DAVID Y. IGE
GOVERNOR
STATE OF HAWAII

SHAN S. TSUTSUI
LT GOVERNOR
STATE OF HAWAII

JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

WILLIAM J. AILA, JR.
DEPUTY TO THE CHAIRMAN

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

March 24, 2016

Scott Glenn, Director
Office of Environmental Quality Control
Department of Health, State of Hawai'i
235 S. Beretania Street, Room 702
Honolulu, Hawai'i 96813

Dear Director Glenn:

With this letter, the Department of Hawaiian Home Lands (DHHL) hereby transmits the final environmental assessment and finding of no significant impact (FEA-FONSI) for the Pana'ewa Agricultural Lots Subdivision—Mahi'ai Lot (Lot 185) situated at TMK (3) 2-2-061:002 in the South Hilo District on the island of Hawai'i, for publication in the next available edition of the Environmental Notice. DHHL has included copies of comments and responses that it received during the 30-day public comment period on the draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI).

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

If there are any questions, please contact Niniau Simmons at (808) 620-9513.

Sincerely,

Jobie M. K. Masagatani, Chair
Hawaiian Homes Commission

Enclosures:
OEQC Publication Form
FEA-FONSI (2 copies)
CD with an Adobe Acrobat PDF file of the FEA-FONSI and a MS Word file of the publication form

AGENCY
PUBLICATION FORM

Project Name:	Pana'ewa Agricultural Lots Subdivision-Mahi'ai Lot
Project Short Name:	Pana'ewa Agricultural Lots Subdivision-Mahi'ai
HRS §343-5 Trigger(s):	§343-5(a)(1): Proposed use of State or County lands or funds
Island(s):	Hawai'i
Judicial District(s):	South Hilo
TMK(s):	(3)2-2-061:002
Permit(s)/Approval(s):	Subdivision Underground Injection Control (UIC) NPDES Grubbing/Grading Noise Individual Wastewater System Approval (by future lessee of each lot) Building (by future lessee of each lot)
Proposing/Determining Agency:	State of Hawai'i Department of Hawaiian Home Lands
Contact Name, Email, Telephone, Address	Name: Department of Hawaiian Home Lands , ATTN: Niniau Simmons Email: niniau.simmons@hawaii.gov Phone: (808) 620-9513 Address: 91-5420 Kapolei Parkway Kapolei, HI 96707
Accepting Authority:	(for EIS submittals only)
Contact Name, Email, Telephone, Address	
Consultant:	PBR HAWAII & Associates, Inc.
Contact Name, Email, Telephone, Address	PBR HAWAII & Associates, Inc., ATTN: Roy Takemoto Email: rtakemoto@pbrhawaii.com Phone: (808) 521-5631 Address: 1001 Bishop Street, Suite 650 Honolulu, HI 96813

Status (select one)	**Submittal Requirements**
____ DEA-AFNSI	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.
__X__ FEA-FONSI	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.
____ FEA-EISPN	Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
____ Act 172-12 EISPN ("Direct to EIS")	Submit 1) the proposing agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
____ DEIS	Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
____ FEIS	Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.

____	FEIS Acceptance Determination	The accepting authority simultaneously transmits to both the OEQC and the proposing agency a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
	FEIS Statutory Acceptance	Timely statutory acceptance of the FEIS under Section 343-5(c), HRS, is not applicable to agency actions.
____	Supplemental EIS Determination	The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
____	Withdrawal	Identify the specific document(s) to withdraw and explain in the project summary section.
____	Other	Contact the OEQC if your action is not one of the above items.

Project Summary

The State Department of Hawaiian Home Lands (DHHL) is proposing to subdivide a 10-acre parcel into 16 lots at a minimum lot size of half-acre ("Project"). The proposed use of State land triggers the preparation of an Environmental Assessment (EA) in compliance with Chapter 343, HRS. DHHL previously filed a Draft EA that included this Project and four other 10-acre lots (published in the July 23, 2015 Environmental Notice). The Draft EA referred to the four other 10-acre lots as the "Auwae Lots" and this Project as the "Mahi'ai Lot".

Pana‘ewa Agricultural Lots Subdivision-Mahi‘ai Lot (Lot 185)

Final Environmental Assessment – Finding of No Significant Impacts

(HRS 343)

Prepared for

Department of Hawaiian Home Lands

Prepared by

PBR HAWAII
& ASSOCIATES, INC.

March 2016

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SUMMARY

Project Name:	Pana‘ewa Agricultural Lots Subdivision-Mahi‘ai Lot (Lot 185)
Location:	Waiākea *ahupua’a*, South Hilo, Island and County of Hawai‘i
Judicial District:	South Hilo
Tax Map Key (TMK):	(3) 2-2-061:002 (Lot 185 of Pana‘ewa House & Farm Lots)
Land Area:	Approximately 10 acres
Proposing/Determining Agency:	Department of Hawaiian Home Lands
Landowner:	Department of Hawaiian Home Lands (DHHL)
Existing Use:	Open area with a single home to be demolished
Proposed Action:	The project consists of subdividing the parcel into 16 half-acre lots, with County dedicated roads and water system. DHHL will award the lots to native Hawaiian beneficiaries on the wait list, and/or to existing lessees who need to relocate due to lava or other hazards.
Current Land Use Designations:	*State Land Use:* Agriculture *County General Plan LUPAG*: Low Density Urban *County Zoning*: Agricultural (A-1a and A-5a) *Special Management Area (SMA)*: Not in SMA *DHHL Land Designation (Hawai‘i Island Plan 2002):* Supplemental Agriculture
Alternatives Considered:	Three alternatives were considered: • No action • Alternative sites • Alternative designs
Potential Impacts and Mitigation Measures:	Beneficial impact by providing affordable housing opportunities for native Hawaiians in proximity to jobs, schools, and shopping. One-half acre lot size provides opportunity for self-sufficiency agriculture. Mitigation measures include: *Threatened or endangered species.* DHHL to provide notice to lessees: • To protect night-flying seabirds, outdoor illumination be shielded so that the bulb is not visible at or above bulb-height. • To protect the low-flying, foraging Hawaiian hoary bat, barbed wire should not be used for fencing. Construction scheduling and documents will incorporate the following applicable recommendations of the U.S. Fish and Wildlife Service (USFW): • Hawaiian hawk. If construction occurs during the hawk’s breeding season (March through September), the contractor will retain a qualified ornithologist to conduct a nest search of the area of the proposed construction site and surrounding

	area prior to the advent of construction activities. Surveys should ensure that construction activity will not occur within 1,600 feet of any Hawaiian hawk nest. • Hawaiian hoary bat. It is recommended that woody plants greater than 15 feet tall should not be removed or trimmed during the Hawaiian hoary bat breeding season (June 1 to September 15). • Seabirds. If night work must be conducted, it should take place outside the sea bird fledging season (September 15 through December 15) and should utilize shielded lighting. *Air quality, noise, water quality.* Construction documents will include: • Standard dust control measures • Standard noise control measures • Best management practices for erosion and sedimentation control in accordance with approved Grubbing/Grading and National Pollutant Discharge Elimination System (NPDES) permits *Land use plans consistency.* DHHL will amend the Hawai'i Island Plan to reflect the proposed Subsistence Agricultural use and update the County in accordance with the Memorandum of Understanding (MOU) between DHHL and the County of Hawai'i. *Toxics and Hazardous Waste.* • Retain a Phase 1 consultant for further research as follows: ▪ Test the soil for arsenic; ▪ Inspect the kennel drainage area and conduct further testing as appropriate. *Historic preservation.* Construction documents will include a condition that should burials or other traditional deposits be identified during intrusive activities, all work in the area will cease and the appropriate agencies will be contacted.
Approvals and Permits Required:	Subdivision, Underground Injection Control (UIC), NPDES, Grubbing/Grading, Noise, Individual Wastewater System Approval (by future lessee of each lot), Building (by future lessee of each lot)
Determination:	Finding of No Significant Impact

Table of Contents

APPENDICES

TABLES

FIGURES

(in Appendix A)

ACRONYMS

AFONSI	Anticipated Finding of No Significant Impact
AIS	Archaeological Inventory Survey
ALISH	Agricultural Lands of Importance to the State of Hawai‘i
ALS	Advanced Life Suport
BMP	Best Management Practices
CIA	Cultural Impact Assessment
CWRM	State of Hawai‘i Commission on Water Resource Management
DBEDT	State of Hawai‘i Department of Business, Economic Development, and Tourism
DHHL	Department of Hawaiian Home Lands
DLNR	State of Hawai‘i Department of Land and Natural Resources
DOE	State of Hawai‘i Department of Education
DOH	State of Hawai‘i Department of Health
DOT	State of Hawai‘i Department of Transportation
DPR	County of Hawai‘i Department of Parks and Recreation
DWS	County of Hawai‘i Department of Water Supply
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
gpd	Gallons per day
HAR	Hawai‘i Administrative Rules
HCC	Hawai‘i County Code
HIARNG	Hawai‘i Army Reserve National Guard
HELCO	Hawai‘i Electric Light Company, Inc.
HRS	Hawai‘i Revised Statutes
IBC	International Building Code
KMR	Keaukaha Military Reserve
KPFA	Keaukaha-Pana‘ewa Farmers Association
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LSB	Land Study Bureau
LUC	State of Hawai‘i Land Use Commission
LUPAG	County of Hawai‘i General Plan Land Use Pattern Allocation Guide
MGD	Million gallons per day
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NAHASDA	Native American Housing Assistance and Self-Determination Act
NASA	National Aeronautics and Space Administration

NHO	Native Hawaiian Organization
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination Systems
NRCS	Natural Resources Conservation Service
NPS	National Park Service
OEQC	State of Hawai‘i Office of Environmental Quality Control
OHA	State of Hawai‘i Office of Hawaiian Affairs
ROW	Right-of-way
SCS	Scientific Consultant Services, Inc.
SHPD	State of Hawai‘i Historic Preservation Division
SHPO	State Historic Preservation Officer
SMA	Special Management Area
TMK	Tax map key
UIC	Underground Injection Control
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UXO	Unexploded ordnance
WWII	World War II

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1 INTRODUCTION

The State Department of Hawaiian Home Lands (DHHL) is proposing to subdivide a 10-acre parcel into 16 lots at a minimum lot size of half-acre ("Project"). The proposed use of State land triggers the preparation of an Environmental Assessment (EA) in compliance with Chapter 343, HRS. DHHL previously filed a Draft EA that included this Project and four other 10-acre lots (published in the July 23, 2015 Environmental Notice). The Draft EA referred to the four other 10-acre lots as the "Auwae Lots" and this Project as the "Mahi'ai Lot". In response to comments received during the public review period, DHHL decided to defer plans to subdivide the Auwae Lots until DHHL's regional plan for Pana'ewa has been updated. The regional plan update would provide an opportunity to evaluate land use alternatives and infrastructure capacity with input from the homestead community and regulatory agencies. DHHL decided to move forward with this Project (Mahi'ai Lot) because it is in a distinctly separate area from the Auwae Lots in an area surrounded by higher density residential lots.

1.1 LANDOWNER

The DHHL is the fee simple landowner and will lease the lots to qualified native Hawaiians.

1.2 PROPOSING/ DETERMINING AGENCY

DHHL is the proposing/determining agency.

Contact: Department of Hawaiian Home Lands
ATTN: Niniau Simmons
91-5420 Kapolei Parkway
Kapolei, Hawai'i 96707
Phone: (808) 620-9513
Fax: (808) 620-9529

1.3 ENVIRONMENTAL CONSULTANT

PBR HAWAI'I is the environmental planning consultant.

Contact: PBR HAWAI'I & Associates, Inc.
ATTN: Roy Takemoto
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813
Telephone: (808) 521-5631
Fax: (808) 523-1402

1.4 COMPLIANCE WITH STATE OF HAWAI'I ENVIRONMENTAL LAWS

Preparation of this document is in accordance with the provisions of Chapter 343, HRS and Title 11, Chapter 200, Hawai'i Administrative Rules (HAR) pertaining to Environmental Impact Statements. Section 343-5, HRS established nine "triggers" that require either an EA or an

Environmental Impact Statement (EIS). The use of State or County lands or funds is one of these "triggers." The project will also use federal funds. DHHL will comply with the requirements of the National Environmental Policy Act by a separate document.

1.5 STUDIES CONTRIBUTING TO THIS EA

The information contained in this report has been developed from site visits, generally available information regarding the site and surrounding areas, and technical studies. Technical studies are attached as appendices to this EA. These studies include:

- Flora and Fauna Surveys
- Archaeological Inventory Survey
- Cultural Impact Assessment
- Phase 1 Environmental Site Assessment

2 PROJECT DESCRIPTION

2.1 BACKGROUND INFORMATION

2.1.1 Location and Property Description

The Project is proposed to be located in the Waiākea *ahupua'a*, South Hilo District, Island and County of Hawai'i. This 10-acre parcel is located off Mahi'ai Street, north of a drainage channel (TMK (3) 2-2-061:002) ("Site") (see Figure 1).

The Site was created as Lot 185 of Section 2 of the Pana'ewa House and Farm Lots filed in 1976 in the Bureau of Conveyances as File Plan 1487 (see Figure 2).

2.1.2 Existing and Surrounding Land Uses

The Site is open land with a single home (DHHL canceled the existing lease and will demolish the home).

The surrounding uses are as follows (see Figure 3):

	Site (TMK 322061002)
North	Orchard agricultural
South	Open undeveloped parcels
East	Mahi'ai Street; agricultural, low-density residential
West	Residential homes

2.2 PURPOSE AND NEED

The Project will enable the relocation of Maku'u Farm Lot lessees threatened by the lava flow, accommodate other lessees who may need to be relocated (e.g., Pu'ukapu lessees facing Unexploded Ordnance (UXO) risk), and/or award to new lessees on the wait list.

2.3 PROJECT DESCRIPTION

The Project consists of subdividing the Site into 16 approximately half-acre lots, a road lot, and a road reserve for a future connection (see Figure 4). For lessees relocating from another homestead lot, these lessees will have the option to move their existing home to the new lots. The other lots will require new construction. The lots will be accessed by County-dedicated

roadways built to County standards. The lots will be served by the County water system and individual onsite septic systems.

2.4 DEVELOPMENT TIMETABLE AND PRELIMINARY COSTS

The estimated total construction cost is $2.3 million. Federal (Native American Housing Assistance and Self-Determination Act (NAHASDA)) and possibly State funds will be used. Construction will commence by the end of this year and will require approximately 12 months for construction.

3 DESCRIPTION OF THE NATURAL ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes existing conditions of the natural environment, potential impacts related to the Project, and mitigation measures to minimize impacts.

3.1 CLIMATE

Hawai'i Island's geological features heavily influence its climate. Mauna Loa (13,679 foot summit elevation) and Mauna Kea (13,796 foot summit elevation) dominate ground-based atmospheric influences. Northeast trade winds typically occur during the day, while winds from the southwest typically occur during the night due to cold air drainage from the mountains. The mean annual wind speed at the airport is about 8 miles per hour (mph), and usually varies between about 4 and 12 mph during the day.

Regional temperatures are generally cool due to the trade winds. Average annual temperatures range from 66-82 degrees Fahrenheit (County of Hawai'i Data Book).

According to *The Rainfall Atlas of Hawai'i*, the property receives an average annual rainfall of approximately 150" inches (Giambelluca, et al., 2012). Hilo's rainfall pattern is characterized by windward-leeward differences due to the orographic effect of the mountains and trade winds.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. The Project will do its part to minimize climate change impacts by encouraging homestead lessees to install renewable sources and passive energy-conserving measures such as natural ventilation, solar water heating, and photovoltaic energy.

3.2 GEOLOGY AND TOPOGRAPHY

Of the five volcanoes that formed the island of Hawai'i—Kohala, Hualālai, Mauna Kea, Mauna Loa, and Kīlauea—only Mauna Loa and Kīlauea are presently considered active; the other three are considered dormant. The Site is located on the southeastern flank of Mauna Kea.

The Site is relatively level, with an elevation of approximately 200 feet.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigable impact. Due to the generally level surface, minimal grading will be required. To minimize potential impacts, best practices to control erosion and sedimentation will be specified in the grading plans, in compliance with Chapter 10 (Erosion and Sedimentation Control) of the Hawai'i County Code and the NPDES Permit. Best management practices to incorporate as applicable include:

- Minimizing the time of construction;
- Retaining existing ground cover as long as possible;
- Constructing drainage control features early;
- Using temporary area sprinklers in non-active construction areas when ground cover is removed;
- Providing a water truck on-site during the construction period to provide for immediate sprinkling, as needed;
- Using temporary berms and cut-off ditches, where needed, for control of erosion;
- Watering graded areas when construction activity for each day has ceased;
- Grassing or planting all cut and fill slopes immediately after grading work has been completed; and
- Installing silt screens, where appropriate.

3.3 SOILS

Three soil suitability studies prepared for lands in Hawai'i describe the physical attributes of land and the relative productivity of different land types for agricultural production; these are: 1) the U.S. Department of Agriculture Natural Resource Conservation Services (NRCS) Soil Survey; 2) the University of Hawai'i Land Study Bureau (LSB) Detailed Land Classification; and 3) the State Department of Agriculture's Agricultural Lands of Importance to the State of Hawai'i (ALISH) system.

Natural Resource Conservation Service Soil Survey

Within the Site and surrounding area the soil type is Papa'i extremely stony muck (see Figure 5). This soil type is well drained, negligible to low runoff, permeability is very rapid in the soil and fragmental material and very slow in the underlying bedrock (Natural Resources Conservation Service, United States Department of Agriculture, Accessed April 2015). The NRCS rates the Site as "not prime farmland" (see Figure 6).

Land Study Bureau Detailed Land Classification

The University of Hawai'i LSB document, Detailed Land Classification, Island of Hawai'i, classifies soils based on a productivity rating. Letters indicate class of productivity with A representing the highest class and E the lowest. The soils of the Site are classified as E ("very poor").

Agricultural Lands of Importance to the State of Hawai'i

The ALISH system classifies agricultural lands as Prime, Unique, or Other Agricultural Land. The soils of the Site are classified as "Other" under the ALISH system.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. The Project will not reduce the inventory of agriculturally important land. Although rated as marginal for agriculture, the agricultural lease will permit and encourage agricultural activity for home use or commercial.

Impacts to the soils include the potential for soil erosion and the generation of dust during grading and construction. All construction activities will comply with all applicable Federal, State, and County regulations and rules for erosion control. As typically required for projects on land greater than one acre in size, a National Pollutant Discharge Elimination System (NPDES) Notice of General Permit Coverage (NGPC) for Storm Water Associated with Construction Activity will be necessary.

3.4 HYDROLOGY

Policies of the Hawai'i Department of Health Clean Water Branch include:

- It is the State's position that all projects must reduce, reuse and recycle water to protect, restore and sustain water quality and beneficial uses of State waters.
- State policy encourages stormwater infiltration through Low Impact Development (LID) practices, and discourages the treatment of stormwater as a waste product off impervious surfaces.
- This Environmental Assessment recognizes stormwater as:
    - a potential source of irrigation;
    - a source of groundwater recharge and stream baseflow; and
    - an asset that sustains and protects natural ecosystems and traditional beneficial uses of State waters

In addition, the State has a General Policy of Water Quality Antidegradation (§11-54-1.1, HAR), which states that existing uses and the level of water quality necessary to protect them, shall be maintained and protected. In the case that water quality exceeds levels necessary to protect aquatic habitats, water quality may not be degraded without director approval.

The Site is located within the Hilo Watershed, which measures 470 square miles and encompasses seven sub-watershed areas including two large (Wailuku, Wailoa), one medium (Honoli'i), and four small (Mali'i, Pauka, Pukihae, Wainaku) sub-watersheds. A watershed area captures rainfall and atmospheric moisture from the air and allows the water to drip slowly into underground aquifers or enter stream channels and eventually to the ocean. The Hilo watershed includes the combined eastern slopes of Mauna Kea and Mauna Loa reaching maximum elevations of 13,796 and 13,679 feet, respectively. The saddle between the two mountains drains mostly through Hilo into Hilo Bay.

Surface Water

The headwaters of the tributaries of Ka'ahakini Stream are located to the west of the Site (see Figure 7). At least one of these streams flows into the unlined Ka'ahikini/Waiākea-Uka Flood Control Channel south of the Site (Appendix F). According to the National Wetlands Inventory, there are no wetlands within or in the vicinity of the Site (U.S. Environmental Protection Agency, accessed May 2015).

Groundwater

Due to the relatively young and porous geology of Hawai'i island, most of the rainfall infiltrates to groundwater. Groundwater has been classified under an aquifer coding system to identify and describe these aquifers. The Site overlies the Hilo Aquifer System, a subset of the N.E. Mauna Loa Aquifer Sector. The geology of the Hilo Aquifer System is dominated by the Ka'ū volcanic series of Mauna Loa volcano, and extends from the coast to the inland boundary at the crest of Mauna Loa. Groundwater within this aquifer exists primarily as basal groundwater followed by high level dike and perched water. Cap rock, although thick and extensive, does not play an important role in the coastal regions of the aquifer.

Sustainable yield is the amount of groundwater that can be pumped without depleting the source. The sustainable yield of the Hilo Aquifer System is 349 million gallons per day (MGD), and existing water use is 42.228 MGD (Wilson Okamoto Corporation, 2008).

Marine Waters

The Site is approximately 1.5 and 3 miles inland, from the nearest coastline at Hilo Bay. Near shore marine waters off the coast of Hilo Bay are classified as class "A" by the State Department of Health (2012).

According to DOH Water Quality Standards, "It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters" (HAR §11-54-03).

POTENTIAL IMPACTS AND MITIGATION MEASURES

Surface water. No impact. The Project will include drywells to collect and infiltrate runoff generated by the street pavement and any excess flows from the lots. In the event the drywells cannot accommodate stormwater flows from exceptional rainfall, the overflow will drain into Ka'ahikini/Waiākea-Uka Flood Control Channel.

