of contributory uses exist, that include:

- 1) Located on lands for cultivation of sugarcane on November 7, 1978
- 2) Located outside leases for cultivation of sugarcane on November 7, 1978
- 3) Water licenses that were developed after November 7, 1978

First, are those contributory uses existing on November 7, 1978, including water facilities *located on* lands leased for the cultivation of sugarcane. Examples include water reservoirs, ditches, and watersheds that comprise “protected lands” leased for sugar cultivation and subject to the same terms as other NHRF assets. That is, 30% of the State receipts derived from the waters used by protected lands shall continue to be so transferred to the NHRF whenever such lands are sold, developed, leased, utilized, transferred, set aside or otherwise disposed of for the purposes other than the cultivation of sugarcane. In other words, NHRF entitlements continue in perpetuity.

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at: <https://dlnr.hawaii.gov/wp-content/uploads/2016/12/LD17-Water-Rights-Disposition-Rpt.pdf> (pursuant to Act 126, Sess. L. Haw. 2016).

<sup>106</sup> DLNR Staff Submittal, Item D-3 (Nov. 2016): *available at*: <https://dlnr.hawaii.gov/wp-content/uploads/2016/11/D-3.pdf>; *see also* BLNR Staff Submittal Item D-1 (Nov. 14, 2014) *available at*: <http://files.hawaii.gov/dlnr/meeting/submittals/141114/D-1.pdf> (KIUC leases for water storage and easement and direct lease proposed).

<sup>107</sup> Memorandum from Edwin P. Watson, Deputy Attorney General, State of Hawai‘i, to Susumu Ono, Chairman, Board of Land and Natural Resources, Subject: Request for Interpretation of Provisions in Amendments to Article XI [*sic*] of the Hawaii State Constitution (Hawaiian Homes Commission Act), at 3 (dated Aug. 30, 1979) (on file with DHHL).

The second category consists of contributory uses of water existing on November 7, 1978, including water facilities, *located outside* leases involving the cultivation of sugarcane. NHRF provisions are applicable to “contributory uses” located on public land and outside a lease involving the cultivation of sugarcane because those uses of land are considered a necessary and integral part of cane cultivation. Contributory uses of water outside of sugar leases include irrigation systems, watersheds, easements for transmission lines, reservoir, and hydroelectric facilities which provide the water and energy for sugarcane cultivation and would probably not exist on November 7, 1978, without this purpose. Examples of off-site “contributory uses” include East Maui Irrigation (HC&S), East Kaua’i Water Co. (Lihue Plantation), Kekaha Ditch (Kekaha Sugar), Waiāhole Irrigation Co. (O’ahu Sugar), Honokōhau Ditch (Pioneer Mill). Another example involved hydroelectric plants, as noted by Carol Wilcox:

Though most of these hydroelectric power plants were small, the cumulative power they produced was significant. Many plantations were able to provide all of their own power needs, which included running the pumps and factory and powering the communities. . . . While a cursory inventory reveals more than twenty hydroelectric plants built in conjunction with the plantation irrigation systems, there were in addition numerous small plants in the camps and mills.<sup>108</sup>

The third category of contributory uses is comprised of those that were developed after article XII, §1 provisions were effective, on November 7, 1978. Payments will be made to NHRF as long as lands are used for contributory uses of water under a water license. However, since the lands used were put into service after November 7, 1978, it is not protected land and not subject to NHRF entitlements in perpetuity. Instead, NHRF entitlements end when payments end, and the land is no longer leased/rented/used.

### **Recommendations for NHRF water license administration**

To fulfill the clear intention outlined in previously described legal and regulatory reviews of how water licenses should be applied to NHRF, this report recommends the following short-term opportunities to maximize revenue for NHRF under the water license provisions. We have summarized the short-term water license recommendations in Table 7 and further expanded on the rationale and suggested approach below.

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<sup>108</sup> Sugar Water: Hawaii’s Plantation Ditches, by Carol Wilcox, University of Hawaii Press, Honolulu, Hawaii, 1996.

Table 7. Summary of recommendations related to water license revenue applicable to NHRF.

| Opportunity   | Recommendation  |
|---|---|
| Legal analysis to evaluate if BLNR water permits led to loss NHRF revenue | Due to BLNR lack of issuance of water licenses/leases, and rather using revocable water permits, and thus there may have been a loss of NHRF entitled revenue. Thus, we recommend that DHHL pursue a legal analysis of potential lost revenue (including interest) to determine if legal action is warranted. |
| Geographic gaps   | West Maui and West Kaua'i were identified as key geographic areas where BLNR failed to issue water licenses, and where there may be sufficient information available to justify revenue loss.   |
| CWRM, not BLNR, should be responsible for water licensing                 | Water licensing responsibilities should be transferred to CWRM, instead of BLNR, to provide greater separation of conflicting duties between DLNR and CWRM, as was recommended in the 1994 study to the Review Commission on the State Water Code.  |
| Update water lease valuation methods                                      | DHHL should consult with DLNR to improve its water lease pricing, by co-developing a programmatic assessment of DLNR water leasing practices, with the shared goal of increasing revenue to both DLNR and DHHL.   |
| Issue easements on water licenses, including water transmission lines     | DHHL should consult with DLNR to conduct an assessment and valuation of the past, current and future easements related to water licenses, and apply the entitled revenue to NHRF.   |
| Water licenses for Counties   | We recommend that DHHL research and advocate for water licenses for each County use, that would be subject to NHRF entitlements; and that DHHL should require each County to provide water delivery system capacity to DHHL or NHRF payments under a fair market value for the water resources.               |

| Opportunity                                    | Recommendation  |
|--|---|
| Water fee campaign                             | DHHL should consult with DLNR, CWRM, and Counties to develop a water fee that would include private and public water systems, that would be subject to NHRF entitlements. |
| Honokōhau ditch and Honokōwai tunnel easement  | DHHL should consult with DLNR to obtain the easement and value the water lease subject to NHRF entitlements with appropriate appraisal method.                            |
| Polipoli springs easement to 'Ulupalakua Ranch | DHHL should consult with DLNR on issuing a water license for the Polipoli spring pipeline, subject to NHRF entitlements with appropriate appraisal method.                |

**BLNR’s systemic lack of water license issuance**

The systemic lack of water license issuances stems from several issues. BLNR has failed to issue appropriately priced water licenses, or any water licenses at all. BLNR exhibits an administrative tendency to renew revocable permits instead of processing general, longer-term licenses. BLNR has taken a narrow view of its obligations to fund and manage NHRF water resources. Since 1999, as water leases expired, DLNR transferred these leases to revocable permits and kept renewing these revocable permits for the next 16 years. It is likely that DHHL did not receive its fair share of revenues.

Unlike water leases, water revocable permits do not require an independent appraisal to establish minimum rent, do not require public notice and a bidding process to ensure fair market competitive pricing, do not require prior notice be provided to ensure DHHL participation, and do not require an environmental assessment or watershed management plan to ensure these costs are covered in the pricing structure. Consequently, BLNR has failed to issue “water licenses” or produce revenues subject to NHRF from several kinds of water dispositions, although they may be subject to NHRF entitlements.

Key questions remain as to whether these erroneous disposition resulted in rents at lower than market rates, less competition, and less attention paid to environmental and watershed management costs. However, water resources that were not disposed of via water licenses were reviewed, including:

1. Commission on Water Resource Management (CWRM) administered permits: well construction, pump installation, stream diversion, and water use permits
2. Waters diverted and pumped by counties
3. Easements for private water systems and ditches passing through state lands
4. Ocean water pumped for resort lagoon areas
5. Ocean water pumped for retail sale as bottled water.
6. Use of watershed lands
7. Use of submerged lands or seawall easements
8. Use of open-ocean water column areas for commercial aquaculture
9. Use of stream waters (diverted or otherwise) for hydroelectricity generation purposes
10. Revocable permits, easements, or right-of-ways specifically made for water transmission structures (ditches, pipelines, etc.)

*Key Geographic Gaps:*

West Maui and West Kaua'i were identified as geographic areas in which BLNR has failed to issue water licenses under the NHRF contract Scope of Work No. 2c ("Identify geographic areas with a systemic lack of issuances for NHRF resources."). West Maui, which roughly corresponds to the Lahaina Aquifer Sector Area (Lahaina ASA) has public water systems and several private water systems that are regulated by the State Public Utilities Commission (PUC). Public and private systems utilize surface and ground water resources, but no revocable permits or leases from BLNR for the uses of these resources was found during our research on this area. Data on water purveyors was rather procured from CWRM well construction and pump installation permits, CWRM surface water diversion works permits, and PUC dockets.

Revenue information for PUC-regulated water companies disclosed several millions of dollars in revenue from water delivery services. BLNR's failure to issue water licenses for these surface and ground water uses may have deprived DHHL funds it was entitled to have deposited into NHRF. Although BLNR's failure to issue water licenses occurs in other geographic regions, the available information on revenues to West Maui water distributors is a substantive reason for prioritizing this area.

We recommend that there should be a legal analysis to assess whether DHHL should pursue legal action for the extended use of water revocable permits (rather than water licenses) which resulted in the loss of revenues, with interest, and possible harm to the NHRF and its beneficiaries.

*CWRM, not BLNR, should be responsible for water licensing:*

The water license issuance authority should be transferred to CWRM. NHRF entitlements to water license revenues are authorized under both the HHCA §213(i) and article XII, §1 of the Hawai'i Constitution. At its enactment in 1987, the Water Code



included the following under “Native Hawaiian water rights:” “[n]o provision of this chapter shall diminish or extinguish trust revenues derived from existing water licenses unless compensation is made.”<sup>109</sup> This provision instructs the CWRM in implementing HRS chapter 174C and expressly references trust revenues. Although water resources are arguably a part of the public trust created pursuant to the Admission Act, §5(f), the only relevant trust pertaining to water license revenues is NHRF. HRS §174C-101(b) thus provides an important safeguard to NHRF water license revenues.

Currently, however, it is BLNR and not CWRM that is authorized to issue water licenses. In 1994, a study was prepared to provide recommendations to the Review Commission on the State Water Code, which recommendations included establishing greater separation between conflicting duties of DLNR and CWRM by, amongst other things, transferring “all development and water licensing responsibilities” out of DLNR.<sup>110</sup> The 1994 study also found CWRM’s authority with respect to water licenses was “unclear” and recommended HRS chapters 171 and 174C “should be amended to identify CWRM’s interests in and powers regarding State water licenses.”<sup>111</sup>

#### *Water lease valuation methods are insufficient:*

Related to the problem posed by the bifurcation of CWRM water management and BLNR water leasing, are the insufficient methods used in determining lease and permit prices. BLNR’s water leases should undergo a programmatic assessment to determine whether pricing produces sufficient revenues to fund DLNR administrative costs, watershed management and other prudent environmental protection actions, and its obligations to ensure the intent of NHRF is implemented.

BLNR is generally aware of the issue of undervalued water leases but has been slow to implement significant increases. In 2016, DLNR received 15 proposals for State water leases for public drinking water, irrigation, watering livestock, and hydroelectric purposes. For each water lease, DLNR is required to conduct a due diligence review, appraisal, public auction, environmental assessment, and negotiation of final terms and conditions, including compensation. DHHL is a participant in this DLNR process. DLNR has recognized:

Standard appraisal methodologies may not work well in establishing a charge for water. There are few comparables that an appraiser could look at, and other types of appraisal methodology are ill-suited for determining a cost to charge for consuming a resource. It

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<sup>109</sup> HRS §174C-101(b).

<sup>110</sup> Study of Laws, Administrative Rules, and Regulations Relating to the Protection, Regulation, and Management of Water Resources in Hawaii, prepared for The Review Commission on the State Water Code, State of Hawai‘i, by Neil Cammack & Karen A. Essene, V.1 at 48 (Mar. 31, 1994).

<sup>111</sup> Study of Laws, Administrative Rules, and Regulations Relating to the Protection, Regulation, and Management of Water Resources in Hawaii, at 51.

is even more difficult to appraise the non-consumptive use of water involved in hydroelectric uses.<sup>112</sup>

Pending ongoing discussions amongst DHHL, OHA, Office of Environmental and Quality Control, and the University of Hawai'i Economics Department concerning water valuation and assessments, DLNR recommended keeping Kaua'i and Hawai'i revocable permit current rents in place as an "interim measure." DLNR earlier proposed a different interim measure for land revocable permits, under which the new rent for each revocable permit be based on a one-time increase of 1.5% of the base rent, multiplied by the number of years since first issuance of the permit, or since the most recent rental evaluation, beginning in 1999.<sup>113</sup> "This increase would be across the board, regardless of the type of revocable permit, or location of the land."<sup>114</sup>

The following considers specific examples of water lease appraisals:

- A 1991 appraisal for both water and land to be used for a Wailuku hydroelectric plant in Pi'ihonua under GL-5220 determined land rent to be \$8,600/ annum for the first five years to be increased by 25% every five years thereafter and water lease rent to be \$0.30/ million gallons.<sup>115</sup>
- On October 7, 2011, Ted Yamamura submitted a determination of prospective fair market rent for GL S-5365 to the Wailuku River Hydroelectric Limited Partnership, in South Hilo, Hawai'i.<sup>116</sup> Yamamura proposed a \$29,000 per annum rent based on a determination of highest and best use, review of comparable land transactions, and current economic and financial conditions.
- In 2004, DLNR staff appraisers determined the annual rent for a general lease for brackish water used by HELCO's Keahole Generator Plant to be \$1,138, based on a cost of \$29 per MG for surface water consumption and a 95 percent discount for non-consumptive water use.<sup>117</sup>
- Also in 2004, ACM Consultants also determined the rental reopening for 17.2 acres of state lands underlying the Honokōhau irrigation ditch for water transmission in West Maui to be \$800 per annum based on an analysis of 2002

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<sup>112</sup> BLNR Staff Submittal, Item D-4 at 6 (Nov. 10, 2016).

<sup>113</sup> As of January 1, 2017, James Hallstrom of The Hallstrom Group/CBRE, Inc. is supposed to have assisted DLNR in determining the rent to charge for the use of State lands underlying revocable permits statewide and ground rent discounts for tenancy and use restriction. BLNR Staff Submittal, Item D-6, RP S-7581 Annual Renewal, at 2-3 (Oct. 14, 2016).

<sup>114</sup> BLNR Staff Submittal, Item D-6, RP S-7581 Annual Renewal, at 3 (Oct. 14, 2016).

<sup>115</sup> See Wayne T. Hirata, Appraisal Report for Wailuku River Hydroelectric Power (Oct. 24, 1991) (on NHRF googledrive).

<sup>116</sup> Summary Appraisal Report from Ted Yamamura, ACM Consultants, to DLNR Land Division, Subject: Determination of prospective fair market rent for GL S-5365 to the Wailuku River Hydroelectric Limited Partnership, in South Hilo, Hawai'i (rec'd Jan. 4, 2012) (on file with DLNR).

<sup>117</sup> Memorandum from Cyrus C. Chen, Real Estate Appraisal Manager, to Peter T. Young, DLNR Chairperson, Subject: In-House Valuation Recommendation - Sale of General Lease for Water Use Purposes, TMK (3) 7-3-49:36, GL-5706 (May 11, 2004) (on file with DLNR).

sugar cane production and value. Pioneer Mill Company's sugar cane production had ceased in 2000. However, the appraiser determined it "reasonable" to analyze sugar cane land rents because the lease had initially been granted for sugar irrigation in 1984.<sup>118</sup> Commercial sugar cane prices had earlier been used in East Maui water licenses to East Maui Irrigation, Co. (EMI). When those leases came up for review again in 2001, however, proposed general lease rents to EMI were based on a May 7, 2001 staff appraisal that was not found in DLNR's files.<sup>119</sup>

We recommend that the NHRF strategy should include further consultation with DLNR on improving its water lease pricing. The aim of consultation is the co-development of a programmatic assessment of DLNR water leasing practices, with the shared goal of increasing revenue to both DLNR and DHHL.

**"Easements" should be issued as water licenses, particularly for water transmission lines**

The lack of NHRF receipts from easements was previously identified in a 1993 Deloitte and Touche NHRF study prepared for DHHL.<sup>120</sup> In that exchange, DLNR expressed its position that lands transferred to the Kā'anapali Water Corporation concerned an easement, then valued at \$3,960, and not a lease, therefore no entitlement was due.<sup>121</sup> DLNR's, and its applicants', preferences for land easements over water leases removes these transactions from public scrutiny and deprives DHHL of NHRF entitlements.

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<sup>118</sup> ACM Consultants, Inc. to DLNR Land Division, Appraisal Review Certificate GL-4544 (rec'd Feb. 6, 2004) (on file with DLNR).

<sup>119</sup> Proposed water lease prices were as follows:

Honomanū License: \$1,698.32/ month.

Huelo License: \$6,588.30/ month.

Ke'anae License: \$3,476.72/ month.

Nāhiku License: \$1,426.88/ month.

DLNR Staff Submittal, Item D-5 (deferred item) (May, 25, 2001).

<sup>120</sup> Department of Hawaiian Home Lands, Entitlement Study, prepared by Deloitte & Touche (Nov. 29, 1993) ("1993 D&T Report") (on file with DHHL).

<sup>121</sup> In regard to sale of protected land to Kāanapali Water Corporation, the DLNR wrote:

The above heading in the preliminary entitlement report is incorrect. This section discussed the sale of a non-exclusive and perpetual easement for a water pipeline and water tank site, and not Sale of Protected Land to Kāanapali Water Corporation. If the DLNR confirms that 30% of the consideration paid by the Kāanapali Water Corporation for the Grant of Easement Deed No. S-27,422, dated June 24, 1984, was not transmitted to the DHHL, steps will be taken to rectify this error.

DLNR determines watershed areas after a public hearing.<sup>122</sup> The term "watershed" means (1) an area from which the domestic water supply of any city, town or community is or may be obtained, or (2) an area where water infiltrates into artesian or other ground-water areas from which the domestic water supply of any city, town or community is or may be obtained.<sup>123</sup> For example, the state owns watershed lands along the slopes of Pu'u Kukui on the West Maui Mountains, although the determining factor in whether a surface water resource is subject to a BLNR permit is whether any structures diverting or transmitting the surface water are on State land.<sup>124</sup> The following State-owned West Maui lands are watershed lands, having streams originating or running through them, or have ditches crossing them.

Table 8. West Maui state lands with water structures

| Stream/ ditch                             | TMK             | Acreage | Notes                                    |
|---|-----------------|---------|--|
| Olowalu stream                            | (2) 4-8-001:002 | 8250.2  | Pioneer Well Nos 5035-01 & 5134-01       |
| Kanahā upper stream                       | (2) 4-6-025:002 | 292.5   | None                                     |
| Kanahā lower stream                       | (2) 4-6-018:007 | 338.04  | Pioneer diversion/ DWS Well 5339-03      |
| West Piilani Ditch and Paupau ditch (por) | (2) 4-6-018:004 | 162.6   | \$0 lease, dated 05/13/1988.             |
| Honokōhau ditch                           | (2) 4-5-021:022 | 584.305 | \$0 RP to Kahoma Land Co. <sup>125</sup> |
| Honokowai ditch                           | (2) 4-5-021:004 | 669.55  | DHHL/ Villages of Leiali'i               |
| Kahoma ditch                              | (2) 4-4-004:002 | 221.745 | DHHL Well No. 5639-0                     |
| Amalu Stream                              | (2) 4-4-007:006 | 164     | LCAw. 11216: 28                          |
| Amalu stream                              | (2) 4-4-004:006 | 51.26   | None                                     |
| Honokōhau ditch                           | (2) 4-3-001:094 | 2.554   | EO recorded 6/1/2004                     |

We recommend that the NHRF strategy should include assessment and valuation of past, current and future easements related to water licenses, and apply the entitled revenue to NHRF.

<sup>122</sup> HRS §183-31.

<sup>123</sup> HRS §183-31.

<sup>124</sup> Email from Ayrton Straunch, *Commission on Water Resource Management*, Stream Protection and Management Branch, to Bianca Isaki, DHHL subconsultant, Subject: Inquiry re: how to determine "watershed lands" for diversion leasing purposes? (Oct. 12, 2017).

<sup>125</sup> See DLNR Staff Submittal, "Authorize the Chairperson of the Department of Land and Natural Resources to Negotiate the Terms and Conditions, and Sign a Memorandum of Understanding between the Department, Kahoma Land LLC and Pioneer Mill LLC/ Kaanapali Land Management Corporation, for the remediation of Wahikuli Dam Reservoir (HI ID #0055), Lahaina, Maui County, located at TMK Nos. (2) 4-5-21:002 and 022," (Oct. 14, 2010) available at: <http://hawaii.gov/dlnr/chair/meeting/submittals/101014/D-Land-Submittals-D17.PDF>.

## Lack of Water licenses to Counties

Many of the County Departments of Water Supply (DWSs) do not hold or pay for a water lease, revocable permit, or water license for waters they use to supply their domestic systems. We identified at least two instances where Maui and Hawai'i county DWSs did not pay for surface water resources that come from state lands in Kahana (West Maui) and North Kohala (Hawai'i island). It is unclear whether these counties hold revocable permits or leases for their use of state surface water resources. DLNR should require the counties to apply and pay for water licenses, from which DHHL should receive its NHRF entitlements.

In 1994, the Review Commission on the State Water Code requested technical papers in response to several inquiries, including:

How should current state law, including Section 221 of the HHCA, the State Water Code, and the Administrative Rules of the State Water Code, and Act 325 of 1991 be implemented or amended to adequately protect water supplies for homestead development?

One response from Carl C. Christensen, then a staff attorney at the Native Hawaiian Legal Corporation, was that the counties' water uses and diversions should be subject to NHRF entitlements. According to Christensen:

... the counties are apparently taking the position that they can have their cake and eat it too; they don't want to pay a percentage of their 'receipts' to DHHL, as is their duty under §213(b)(5)A of the HHCA (see §B(5) infra), yet neither do they want to supply homesteaders with this State-owned water unless the counties can be reimbursed for the cost of obtaining and delivering the water to the homesteaders. If the counties are to continue to avoid the 30% revenue entitlement under the HHCA, they should be willing to assume the cost of construction and maintenance of all off-site facilities necessary to provide water to DHHL lands under lease to homesteaders, with homesteaders being charged only for the cost of facilities wholly or primarily benefitting homesteaders and actually located on homestead lands.<sup>126</sup>

For instance, Maui County is currently using Kanahā stream water in West Maui, which stream waters originate from state lands. Maui County does not pay for a lease or water license for these Kanahā waters. In Ka'ū, Hawai'i DWS supplies its Wai'ōhinu-Na'alehu system from two high elevation groundwater sources, the Mountain House Tunnel and Hā'ao Spring, located on state conservation lands. Hawai'i DWS does not hold a water lease from DLNR for use of these waters and does not pay into NHRF.

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<sup>126</sup> Carl C. Christensen, Staff Attorney, Native Hawaiian Legal Corp., "Unresolved Issues Relating to Water Rights Held by the Department of Hawaiian Home Lands Under Federal and State Law," submitted to the Review Commission on the State Water Code, Technical Papers on Questions Nos. 1 and 4, at 6 (Jan. 3, 1994) (State Legislative Reference Bureau holdings).

We recommend further research and advocacy on behalf of DHHL's entitlements under NHRF to establish water licenses for each County use. In concurrence with the rationale provided by Christensen, DHHL should be able to require the counties to either 1) provide water delivery system capacity to DHHL or 2) NHRF payments under a water lease at fair market value for the water resources. This recommendation differs from Christensen's recommendation that homesteaders should be charged only for DWS' construction of facilities that wholly and solely benefit homesteaders. Rather, DHHL should retain control over either NHRF funds or in-lieu water capacity and its administration. A third approach, as discussed below (Water Fee Campaign), would be to include DWS water delivery within the scope of a water fee campaign.

### **Water Fee Campaign**

CWRM recently completed a "water audit" of all publicly regulated water systems pursuant to Act 169, SLH 2016. This information is invaluable in assessing the potential income stream from private water purveyors. This effort will likely be more fruitful for NHRF water revenue study than the DLNR task force on revocable permits. DLNR's 2016 Revocable Permits Task Force's Report and Recommendations did not examine impacts of the failure to issue a revocable permit or lease at all; instead it focused only on the conversion of revocable permits to leases.<sup>127</sup>

#### *Scope and rationale for imposing a water fee:*

In the first half of the 20th century, when the Hawaiian Homes Commission Act was negotiated and enacted, the predominant legal understanding of water in Hawai'i was that it could be owned and had most if not all of the characteristics of private property (e.g. "The owners of various pieces or parcels of land under which there is an artesian basin are the owners of the artesian waters of the basin.").<sup>128</sup>

As part of the negotiation of the Act, including the exclusion of the most prime government owned lands used for the cultivation of sugar cane (e.g. the *City Mill* case), all water resources, including those on private lands, should be subject to water licensing. Rendering all use of water resources, including those emanating from private wells and from surface waters of streams and watersheds that are privately held, should be subject to water licensing requirements. This would be consistent with the public trust doctrine, increase revenues into NHRF, and engage interests from groups benefiting from constitutional provisions requiring protection of the public trust and the public land trust.

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<sup>127</sup> Dep't of Land and Natural Resources, Revocable Permit Task Force Report and Recommendations, (Jun. 24, 2016) *available at*: <https://dlnr.hawaii.gov/wp-content/uploads/2016/06/D-7.pdf>.

<sup>128</sup> *City Mill, Ltd. vs. Honolulu Sewer And Water Commission*, 30 Haw. 912; 1929.

“Water licensing,” broadly construed, is not restricted to BLNR’s general leases and revocable permits for consumptive and hydroelectric uses of fresh water. Government agencies interface with the licensing of water use through many existing systems. These include CWRM’s pump installation, well construction, stream diversion, and water use permits as well as the counties’ distribution of water through municipal systems.

*Revenues from private water systems (e.g., West Maui):*

Currently, private water purveyors in non-water management areas may simply apply for permits to install wells and then sell water resources to buyers, subject only to the oversight of the Public Utilities Commission (PUC). One element in determining the viability of a campaign to impose a water fee is whether revenue streams and systems exist around water usage and upon which the fee could be easily administered. In 2014, the PUC disclosed that it regulated 18 water service utilities, 15 wastewater service utilities, and 5 utilities which provide both water service and wastewater service. As of 2016, the PUC regulates 39 privately owned water service utilities that provide water services and wastewater services. The majority of these utilities can be found on the neighbor islands<sup>129</sup>, with 12 located on Hawai’i Island, 11 located on Maui, 5 located on Kaua’i, 5 located on O’ahu, 3 located on Moloka’i, and 2 located on Lāna’i.<sup>130</sup> The following section reviews revenues of private water systems, primarily in West Maui.

West Maui was early identified as a geographic locale in which few water licenses were issued. Table 8 indicates PUC regulated water systems in West Maui. A water fee could be tethered to the population served, number of connections, or average daily usage.

Table 9. Public Water Systems in the Lahaina aquifer sector area as of 2013. *Source:* Maui Water Use and Development Plan (draft) at 78-79 (Nov. 18, 2016).

| PWS No. | Name       | Owner                  | Population served | No. of Connections | Average daily usage | Source                     |
|---------|------------|------------------------|-------------------|--------------------|---------------------|----------------------------|
| 204     | Kapalua    | Kapalua Water Co.      | 4,200             | 555                | 0.45 mgd            | ground                     |
| 205     | Kā’anapali | Hawai’i Water Srv. Co. | 8,000             | 700                | 2.8 mgd             | ground                     |
| 209     | Olowalu    | Olowalu Elua Assoc.    | 100               | 38                 | 0.052 mgd           | ground                     |
| 214     | Lahaina    | MDWS                   | 18,122            | 3,236              | 5.522 mgd           | 54% surface/<br>46% ground |
| 218     | Honokōhau  | MDWS                   | 587               | 275                | 0.013 mgd           | purchased PWS 204          |

<sup>129</sup> PUC Annual Report for FY2016 at 32:  
[http://lrbhawaii.info/reports/legrpts/bf/puc/269\\_5hrs\\_17.pdf](http://lrbhawaii.info/reports/legrpts/bf/puc/269_5hrs_17.pdf)

<sup>130</sup> PUC Annual Report for FY2014 at 56:  
[http://lrbhawaii.info/reports/legrpts/bf/puc/269\\_5hrs\\_15.pdf](http://lrbhawaii.info/reports/legrpts/bf/puc/269_5hrs_15.pdf)

|     |                           |                      |     |     |         |        |
|-----|---------------------------|----------------------|-----|-----|---------|--------|
| 251 | Mahānalua Nui Subdivision | Launiupoko Water Co. | 587 | 275 | 0.1 mgd | ground |
|-----|---------------------------|----------------------|-----|-----|---------|--------|

Maui County DWS and other private water systems may not generate surplus revenues. Factors that can contribute to rate structures and permitted revenue requirements include: operating expenses, income taxes, taxes other than income taxes, operating reserve provisions, consultant charges (included in operating expenses), and electricity charges (passed onto consumers via an Automatic Power Cost Adjustment Charge). Operating expenses include labor, office management, system maintenance, and other charges.<sup>131</sup> Table 9 below summarizes the revenues generated by different private water systems and their rate of return as reported to the PUC.

Table 10. Examples of PUC regulated private water systems.

| Water Co.                               | Area                            | Pop. served | No. Connections | Dkt. Year | Rate of return | Revenue req't |
|---|---------------------------------|-------------|-----------------|-----------|----------------|---------------|
| Olowalu Water Company, Inc.             | Olowalu, Maui                   | 100         | 38              | 2010      | (test yr)      | \$135,564     |
| Hawaii Water Service Co. <sup>132</sup> | Kā'anapali, Maui                | 8,000       | 700             | 2016      | 7.75%          | \$6,378,817   |
| Launiupoko Water Co.                    | Launiupoko, <sup>133</sup> Maui | 587         | 275             | 2006      |                | \$162,424     |
| Kapalua Water Co.                       | Kapalua, <sup>134</sup> Maui    | 4,200       | 555             | 2008      | 8.1%           | \$1,862,009   |
| Launiupoko Irrigation Co.               | Launiupoko, <sup>135</sup> Maui | ---         |                 | 2002      | ---            | ---           |
| Kona Water Service Co., Inc.            | Kūki'o, Hawai'i                 |             |                 | 2013      | 7.75%          | \$3,886,699   |

Not every private water system generates revenues. For instance, on O'ahu, North Shore Water Service Company (NSWSC), its 58 customers initially requested a total revenue requirement of \$141,520 and a proposed rate of return of 0.4185%, but later settled on a "break even" rate of return of 0% and a revenue requirement of \$115,677. This may be due to the small scale of the NSWSC operations and the degraded condition of the supply pipe which it did not own, but was using to provide water. PUC had earlier

<sup>131</sup> Maui Department of Water Supply, Water Use and Development Plan (Draft) at 9 available at: <http://www.co.maui.hi.us/DocumentCenter/View/104326>.

<sup>132</sup> Formerly known as the Kaanapali Water Corporation.

<sup>133</sup> 6,000 acres of future developments.

<sup>134</sup> Also Honolua Ridge, Hawea Point, Alaelae Point, & Kalaepiha Point.

<sup>135</sup> 7,000 acres of future developments and Mahānalua Nui Subdivision.



stated that NSWSC could not charge more than BWS rates in effect in Oct 2006. BWS did not want to service the area and neither NSWSC nor its customers wanted to pay to upgrade the supply pipe, which pipe was owned by the consumers, not NSWSC. Instead, NSWSC would be allowed to charge a fee that would go towards a reserve account for upgrading the pipe.

An overview of PUC regulated private water systems is provided in Appendix B.

#### *Water fees imposed on CWRM permits:*

CWRM does not currently administer water licenses, but does administer several permits related to the development of surface and ground water resources. CWRM is currently updating its rules to increase fines for permit violations. A further water fee could be imposed, through agency rulemaking, on the following kinds of permits:

- Groundwater Use Permit for Proposed New Use in a Designated Groundwater Management Area
- Groundwater Use Permit for Existing Use in a Designated Groundwater Management Area
- Well Construction / Pump Installation Permit
- Surface Water Use Permit for Proposed New Use in Designated Surface Water Management Area
- Stream Channel Alteration Permit Application
- Stream Diversion Works Permit Application
- Petition to Amend an Instream Flow Standard

#### **Case studies and associated recommendations**

##### *Honokōhau ditch and Honokōwai tunnel “easement”:*

The State owns several narrow strips of land over which the Honokōhau ditch and the Honokōwai tunnels pass. Upon information from undisclosed persons, several entities including the Kā’anapali Land Management Corporation (KLMC) and other entities including Kā’anapali Development Corporation and Hawai’i Water Service Company (fka Kā’anapali Water Company) and Kahoma Land Corporation are seeking to obtain a general lease for an easement for the Honokōhau ditch over State lands.<sup>136</sup> Table 10 indicates State lands subject to GL-5262:<sup>137</sup>

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<sup>136</sup> DLNR records for General Lease S-5262 describe it as concerning a 30 year lease for a 40 foot wide non-exclusive easement covering 17.042 acres.

<sup>137</sup> Relevant DLNR Land Division documents accessed on September 25, 2017 are available in the nhrfplanning@gmail.com googledrive account in the folder titled, “[2017.10 Honokōhau ditch.](#)”

Table 11. State owned lands underlying Honokōhau ditch/ Honokōwai tunnel

| TMK             | Acreage | Address           | Assessed Value |
|-----------------|---------|-------------------|----------------|
| (2) 4-4-002:013 | 0.55    | 0 Honokōwai       | \$100          |
| (2) 4-4-002:012 | 1.67    | 0 Honokōwai       | \$200          |
| (2) 4-5-021:005 | 6.556   | 0 Honokōhau Ditch | \$600          |
| (2) 4-4-002:014 | 2.41    | 0 Honokōwai       | \$200          |
| (2) 4-4-005:035 | 0.26    | 0 Honokōwai       | \$100          |
| (2) 4-6-018:011 | 4.898   | 0 Lahaina         | \$500          |

NHRF entitlements include receipts from lands previously cultivated in sugar and water licenses. The lease for these ditch easement lands was previously held by Pioneer Mill Company and used for water transmission to sugar cultivation fields. Maui Land and Pineapple (MLP) does not own the entirety of Honokōhau ditch. Rather, it is owned by several different entities, including the state.

The state owns 267 acres in Mahinahina ahupua‘a located at TMK 4-4-007:004, which are part of the watershed lands that are the source for Honokōhau ditch waters. However, BLNR may not require a water lease only on the basis that the state owns some of the watershed lands contributing to Honokōhau ditch. CWRM staff have further indicated that water leases are issued when water transmission or diversion structures are on state land.<sup>138</sup> Honokōhau ditch and Honokōwai tunnel are partly on state lands and derive waters, in part, from state watershed lands. On these facts, BLNR should issue a water lease, and not a land easement, for use of the lands through which Honokōhau ditch and Honokōwai tunnel pass. The state also owns a different 584 acre parcel (former sugar lands) in Kahoma and the Honokohau ditch runs through it on TMK No. (2) 4-5-021:022, upon which is situated the Wahikuli Reservoir.

Upon information and belief, DLNR land agents are recommending that a new lease for KLMC’s use of these lands be executed as a water lease, which would clearly fall under NHRF provisions. Even if the lease is executed as an easement or a land lease, DHHL has a case for those receipts to be included in NHRF. Also, HRS §171-58(g) underscores DLNR’s responsibility for notifying DHHL of intent to execute “any new lease, or to renew any existing lease of water rights”. This provision should apply although the Honokōhau ditch and Honokōwai tunnel lease is being reissued to a different entity and even if the lease is nominally for a land easement as opposed to a water license. The ditch and tunnel lands subject to the proposed easement are also section 5(b) lands under the Admission Act, which means that OHA also has an interest in this lease.

Honokōhau ditch waters from these lands will benefit KLMC residential, commercial, and other developments on parcels including TMK Nos. (2) 4-4-015:034, -039, -040, -

<sup>138</sup> Email from Ayrton Straunch, *Commission on Water Resource Management*, Stream Protection and Management Branch, to Bianca Isaki, DHHL subconsultant, Subject: Inquiry re: how to determine "watershed lands" for diversion leasing purposes? (Oct. 12, 2017).

041, -042, -043, -044, -045, -054, -055, -056, -057, -058, -059 (por), -067 por, -068 por, -069 por, 070; (2) 4-4-002:002; (2) 4-4-006:070, -001, -083, -084, -085, -086, -087; (2) 4-5-009:007. Many of these lands were previously used by Pioneer Mill for sugar cultivation, but are now planned to be used for commercial and residential developments. A timeline of the Honokōhau ditch and Honokōwai tunnel state land lease actions, with reference to documents housed in the NHRF Planning google drive is provided in Appendix B.

DLNR Land Division Maui Land Agents are reported to be engaged in active negotiations with KLMC and other entities for the renewal of GL S-5262 as an easement and not as a water lease. Because it would be a lease, the item should come before BLNR at a regular meeting, but this would come after preparation of a DLNR staff submittal.

Recommended next steps include:

- (1) Contacting DLNR and requesting consultation on the present negotiations concerning the new KLMC lease/easement.
- (2) Contacting DLNR to express interest in obtaining the easement, and thereafter re-leasing the lands to KLMC at a price determined by DHHL.
- (3) Advocating for the lease to occur as a water lease subject to NHRF entitlements.
- (4) Advocating for the lease to be subject to NHRF entitlements under clauses for sugar lands, and further seeking an appraisal method that will maximize lease receipts.
- (5) Filing a petition for an agency declaratory ruling on whether and how HRS §171-58 and BLNR's public trust duties required disposition of these lands through water leasing as opposed to an easement.

#### *Polipoli springs "easement" to 'Ulupalakua Ranch:*

Since November 13, 1957, 'Ulupalakua Ranch, Inc. has held a revocable permit (RP) for a right-of-way for its pipeline, which draws water from Polipoli Spring. On December 7, 1990, under agenda item F-20, BLNR cancelled an earlier RP S-2412, left it unchanged by Board action on June 25, 1999, agenda item D-I 1, but then reissued the RP as RP S-7581 on April 1, 2010 at an annual rental of \$156.00.<sup>139</sup> DLNR staff sought an AG opinion as to whether 'Ulupalakua Ranch will be required to apply for a water lease pursuant to HRS § 171-58 for the water it draws from Polipoli Spring. The property has been encumbered by land licenses or revocable permits since 1901 and OCCL determined the pipeline is a non-conforming use that does not require a Conservation District Use Permit (HAR chap.

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<sup>139</sup> DLNR Staff Submittal to BLNR Regular Meeting, October 14, 2016, Item D-6, "Annual Renewal of Revocable Permit S-7581 to Ulupalakua Ranch, Inc., Kamaole, Kula, Maui, Hawaii, Tax Map Key: (2) 2-2-007:003" (accessed Oct. 25, 2017) available at: <https://dlnr.hawaii.gov/wp-content/uploads/2016/10/D-6.pdf>.

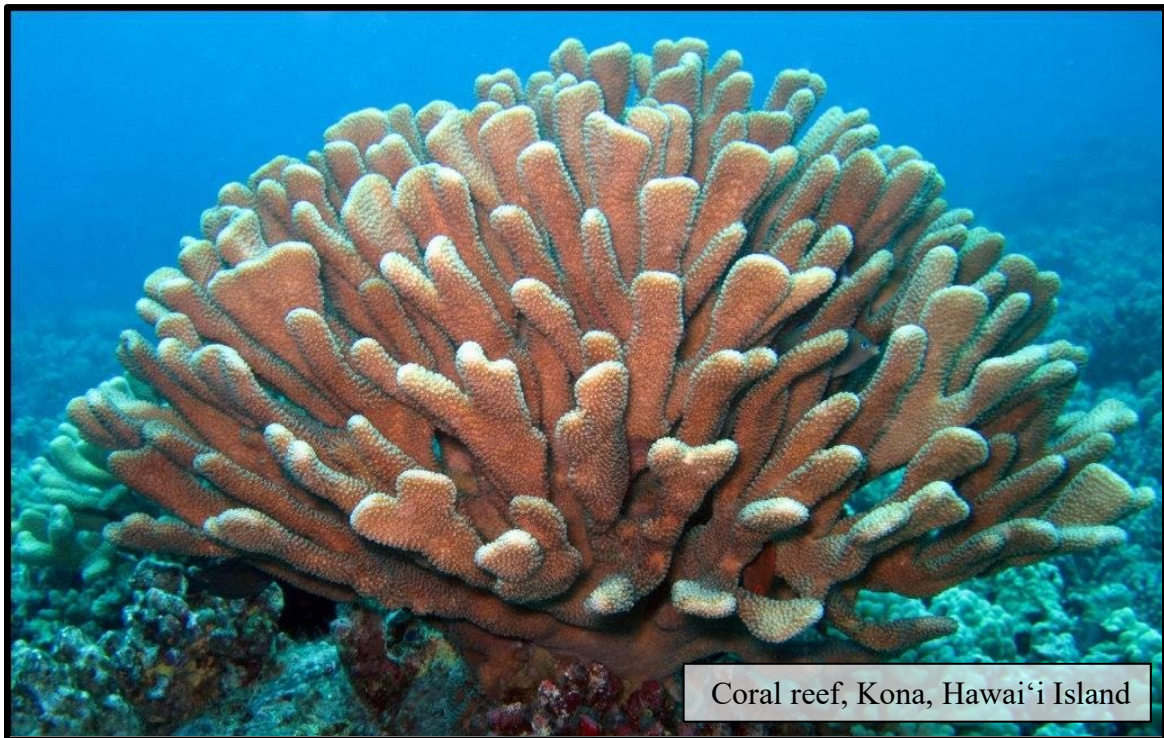
13-5) although it uses conservation district lands. Staff recommended approving RP S-7581 and an interim rental increase.

DHHL has interests in confirming that the Polipoli Spring pipeline RP should be issued as a water license and potentially in the water resource itself. DHHL holds lands in Upcountry Maui at Kēōkea/ Waiohuli, as well as two acres in ‘Ulupalakua recommended for community use and 43 acres at Kualapa that are recommended for general agricultural use.<sup>140</sup>

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<sup>140</sup> DHHL, Maui Island Plan, at xiii-iv.



Coral reef, Kona, Hawai'i Island

## **Chapter 5: Maximizing New Sources of Revenue**

As part of strategic planning for the NHRF audit, we considered the issue of whether authorization for use or sale of “government owned water” in the form of the nearshore water column or retail sales of ocean water should be subject to DHHL’s entitlements under NHRF. These authorizations for uses of Hawai’i’s waters exist for: (1) free-floating aquaculture “fish cages” by the Hawaii Oceanic Technology, Inc. (HOTI); (2) retail sales of deep ocean water by Natural Energy Laboratory of Hawai’i Authority (NELHA) entities; and (3) Kona Blue Water open ocean aquaculture leases. These specific examples of ocean leasing and submerged lands are detailed in Appendix A.

Marine waters and submerged lands are subject to the state’s constitutional and common-law public trust duties.<sup>141</sup> As a public trustee, the state has fiduciary duties, as well as an obligation to protect and preserve these water resources. Fiduciary duties include ensuring that the state obtains benefits from disposition of these resources that are appropriate to protecting the resources and meeting other public trust obligations. DHHL’s entitlement to 30% from open ocean aquaculture, submerged lands, and ocean water column uses is a constitutional obligation imposed upon the State. Although obligations to fund NHRF under article XII, §1 are not explicitly recognized public trust

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<sup>141</sup> *Umberger*, No. SCWC-13-0002125 slip. op. at 50, citing *Kepo ‘o*, 87 Hawai’i at 97–98, 952 P.2d at 385–86; *Waiāhole*, 94 Hawai’i at 133, 9 P.3d at 445.

purposes, DHHL's water reservations are recognized public trust purposes "entitled to the full panoply of constitutional protections afforded the other public trust purposes[.]"<sup>142</sup> Like DHHL's water reservations, DHHL's entitlement to NHRF obligations are based in efforts to plan for beneficiary needs in Hawai'i. The intent of NHRF provisions was to provide a consistent source of revenue to DHHL for the educational, economic, political, social, and cultural processes by which the general welfare and conditions of Native Hawaiians are thereby improved and perpetuated.<sup>143</sup> The necessity to recognize further water resources as subject to NHRF arises from the decline of sugar land lease revenue and constitutional obligations of BLNR.

The following addresses the scope of DHHL's water license entitlement under NHRF and raises several arguments for including water column, ocean water, and other non-traditional "water licenses" within that scope. Two examples of a lease of the State water column and one example of the sale of ocean water exist in BLNR leases to Hawai'i Oceanic Technology, Incorporated (HOTI), Kona Blue Water Farms/ Keahole Point Fish, LLC, and the Natural Energy Laboratory of Hawai'i Authority (NELHA).<sup>144</sup>

### **Water column leases**

In 2010, BLNR issued a direct lease to HOTI for 247.129 acres, which area was referred to as area as including "the seafloor, the surface waters directly above and the water column between the seafloor and the surface waters."<sup>145</sup> The ocean column area is 2.6 nm due southwest of Malai Point, North Kohala.

The October 28, 2010 BLNR action included a special requirement regarding the performance bond for the lease, which is usually set at two times the annual rent payable under the lease. "But the Board recognized that this approach may not provide adequate protection to the State in an aquaculture lease because the base rents charged for submerged lands may be low relative to the potential impact on the environment and the cost of clean-up. The Board therefore required a performance bond in an amount approximating what it would cost for a marine salvage company to retrieve a wayward oceansphere if it were to malfunction. The performance bond was

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<sup>142</sup> *In re Contested Case Hearing on Water Use Permit Application Filed by Kukui (Molokai), Inc.*, 116 Hawai'i 481, 491, 174 P.3d 320, 330 (2007) quoting *In re Waiola O Molokai, Inc.*, 103 Hawai'i 401, 428, 83 P.3d 664, 691 (2004).

<sup>143</sup> Section 213(i), HHCA (emphasis added).

<sup>144</sup> See Report to the 28<sup>th</sup> Legislature, State of Hawaii, pursuant to Act 176, SLH 1999, by Departments of Agriculture and DLNR, October 2014.

<sup>145</sup> Board of Land and Natural Resources, Submittal Item D-4: "Issuance of Direct Lease to Hawaii Oceanic Technology, Inc. for Aquaculture Purposes, Offshore Waters of Puanui, Puaiki, Kiiokalani, and Kaihooa, North Kohala, Hawai'i, Tax Map Keys: 3rd/5-8-001: and 5-9-003: Seaward of Puanui, Puaiki, Kiiokalani, and Kaihooa" (Oct. 28, 2010) *available at*: <http://files.hawaii.gov/dlnr/meeting/minutes/101028-minutes.pdf>.

set at \$100,000 for the first oceansphere.”<sup>146</sup> HOTI was required to return to the Board when it was ready to deploy two or more cages so that the performance bond amount could be re-evaluated. The HOTI lease was set at \$3,500 per year or 1% of HOTI gross revenues, whichever is greater.<sup>147</sup> DLNR staff noted other aquaculture farms, like in Kapolei, paid roughly a \$1,500-\$3,000 annual rent.<sup>148</sup> In February 2011, DLNR prepared a Summary Appraisal Report for Market Rent for Mariculture Submerged Land Offshore of North Kohala, Hawai‘i Island, which was effective as of October 2010.<sup>149</sup> The 2011 appraisal concluded that retrospectively as of October 28, 2010, the market rent should be “percentage rent of 1 percent against minimum rent of \$3,500 per year.”<sup>150</sup>

On October 19, 2005, BLNR issued GL 5721 to Kona Blue Water Farms, LLC, for operation of an offshore aquaculture facility. On December 10, 2009, GLS-5721 was reassigned to Keahole Point Fish LLC. In 2012, BLNR briefly consented to a sublease of the property for a commercial pearl oyster and finfish hatchery. At the time, the lease was characterized as being for an “ocean-related high technology industrial park.”<sup>151</sup> Most recently, on May 27, 2016, BLNR consented to the mortgage of GLS-5721 to Ulupono Holdings, LLC for “mariculture purposes.”<sup>152</sup> DLNR did not recognize DHHL’s entitlement to 30% of the rent for any of these uses.

GLS-5721 is a 20-year lease, and the rent for the first ten years was set at \$2,100 per annum or 1% of gross revenue, whichever was greater. The State conducted an appraisal for the rent reopening, scheduled for November 1, 2014, and determined that a substantially higher rent was required. The appraiser set the rent for the second half of the ease at the greater of \$86,400 per annum or a percentage rent of between 2% and 3%, with a sliding scale tied to the gross revenue amount. Keahole Point hired an

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<sup>146</sup> Board of Land and Natural Resources, Staff Submittal Item D-3: “Amend Prior Board Action of October 28, 2010, Item D-4, as amended, Issuance of Direct Lease to Hawaii Oceanic Technology, Incorporated for Aquaculture Purposes, to Modify Performance Bond Requirement and to Reflect the Complete Legal Name of Lessee, Offshore Waters of Puanui, Puaiki, Kiiokalani, and Kaihooa, North Kohala, Hawai‘i, Tax Map Keys: 3rd/5-8-001: and 5-9-003: Seaward of Puanui, Puaiki, Kiiokalani, and Kaihooa,” D-3 at 2 (Feb. 24, 2012).

<sup>147</sup> *Id.*, at D-3 at 1 n.2.

<sup>148</sup> Board of Land and Natural Resources, Submittal Item D-4: “Issuance of Direct Lease to Hawaii Oceanic Technology, Inc. for Aquaculture Purposes, Offshore Waters of Puanui, Puaiki, Kiiokalani, and Kaihooa, North Kohala, Hawai‘i, Tax Map Keys: 3rd/5-8-001: and 5-9-003: Seaward of Puanui, Puaiki, Kiiokalani, and Kaihooa” (Oct. 28, 2010) *available at*: <http://files.hawaii.gov/dlnr/meeting/minutes/101028-minutes.pdf>.

<sup>149</sup> *See* Filename “2011 HOTI appraisal” (on file with author).

<sup>150</sup> *Id.*, at 14.

<sup>151</sup> BLNR Staff Submittal, Item D-6 (Apr. 27, 2012) *available at*: <http://files.hawaii.gov/dlnr/meeting/submittals/120427/D-Land-Submittals-D6.pdf>.

<sup>152</sup> BLNR Staff Submittal, Item D-4 (May 27, 2016) *available at*: <http://files.hawaii.gov/dlnr/meeting/submittals/160527/D-4.pdf>.

appraisal that set the rent at \$2,700 per annum or 1% of gross revenue.<sup>153</sup> Parties underwent a mediation, and the current rent is set at \$20,000/semi-annual or 1% of gross revenue per annum, whichever is greater.

## Ocean water sales

NELHA pays \$480 annual rent plus a 50% percentage of net operating income (NOI).<sup>154</sup> The \$480 rent references a May 13, 2005 BLNR decision to establish a Minimum Rent Policy that stated, among other things, that the minimum rent for a lease to a charitable organization be no less than \$480 per year.<sup>155</sup> NOI is the actual net income remaining after all adjusted operating expenses are deducted from the effective gross income including a reserve for replacement and for major repairs not covered in the operating budget. This does not include federal funds and grants.<sup>156</sup> A 2016 NELHA Annual Report does not show any monies paid to DLNR under the line “50% payment due DLNR.”<sup>157</sup> The rental structure allows for this low lease land rent, but NELHA reportedly charges a much higher “delivery charge” for ocean water to a tenant who sells deep ocean water. NELHA reports “Seawater Service Charges” collected in FY 2016 as \$1,874,532.49.<sup>158</sup>

As discussed previously, nothing in the constitution or HHCA restricts water licenses to those authorizations for the use of government-owned water by BLNR. The legal question is whether characterization as a “service charge” would remove NELHA’s revenue from the scope of “water licenses.”

## Submerged Lands Leasing

The state’s submerged lands leasing is another potential revenue source for NHRF. Submerged lands are leased for piers, recreational lagoons, seawalls, and other sources. For example, Keauhou Beach Hotel holds General Lease No. 5963, which brings in

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<sup>153</sup> BLNR Staff Submittal, Item D-4, 2-3 (Jan. 23, 2015) *available at*: <http://files.hawaii.gov/dlnr/meeting/submittals/150123/D-4.pdf>.

<sup>154</sup> *See* G.L. 5619; Board of Land and Natural Resources, Submittal Item D-7: “Establish Lease Rent Under General Lease No. S-5619, Natural Energy Laboratory of Hawai‘i Authority (NELHA), Lessee, at \$480 Per Annum Plus Fifty Percent (50%) of the Net Operating Income for the Period July 3, 2011 to July 2, 2021; Amend General Lease No. S-5619 to Modify the Character of Use Provision to Include Telecommunication Purposes, and Extend the Lease Term for an Additional Twenty (20) Years for a Total Term of Sixty-Five (65) Years; Government Lands at Hamanamana, Kalaoa 1st-4th, and Ooma 1st & 2nd, North Kona, Hawaii, Tax Map Keys: 3rd/7-3-43:5, 41, 42, 51, 63, 66-94, 98, 100, 101, 102, and 106 (formerly designated as 7-3-43; and 7-3-09:23 and 24)” (May 25, 2012).

<sup>155</sup> Report to the 29<sup>th</sup> Legislature, State of Hawaii, Accounting of All Receipts from Lands Described in Section 5(F) of the Admission Act For FY 2015-16, Attachment 9, DBEDT-NELHA, prepared By DLNR, November 2016.

<sup>156</sup> *Id.*

<sup>157</sup> *See* Filename “gl5619 nelha 2016 financial rpt” (on file with author).

<sup>158</sup> *See* Filename “gl5619 nelha 2016 financial rpt” (on file with author).



\$61,000 annually, for ocean activities on submerged lands.<sup>159</sup> The Hilton Hawaiian Village on O‘ahu is associated with two revenues that could be subject to DHHL’s entitlement under NHRF for “water licenses”: (1) use of submerged lands for a pier used for commercial boating purposes; and (2) use of salt water for its man-made lagoon.

### **Hilton “Dragonboat” Pier**

On January 13, 2017, BLNR considered Grant of Term, Non-Exclusive Easement to Hilton Hawaiian Village Lessee LLC for Pier Purposes; Termination of Revocable Permit No. S-7566; Waikīkī, Honolulu, O‘ahu, Tax Map Key: (1) 2-6-008:029. These Waikīkī submerged lands are Section 5(a) lands under the Hawai‘i Admission Act. The staff submittal stated that the lands were not subject to DHHL’s 30% entitlement. Rent is<sup>160</sup>:

To be determined by independent appraisal establishing fair market rent, subject to review and approval by the Chairperson, noting that the gross receipts for the calculation of percentage rent shall mean all income and revenue derived from, relating to, or connected with the operations, sales, and services rendered under the easement.

OHA did not respond to a request for comments. DHHL’s claim to revenues from use of submerged lands is only thinly connected to “water license” revenue and this claim could bring it into conflict with OHA, which is entitled to public trust land payments from the use of submerged lands.

### **Hilton Saltwater Lagoon**

On August 15, 2007, CWRM considered Hilton Hotels Corporation’s application for a water use permit for Hilton Village Lagoon Saltwater Wells 1 to 7 (Well Nos. 1750-15 to -21), TMK 2-3-37:21, WUP No. 760 New Use (Lagoon Water Quality and Circulation Improvement) for 21.600 mgd of Salt Water, Nu‘uanu Ground Water Management Area, O‘ahu. The staff submittal for WUP No. 760 stated that DHHL reviewed the application “and has stated that they have no concerns or objections to this application.” On February 11, 2005, under Item D-9, staff requested issuances of a right of entry for Hilton’s saltwater wells and an easement for the lagoon area. The Board only issued the right of entry and deleted the easement request, deciding that the easement could be issued at a later date. On January 12 and 27, 2006, DOBOR obtained an easement for utilities in and around the lagoon area. On September 25, 2009, DLNR staff presented a

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<sup>159</sup> BLNR, Meeting Minutes, Item D-2 Termination of Term, Non-Exclusive Surface Grant of Easement No. 4227; Issuance of new Grant of Term, Non-Exclusive Surface Easement to KBH, Inc., Kahaluu, North Kona, Hawaii, TMK: (3) 7-8-13:042 (HDLO/ Wesley), at 2 (Jan. 12, 2007).