Groundwater. No impact. According to USGS maps, the Site is located approximately 700 feet from the Pana'ewa Deep Well. No impact to the well is anticipated since septic tanks instead of cesspools will be required.

Marine waters. No impact. Runoff from the site will not directly discharge to Hilo Bay due to the distance of the Site to Hilo Bay.

Mitigation of overall hydrologic impact. In order to mitigate potential impact from increased impermeable areas due to paved surfaces, grass shoulders and swales are preferred to slow and filter the storm runoff, and promote infiltration. (Refer also to Section 4.8.3.)

In keeping with DOH's position on water quality (Appendix G), suggested mitigation measures to conserve natural resources and improve water quality include:

- Minimize the use of potable water by encouraging water harvesting for farm and/or landscaping irrigation
- Implement LID features where practical, in order to:
    - maximize onsite stormwater capture for storage or reuse
    - percolate stormwater to recharge groundwater
    - treat stormwater prior to discharge
- Consider the use of green building practices, including:
    - native, habitat-appropriate landscaping for reduced water and fertilizer use
    - resource conservation through smart design
    - graywater reuse options
    - future opportunities to retrofit or bio-engineer stormwater infrastructure to enhance ecological and hydrologic function, particularly around flood-prone areas and new opportunities created by aging infrastructure.

3.5 NATURAL HAZARDS

Hawai'i Island is susceptible to potential natural hazards, such as flooding, hurricanes, volcanic hazards, earthquakes, and wildfires. This section provides an analysis of the Site's vulnerability to such hazards.

The State of Hawai'i Department of Defense, Office of Civil Defense operates a system of civil defense sirens throughout the State to alert the public of emergencies and natural hazards, particularly tsunamis and hurricanes. The State has plans to modernize the system by replacing or adding new sirens. The closest existing or proposed siren is approximately 5,000 feet from the Site.

The nearest emergency evacuation shelters for hurricane are Waiākea and Waiākea-Waena Elementary Schools.

3.5.1.1 Flood

The Federal Emergency Management Agency (FEMA) publishes flood information in the form of Flood Insurance Rate Maps (FIRM) used by government and insurance agencies to determine the relative potential for damage during flood events. According to the FIRM, the Site is in Zone X, which is outside the special flood hazard area and not subject to flood control regulation (see Figure 8).

3.5.1.2 Tsunami

The current tsunami evacuation zone is in the process of being updated by the Hawai'i County Civil Defense Agency. The property is well outside of the current tsunami evacuation zone (Hawai'i County Civil Defense Agency, accessed June 2015).

3.5.1.3 Hurricane

Since 1980, two hurricanes have had a devastating effect on Hawai'i. They were Hurricane 'Iwa in 1982 and Hurricane 'Iniki in 1992. In 2007, Hurricane Flossie threatened to reach Hawai'i, putting Hawai'i on a hurricane watch. The hurricane, however, was downgraded from a hurricane to a tropical storm after passing Hawai'i Island, 95 miles south of South Point (Associated Press, 2007). While it is difficult to predict such natural occurrences, it is reasonable to assume that future incidents are likely, given historical events. Several studies sponsored by the NASA Office of Earth Science have developed new models for estimating the probability of hurricanes in the Pacific. While the island of Hawai'i has not been in the direct path of a hurricane since documentation began in 1950, the models indicate that the island has a long-term hurricane hazard risk higher than any of the other islands.

3.5.1.4 Earthquake

In Hawai'i, most earthquakes are linked to volcanic activity, unlike other areas where a shift in tectonic plates is the cause of an earthquake. Each year, thousands of earthquakes occur in Hawai'i, the vast majority of which are so small they are detectable only with highly sensitive instruments. However, moderate and disastrous earthquakes have occurred in the islands.

Since 1868, nine disastrous earthquakes have occurred in Hawai'i County. The largest earthquake series occurred between March 27 and April 2, 1868, with an epicenter a few miles north of Pāhala in the district of Ka'ū. It is estimated that the Richter scale magnitude of these earthquakes were 7.1 and 7.9. These earthquakes resulted in 77 deaths (46 from tsunami and 31 from landslides triggered by the earthquake). In 1929, an earthquake with an epicenter in Hualālai and a magnitude of 6.5 resulted in extensive damage. Another earthquake in 1951, with its epicenter in the Kona area and a magnitude of 6.9 also resulted in extensive damage. A series of earthquakes, with magnitudes of 6.7 and 6.0, occurred at Kīholo Bay on October 15, 2006. These earthquakes resulted in more than $100 million in damages to the northwest area of the island (USGS).

3.5.1.5 Volcanic Hazards

Volcanic hazards include lava flows and emission of volcanic gases (vog).

Lava Flows

The volcanic hazard zone map for Hawai'i Island divides the island into zones ranked from one through nine, with one being the area of greatest hazard and nine being the area of least hazard. The zones are based chiefly on the location of active vents, frequency of past lava coverage, and topography. According to this map, the project area is within Zone 3, meaning

only one to five percent of the area has been covered by lava since 1800 and 15-75 percent within the last 750 years (USGS, 1997) (see Figure 9). The Site is approximately 26 miles from Kīlauea, the nearest active vent.

A flow from Kīlauea Volcano that began on June 27, 2014 threatened communities and roads near and in Pāhoa. The DHHL Maku'u Agricultural Homestead Lots were in the path of the flow. In proactive response to the threat, DHHL conceived this Project as one measure to best prepare for the affected beneficiaries. Fortunately, the flow subsided before it reached the Maku'u homestead lots. Nevertheless, the event underscored the high risk probabilities in this region of Puna. In late March 2015, the Hawaiian Volcano Observatory downgraded their alert from "warning" to "watch."

Vog

Volcanic gases, which are visible as a fog called vog, are emitted during all types of eruptions. Halema'uma'u, the crater located at the summit of Kīlauea is erupting large amounts of volcanic gas. Any hazard posed by volcanic gases is greatest immediately downwind from active vents; the concentration of the gases quickly diminishes as the gases mix with air and are carried by winds away from the source (USGS, 1997).

The Site is located 26 miles northeast of Kīlauea Volcano. The prevailing northeasterly trade wind flow tends to push vog and any airborne particulates away from the property. However, the amount of vog and other airborne particulates can significantly increase during periods when the winds are from the southwest.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigable impact. To mitigate the potential hazard from earthquakes and hurricanes, new homes must be designed in accordance with the latest building code which is the 2006 International Building Code (IBC) as amended by State of Hawai'i Building Code. The 2006 IBC provides minimum design criteria to address the potential for damage due to seismic and wind (hurricane) disturbances.

3.6 FLORA AND FAUNA

In April 2015, Robert Hobdy conducted a flora and fauna survey of the Site (Appendix C).

Flora - In summary, Mr. Hobdy found the Site has been heavily altered by historical land uses and continues to be invaded by aggressive weed species. All of the ten native species found in the two focus areas (Site and Auwae Lots) are widespread in Hawai'i and of no special conservation concern. No Federally listed Threatened or Endangered plant species were found on the property, nor were any found that are candidates for such status. No special native plant habitats were found here either.

Fauna – According to Mr. Hobdy, the fauna of these two project areas (Site and Auwae Lots) is largely made up of non-native species that have been either purposeful or accidental

introductions to Hawai'i. Just one native mammal, the 'ōpe'ape'a or Hawaiian hoary bat (*Lasiurus cinereus semotus*), was recorded as common in both focus areas during the surveys.

The 'ōpe'ape'a is endemic and endangered, and carries federal protections where it occurs. It occurs on at least five of the major Hawaiian islands and has its largest population on Hawai'i island. These bats are highly mobile and are known to occur in a variety of habitats from nearly 10,000 feet down to sea level. These movements are likely driven by food source availability and seasonal temperatures. 'Ōpe'ape'a were well represented in the project area during the time of the survey. Mitigation measures are set forth in the section below.

Hawaiian petrels (*Pterodroma phaeopygia sandwichensis*) and Newell's shearwaters (*Puffinus auricularis newellii*), (collectively known as seabirds) may transit over the project area when flying between the ocean and nesting sites in the mountains during their breeding season (March through November). Fatalities to these seabirds resulting from collisions with artificial structures that extend above the surrounding vegetation have been documented in Hawai'i where high densities of transiting seabirds occur. Additionally, artificial lighting such as floodlighting for construction work can adversely impact seabirds by causing disorientation which may result in collision with utility lines, buildings, fences and vehicles. Fledgling seabirds are especially affected by artificial lighting and have a tendency to exhaust themselves while circling the light sources and become grounded. Too weak to fly, these birds become vulnerable to predation by predators such as mongoose (*Herpestes auropunctatus*), cats (*Felis catus*) and dogs (*Canis familiaris*). These threats can be minimized by the shielding of any outdoor lighting so that the light is visible only from below.

The endangered 'io, or Hawaiian hawk, is known from forests around Hilo and is occasionally sighted, but was not seen during the biological field survey.

The Blackburn's sphinx moth (*Manduca blackburnii*) was not found in the project area. None of the specific host plants that the larvae feed upon were present on or around the project area, and none of the nectar producing plants that the adult moths feed upon were found here either. No Blackburn's sphinx moths, their eggs or larvae were seen.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigable impact. Mitigation measures include:

DHHL to provide notice to lessees:

- To protect night-flying seabirds, outdoors illumination be shielded so that the bulb is not visible at or above bulb-height.
- To protect the low-flying, foraging Hawaiian hoary bat, barbed wire should not be used for fencing.

Construction scheduling and documents will incorporate the following applicable recommend-actions of the USFW:

- Hawaiian hawk. If construction occurs during the hawk's breeding season (March through September), the contractor will retain a qualified ornithologist to conduct a nest search of the area of the proposed construction site and surrounding area prior to the advent of construction activities. Surveys should ensure that construction activity will not occur within 1,600 feet of any Hawaiian hawk nest.

- Hawaiian hoary bat. It is recommended that woody plants greater than 15 feet tall should not be removed or trimmed during the Hawaiian hoary bat breeding season (June 1 to September 15).

- Seabirds. If night work must be conducted, it should take place outside the sea bird fledging season (September 15 through December 15) and should utilize shielded lighting.

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4 DESCRIPTION OF THE HUMAN ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing conditions of the human environment, preliminary potential impacts of the Project, and preliminary mitigation measures to minimize any impacts.

4.1 ARCHAEOLOGICAL AND HISTORIC RESOURCES

Scientific Consultant Services (SCS) conducted an archaeological inventory survey (AIS) of the Site and submitted to SHPD for review (Appendix D). The survey was conducted in accordance with Hawai‘i Administrative Rules Chapter 13-275 (Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports) and Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR Part 800). The DHHL determined, based on the archaeological survey, that no historic properties exist within the area of potential effect and that no historic properties will be affected by the proposed undertaking. The report recommended that, pursuant to Section 106 of the National Historic Preservation Act of 1966 as amended and 36 CFR part 800.2(c), the State Historic Preservation Officer (SHPO) concur with the determination of no effect.

Historic Background

The project area is located in the *ahupua‘a* of Waiākea, in the *moku-o-loko* (district) of Hilo. The *ahupua‘a* of Waiākea is large, consists of roughly 95,000 acres, and according to the AIS was regarded as a region of abundant natural resources and numerous fishponds. Waiākea was also an early important political center, notably under chief Kulukulu‘a. Kamehameha lived and often returned to his *‘ili kūpono* (independent land division where all tributes were paid to the chief of the *‘ili* and not the *ahupua‘a*) lands of Pi‘opi‘o in the *ahupua‘a* of Waiākea. The *‘ili kūpono* lands and its royal fishpond were passed on to his son Liholiho after Kamehameha’s death.

Early accounts of Waiākea portray it as divided into several distinct environmental regions. From the coast to a distance of five or six miles scattered subsistence agriculture was evident, followed by a region of tall fern and bracken, flanked at higher elevations by a forest region between 10 and 20 miles wide, beyond which was an expanse of grass and lava (Ellis 1963:403). The American Missionary C.S. Stewart wrote, “the first four miles of the country is open and uneven, and beautifully sprinkled with clumps, groves, and single trees of the bread-fruit, pandanus, and candle tree (Stewart 1970:361-363). The majority of Waiākea’s estimated 2,000 inhabitants (in 1825) lived within this coastal region (Ellis1963: 253). Taro, plantains, bananas, coconuts, sweet potatoes, and breadfruit were grown individually or in small garden plots. Fish, pig, dog, and birds were also raised and captured for consumption.

The present study area is situated inland of the coastal region, in the Pana‘ewa Forest. The project area lands are not located in an area of known traditional habitation. The Pana‘ewa forest area was traditionally known as a forbidding and dangerous landscape.

The forest is heavily wooded and dense with thickets. Travel through it is made more difficult by the broken and undulating ground surface. There is an historic trail that leads from the modern day Lili'uokalani Gardens area to the Puna coast. The trail is often called the Puna Trail and/or the Old Government Road (Escott and Tolleson 2003). Remains of the trail cross the Hawai'i Army Reserve National Guard (HIARNG) Keaukaha Military Reserve (KMR) property, and it has the current appearance of a gravel-covered dirt road (Figure 7 and Figure 8, Appendix D). While there may have been some scattered home sites and gardens in this area, most of the known habitation was along the coast. The probable use of the area prehistorically was for trapping birds and collecting plants, including the plentiful *pandanus* or *hala* (Kelly et al. 1981:20).

Prior to the Māhele, Waiākea Ahupua'a belonged to King Kamehameha, then Lihiliho, and was later held by the chiefess Ka-unu-o-hua, granddaughter of Keawe-mau-hili (Kelly et al. 1981:40). Waiākea became Crown Lands during the Māhele of 1848 and in the following years twenty-six Land Claims were awarded within the *ahupua'a* of Waiākea (Table 1, Appendix D). The awards were small in area, 25 of which went to native claimants. The vast majority of awards were further west in the area of Hilo Bay. No Land Commission awards were made within or near the current project area. The project area property is owned by the State of Hawai'i and is administered by DHHL.

Between 1845 and 1865, traditional land-use and residential patterns underwent a change. In particular, the regular use of Hilo Bay by foreign vessels, the whaling industry, the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugarcane cultivation all brought about changes in settlement patterns and long-established land-use patterns. Hilo became the center of population and traditional settlements along the shoreline in outlying regions declined or disappeared. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export. Sugarcane plantations and industrial facilities were established in areas that were once upland agricultural areas and coastal settlements, respectively.

Expected Archaeological Patterns

Based on previous archaeological studies, geological studies, historical research, archaeological sites in the area surrounding the current project should be associated primarily with Historic era and modern land-uses. This is likely since this area is not known to have been used for habitation or agricultural purposes, ever. The Pana'ewa forest area where the project parcels are, only began to be accessed to a larger degree in the Historic era as new areas were explored to open up for agricultural pursuits. The Pana'ewa region where the project area is located contains marginally thin soils and is not well suited to mechanical agricultural techniques.

It is possible that pre-Contact era site types such as trail segments, temporary habitation features associated with travel and forest resource extraction might be present on the project area. It is less likely, but possible, that scattered temporary habitation features adjacent to

planting features might be present. It is also possible that more modern features associated with World War II (WWII) training and quarrying in the area might be present on the project area.

Results of Fieldwork

No archaeological sites and no remains of historic properties were identified during the pedestrian survey conducted at the project area. Three overgrown, bulldozed road alignments were identified in the northernmost 40 acres during the survey. The bulldozed road alignments are evident in a 1954 USDA aerial photograph (see Figure 8, Appendix D). The bulldozer roads were likely created in anticipation of future development for the expansion of Hilo.

Consultation

Section 106 of the National Historic Preservation Act of 1966 requires consultation with the State Historic Preservation Division (SHPD) and Native Hawaiian organizations (NHO) when federal funds are used. Consultation letters were mailed to at least 100 Native Hawaiian organizations on the U.S. Department of Interior's NHO list. The only comment received was from the Office of Hawaiian Affairs that reiterated comments sent previously in response to the Draft EA. Since SHPD has not responded to DHHL's request for concurrence of their determination of no effect, this can be construed as concurrence with DHHL's determination of no effect (36 CFR 800.3(c)(4)).

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. Given the findings of the AIS, no archaeological or historical properties are anticipated to be affected. Review comments from SHPD, dated April 29, 2015, are included in Appendix B. An Application for Historic Preservation Review was submitted to SHPD on September 14, 2015 and is included in Appendix D.

The construction documents will include a provision that should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentrations of shell or charcoal or artifacts be inadvertently encountered during construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected. The contractor will immediately contact the State Historic Preservation Division, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary. The State Office of Hawaiian Affairs (OHA) will also be contacted.

4.2 CULTURAL RESOURCES

Act 50 Session Laws 2000 broadened HRS Chapter 343, "to promote and protect cultural beliefs, practices and resources of native Hawaiians [and] other ethnic groups, and it also amends the definition of 'significant effect' to be re-defined as "the sum of effects on the quality of the environment including actions that are…contrary to the State's environmental policies…or adversely affect the economic welfare, social welfare, or cultural practices of the community and State" (H.B. 2895, Act 50, 2000). The ahupua'a or district is recognized as a culturally appropriate geographic unit of study, depending on the scale of the project.

The following summarizes the findings of a cultural impact assessment prepared by Scientific Consultant Services, Inc. (Appendix E). The assessment involves evaluating the probability of impacts on identified cultural resources, including values, rights, beliefs, objects, records, properties, and stories occurring within the Site and its vicinity (ahupua'a).

Methodology

The assessment was based on archival and documentary research, as well as communication with organizations having knowledge of the project area, its cultural resources, and its practices and beliefs. In the case of the current project, letters of inquiry briefly outlining the development plans along with maps of the project area were sent to individuals and organizations whose jurisdiction includes knowledge of the area with an invitation for consultation including: Kai Markell, the Director of Native Rights, Land and Culture, Office of Hawaiian Affairs on O'ahu; Shane Palacat Nelson, Coordinator of the Hawai'i Branch of the Office of Hawaiian Affairs; Herbert Poepoe, SHPD Hawai'i Island Burial sites Specialist; Edwin Miranda, HIBC Chairman; and William "Bill" Brown, President of the Pana'ewa Community Association.

Public notices were published in the Office of Hawaiian Affairs Ka Wai Ola Newspaper, the Honolulu Star-Advertiser, and the Hawai'i-Tribune Herald. Key topics discussed with the interviewees included personal association to the ahupua'a; land use in the project's vicinity; knowledge of traditional trails, gathering areas, burials, water sources, religious sites; place names and their meanings; stories that were handed down concerning special places or events in the vicinity of the project area; and evidence of previous activities identified while in the project vicinity. A public meeting held on August 21, 2015, was attended by members of the Keaukaha-Pana'ewa Farmers Association (KPFA), the Pana'ewa Community Association, DHHL, and state representatives. SCS archaeologist Glenn Escott, M.A. presented cultural and historical information for the Pana'ewa area, discussed the archaeological assessment survey results, and asked for input concerning past and ongoing cultural practices within the project area lands. While some attendees knew the history of the project area lands, none knew of cultural practices associated with project area.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. No past or ongoing cultural practices associated with the project area lands were identified during the current CIA study. Based upon an evaluation of responses to inquiries, meeting discussions, and archival research, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by development activities on the project area. The Project is intended to benefit native Hawaiians by providing homestead leasing opportunities.

4.3 ROADWAYS AND TRAFFIC

Regional access to the Site is provided by Kanoelehua Avenue (Route 11). From Kanoelehua Avenue, local access is provided by East Palai Street and Mahi'ai Street. The following describes these key roadways in the project vicinity:

Kanoelehua Avenue (Route 11) is a State arterial four-lane divided highway, also designated as Māmalahoa Highway, which extends through Hilo and is part of a network of roadways that encircles the island of Hawai'i. This highway is located approximately 0.6 mile west of the Site via an unsignalized intersection at East Palai Street and Mahi'ai Street.

East Palai Street is an east-west County 2-lane collector. There is a channelized left turn lane from Kanoelehua Avenue to enter this street.

Mahi'ai Street is a north-south County 2-lane collector that connects to East Palai Street and curves to connect to Railroad Avenue.

Within the Site, DHHL will construct an internal road within a 50-foot wide right-of-way that will connect to Mahi'ai Road. Although this internal road ends in a cul-de-sac, a 50-foot wide roadway reserve will enable a future connection of this internal road to an extension of Kinai Street to provide an alternative access. All roads are intended to be dedicated to the County with shoulders and swales in keeping with the agricultural-rural character of the Project, and to minimize impervious surfaces.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. DHHL will construct the required roads within the Project to dedicable County standards. Since maintenance of County roads are primarily funded by fuel tax, which the lessees pay at the pump like other vehicle owners, the fiscal impact to the County would be insignificant. The Project is not expected to result in any significant traffic impacts to the roadway system in the Project vicinity. The intersections along the State Kanoelehua Highway that future Project residents will primarily use are already improved (signalized or channelized turning lanes).

4.4 NOISE

The Site is surrounded by residential or agricultural uses.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigable impact. During construction, temporary noise impacts will occur that are unavoidable. During the pre-assessment consultation, the State of Hawai'i Department of Health, District Environmental Health Program Chief wrote that:

> *Construction activities must comply with the provisions of Hawai'i Administrative Rules, Chapter 11-46, "Community Noise Control."*

1. *The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the rules.*
2. *Construction equipment and on-site vehicles requiring an exhaust of gas or air must be equipped with mufflers.*
3. *The contractor must comply with the requirements pertaining to construction activities as specified in the rules and conditions issued with the permit*.

4.5 AIR QUALITY

Air quality in the Hilo area is believed to be relatively good, except for occasional impacts from localized traffic congestion. The prevailing northeasterly trade wind flow tends to push any human-made or natural pollutants away. However, the amount of particulates and other air pollutants can significantly increase during periods when the winds shift to a southwesterly direction. Air flow from this direction carrying volcanic smog (more commonly referred to as vog), can lead to an increase in pollution and a decrease in visibility.