<sup>160</sup> Staff Submittal on Item D-13 (Jan. 13, 2017)

request for a perpetual non-exclusive easement to Hilton for purposes of maintaining the lagoon, subject to a future appraisal.<sup>161</sup>

Hilton's use of land for the lagoon itself is consequent to a 1955 agreement between the Territory of Hawai'i and Kaiser Community Homes. Under the 1955 agreement, the Territory constructed a beach and recreation area, and Kaiser dredged and constructed the lagoon, maintained the lagoon and culverts, and any beach within and around the perimeter of the lagoon, and installed and maintained power lines, pumps, and valves. The Territory also received all littoral rights on shoreline properties owned by Kaiser.<sup>162</sup>

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<sup>161</sup> BLNR Staff Submittal Item D-9, at 1 (Sep. 25, 2009) *available at*: <http://hawaii.gov/dlnr/chair/meeting/submittals/090925/D-Land-Submittals-D9.PDF>.

<sup>162</sup> BLNR Staff Submittal Item D-9, at 3 (Sep. 25, 2009) *available at*: <http://hawaii.gov/dlnr/chair/meeting/submittals/090925/D-Land-Submittals-D9.PDF>.



## **Conclusion**

The NHRF was established to provide for the economic, social, and cultural benefit of Native Hawaiians through revenues derived from sugarcane land leases and water licenses. However, as this report has extensively detailed, the foundational model upon which the NHRF was built has undergone significant shifts due to the decline of Hawai'i's sugar industry and evolving land and water governance. These changes necessitate a forward-thinking approach to sustaining and expanding NHRF revenue streams.

Through historical audits, legislative analyses, and comprehensive evaluations of land and water assets, this report underscores the pressing need for systemic improvements in revenue accountability, inter-agency coordination, and strategic advocacy. The DHHL has long faced challenges in securing its rightful entitlements, a reality exacerbated by ambiguous legal interpretations, administrative inefficiencies, and the shifting economic landscape. The findings of this report make clear that without proactive measures, the NHRF's ability to fulfill its intended purpose will continue to be constrained.

The report highlights a number of key findings and strategic implications, including:

### **Historical and Ongoing Revenue Decline**

- The steady reduction in sugarcane cultivation has significantly diminished NHRF revenue.

- Previous auditing efforts have primarily focused on compliance rather than exploring innovative solutions for revenue generation.

#### **Unrealized and Underutilized Entitlements**

- Gaps in inter-agency communication have resulted in missed opportunities for NHRF to receive rightful revenue.
- The ambiguous categorization of “protected lands” and “contributory uses” has led to inconsistent enforcement of entitlements.

#### **Inconsistent Compliance with Past Audit Recommendations**

- A substantial portion of prior audit recommendations remain either partially implemented or unaddressed.
- There is a need for a dedicated mechanism within DHHL to ensure that state agencies adhere to their obligations regarding NHRF revenue transfers.

#### **Expanding the NHRF Revenue Base**

- Water licenses represent an underleveraged asset that, if appropriately managed, could provide a sustainable revenue stream.
- Other innovative avenues, such as submerged land leasing and ocean water sales, have the potential to supplement NHRF income.

To ensure the long-term viability of the NHRF, this report presents the following strategic recommendations:

- **Legislative and Policy Advocacy:** DHHL should work with policymakers to clarify statutory definitions and close existing legal loopholes that limit NHRF revenue collection.
- **Proactive Revenue Enforcement:** Establish an inter-agency task force to monitor compliance with revenue transfers from lands and water licenses historically linked to sugar cultivation.
- **Diversification of Revenue Streams:** Explore leasing arrangements for renewable energy projects, ocean water extraction, and hydroelectric developments to replace declining sugar-related revenues.
- **Technological Modernization:** Leverage GIS and digital tracking tools to maintain an accurate and transparent inventory of NHRF land and water assets.
- **Strengthened Interagency Coordination:** Revise and enforce the Memorandum of Understanding (MOU) with the Department of Land and Natural Resources (DLNR) to improve information-sharing and accountability.

The economic landscape in which the NHRF was conceived is no longer the reality that DHHL and Native Hawaiian beneficiaries face today. This report provides a roadmap for overcoming historical challenges, strengthening financial oversight, and pursuing innovative revenue opportunities. By implementing the recommendations outlined herein, DHHL can not only safeguard the integrity of the NHRF but also ensure that it remains a powerful tool for the rehabilitation and advancement of Native Hawaiians.

## **Appendix A: Potential Coverage of Water Licenses**

Exhibit "A"  
Current DLNR Revocable Permits

| <b>Former R.P. #</b> | <b>Applicant</b>                     | <b>Location</b>                | <b>Proposed Use</b>   |
|----------------------|--------------------------------------|--------------------------------|---|
| RP 7263, 7264, 7265  | Alexander & Baldwin                  | Hana, Maui                     | Irrigation  |
| RP 7266              | East Maui Irrigation                 | Hana, Maui                     | Irrigation  |
| RP 7463              | Hawaii Electric Light Company        | South Hilo, Hawai'i            | Hydroelectric - Non-Consumptive                                     |
| RP 7054              | Kapapala Ranch                       | Ka'u, Hawai'i                  | Watering Livestock & Wildlife                                       |
| NEW                  | Kau Mahi, Inc.                       | Ka'u, Hawai'i (Moaula)         | Irrigation & Watering Livestock                                     |
| NEW                  | Kau Mahi, Inc.                       | Ka'u, Hawai'i (Mountain House) | Irrigation & Watering Livestock                                     |
| NEW                  | Kauai Island Utility Cooperative     | Lihue, Kaua'i                  | Hydroelectric - Non-Consumptive                                     |
| RP 7340              | Kauai Island Utility Cooperative     | Lihue, Kaua'i                  | Hydroelectric - Non-Consumptive (Water Not Returned To Same Stream) |
| RP 7426              | Kuahiwi Contractors                  | Kau, Hawai'i                   | Watering Livestock  |
| RP 7088              | Linder, Jeffrey                      | Kawaihau, Kaua'i               | County Water Supply & Irrigation                                    |
| RP 7360              | Mac Farms Llc                        | South Kona, Hawai'i            | Irrigation For Mac Nut Orchard                                      |
| NEW                  | Moloaa Irrigation Cooperative        | Kawaihau, Kaua'i               | Public Drinking Water & Irrigation                                  |
| RP 7432              | Olson, Edmond                        | Ka'u, Hawai'i                  | Irrigation & Watering Livestock                                     |
| RP 7234, 7267        | Wood Valley Water & Farm Cooperative | Ka'u, Hawai'i                  | Public Drinking Water, Irrigation & Watering Livestock              |

Source: Report to 29<sup>th</sup> Legislature, State of Hawaii, Relating To Water Rights, By DLNR in Response to Act 126, SLH 2016, December 2016.

## **Appendix B: Timeline of Honokōhau ditch/ Honokōwai tunnel leasing actions**

Prior to July 20, 1960: 17.91 acres of state lands were encumbered by GL No. 2639, which lease was extended until July 20, 1960 when the lease expired. The rent for GL No. 2639 \$190.00 per annum.

April 27, 1962: BLNR approved Revocable Permit No. S-3132.

August 24, 1962: The staff prepared a submittal for a twenty years 40 foot right of way to Pioneer Mill Co., Ltd to work on portions of Honokōhau ditch and Honokōwai tunnel. The appraiser and staff recommended a rent of \$1,500 per annum.<sup>163</sup> BLNR approved GL No. 3835 to Pioneer Mill for a 20-year lease for transmission of domestic and irrigation water.

June 1, 1984: GL No. 3835 expired. General Lease S-5262 was retroactively made effective on June 2, 1984.

June 22, 1984: BLNR approved a 30 year lease for the 40 foot wide non-exclusive easement covering TMK Nos. 4-4-02:12, 13, and 14; 4-4-05:035; 4-4-07:009 and 010; 4-5-21:005; and 4-6-18:011 as shown in Exhibits "A", "B," "C," "D," and "E," with a total area of 17.899 acres.<sup>164</sup> BLNR staff described the purpose as for "transmission of water for irrigation purpose and for mill use." The new lease provides for rent reopenings at the 10th and 20th years of the easement.

The Honokohau Ditch transmits high-level waters from the West Maui mountains to Pioneer Mill Company's sugar cane fields. Approximately 1,800 acres of cane lands are irrigated from the ditch. According to Pioneer Mill, all the waters transported in the ditch are developed or taken from the lands owned by Maui Land & Pineapple, Inc. The quantity of water delivered to Pioneer Mill at or near the north boundary of the State land of Honokowai averages 20 million gallons per day (mgd).

The Honokowai Tunnel is a transmission tunnel and not a water development tunnel. Approximately 5 mgd diverted from two (2) branches of the Honokowai Stream passes through the tunnel to irrigation some 500 acres of the applicant's cane lands.

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<sup>163</sup> Appraisal by Herschler and Randolph was dated November 10, 1961, but the 1962 staff submittal preparers reported that the appraisers felt the appraisal was still current.

<sup>164</sup> TMK No. 4-4-07:009 was not included in the 1989 Yamamura appraisal report.

It should be emphasized that this easement does not grant Pioneer Mill any right or interest in any government-owned waters nor does it grant them any right to take any government-owned waters.<sup>165</sup>

BLNR approved the recommendation but made it retroactive to June 2, 1984. Although the effective date of the lease was from June 2, 1984 to June 1, 2014, the lease was not finally executed until August 5, 1997.

September 1, 1989: Ted Yamamura submitted an appraisal for approximately 17.242 acres<sup>166</sup> for Pioneer Mill. The inspection was conducted on July 20, 1988. Yamamura appraised the lease at \$2,011.00 per year. The appraisal was based on the past five years of rental payment of sugar leases (\$114.37 per acre) and not the price of raw sugar.

August 5, 1997: General Lease S-5262 was effective as of June 2, 1984 and called for rental reopening at 10th and 20th years of its term.<sup>167</sup> However, the lease was not fully executed until August 5, 1997 and so the June 2, 1994 reopening was not done. GL S-5262, executed on August 5, 1997 includes paragraph 22, which provides:

The Grantee acknowledges and agrees that the subject easements covers only a right-of-way for the Honokōhau Ditch and Honokōwai Tunnel which runs over and across portions of government land and does not in any way grant any right or interest in any government-owned waters nor does it grant any right to take any government-owned waters.<sup>168</sup>

December 9, 1999: DLNR Land Division was consulting with the attorney general regarding condemnation of AMFAC lands under and surrounding Honokōhau ditch.<sup>169</sup>

December 16, 1999: Rent was initially set at \$2,011 per year between June 2, 1984 to June 1, 1994, and was reduced to \$860 per year for the period June 2, 1994 to June 1, 2004 in December 1999.<sup>170</sup>

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<sup>165</sup> James J. Detor, Land Management Administrator, DLNR Staff Submittal “Direct Sale of Easement at Honokōwai, Kā’anapali, Wahikuli, and Lahainaluna, Lahaina, Maui, Hawaii,” at 2 (Jun. 22, 1984) (on file with DLNR Land Division).

<sup>166</sup> The “Reasons for Recommendation” in the appraisal report indicate 4.898 acres in accord with the June 22, 1984 submittal.

<sup>167</sup> GL S-5262 was recorded in the State Bureau of Conveyances as Document No. 2407425 on October 7, 1997.

<sup>168</sup> Lease of Non-Exclusive Easement S-5262 between BLNR and Pioneer Mill Co., Ltd, dated Aug. 5, 1997 and approved by the BLNR at its meeting held on June 22, 1984 (on file with DLNR Land Division).

<sup>169</sup> Letter from Sonia Faust, Supervising Deputy Attorney General to Dean Uchida, Administrator, Land Division, Re: Lease of Non-Exclusive Easement, Honokōhau Ditch, Lahaina, Maui AG No. 99-20206 (in regard to inquiry to condemn AMFAC lands).

<sup>170</sup> December 16, 1999 Letter from Mike Nugent, Staff Appraiser, DLNR Land Division, to Timothy E. Johns, BLNR Chairperson (through Dean U. Uchida, DLNR Land Division Administrator), Re:

2002: DLNR communicated with Amfac Hawai'i, LLC, owners of the Pioneer Mill Co., regarding their bankruptcy and judicial plan of reorganization,<sup>171</sup> Thereafter, DLNR files contain various requests for assurances concerning liability insurance and rental payments.<sup>172</sup> The bankruptcy court assumed the lease on September 30, 2002.

2002: DLNR also communicated with the West Maui Soil Conservation District concerning ditch repair and maintenance in light of Amfac's bankruptcy.<sup>173</sup>

February 5, 2004: DLNR reduced Pioneer Mill's rent from \$860 to \$800 per year based on DLNR's appraiser reopened rental determinations.<sup>174</sup> ACM Consultants based their appraisal on the rental value of "in crop" sugar cane land.

April 5, 2010: HHFDC wrote to DLNR requesting that an extension of Easement S-5262 not be granted.<sup>175</sup> HHFDC stated Villages of Leialii cannot accommodate any overflow discharge from the Honokohau Ditch irrigation system and also opposed the lease extension based on discharge of overflow waters to Crater Reservoir.

June 2, 2014: GL S-5262 expired by its own terms. Thereafter, DLNR records contain notice of default regarding Pioneer Mill's failure to post liability policies (on June 3, 2016) and to post performance bond (on November 10, 2016).

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Rental Determination for Reopening of General Lease S-5262 to Pioneer Mill Co. at Honokohwai, Ka'anapali, Wahikuli, and Lahainaluna, Lahaina, Maui, TMKs: 4-4-02:12, 13, & 14, 4-4-05:35; 4-4-07:10; 4-5-21:05 and 4-6-18:11.

<sup>171</sup> See June 11, 2002, Second Amended Joint Plan of Reorganization of AMFAC Hawai'i, LLC, and Certain of its Subsidiaries (authorizing reassume unexpired leases) (on file with DLNR Land Division).

<sup>172</sup> See e.g. Letter from Charlene E. Unoki, Acting Assistant Administrator, DLNR, Land Division, to Logan & Co., Inc. Subject Proof of Claim Form (Dec. 6, 2002).

<sup>173</sup> See Letter from Jason Koga, DLNR Maui Land Agent, to David "Buddy" Nobriga, Chair, West Maui Soil and Water Conservation District, Subject: Maintenance and Repair of the Honokohau Ditch, GL S-5262 (Jul. 17, 2002) (on file with DLNR Land Division).

<sup>174</sup> Letter from Dierdre S. Mamiya, Land Division Administrator, DLNR, to Pioneer Mill Company, Subject: REOPENING OFFER LETTER, Ground Rent for General Lease No. S-5262; Lahaina, Maui, Hawai'i, TMK: (3) 4-4-2:12, 13, & 14; 4-4-5:35; 4-4-7:10; 4-5-21:5 and 4-6-18:11 (independent appraisal report determined fair market rent to be \$800 per annum; "if we do not hear from you within 30 days, we will assume you accept the rent").

<sup>175</sup> Letter from Karen Seddon, Exec. Dir. DBEDT, HHFDC, to DLNR Land Division, Subject: Decommissioning of Wahikuli Reservoir and Dam Extension of Easement S-5262 to Honokohau Ditch, Villages of Leialii, Lahaina, TMK (2) 4-5-21:22 (por) (Apr. 5, 2010) (on file with DLNR Land Division).



## **Appendix C: PUC regulated private water companies**

### **Hawai'i Water Service Co. - Kā'anapali Operations**

The Honokōwai aquifer alone has 54 wells, although only eight of them are in production, withdrawing approximately 3.45 mgd.<sup>176</sup> All eight of the production wells are operated by the California Water Service Group, which is affiliated with the Hawai'i Water Service - Kā'anapali Operations.

Hawai'i Water Service Co. is a private water system regulated by the PUC. In 2016, PUC permitted the Hawaii Water Service Co. Inc. to increase its rate charges by about 20 percent over present rates for Kaanapali hotels and condominium owners. This rate increase would increase revenue from \$5,317,466 to \$6,378,817 in a year, representing a rate of return of 7.75 percent for the water company.<sup>177</sup> In 2015, HWSC reported operation and maintenance expenses of approximately \$3,864,762 and labor expenses of \$1,091,623.<sup>178</sup> In 2016, the PUC approved a \$6,378,817 revenue requirement for the calendar year. HWSC included "group depreciation rates", inflation, and power purchase charges in its justification for increased revenue requirements.<sup>179</sup>

HWS Kā'anapali Operations pumps groundwater from nine wells in the Honokōwai aquifer with well names Kā'anapali P-1, Kā'anapali P-2, Kā'anapali P-4, Kā'anapali P-5, Kā'anapali P-6, Hahakea 2, Honokōwai B, and Pu'ukoli'i. These wells provide potable water to Kā'anapali developments, serving approximately 700 customers including several resorts and large condominium complexes. Ground water is pumped through five of these wells without any needed treatment other than chlorination. The other four wells require Granular Activated Carbon treatment. The water system is composed of storage tanks regulating water pressure entering from four pressure zones as well as nine pump stations, eight tanks with storage capacity of 4.97 MG, and 32 miles of pipeline. Approximately 3 mgd is delivered to customers in the Kā'anapali service area.<sup>180</sup>

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<sup>176</sup> Maui County Dep't of Water Supply, FEA Mahinahina Exploratory Well, at 20 (Jul. 2011).

<sup>177</sup> Brian Perry, "'Reasonable' rate increase OK'd for Kaanapali water users," *Maui News* website (Sep. 19, 2016).

<sup>178</sup> PUC Dkt. No. 2014-0230, In re Application of the Hawai'i Water Service Company for a General Rate Increase for its Kā'anapali Service Area, Decision and Order 33908 at 25, 27 (Sep. 12, 2016)

<sup>179</sup> See *In re Application of Hawai'i Water Service Corp.*, PUC Dkt. 2015-0230, Decision and Order No. 33908.

<sup>180</sup> PUC Dkt. No. 2014-0230, In re Application of the Hawai'i Water Service Company for a General Rate Increase for its Kā'anapali Service Area, Decision and Order 33908 at 4 (Sep. 12, 2016)

### **Kapalua Water Company, Ltd.**

The Kapalua Water Company is a wholly owned subsidiary of Maui Land and Pineapple, Co. and services potable and nonpotable water to its residences, condominiums, hotels, and commercial establishments in the Kapalua resort area. In 2004, MLP expected its non-potable usage at Kapalua Mauka areas to increase from 1.7-1.9 mgd in 2001-2002 to approximately 2.2-2.4 mgd.<sup>181</sup> These nonpotable needs would be satisfied through diverted surface waters from the Honolua Ditch. The Honolua Ditch (also known as the Honokōhau Ditch), which diverts surface waters of Honokōhau Stream, Honolua Stream, and Kaluanui Stream is the main source of nonpotable water for MLP developments and the Kapalua Resort. Maui DWS also draws approximately 2.5 mgd from the Honolua Ditch. MLP operates the first seven miles of the Honolua Ditch, ending at Honolua Gulch, after which it is operated by the Kā'anapali Development Corporation.

Kapalua Water Company operates two deep water potable wells in the Honolua aquifer, each with a capacity of 1 mgd. The Kapalua Resort used approximately 0.5 and 0.6 mgd of potable water.<sup>182</sup> In 2005, the following water rates applied for all but MLP's Pineapple Hill Phase I subdivision customers.

|                                      |                    |
|--------------------------------------|--------------------|
| Potable water:1st 12,500 gallons/mo. | \$3.52/ 1,000 gal. |
| Over 12,500 gal/mo.                  | \$5.05/ 1,000 gal. |
| Irrigation water:                    | \$2.22/ 1,000 gal. |

Pineapple Hill customers would pay a higher rate of \$3.13/1,000 gal for all water uses.<sup>183</sup> In 2008, the PUC approved a revenue increase of \$102,749 or approximately 5.84% over revenues and a revenue requirement of \$1,862,009, with a 8.10% rate of return.<sup>184</sup>

### **Olowalu Water Company, Inc.**

The Olowalu Water Co. is a public utility providing potable and nonpotable water to private residential and agricultural customers historically served by Pioneer Mill and the new residents of Olowalu Elua Associates, LLC lots. Olowalu Water obtained its PUC certificate to operate as a public utility on August 7, 2000. In 2008, Olowalu Water Co.

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<sup>181</sup> In re Maui Land and Pineapple's Petition to Amend Agricultural Land Use District Boundaries, Land Use Commission Dkt. No. A03-741, at p.33 ¶95 (Jun. 29, 2004) (Findings, Conclusions, and Order) *available at*: <http://files.hawaii.gov/luc/comau/a03-741mlpco.pdf>.

<sup>182</sup> In re Maui Land and Pineapple's Petition to Amend Agricultural Land Use District Boundaries, Land Use Commission Dkt. No. A03-741, at p.27-28 ¶78 (Jun. 29, 2004) (Findings, Conclusions, and Order) *available at*: <http://files.hawaii.gov/luc/comau/a03-741mlpco.pdf>.

<sup>183</sup> PUC Dkt No. 2005-0132, Kapalua Water Co. Application for Tariff Increase (Apr. 26, 2005)

<sup>184</sup> PUC Dkt No. 2008-0325, Kapalua Water Co. Application for Review and Approval of Rate increases (Dec. 30, 2008) (Decision and Order).

was providing potable water to 38 customers and nonpotable water to 28 customers.<sup>185</sup> Electricity cost increases and other factors reduced Olowalu Water Co.'s projected revenues of \$78,000 per year to between \$1,892 and \$49,079 for years 2003 through 2007. In 2010, the PUC approved a rate increase of 46.68% over revenues for a total revenue requirement of \$135,564 for the 2011 test year. Dkt. No. 2010-0340; DnO filed Aug. 17, 2011.

**Launiupoko Water Co. and Launiupoko Irrigation Co.**

Launiupoko Water Co. (LWC) is a Hawai'i limited liability company managed by Peter Martin with a majority share, and James Riley and Glen Tremble with minority shares. In 2006, the PUC approved LWC's application for a 35.15% increase in revenues for a total revenue requirement of \$162,424 per year.<sup>186</sup>

In 2002, when Launiupoko Irrigation Co. (LIC) first applied for PUC certification its only other member was Makila Land Company, which was managed by the same three persons. LIC's service area was approximately 7,000 acres, of which 6,000 acres were owned by Makila Land Company and its associates, and the other 1,000 acres were owned by AMFAC/JMB Hawai'i and Kamehameha Schools/ Bishop Estate.

| Reporter                        | Wells <sup>187</sup>                      |
|---------------------------------|---|
| Maui DWS                        | Honokahua, Napili, Kanaha, Wai Puka       |
| Hawai'i Water Service Co., Inc. | Kā'anapali P-1 to P-6, Hahakea, Honokowai |
| Maui Land & Pineapple Co., Inc. | Kapalua                                   |
| Launiupoko Water Co., Inc.      | Mahanalua Nui                             |
| Puamana Community Assoc.        | Puamana                                   |
| Olowalu Water Co., Inc.         | Olowalu Elua                              |

**Hawai'i PUC Regulated Water Companies (non-exhaustive list)**

As of 2016, the PUC regulates 39 privately owned water service utilities that provide water services and wastewater services. The majority of these utilities are located on the neighbor islands.<sup>188</sup> In 2014, the PUC disclosed that it regulated 18 water service utilities, 15 wastewater service utilities, and 5 utilities which provide both water service

<sup>185</sup> PUC Dkt No. 2008-0165, Olowalu Water Co. Application for Rates Increase (Aug. 21, 2008).

<sup>186</sup> PUC Dkt. No. 2006-0505, In re Application of Launiupoko Water Co., LLC (Decision & Order No. 23523) (Jul. 12, 2007).

<sup>187</sup> U.S. Geological Survey, Pacific Islands Water Science Center, "Recent hydrologic conditions, Lahaina District, Maui, Hawaii. Pumpage in aquifer systems" (Jan. 15, 2013) *available at*: <https://hi.water.usgs.gov/recent/lahaina/pumpage.html>

<sup>188</sup> PUC Annual Report for FY2016 at 32: [http://Irbhawaii.info/reports/legrpts/bf/puc/269\\_5hrs\\_17.pdf](http://Irbhawaii.info/reports/legrpts/bf/puc/269_5hrs_17.pdf)

and wastewater service. The majority of these utilities can be found on the neighbor islands with 12 located on Hawaii Island, 11 located on Maui, 5 located on Kauai, 5 located on Oahu, 3 located on Molokai, and 2 located on Lanai.<sup>189</sup> 2016 PUC regulated companies are described below.

#### **Kaua'i**

- Kaua'i Island Utility Cooperative
- Moloaa Water Distribution Company, LLC
- H. Hackfeld & Co., Ltd., DbA East Kauai Water Company
- Princeville Utilities Company, Inc.
- Kilauea Irrigation Company

#### **Moloka'i**

- Wai'ola O Moloka'i, Inc. in June 2009, sought revenues of \$473,431 or an approximate 382.85 per cent increase for rate of return of 2 percent.
- Molokai Public Utilities, Inc. in 2009, sought to increase revenues of \$886,259 (approximately 201.50 per cent) over its present total revenue, for a 2 percent rate of return.

#### **O'ahu**

- Laie Water Company, Inc. Test year revenue requirement 2017 of \$1,893,937. *In re Application of Lā'ie Water Company for Review and Approval of Rate Increases*, PUC Dkt. 2016-0229, Decision and Order No. 34460 (Mar. 20, 2017).
- North Shore Water Company, LLC, adopted a break even 0% rate of return. Dkt 2008-0180; Decision & Order No. 30472.
- Mokuleia Water, Llc And Mokuleia Water Users Association
- Hawaii-American Water Company, Inc. (Wastewater)
- Puuwaawaa Waterworks, Inc. (Kāne'ohe)

#### **Hawai'i**

- Ka'ūpūlehu Water Company: in Dec. 2005, PUC approved a general rate increase of \$521,065, or 24.07% over revenues at present rates, based on a total revenue requirement of \$2,685,869 for the July 1, 2005 to June 30, 2006 test year, and a rate of return of 3.45%.
- Ka'ūpūlehu Water Co. made distributions to its partners of \$ 1,850,759 in calendar year 2008; \$1,200,000 in calendar year 2009; \$1,100,000 in calendar year 2011; \$973,667 in calendar year 2012; and \$24,890 in calendar year 2013.

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<sup>189</sup> PUC Annual Report for FY2014 at 56:  
[http://Irbhawaii.info/reports/legrpts/bf/puc/269\\_5hrs\\_15.pdf](http://Irbhawaii.info/reports/legrpts/bf/puc/269_5hrs_15.pdf)

No distributions to partners were made by Applicant in calendar years 2007, 2010, 2014, 2015 or 2016 year to date.<sup>190</sup>

- Kona Water Service Company, Inc. PUC Dkt. 2013-0375, Stipulated Rates and Charges, filed July 14, 2015. The revenue requirement at proposed rates in 2015 was \$3,886,699. Test year expenses were \$2,556,131. Income and other taxes accounted for \$444,830. Total revenues were estimated to be \$1,785,917. The Kona Water Service rate of return would be 7.75%.
- Waikoloa Water Company, Inc., Db a West Hawaii Water Company
- Waikoloa Resort Utilities, Inc., Db a West Hawaii Utility Company
- Kūki'o Utility Company, LLC Jan. 2008, PUC approved rate increase of \$232,341 or 10.71 per cent over revenues
- Kohala Ranch Water Company (March 2003 CPCN) to provide potable and non-potable water and wastewater treatment services for Phase 1 of a master planned community known as the Kūki'o Beach Club situated at Kukio, North Kona on the island of Hawai'i; May 2007, PUC approved increase of \$572,267, or approximately 60.24% over revenues for 2006 calendar test year.
- KRWC Corporation, Db a Kohala Ranch Water Company
- Hawaiian Beaches Water Company, Inc., Fka Miller & Lieb Water Company, Inc. (Pāhoa): June 2007, PUC approved a general rate increase of \$374,134, or approximately 118.0%, over revenues. HBWC provides water service to the residents and occupants of the Hawaiian Beaches subdivision, located in Pāhoa, district of Puna, on the island of Hawaii.
- Napu'u Water, Inc., provides water to Pu'u Lani Ranch, Pu'u Wa'a Wa'a Ranch, and the Pu'u anahulu community. MWI owns two ground water wells on these ranch lands that access the Kīholo aquifer. 2016 Consumer Confidence Report, Napuu Water Inc. website: <https://www.napuuwater.com/about-us>.
- Pu'u iwaiwa, LLC (nka Pu'u iwaiwa Ranch Limited Partnership) (Washington State LLP, Operating In Kona); Jan. 2003 CPCN to provide water utility services for portions of Pu'u wa'awa'a and Pu'u anahulu homesteads in North Kohala on the island of Hawai'i. As PWI began operating without first obtaining its CPCN, the Commission's approval was granted, nunc pro tunc (or after the fact).

## Maui

- Hana Water Company, Inc., Hana Water Resources, Inc., and Hana Water Systems, LLC
- Pukalani Water Co.
- Wailuku Water Company, LLC
- Kealia Water Company Holdings LLC, Delaware Corporation, Colorado Company
- Olowalu Water Company, Inc. (Oct. 2003, PUC amended CPCN to provide non-potable water services in the area of Olowalu on the island of Maui. OWC is also authorized to provide potable water utility services in the same area)

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<sup>190</sup> *In re Kaupulehu Water Co. Application for a Change in Rates*, PUC Dkt. 2016-0435 (Dec. 28, 2016) (later withdrawn).

- Hawaii Water Service Company, Fna Kaanapali Water Corporation
- Launiupoko Water Co.: June 2003 CPCN, to provide water utility services on Maui.
- Hawaiian Commercial & Sugar Company, A Division Of Alexander & Baldwin, Inc.
- Launiupoko Irrigation Co., LLC: Sep. 2003 granted a CPCN to LIC to provide non-potable water utility services in the area of West Maui.
- Kapalua Water Co. June 2004, PUC approved KWC's request to expand its service area. KWC new service territory includes residences and properties in Honolua Ridge, Hawea Point, Alaelae Point, and Kalaepiha Point. KWC provides water utility service in the Kapalua area of the island of Maui.

#### **Lānaʻi**

- Castle & Cooke, Inc., Castle & Cooke Resorts, LLC, Manele Water Resources, LLC, Lanai Transportation Company, Inc., And Lanai Water Company, Inc. CPCN approved 2008 Dkt No. 2008-0322.

## **Appendix D: Timeline of NHRF development and issues**

The following is an annotated timeline of events leading to the development of NHRF and subsequent attempts to address issues arising from NHRF implementation.

**1921:** HHCA enacted by Congress, including the following provision:

There is hereby established in the treasury of the Territory a revolving fund, to be known as the "Hawaiian home loan fund." The entire receipts derived from any leasing of public lands under the provisions of section 212 of this title and 30 per centum of the Territorial receipts derived from the leasing of cultivated sugar-cane lands under any other provision of law or from water licenses shall be covered until the total amount of the moneys paid therein equals \$1,000,000.

HHCA §213 (1921). At this time, Hawaiian home loan fund was the only fund for the HHC.

**January 1922:** The Hawaiian Homes Commission (HHC) inquired with the Territorial government, "what are the lands, if any, from which the Commission has been entitled to the entire rental receipts?"<sup>191</sup>

**December 10, 1922:** Attorney General Opinion No. 1057 (Dec. 10, 1922). The AG responded to HHC's inquiry by specifying certain lands returned to the Commissioner of Public Lands, but no receipts were associated with those lands because they were "not leased, according to information given."<sup>192</sup> The AG further concluded that HHCA was not entitled to "rental receipts" from "available lands" then under leases because they had not yet assumed the status of Hawaiian home lands.<sup>193</sup> Governor Wallace Farrington subsequently requested that the AG draw up amendments in order for revenues from available lands to be deposited into the Hawaiian home loan fund.

**February 3, 1923:** By the Act of the U.S Congress on February 3, 1923 (42 Stat. 1222) HHCA section 213 was amended as follows:

There is hereby established in the treasury of the Territory a revolving fund to be known as the "Hawaiian home loan fund." The entire receipts derived from any leasing of [public lands under the provisions of section 212 of this title] "available lands" defined in section 203, these receipts including proportionate shares of the receipts from the land of Humuula Mauka, Pi'ihonua, and Kaohe-Makuu, of which lands portions are yet to be selected and 30 percent of the Territorial receipts derived from the leasing of cultivated sugar-cane lands under any other provision of law, or from water licenses, shall be covered into the fund until the [total] amount of [the] moneys

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<sup>191</sup> Quoted in Letter from Hoaliku L. Drake, Chairman, Hawaiian Homes Commission to Senate Committee on Way and Means, Re: HHC Response to "WAM Request for Information Hawaiian Home Lands Revolving Funds" (Apr. 18, 1994).

<sup>192</sup> Attorney General Opinion No. 1057 (Dec. 10, 1922) *quoted in* Letter from Hoaliku L. Drake, Chairman, Hawaiian Homes Commission to Senate Committee on Way and Means, Re: HHC Response to "WAM Request for Information Hawaiian Home Lands Revolving Funds" (Apr. 18, 1994).

<sup>193</sup> Testimony of Ilima A. Piianaia, Chairman, Hawaiian Homes Commission, Oversight Hearings on the Hawaiian Homes Commission Act of 1920 Before the U.S. Senate Select Committee on Indian Affairs and the U.S. House Committee on Interior and Insular Affairs, at I-11 (Aug. 7, 1989).

paid therein [equals] from those three sources shall equal \$1,000,000. In addition to those moneys and the moneys covered into the revolving fund as installments paid by lessees upon loans made to them as provided in paragraph 2 of section 215, there shall be covered into the revolving fund all other moneys received by the Commission from any source whatsoever.

*Id.* (New material underscored).

**March 1928:** Congress increased the Hawaiian home loan fund ceiling from \$1 million to \$2 million. Act of March 27, 1928, 45 Stat. 105.

**Feb. 18, 1929:** HHC asked the AG whether revenue from available lands would continue to come into their fund after the \$2 million ceiling was reached. The AG responded that the revenue would then go to the Commissioner of Public Lands or the general treasury of the Territory.

**1931:** HHC reported total receipts received between 1921 and 1930 as follows:<sup>194</sup>

| <u>Year</u>  | <u>Water licenses &amp; cane land rentals</u> | <u>Available land rentals</u> |
|--------------|---|-------------------------------|
| 1921         | \$31,776.22                                   | \$2,087.15                    |
| 1922         | \$94,478.08                                   | \$8,979.80                    |
| 1923         | \$91,079.90                                   | \$25,462.50                   |
| 1924         | \$146,246.43                                  | \$25,193.00                   |
| 1925         | \$131,780.24                                  | \$25,595.40                   |
| 1926         | \$135,687.63                                  | \$25,994.47                   |
| 1927         | \$124,104.33                                  | \$27,162.04                   |
| 1928         | \$131,579.14                                  | \$21,460.94                   |
| 1929         | \$134,815.29                                  | \$67,810.43                   |
| 1930         | \$68,639.99                                   | \$15,814.52                   |
| <b>Total</b> | <b>\$1,090,187.25</b>                         | <b>\$245,560.25</b>           |

**Nov. 1933-1943:** HHC received no income from available land rentals, sugarcane receipts, or water licenses because the \$2 million ceiling had been reached.<sup>195</sup>

**July 10, 1937:** HHCA §220 was amended to authorize HHC to undertake and carry on activities having to do with the economic and social welfare of homesteaders. This would be key to developing the purpose of NHRF.<sup>196</sup>

**November 26, 1941:** Congress amended HHCA §213 by establishing two additional funds: the Hawaiian home development fund and the Hawaiian home administration

<sup>194</sup> HHC, 1931 Regular Session Biennial Report to the Territorial Legislature, at 28.

<sup>195</sup> On July 1, 1943 a rider provision attached to the Act of November 1941 allowed HHC to again receive rental income from the leasing of available lands.

<sup>196</sup> Act of July 10, 1937, 50 Stat. 497, Pub. L. No. 300.



fund.<sup>197</sup> Twenty five percent of income to the Hawaiian home loan fund was diverted to the Hawaiian home development fund.

**June 14, 1948.** Congress created a new revolving fund, the Hawaiian home operating fund.<sup>198</sup>

**July 9, 1952:** Congress increased the \$2m ceiling to \$5 million.<sup>199</sup>

**1978 Standing Committee, Constitutional Convention:**

“Your committee proposal makes is expressly clear that the legislature is to fund DHHL for purposes which reflect the spirit and intent of the Act. Your Committee decided to no longer allow the legislature discretion in this area.” State of Hawai‘i, *Proceedings of the Constitutional Convention of Hawaii of 1978*, Standing Committee Report No. 56, Vol. 1. at 630 citing art. XI, §1(B) of the Hawai‘i Constitution.

Your Committee decided that these 30 percent funds should be diverted to DHHL in perpetuity. Your Committee considered transferring these funds to development and loan funds but decided that these amounts would be substantially inadequate to fund these projects. Instead your Committee unanimously felt that these moneys would be better used by transferring the same to the native Hawaiian rehabilitation fund. Your Committee has decided that this source of money should be protected and preserved and therefore provided that, regardless of the use to which these lands are put; the revenues derived therefrom would be subject to these provisions. Only when these lands are sold in fee simple would these lands not be subject to the provisions of this proposal. However, the proceeds received from the sale of the land would be subject to the provisions of this proposal. Your Committee understands that 36,615 acres of public lands (17,753 –Kauai, 15,150—Hawaii, 3,712—Maui) are presently under sugar cane cultivation.

Upon the effective date of this amendment, these lands as well as any other lands presently under cane cultivation shall be subject to this provision.<sup>200</sup>

The state of Hawai‘i Legislative Research Bureau (LRB) commented on the addition of HHCA provisions to the Hawai‘i Constitution in 1978. “Rehabilitation and reparations are not to be confused. One is an ongoing cultural, social, and economic program; the other a singular attempt to redress a specific grievance. The rehabilitation program is focused on the needs of the Hawaiian people.”<sup>201</sup>

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<sup>197</sup> Act of November 26, 1941, 55 Stat. 784, C. 544.

<sup>198</sup> Act of June 14, 1948, 62 Stat. 390, C. 464.

<sup>199</sup> Act of July 9, 1952, Pub. Law 482, 66 Stat. 514.

<sup>200</sup> State of Hawai‘i, *Proceedings of the Constitutional Convention of Hawaii of 1978*, Standing Committee Report No. 56, Vol. 1. at 632-33.

<sup>201</sup> James T. Shon, Hawai‘i Constitutional Convention Studies 1978, Article XI: Hawaiian Home Lands, Hawai‘i Legislative Research Bureau, at 78 (accessed Sep. 1, 2017) *available at*: <http://lrbhawaii.org/concon78/art1011.pdf>.

**1979 Attorney General Memorandum.**<sup>202</sup> In response to an inquiry from BLNR for an interpretation of article XII of the Hawai‘i Constitution (the HHCA), the attorney general determined: (1) effective date of article XII, section 1 of the Hawai‘i Constitution was November 7, 1978; (2) the provision applied to sugar cane and water leases, licenses, and revocable permits; and (3) the provision applied to lands classified as sugarcane and contributory, not to pasture (if land in pasture use can be separated out).

**1980 Memorandum of Understanding.**<sup>203</sup> This MOU between DHHL and DLNR allocated respective responsibilities for accounting and planning for NHRF entitlements.

**SCR No. 51, Sess. L. Hawai‘i 1990:** Requested the State Auditor to examine procedures used by the executive branch to ensure that Hawaiian beneficiary programs receive the revenues to which they are entitled from ceded lands and lands in sugarcane cultivation. The resulting 1991 Auditor Report focused on DHHL entitlements.

**Act 325, Sess. L. Hawai‘i 1991 (H.B. No. 1230):** Amended HRS §174C-101 to condition that Water Commission decisions ‘incorporate and protect’ adequate reserves of water for DHHL to the extent ‘applicable’, not to the extent ‘practical’, and in a manner ‘consistent with other legal requirements and authority,’ to recognize legal protections for water on private lands and limited regulatory authority therein. Conf. Com. Rep. No. 48 on H.B. No. 1230, 1991 House Journal at 791. Act 325 also required BLNR to notify DHHL of water license dispositions, but did not require DHHL/ HHC approval. HHC agreed that requiring its approval for each water lease would be too burdensome.

**1991 State Auditor Study of DHHL Entitlements.** In 1990, the Hawai‘i legislature requested the Auditor to examine procedures used to ensure Hawaiian beneficiary programs<sup>204</sup> received entitlement revenues from ceded lands and sugarlands.<sup>205</sup> The legislature was specifically concerned that Hawaiian programs were not receiving entitlements when public lands were transferred between government agencies for the purpose of building affordable housing.<sup>206</sup> In 1991, the Auditor produced its report and

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<sup>202</sup> Memorandum from Edwin P. Watson, Deputy Attorney General, State of Hawai‘i, to Susumu Ono, Chairman, Board of Land and Natural Resources, Subject: Request for Interpretation of Provisions in Amendments to Article XI [*sic*] of the Hawaii State Constitution (Hawaiian Homes Commission Act), (dated Aug. 30, 1979) (on file with DHHL).

<sup>203</sup> Dated December 6, 1979, but signed January 22, 1980 (included in 1993 DHHL D&T study as Exhibit “1”). The purpose section of the MOU between DLNR and DHHL states: “This Memorandum acknowledges the basic responsibilities between [DHHL] and [DLNR] in implementing the second paragraph of Article XII, Section 1, of the Constitution of the State of Hawaii, which mandates the transfer of thirty percent (30%) of the State receipts derived from the leasing of cultivated sugarcane lands or from water licenses to [NHRF.]”

<sup>204</sup> The Auditor investigated revenues due to the Office of Hawaiian Affairs (OHA) under separate legislation. *See* Act 304, Sess. L. Hawai‘i 1990.

<sup>205</sup> *See* S.C.R. No. 51, Sess. L. Hawai‘i 1990.

<sup>206</sup> In May 1989, the Hawai‘i Finance and Development Corporation (HFDC) had exchanged pasture lands in Kāne‘ohe for sugar lands in Hanapēpē, Kaua‘i, where it planned to install affordable

recommendations, which found insufficient safeguards for DHHL entitlements in executive agency transfers, and offered five recommendations.<sup>207</sup>

**1991 “Action Plan to Address Controversies Under the Hawaiian Home Lands Trust and the Public Land Trust.”** Governor John Waihe‘e submitted this Action Plan, which identified issues and recommendations, including a section on NHRF, to the Legislature.

**Act 316 §9, Sess. L. Hawai‘i 1992.** The legislature appropriated \$100,000 from general funds for DHHL to execute a study of its trust entitlements under NHRF from November 7, 1978 to June 30, 1993 in order to determine what land transactions were entered into and whether appropriate compensation was received from the State. In 1993, HCR No. 442 and HR No. 394 further specified that the study should include water licenses.

**1992 Unenacted legislation proposed:**

(1) HB No. 3474 would have provided that disposition of lands under HRS §171-95 would require independent appraisals of market value subsequent to project initiation.<sup>208</sup> BLNR generally opposed this measure.<sup>209</sup>

(2) HB No. 2723 would have placed a moratorium on disposition of sugar lands until an agreement is reached between DHHL and state agencies, or legislation is passed on compensation for completed or ongoing state projects on the land.

(3) SB No. 2638 would have amended HRS chapter 171 to provide for a share of revenues from sugar cane lands conveyed to HFDC for housing projects to go to NHRF. Under the proposed arrangement:

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housing projects. In June 1990, BLNR approved the transfer of 68 acres of ceded lands previously used by Pioneer Mill for sugarcane cultivation to HFDC, which had also planned affordable housing projects on these former sugarcane lands at Honokowai and Lahaina, Maui.

<sup>207</sup> Auditor, State of Hawai‘i, Study of Revenue Entitlements of the Department of Hawaiian Home Lands, Rep. No. 91-9, 21-22 (Feb. 1991). These recommendations were: (1) amend HRS §171-95(a) to require appraisal of all public lands prior to transfer to other agencies; (2) DLNR should provide entitlements due to DHHL for sugarcane lands at Hanapēpē, Honokowai, and Lahaina; (3) DLNR and DHHL should collaborate to plan for expected sugarcane land lease revenue declines; (4) a new MOU should be executed; and (5) DHHL should more vigilantly monitor entitlements and assign this duty to specific staff.

<sup>208</sup> See Hoaliku L. Drake, Chairman, Hawaiian Homes Commission, Subject: Testimony on H.B. 3474, to the House Committee on Water, Land Use and Hawaiian Affairs (Feb. 8, 1992).

<sup>209</sup> BLNR concurred that “government agencies using public lands for public purposes which entail the payment of revenue entitlements and, from which revenues are/ will be generated, be required to compensate OHA and DHHL.” Testimony of William W. Paty, Chairperson, Board of Land and Natural Resources to the house Commission on Water, Land Use and Hawaiian Affairs, House Bill No. 3474, at 1 (Feb. 4, 1992). BLNR opposed requiring government agencies that use public lands for public purposes (parks, schools, roads, etc.) pay compensation to OHA/ DHHL. *Id.* BLNR was “completely against” authorizing both OHA and DHHL to approve the selection, instruction, and report of the appraiser because that authority was vested in BLNR. BLNR noted “the appraisal community does have a code of ethics which would ensure a fair appraisal[.]” *Id.* Finally, BLNR took the position that the Hawai‘i Constitution is silent on the matter of requiring compensation “when no revenues are anticipated from said disposition.” *Id.*

DHHL will receive thirty percent of the revenues received by HFDC for commercial, industrial or other non-residential use of the property, but not until HFDC recovers the amount already paid to DHHL for the land and only from revenues remaining after HFDC has met its operating expense obligations in an amount up to one percent of the project revenues and its annual debt service on moneys borrowed for the land used for commercial, industrial, or other non-residential purposes[.]<sup>210</sup>

**August 17, 1992 AG Memo on Kahului Airport Lands.**<sup>211</sup> After inquiry from HHC,<sup>212</sup> the Hawai'i Department of Transportation asked the AG for an opinion as to whether Kahului airport lands, which were formerly sugarcane lands, were subject to NHRF entitlements. The AG opined in the negative, based on restrictive covenants for airport lands and Federal Aviation Administration regulations preventing the diversion of airport revenues to non-airport purposes.<sup>213</sup>

**April 7, 1993.** Testimony from Hoaliku L. Drake, Chairman, Hawaiian Homes Commission to House Committee on Hawaiian Affairs and House Committee on Water and Land Use Planning on H.C.R. 442 and H.R. 394 (Apr. 7, 1993).

- HCR 442 and HR 394 requested DHHL conduct an audit of its sugarcane lease entitlements and transmit the auditor's findings and recommendation to the legislature before the 1994 session.
- HCR 442 and HR 394 requested DHHL to audit sugarcane lease entitlements pursuant to Act 316 §9, Sess. L. Hawai'i 1992, and also water licenses, prior to the 1994 legislative session.

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<sup>210</sup> Conf. Com. Rep. No. 157, S.B. 2638, S.D. 1, H.D. 1, C.D. 1, at 3 (Apr. 27, 1992). The Committee intended "to strive for a formula which results in computations which are fair, and which result in a fair price for public land trust sugarcane lands being transferred for housing development." Conf. Com. Rep. No. 157, S.B. 2638, S.D. 1, H.D. 1, C.D. 1 (1992).

<sup>211</sup> Memorandum from Randy K. Y. Young, Deputy Attorney General, to Rex Johnson, Director, Dep't of Transportation, State of Hawai'i, Subject: Department of Transportation Lands Cultivated as Sugar Cane Lands, Article XII – Sec. 1, State Constitution (Aug. 17 1992).

<sup>212</sup> HHC sent a memorandum to HDOT identifying the Kahului airport parcels and the revocable permit (RP) and executive order (EO) instruments under which they were conveyed: RP A-4374, 119.365 acres TMK (2) 3-8-01:073; RP A-4946, 43.164 acres TMK (2) 3-8-01:166; RP A-5584, 8.354 acres TMK (2) 3-8-03:010; EO 2594, 99.846 acres TMK (2) 3-8-01:134. See Memorandum from Haliku L. Drake, Chairman, Hawaiian Homes Commission, to Rex Johnson, Director, Dep't of Transportation, State of Hawai'i, Subject: Hawaiian Home Lands Entitlement Pursuant to Article XII, State Constitution (Jun. 23, 1992).

<sup>213</sup> Because the State received Kahului Airport lands subject to the restrictive covenant in 1956 and the constitutional mandate was imposed in 1978, the AG concluded that these lands were not subject to NHRF payments. The 1978 constitution, however, was preceded by the 1920 Hawaiian Homes Commission Act, and so questions about whether the 1956 Quitclaim Deed was valid may remain.

**1993 DHHL Entitlement Study.** Pursuant to funds appropriated under Act 316, SLH 1992, DHHL contractor Deloitte & Touche made thirteen recommendations to DLNR and DHHL to better implement NHRF entitlements.<sup>214</sup>

**December 10, 1993.** Letter from Dep't of Transportation to Hoaliku L. Drake, Chairman, Hawaiian Homes Comm'n, Subject: Audit of DHHL 30% Entitlement Under Article XII, Section 1 of the Hawai'i State Constitution, Native Hawaiian Rehabilitation Fund (Dec. 10, 1993).

- In regard to RP Nos. A-4374, A-4946, and A-5583, the AG advised HDOT that the constitutional mandate did not apply “due to the restrictive covenant or condition under which the lands were conveyed to the State in 1956 prior to the constitutional provision.”
- HDOT did not address lands subject to Executive Order No. 2594, which set aside Kahului airport lands to HDOT.
- HDOT noted RP No. 3824 to Līhu'e Plantation for Līhu'e Airport was not included in the 1993 NHRF Audit Report. HDOT sought an opinion from the AG on whether the constitutional mandate applied to RP No. 3824.

**Act 27, Sess. L. Hawai'i 1998.** Reclassified the NHRF from a special fund to a trust fund, but certain existing encumbrances resulted in maintenance of NHRF as two funds.<sup>215</sup>

**HCR No. 143, Sess. L. Hawai'i 1998.** Titled “Addressing concerns relating to payments made to the Department of Hawaiian Home Lands.” HCR No. 143 requested an update

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<sup>214</sup> Department of Hawaiian Home Lands, Entitlement Study, prepared by Deloitte & Touche (Nov. 29, 1993) (“1993 D&T Study”) (on file with DHHL). These recommendations were: (1) DLNR should more closely adhere to the sections of the 1980 MOU; (2) DLNR and DHHL should improve their filing of State Land Disposition forms and other pertinent lease data in the appropriate lease document files; (3) DLNR should standardize State Land Disposition forms; (4) DLNR should improve communication with DHHL on BLNR actions; (5) DHHL should assign a position to oversee protected lands and liaise with DLNR; (6) DHHL should consider maintaining its own inventory of protected lands; (7) DHHL should plan for reduction in sugarlands receipts; (8) DHHL and DLNR should clarify legal questions concerning set asides/ transfers of lands; (9) DHHL should follow up on entitlements to lands transferred to other agencies/ counties; (10) DHHL should follow up concerning the acceptable number of times revocable permits can be renewed before general leases must be issued; (11) DHHL should seek legal opinions on its entitlement to interest due to DLNR delays in rent reopenings and land used for a sugarcane experiment station; (12) DHHL should seek payments from DLNR for lease rents collected from protected lands and for application of credits resulting from overpayments and rent waivers; and (13) DHHL should request DLNR provide explanations for differences in acreage noted between DLNR's fiscal office records and the lease documents for several leases noted in the study.

<sup>215</sup> The fund meets trust fund criteria, as it continues to serve the purpose for which it was originally created and does not require any general fund appropriations. Auditor, State of Hawai'i, Review of Revolving Funds, Trust Funds, and Trust Accounts of the Judiciary and the Departments of Commerce and Consumer Affairs, Hawaiian Home Lands, Health and Human Services, Rep. No. 10-09, at 48 (Nov. 2010) *available at*: <http://files.hawaii.gov/auditor/Reports/2010/10-09.pdf>.

of the 1991 State Auditor study of DHHL entitlements and to solicit certain AG opinions.<sup>216</sup>

**1999 State Auditor Follow-Up Study.**<sup>217</sup> Executed pursuant to HCR No. 143, SLH 1998, its recommendations included: that DLNR/DHHL maintain comprehensive inventory of sugar lands, leases, permits, and water licenses;<sup>218</sup> DLNR failed to transfer entitlements to DHHL in twenty-one cases;<sup>219</sup> comply and renew the 1980 MOU;<sup>220</sup> develop policies for NHRF entitlements; interagency collaboration to plan for future of sugar lands and water licenses;<sup>221</sup> standardize definitions of lands subject to NHRF entitlement;<sup>222</sup> and amending HRS § 171-95 to require professional appraisal of all public lands where trust

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<sup>216</sup> DHHL “general[ly]” supported passage of HCR 143, HD 1, but recommended deleting certain irrelevant passages and including a provision requiring examination and implementation of recommendations in DHHL’s 1993 Deloitte and Touche NHRF Audit. *See* Kali Watson, Chairman, Hawaiian Homes Commission, Testimony on H.C.R. No. 143, H.D. 1, to the House Committee on Judiciary (Apr. 2, 1998). In its testimony, BLNR specified four legal questions, stating, “it is of fundamental importance to have certain legal questions answered by the Attorney General” prior to the Auditor’s updating of the 1991 study. Testimony of the Board of Land and Natural Resources on H.C.R. 143, H.D. 1, before the House Committee on Judiciary (Apr. 2, 1998); *see* Stand. Com. Rep. No. 1066-98, 1998 House Journal at 1485.

<sup>217</sup> Auditor, State of Hawai‘i, Follow-Up to the Study of Revenue Entitlements to the Department of Hawaiian Home Lands, Rep. No. 99-13 (Mar. 1999)

<sup>218</sup> Letter from Timothy E. Johns, Chairperson, DLNR, to Marion Higa, State Auditor, Subject: “Follow-Up to the Study of Revenue Entitlements to the Department of Hawaiian Home Lands,” at 2 (Mar. 5, 1999) (attachment no. 2 to the 1999 State Audit) (“DLNR Response to 1999 State Audit”).

<sup>219</sup> DLNR noted, “Two (2) cases were given to OLA as DHHL 30% entitlement lands in error due to a fiscal report which was printed using erroneous option codes. As such, contrary to the Follow-Up Study’s finding on these two cases (GL S-4316 and GL S-4570), these leases are not subject to the DHHL 30% entitlement.” DLNR Response to 1999 State Audit at 2. Eight cases involved utilities easements that merely cross part of protected lands. *Id.* at 2-3. In four cases, leased premises could not be determined to actually sit on the protected lands portion of the tract. *Id.* at 3. Seven cases were overlooked and have been corrected as of October 1998. *Id.*

<sup>220</sup> Under a DLNR Memo dated June 10, 1998, land agents would: 1) Request DHHL comments on NHRF lands; 2) indicate NHRF encumbrance on Board submittals; 3) provide DHHL with Board submittal prior to meeting. DLNR noted DHHL can find out about rent waivers and lease reopenings through general public process. However, DLNR believed the cost of the tracking system may outweigh NHRF revenues (approx. \$200-250k). DLNR Response to 1999 State Audit at 5-6.