The State Department of Health (DOH) maintains a limited network of air monitoring stations around the State to gather data on certain regulated pollutants. Currently, no routine ambient air monitoring is conducted by DOH in the Hilo area. Historical monitoring during the 1970's and 1980's indicated very low pollutant levels in Hilo. The entire state has been an attainment area for the last several decades. There is little reason to believe this has changed significantly.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigable impact. Construction activity will be the principal source of short-term air quality impact. Construction vehicle activity will temporarily increase automotive pollutant concentrations along the existing roadways as well as on the project site. Site preparation, earth moving, and building construction will create particulate emissions during the short term. Movement of construction vehicles on unpaved surfaces can also generate particulate emissions.

Short-term impacts that could result from the project would be the emission of fugitive dust during site preparation and construction. During the pre-assessment consultation, the State of Hawai'i Department of Health, District Environmental Health Program Chief wrote that: "The applicant would need to meet the requirements of our Department of Health Air Pollution Rules, Chapter 60.1, Title 11, State of Hawai'i for fugitive dust control."

Although the potential for fugitive dust is low due to the wet climate and low wind speeds of Hilo, adequate dust control measures will be employed, particularly during construction during low-rainfall periods. Dust control will be accomplished by frequent watering of unpaved roads within the project site and areas of exposed soil surfaces. As soon as it is feasible, landscaping of completed areas will also be employed. Dust control measures will comply with applicable provisions of HAR section 11-60.1-33 and Chapter 10 of the Hawai'i County Code ("Erosion and Sedimentation Control"). Measures to control dust during construction include:

- Providing an adequate water source at the site prior to start-up construction activities;
- Irrigating the construction site during periods of drought or high winds and all dry conditions;
- Disturbing only the areas of construction that are in the immediate zone of construction to limit the amount of time that the areas will be subject to erosion;
- Providing adequate dust control measures during weekends, after hours, and before daily start-up of construction activities; and
- Installing silt screening in the areas of disturbance.

Long-term negative impacts related to air quality are not expected.

4.6 VISUAL RESOURCES

The Site is surrounded by developed urban or agricultural land uses. The Site does not have any trees designated as Exceptional Trees by Hawai'i county code (HCC chapter 14, article 10). The General Plan does not identify natural beauty sites in the vicinity of the Project.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. The conversion of the Site from its existing undeveloped condition to agricultural lots will not impact any significant visual resource.

4.7 Toxics and Hazardous Waste

Pursuant to Department of Health Hazard Evaluation and Emergency Response Office's recommendation (see DOH letter in Appendix B referring to DOH's standard conditions), a Phase 1 environmental site assessment was conducted of the Site. The study found that soil was imported to this Site from an unknown agricultural source. The former occupant had kennels that drained to open sumps covered with lumber rather than a cesspool.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigable impacts. To ensure the health and safety of future residents of the Site, DHHL should implement the following mitigation measures:

- Retain a Phase 1 consultant for further research as follows:
    - Test the soil for arsenic;
    - Inspect the kennel drainage area and conduct further testing as appropriate.
- If contamination is found, DHHL will issue a notice to surrounding owners. If needed, DHHL will address contamination concerns in cooperation with the Hawai'i Department of Health.

4.8 INFRASTRUCTURE AND UTILITIES

4.8.1 Water System

According to the County Department of Water Supply (DWS) in its pre-assessment consultation comments (see Appendix B), water can be made available from an existing 8-inch County waterline within Mahi'ai Street (see Figure 10). The required water system improvements, designed to deliver water at adequate pressure and volume under peak-flow and fire-flow conditions in accordance with the County of Hawai'i, Water System Standards 2002, as amended, and the Rules and Regulations of the Department of Water Supply, include, but not be limited to, mains (minimum 6 inches in diameter), service laterals to front each lot, and fire hydrants at the appropriate spacing. All construction plans, calculations, and specifications must be submitted by a professional engineer, registered in the State of Hawai'i, to DWS for review and approval. In addition to the above water system improvements, DHHL must also pay the prevailing facilities charge, which is subject to change, of $5,500.00 for each additional lot created. Payment is due and payable upon completion of the required water system improvements.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. The County water system has adequate capacity to serve the Project. DHHL must construct and dedicate the water system improvements to the County and pay the prevailing facilities charge (estimated at $5,500 x 16 additional lots= $88,000) upon dedication of the water system to DWS.

4.8.2 Wastewater System

There are no sewer lines within the vicinity of the Site (see Figure 11). Cesspools will not be allowed since the Site is in an area that requires a minimum lot size of 1-acre for a cesspool, pursuant to the Department of Health's wastewater systems rules (Hawai'i Administrative Rules chapter 11-62) (see Figure 12). DHHL will require the Site lessees to install septic systems approved by the Department of Health (DOH).

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigable impact. For the Site, the minimum half-acre lot size provides adequate area for the septic system's leach field. The DOH requires a licensed engineer to design and inspect the completed septic system (Hawai'i Administrative Rules section 11-62-31.1).

4.8.3 Drainage System

The Site is located in an area described as "outside floodplain/minimal flooding area" on the Flood Insurance Rate Map (FIRM) (see Figure 8). The grass shoulders and swales along the roads would promote infiltration, consistent with LID site design measures. LID measures are intended to accomplish the following: (1) decrease the erosive potential of increased runoff

volumes and velocities associated with development-induced changes in hydrology; (2) remove suspended solids and associated pollutants entrained in runoff that result from activities occurring during and after development; and (3) retain hydrological conditions to closely resemble those of the pre-disturbance condition. Any runoff along the streets would drain into drywells that will be installed within the Project rights-of-way.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. Runoff would be minimized with the 2-lane pavement width and grass shoulders and swales. Any increase in runoff from roofs and pavement would flow into drywells within the Project and recharge the groundwater (Refer also to Section 3.4).

4.8.4 Solid Waste

The County of Hawai'i Solid Waste Division operates and maintains, either by County personnel or by contracted services, two landfills and twenty-one transfer stations. The South Hilo Sanitary Landfill, transfer station, and green waste processing site are located within a 10-minute drive from the Site.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. The Project residents will not significantly impact the capacity of the Hilo landfill.

4.8.5 Utilities

The Hawai'i Electric Light Company, Inc. (HELCO), a privately-owned utility company regulated by the State Public Utilities Commission, provides electrical power to the island of Hawai'i. The HELCO network of power plants serving Hilo includes the Kanoelehua Power Plant, Puna Power Plant, Wailuku Hydro Power Plant, Hilo Coast Power Plant, and Shipman Power Plant.

Telecommunication services are provided by Sandwich Isles Communications. Sandwich Isles Communications is the sole provider of fiber optics serving DHHL properties, and will install them to each residence in the Project.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. Electrical and telephone services are currently sized, adequate, and available to supply the Project. In response to pre-assessment consultation, HELCO had no objections to service the Project (see Appendix B).

4.9 SOCIO-ECONOMIC CHARACTERISTICS

The overall population of Hawai'i County has exhibited relatively stable growth over the past decade. The County of Hawai'i Department of Research and Development reported that the population of Hawai'i County was 186,738 people in 2011, a 25.6 percent increase from the 2000 population of 148,677 people.

The South Hilo district had a population of 48,786 in 2010 which represented approximately 26 percent of the total population for Hawai'i Island. The City of Hilo contains the main offices of the County government, branch offices of federal and state agencies. The island's major deep draft harbor and international airport are also located in Hilo. In addition to industrial, commercial and social service activities, the University of Hawai'i at Hilo and Hawai'i Community College and affiliated research programs play an important role in Hilo's economy. The Site is currently underutilized. The Project would enable commercial or subsistence agriculture by the lessees.

As of February 2014, Hawai'i County's unemployment rate was 6.1 percent, compared to the State's overall rate of 4.6 percent, and it was decreased by .9 percent from February 2013 from the Hawai'i County's unemployment rate of 7.0 percent (State of Hawai'i Department of Labor and Industrial Relations, 2014).

POTENTIAL IMPACTS AND MITIGATION MEASURES

Beneficial impact. On February 11, 1994, President Clinton signed Executive Order (E.O.) 12898. This E.O. directs federal agencies to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health or environmental effects of its activities on minority and low-income populations.

The Project will provide homestead awards to native Hawaiians, many of whom are low-income families. Therefore, the Project will benefit rather than expose or disproportionately adversely affect minority or low-income persons in comparison to the rest of the population, and thereby is in compliance with E.O. 12898.

4.10 PUBLIC SERVICES AND FACILITIES

4.10.1 Schools

The closest State Department of Education (DOE) public schools are: Waiākeawaena Elementary School, Waiākea Elementary School, Waiākea Intermediate School, and Waiākea High School.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. Although the Project has the potential to increase the school-age population, DOE has confirmed that the public schools in the region have the capacity to accommodate the increase (see Appendix B for DOE's letter).

4.10.2 Police, Fire and Medical Services

Police Protection

The project site is located in South Hilo, Patrol District 1. The district extends from Hakalau in the north, to the mid-point of Kanoelehua Avenue between Hilo and Kea'au in the south, to the

Saddle Road in the west. The district includes the main police station, located at 349 Kapi'olani Street, approximately 3 miles from the Site.

Fire Protection

The Site is within the 5-mile response zones of Kawailani, Waiākea, Ka'ūmana, and Central Fire Stations. The Hawai'i County Fire Department Kawailani Fire Station is an Engine Company with one engine, a tanker and a medic unit. Central Fire Station is an Engine Company and an Advanced Life Support (ALS) medic unit. Ka'ūmana Fire Station is an Engine Company and HAZMAT Response capabilities. Waiākea Fire Station in Keaukaha is a Rescue Company providing firefighting response with an Engine, Light and Heavy Rescue, including helicopter response and ocean rescue response capabilities. Recently, Waiākea received a new 79' Ladder Truck. At this time, no tanker vehicles are assigned to the Hilo area due to the adequate hydrant system and all of the Engines (also referred to as Pumpers) each carry 1,000 gallons of water.

Medical Services

Hilo Medical Center (HMC) is the primary health care facility serving the South Hilo district. HMC is located approximately 4.5 miles from the Site at 1190 Waiānuenue Avenue. Ambulance service is provided by the Hawai'i Fire Department. Kawailani and Central Fire Stations have emergency medical service (EMS) capabilities.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. The Project will have fire hydrants. The Site is within adequate response zones of several fire stations.

During the pre-assessment consultation and Draft EA public review processes, the Police Department wrote: "Staff, upon reviewing the provided documents, does not anticipate any significant impact to traffic and/or public safety concerns."

4.10.3 Recreational Facilities

The entire South Hilo District contains 54 parks totaling 590 acres. In the vicinity of the Site, there is the Pana'ewa Park, Waiākeawaena Playground, and Malama Park (see Figure 13). Other recreational facilities, parks, and open spaces in the Hilo area include Hilo Municipal Golf Course, Kūhiō-Kalaniana'ole Park, Honoli'i Beach Park, Lili'uokalani Gardens, Reeds Bay, Onekahakaha Beach Park, Kealoha Beach Park, Carlsmith Beach Park and Richardson Ocean Park.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. There are a variety of recreational facilities to serve the Project within reasonable distance with adequate capacity to accommodate the future Project residents.

4.10.4 Airport

The Hilo International Airport provides interisland service, cargo, commuter, and tour services. It is also used by the military. The airport's primary runway (8-26) is 9,800 feet long and is used principally for air carrier operations. Crosswind Runway 3-21 is 5,600 feet long and is used mainly for general aviation operations.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impacts. The Site is located beyond the 10,000-foot recommended buffer in which to restrict agricultural activities that could attract wildlife that are potential hazards to aircraft operations.

5 LAND USE CONFORMANCE

State of Hawai'i and Hawai'i County land use plans, policies, and ordinances relevant to the Project are described below.

5.1 STATE OF HAWAI'I

5.1.1 Chapter 343, Hawai'i Revised Statutes

Compliance with Chapter 343, HRS is required as described in Section 1.4.

5.1.2 State Land Use Law, Chapter 205, Hawai'i Revised Statutes

The State Land Use Law (Chapter 205, HRS), establishes the State Land Use Commission (LUC) and authorizes this body to designate all lands in the State into one of four Districts: Urban, Rural, Agricultural, or Conservation.

The Site is in the Agricultural District (see Figure 14). The State Land Use Law specifies a minimum lot size of one acre within this District (HRS §205-5). However, the Hawaiian Homes Commission Act (HHCA §§204 & 206) empowers DHHL with exclusive authority to control its land, whereby these lands are not subject to State or county land use controls. Therefore, the Project's half-acre lots are permitted.

5.1.3 Coastal Zone Management Act, Chapter 205A, Hawai'i Revised Statutes

The entire state is defined to be within the Coastal Zone Management Area, pursuant to Hawai'i Revised Statutes (HRS) 205A-1, (definition of "coastal zone management area")." As such, the Project, although not within the regulated Special Management Area (SMA), is within the Coastal Zone Management Area that is subject to the objectives and policies of the Coastal Zone Management Act. The Project's relationship to the objectives and policies set forth in HRS 205A-2, is discussed below.

5.1.3.1 Recreational Resources

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

Policies

- *(A) Improve coordination and funding of coastal recreational planning and management; and*
- *(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*
  - *(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
  - *(ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to surfing sites, fishponds, and sand beaches, when*

such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;

(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

(v) Ensuring public recreational uses of County, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;

(vi) Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and County authorities; and crediting such dedication against the requirements of section 46-6;

Discussion: The Project is not a coastal development, is not located on the coastline, and is not in the SMA; therefore, policies regarding shoreline recreation resources are not applicable; however to protect marine resources for purposes including recreation, the State of Hawai'i has adopted water quality standards. Generally, these standards will require the submittal and adherence to a National Pollution Discharge Elimination System (NPDES) permit. This permit requires compliance with best management practices during construction to minimize soil erosion into adjacent waterways. The NPDES permit will also include requirements to maintain water quality during operation. A NPDES permit will be required for the Project.

5.1.3.2 Historic Resources

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

Policies

(A) Identify and analyze significant archaeological resources;

(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and

(C) Support state goals for protection, restoration, interpretation, and display of historic resources;

Discussion: Based on an archaeological inventory survey, the DHHL concluded that **no historic properties will be affected** by this Project (see Appendix D). The report has been submitted to the State Historic Preservation Division for review and concurrence. An Application for Historic Preservation Review was submitted to SHPD on September 14, 2015 and is included in Appendix D. DHHL will require its contractors to comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. The construction documents will include a provision that should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentrations of shell or charcoal or artifacts be inadvertently encountered during construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected. The contractor will immediately contact the State Historic Preservation Division, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

5.1.3.3 Scenic and Open Space Resources

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

Policies

(A) Identify valued scenic resources in the coastal zone management area;

(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

(D) Encourage those developments that are not coastal dependent to locate in inland areas;

Discussion: The Project will be located inland, away from the shoreline; therefore, it is anticipated that there will be no effect on the quality of the coastal scenic resources.

5.1.3.4 Coastal Ecosystems

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

Policy A: Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

Policy B: Improve the technical basis for natural resource management;

Policy C: Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

Policy D: Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

Policy E: Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Discussion: The Project will be located far inland from the coastline. Therefore, it is anticipated that there will be no effect on the quality of the coastal ecosystems.

5.1.3.5 Economic Uses

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

Policy A: Concentrate coastal dependent development in appropriate areas;

Policy B: Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

Policy C: Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;

(ii) Adverse environmental effects are minimized; and

(iii) The development is important to the State's economy.

Discussion: The Project is not a coastal dependent development, is not located on the coastline, and is not in the SMA; therefore, these policies are not applicable.

5.1.3.6 Coastal Hazards

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

Policy A: Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and non-point source pollution hazards;

Policy B: Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and non-point source pollution hazards;

Policy C: Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

Policy D: Prevent coastal flooding from inland projects.

Discussion: The Project is located far inland from the coastline and will not exacerbate any coastal hazards.

5.1.3.7 Managing Development

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

Policy A: Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

Policy B: Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

Policy C: Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Discussion: The Project is not a coastal development, is not located on the coastline, and is not in the SMA; however, this EA, provided opportunity for public input during the Draft EA Public Comment period. Pre-assessment consultation comments were obtained and are reproduced in Appendix B.

5.1.3.8 Public Participation

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

Policy A: Promote public involvement in coastal zone management processes;

Policy B: Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

Policy C: Organize workshops, policy dialogues, and site- specific mediations to respond to coastal issues and conflicts.

Discussion: The Project is not a coastal development, is not located on the coastline, and is not in the SMA; however, this EA provided opportunity for public input during the Draft EA Public Comment period. Pre-assessment consultation comments were obtained and are reproduced in Appendix B.

5.1.3.9 Beach Protection

Objective: Protect beaches for public use and recreation.

Policy A: Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

Policy B: Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

Policy C: Minimize the construction of public erosion-protection structures seaward of the shoreline.

Discussion: The Project is not a coastal dependent development, is not located on the coastline, and is not in the SMA; therefore, these policies are not applicable.

5.1.3.10 Marine Resources

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

Policy A: Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

Policy B: Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

Policy C: Assert and articulate the interests of the State as a partner with Federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

Policy D: Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

Policy E: Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Discussion: The Project is not a coastal development, is not located on the coastline, and is not in the SMA; therefore, policies regarding shoreline recreation resources are not applicable; however to protect marine water quality the Project will be designed and built in compliance with all applicable Federal, State, and County regulations pertaining to stormwater management including Chapter 10 (Erosion and Sedimentation Control) of the Hawai'i County Code and the DOH NPDES permit program.

5.1.4 Hawai'i State Plan

The Hawai'i State Plan (Chapter 226, HRS), establishes a set of goals, objectives and policies that serve as long-range guidelines for the growth and development of the State. Objectives and policies pertinent to the proposed project are as follows:

Section 226-5 Objective and policies for population:

(a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter.

(b) To achieve the population objective, it shall be the policy of this State to:

(1) Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.

(3) Promote increased opportunities for Hawai'i's people to pursue their socio-economic aspirations throughout the islands.

(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.

Discussion: The Project is consistent with these objectives and policies by providing native Hawaiians with affordable housing and subsistence agricultural opportunities.

Section 226-10 Objective and policies for the economy – potential growth activities:

(a) Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawai'i's economic base.

(b) To achieve the potential growth activity objective, it shall be the policy of this State to:

(10) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawai'i's social, economic, physical, and environmental objectives.

Discussion: This Project will receive Federal and State funding to provide native Hawaiians with enhanced socio-economic opportunities through home ownership in an agricultural community in proximity to urban services.

Section 226-11 Objectives and policies for the physical environment – land-based, shoreline, and marine resources:

(a) Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives.

(2) Effective protection of Hawai'i's unique and fragile environmental resources.

(b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:

(3) Take into account the physical attributes of areas when planning and designing activities and facilities.

(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.

Discussion: As part of the development process, DHHL retained services to assess the biological, archaeological, and hazardous waste assessment, and also consulted with various agencies such as SHPD and USFWS. DHHL is committed to implement the mitigation measures identified in this EA to protect endangered species and other sensitive resources.

Section 226-19 Objectives and policies for socio-cultural advancement--housing.

(a) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:

(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 affordable housing is made available to very low-, low- and moderate-income segments of Hawai'i's population.

(2) The orderly development of residential areas sensitive to community needs and other land uses.

(b) To achieve the housing objectives, it shall be the policy of this State to:

(1) Effectively accommodate the housing needs of Hawai'i's people.

(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.

(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.

(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.

(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.

(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.

(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.

Priority Guidelines: Section 226-106 Affordable housing. *Priority guidelines for the provision of affordable housing:*

(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.

(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.

(4) Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's low- and moderate-income households, gap-group households, and residents with special needs.

(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai'i's people for the purchase of initial owner- occupied housing.

(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.

(8) Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i.

Discussion: The Project provides an opportunity for existing lessees threatened by lava or other hazards to relocate to a safer location. The Project utilizes marginal agricultural land in a suitable location in proximity to infrastructure and urban services. DHHL offers a diversity of programs to enable low- to moderate-income native Hawaiian families to construct a home on their awarded homestead lot (e.g., self-help, package home loans, down payment assistance). The Project will use agricultural standards for the streets (e.g., grass shoulders and swales) to minimize development costs, maintain a rural character, and reduce runoff.

5.1.5 DHHL Island and Regional Plans

The Hawaiian Homes Commission adopted the Hawai'i Island Plan in 2002. The Plan "provides summary description and evaluation of current Department of Hawaiian Home Lands (DHHL) holdings on Hawai'i Island, and presents land use plans developed to meet DHHL beneficiary needs. These are necessary components of the DHHL Hawai'i Island Plan, developed to guide award of lands to native Hawaiian beneficiaries on the Big Island. The project was undertaken per Section 213(e) of the Hawaiian Homes Commission Act (HHCA), which authorizes planning studies to provide the basis for identifying preferred DHHL land uses and appropriate management strategies for those lands" (PBR HAWAII, 2002, p. 1). In addition to administering the homesteading program, DHHL is authorized to lease and issue revocable permits, licenses, and rights-of-entry for lands not in current homestead use. Revenues from lands used for

commercial, industrial, and other income-producing purposes support administration of the homestead program.