<sup>221</sup> At the time, DLNR stated it lacked resources for planning as part of its land management duties; was requesting a planner position; and was revisiting the 1991 D&T *Strategic Land Management Methodology Manual*. DLNR Response to 1999 State Audit at 6. For its part, DHHL wanted to collaborate with DLNR in planning future for sugar lands. Letter from Raynard C. Soon, Interim Chairman, Hawaiian Homes Commission, to Marion M. Higa, State Auditor, Office of the Auditor, at 1-2 (Mar. 3, 1999) (attachment 2 to the 1999 State Audit) (“DHHL Response to 1999 State Audit”).

<sup>222</sup> DLNR asserted, “Lands in sugar prior to 1978” does not include “lands that were within the lease boundaries but used for nonsugar cultivation purposes, such as, pasture, waste lands, gulches, reservoirs, roads, and ditches.” DLNR Response to 1999 State Audit at 8.

obligations are involved and/or lands are to be transferred to other agencies.<sup>223</sup> DLNR contested many of these recommendations.<sup>224</sup>

**HCR No. 52, Sess. L. Hawai'i 2001.** Titled "Requesting an inventory of state sugarcane lands," resolved that DLNR and DHHL would complete this inventory. The legislature recognized "without an accurate inventory, it cannot be determined whether the State is meeting its constitutional obligations."<sup>225</sup>

**2001 Legislative session unenacted proposals:**

(1) HCR No. 53 (2001) Requesting a report on water licenses (held) (for the purpose of establishing whether the state was meeting NHRF obligations). HCR No. 53 would have applied to BLNR-issued licenses granting any person the right to use government-owned water.

(2) HCR No. 54 (2001) (referred):

The purpose of this measure is to request a detailed report on the native Hawaiian rehabilitation fund, an expenditure report, and a report detailing the impact of the various projects and programs funded through the fund for the purpose of ascertaining compliance with the State Constitution.

**2002 DHHL Report on NHRF expenditures.**<sup>226</sup> Revenues deposited into NHRF come from several sources. However, income comes from only three areas: the State's leasing of sugar lands and its provision of water licenses, as noted in Article XII of the Constitution, and from the investment of NHRF's outstanding balances. A total of \$1,021,804 was deposited from sugar leases. It should be noted that nearly half of that amount was deposited in FY 1999. This was an adjustment from shortages identified during an audit conducted the previous year. After a decline in the first year, water license deposits have been relatively consistent. The third source of income, interest earnings from the management of the fund, is the largest source of revenue. Over the five-year reporting

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<sup>223</sup> DLNR responded, "Valuation procedures for land conveyances between government agencies do not exist." DLNR Response to 1999 State Audit at 6. DLNR disagreed with this recommendation substantially on the basis that section 5(f) of the Admission Act imposed five trust purposes. DLNR denied entitlement to OHA/ DHHL where other trust purposes were fulfilled on the lands. "Consequently, it is our position that the State is not obligated to compensate either the Office of Hawaiian Affairs or DHHL where public trust, protected lands are used to fulfill any one or more of the trust purposes." *Id.* at 7.

<sup>224</sup> "Our disagreement with the Follow-Up Study's recommendation to require an appraisal of all public lands prior to disposition to another government agency illustrates the differing interpretations which Article XII, Section 1 elicits regarding what is owed to DHHL and under what circumstances. We asked the Attorney General whether DHHL is entitled to revenue from protected lands which are leased or set aside to a government agency for a public purpose. Depending on the answer to this question, an appraisal on all dispositions to government agencies may or may not be required." DLNR Response to 1999 State Audit at 8.

<sup>225</sup> HCR No. 53, proposed in the same session, requested a report on water licenses for the same purpose of establishing whether the state was meeting NHRF obligations, but was held in committee.

<sup>226</sup> DHHL, Report on the Status of the Native Hawaiian Rehabilitation Fund (NHRF) FY 1997-2001 available at: [http://lrbhawaii.info/reports/legrpts/dhhl/2002/hcr54\\_01.pdf](http://lrbhawaii.info/reports/legrpts/dhhl/2002/hcr54_01.pdf).

period, \$3,349,911 came from investment, representing nearly 70 percent of these three income sources.

**Act 117, Sess. Laws Hawai'i 2002.** (S.B. No. 2750) Broaden uses of NHRF funds.

**February 15, 2007.** Letter from Clayton Lee Crowell, Deputy Attorney General to Micah Kane, Chairman, Hawaiian Homes Commission, RE: Legislative appropriation of NHRF monies (Feb. 15, 2007) (opining that the legislature is not authorized to appropriate monies from NHRF).

**2007 Legislative session unenacted proposal.** HB No. 1353 (died in committee) Authorizes the transfer of moneys from the Hawaiian home receipts fund to the native Hawaiian rehabilitation fund. Also SB1439

**2008 DHHL Entitlement Study by Grant Thornton, LLP.**<sup>227</sup> GT made several recommendations based on its financial analysis of NHRF entitled lands and water licenses. GT noted DLNR had conveyed 7,900 acres of NHRF lands to state agencies: 5,651 acres to the Agribusiness Development Corporation, 885 acres to DHHL, 297 acres to DLNR Division of Boating and Ocean Recreation, 163 acres to the DOT, Airport Division, and 91 acres to the DOA.<sup>228</sup>

**Act 178, Sess. L. Hawai'i 2010.** The legislature passed HB No. 1015, to provide for a two-year pilot program for DHHL to develop commercial and multipurpose projects without having the full funding amount. Act 178 also required DHHL to submit annual reports and deposit fifteen per cent of revenues generated from lease extensions to be deposited into NHRF.

**2010 Legislative Session unenacted proposal.** (1) SB No. 2923 (2010) (died in committee), amongst other things, it would have "Set aside twenty per cent of all lease revenues from commercial and multipurpose project leases to be deposited into the native Hawaiian rehabilitation fund to be used for the benefit of native Hawaiian beneficiaries, beneficiary-controlled organizations, and homestead community associations;"

**2011 Legislative Session unenacted proposals.** Several resolutions were proposed urging data gathering to implement art. VII, sec. 1 of the Hawai'i Constitution, but not ultimately passed. SCR 177 (2011) (referred); SR112 (2011) (referred); HCR288 (2011) (referred); HR255 (2011) (referred).

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<sup>227</sup> Entitlement Study of the Department of Hawaiian Home Lands, July 1, 1993 to June 30, 2007, prepared by Grant Thornton, LLP (Apr. 30, 2008) (hereinafter "2008 DHHL GT Study").

<sup>228</sup> 2008 DHHL GT Study at 7.



**September 12, 2011.** Letter from Darrell Yagodich, Planning Program Manager, DHHL, to Dre Kalili, Policy Analyst, Office of the Chairman, Subject: “Native Hawaiian Rehabilitation Fund, Possible Legislation” (Sep. 12, 2011) (on file with DHHL). “Instead of trying to ‘fix’ the many problems associated with an inventory and monitoring of land use (and revenue) changes over many agencies for NHRF purposes, I like the more simplified approach of taking 30% of renewable energy revenues (instead of former sugarcane land revenues). The connection between renewable energy and former sugar cane land and water licenses:

- Former sugar cane land can be used for biomass, wind, and other renewable energy sources
- Water licenses produce other forms of revenue, such as hydroelectric energy
- Water resources form the basis for geothermal energy”

**2012 Legislative Session unenacted proposals:**

(1) SB No. 2792 (2012) was not passed into law, but recognized ADC management led to lesser NHRF revenues. SB No. 2792, and its companion bill HB No. 2531, proposed created a revenue stream for NHRF through geothermal development.<sup>229</sup> By memorandum dated February 28, 2012, DHHL testified in support.

(2) HB No. 2531 (2012) companion to SB No. 2792 (referred). Stand Comm. Rep. No. 2782, SB 2792, SD2, David Ige Chair of Ways and Means wrote:

The purpose and intent of this measure is to provide an additional revenue stream for the native Hawaiian rehabilitation fund by requiring geothermal royalties collected by the State from mining leases executed after July 1, 2012, and revenues from the disposition of state lands to nongeothermal renewable energy producers made after July 1, 2012, to be deposited into the fund.

Your Committee received written comments in support of this measure from the Department of Land and Natural Resources, Office of Hawaiian Affairs, Moku-puni o Oahu, Waianae Kai Homestead Community Association, Sovereign Councils of the Hawaiian Homelands Assembly, Nanakuli Hawaiian Homestead, and Kewalo Hawaiian Homestead Community Association. Your Committee finds that the decline of sugarcane production in the State and the change in management of these lands has resulted in a significant decline in deposits to the native Hawaiian rehabilitation fund. The allocation of funds required by this measure to the native Hawaiian rehabilitation fund will provide a needed revenue stream for the fund to continue existing programs that benefit native Hawaiians, native Hawaiian families, and Hawaiian homestead communities.

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<sup>229</sup> Stand Comm. Rep. No. 2782, SB 2792, SD2, authored by David Ige, Chair of Ways and Means, stated: “The purpose and intent of this measure is to provide an additional revenue stream for the native Hawaiian rehabilitation fund by requiring geothermal royalties collected by the State from mining leases executed after July 1, 2012, and revenues from the disposition of state lands to nongeothermal renewable energy producers made after July 1, 2012, to be deposited into the fund.”

The Hawai'i County planning department supported with comment that its share should be reduced only to 25% of geothermal proceeds. According to HHC minutes, the Governor deferred until both DHHL and DLNR agree on the legislation.<sup>230</sup>

(3) HB No. 2246 (2012) authorizes use of NHRF funds by new Ha'ikū cultural preserve commission, (died in conference).

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<sup>230</sup> Hawaiian Homes Commission Meeting Minutes, Kapolei, O'ahu, Item A-II (HHL-05) at 6 (Dec. 12-13, 2011) *available at*: <https://dhhl.hawaii.gov/wp-content/uploads/2011/05/HHC-MINS-12-12-11.pdf>.

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS

March 17-18, 2025

To: Chairman and Members, Hawaiian Homes Commission  
Thru: Andrew H. Choy, Planning Program Manager  
From: Lillie Makaila, Planner *lkjm*  
Subject: Status Update on Plan Implementation in the West  
Hawai'i Region

Recommended Action

For information only. No action required.

Background

Per the directive of the Chairman, the Planning Office will be providing the Hawaiian Homes Commission (HHC) with updates of the respective DHHL geographic region in which the HHC conducts its monthly community meeting. The purpose of the monthly update is to provide the HHC with information related to prior policies and/or plans previously adopted by the HHC specific to that particular geographic region.

A status report of DHHL's progress in implementing these policies/plans is also included for the HHC's consideration. For May 2024, Planning Office will be providing an update to the HHC for West Hawai'i.

Discussion

EXISTING PLANS & IMPLEMENTATION STATUS

Hawai'i Island Plan Policies Related to West Hawai'i.

The purpose of each DHHL Island Plan is to (1) assign land use designations for land holdings on each island, (2) establish land use goals and objectives of the General Plan specific to each island, and (3) identify island-wide needs, opportunities, and priorities. The Hawai'i Island

Plan was adopted by the HHC in 2002. The 2002 Hawai'i Island Plan delineated five planning regions on Hawai'i Island, North, East, South, West, and Central. (see maps, Exhibit A). For the purposes of this informational submittal, the Planning Office will be focusing on the lands in the North and West regions.

Subsequently, an update of the island plan was adopted by the HHC in 2009 for DHHL lands in West Hawai'i as approximately 600 acres were added to the DHHL land inventory in the Kealakehe and Kalaoa Tracts. The 2002 Hawai'i Island Plan and subsequent 2009 West Hawai'i Update identifies the following land use designations and acreage amounts.

| Land Use Designation     | Acres   | Percent of Total |
|--------------------------|---------|------------------|
| Residential              | 1,608   | 4.1%             |
| Subsistence Agriculture  | 540     | 1.3%             |
| Supplemental Agriculture | 1,113   | 2.9%             |
| Pastoral                 | 24,101  | 62.4%            |
| Community Use            | 258*    | 0.6%             |
| General Agriculture      | 10,747* | 27.8%            |
| Commercial               | 230     | 0.5%             |
| Industrial               | 384     | 0.9%             |
| Conservation             | 391     | 1%               |
| Special District         | 266     | 0.6%             |
| TOTAL                    | 38,638  | 100%             |

\* Does not reflect the Land Use Designation amendment of 161 acres from General Agriculture to Community Use discussed below.

#### Hawai'i Island Plan Implementation Status

Since the West Hawai'i Island Plan was updated in 2009, there was one additional land use designation amendment made to the Island Plan for TMK (3)-6-4-038:011 (por.), in Waimea. The land use designation was amended from "General Agriculture" to "Community Use". The island plan land use amendment was approved by the HHC in May of 2015.

The Lālāmilo Subdivision is a 250.2-acre parcel planned for residential, agricultural, and commercial development in North Hawai'i located south of Kawaihae Road. Currently, plans are to proceed with the development of Phase 2A of

the subdivision, which is divided into two increments, Increment I and Increment II. Increment I is located adjacent to South Kohala Distribution Road, and Increment II is adjacent to Increment I to the west.

A total of 442 residential homestead lots were originally proposed for the entire subdivision. In order to mitigate archaeologically sensitive sites as well as provide appropriate buffer between proposed residential homes and the existing landfill and powerplant, the proposed residential homestead lots are now 432, a reduction of 10 lots. Originally 1,722 acres of land were offered for transfer by the State. However, due to the amount of unexploded military ordnances on the larger parcel, DHHL opted to take only the 250.2-acre site. Additional funding is needed to continue with development of this site.

The Hawai'i Island Plan is in the process of being updated. The first round of beneficiary consultation was completed in August 2024, the second round of beneficiary consultation is anticipated for late Spring 2025, and the plan is expected to be completed in late 2025.

#### *Kealakehe-La'i'Ōpua Regional Plan*

The *Kealakehe- La'i'Ōpua* Regional Plan was updated and adopted by the HHC in May 2020. The update process began in January 2019 and concluded in August 2020. Outreach with beneficiaries in the region through the planning process identified the following priority projects:

- (1) North Kona Water Source Development Project
- (2) Provide homestead Opportunities for Beneficiaries in the "Gap Group"
- (3) Initiate Commercial Development of DHHL Lands Near Honokōhau Harbor
- (4) Establish a DHHL Kona District Office
- (5) Renewable Energy Initiative - PV Farm in `O`oma

*Kawaihae Regional Plan*

The Kawaihae Regional Plan was adopted by the HHC in September, 2010. An update to the Kawaihae Regional Plan is nearly complete. The following projects have been identified as priorities in the region:

- (1) Water - Wai Ola
- (2) Emergency Escape Route & Traffic Safety Measures
- (3) Kailapa Resource Center
- (4) Safe Energy Upgrades
- (5) Improve the Coastal & Marine Resources in Kawaihae through Erosion Mitigation

The Kawaihae Regional Plan was approved by this Commission in July 2024. Progress on addressing Priority Project (1) Water - Wai Ola is included as Item G-1 on this meeting agenda.

*Waimea Nui Regional Plan*

The Waimea Nui Regional Plan was adopted by the HHC in January, 2012. Outreach with beneficiaries in the region through the planning process identified the following priority projects:

- (1) Waimea Hawaiian Homestead Community Complex - Planning
- (2) Evaluate and Revise Agriculture/Pastoral Program Waimea Nui
- (3) Support/Plan Development of Affordable Homestead Alternatives in Waimea Nui
- (4) Assess the Implications of Eliminating Requirement to Pay Property Taxes
- (5) Assess the Implications of a Non-Standard Building Code

This regional plan is scheduled to be updated. Beneficiary consultation is expected to be begin in April 2025, and the final plan will be completed in late 2025.

*Implementation Status of West Hawai'i Regional Plans*

The following tables identify the "project champions" of each regional plan priority project as well as summarizes the status of each regional plan priority project.

| Table 2: LA'I`ŌPUA<br>REGIONAL PLAN<br>PRIORITY PROJECT                       | PROJECT<br>CHAMPION | STATUS  |
|---|---------------------|---|
| North Kona Water Source<br>Development and Storage                            | DHHL                | In-Progress. DHHL has completed an EA and Draft Ka Paakai Framework Analysis as a part of the compliance needed to close on the land acquisition of the Gianulias parcel. The DHHL is working on completing an EA for the KS Well sites, and expects that to be completed Fall 2025. The HHC approved an MOA agreement with KS in December 2022. DHHL, KS and DWS are working towards a final water credit agreement for the KS well site per the MOA. DHHL received \$12M from the 2021 Legislature for water source development and lot development. The Act 279 Strategic Plan includes the use of funds for the acquisition of lands for water development and infrastructure development. The HHC authorized the Chair to sign a Purchase and Sale Agreement (PSA) for acquisition of the Gianulias site in February 2024. According to the PSA, closing for the acquisition is scheduled for June 2025. DHHL is working with KS to finalize a Letter of Intent for the acquisition of KS's well site in Keauhou. A Kick-Off Meeting for the Ka Pa'akai Framework Analysis project took place on April 18, 2024. A draft will be made public in the coming months. |
| Provide Homestead<br>Opportunities for<br>Beneficiaries in the<br>"Gap Group" | DHHL                | In-Progress. DHHL is in process of completing Village 4 Phase II Hema. Lots from this development could go to beneficiaries who do not meet low-income requirements.  |
| Renewable Energy<br>Initiative  | DHHL                | In-Progress. DHHL participated in the HECO RFP process and solicited DHHL Kalaoa lands for potential development. DHHL  |



| Table 2: LA'I'ŌPUA<br>REGIONAL PLAN<br>PRIORITY PROJECT             | PROJECT<br>CHAMPION | STATUS   |
|---|---------------------|--|
|   |                     | <p>initiated an RFP for its Kalaoa lands in fall of 2020 and selected Nexamp as the potential developer. Beneficiary consultation meetings and public hearings were conducted in summer 2021. The first round of Public Hearings occurred in October 2021. The HHC deferred decision-making on the lease request at that time, but a year later in October 2022, the HHC approved a Right-of-Entry permit to Nexamp Solar, LLC to develop one (1) 3MW solar plus battery storage project on 27.6 acres at Kalaoa. Due to the existence of an electric sub-station adjacent to the Kalaoa parcel, HECO is allowing Nexamp Solar to develop two (2) co-located 3MW solar plus battery storage projects at Kalaoa, for a total of 6MW on 46.93 acres of land. The HHC held another round of public hearings in March 2023 and approved the amendment to the ROE to allow for due diligence studies to cover the proposed second 3MW solar plus battery storage project that would require 19.33 additional acres. Due diligence is underway. HHC approval for the Final EA is still required in order for the project to proceed.</p> |
| Establish a DHHL Kona District Office                               | DHHL                | Not Started.   |
| Initiate Commercial Development of DHHL Lands Near Honokōhau Harbor | DHHL                | Not Started. Need additional water source and credits.   |

| Table 3: KAWAIHAE<br>REGIONAL PLAN<br>PRIORITY PROJECT | PROJECT<br>CHAMPION | STATUS  |
|--|---------------------|---|
| Water - Wai Ola  | DHHL                | <p>In-progress. In 2015, DHHL completed a feasibility study to identify potential options for new water source development to supply Kailapa homestead. Funding is needed to support additional consultation &amp; planning and a suitable option for a new water source for the DHHL Kawaihae water system needs to be determined by the HHC. In 2017, the HHC approved a water rate schedule for the DHHL Kawaihae water system. Currently, Kailapa residents are paying some of the highest water rates in the State and there is a critical need for more affordable water rates for Kailapa homesteaders. Analysis and update of the water rate schedule for Kawaihae is necessary. This may take 24+ months to complete, and as such more immediate relief efforts are requested by the Kailapa beneficiaries until the water rate schedule can be examined and adjusted. A temporary water subsidy to provide immediate relief while the water rates schedule is amended is included in this month's agenda as Item G-1.</p> |
| Emergency Escape Route & Traffic Safety Measures       | DHHL                | <p>The Department of Transportation in collaboration with DHHL completed a 4-mile firebreak around Kailapa homestead in December 2023. This firebreak could be permitted as an emergency escape route with additional due diligence. Funding is needed to support these continued efforts. Further consultation with homesteaders and an application to the</p>   |

| Table 3: KAWAIHAE<br>REGIONAL PLAN<br>PRIORITY PROJECT                        | PROJECT<br>CHAMPION  | STATUS  |
|---|--|---|
|   |  | County of Hawai'i for speed bumps is needed to install traffic calming measures in areas of the homestead where speeding currently occurs.  |
| Kailapa Resource Center   | Kailapa Community Association  | In-Progress. The HHC approved a FONSI for KCA's FEA in February 2016 for KCA's plans on the 14-acre parcel. KCA has completed the construction of its pavilion and playground area. Additional planning and design work and funding is needed for the construction of the Resource Center and specifically to address access to the southern portion of the parcel over a floodway.   |
| Safe Energy Upgrades  | DHHL   | Not started.  |
| Improve the Coastal & Marine Resources in Kawaihae through Erosion Mitigation | DHHL / Kailapa Community Association / Kohala Mountain Watershed Partnership | In-Progress. The South Kohala Coastal Partnership received ROEs to install ungulate fences on DHHL property. Fence installation is completed. The Kailapa Community Association has also completed its Resilient Hawaiian Community Plan that looks at improved stewardship of the mauka portion of the ahupua'a. DHHL LMD and Planning Staff conducted two consultation meetings on ungulate management in 2021. LMD staff received a grant for funding to support an erosion control project for Honokoa gulch and the acreage surrounding Kailapa Homestead and is in the process of implementing the grant project. |

| Table 4: WAIMEA NUI<br>REGIONAL PLAN<br>PRIORITY PROJECT                    | PROJECT<br>CHAMPION                          | STATUS   |
|---|--|--|
| Waimea Hawaiian Homestead Community Complex -- Planning                     | Waimea Hawaiian Homestead Association (WHHA) | In-Progress. HHC approved FONSI of WHHA final EA in and approved 65-Year general lease to WHHA in 2015. WHHA has completed construction of the internal road network. HHC approved the Final EA for the KOKO Health Center in 2022. WHHA has been successful in obtaining funding for initial development of this project. DHHL and WHHA received a grant award from the Department of Defense (DOD) Office of Local Defense Community Cooperation (OLDCC) for the construction of infrastructure on the parcel and for the development and operation of an Emergency Operations Facility which will be equipped to respond to hazards such as wildfire. The grant funds total \$8M+, including a \$1.5M contribution from DHHL. The project is currently awaiting grant fund distribution from the grant agency OLDCC. Construction began in Fall 2024, and is currently paused awaiting disbursement of funds. |
| Evaluate and Revise Agriculture/Pastoral Program in Waimea Nui              | DHHL / WHHA                                  | In-Progress. DHHL had previously awarded a \$100k agriculture peer-to-peer technical assistance grant to WHHA to promote more farming on Waimea homestead areas.   |
| Support/Plan Development of Affordable Homestead Alternatives in Waimea Nui | DHHL   | In-Progress. State-wide, DHHL has been contemplating alternative affordable homestead options for its beneficiaries. This could result in alternatives applicable to Waimea Nui.   |

| Table 4: WAIMEA NUI<br>REGIONAL PLAN<br>PRIORITY PROJECT                          | PROJECT<br>CHAMPION | STATUS  |
|---|---------------------|---|
| Assess the Implications<br>of Eliminating<br>Requirement to Pay<br>Property Taxes | DHHL                | Not Started.  |
| Assess the Implications<br>of a Non-Standard<br>Building Code                     | DHHL                | In-Progress. In 2017, DHHL attended Hawai'i Building Code Council meetings to research and learn the process of building code development and approval. However, due to staffing turnover and competing priorities, progress on this initiative has stalled. In September 2024, DHHL signed it's first building permit for it's Yorktown project located in Kalaeloa. This was the first time that the Department enacted its own building code permit that allowed the project to proceed without county building permit review and approval. This process will assist in expediting construction of its developments. |

Recommendation

For information only. No action required.

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS

March 17 - 18

To: Chairman and Members, Hawaiian Homes Commission (HHC)  
Through: Andrew H. Choy, Planning Program Manager  
From: Cherie-Noelle Ka`anana, Water Program Specialist  
Subject: West Hawai`i Water Projects and Issues Update

RECOMMENDED MOTION/ACTION

None; for information only.

DISCUSSION

This submittal to the Hawaiian Homes Commission (HHC) provides an update of water issues and projects of significance to beneficiaries and the Department of Hawaiian Home Lands (DHHL) in West Hawai`i in general and in our three planning regions of Waimea Nui, Kawaihae, and Kealakehe-La`i `Ōpua. It is submitted in furtherance of the HHC Water Policy Plan (WPP) Goal 1, to "Affirmatively communicate with beneficiaries regarding water decisions, performance, and water rights on a regional and annual basis."

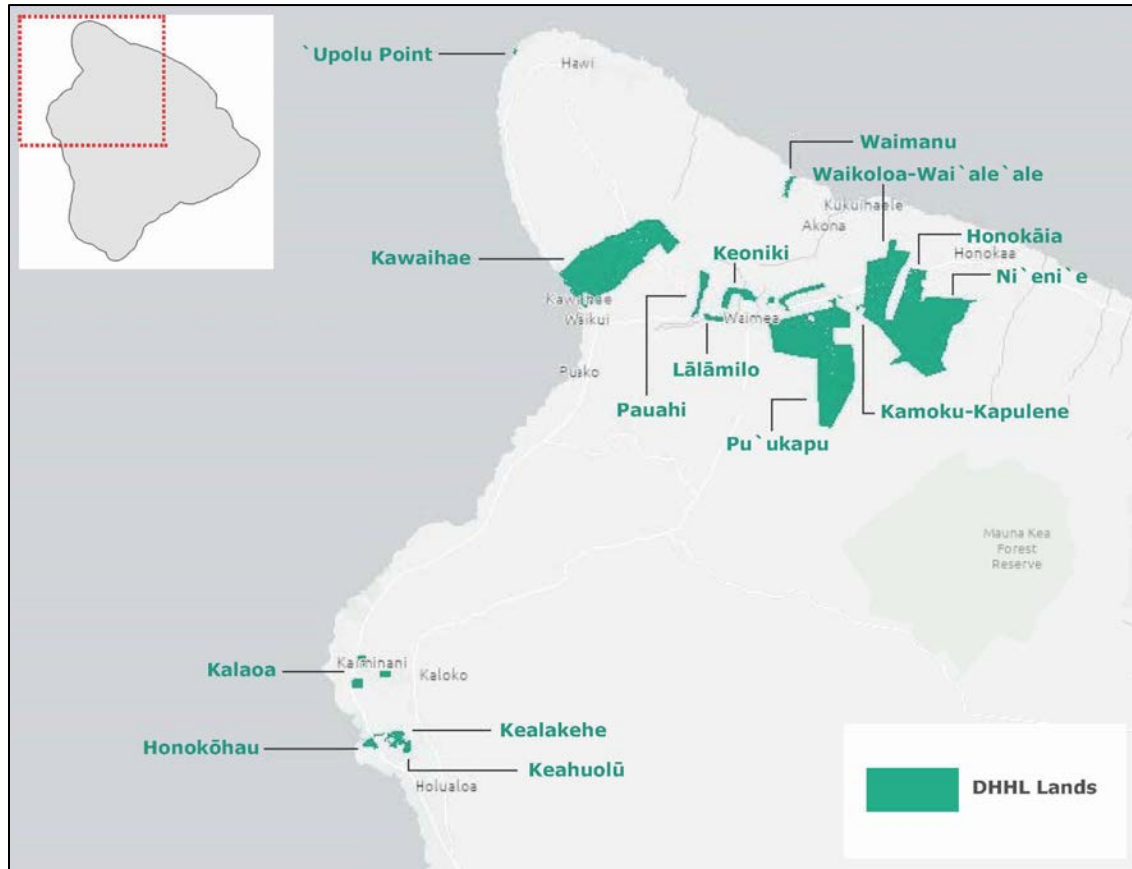
This submittal is also prepared in the context of our overall efforts to fulfill the responsibilities of the HHC and DHHL as they relate to water. An overview of this context is included as Attachment A: BACKGROUND AND OVERVIEW OF HHC AND DHHL WATER KULEANA.

A general overview of DHHL tracts and implementation of plans DHHL is provided in the status update on Plan Implementation in West Hawai`i. This submittal focuses on the following:

- DHHL Water Demands and Reservations
- Potential Water Sources for DHHL Lands in West Hawai`i
- Advanced Water Credits for West Hawai`i
- Proposed Temporary Water Subsidy for Kawaihae Residents

- Changes in the State’s Permitting Process for Well Construction Pump Installation Permits
- Related Work with Beneficiaries and Capacity Building to Secure Water Resources and Address Water Issues

**Figure 1. Map of DHHL Lands in West Hawai`i**



**I. DHHL Water Demands and Reservations**

As described in more detail in Attachment A, water reservations are a means for the Commission on Water Resource Management (CWRM) to protect or set aside water for DHHL future needs in various areas. While converting these reservations into “wet water” flowing into homesteads requires planning, financing, environmental review, and design, securing reservations for our future use remains a critical step in securing water for future homesteads and related DHHL needs.

### ***DHHL Calculation of Future Water Needs***

The DHHL Planning Office, in cooperation with other parts of DHHL and other agencies, calculates future water needs for all of our tracts by first reviewing the land use designations made by the HHC through the [General Plan](#), in the DHHL [Island Plans](#), and [Regional Plans](#), as well as any detailed development plans that are created as tracts move into homestead and other development, and any other information about land characteristics in each tract that could impact future water demands.

Each particular land use designation for a tract (e.g. residential, commercial, pastoral), and any supporting information in the respective plans (e.g. acreage or unit counts) are then used, along with applicable water demand standards, to calculate water demands. Applicable water demand standards include:

- [County water system standards](#) for the respective county in which the tract is located;
- For general agricultural land use designations, standards in the current approved state [Agricultural Water Use and Development Plan](#), unless more specific information is available from other CWRM determinations for the particular area
- Lo`i kalo water demands as determined by the Office of Hawaiian Affairs and the US Geological Survey in the [2007 study](#) of water use in wetland kalo cultivation.

A comprehensive examination of plans and land use designations across all tracts, along with associated water demands, was undertaken by DHHL and staff and consultants with the Department of Land and Natural Resources Engineering Division for the 2017 State Water Projects Plan (SWPP), adopted by CWRM in May 2017. A subsequent update to the [SWPP adopted by CWRM in 2020](#) also included all of the previous calculate demands for DHHL. The notable difference between the calculations in the SWPP and ultimate DHHL needs is that by statute the SWPP looks at a 20-year time demand, but DHHL needs go beyond that time horizon.

### ***DHHL Water Needs for West Hawai`i Tracts***

Based on the data in the 2020 SWPP and other regional plans, the potable and non-potable 20-year projections of medium range water needs for DHHL West Hawai`i tracts are as follows



(in millions of gallons per day [MGD]). *This notably does not include long term non-potable irrigation demands, which the SWPP calculated but did not consider as 'twenty-year demands'.*

**Table 1. DHHL Water Needs for West Hawai`i**

| <b>Tract</b>  | <b>Potable (MGD)</b> | <b>Non-potable (MGD)</b> | <b>Total</b>   |
|---------------|----------------------|--------------------------|----------------|
| Lālāmilo      | 0.2140               |                          | 0.2140         |
| Keoniki       | 0.0152               |                          | 0.0152         |
| Honokāia      | 0.3960               | 1.6550                   | 2.051          |
| Kawaihae      | 2.40                 |                          | 2.40           |
| Pu`ukapu      | 0.6099               | 0.8114                   | 1.4213         |
| `Upolu Point  | 0.1480               |                          | 0.1480         |
| Waimanu       |                      | 15.000                   | 15.000         |
| Kealakehe     | 0.400                |                          | 0.400          |
| Honokōhau     | 0.600                |                          | 0.600          |
| Kalaoa        | 0.9032               |                          | 0.9032         |
| Keahuolū      | 0.5098               |                          | 0.5098         |
|               |                      |                          |                |
| <b>Totals</b> | <b>6.1961</b>        | <b>17.4664</b>           | <b>23.6625</b> |

***Existing West Hawai`i DHHL Water Reservations by CWRM***

CWRM can act to reserve water for DHHL on its own action, when petitioned for action by DHHL, or when required in response to a request for another party to lease or license state waters under Hawai`i Revised Statue (HRS) 171-58. In designated water management areas, CWRM has adopted reservations of water through a rule making process under HRS 174C-49(d). For non-designated areas, CWRM has reserved water during regular meetings under HRS 174C-101. Based on a request by DHHL (for groundwater reservations in the Keauhou Aquifer) and by CWRM action (for groundwater for the rest of the West Hawai`i DHHL planning areas), the following reservations have been secured. Water was reserved from the Aquifer System Area underlying each tract.

**Table 2. DHHL Reservations Granted by CWRM**

| <b>Aquifer System Area</b> | <b>Date of Reservation</b> | <b>MGD Reserved</b> |
|----------------------------|----------------------------|---------------------|
| Hāwī                       | 9/19/18                    | 0.148               |
| Māhukona                   | 9/19/18                    | 3.014               |
| Honoka`a                   | 9/19/18                    | 0.396               |
| Keauhou                    | 8/17/15                    | 3.398               |

## ***Limitations of Reservations of Water***

Reserving adequate water for the future needs of DHHL is mandated by the state Water Code (HRS Ch 174C), and progress on establishing reservations adds important legal protections to beneficiaries' future water needs. However, there are limits to what reservations are (and are not), and the kinds of issues that they can address. While water reservations set aside some water for allocation by the Commission on Water Resource Management (CWRM) to any other party, there are limits:

- Reservations do not instantly result in "wet water" being available to DHHL and beneficiaries. Water development requires:
  - o Funding for water exploration and development
  - o Environmental review
  - o Development of source, storage, and transmission
  - o Development of operations plans or agreements
- In Water Management Areas (WMAs) of the state there is an enforcement mechanism for protecting DHHL uses and reservations because all required Water Use Permits are "subject to the rights of DHHL". There are, however, no WMAs in West Hawai'i or anywhere on Hawai'i Island

In addition, it is important to note that water reservations do not address other issues, such as the high price for water paid for by our beneficiaries at Kailapa. Existing groundwater reservations also do not reflect that, for instance, the County of Hawaii manages a water system in the Waimea area that takes both surface and ground water.

This discussion of what water reservations can and cannot accomplish serves as context for the remainder of the submittal. Below we highlight efforts to turn reserved water into "wet" water.

## **II. Potential Water Sources for DHHL Lands in West Hawai'i**

Approximately 1,400 acres of DHHL land are located in North Kona. After Village 4 of La'i 'Ōpua is completed, DHHL will have exhausted all of its equivalent units, or water credits, on the County of Hawai'i's Department of Water Supply's (DWS) water system. Additional water credits will be needed to execute other homestead development plans. The unmet water demand in Kona is about 3.398 MGD. In 2018, the Commission on Water Resource Management approved DHHL's request for a water reservation of 3.398 MGD for North Kona from the Keauhou Aquifer System.

Although DHHL has secured a reservation of water on paper, this does not translate to immediate "wet" water on our lands. The County DWS has suggested that although there is ability to provide DHHL with advanced water credits, there is preference based upon their policy for DHHL to develop new water sources. Before physical water can be delivered to DHHL lands, DHHL must go through a process to:

1. Obtain CIP funds;
2. Develop water source, transmission, and storage; and
3. Create and secure a water credit agreement with County DWS or other water purveyors.

One way to obtain a water credit agreement is to develop a water source, including transmission and storage, and dedicate that source to the County, after which the County DWS will run and maintain the system. In exchange, DHHL will receive a calculated amount of water credits to use for future development of homesteads. DHHL has been pursuing potential well sites for water source development in Kona to be dedicated to the County DWS's current water system that provides potable water to DHHL's West Hawai'i lands. It will likely require 3-4 groundwater wells with a capacity of 1 MGD each to supply the necessary water needed to fully develop DHHL's lands in North Kona.

Current DHHL lands in North Kona do not overlay a proven reliable water source. Additionally, DHHL lands in North Kona are not located at a high enough elevation that would make well development consistent with other County wells in the area. Therefore, DHHL has had to look off DHHL lands to locate well sites and needs to partner with other landowners to develop water sources in more suitable locations.

County DWS has verbally told DHHL that it would provide DHHL with the "full amount" of water from groundwater well sources developed in the region. A groundwater well that has the capacity to pump 1 MGD will pump that amount over the course of the 24-hour period in a day. Best practices are to "rest" a well for an 8-hour period, or one-third of the pumping time. The County DWS water credit allocation formula for a 1 MGD well is as follows:

- 1,000,000 gallons x two-thirds = 666,666 gallons per day (this assumes that the well will not be pumping 24-hours and will rest for 8-hours)

- 666,666 gallons per day ÷ one water credit (600 gallons per day) = 1,111 water credits
- 1 water credit = 1 housing unit = 1 residential homestead

Therefore, one 1 MGD well source can potentially supply 1,111 residential homesteads.

DHHL has identified two potential groundwater well location in the Kona region that could supply the necessary potable water needed: the Kamehameha Schools Keauhou Well Site, and Cannery Commercial LLC and AKT Kona Investors LLC's (Cannery Commercial LLC) Gianulias Well Site.

### ***DHHL Well Sites***

#### ***a. Kamehameha Schools (KS) Keauhou Well Site***

KS has an existing well on its lands in Keauhou, approximately 8 miles from DHHL lands in Kealahou. KS developed the well on its Keauhou property in the early 1990s. The well is commonly referred to as KS Well 2 (TMK No. (3) 7-8-004:013 & :015). The current well is not in use nor connected to the County DWS water system, however, it has been tested and has successfully yielded water. KS development plans for its Keauhou lands have changed over the course of several decades and the organization's projected future water demand has significantly decreased.

The DWS is interested in accessing and using KS Well 2 as a water supply for island residents and improving the overall reliability of the water system through improvements in the Keauhou and Kahalu`u areas. DWS is also interested in developing a second well on the property (Well 2A). The approximate KS land area needed for improvement is 2.75 acres. As mentioned previously, DHHL desires water credits for future development of its lands in North Kona. The three parties have been in conversation for the last five years on a potential water development agreement.

In December of 2022, the HHC authorized the Chairperson to enter into a Memorandum of Understanding (MOU) with KS and DWS. This MOU is meant to summarize the mutual understanding among the three organizations regarding proposed usage and system improvements related to Well 2 and future Well 2A. This MOU is a non-binding understanding of future commitments and benefits to each MOU party. Further information may be found in HHC item G-7 from the December 2022 HHC meeting.

A summary of DHHL Commitments and Benefits per the MOU can be found in the table below:

**Table 3. DHHL Commitments and Benefits from the 2022 MOU with KS and DWS**

| <b>Commitments</b>   | <b>Benefits</b>  |
|--|--|
| Complete a hydraulic study of DWS system (currently on-going)  | Receive one-third of the maximum day pumping capacity of Well 2                              |
| Fund, design, and construct additional storage improvements as determined by the above hydraulic study | Receive two-thirds of the maximum day pumping capacity of Well 2A (if DHHL develops Well 2A) |
| Prepare a HRS Chapter 343 EA   | Receive Facility Charge Credits from DWS   |
| Reimburse KS for costs incurred by KS in the development of KS Well 2 (\$1,110,478)                    | DWS will assume long-term operation and maintenance costs of the system improvements         |

Under the initial MOU agreement, DHHL would receive 0.666 MGD (1,111 water credits) from the development of Well 2A. Additionally, the County would develop Well 2 and provide DHHL with 0.333 MGD (555 water credits) for DHHL contribution to water system improvements and well site acquisition.

The December 2022 MOU also identified **unresolved decisions** among the three parties.

- DHHL or DWS shall design, fund, permit, and construct a second well (Well 2A) and install pump system and related controls.
- DHHL or DWS shall purchase the necessary property interests from KS for the expansion of the Kahaluu Tank site at fair market value.
- DHHL and/or DWS shall compensate KS or its lessees for any loss and/or damage suffered related to crop damage or interruption to agricultural operations.
- Specific water allocation / credit amounts and facility charge credit amounts to be received by parties to the agreement.

Since December 2022, DHHL, KS, and DWS have had several conversations to work towards resolving the above unresolved matters. In 2023, DHHL completed appraisal of the KS well site property and KS property needed for storage tank and water line

transmission, totaling \$88,000. A Hydraulic Study that is required by DWS is 90 percent complete. DHHL is in the process of publishing the Final HRS Chapter 343 Environmental Assessment (EA) and an accompanying Ka Pa`akai Analysis. The remaining work needed to finish acquisition of the property from KS is a Letter of Intent, a Purchase and Sale Agreement, and a Water Credit Agreement with KS and DWS.

***b. Cannery Commercial LLC Gianulias Well***

The Cannery Commercial LLC lands consist of 127-acres. The site is located mauka of Māmalahoa Highway and is in close proximity to the existing DWS water system. DWS has expressed its optimism that the site would yield a viable water source from the development of a well at this location. The lands are currently leased by Cannery Commercial LLC (Gianulias Family) to Cancino Family Farms, a commercial coffee farming small business. Cancino Family Farms currently pays Cannery Commercial LLC an annual rent of \$120,000. The current lease with Cancino Family Farms is set to expire in 2027. The lease agreement also allows Cancino Family Farms the first right of refusal to purchase the property from Cannery Commercial LLC.

DHHL initiated negotiations with Cannery Commercial LLC in 2018 for site control of a 5-acre portion of the property for well site development. Below is a summary of the negotiations and DHHL activity over the last several years:

**2018** - DHHL negotiated site access with Cannery Commercial LLC to go on property to conduct due diligence studies. DHHL contracted a consultant to initiate studies related to a HRS Chapter 343 EA, including archaeological work and preliminary engineering.

**2020-2022** - DHHL, Cannery Commercial LLC, DWS, and Laiopua CDC had regular conversations during the COVID-19 pandemic related to DHHL gaining site control of a portion of the property for the well development.

The initial proposal discussed among the parties was for Cannery Commercial LLC to license a portion of land to DHHL for well site development. In exchange, DHHL would assume the well development costs and give a portion of the water from the well to Cannery Commercial LLC for a planned senior housing project. DWS agreed to operate and maintain the system in the long term once developed to DWS standards.

**May 2021.** The state Legislature appropriated \$12.2M in Capital Improvement Plan (CIP) funds for "La'i 'Ōpua Villages Water Development and Subdivision Improvements."

**April 2022.** Cannery Commercial LLC notified DHHL that it was no longer pursuing its senior housing project and was no longer interested in water. Instead, it was interested in selling the property.

**July to October 2022.** DHHL procured and contracted an appraiser to assess the value of the property. The appraised value of the property was \$10.5M which included the cost of the coffee trees should Cancino Family Farms be required to remove them by the new owner. Value for the property excluding the appraised value of the coffee trees is \$9.26M.

**Nov. 2022 to Jan. 2023.** Chair Aila and Chair Designate Anderson instructed staff to talk to both Cannery Commercial LLC and Cancino Family farms to negotiate purchase of the property.

**Feb. to March 2023.** Cancino Family Farms indicated to DHHL and La'i 'Ōpua CDC that it has the financial ability to purchase the property from Cannery Commercial LLC but would strongly prefer to continue to lease the property and not purchase the property as it would have to leverage all of its assets in order to do so.

**March to April 2023.** Chair Watson instructed staff to determine whether the \$12.2M CIP appropriation is still available to potentially purchase the property.

**April 2023.** Cannery Commercial LLC notified Cancino Family Farms that it would like to sell the property and that Cancino Family Farms has a 10-day period to exercise its first right of refusal. Cancino Family Farms declined its first right of refusal and did not purchase the property but would like to extend its current lease agreement beyond 2027.

**May 2023.** Staff confirmed that the \$12.2M CIP funding is still available. Chair Watson directed staff to negotiate a reasonable purchase price of the property with Cannery Commercial LLC.

**June 2023.** Letter of Intent signed.

**Jan. 2024.** Staff recommended the Commission provide its approval to enter into Purchase and Sale Agreement with Cannery Commercial LLC, for DHHL's acquisition of approximately 127 acres for the Gianulias well site (TMK No. (3) 7-5-014:001 and :011). The total sale price for the property is \$9.35M. The Commission approved unanimously.

The Purchase and Sale Agreement includes both the property and the existing agricultural lease. The agricultural lease is effective until December 31, 2031 with the Cancino Family Farm, LLC for commercial coffee operations and includes a monthly lease rent of \$10,000.

Due diligence studies have been nearly completed and are a condition of closing the transaction. Closing date shall be no later than June 30, 2025.

**Feb. 2024.** Purchase and Sale Agreement signed and executed.

**April 2024.** Kick-off Meeting for Ka Pa`akai Analysis Framework in Kona. Background and context for the Ka Pa`akai Analysis Framework was provided to attendees.

**January 23, 2025.** HRS Chapter 343 Draft EA with a preliminary draft of the Ka Pa`akai Analysis included in the appendices were published in The Environmental Notice with an Anticipated Finding of No Significant Impact.

**March 23, 2025.** Final EA with a draft of the Ka Pa`akai Analysis included in the appendices will be published in the Environmental Notice pending HHC approval. Further information may be found in HHC Item G-2.

DHHL is anticipating each well to produce about 1 MGD. If both the KS Wells and the Gianulias Well are acquired and yield a gross amount of 1.665 MGD combined, that will result in approximately 2,777 water credits, or 2,777 residential homesteads. Although DHHL is hopeful that these sources will yield sufficient water, beneficiaries have expressed desire for an emphasis on water conservation measures as well. In La'i 'Ōpua, there are 455 homesteads that still need to be developed in addition to Kalaoa proposed homesteads, potential Palamanui land acquisition for homesteading, community spaces, potential Palamanui development, and other lands in Kona.



## **Non-DHHL Wells**

### **a. Ota Well**

A third potential water source in North Kona is the Ota Well. DHHL is not the lead agency for this wellsite. In 2018, the Hawai`i Housing Finance and Development Corporation (HHFDC) and the Natural Energy Laboratory of Hawai`i Authority (NELHA) submitted a Well Construction and Pump Installation Permit Application to CWRM for well development in the Keauhou Aquifer System Area. DHHL submitted comments on the Permit Application requesting that CWRM place conditions on the permit to accommodate DHHL's reservation of water in the Keauhou Aquifer System Area which are a protected public trust use of water. DHHL advocated that the permit should be conditioned on HHFDC and NELHA be conditioned on HHFDC and NELHA providing a small percentage (2.6 percent) of the projected water production yield to DHHL in the form of County water credits following the successful dedication of the well to the County.

HHFDC and NELHA were agreeable to DHHL's request for water and in 2020 DHHL, HHFDC, and NELHA entered into a water credit sharing Memorandum of Understanding agreement that was approved by the HHC in September of 2020. See item G-2 October 2020:

<https://dhhl.hawaii.gov/wp-content/uploads/2020/09/September-21-22-2020-HHC-Packet-reduced.G3revised.pdf>

Under the tri-party agreement, DHHL will receive 18,000 gallons per day from the Ota Well once it has been dedicated to the County of Hawai`i Department of Water Supply (DWS).

The HHFDC and NELHA Permit Application is still being considered by CWRM for approval. The Ota well permit was considered CWRM in August 2022, and included certain conditions designed to monitor and address potential impacts of the well on traditional and customary native Hawaiian practices. After unanimous approval of the permit by CWRM, HHFDC and NELHA requested a contested case hearing on the matter, disagreeing with some of the conditions,

After additional outreach conducted with some parties by NELHA, CWRM took up the application again in April of 2024. Some members of the local Native Hawaiian community, represented by the Native Hawaiian Legal Corporation, brought forward concerns that the well development may impact traditional and customary practices in the makai area of the ahupua`a because the well may

significantly diminish freshwater flow to the nearshore areas, and asserted they were not meaningfully engaged with in NELHA's consultation process. CWRM deferred their decision with the requirement that HHFDC and NELHA will return to CWRM in sixty days to present on record the information they collected during their Ka Pa`akai Analysis. This update on the Ota Well has not yet been placed on CWRM's agenda, however we understand it may be done in March or April of 2025.

### **III. Advanced Water Credits for West Hawai`i**

At the February 2025 HHC meeting, the Commission approved Item E-2 for the Memorandum of Agreement (MOA) between DHHL and the County of Hawai`i Department of Water Supply (DWS). This MOA establishes a framework for collaboration to enhance water infrastructure and ensure the timely delivery of homesteads in North Kona. DHHL will allocate up to \$1,500,000 to DWS for the purchase of water system equipment—including water pumps, motors, cables, transformers, and backup generators— which will improve redundancy and resiliency in the North Kona water system. In exchange for DHHL's investment, DWS shall provide advance water credits and water meters sufficient to service up to 200 housing units within DHHL's Villages of La`i `Ōpua developments.

The Department of Hawaiian Home Lands (DHHL) has long prioritized infrastructure development to support the delivery of homestead lots to beneficiaries. Water access remains a critical component in achieving this objective, particularly in West Hawai`i, where water availability has posed a longstanding challenge to development.

In light of these challenges, DHHL and the County of Hawai`i Department of Water Supply (DWS) have identified a mutually beneficial collaboration to enhance water system reliability in North Kona while concurrently advancing DHHL's housing development goals.

The agreement aligns with DHHL's broader infrastructure strategy, ensuring that residential projects in West Hawai`i receive the necessary water resources in a timely manner. Simultaneously, it supports DWS's goal of improving system resilience and redundancy to mitigate service disruptions.

#### **IV. Kawaihae Water Issues**

As Kawaihae and surrounding communities grow, water needs will increase substantially. While potable water for the Kawaihae makai homesteads are supplied by the County of Hawai'i Department of Water Supply (DWS) through their Lālāmilo Water System, potable water for the Kailapa homestead comes from the groundwater well owned and operated by the Kohala Ranch Water System (KRWS). Water from the KRWS is piped from north of Kawaihae and transmitted via interconnection point into the Kawaihae Unit #1 Water System owned by DHHL and operated by Pural Water Specialty Company. Water is then delivered to approximately 164 metered connections in the Kailapa homestead via DHHL's water system.

DHHL is required to purchase the water sourced from KRWS via a master meter located at the interconnection point between the two water systems. DHHL is billed per thousand gallons that passes through this master meter. The water is then transmitted to the homestead lots in Kailapa at the expense of the Department for the operation, maintenance, and repair. Water use is calculated via individual water meters located at each homestead connection. Water billing is calculated based on bi-monthly water usage over a sixty-day period and is handled by DHHL staff.

Homesteaders in Kawaihae are billed based on water rates approved by the HHC in 2017. These water rates increase on a gradual step system, increasing each year on July 1<sup>st</sup> from 2019 through 2029. The water rates in Kawaihae are the highest of all of DHHL's water systems and some of the most expensive water rates for consumers in the entire Pae `Āina. The rates are significantly above what water users served by the County water system pay, and these extremely high rates have caused significant hardship on the homesteaders of Kailapa. DHHL has attempted to secure alternative water sources and discussions on how to address this issue are extensive in the 2024 Regional Plan update.

Non-potable water is not currently available in Kawaihae. Homesteaders have requested the availability of agricultural or irrigation water to:

1. Allow homesteaders to lessen their use of potable water for non-potable water needs such as irrigation and other outdoor water uses and

2. To provide agricultural water at a more reasonable rate than the current cost of potable water.

DHHL staff are proposing a temporary water subsidy for these Kailapa homesteaders. Staff hope to temporarily subsidize these water rates in anticipation of the future rate increases. Changes to these rates require updates to DHHL's administrative rules in addition to water rates studies that will take additional time to comply with and complete. Further information is available in HHC item G-1.

**V. Changes the State's Permitting Process for Wells and how that Impacts Beneficiary Rights**

In 2023 a proposed commercial water bottling plant was proposed in Hilo, but subsequently the proposal was withdrawn. This was the second time in this area there was a proposed plan to develop water from a "deep confined aquifer", a layer of confined fresh water that lies below salt water in this area that if unimpeded flows to springs below the ocean surface off-shore. Some controversy and concern that arose with this proposal is resonant with issues raised regarding plans to develop municipal scale wells in North Kona to exploit similar deep confined aquifers in that area.

These unprecedented proposals gave rise to beneficiary interest in how the state currently characterizes aquifers, how it approves wells into those water sources, and how DHHL, HHC, and beneficiary concerns and rights can be considered. This final section updates the initial briefing on these issues addressed in the 2023 East Hawai'i Water Projects update to the HHC, as it impacts how beneficiaries may become aware of and comment on proposed groundwater uses across the islands, including on Hawaii island.

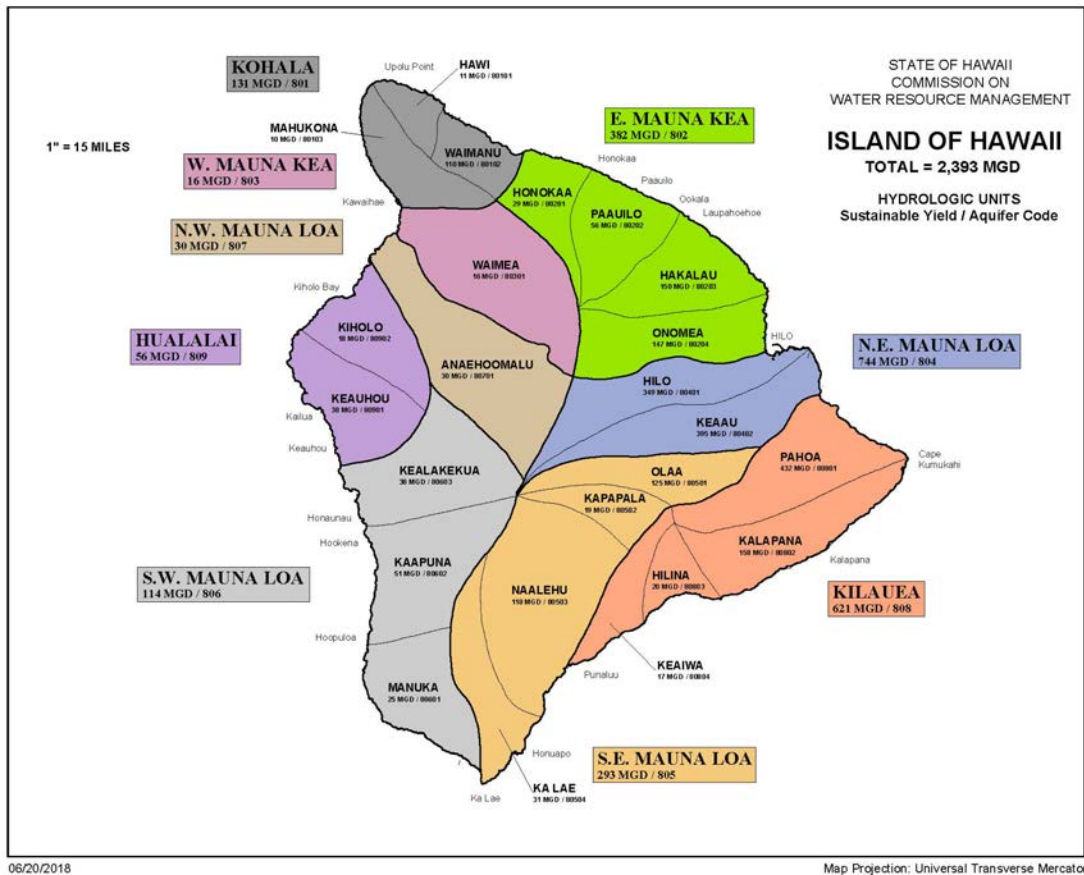
***How CWRM characterizes Aquifers***

The state CWRM characterizes and sets Sustainable Yields for aquifers in much of the same way it does across the archipelago, without much difference between islands and parts of islands. CWRM sets aquifer boundaries - their best estimation of distinct groundwater basins - in a part of the Hawai'i Water Plan called the Water Resources Protection Plan. It draws those lines on maps based on geological features that can be seen on the land surface. Their aquifer map of Maui Island appears below as Figure 2.

They also calculate Sustainable Yields (SY) for each of those aquifers. They assume all ground water in each aquifer is a "basal aquifer" - fresh water floating on salt water. They then use a simple math equation to estimate what percentage of "recharge" - water like rain or fog that flows into the ground - can be withdrawn from wells in the area before those wells would begin to draw up salty water below the fresh water.