The Plan designated the Site as Supplemental Agriculture (see Figure 15). The Project's one-half acre agricultural lots are not consistent with this designation. DHHL will update the Plan to reflect the proposed use with a designation of Subsistence Agriculture. The Plan describes Subsistence Agriculture as follows:

"Small agriculture/aquaculture lots. Marginal to good lands. Lifestyle areas intended to allow for home consumption of agricultural products. Occupancy required. Agriculture waiting list. Close proximity to existing infrastructure. <5 acres"

The Hawaiian Homes Commission adopted the Pana'ewa Regional Plan in 2009. This Regional Plan was "…prepared to facilitate the work of such partnerships as DHHL and others develop lands in Pana'ewa." Specifically, this report is intended to:

- Help identify opportunities for partnerships with DHHL in the development of its Pana'ewa lands;
- Provide information essential to the planning of projects, services, and entrepreneurial ventures;
- Identify key issues, opportunities, and constraints affecting regional development and area improvements;
- Assist in the efficient allocation of resources by DHHL and its partners; and
- Identify priority projects that are essential to moving development and community improvement projects forward." (PBR HAWAII, 2009, p. 2)

The Regional Plan, consistent with the Island Plan, identified the Site for agricultural use. This Plan will be updated to reflect the proposed Project as half-acre subsistence agricultural lots.

5.2 COUNTY OF HAWAI'I

County-specific land use plans and ordinances pertaining to the Project include the General Plan and the Zoning Code.

5.2.1 County of Hawai'i General Plan

The County of Hawai'i General Plan is the policy document for the long-range comprehensive development of the Island of Hawai'i. Among the purposes of the General Plan are to guide the pattern of development in Hawai'i County and to provide the framework for regulatory decisions and capital improvement projects. The General Plan undergoes a comprehensive review every ten years, with the last review being completed in 2005.

The policy land use map, referred to as the Land Use Pattern Allocation Guide (LUPAG) Map, is intended to guide the direction and quality of future developments in a coordinated and rational manner. The LUPAG Map designates the Site as "Low Density Urban" (see Figure 16). The Project is consistent with this designation.

> Low Density: Residential, with ancillary community and public uses, and neighborhood and convenience-type commercial uses; overall residential density may be up to six units per acre.

Specific General Plan goals, policies, and courses of action most applicable to the Project are discussed below.

Housing

9.2 GOALS

(a) *Attain safe, sanitary, and livable housing for the residents of the County of Hawai'i.*

(b) *Attain a diversity of socio-economic housing mix throughout the different parts of the County.*

(c) *Maintain a housing supply that allows a variety of choices.*

(d) *Create viable communities with affordable housing and suitable living environments.*

(e) *Improve and maintain the quality and affordability of the existing housing inventory.*

(f) *Seek sufficient production of new affordable rental and fee-simple housing in the County in a variety of sizes to satisfactorily accommodate the needs and desires of families and individuals.*

(g) *Ensure that housing is available to all persons regardless of age, sex, marital status, ethnic background, and income.*

(h) *Make affordable housing available in reasonable proximity to employment centers.*

(i) *Encourage and expand home ownership opportunities for residents.*

9.3 POLICIES

(a) *Encourage a volume of construction and rehabilitation of housing sufficient to meet growth needs and correct existing deficiencies.*

(d) *Support the construction of housing for minimum wage and agricultural workers.*

(n) *Investigate, develop, and promote the creation of new innovative and timely financing techniques and programs to reduce the cost of housing.*

(o) *Encourage the use of suitable public lands for housing purposes in fee or lease.*

(p) *Encourage the construction of homes for lease or lease with option to purchase.*

(t) *Ensure that adequate infrastructure is available in appropriate locations to support the timely development of affordable housing.*

(x) *Vacant lands in urban areas and urban expansion areas should be made available for residential uses before additional agricultural lands are converted into residential uses.*

Discussion: The Project provides an opportunity for existing lessees threatened by lava or other hazards to relocate to a safer location. The Project utilizes marginal agricultural land in a suitable location in proximity to infrastructure, urban services, and employment centers. DHHL offers a diversity of programs to enable low- to moderate-income native Hawaiian families to construct a home on their awarded homestead lot (e.g., self-help, package home loans, down payment assistance). DHHL is also innovating with a rent to own program.

Transportation

13.2.2 Goals

(a) Provide a system of roadways for the safe, efficient and comfortable movement of people and goods.

(b) Provide an integrated State and County transportation system so that new major routes will complement and encourage proposed land policies.

13.2.3 Policies

(l) *Adopt street design standards that accommodate, where appropriate, flexibility in the design of streets to preserve the rural character of an area and encourage a pedestrian-friendly design, including landscaping and planted medians.*

Discussion: The Project will use agricultural standards for the streets (e.g., grass shoulders and swales) to minimize development costs, maintain a rural character, and reduce runoff. The Project's streets have been laid out for connectivity, in lieu of long dead-end cul de sacs, that provide redundant accessibility. The Site has a road reserve to connect to a future extension of Kinai Street.

Land Use

14.1.2 Goals

(a) *Designate and allocate land uses in appropriate proportions and mix and in keeping with the social, cultural, and physical environments of the County.*

(b) *Protect and encourage the intensive and extensive utilization of the County's important agricultural lands.*

(c) *Protect and preserve forest, water, natural and scientific reserves and open areas.*

14.1.3 Policies

(a) *Zone urban- types of uses in areas with ease of access to community services and employment centers and with adequate public utilities and facilities.*

(b) *Promote and encourage the rehabilitation and use of urban areas that are serviced by basic community facilities and utilities.*

(c) *Allocate appropriate requested zoning in accordance with the existing or projected needs of neighborhood, community, region and County.*

Discussion: As further discussed in the next section on zoning, DHHL has preemptive authority over county land use regulations but has entered into a Memorandum of Agreement (MOA) with the County of Hawai'i to establish a common understanding and procedure. DHHL prepares an Island Plan where the County has an opportunity to review and comment. The Island Plan conveys DHHL's desired land use and DHHL submits to the County an appropriate zoning designation that matches the Island Plan designation. DHHL's Island Plan identifies residential and subsistence agricultural areas consistent with the County's General Plan policies to concentrate higher density in areas serviced by basic community infrastructure in accordance with projected needs of DHHL's wait list.

5.2.2 County of Hawai'i Zoning

The County zoning is A-1a and A-5a district (agricultural district with 5-acre minimum lot size) (see Figure 17). Under a MOA between DHHL and the County of Hawai'i, DHHL has the power to determine the appropriate County zoning based on DHHL's land use designation in the island plan (Department of Hawaiian Home Lands, 2002). For the one-half acre agricultural lots, the appropriate DHHL land use designation is Subsistence Agriculture corresponding to the County's RA-0.5a (residential-agricultural district with a minimum lot size of half-acre).

However, under the current DHHL Hawai'i Island Plan (2002), the land use designation for the Site is Supplemental Agriculture (see Figure 15). DHHL's Planning Office will process an amendment to the island plan's land use designation for approval by the Hawaiian Homes Commission, then submit a letter to the County for recognition of the appropriate zoning.

5.2.3 Special Management Area

The property is not located within the Special Management Area (SMA).

5.3 APPROVALS AND PERMITS

A listing of anticipated permits and approvals required for the Project is presented below:

Table 1: Anticipated Approvals and Permits

Permit/Approval	Responsible Agency

Permit/Approval	**Responsible Agency**
Chapter 343, HRS Compliance	Department of Hawaiian Home Lands Office of Environmental Quality Control
Subdivision	Hawai'i County Planning Department
Underground Injection Control Permit	State Department of Health
National Pollutant Discharge Elimination System (NPDES) Permit	State Department of Health
Grubbing/Grading	Hawai'i Department of Public Works
Noise Permit	State Department of Health
Individual Wastewater System Approval (by future lessee of each lot)	State Department of Health
Building Permit (by future lessee of each lot)	Hawai'i County Department of Public Works

6 ALTERNATIVES

This section identifies and evaluates a range of alternatives in addition to the preferred alternative (i.e., the Project) that could meet the purpose and need and possibly avoid, reduce, or minimize adverse environmental effects. The reference point to compare alternatives is the "no action" alternative.

6.1 NO ACTION ALTERNATIVE

With the "no action" alternative, the Site remains underutilized. Homesteading opportunities to relocate existing lessees or to award new leases to those on the wait list would not be realized.

6.2 ALTERNATIVE SITES

An alternative DHHL-owned site for the Project is the Priority Tract identified in DHHL's Hawai'i Island Plan. The Island Plan designated this tract as Residential. However, the Pana'ewa Regional Plan, upon closer study, designated this tract as "Unencumbered Lands", acknowledging "…their lack of infrastructure will make it a challenge to find a feasible way to utilize these parcels."

Another consideration was DHHL's desire to relocate existing lessee's with agricultural leases (e.g., Maku'u) with comparable agricultural leases although the acreage may be less than their existing lease. The preferred Site infills in areas surrounded by agricultural leases and available infrastructure.

6.3 ALTERNATIVE DESIGNS

For the Site, the addition of a road reserve to enable a future extension of Kinai Street is an unavoidable setaside of 7.876 s.f. that could have been included to increase lot sizes. However, the addition of this road reserve provides an emergency access until fully improved, and a convenient alternative access when constructed. The existing Kinai Street is not a cul de sac and is intended to be extended. With the avoidance of long cul de sacs, the Project is consistent with the subdivision code's preference that "A cul-de-sac shall be as short as possible and shall not be more than six hundred feet in length nor serve more than eighteen lots" (HCC §23-48).

Another alternative design is the road section. The existing County dedicable standard for a road without sidewalks and curbs is to completely pave the shoulders and swales (HCC §23-86 and Standard Details R-33 and R-34). DHHL has the authority to preempt county standards, and the Project proposes roads for dedication to the County (i.e., license) within a 50-foot right-of-way but with grass shoulders and swales. The request is consistent with the County General Plan Transportation policy to "Adopt street design standards that accommodate, where appropriate, flexibility in the design of streets to preserve the rural character of an area and encourage a pedestrian-friendly design" (General Plan §13.2.3(l)).

A third alternative involves a lower-density subdivision with larger lots. To meet the 1-acre minimum lot size of the State Land Use Agricultural District would reduce the number of lots from 16 to 8 lots. This reduction has two negative effects: 1) it reduces the number of native Hawaiian households who could benefit; and 2) it increases the infrastructure costs on a per lot basis.

7 FINDINGS AND DETERMINATION

To determine whether the construction of the Project may have a significant impact on the physical and human environment, all phases and expected consequences of the proposed project have been evaluated, including potential primary, secondary, short-range, long-range, and cumulative impacts. Based on this evaluation, the Proposing Agency (Department of Hawaiian Home Lands) has issued a Finding of No Significant Impact (FONSI). The supporting rationale for this finding is presented in this chapter.

7.1 SIGNIFICANCE CRITERIA

The discussion below evaluates the significance of the Project's impacts based upon the Significance Criteria set forth in Hawai'i Administrative Rules section 11-200-12. An action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

Discussion: The proposed project is not anticipated to involve any construction activity that may lead to a loss or destruction of any sensitive natural or cultural resource. The project Site has been the subject of flora/fauna, archaeological and cultural studies conducted in and around the site. All of the studies reveal the absence of any resource potentially subject to irrevocable loss as a result of construction.

(2) Curtails the range of beneficial uses of the environment;

Discussion: The Project expands the beneficial use of the Site by providing affordable housing opportunities and potential for agricultural uses.

(3) Conflicts with the State's long term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders;

Discussion: The proposed project is not in conflict with the long-term environmental policies, goals, and guidelines of the State of Hawai'i. As presented earlier in this EA, the project's potential adverse impacts are associated only with the short-term construction-related activities, and such impacts can be mitigated through adherence to standard construction mitigation practices.

(4) Substantially affects the economic or social welfare of the community or State;

Discussion: The proposed project will have beneficial effects on the economy and social welfare of Hilo town or the County of Hawai'i by providing affordable housing opportunities for native Hawaiians in proximity to jobs, schools, shopping, and other urban services.

(5) Substantially affects public health;

Discussion: There will be temporary impacts to noise and air quality levels during the construction phase of the project; however, these potential impacts will be short-term and are not expected to substantially affect public health. Wastewater disposal will utilize individual septic systems approved by the Department of Health. All construction activities will comply with applicable regulations and will implement appropriate mitigation measures.

(6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

Discussion: Although the Project will increase population in the immediate area, the surrounding roads, schools, parks, and other public facilities have the capacity to serve this increase.

(7) Involves a substantial degradation of environmental quality;

Discussion: Construction activities associated with the proposed project are anticipated to result in negligible short-term impacts to noise, air-quality, and traffic in the immediate vicinity. With the incorporation of the recommended mitigation measures during the construction period, the project will not result in degradation of environmental quality. No long term negative impacts are expected from project implementation.

(8) Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;

Discussion: DHHL's lands are intended for homesteading or income-producing uses. DHHL will amend the Island Plan to reflect the Project's proposed use and density. The Island Plan is the means for DHHL to coordinate and mitigate, as necessary, the cumulative impact of developing their lands.

(9) Substantially affects a rare, threatened or endangered species or its habitat;

Discussion: There are no known, threatened, or endangered species of flora, insects, or associated habitats located on the project site.

Mitigation measures are included to both during and after construction to prevent potential impacts during breeding seasons for the Hawaiian hawk, Hawaiian hoary bat, and seabirds. (Section 3.6)

(10) Detrimentally affects air or water quality or ambient noise levels;

Discussion: Construction activities for development of the Project could potentially impact noise and air and water quality levels on the project site. However, these impacts will be short-term and are not expected to be detrimental. All construction activities will comply with applicable regulations and will implement appropriate mitigation measures as necessary. After construction, the development is not expected to adversely impact ambient noise levels or water and air quality. There will be a slight increase in impervious surfaces over the Site's

former undeveloped use; however, any increase in runoff will be accommodated by proposed drainage improvements and will not detrimentally affect water quality.

(11) Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

Discussion: The development will not affect any environmentally sensitive area. The project is located outside a FIRM-designated flood plain and inland from the coast. Homes will be constructed in compliance with County of Hawai'i building codes, and the drainage improvements will be designed to minimize any potential for localized flooding.

(12) Substantially affects scenic vistas and view planes identified in County or State plans or studies; or,

Discussion: The Site is not listed as a scenic view plane or area of natural beauty by the County.

(13) Requires substantial energy consumption.

Discussion: The new homes will increase energy consumption. DHHL is looking into programs to assist with financing solar or other renewable sources for homeowners as a means to reduce household utility costs.

7.2 DETERMINATION

Pursuant to Chapter 343, HRS, the determining agency, the Department of Hawaiian Home Lands has issued a Finding of No Significant Impact (FONSI) for this environmental assessment. This finding is based on analysis of impacts and mitigation measures examined in this document, public comments received during the pre-assessment consultation and public comment phases, and analyzed under the above criteria.

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8 CONSULTATION

8.1 PRE-ASSESSMENT CONSULTATION

Pre-assessment consultation letters were mailed to various agencies and organizations listed below in March 2015. The purpose of the pre-assessment consultation was to consult with agencies, organizations and individuals with technical expertise, or an interest or will be affected by the proposed project. This process is part of the scoping process for the Draft EA. Comments and input received during this period were used to identify environmental issues and concerns to be addressed in the Draft EA, which in turn underwent a 30-day public comment period.

Those that provided written comments (either by hardcopy or email) are highlighted in *italics*. Copies of the written comments and responses are reproduced in Appendix B.

8.1.1.1 State of Hawai'i

- *Department of Accounting and General Services*
- Department of Agriculture
- Department of Business, Economic Development & Tourism (DBEDT)
- DBEDT – Energy Division
- *DBEDT – Hawai'i Housing Finance and Development Corporation*
- DBEDT – Office of Planning
- *Department of Defense*
- *Department of Education*
- *Department of Health*
- *Department of Health—Wastewater Division*
- *Department of Human Services*
- Department of Labor and Industrial Relations
- Department of Land and Natural Resources (DLNR)
- *DLNR - State Historic Preservation Division*
- *Department of Transportation*
- Office of Environmental Quality Control
- Office of Hawaiian Affairs
- University of Hawai'i Water Resources Research Center
- State Representative R. Onishi
- State Senator Kahele

8.1.1.2 Federal

- U.S. Army Corps of Engineers – Regulatory Branch
- U.S. Federal Aviation Administration
- U.S. Federal Emergency Management Agency
- U.S. Geological Survey

- *U.S. Fish and Wildlife Service*

8.1.1.3 County of Hawai'i

- *Department of Environmental Management*
- Department of Parks & Recreation
- Department of Research & Development
- *Department of Water Supply*
- *Fire Department*
- Office of Housing and Community Development
- *Planning Department*
- *Police Department*
- Department of Public Works
- County Councilmember D. Onishi

8.1.1.4 Private Organizations & Individuals

- Oceanic Time Warner
- *Hawai'i Electric Light Co.*
- Hawaiian Telecom

DHHL also conducted consultation through community meetings, including:

- March 18, 2015: Mayor's Meeting. The meeting was for informational and coordination purposes.
- March 21, 2015: Panaewa Community Association meeting.
- April 4, 2015: Keaukaha Pana'ewa Farmers Association (KPFA) meeting. KPFA was provided with a copy of the Draft EA for review.

8.2 PUBLIC REVIEW

The Draft EA was published in the OEQC Environmental Notice on July 23, 2015 initiating a 30-day public comment period that was scheduled to end on August 24, 2015. Comments and input received during this period were used to identify environmental issues and concerns addressed in the Final EA. The Draft EA was mailed to all of the agencies and organizations previously consulted as listed above, except for the U.S. Federal Aviation Administration, Oceanic Time Warner and Hawaiian Telecom.

In addition to the agencies and organizations that were previously consulted, the Draft EA was mailed to Keaukaha Pana'ewa Farmers Association and Pana'ewa Hawaiian Home Lands Community Association. Copies were also mailed to the newspapers (Hawaii Tribune Herald, West Hawai'i Today) and the Hawai'i State Library (Hawai'i Documents Center, Hilo Regional Library, Kailua Kona Public Library) to inform the general public.

Those that provided written comments (either by hardcopy or email) are highlighted in *italics*. Copies of the written comments and responses are reproduced in Appendix G.

8.2.1.1 State of Hawai'i

- *Department of Accounting and General Services*
- Department of Agriculture
- Department of Business, Economic Development & Tourism (DBEDT)
- DBEDT – Energy Division
- DBEDT – Hawai'i Housing Finance and Development Corporation
- *DBEDT – Office of Planning*
- *Department of Defense*
- Department of Education
- *Department of Health*
- Department of Health—Wastewater Division (response received from *Department of Health—Clean Water Branch)*
- *Department of Human Services*
- Department of Labor and Industrial Relations
- *Department of Land and Natural Resources (DLNR)*
- *DLNR - State Historic Preservation Division*
- *Department of Transportation*
- Hawai'i State Library—Hawai'i Documents Center
- Hawai'i State Library—Hilo Regional Library
- Hawai'i State Library—Kailua Kona Public Library
- Office of Environmental Quality Control
- *Office of Hawaiian Affairs*
- University of Hawai'i Water Resources Research Center
- State Representative R. Onishi
- State Senator Kahele

8.2.1.2 Federal

- U.S. Army Corps of Engineers – Regulatory Branch
- U.S. Federal Emergency Management Agency
- U.S. Geological Survey
- U.S. Fish and Wildlife Service

8.2.1.3 County of Hawai'i

- Department of Environmental Management
- Department of Parks & Recreation
- Department of Research & Development
- *Department of Water Supply*
- Fire Department

- Office of Housing and Community Development
- *Planning Department*
- Police Department
- County Councilmember D. Onishi

8.2.1.4 Private Organizations & Individuals

- Hawai'i Electric Light Co.
- *Sandwich Isles Communications, Inc. (Draft EA not mailed directly to this respondent)*
- Hawai'i Tribune Herald
- West Hawai'i Today
- *Keaukaha Pana'ewa Farmers Association*
- Pana'ewa Hawaiian Home Lands Community Association
- *Jojo Tanimoto, Homesteader (Draft EA not mailed directly to this respondent)*

In response to comments to the Draft EA, a follow-up community meeting with KPFA was held on August 21, 2015. At the meeting, the following issues were raised:

- Lot size and density and Subsistence Agriculture use designation. The community was concerned that the Subsistence Agriculture designation for the Auwae Lots would be incompatible with surrounding agricultural lots, and that lot size was incompatible with agricultural land use. The community did not have a concern with the Subsistence Agriculture designation for the Mahiai Lot due to the surrounding residential subdivision lots.
- Concern was raised about potential conflicts between areas designated for Residential use and those designated for Agricultural use for the Auwae Lots.
- A Traffic Impact Analysis Report (TIAR) was requested for the number of lots proposed for the Auwae Lots.
- In lieu of the proposed wastewater easement for the Auwae Lots, it was suggested that DHHL consider the future road connection between Auwae and Railroad.
- A buffer was proposed to mitigate noise and odor impacts from County and industrial operations for the Auwae Lots. A lot adjoining the Auwae Lots which was formerly used for quarry operations was proposed for Conservation/Open space designation to provide the buffer.
- Concern was raised that the standing MOU between DHHL and the County regarding road standards would require dedicable standards that are not appropriate for the agricultural or rural character.
- Mitigation measures for toxics should include the issue of a notice to surrounding owners if toxics are discovered in subsequent soil investigations.
- It was noted that the Regional Plan should have been amended prior to Island Plan amendment, and that these amendments should have taken place before the Project proceeded.

In response to the concerns raised at the KPFA community meeting, DHHL intends to take the following actions:

- DHHL will examine traffic circulation as part of the Pana‘ewa Regional Plan.
- DHHL will work with the County and other stakeholders to determine feasibility of establishing a noise and/or odor buffer when DHHL proceeds with the Auwae Lots.
- Following clearing and grubbing of the Auwae Lots, DHHL will conduct a soil study at property boundaries to determine whether adjoining industrial uses are affecting the property. DHHL will conduct testing for soil arsenic at the Site. If contamination is found, DHHL will issue a notice to surrounding owners. If needed, DHHL will address contamination concerns in cooperation with the Hawai‘i Department of Health.
- DHHL will not start construction until the Island Plan and Regional Plan amendments are completed.
- DHHL will consider a density alternative of 1-acre lots, particularly for the Auwae Lots (see Section 6.3).