This assumption that all water is in a basal lens misses unique characteristics of an area like lava tubes, deep confined waters, and other areas higher in the mountains where areas of harder lava or ash may impede ground water flow. It does not explicitly account for a number of things, like variations in rainfall, in where and how deep and large wells are, and other matters.

**Figure 2. CWRM Hydrologic Units, Island of Hawai'i**



**How CWRM manages wells drilled into Aquifers**

In all areas of the state, CWRM requires anyone wanting to develop a well or install or replace a well pump to receive a Well Construction / Pump Installation Permit (WCPIP). Until

recently however (addressed more below), those permits have been reviewed only by CWRM staff, received minimal public notice, and not required the proposed user to analyze how their uses may impact Public Trust uses of water, such as DHHL's reservations.

Only in "Designated" water management areas - which cover only parts of Maui, and only some of DHHL tracts, see Figure 1, above - are well developers also required to receive a Water Use Permit. Unlike the WCPIPs, these permits are publicly noticed and decided on, and require analysis of how their uses may impact Public Trust uses of water, such as DHHL's reservations.

### ***Challenges related to Deep Confined Aquifers***

The existing regulatory framework of CWRM - which treats nearly all aquifers as basal aquifers and all wells plans solely as engineering documents - is not designed to address the unique characteristics of different water sources, including the deep confined aquifers that exist on Hawai'i island. It also does not address clearly areas where surface and groundwater are closely intertwined, including on Maui places like Mokuhinia in Lahaina, or central Maui where imports of surface water from over a century have allowed pumping at multiples of the official Sustainable Yield. The future sustainable management of these aquifers is not addressed by current processes.

Of particular note, this management method raises important questions related to Native Hawaiian rights and cultural practices. As these processes have been implemented behind closed doors until recently, there has been no reliable mechanism for beneficiaries, the Department, or the HHC to review or even be aware of these proposals.

### ***New processes for approval of Well Construction / Pump Installation Permits***

The process by which only CWRM staff reviewed WCPIPs and they received minimal public notice originated in the 1990s, soon after CWRM was created. However, on December 19, 2023 CWRM reconsidered and altered the "delegated authority" of the CWRM Chair and their staff to approve WCPIPs. On June 18, 2024, CWRM staff proposed further modifications of existing delegation to the CWRM Chairperson.

While previously all wells in non-designated areas were treated as if all authority to approve them was delegated to the

CWRM Chairperson, this proposed altered delegation was to be limited to:

- Well construction (but not pump installation) permits;
- Wells in compliance with the Hawai`i Well Construction and Pump Installation Standards for pumps less than 27 gallons per minute (gpm);
- Acceptance of applications for initial review;
- Permit extensions; and
- Well Completion reports and certificates.

At the June 2024 CWRM meeting, DHHL staff requested deferral and that DHHL be consulted on the item, as DHHL is both a water purveyor and public trust user of water. DHHL staff recommended in the absence of a deferral, that the proposed action be amended to include an additional stipulation to conditions that require Commission approval in scenarios for, "pumps in aquifers where the DHHL has a water reservation." Upon hearing testimony, CWRM approved the motion to defer the submittal to allow staff time to consult with DHHL on the recommendations DHHL provided, including completing additional work requested by the Commission.

Following this deferral, CWRM staff coordinated with DHHL staff to review DHHL's concerns and suggestions. DHHL raised two primary issues: (1) transparency and (2) impacts to DHHL's rights. On July 23, 2024, CWRM staff returned to the Commission with an updated submittal including their additional outreach with DHHL staff and CWRM's proposed actions.

- CWRM agreed to not delegate permits in aquifers where DHHL has a reservation. CWRM will send DHHL all well construction and pump installation permits in aquifers where DHHL has a reservation for review. If issues come up upon review, staff can then take those permits where there are concerns to the CWRM for approval, instead of being directly delegated to the Chairperson.

This procedural change provides a chance for comment on permits for all aquifers possibly impacting DHHL, including deep confined aquifers beneath DHHL lands.

**VI. Related Work with Beneficiaries and Capacity Building to Secure Water Resources and Address Water Issues**

In June of 2022, the Hawai`i County Council considered a proposed charter amendment, that, among other matters, would have required that a member of the Hawai`i County Board of Water Supply also be a DHHL beneficiary. While the proposal to include this as a charter amendment on the ballot did not survive second reading, it brought about significant engaged testimony from beneficiaries and a high-level county discussion of the relationship between the county and DHHL on water development. In response to the consideration of the proposed charter amendment, beneficiary leadership suggested specific training for beneficiaries on how to prepare for, apply for, and serve on water related boards and commissions, to help ensure DHHL perspectives and beneficiary voices are represented.

Working with the William S Richardson School of Law's Ka Huli Ao Center for Excellence in Native Hawaiian Law, pilot training was designed and scheduled and opened to an inaugural cohort from across the islands in the autumn of 2023 via Zoom. The training focuses on tools and resources in four parts: Part 1: Foundations for Building Effective Kahawai Pono; Part 2: A Legal Toolkit for Kahawai Pono - Wai and the Public Trust; Part 3: A Legal Toolkit for a Kahawai Pono - Traditional and Customary Native Hawaiian Practices; and Part 4: Kahawai Pono and their Departments.

At the recent Maui County Council Confirmation, cohort members from all DHHL's past four cohorts displayed incredible participation by either sending written testimony or delivering oral testimony in support of our selected HHC representative, Dr. Jonathan Likeke Scheuer. Over 30 pieces of testimony were submitted in his support, with about half coming from cohort members who took this training. With beneficiary interest increasing, a fifth training will begin on March 24. Homestead organization leaders were notified via email.

**RECOMMENDATION**

None; for information only.



## BACKGROUND AND OVERVIEW OF HHC AND DHHL WATER KULEANA

The purpose of this document is to review the water rights and responsibilities (kuleana) of the Hawaiian Homes Commission (HHC) and Department of Hawaiian Home Lands (DHHL). It is meant to be a stand-alone review document for those interested in these matters as well as a standing attachment to submittals on water issues presented to the HHC, updated from time to time.

The HHC and DHHL have four primary water responsibilities:

1. To plan for fulfilling existing and future water needs;
2. To advocate for water rights;
3. To develop water sources; and
4. To manage water systems

To help fulfill these responsibilities, DHHL has distinct water rights based on the Hawaiian Homes Commission Act (HHCA), the Hawai'i State Constitution (HSC), Hawai'i Revised Statutes (HRS), Attorney General's opinions and court cases. These water rights are tools that the Hawaiian Homes Commission (HHC) can use as needed. Evaluating which tool/right is best to use depends on the opportunities at hand and the costs (financial and otherwise) of asserting that tool/right.

The Department has developed three educational handouts which help explain separate aspects of these issues posted on the Department's website:

- The "Lehua Handout" has a summary of these HHC and DHHL water kuleana;
- The "Koa Handout" summarizes the HHC Water Policy Plan (WPP); and
- The "Kalo Handout" summarizes the record on appeal of the decisions of the Commission on Water Resource Management (CWRM), and as they are the trustees of water in Hawai'i, their decision making has significant impacts on the rights of the Department and our ability to fulfill the WPP.

The next sections go into some additional detail, prior to describing how DHHL interacts with CWRM and implements the HHC WPP. It is organized around the four responsibilities reviewed above, pairing the first two (planning and advocacy) due to their significant overlap in activity.

## **Planning for Water Needs and Advocating for Water Rights**

The Department's Water Planning and Advocacy Kuleana include the need to continuously determine the future water needs for all of the `āina ho`opulapula and then seek water reservations from CWRM to set aside sufficient water to meet those needs.

### *What are water reservations?*

Water can be "reserved" - set aside and not allocated to other users - by the CWRM, implementing its powers under the state Water Code, HRS 174C. These powers were conveyed by the Legislature in 1990, in part out of acknowledgement that it can take years between the HHC determining a proposed use of land and the land being developed for that use, due primarily to the lack of capital funds needed for development. Absent water reservations, other competing public and private sector developers can (and in many cases have) developed most or all of the easily available water in an area, either precluding DHHL development or significantly increasing the costs of water development. Reservations are one tool to address that problem.

There are two distinct methods by which CWRM can reserve water. In Water Management Areas (WMAs) - parts of the state which are subjected to a higher level of permitting scrutiny for surface or ground water allocation - water reservations are adopted through rule making. Currently all of O`ahu except for the Wai`anae Aquifer Sector Area, all ground water on the island of Molokai, the `Īao Aquifer of Maui, and groundwater in West Maui are designated as Ground WMAs. The surface waters of Nā Wai `Ehā and the surface waters related to the Lahaina Aquifer Sector Area, both on Maui, are designated as Surface WMAs.

Because of this rule making requirement as well as the permitting requirements in WMAs - which require that all water use permits are subject to the rights of DHHL - the protection of DHHL water rights are more robust in WMAs.

In non-WMAs, the CWRM can simply take action to vote, by a majority of its seven members, to reserve water for DHHL. Reservations by rule and by simple CWRM action are supposed to be included in all elements of the Hawai`i Water Plan, including the Water Resources Protection Plan (WRPP), the State Water Projects Plan (SWPP), and the County Water Use and Development Plans (WUDPs).

The actions that trigger CWRM consideration of DHHL water reservation needs vary. The state water code (HRS 174C) in section 101(a) requires that: "Decisions of the commission on water resource management relating to the planning for, regulation, management, and conservation of water resources in the State shall, to the extent applicable and consistent with other legal requirements and authority, incorporate and protect adequate reserves of water for current and foreseeable development and use of Hawaiian home lands as set forth in section 221 of the Hawaiian Homes Commission Act."

Some of the most common triggers for adopting DHHL reservations have been related to adoptions of parts of the Hawai`i Water Plan. Most of the groundwater reservations currently held were adopted following the acceptance by CWRM of the 2017 SWPP update.

Another key trigger has been when CWRM has adopted new Interim Instream Flow Standards (IIFSs), which are science and fact based determinations of the minimum amount of water that should remain in a stream before any off-stream uses of water are allowed. The original IIFSs adopted by CWRM around Hawai`i in 1988 were "status quo" standards, only protecting the amount of water in the stream at that time. Since most streams across Hawai`i in 1988 were diverted, and these historic diversions usually took 100% of the flow on non-rainy days, this has meant that there have been few or no legal protections for public trust uses of surface water. For decades after this action, communities around Hawai`i have petitioned CWRM to adopt IIFSs that protect public trust uses of water, including DHHL needs; this has led to well-known litigation such as the Waiāhole and Nā Wai `Ehā cases. In recent years the CWRM has begun to proactively propose IIFS on its own, and has worked with DHHL to propose associated reservations at the same time.

Actions by the Board of Land and Natural Resources (BLNR) can also trigger the adoption of reservations for DHHL. HRS 171-58, which governs the issuance of water leases by the state, specifies in part (g) that "Any lease of water rights or renewal shall be subject to the rights of the department of Hawaiian home lands as provided by section 221 of the Hawaiian Homes Commission Act." In the case of the EMI system requests, DHHL's reservation consideration is triggered by the current owners of EMI seeking a long-term lease of water.

### *Limits to reservations*

While water reservations are an important policy tool available to DHHL, CWRM, and the HHC, they have limitations. Some of these include:

- Previously, reservation requests by DHHL have been delayed or denied by CWRM staff for unclear reasons
- Reservations do not provide immediate access to "wet water"
- Developing water will still require:
  - Capital Improvement Plan (CIP) funds
  - Detailed design and environmental review
  - Developing source, storage, transmission
  - Agreement with County or others for operation
- In geographically large aquifer systems, locations to develop water can still be remote from DHHL tracts
- The enforceability of reservations, particularly in non-WMAs, has not been legally tested
- DHHL along with CWRM will need to monitor other developments potential impact on DHHL reservations

### *Water License Receipts*

As mentioned above, the issuing of water licenses by the state can be a trigger for the DHHL to seek a water reservation from a particular source proposed for license. Receipts are to be deposited into the Native Hawaiian Rehabilitation Fund, which is the source of revenue for grants to homestead organizations. This arrangement originated in the HHCA as it was passed in 1921, and are codified including in HSC Art. XII, § 1.

Historically revenue from the licensing of water was significant; however, with the decline of large plantations, along with choices made by the Land Division of the Department of Land and Natural Resources, water license revenue has declined significantly. There are instances around Hawai`i where water originates from state land and currently there is no proposal to issue a water license.

### *Public Trust Status*

As the key Trustee and lead agency in managing water, CWRM is critical in helping DHHL preserve and implement its rights to water. However, since the passage of the Water Code in 1987, a number of significant court decisions have made on appeals of decisions by the CWRM. That record will be discussed in more

detail below. Of significance here is that the courts have identified over a series of cases four "public trust uses" of water, which are to have priority, over private, commercial uses of water. While they are not specifically listed as such under the Water Code, the courts identified these based on interpreting the Code, the specific circumstances of the cases they were ruling on, as well as the long legal history of water law dating back to the Kingdom. Along with Appurtenant Rights - four Public Trust Purposes are:

- Maintaining water in its natural state;
- Water used in the exercise of the traditional and customary practices of native Hawaiians;
- Water reserved for or used by DHHL; and
- The domestic needs of the general public.

Appurtenant water rights refer to the water necessary for the use of kuleana parcels at the time kuleana awards were made - and they enjoy the same high level of priority as the four purposes above.

Private, municipal, and commercial uses of water are not prohibited. However, when CWRM or other agencies make decisions, they need to follow particular processes to ensure that public trust purposes of water are provided for.

As one of the protected public trust uses of water, the DHHL has a particular responsibility to protect that status, as well as to not bring harm to the other public trust uses of water. One way in which DHHL does this is to consider and pursue alternate sources of water when its uses may impact another public trust use of water. Another is to help defend all public trust uses against private commercial uses that could harm its own and other public trust uses.

### **Water Source Development**

Even after the Department has secured water reservations as discussed above, efforts must be made to develop water sources to enable homesteading. In addition to the general powers that state departments have to expend funds and manage programs, DHHL has particular powers related to water source development.

The most commonly used of these is the power to issue leases or licenses to trust lands. Very frequently, DHHL will develop some combination of water source, storage, and transmission, and then lease, license, or otherwise dedicate

those to the Board or Department of Water Supply of the county these lands lie in. In exchange, DHHL, receives a certain number of water credits, which can be used and exchanged for water meters at a future time. Water credits have also been obtained in the past by other parts of the state government developing wells and assigning credits to the DHHL, as well as through litigation.

While it has never used the power, the HHC also has the power to bring eminent domain proceedings against private parties to obtain sites with water sources. It can also "demand" access to state controlled water systems, but like condemnation has not exercised this power.

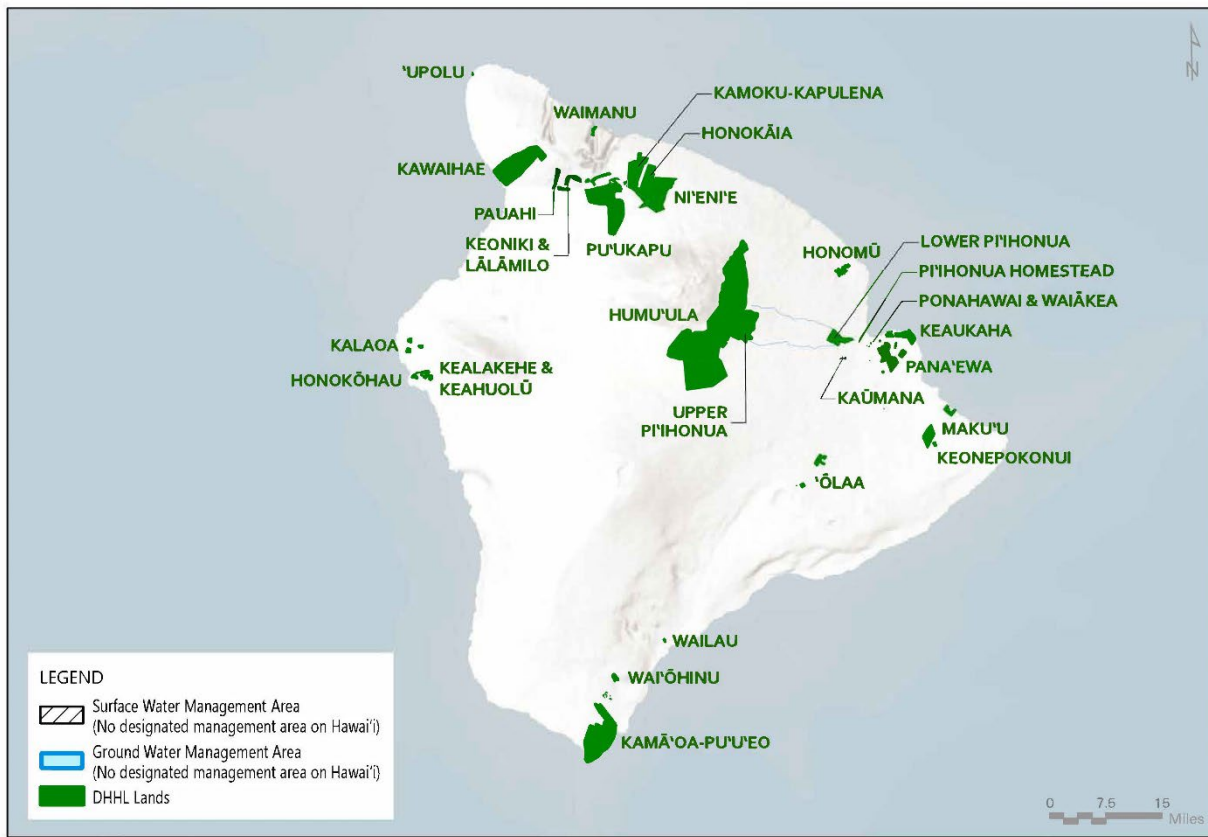
As discussed above in the review of water reservations, in Designated Water Management Areas (WMAs), all users of water must obtain a "water use permit" from CWRM. By law those permits are conditioned on the rights of the DHHL. Generally, however, DHHS lands do not coincide with existing WMAs. See Figure 1, below, showing WMAs and DHHL lands on Hawai`i Island.

#### **Water System Management**

The last major water kuleana that DHHL has is the ability to develop and manage water systems directly. DHHL currently manages four systems on Molokai, Kaua`i and Hawai`i Islands.

#### **The Commission on Water Resource Management (CWRM) Record on Appeal**

While the HHC, DHHL and its beneficiaries have particular and significant water rights as described above, we are largely dependent on CWRM and protecting those rights. Unfortunately, since passage of the code in 1987, it has been a very mixed history. DHHL and beneficiaries have frequently had to go to court to challenge decisions of CWRM. Refer to the handouts on the DHHL website regarding water policy. The most successful instances have been when the DHHL and beneficiaries have worked closely together on those efforts. It is notable that beneficiaries on the island of Molokai have led the way, and the resulting cases have helped the courts describe the significance of DHHL water rights.



**DESIGNATED WATER MANAGEMENT AREAS  
ISLAND OF HAWAI'I**

DLNR COMMISSION OF WATER RESOURCE MANAGEMENT | 5-17-2023



**Figure 1. DHHL Lands and Water Management Areas on Hawai`i island. There are currently no designated water management areas on the island of Hawai`i.**

**HHC Water Policy Plan (WPP)**

In order to consistently make water decisions and protect the trust's water interests, in 2014 the HHC passed a Water Policy Plan (WPP) under the General Plan. This was adopted after two years of research, and two rounds of beneficiary consultation across the archipelago. It is to our knowledge, the first policy regarding water decisions passed by the HHC since passage of the HHCA in 1921. The WPP is also posted on the Department's website.

The WPP is comprised of a number of distinct sections. The first section, a vision statement, comes directly from Section 101 of the HHCA. The Mission statement derives from the different water kuleana described above. The next section is on Values and describes four Hawaiian values key to the proper management of water. This is followed by twelve policies to

guide water decisions. The core of the WPP are nineteen goals identified by beneficiaries, staff, and the HHC to be the focus of DHHL water activities, with four identified as priority goals. These are:

1. Affirmatively communicate with beneficiaries regarding water decisions, performance, and water rights on a regional and annual basis.
2. Aggressively, proactively, consistently and comprehensively advocate for the kuleana of the beneficiaries, the DHHL, and the HHC to water before all relevant agencies and entities.
3. Develop and manage a Water Assets Inventory (WAI).
4. Support watershed protection and restoration on DHHL lands and source areas for DHHL water.

The final substantive portions of the WPP includes a statement on the delegation of authorities, which includes a requirement for the submission to the HHC by the DHHL an annual report on accomplishments as well as a plan for the coming fiscal year. Legal authorities, related plans, and legal references are also included.

In conclusion, DHHL has significant water kuleana - responsibilities and rights - that it can bring to bear in order to bring water to lands across the `āina ho`opulapula and to fulfill the goals of the HHCA. The primary areas of this work are for water planning, advocacy, source development, and system management. The CWRM and the Counties are critical partners to help achieve our goals. The HHC has adopted the WPP as the key policy guidance for this work. The WPP requires a number of actions from DHHL, including annual plans of work, reports on achievements, and annual regional updates on water issues and projects.



Hawaiian Homes Commission Meeting Packet  
March 17 & 18, 2025  
Waimea, Hawai'i

**H ITEMS**

State of Hawai'i  
**DEPARTMENT OF HAWAIIAN HOME LANDS**

March 17-18, 2025

**TO:** Chair Watson and Commissioners, Hawaiian Homes Commission  
**FROM:** Katie Lambert, Deputy to the Chair KLL  
**SUBJECT:** Transfer of Hawaiian Home Receipts Fund Balance – End of 3<sup>rd</sup> Quarter, FY25

**RECOMMENDED MOTION/ACTION:**

Commission approval to transfer the receipts deposited in the Hawaiian Home Receipts Fund as of March 31, 2025, to the Hawaiian Home General Loan Fund.

**DISCUSSION:**

Section 213 (g) of the Hawaiian Homes Commission Act, 1920, as amended, reads in part as follows:

“(3) Hawaiian home receipts fund. All interest moneys from loans or investments received by the department from any fund except as provided for in each respective fund, shall be deposited into this fund. At the end of each quarter, all moneys in this fund may be transferred to the Hawaiian home operating fund, the Hawaiian home administration account, the Hawaiian home trust fund, and any loan fund in accordance with rules adopted by the department.”

Section 10-3-52(b) of the Title 10, DHHL Administrative rules, provides that:

“If the Commission fails to approve a plan for transfer, all moneys in the Hawaiian home receipts fund shall be transferred at the end of that respective quarter as follows:

- (1) Nine per cent to the operating fund; and,
- (2) Ninety-one per cent to the general loan fund.”

The projected balance in the Hawaiian Home Receipt Fund on March 31, 2025, will be \$5,600,000. Based on the ongoing loan requirements for the fiscal year 2025, it is recommended that cash receipts in the Hawaiian Home Receipt Fund for the quarter ending March 31, 2025, be transferred to the Hawaiian Home General Loan Fund.

Hawaiian Homes Commission Meeting Packet  
March 17 & 18, 2025  
Waimea, Hawai'i

**J ITEMS**

# Hawaiian Homes Commission

## J Agenda Requests to Address the Commission

March 18, 2025

- J-1 Bo Kahui – La‘i ‘Ōpua Community Development Corporation
- J-2 Michael Hodson – Waimea Nui Development
- J-3 Jojo Tanimoto – Kawaihae Water and Emergency Access
- J-4 Kauilani Almeida – Pana‘ewa Hawaiian Home Lands Community Association
- J-5 Kanani Kapuniai – West Hawaii Beneficiary Concerns
- J-6 Kekoa Enomoto – Pa‘upena Community Development Corp Advocacy
- J-7 Germaine Meyers – Vacant Lot Awards
- J-8 Kapua Keliikoa-Kamai – Various Concerns
- J-9 Kenna Stormogipson – Waipouli Relocation Concerns



**From:** [Craig Bo Kahui](#)  
**To:** [Burrows-Nuuanu, Leatrice W](#)  
**Cc:** [Sharleen Kahumoku](#); [Craig Bo Kahui](#); [Rudy Ai](#); [Dora Aio](#) [EXTERNAL]  
**Subject:** Request to place on the J Agenda in March Tuesday, February 25,  
**Date:** 2025 10:56:46 AM

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Aloha Lea,  
Could you please place me on the J Agenda for March 2025. I'll be updating the Commission on Laiopua CDC  
Mahalo  
Bo Kahui



**From:** [dhl.icro1@hawaii.gov](mailto:dhl.icro1@hawaii.gov)  
**To:** [Burrows-Nuuuanu, Leatrice W](#)  
**Subject:** New submission from Submit J-Agenda Testimony  
**Date:** Monday, March 3, 2025 8:03:16 AM

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**Name**

Michael Hodson

**Email**

[\\_\\_\\_\\_\\_](#)

**Message**

Waimea Nui Development March Kuhio hale HHC meeting





**From:** [Antoinette Almeida](#)  
**To:** [Burrows-Nuuanu, Leatrice W](#)  
**Subject:** Re: [EXTERNAL] J agenda for February HHC mtg 2/19/25  
**Date:** Tuesday, February 11, 2025 6:47:08 AM

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Sorry yes mahalo Leah.

On Tue, Feb 11, 2025 at 6:46 AM Burrows-Nuuanu, Leatrice W <[leatrice.w.burrows-nuuanu@hawaii.gov](mailto:leatrice.w.burrows-nuuanu@hawaii.gov)> wrote:

Aloha Kauai,  
The deadline for J Agenda is two weeks before the meeting. The Commission will be in Waimea in March. Did you want to get on that one?

Mahalo,

---

**From:** Kaulani Almeida <[kumukaulani@gmail.com](mailto:kumukaulani@gmail.com)>  
**Sent:** Tuesday, February 11, 2025 5:14:50 AM  
**To:** Burrows-Nuuanu, Leatrice W <[leatrice.w.burrows-nuuanu@hawaii.gov](mailto:leatrice.w.burrows-nuuanu@hawaii.gov)> **Subject:** [EXTERNAL] J agenda for February HHC mtg 2/19/25

Aloha. Can I be placed on the “J” agenda?  
Mahalo a nui loa.  
Sent from my iPhone



**From:** [Kekoa Enomoto](#)  
**To:** [Burrows-Nuuuanu, Leatrice W](#)  
**Cc:** [Archie Kalepa LEAL'I](#); [Antonette 'Toni' G. Eaton DHHL](#); [John Stufflebean P.E. DWS](#); [Ashley Laroya DWS](#); [Mayor Richard Bissen](#); [Leikahekea'onapua Davideane Kama-Sickels](#); [Kaanana, Cherie-Noelle K](#)  
**Subject:** [EXTERNAL] county water meters  
**Date:** Wednesday, February 26, 2025 7:13:20 PM

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Aloha mai kua e commission secretary Leah Burrows-Nu'uuanu, Ke 'olu'olu, on behalf of Pa'upena Community Development Inc., may I RSVP to advocate on the J Agenda during the Hawaiian Homes Commission meeting, at/after 11 a.m. Tuesday 3/18/25?

I would like to speak re: three water meters sought for the 127-acre Keokea-Waiohuli homelands parcel, for which Pa'upena CDC has a 10-year license.

To wit, one hopes County of Maui/DHHL liaison Toni Eaton can facilitate the water-meters request that interim DHHL Director Ikaika Anderson initiated 25 months ago via a January 2023 letter.

Since then I have interfaced twice in person with county Department of Water Supply Director John Stufflebean and DWS civil engineer III Ashley Laroya on the matter.

Pa'upena needs access to county water at the site to undertake its, as follows:

- Agroforestry plans.
- \$75,000 county Department of Agriculture grant to install two greenhouses.
- \$50,000 county Environmental Protection and Sustainability Division grant to adaptively reuse/replant ancient agricultural terraces.

Mahalo nui for your kokua wale no,  
-'Anake Kekoa

Kekoa Enomoto  
Member of the board,  
Pa'upena Community Development Inc.  
(808) 276-2713

3/18/25

Aloha mai kākou e Na Hawaiian Homes Commissioners,

‘O Kekoa Enomoto kēia, presenting J Agenda advocacy on behalf of Pā‘upena Community Development corporation (CDC), an Upcountry Maui-based beneficiary organization.

I would like to update commissioners on (1) Pūlehunui South; (2) a 127-acre Kēōkea-Waiohuli homelands parcel, specifically about its water catchment, archaeology, and water meters, and (3) Maui’s State of the County speech addressing homestead real-property taxes.

Concerning Pūlehunui South, the Pūlehunui Hawaiian Homestead Association held its second fourth-Sunday-of-the-month meeting 2/23/25 at Pu‘unēnē. Attendees inspected two of 14 World War II bunkers on the acreage.

In addition, organizers met 2/20/25 with Maui Housing Director Remi Mitchell, who committed to support \$376,000 in the proposed 247-lot Pūlehunui South’s project-planning fees being added to the mayor’s budget.

Regarding the 127-acre Kēōkea-Waiohuli parcel, Pā‘upena is completing a gutter system for its 30,000-gallon water catchment installed there. Also, the CDC will have started a six-day spring-break Archaeology Intensive experience 3/15/25 for ‘ōpio and their ‘ohana members. And the DHHL Planning Office is arranging to meet with county officials on a more-than-2-year-old request for three water meters to the acreage.

Finally, in his March 7 State of the County speech, Maui Mayor Richard Bissen said he will introduce legislation to resolve long-standing real-property tax delinquencies for DHHL homestead lessees, delinquencies totaling more than \$6 million.

**From:** [dhl.icro1@hawaii.gov](mailto:dhl.icro1@hawaii.gov)  
**To:** [Burrows-Nuuuanu, Leatrice W](#)  
**Subject:** New submission from Submit J-Agenda Testimony  
**Date:** Wednesday, February 26, 2025 10:11:06 AM

---

**Name**

Germaine Meyers

**Email**

**Message**

Aloha e Leah,

May I kindly request to address the HHC on it's J-Agenda at the March 18, 1025 Commission meeting regarding various matters.

I understand the meeting will be held in Waimea, Hawaii. I'd like to address the Commission via Zoom during the J-Agenda and use Share screen to upload my presentation that will include photos for their consideration.

I want to discuss Vacant Lot awards in certified fully grid-communities and certified off-grid communities on each island, especially on Oahu. Especially considering data provided by the state for off-grid Kauhale initiative expenses recently incurred by the State for 20 Kauhale's each 100 square feet located in a grid-community on Oahu, and its negative impact on the neighbors.



**From:** [Kapua Keliikoa-Kamai](#)  
**To:** [Burrows-Nuuuanu, Leatrice W](#)  
**Subject:** [EXTERNAL] March HHC Testimony  
**Date:** Tuesday, March 4, 2025 4:27:43 PM

---

Aloha Leah,  
Please add me to this months J-Agenda. I've beneficiary concerns, mahalo babe.

a hui hou,  
kapua

*'A'ohe hana nui ke alu 'ia.*

*No task is too big when done together by all.*

*'Ōlelo No'eau #142*

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**From:** [Kenna Stormogipson](#)  
**To:** [Burrows-Nuuanu, Leatrice W](#)  
**Subject:** [EXTERNAL] J-Agenda for March?  
**Date:** Tuesday, March 4, 2025 11:39:23 AM

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Aloha Leah,

Hope you're doing well. I believe I was put on the J-Agenda for March because I missed the February deadline. Can you please confirm if I'm on J-agenda?

Mahalo!  
-Kenna

**We, the undersigned, are residents of the Courtyards at Waipouli in Kapa'a, Kauai.**

We respectfully request a revised Relocation Plan from InterWest Group on behalf of the Department of Hawaiian Home Lands (DHHL).

We reviewed the draft Relocation Plan and provided feedback by January 31, 2025. To date we have not received any communication regarding updates to the draft plan. According to the Option Purchase agreement approved by the Hawaiian Homes Commission in September of 2024, the closing date for purchase is "no later than Wednesday, May 7<sup>th</sup> 2025".

**With a sale closing date only two months away, we would appreciate an update regarding our Relocation Plan concerns.** Specifically, we are requesting:

**1. Assurance of access to comparable housing on Kaua'i when current leases expire.**

DHHL cannot renew or extend leases after taking possession due to Hawaiian Homes Commission Act regulations. Many residents have leases expiring before the end of 2025, and at least 25% are on month-to-month leases. Without an updated plan, we do not know where we will go when our leases expire.

**2. Relocation Assistance Payments Must Reflect Kaua'i Rental Prices:** The statewide rental market analysis used to calculate assistance payments does not meet URA standards of "fair and equitable treatment. Kaua'i has significantly higher rental prices than other islands. Relocation payments must be based on Kaua'i's rental market rates.

**3. The Current \$1.9M Relocation Budget is Inadequate:** An accurate budget should be closer to 6.8M based on Kaua'i's high rental costs and the large percentage of low-income residents at Waipouli, and fact that most residents prefer professional moving assistance.

**Our Request:**

We urge DHHL and InterWest Group to immediately provide residents with a revised Relocation Plan that properly addresses these concerns. The acquisition of Courtyards at Waipouli should not proceed until residents receive a fair and transparent Relocation Plan that meets URA standards.

NAME Benjamin Narwold UNIT # 505

SIGNATURE *Benjamin Narwold* DATE 3/6/2025

PHONE (707) 296-3921 E-MAIL ben.narwold@gmail.com

NAME Domenic Scanga UNIT # 301

SIGNATURE *[Signature]* DATE 03/08/25

PHONE 613-265-3010 E-MAIL dscanga@italfoods.ca

NAME Stephanie Deng

UNIT # 803

SIGNATURE *[Signature]*

DATE 3/6/2025

PHONE \_\_\_\_\_ E-MAIL stephaniedeng815@gmail.com

PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_


NAME \* Yunsang Park  
UNIT # 908  
SIGNATURE \* [Signature]  
DATE 3/8/25  
PHONE 646 269 9070 E-MAIL \_\_\_\_\_


NAME \* Amiel  
UNIT # 907  
SIGNATURE [Signature]  
DATE 3/9/25  
PHONE 808 648 5204 E-MAIL \_\_\_\_\_


NAME Megan Alyea  
UNIT # 906  
SIGNATURE [Signature]  
DATE 3/9/25  
PHONE (605) 939 4073 E-MAIL \_\_\_\_\_

NAME Joshua Williams  
UNIT # 905  
SIGNATURE [Signature]  
DATE 3/9/25  
PHONE 808-855-8077 E-MAIL \_\_\_\_\_

Text for 808.651.1264  
pick up

NAME Shay Greer  
UNIT # 601  
SIGNATURE   
DATE 3/9/25  
PHONE 848-803-3966 E-MAIL Shaygreer28@gmail.com

NAME Lillian Orner  
UNIT # 407  
SIGNATURE   
DATE 3.9.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

NAME Pam Nieskes  
UNIT # 904  
SIGNATURE   
DATE 3/9/25  
PHONE 262-442-7395 E-MAIL pamnieskes@yahoo.com


NAME \_\_\_\_\_  
UNIT # \_\_\_\_\_  
SIGNATURE \_\_\_\_\_  
DATE \_\_\_\_\_  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_


NAME \_\_\_\_\_  
UNIT # \_\_\_\_\_  
SIGNATURE \_\_\_\_\_  
DATE \_\_\_\_\_  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

NAME \_\_\_\_\_  
UNIT # 407  
SIGNATURE \_\_\_\_\_  
DATE 3.8.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

NAME Autumn madsen  
UNIT # 406  
SIGNATURE Autumn Madsen  
DATE 03-09-25  
PHONE 808-720-0305 E-MAIL \_\_\_\_\_  
autumn.mads@gmail.com

NAME David  
UNIT # 101  
SIGNATURE David Bennett  
DATE 3.9.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

 NAME Charles Lake  
UNIT # 405  
SIGNATURE Chris Lake  
DATE 3-9-25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

 NAME Kendall Gomez  
UNIT # 608  
SIGNATURE KG Gomez  
DATE 3.9.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_


NAME Jan Burns  
UNIT # 205  
SIGNATURE Janice Burn  
DATE 3-9-2025  
PHONE 989-277-0666 E-MAIL  
sumerburns@gmail.com

NAME Marty Burns  
UNIT # 205  
SIGNATURE Marty Burns  
DATE 3-9-2025  
PHONE 989-277-0666 E-MAIL  
sumerburns@gmail.com

NAME Lian Steininger  
UNIT # 204  
SIGNATURE ~~Lian Steininger~~  
DATE 3.9.25  
PHONE 602-505-6567 E-MAIL

NAME Vikent Barnett  
UNIT # 401  
SIGNATURE VS  
DATE 3/9/25  
PHONE 7137264049 E-MAIL


NAME Jesse Kabat  
UNIT # 708  
SIGNATURE Jesse Kabat  
DATE 3-9-2025  
PHONE 971-323-3375 E-MAIL  
jekabat@gmail.com

NAME \* michelle Salas  
UNIT # 401  
SIGNATURE   
DATE 3.8.25  
PHONE 808 278 3555 E-MAIL

---

NAME \* JAMESINA HAMILTON  
UNIT # 502  
SIGNATURE \* J. E. Hamilton  
DATE 3/9/2025  
PHONE 714 847 6676 E-MAIL

---

NAME Brian Thacker  
UNIT # 503  
SIGNATURE   
DATE 3/9/25  
PHONE 808-688-3301 E-MAIL  
brianthacker76@outlook.com

---


NAME Jasmin Wampler  
UNIT # 102  
SIGNATURE Jasmin Wampler  
DATE 3/9/25  
PHONE 808-651-9861 E-MAIL  
jasminwampler@yahoo.com


---


NAME Linda Twitchell  
UNIT # 101  
SIGNATURE   
DATE 3/9/25  
PHONE ~~808~~ E-MAIL  
LTwitch106@aol.com




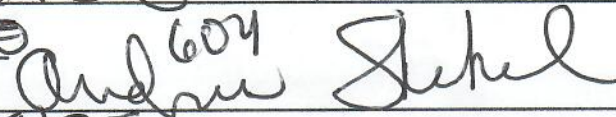
RESIDENTS WITH A REVISED RELOCATION PLAN THAT PROPERLY ADDRESSES these concerns. The acquisition of Courtyards at Waipouli should not proceed until residents receive a fair and transparent Relocation Plan that meets URA standards.


NAME Chosetyn K Hasegawa  
UNIT # 1001  
SIGNATURE   
DATE 3/8/20  
PHONE (808) 492-1914 E-MAIL Hasegawa0290@gmail.com

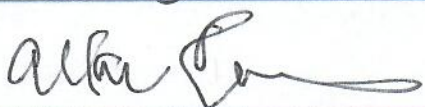
NAME Isabelle Reed-cargill  
UNIT # 1001  
SIGNATURE   
DATE 3/8/25  
PHONE 808 639 1641 E-MAIL JUSTISAA15@gmail.com

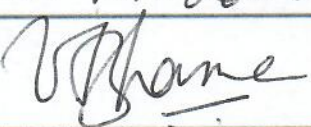
NAME Josal Najera - Navas  
UNIT # 1007  
SIGNATURE   
DATE 03.08.25  
PHONE (808) 635-2588 E-MAIL Josainajera@gmail.com

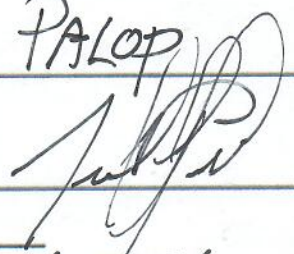
NAME Lorie Lemi  
UNIT # 1007  
SIGNATURE   
DATE 3/8/25  
PHONE (808) 631-6698 E-MAIL Lemilorieann@gmail.com

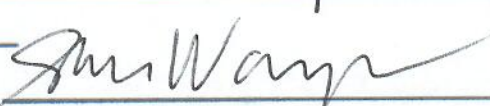
NAME Andrew Skabel  
UNIT # ~~640~~ 604  
SIGNATURE   
DATE 3-8-25

NAME Lundy McClintic  
UNIT # 702  
SIGNATURE   
DATE 3.8.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

NAME Allan Ramos  
UNIT # 606  
SIGNATURE allan   
DATE 3/8/25  
PHONE 808-631-2030 E-MAIL \_\_\_\_\_  
808-482-1589

NAME Bhama Varadharajan  
UNIT # 404  
SIGNATURE Bhama   
DATE 3.8.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

NAME Paul PALOP  
UNIT # 507  
SIGNATURE   
DATE 3/8/25  
PHONE 310 904 2938 E-MAIL \_\_\_\_\_  
PAULPALOP@GMAIL.COM

NAME Samuel Wampler  
UNIT # 102  
SIGNATURE Sam Wamp   
DATE 3/9/25  
PHONE 808-651-9235 E-MAIL \_\_\_\_\_  
theserofbmx@yahoo.com

RESIDENTS WITH A REVISED RELOCATION PLAN THAT PROPERLY ADDRESSES these concerns. The acquisition of Courtyards at Waipouli should not proceed until residents receive a fair and transparent Relocation Plan that meets URA standards.

NAME Wallace Hardin  
UNIT # 801  
SIGNATURE Wallace Hardin  
DATE 3.8.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

NAME  Timothy Womack  
UNIT # 802  
SIGNATURE  Timothy Womack  
DATE 3.8.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

NAME  SUSAN WOMACK  
UNIT # 802  
SIGNATURE  Susan Womack  
DATE 3.8.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

NAME  Kiana Ke'ohani  
UNIT # 804  
SIGNATURE  Kiana Ke'ohani  
DATE 3.8.25  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

NAME  Ronald Payne  
UNIT # 903  
SIGNATURE  Ronald Payne  
DATE \_\_\_\_\_

NAME Charlene Kemmerer

UNIT # 708

SIGNATURE 

DATE 3-9-2025

PHONE 301-960-8970 E-MAIL

CharleneKemmerer@gmail.com

NAME Connie Busa

UNIT # 707

SIGNATURE 

DATE 3-9-2025

PHONE 808-344-3903 E-MAIL

NAME SUSHMA PANIKKER

UNIT # 402

SIGNATURE 

DATE 3/9/25

PHONE 8083532917 E-MAIL

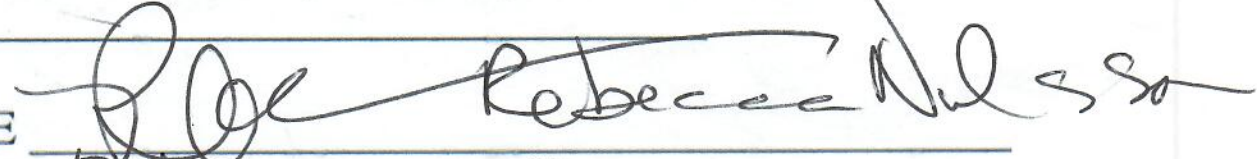
NAME THOMAS CEASAR

UNIT # 402

SIGNATURE 

DATE 3/9/25

PHONE 8087430231 E-MAIL


NAME 

UNIT # ~~240~~ 604

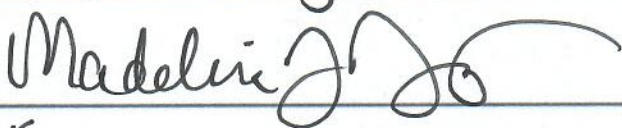
SIGNATURE 

DATE 3-7-25


PHONE 309241161 E-MAIL

NAME Lourdes Torres  
UNIT # 807  
SIGNATURE   
DATE 3.8.25  
PHONE 808 651.1264 E-MAIL \_\_\_\_\_

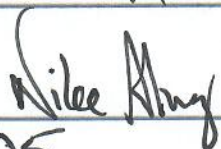
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NAME Madeline Torres  
UNIT # 901  
SIGNATURE   
DATE 3.8.25  
PHONE 706 978 1298 E-MAIL \_\_\_\_\_

---

NAME Donita Torres  
UNIT # 901  
SIGNATURE   
DATE 3.8.25  
PHONE 706 978 1299 E-MAIL \_\_\_\_\_

---

NAME Nilce Alvarez  
UNIT # 901  
SIGNATURE   
DATE 3.8.25  
PHONE 509 433 4463 E-MAIL \_\_\_\_\_

---

NAME \_\_\_\_\_  
UNIT # \_\_\_\_\_  
SIGNATURE \_\_\_\_\_  
DATE \_\_\_\_\_  
PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

## AGREEMENT SUMMARY

Doc. Name: Amended and Restated Option Purchase Agreement

Subject Property: 258,929 square feet of land (Lots 17-D-1 approx. 254,263 sf and 17-D-2 approx. 4,666 sf) located at 401 Papaloa Rd, Kapaa, Hawaii 96746 and known as the Courtyards at Waipouli -- TMK Nos. (4) 4-3-001-014 and 021 - and improvements located thereupon

Seller: K D WAIPOULI LLC

Purchaser: DEPARTMENT OF HAWAIIAN HOME LANDS

Due Diligence Period: From February 9, 2024, to **Monday, November 18, 2024**

Option Price: If Purchaser intends to proceed with the transaction, then \$1M to be paid in to Escrow (along with written irrevocable and unconditional authorization to pay the Option Price to Seller) on or before the end of the Due Diligence Period

Option Period: At any time from the payment of the Option Price to Seller to **Friday, January 3, 2025**, Purchaser may exercise the option to purchase by delivery of written notice to Seller and the Escrow Company

Closing Date: **February 3, 2025**, subject to extension to no later than Wednesday, May 7, 2025 "if additional time is needed to secure the required financing for closing" upon payment, through Escrow, of a \$500K Extension Fee

Purchase Price: Total of \$44M -- \$1M Option Price and \$500K Extension Fee (if any) to be credited -- balance to be payable at Closing through Escrow

Closing Costs: Purchaser also responsible for customary prorations (e.g., taxes, lease rents and deposits) and to pay one-half of: (a) Title Policy premiums; (b) escrow fees and costs; (c) conveyance and transfer taxes; and (d) recording fees

Condition at Closing: The Property (including multi-tenant housing improvements) to be delivered in the same condition as of the end of the Due Diligence Period - ordinary wear and tear excepted - free and clear of any contracts other than surviving Tenant Leases

Tenant Leases: Seller: (i) may not enter into a lease with, or extend a lease to, a term longer than 12 months, and (ii) will cooperate with providing any notices required by NAHASDA as directed by Purchaser, provided that Purchaser shall be responsible for all expenses of NAHASDA compliance, including any Uniform Relocation Act payments to displaced tenants



**COUNTY COUNCIL**

Mel Rapozo, Chair  
KipuKai Kualii, Vice Chair  
Addison Bulosan  
Bernard P. Carvalho, Jr.  
Felicia Cowden  
Fern Holland  
Arryl Kaneshiro



**OFFICE OF THE COUNTY CLERK**

Jade K. Fountain-Tanigawa, County Clerk  
Lyndon M. Yoshioka, Deputy County Clerk

Telephone: (808) 241-4188  
Facsimile: (808) 241-6349  
Email: cokcouncil@kauai.gov

**Council Services Division**  
4396 Rice Street, Suite 209  
Lihu'e, Kaua'i, Hawai'i 96766

February 7, 2025

Daniel Gallant, Chief  
Underwriting Branch  
Housing and Urban Development, Multi-family Office  
600 Harrison Street  
San Francisco, CA 94107  
Via USPS Mail and Email to: daniel.c.gallantjr@hud.gov

Mr. Gallant:

**RE: DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL)  
APPLICATION AND RELOCATION PLAN FOR HUD 223(F)  
LOAN, COURTYARDS AT WAIPOULI**

My name is Mel Rapozo, and I serve as Chair of the Kaua'i County Council ("Council"), the legislative body for the County of Kaua'i, where the 82-unit apartment complex, Courtyards at Waipouli, is located. I write this letter as an individual member of the Council.

On January 8, 2025, the Council heard from DHHL representatives, DHHL's relocation consultant, residents of Courtyards at Waipouli, and members of the community regarding serious concerns with the draft Relocation Plan, a prerequisite for obtaining a HUD 223(f) loan.

The primary concerns regarding the draft Relocation Plan are as follows:

1. The plan identifies housing on the island of O'ahu as comparable, despite the fact that most Courtyards residents have deep roots on Kaua'i, including employment, family, and community ties. Moving across a 90-mile ocean channel is not a viable option for the majority of residents.

2. Kaua'i is facing an extreme housing shortage. A review of the 37 housing options listed in the draft plan revealed that, after removing duplicates, the remaining options were either located on O'ahu, had extensive waiting lists, or were no longer available. Only two units on Kaua'i were still available—both renting for approximately \$10,000 per month, illustrating the severe lack of affordable housing caused in part by the prevalence of vacation rentals.



LETTER TO THE DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL)  
APPLICATION AND RELOCATION PLAN FOR HUD 223(F) LOAN,  
COURTYARDS AT WAIPOULI

Page 2

3. While DHHL's consultants have attempted to reassure residents that they will not be displaced until comparable housing is found, this assurance appears to conflict with DHHL's strict mandate to house only beneficiaries who meet the legal blood quantum requirement. It appears that once DHHL acquires the property, current residents will not be allowed to renew their leases, forcing many to either leave the island or face homelessness. Given that all leases expire by the end of 2025, with many already on month-to-month agreements, the urgency of this issue cannot be overstated.

Given these challenges, I am deeply concerned about the adequacy of DHHL's Relocation Plan and the feasibility of securing appropriate housing for the more than 50 households currently residing at Courtyards at Waipouli. Without significant adjustments and increased financial support, the risk of displacement and homelessness is very real.

I respectfully request that HUD carefully evaluate the Relocation Plan to ensure that an adequate funding structure is in place before any HUD 223(f) loan is approved. Specifically, I urge HUD to consider increasing relocation funding beyond the current \$1.9 million allocation, which is insufficient given Kaua'i's rental market conditions. Additional funding is critical to securing suitable housing options and preventing the forced displacement of residents.

Should you have any questions, please feel free to email me at [mrapozo@kauai.gov](mailto:mrapozo@kauai.gov) or call me at (808) 241-4188. I appreciate your time and attention to this urgent matter.

Sincerely,

MEL RAPOZO  
Councilmember, Kaua'i County Council

**COUNTY COUNCIL**

Mel Rapozo, Chair  
KipuKai Kualii, Vice Chair  
Addison Bulosan  
Bernard P. Carvalho, Jr.  
Felicia Cowden  
Fern Holland  
Arryl Kaneshiro



**OFFICE OF THE COUNTY CLERK**

Jade K. Fountain-Tanigawa, County Clerk  
Lyndon M. Yoshioka, Deputy County Clerk

Telephone: (808) 241-4188  
Facsimile: (808) 241-6349  
Email: cokcouncil@kauai.gov

**Council Services Division**  
4396 Rice Street, Suite 209  
Lihu'e, Kaua'i, Hawai'i 96766

February 18, 2025

Daniel Gallant, Chief of Underwriting Branch  
HUD Multi-Family Office  
1 Sansome Street, Ste 1200  
San Francisco, CA 94101  
Via Email: Daniel.C.GallantJr@hud.gov

Dear Mr. Gallant,

**RE: DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL)  
APPLICATION FOR HUD 223(F) LOAN AND RELOCATION  
PLAN FOR COURTYARDS AT WAIPOULI, KAPA'A, KAUA'I**

I write this letter as an individual member of the Kaua'i County Council to express my grave concern regarding the current Relocation Plan proposed by InterWest Group for the Courtyards at Waipouli where hundreds of residents are facing permanent relocation in the event of acquisition by DHHL.

I have received many phone calls and emails from current residents expressing concerns that the relocation budget of \$1.9M when divided by the 57 households (potentially more) that would qualify for assistance will simply not go very far on this island. Affordable rental housing is in very short supply on Kaua'i and I too share these concerns. My understanding of the Uniform Relocation Act (URA) is that residents are entitled to comparable housing on the island of Kaua'i unless they specifically prefer to move to another island. Unfortunately, the plan presented by InterWest Group seemed to be largely based on available rental housing on Oahu or Hawai'i Island.

Relocating to another island would be very disruptive to the overwhelming majority of Waipouli residents and would have severe negative consequences for our local economy as many of these residents are vital members of our workforce- from teachers, to doctors, nurses, and tourist industry workers. I am concerned that without viable replacement housing we will only be worsening the current workforce shortage.

As HUD is reviewing the Waipouli application I would encourage requiring a Relocation plan based on the Kaua'i rental market to ensure that we are not creating more unnecessary displacement and disruptions to our community.

**LETTER TO MR. DANIEL GALLANT CONCERNING THE DEPARTMENT  
OF HAWAIIAN HOME LANDS (DHHL) APPLICATION FOR HUD 223(F)  
LOAN AND RELOCATION PLAN FOR COURTYARDS AT WAIPOULI,  
KAPA'A, KAUAI**

Page 2

Mahalo for your consideration. Please do not hesitate to contact me or the Office of the County Clerk, Council Services Division at (808) 241-4188 should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "F. Holland", written in a cursive style.

FERN A. HOLLAND  
Councilmember, Kaua'i County Council

**COUNTY COUNCIL**

Mel Rapozo, Chair  
KipuKai Kualii, Vice Chair  
Addison Bulosan  
Bernard P. Carvalho, Jr.  
Felicia Cowden  
Fern Holland  
Arryl Kaneshiro



**OFFICE OF THE COUNTY CLERK**

Jade K. Fountain-Tanigawa, County Clerk  
Lyndon M. Yoshioka, Deputy County Clerk

Telephone: (808) 241-4188  
Facsimile: (808) 241-6349  
Email: [cokcouncil@kauai.gov](mailto:cokcouncil@kauai.gov)

**Council Services Division**  
4396 Rice Street, Suite 209  
Lihu'e, Kauai, Hawaii 96766

February 25, 2025

Daniel Gallant, Chief of Underwriting Branch  
HUD Multi-Family Office  
1 Sansome Street, Ste 1200  
San Francisco, CA 94101

**Re: Department of Hawaiian Home Lands (DHHL) Application for HUD 223(f)  
Loan and Relocation Plan for Courtyards at Waipouli**

Aloha Mr. Gallant:

In my individual capacity as a Kauai County Councilmember, I am writing to express my concerns about the relocation plan for Courtyards at Waipouli as presented by the InterWest Group at the January 8, 2025 Kauai County Council Meeting.

We have an extreme housing crisis on Kauai generating worker shortages in almost every employment sector. The plan appears to assume that most residents would prefer to relocate to Oahu or Hawaii Island and that a rental assistance payment of \$30,000 per apartment would be enough to cover 42 months worth of rent differential. I have personally met with dozens of residents at Waipouli and almost everyone I have spoken with wants to remain on Kauai and is anxious about the prospect of having to relocate off-island.

Many residents are employed in local businesses and in professions that currently have worker shortages such as healthcare and teaching. An example resident, Carolyn Schwartz, works as the Director of Perioperative Services at Wilcox Hospital, our main hospital for surgical care. Carolyn plays a critical role at Wilcox Hospital and she needs housing within a 30-minute drive of the hospital to keep her position. If the relocation plan does not provide Carolyn with nearby comparable housing it is likely she will be forced to leave the island to utilize her professional skills elsewhere. A plan which causes Carolyn and many of other Waipouli residents to leave Kauai is not just harmful for these community members but also for our local economy.

I urge you to carefully review the Relocation Plan presented by InterWest Group to ensure that the intent of the Uniform Relocation Act (URA) to cause the least amount of disruption to current residents is followed.

Courtyard at Waipouli Relocation Plan  
Page Two

Should you have any questions, please feel free to contact me or Council Services staff at 808-241-4188 or via email to [cokcouncil@Kauai.gov](mailto:cokcouncil@Kauai.gov).

Sincerely,

A handwritten signature in black ink that reads "Felicia Cowden". The signature is written in a cursive style with a large, stylized initial 'F'.

Councilmember, Kauai County Council  
Chair, Public Safety and Human Services