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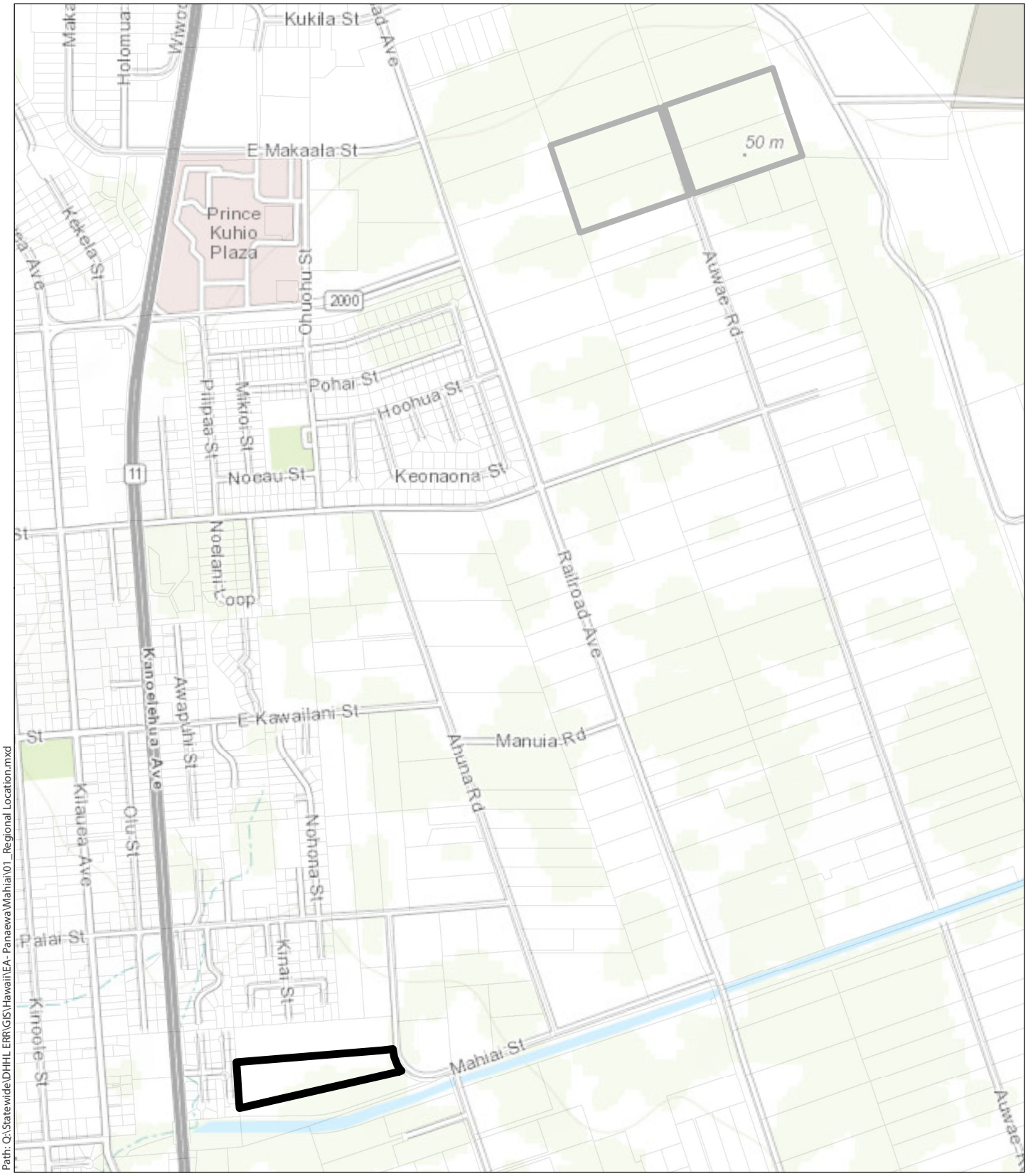
Appendix A

FIGURES



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DATE: 3/3/2016

LEGEND

- Mahiai Lot
- Auwae Lots (not part of this Final EA)
- Tax Map Key Parcels

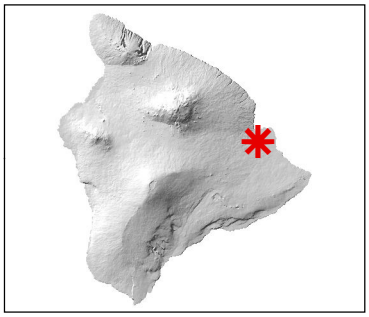


FIGURE 1:
Regional Location

MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands
Island of Hawaii

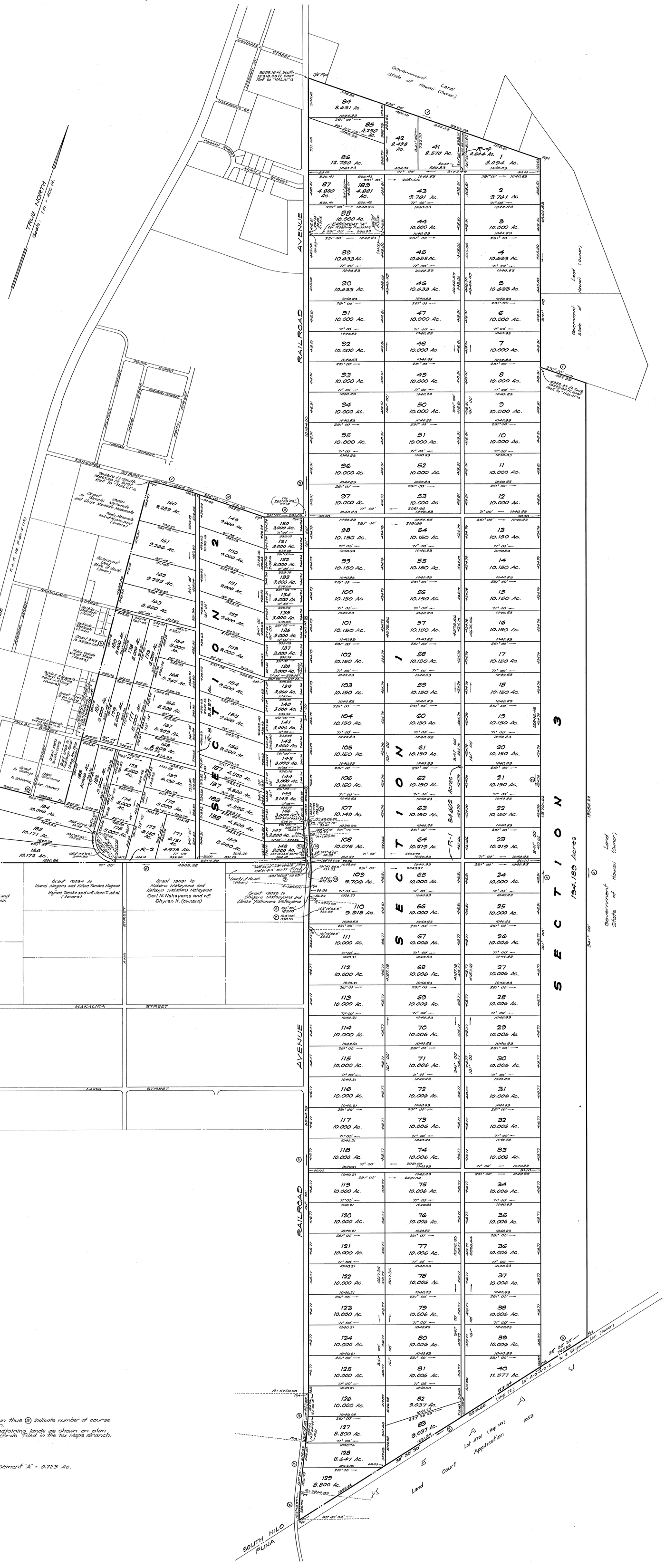
North

Linear Scale (miles)
0 .0625 .125 .25

PBR HAWAII & ASSOCIATES, INC.

Source: ESRI Online Basemap.

FILE PLAN 1487



PANAEWA HOUSE AND FARM LOTS

OWNER: HAWAIIAN HOME LANDS

ADDRESS: 550 HALEKAUWILA STREET
HONOLULU, HAWAII

SECTION 1

LAND SITUATED ON THE NORTHEASTERLY SIDE
OF RAILROAD AVENUE
AT WAIAKEA, SOUTH HILO, ISLAND OF HAWAII, HAWAII

BEING A PORTION OF HAWAIIAN HOME LAND OF PANAEWA

**SUBDIVIDED INTO LOTS 1 TO 129, INCLUSIVE
LOTS 189, R-1 AND R-4
AND DESIGNATION OF EASEMENT "A" OVER AND ACROSS
LOT 88
TOTAL AREA = 1319.788 ACRES**

SECTION 2

LAND SITUATED ON THE SOUTHWESTERLY SIDE OF RAILROAD AVENUE
AND ON THE SOUTHERLY SIDE OF KAHAOPEA STREET
AT WAIAKEA, SOUTH HILO, ISLAND OF HAWAII, HAWAII

BEING A PORTION OF HAWAIIAN HOME LAND OF PANAEWA

SUBDIVIDED INTO LOTS 130 TO 188, INCLUSIVE
AND LOTS R-2 AND R-3

TOTAL AREA = 341.328 ACRES

SECTION 3

LAND SITUATED ON THE NORTHERLY SIDE OF LAND COURT APPLICATION 1053
APPROXIMATELY 3150 FEET NORTHEASTERLY OF RAILROAD AVENUE
AT WAIAKEA, SOUTH HILO, ISLAND OF HAWAII, HAWAII

BEING A PORTION OF THE GOVERNMENT (CROWN) LAND OF WAIAKEA
CONVEYED TO DEPARTMENT OF HAWAIIAN HOME LANDS BY STATE OF
HAWAII BY EXCHANGE DEED DATED JANUARY 8, 1962 AND RECORDED
IN LIBER 4265, PAGES 456 AND 464 (LAND OFFICE DEEDS S-18729
AND S-18730)

TOTAL AREA = 194.189 ACRES

This map is from an actual survey on the ground made by or under the direct supervision of the undersigned between December 1, 1975 and January 22, 1976 and may be checked by the State Surveyor with our field books and calculation folders filed under Job Number 75-129.

WILLIAM HEE & ASSOCIATES, INC.

1020 Auahi St.
Honolulu, Hawaii
January 22, 1976

By: Jerry S. Nakagawa
Registered Professional Surveyor
Certificate Number 1698

I hereby certify that the description of survey and map hereon has been examined and checked as to form and mathematical correctness but not on the ground and the same is approved in accordance with Sections 502-17, 18 and 19 of the Hawaii Revised Statutes.

Honolulu, Hawaii
March 22, 1976

Kazuteru Ishii
State Land Surveyor

State of Hawaii
Office of
Bureau of Conveyances
Received for filing this 22ND day of
March A.D. 1976 at 3:29 P.M.
and filed in File No. 1487

Charles F. Neumann III
Registrar of Conveyances

METES AND BOUNDS DESCRIPTION RECORDED
IN LIBER 11307 PAGES 250-255

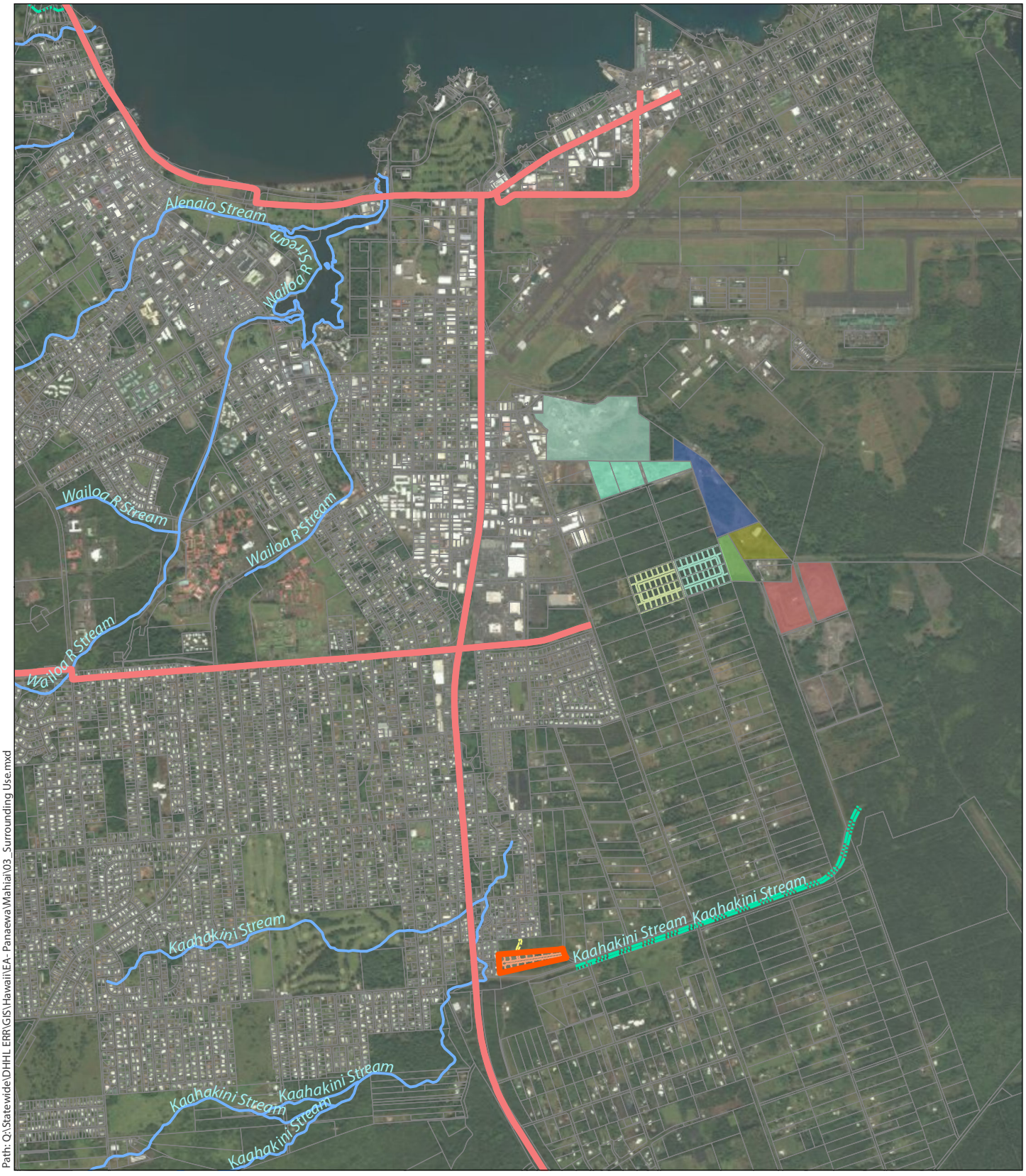
NOTES:

Figures shown thus (5) indicate number of course in description.
Owners of adjoining lands as shown on plan are from records filed in the Tax Maps Branch.

Area of Easement "A" = 0.723 Ac.

Tax Map Key: 3rd. Div. 2-1-13-3, 12 to 141, inclusive and 152
79-129
2-2-47-7 to 57, inclusive

42" x 36" = 16.3 Sq. Ft.



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DATE: 3/10/2016

LEGEND

- Mahiai Lot
- Lot Line
- Easement
- Tax Map Key Parcels
- State Highways

Streams

- Not Perennial
- Perennial

- Planned Panaewa Subdivision 1270A (Auwae Lots)
- Planned Panaewa Subdivision 1270B (Auwae Lots)
- Glover Quarry
- Green Waste Processing
- Landfill
- Sort Station
- Transfer Station
- Yamada Quarry

FIGURE 3:

Surrounding Uses
MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands
Island of Hawaii

North

Linear Scale (feet)
0 750 1500 3000

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2016. ESRI Online Basemap. Department of Hawaiian Home Lands. Streams: DLNR DAR, 2013.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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DATE: 3/3/2016

LEGEND

- Tax Map Key Parcels

Mahiai Lot

- Lot Lines
- Easement

FIGURE 4:

Subdivision Layout

MAHIAI LOT

PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

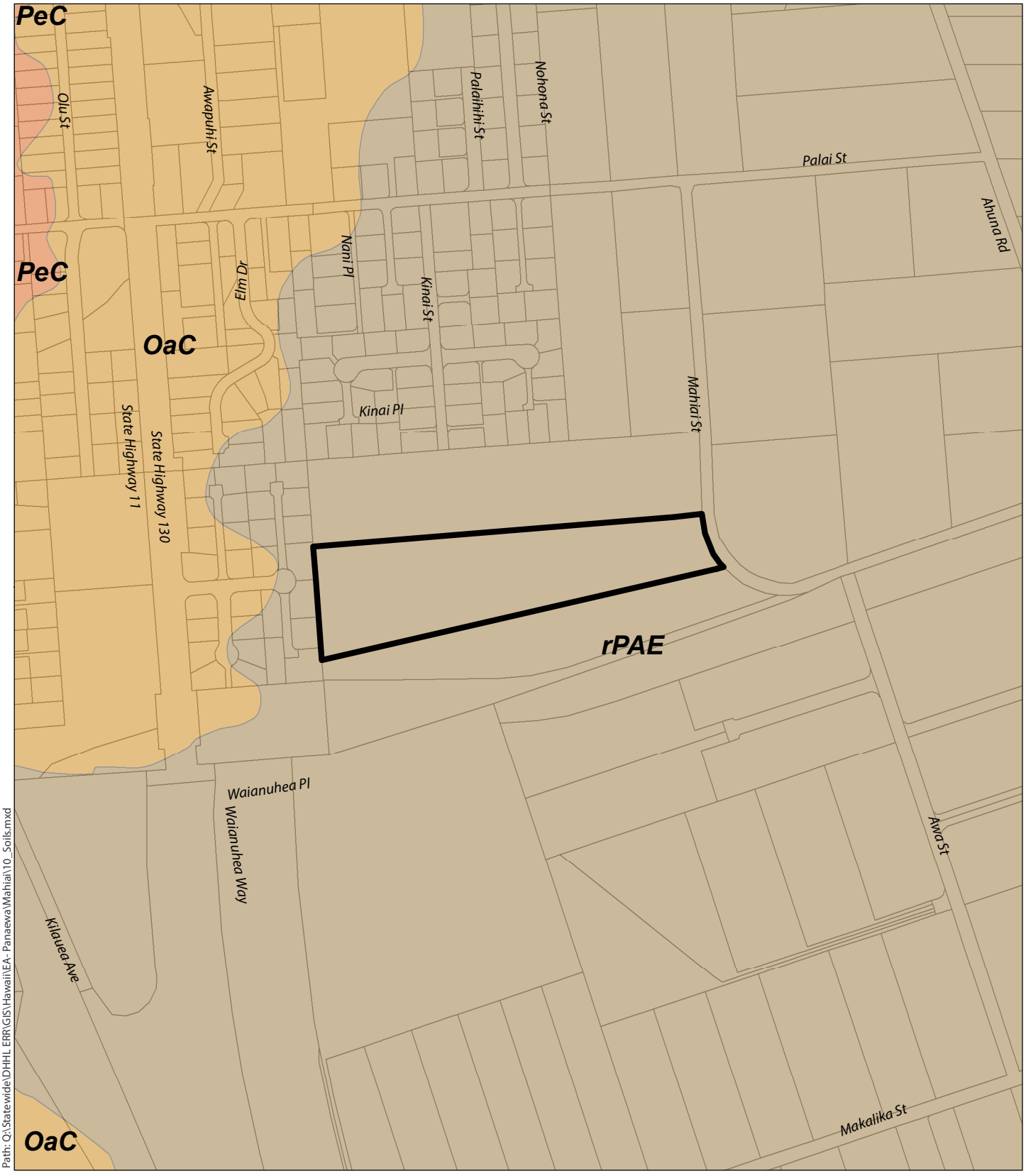
Linear Scale (feet)

0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2014. DHHL Hawaii Island Plan, 2002.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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DATE: 3/3/2016

LEGEND

- Mahiai Lot
- Tax Map Key Parcels

Hawaii Soils

- OaC - Olaa silty clay loam, 0 to 10 percent slopes
- OlD - Olaa extremely stony silty clay loam, 0 to 20 percent slopes
- PeC - Panaewa very rocky silty clay loam, 0 to 10 percent slopes
- rKFD - Keaukaha extremely rocky muck, 6 to 20 percent slopes
- rPAE - Papai extremely stony muck, 3 to 25 percent slopes

FIGURE 5:

Soils

MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands
Island of Hawaii

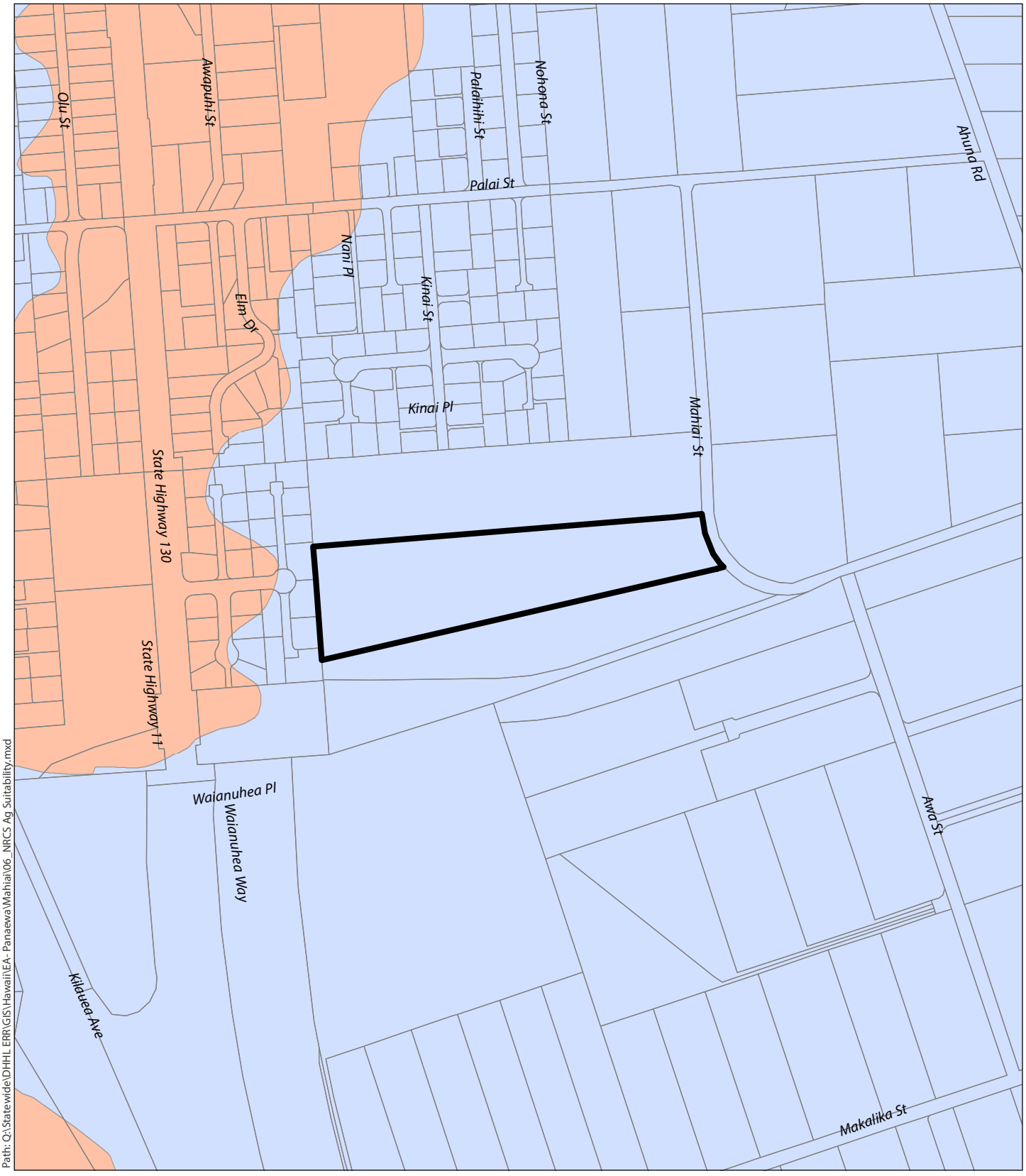
North

Linear Scale (feet)
0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2015. USDA Natural Resources Conservation Service.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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DATE: 3/3/2016

LEGEND

- Mahiai Lot
- Tax Map Key Parcels
- All areas are prime farmland
- Prime farmland if irrigated
- Not prime farmland

FIGURE 6:

NRCS Ag Suitability Map

MAHIAI LOT

PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

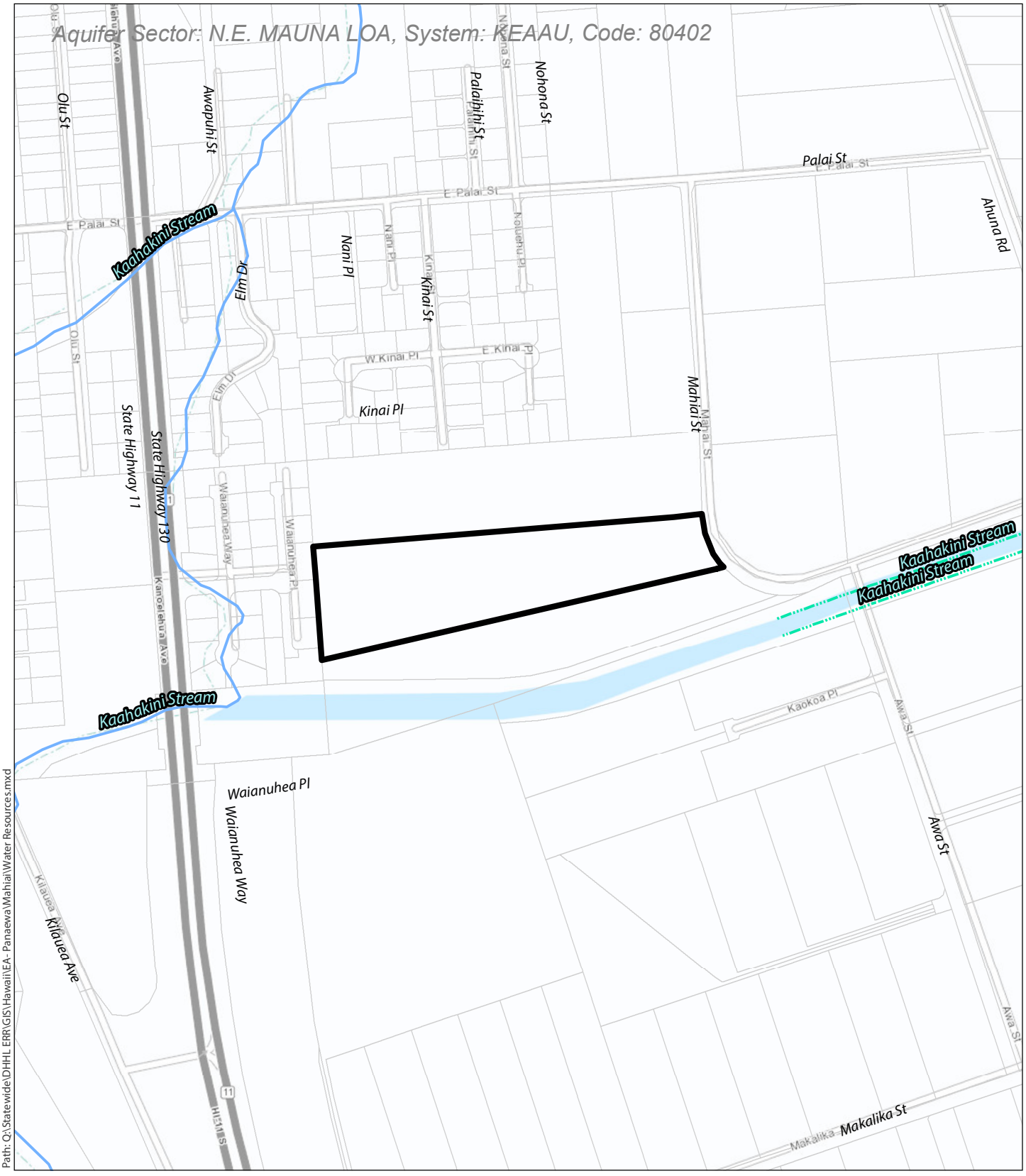
Linear Scale (feet)

0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2016. USDA Natural Resources Conservation Service.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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DATE: 3/11/2016

LEGEND

- Mahiai Lot
- Tax Map Key Parcels

Streams

- Not Perennial
- Perennial

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

FIGURE 7:

Water Resources

MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

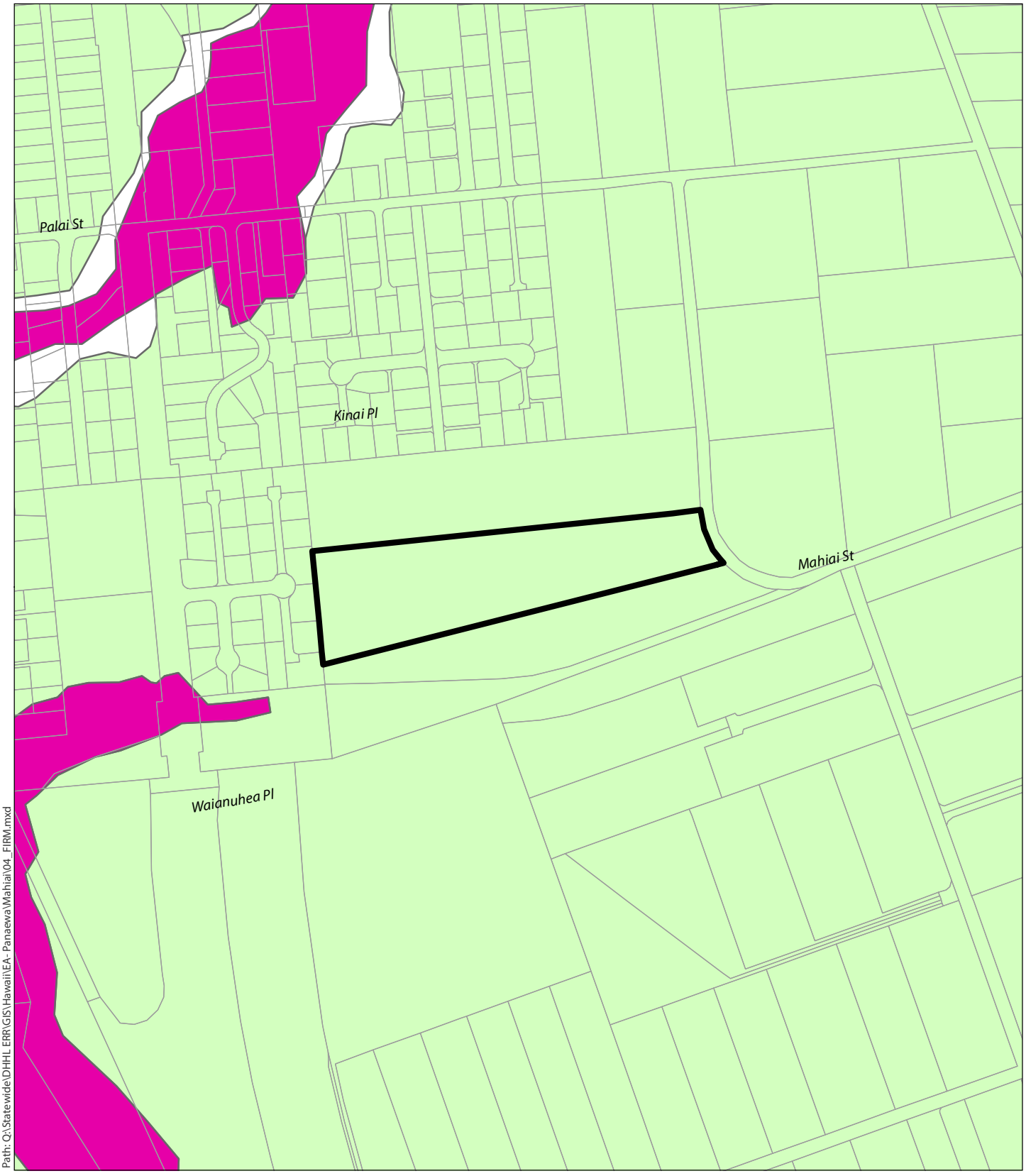
Linear Scale (feet)

0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: Source: ESRI Online Basemap. USFWS/National Wetlands Inventory, 2015. DLNR DAR, 2013. Aquifer: DLNR, 2014.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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DATE: 3/3/2016

LEGEND

Tax Map Key Parcels

Flood Zone

A *Areas subject to inundation by the 1-percent-annual-chance flood event*

X *Areas determined to be outside 0.2-percent-annual-chance floodplain*

FIGURE 8:

Flood Insurance Rate Map

MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

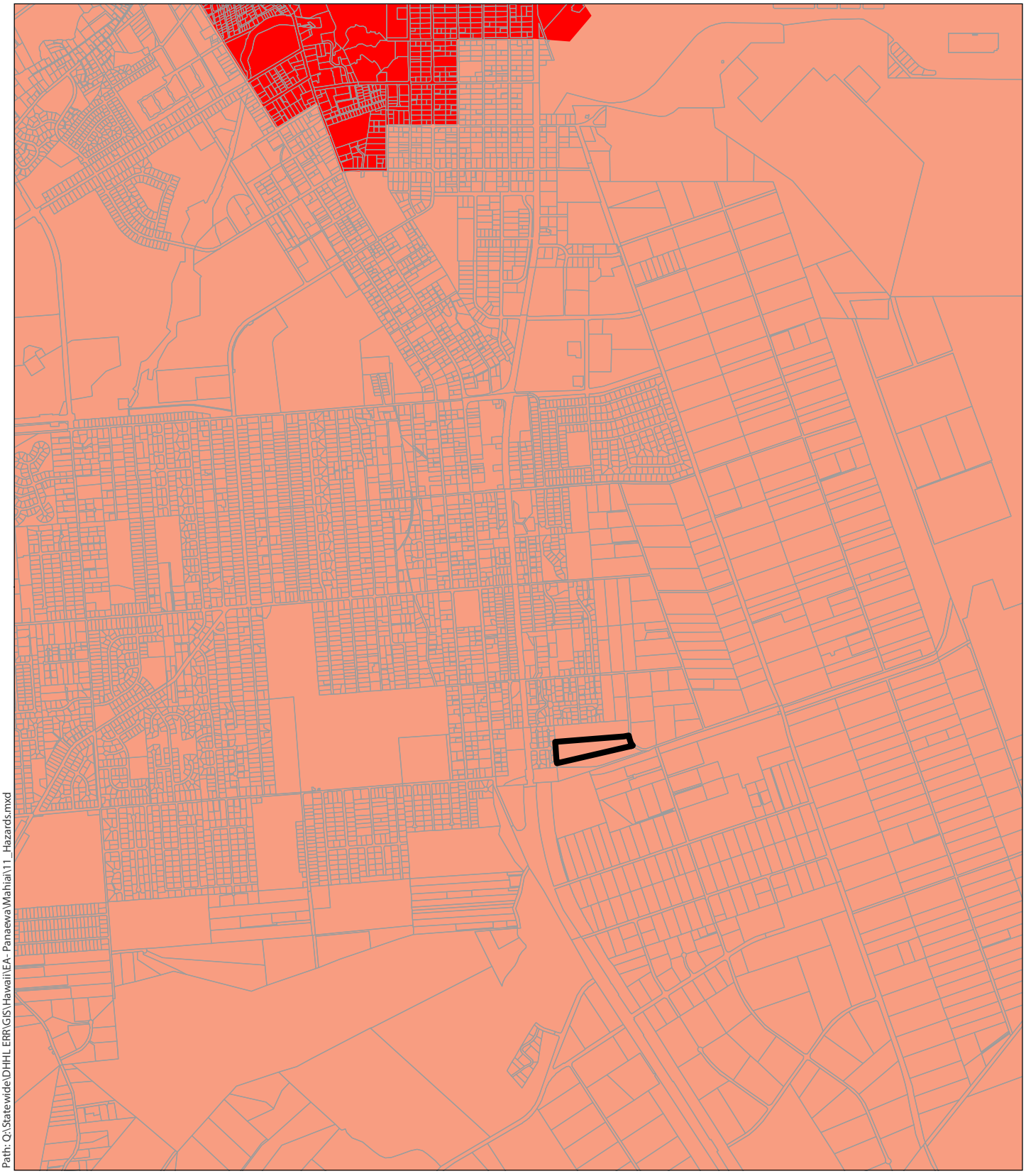
Linear Scale (feet)

0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2015. FEMA Flood Insurance Rate Map, 2007. Hawaii DLNR FHAT: Panel 1551660895C NOT PRINTED. **[Panel 890C]**

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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DATE: 3/3/2016

LEGEND

- Mahiai Lot
- Tax Map Key Parcels
- Tsunami Evacuation Zone

Volcanic Hazard Zones
(1 highest, 9 lowest)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

FIGURE 9:
Natural Hazards

MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

Linear Scale (miles)
0 0.25 0.5 1

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2014. Pacific Disaster Center, 1998. U.S. Geological Survey, 1991.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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DATE: 3/4/2016

LEGEND

- Mahiai Lot
- Tax Map Key Parcels
- Node
- Pipe
- Pump
- Tank
- Valve

FIGURE 10:
County Water System

MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

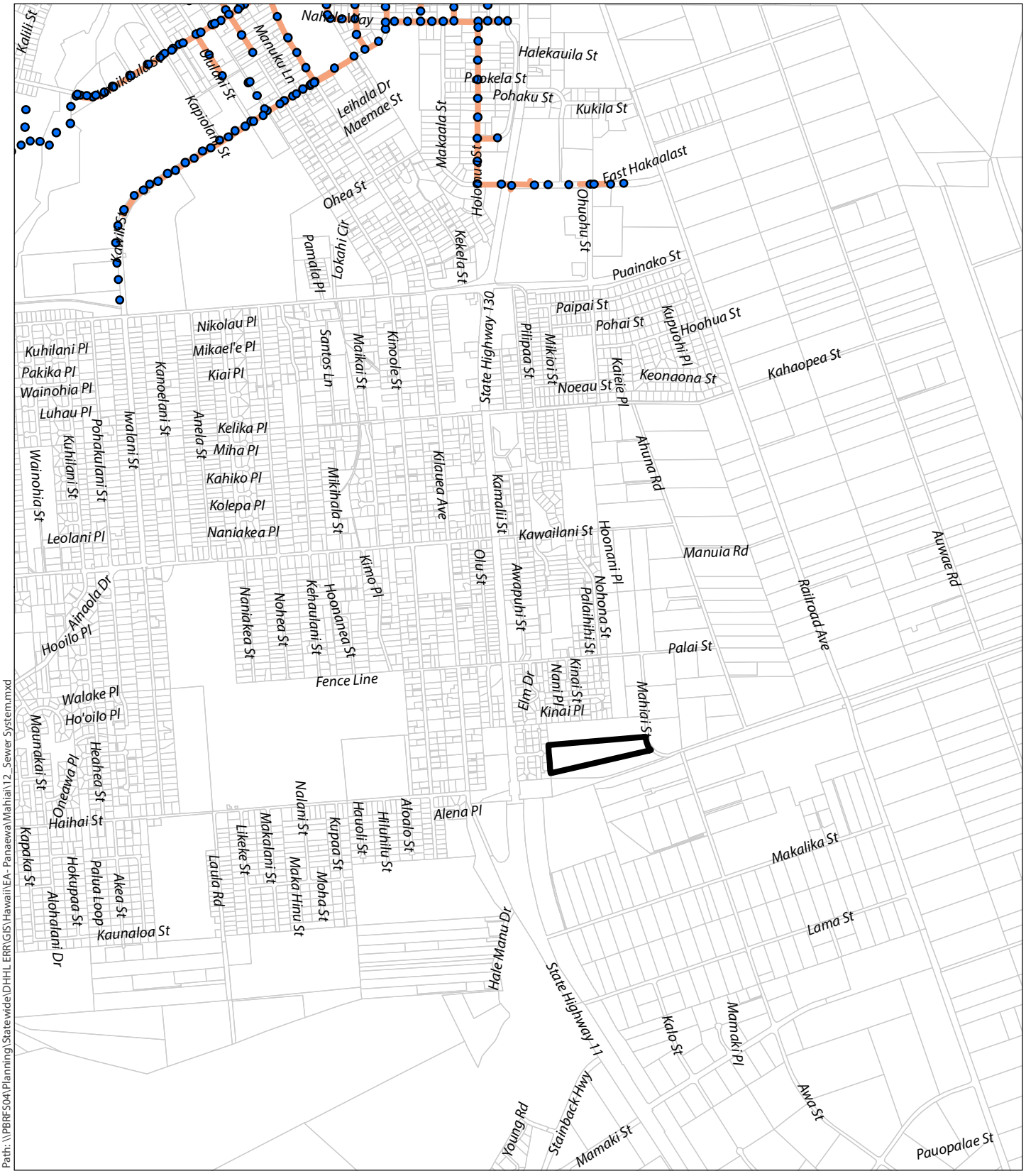
Linear Scale (feet)

0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2015. Water: County of Hawaii, 2005.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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DATE: 3/4/2016

LEGEND

- Mahiai Lot
- Tax Map Key Parcels
- Hawaii Island Sewer Discharges
- Hawaii Island Sewer Manholes
- Hawaii Island Sewer Pump Stations
- Hawaii Island Sewer Treatment Plants
- Hawaii Island Sewer Mains

FIGURE 11:

County Sewer System
MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

Linear Scale (feet)

0 500 1000 2000

PBR HAWAII & ASSOCIATES, INC.

Source: TMK: County of Hawaii, 2015. Sewer: County of Hawaii.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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DATE: 3/4/2016

LEGEND

- Mahiai Lot
- Tax Map Key Parcels

DOH - CWDA

- Critical Wastewater Disposal Area
- Cesspool 1

FIGURE 12:

DOH Critical Wastewater Disposal

MAHIAI LOT

PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

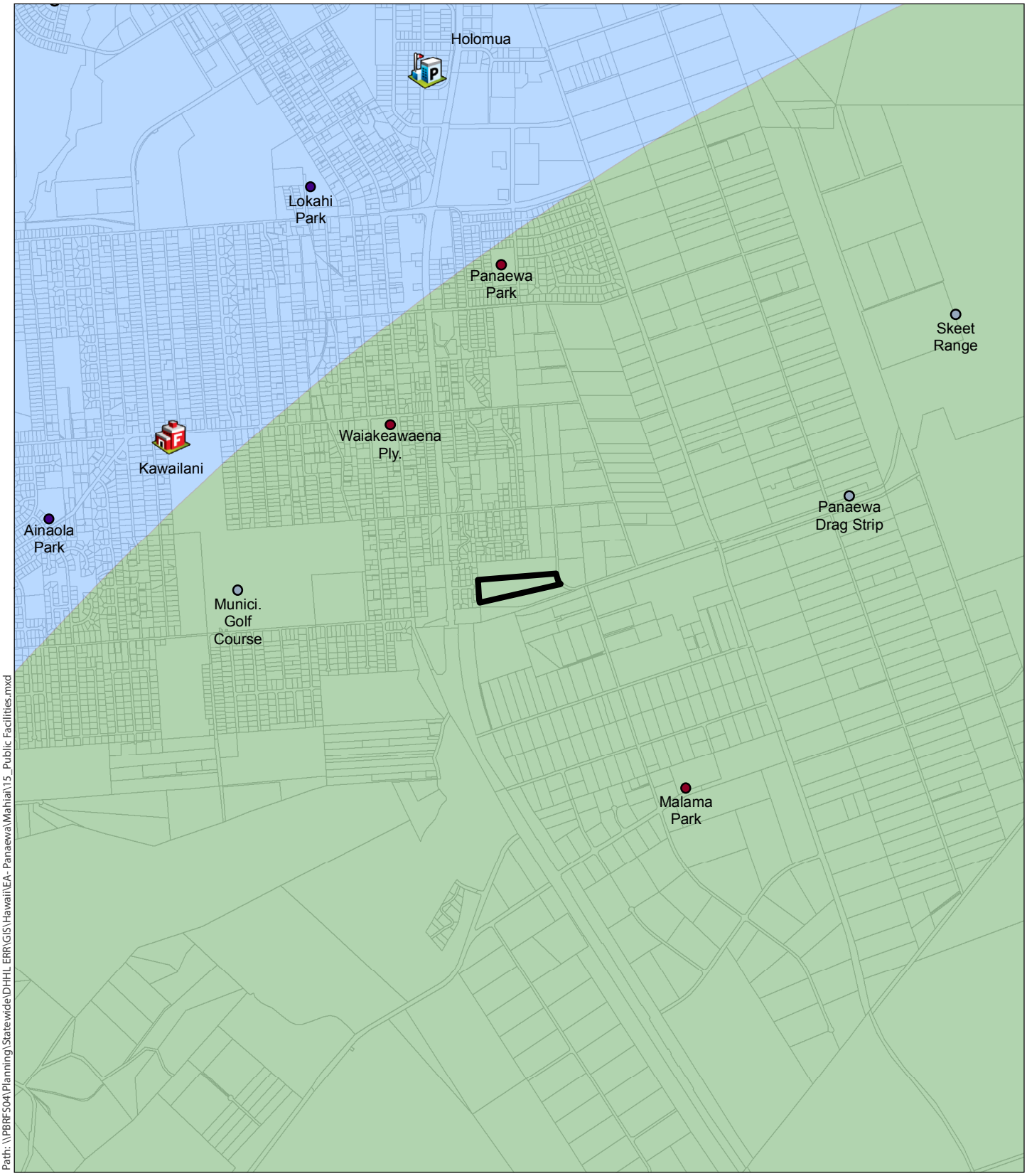
Linear Scale (feet)

0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2015. Department of Health, 2014.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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DATE: 3/4/2016

LEGEND

- Mahiai Lot
- Tax Map Key Parcels
- County Neighborhood Parks
- County Community Parks
- County Other Parks
- State Parks
- Federal Parks

Fire Station 5-mile Service Area

- Central
- Kaumana
- Kawailani
- Keaau
- Paradise Park
- Waiakea

- Police Stations
- Fire Stations

FIGURE 13:
Public Facilities

MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

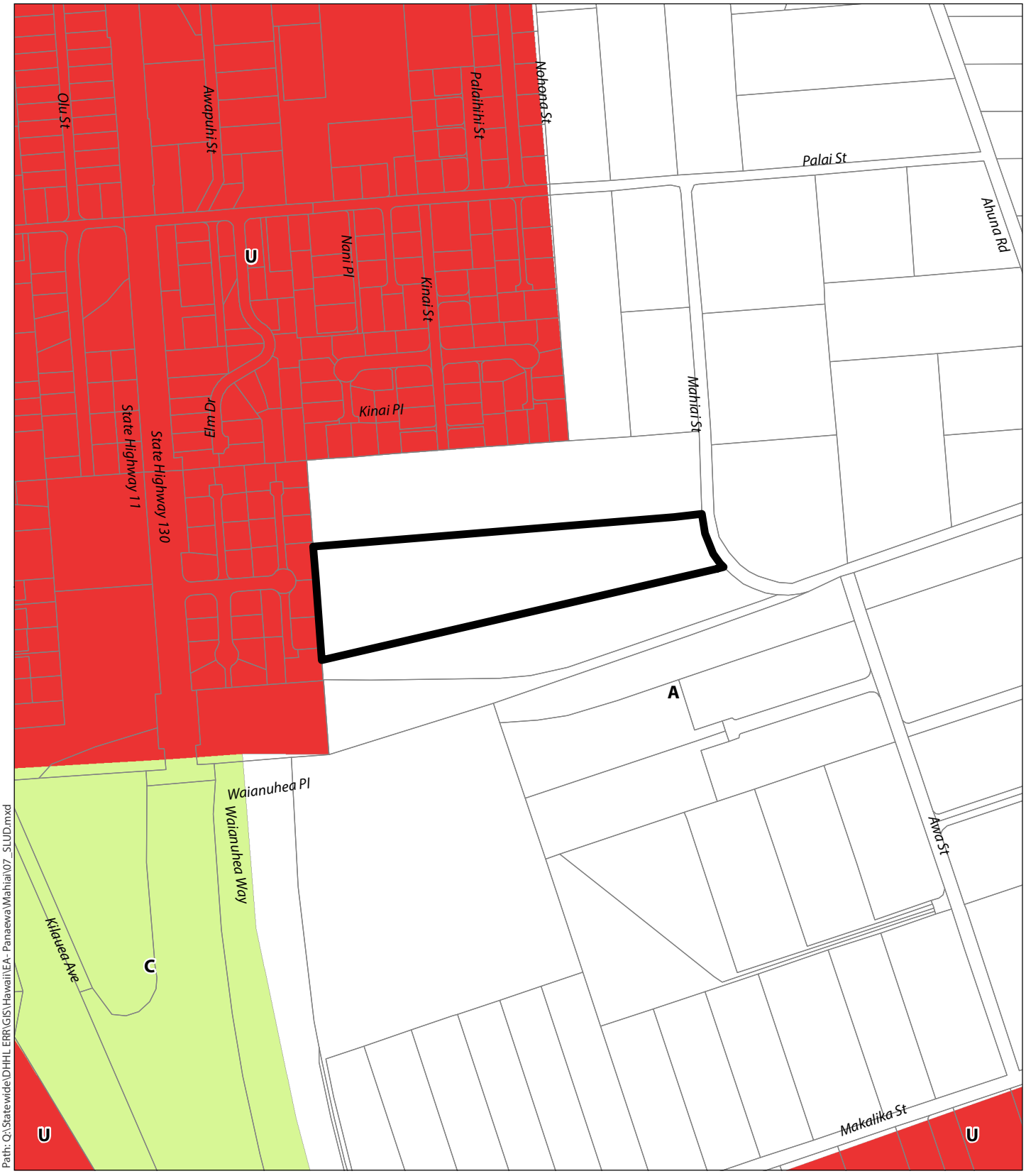
Linear Scale (miles)

0 0.125 0.25 0.5

PBR HAWAII & ASSOCIATES, INC.

Source: DLNR DOFAW Fire MgmtProgram, 2014. County of Hawaii Planning Dept. Gen. Plan Facilities Map, c. 2008. TMK: County of Hawaii, 2015. Parks: County

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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LEGEND

- Mahiai Lot
- Tax Map Key Parcels

State Land Use District

- A - Agriculture
- C - Conservation
- R - Rural
- U - Urban

DATE: 3/3/2016

FIGURE 14:

State Land Use Districts

MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

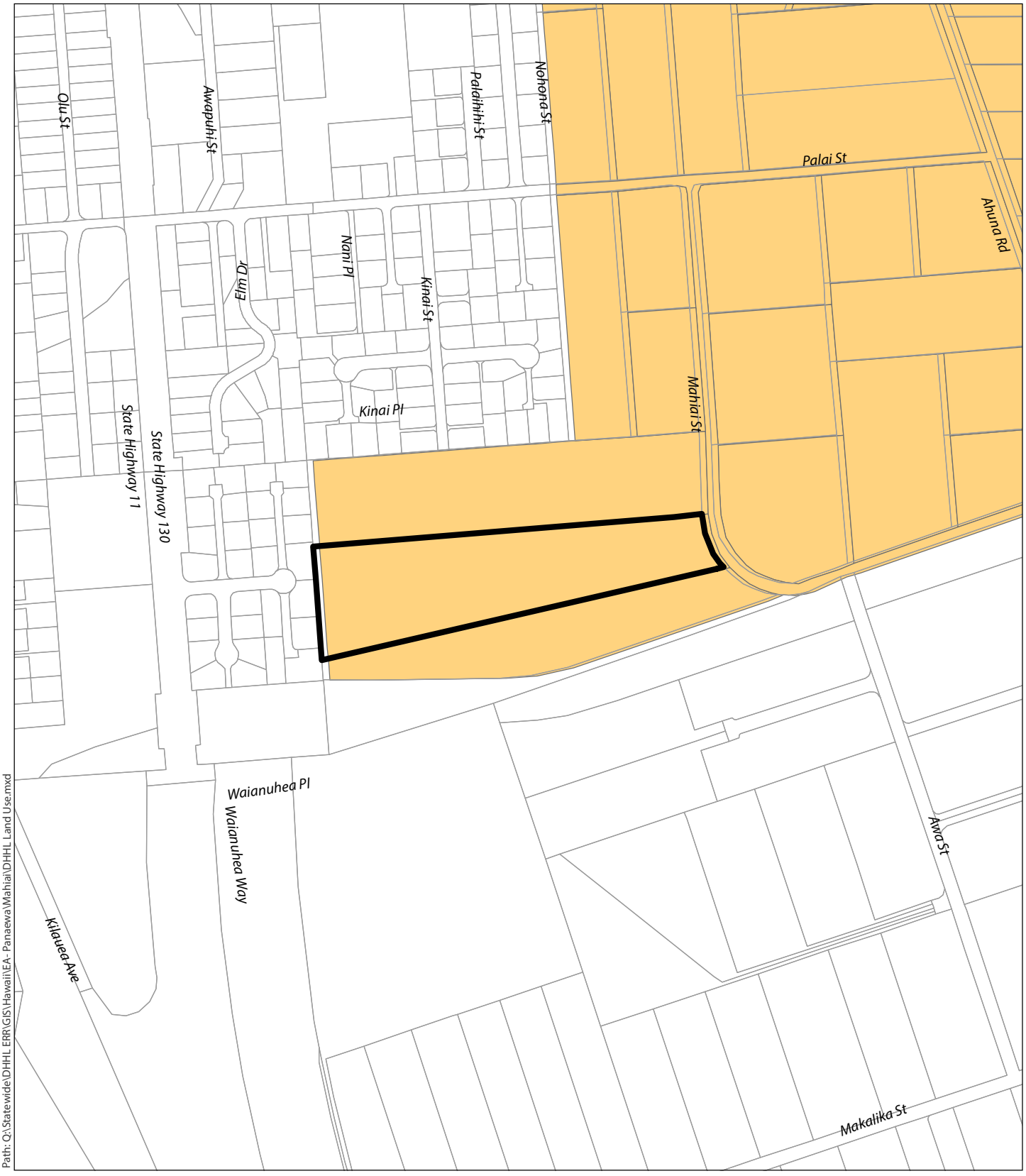
Linear Scale (feet)

0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2014. Hawaii State Land Use Commission, 2014.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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Path: Q:\Statewide\DHHL ERR\GIS\Hawaii\EA- Panaewa\Mahiai\DHHL Land Use.mxd

DATE: 10/7/2015

LEGEND

- Mahiai Lot
- Tax Map Key Parcels

DHHL Designations

- Residential
- Supplemental Agriculture

FIGURE 15:

DHHL Land Use Designations
MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

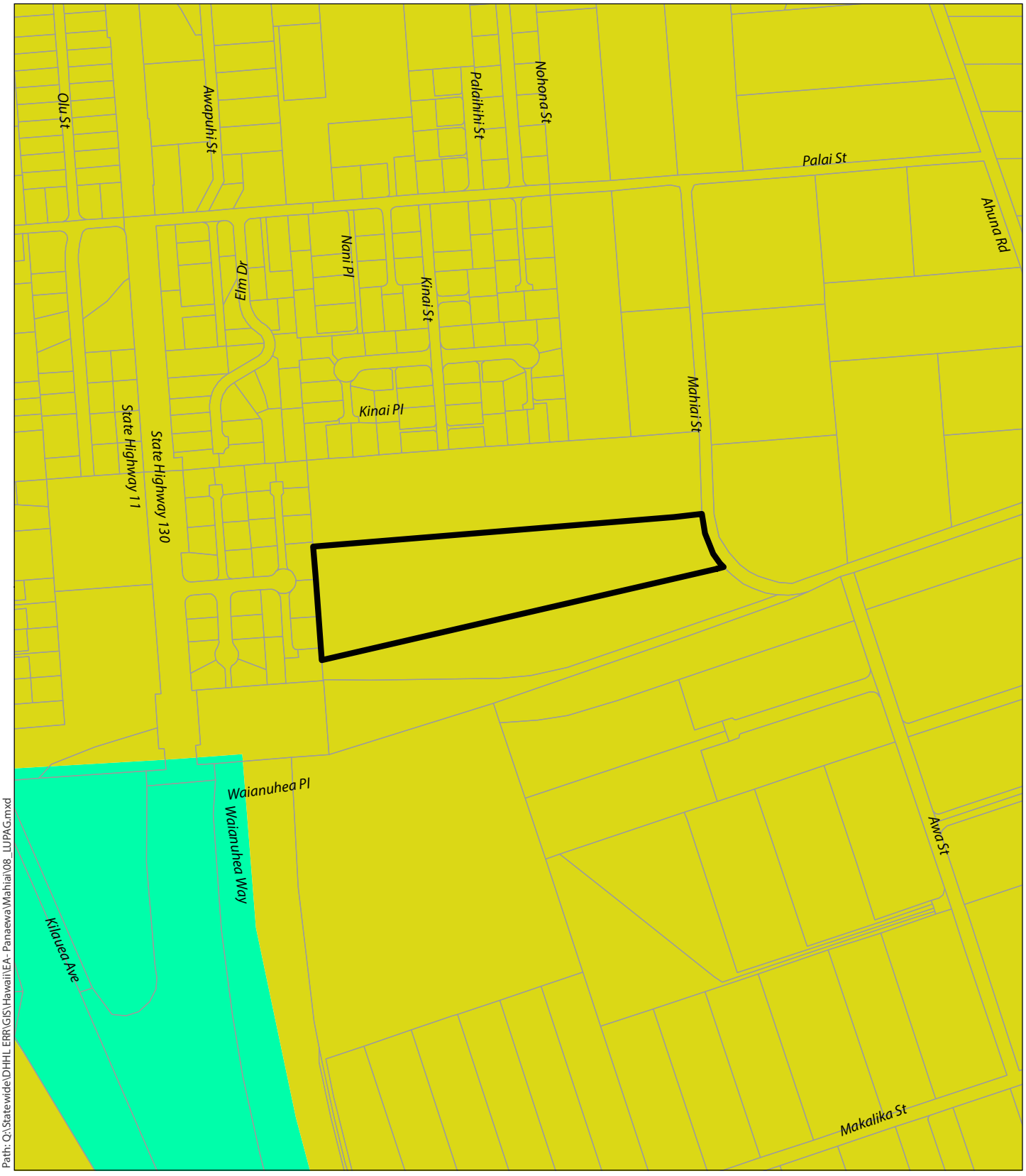
Linear Scale (feet)

0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2015 & DHHL Hawaii Island Plan, 2002.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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DATE: 10/7/2015

LEGEND

- Tax Map Key Parcels
- Conservation
- Extensive Agriculture
- Important Ag. Lands
- Low Density Urban
- Medium Density Urban
- Open Area

FIGURE 16:

County General Plan LUPAG

MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

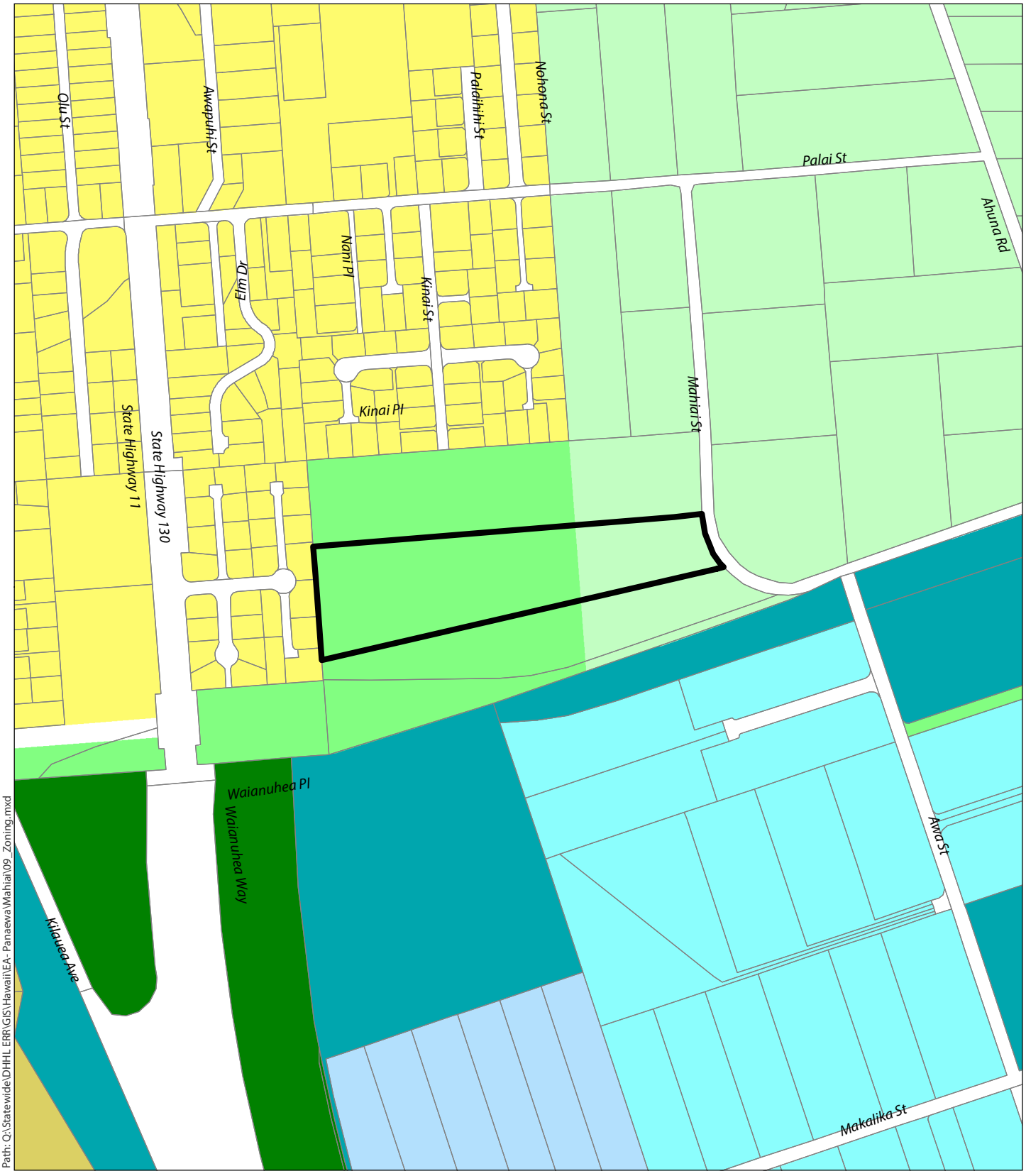
Linear Scale (feet)

0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2014 & 2015.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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DATE: 3/3/2016

LEGEND

Mahiai Lot

Tax Map Key Parcels

Zoning

A-10a
A-1a
A-3a
A-5a
FA-3a
OPEN
RS-10
RS-15

FIGURE 17:
Zoning
MAHIAI LOT
PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

Linear Scale (feet)
0 125 250 500

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2015.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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DATE: 3/11/2016

LEGEND

- Mahiai Lot
- Tax Map Key Parcels
- Special Management Area (none shown)

FIGURE 18:

Special Management Area

MAHIAI LOT

PANA'EWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

Linear Scale (miles)

0 0.125 0.25 0.5

PBR HAWAII & ASSOCIATES, INC.

Source: TMK: County of Hawaii, 2013 & 2015.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

Appendix B

PRE-ASSESSMENT CONSULTATION

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DAVID Y. IGE
GOVERNOR

DOUGLAS MURDOCK
Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

MAR 13 2015

(P)1047.5

Mr. Roy Takemoto
PBR Hawaii & Assoc., Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Dear Mr. Takemoto:

Subject: Pre-Assessment Consultation
Proposed Subdivision of the Panaewa Ag Lots
Waiakea, South Hilo District, Island of Hawaii
TMK: Various

This is in response to your letter dated March 2, 2015 regarding the subject project. The proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If there are any questions, please call me at 586-0526, or your staff may call Mr. David DePonte of the Planning Branch at 586-0492.

Sincerely,

JAMES K. KURATA
Public Works Administrator

DD:lnn
c: Mr. Jerry Watanabe, DAGS-Hawaii District Office

PBR HAWAII
& ASSOCIATES, INC.

HONOLULU OFFICE
1001 Bishop Street, Suite 650
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Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

July 12, 2015

Mr. James Kurata, Public Works Administrator
State of Hawai'i
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810-0119

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Kurata,

Although you responded that you did not have any early consultation comments on the subject project, enclosed is a copy of the Draft EA that provides additional information on the project and anticipated impacts. Your review of the Draft EA would be appreciated. The enclosed transmittal includes the deadline for comments and address to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

ARTHUR J. LOGAN
BRIGADIER GENERAL
ADJUTANT GENERAL

KENNETH S. HARA
COLONEL
DEPUTY ADJUTANT GENERAL

Mr. Roy Takemoto
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Subject: Pre-Assessment Consultation for the Proposed Subdivision of the Panaewa AG Lots located in the Ahupuaa of Waikea, South Hilo District, Island and County of Hawaii
Tax Map Key: (3) 2-2-061: 002, (3) 2-1-025: 006, (3) 2-1-025: 007, (3) 2-1-025: 047, and (3) 2-1-025: 048

Dear Mr. Takemoto,

Thank you for this opportunity to comment on the above project.

The State of Hawaii Department of Defense, Hawaii Emergency Management Agency (HIEMA) recommends the provision of one (1) omni-directional 121-db(c) siren mounted on a 45-foot H2 rated composite pole to ensure adequate siren coverage. HIEMA will work with the Department of Hawaiian Home Lands on the placement of the pole.

Should you have any questions, please contact Mr. Lloyd Maki, Assistant Chief Engineering Officer at 733-4250.

Sincerely,

ARTHUR J. LOGAN
Brigadier General
Hawaii National Guard
Adjutant General

c: Ms. Havinne Okamura, HIEMA

PBR HAWAII
& ASSOCIATES, INC.

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Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cell: (808) 315-6878

July 12, 2015

Brigadier General Arthur Logan
State of Hawai'i
Department of Defense
3949 Diamond Head Road
Honolulu, HI 96816

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear General Logan,

Thank you for your comments on the subject project. Enclosed is a Draft EA that includes a discussion of your recommendation to include an emergency siren. The Draft EA states that a more appropriate location is the Pana'ewa Park that should be audible to the Project residents. We would appreciate your review of the Draft EA. The enclosed transmittal includes the deadline and contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR

CRAIG K. HIRAI
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM
HAWAII HOUSING FINANCE AND DEVELOPMENT CORPORATION
677 QUEEN STREET, SUITE 300
Honolulu, Hawaii 96813
FAX: (808) 587-0600

IN REPLY REFER TO:
15:PEO/17

March 6, 2015

PBR Hawaii & Associates, Inc.
Attn: Roy Takemoto
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Takemoto:

Re: Pre-Assessment Consultation for the Proposed Subdivision of the Pana´ewa Ag Lots Located in the Ahupua´a of Waiākea, South Hilo District, Island and County of Hawai´i, TMK: (3)2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:48

Thank you for seeking our comments on the proposed Pana´ewa Ag Lots Subdivision located in the Ahupua´a of Waiākea, South Hilo District, Island and County of Hawai´i. We have no housing-related comments to offer at this time.

Sincerely,

Craig K. Hirai
Executive Director

PBR HAWAII
& ASSOCIATES, INC.

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1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
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HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

July 12, 2015

Mr. Craig Hirai, Executive Director
State of Hawai'i
Hawai'i Housing Finance and Development Corporation
677 Queen Street, Suite 300
Honolulu, HI 96813

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Hirai,

Although you responded that you did not have any early consultation comments on the subject project, enclosed is a copy of the Draft EA that provides additional information on the project and anticipated impacts. Your review of the Draft EA would be appreciated. The enclosed transmittal includes the deadline for comments and address to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR

KATHRYN S. MATAYOSHI
SUPERINTENDENT

STATE OF HAWAI'I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI'I 96804

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

March 24, 2015

Mr. Roy Takemoto
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Re: Pre-Assessment Consultation for the Proposed Subdivision of the Panaewa AG Lots Located in the Ahupuaa of Waiakea, South Hilo District, Island and County of Hawaii, TMK: (3)2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Takemoto:

The Department of Education (DOE) has reviewed the Pre-Assessment Consultation for the proposed subdivision of the 90 Panaewa AG lots located in the Ahupuaa of Waiakea on the Island and County of Hawaii.

The proposed subdivision and development of the Panaewa AG Lots are located in the Waiakea complex area. Students residing in the proposed subdivision identified as TMK: (3)2-2-061:002 would be attending Waiakeawaena Elementary School, Waiakea Intermediate School and Waiakea High School. The proposed subdivision consisting of the following lots: TMK: (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048 would have students attend Waiakea Elementary School, Waiakea Intermediate School and Waiakea High School.

The DOE does not expect that this project will have a significant impact on its facilities.

We appreciate the opportunity to provide comments. If you have any questions, please call Heidi Meeker of the Facilities Development Branch at 377-8301.

Respectfully,

Kenneth G. Masden II
Public Works Manager
Planning Section

KGM:jmb

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

PBR HAWAII
& ASSOCIATES, INC.

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1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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July 12, 2015

Mr. Kenneth Masden, Public Works Manager
Planning Section
State of Hawaii, Department of Education
PO Box 2360
Honolulu, HI 96804

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Masden,

Thank you for responding to our pre-assessment consultation. In your letter dated March 24, 2015, you provided very helpful information identifying the schools that the Project school-aged children would attend and confirming that these schools have adequate capacity. We incorporated your comment in the enclosed Draft EA (section 4.9.1). Your review of the Draft EA would be appreciated to assess whether accurately reflected your information, and to add any other comments you may have. The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 916
HILO, HAWAII 96721-0916

MEMORANDUM

DATE: March 20, 2015

TO: PBR Hawaii & Associates. Inc.

FROM: Newton Inouye
District Environmental Health Program Chief

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIAKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I.
TMK: (3) 2-2-061:002, (3) 2-1-025:006, (3) 2-1-025:007, (3) 2-1-025:047, and (3) 2-1-025:048

The applicant would need to meet the requirements of our Department of Health Air Pollution Rules, Chapter 60.1, Title 11, State of Hawaii for fugitive dust control. If there is need to discuss these requirements, please contact our Clean Air Branch staff at Ph. 933-0401.

Construction activities must comply with the provisions of Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control."

1. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the rules.

2. Construction equipment and on-site vehicles requiring an exhaust of gas or air must be equipped with mufflers.

3. The contractor must comply with the requirements pertaining to construction activities as specified in the rules and the conditions issued with the permit.

Should there be any questions on this matter, please contact the Department of Health at 933-0917.

We recommend that you review all of the Standard Comments on our website: http://hawaii.gov/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this project should be adhered to.

c: EPO

WORD: Panaewa Ag Lots

The same website also features a Healthy Community Design Smart Growth Checklist (Checklist) created by Built Environment Working Group (BEWG) of the Hawaii State Department of Health. The BEWG recommends that state and county planning departments, developers, planners, engineers and other interested parties apply the healthy built environment principles in the Checklist whenever they plan or review new developments or redevelopments projects. We also ask you to share this list with others to increase community awareness on healthy community design.

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS

THOMAS S. WITTEN, ASLA
Chairman

R. STAN DUNCAN, ASLA
President

RUSSELL Y. J. CHUNG, FASLA, LEED®AP BD+C
Executive Vice-President

VINCENT SHIGEKUNI
Vice-President

GRANT T. MURAKAMI, AICP, LEED®AP BD+C
Vice-President

TOM SCHNELL, AICP
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

ASSOCIATES

RAYMOND T. HIGA, ASLA
Senior Associate

KIMI MIKAMI YUEN, LEED®AP BD+C
Senior Associate

SCOTT ALIKA ABRIGO, LEED®AP BD+C
Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED®AP
Associate

DACHENG DONG, LEED®AP
Associate

MARC SHIMATSU, ASLA
Associate

CATIE CULLISON, AICP
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HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

printed on recycled paper

July 12, 2015

Mr. Newton Inouye, District Environmental Health Program Chief
State of Hawai'i
Department of Health
P.O. Box 916
Hilo, HI 96721-0916

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Inouye,

Thank you for responding to our pre-assessment consultation. In your letter dated March 20, 2015, you provided very helpful information identifying the requirements to comply with fugitive dust and noise from construction activities, as well as reference to DOH's other standard comments and the healthy communities checklist. We incorporated your comments in the enclosed Draft EA in various sections addressing air quality, water quality, noise, and stormwater runoff. Your review of the Draft EA would be appreciated to assess whether we accurately reflected your information, and to add any other comments you may have. The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

LUD - 3 2 2 061 002 etc Prop Subd
Panaewa Ag Lots-ID2165

March 30, 2015

Mr. Roy Takemoto
Managing Director, Hilo Office
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813- 3484

Dear Mr. Takemoto:

Subject: Pre-Assessment Consultation for Proposed Subdivision of the Panaewa Ag Lots Located in the Ahupuaa of Waiakea, South Hilo District, Island and County of Hawaii
TMK (3) 2-2-061: 002, (3) 2-1-025: 006, (3) 2-1-025: 007
TMK (3) 2-1-025: 047 and (3) 2-1-025: 048

Thank you for allowing us the opportunity to provide comments on the above subject project. We have the following information to offer. The subject project TMKs are located in the critical wastewater disposal area with one (1) acre lot exception as determined by the Hawaii County Wastewater Advisory Committee. We do not have any individual wastewater system (IWS) information on file.

In the drawings, Makaala Street is mislabeled as Hakaala. Makaala is sewered and services the commercially developed area between the highway and Railroad Avenue. The Prince Kuhio Plaza (mall), Wal-Mart, Target, Safeway, Home Depot and numerous fast food restaurants and other businesses are located in that area. All these businesses are served by County sewer.

The lot between the commercial area and the proposed subdivision, TMK (3) 2-1-025: 091 is used as a farmer's market by DHHL (the sole owner) for owners in the lots to sell their products.

The next lot, TMK (3) 2-1-025: 046 is undeveloped and zoned commercial and DHHL is the sole owner.

Although a direct sewer lateral connection to the County of Hawaii's sewer system is presently not available for the subject properties at TMK (3) 2-1-025, considering the relative close proximity in order to connect to the County sewer system, the DHHL should pursue connecting proposed project to the County system. Hilo WWB estimates the distance from the existing sewer line to the nearest portion of the TMK (3) 2-1-025 subdivision to be just over a third of a mile, about half a kilometer. Also, since DHHL is the sole owner of the intermediate, undeveloped, and commercially zoned properties in this area, it should be straightforward to proceed with a sewer easement, even a pumping station should it be required. In addition, any future DHHL developments in this area will also benefit by being able to connect to the County sewer system for wastewater treatment and disposal.

The property, TMK (3) 2-2-061: 002 is presently considered by the WWB to be far beyond the area served by the County sewer.

Until the wastewater and treatment and disposal concerns for the proposed project are appropriately addressed we are not able to provide our support for the proposed project.

Please be informed that the proposed wastewater systems for the subdivision/development may have to include design considerations to address any effects associated with the construction of and/or discharges from the wastewater systems to any public trust, Native Hawaiian resources or the exercise of traditional cultural practices. In addition, all wastewater plans must conform to applicable provisions of the Hawaii Administrative Rules, Chapter 11-62, "Wastewater Systems."

Should you have any questions, please contact Mark Tomomitsu of our Oahu office at (808) 586-4294.

Sincerely,

SINA PRUDER, P.E., CHIEF
Wastewater Branch

LM/MST:lmj

c: Ms. Laura McIntyre, DOH-Environmental Planning Office
Ms. Amy Cook, DOH-WWB's Hilo Staff

PBR HAWAII
& ASSOCIATES, INC.

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1719 Haleloke Street
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July 12, 2015

Sina Pruder, P.E., Chief
Wastewater Branch
State of Hawai'i
Department of Health
P. 0. Box 3378
Honolulu, HI 96801-3378

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Thank you for your comments dated March 30, 2015. Enclosed is a Draft EA that includes a discussion of the wastewater alternatives including your suggestion to connect to the existing County sewer via a sewer easement (see §4.7.2 of the enclosed Draft EA). We would appreciate your review of the Draft EA. The enclosed transmittal includes the deadline and contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR

RACHAEL WONG, DrPH
DIRECTOR

PANKAJ BHANOT
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawaii 96813

March 18, 2015

Re: 15-0110

PBR HAWAII & Associates, Inc.
Attn: Roy Takemoto
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Takemoto:

Subject: Pre-Assessment Consultation for the proposed subdivision of the Panaewa AG Lots Located in the Ahupua'a of Waiakea, South Hilo District, Island and County of Hawaii (TMK (3) 2-2-061:002, (3)2-1-025:006, (3) 2-1-025:007, (3) 2-1-025:047, and (3) 2-1-025:048

This is in response to your letter dated March 2, 2015 requesting the Department of Human Services (DHS) comment on the proposed subdivision of the Pana'ewa AG Lots project located in the Ahupua'a of Waiakea, South Hilo, Hawaii.

The DHS has reviewed the subdivision lay out for the proposed Pana'ewa project. Please be advised that there are several DHS licensed family child care homes located in the near vicinity that may be impacted by the construction project.

If you have any questions or need further information, please contact Ms. Jill Arizumi, Child Care Program Specialist, at (808) 586-5240.

Sincerely,

Scott Nakasone

Scott Nakasone
Assistant Division Administrator

c: Rachael Wong, DrPH, Director

AN EQUAL OPPORTUNITY AGENCY

PBR HAWAII
& ASSOCIATES, INC.

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printed on recycled paper

July 12, 2015

Dr. Rachel Wong, Director
State of Hawai'i
Department of Human Services
1390 Miller Street, Room 209
Honolulu, HI 96813

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Dr. Wong,

Thank you for responding to our pre-assessment consultation. In your letter dated March 18, 2015, you advised us that there are several OHS licensed family child care homes located in the near vicinity that may be impacted by the subject project. We incorporated your comment in the enclosed Draft EA (section 4.8.1). Your review of the Draft EA would be appreciated to assess whether your concerns have been adequately addressed, and to add any other comments you may have. The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

April 29, 2015

Niniau K. Simmons
Department of Hawaiian Home Lands
PO Box 1879
Honolulu, HI 96805

LOG NO: 2015.01397
DOC NO: 1504SN08
Archaeology

Aloha Ms. Simmons:

SUBJECT: **Chapter 6E-8 and National Historic Preservation Act Section 106 Review –**
Proposed Subdivision of the Panaʻewa AG Lots
Waiākea Ahupuaʻa, South Hilo District, Island of Hawaiʻi
TMK: (3) 2-1-025:006, 007, 047, and 048; (3) 2-2-061:002

Mahalo for your letter dated April 7, 2015, initiating consultation on the proposed subdivision of the Panaʻewa AG lots. Also included with your letter was a draft letter report prepared by Scientific Consultant Services (SCS) for the five parcels. The draft letter report states that the entire 50-acre APE was surveyed utilizing pedestrian transects spaced 10 m apart and that no historic properties were identified.

Your submittal letter indicates that the Department of Hawaiian Home Lands (DHHL) is conducting an environmental assessment and NEPA review for the proposed project. The project will be funded using Native American Housing Assistance and Self-Determination Act (NAHASA) funds from the U.S. Department of Housing and Urban Development (HUD). The DHHL is acting as the responsible agency for the NHPA Section 106 consultation process. The proposed undertaking will subdivide 90 1/2-acre parcels for single-family housing on undeveloped DHHL state-owned land in Panaʻewa.

The Area of Potential Effect (APE) for this undertaking is the aforementioned TMKs. The acreage of the APE totals approximately 50 acres. Four parcels (TMK: (3) 2-1-025:006, 007, 047, and 048) are located adjacent to each other on Auwae Street. The fifth parcel (TMK: (3) 2-2-061:002) is located on Mahiʻai Street.

Our records indicate that we do not have an Archaeological Inventory Survey (AIS) on file for the APE. The draft SCS letter report was not prepared at the request of SHPD and has not been officially submitted to our division for review. Thus, we have insufficient information to evaluate the efficacy of the SCS surface survey or the potential for the proposed project to affect historic properties.

The State Historic Preservation Officer (SHPO) requests the following:

(1) A letter from DHHL documenting the consultation process and results, including a list of consulting parties, method of consultation, and consultation comments shared by Native Hawaiian Organizations (NHOs) and other interested parties;
(2) A letter from DHHL identifying the historic properties within the APE, the DHHL's determination of eligibility for each identified historic property and, if historic properties may be affected, DHHL's proposed mitigation recommendations; and

(3) An AIS including subsurface testing be conducted and that an AIS report meeting the requirements of Hawaii Administrative Rule (HAR) §13-276 and the *Secretary of the Interior's Standards for Archaeological Documentation* be submitted for SHPD review and acceptance prior to DHHL submitting a project effect determination to SHPD for concurrence.

We look forward to working with you throughout the Section 106 process. Please contact Sean Nāleimaile at (808) 933-7651 or Sean.P.Naleimaile@Hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,

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

cc: Catie Cullison
1001 Bishop Street, Suite 650
Honolulu, HI 96813

PBR HAWAII
& ASSOCIATES, INC.

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1719 Haleloke Street
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July 12, 2015

Mr. Alan Downer, Administrator
State of Hawai'i
DLNR, State Historic Preservation Division
Kakuhihewa Building
601 Kamokila Blvd., Suite 555
Honolulu, HI 96707

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Downer,

Thank you for your comments dated April 29, 2015. Enclosed is a Draft EA for your review. The Draft EA includes an archaeological inventory survey as Appendix D. The archaeologist also submitted a copy of the study directly to your division for review. The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:

STP 8.1783

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

April 8, 2015

Mr. Roy Takemoto
Managing Director, Hilo Office
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Takemoto:

Subject: Panaewa Agricultural Lots
Pre-Assessment Consultation for Environmental Assessment and National Environmental Policy Act (NEPA) Environmental Review Record
Waiakea, South Hilo, Hawaii
TMK: (3) 2-2-061:002, 2-1-025:006, 2-1-025:007, 2-1-025:047, 2-1-025:048

Our Department of Transportation's (DOT) comments on the subject project are as follows:

Airports Division

1. It should be noted that the project is located approximately 5,462 feet and 12,913 feet from the end of Runway 3 at Hilo International Airport (Airfield). As such, the applicant should be aware of potential noise, fumes, smoke and vibrations from aircraft flying into and out of the Airfield.

2. We are concerned about the proposed land uses of the subject project due to the potential wildlife attractants which could create hazards for operations at the Airfield. In accordance with the attached Federal Aviation Administration (FAA) Advisory Circular 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports*, land use practices such as agricultural activities, should not be located within 10,000 feet from the aircraft operations area of the Airfield. FAA also recommends a distance of 5 statute miles between the farthest edge of the airport's air operations area (AOA) and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace.

3. The Department of Hawaiian Home Lands (DHHL) should submit a Federal Aviation Administration (FAA) Form 7460-1 "Notice of Proposed Construction or Alteration," in accordance with Code of Federal Regulations, Title 14, Part 77.9, if construction of alteration is within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet. In addition, a FAA Form 7460-1 should be submitted for any tall equipment, such as cranes, that may be used during construction. This form and criteria for submittal can be found at the following website: https://oeaaa.faa.gov/oeaaa/external/portal.jsp
If they file a FAA Form 7460-1, we request a copy be provided to DOT-Airports Division when they receive the FAA determination.

4. Additionally, if photovoltaic (PV) systems are being considered, then the DHHL should be aware that photovoltaic (PV) systems, located in or near the approach path of aircraft into an airport, can create a hazardous condition for a pilot due to possible glint and glare reflected from the PV array. The following website may assist with preparation of a glint and glare analysis: www.sandia.gov/glare

5. We recommend that landscaping shall be carefully chosen to avoid species that will attract migratory birds or wildlife that could pose a threat to air navigation nearby. Lessees should be cognizant of mature heights of trees planted in the subject area so they do not become a hazard/obstruction to aircraft operations at Hilo International Airport.

6. The DOT-Airports Division should be notified prior to any land disturbance activities that could present fugitive dust issues. This would include both general clearing, grading, and grubbing operations as well as blasting for excavation.

Highways Division

A traffic assessment shall be prepared and submitted to our Highways Division for review and acceptance to evaluate the cumulative traffic impact of the project on the State highway facilities in the area.

If there are any questions, please contact Mr. Norren Kato of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Sincerely,

FORD N. FUCHIGAMI
Director of Transportation

Attachment: FAA Advisory Circular

c: Gordon Wong, Federal Aviation Administration

U.S. Department of Transportation

Federal Aviation Administration

Advisory Circular

Subject: HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS	**Date:** 8/28/2007	**AC No:** 150/5200-33B
	Initiated by: AAS-300	**Change:**

1. PURPOSE. This Advisory Circular (AC) provides guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. Appendix 1 provides definitions of terms used in this AC.

2. APPLICABILITY. The Federal Aviation Administration (FAA) recommends that public-use airport operators implement the standards and practices contained in this AC. The holders of Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D (Part 139), may use the standards, practices, and recommendations contained in this AC to comply with the wildlife hazard management requirements of Part 139. Airports that have received Federal grant-in-aid assistance must use these standards. The FAA also recommends the guidance in this AC for land-use planners, operators of non-certificated airports, and developers of projects, facilities, and activities on or near airports.

3. CANCELLATION. This AC cancels AC 150/5200-33A, *Hazardous Wildlife Attractants on or near Airports*, dated July 27, 2004.

4. PRINCIPAL CHANGES. This AC contains the following major changes, which are marked with vertical bars in the margin:

a. Technical changes to paragraph references.

b. Wording on storm water detention ponds.

c. Deleted paragraph 4-3.b, *Additional Coordination*.

5. BACKGROUND. Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a threat to aircraft safety, they are not equally hazardous. Table 1

ranks the wildlife groups commonly involved in damaging strikes in the United States according to their relative hazard to aircraft. The ranking is based on the 47,212 records in the FAA National Wildlife Strike Database for the years 1990 through 2003. These hazard rankings, in conjunction with site-specific Wildlife Hazards Assessments (WHA), will help airport operators determine the relative abundance and use patterns of wildlife species and help focus hazardous wildlife management efforts on those species most likely to cause problems at an airport.

Most public-use airports have large tracts of open, undeveloped land that provide added margins of safety and noise mitigation. These areas can also present potential hazards to aviation if they encourage wildlife to enter an airport's approach or departure airspace or air operations area (AOA). Constructed or natural areas—such as poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter (putrescible waste) disposal operations, wastewater treatment plants, agricultural or aquaculture activities, surface mining, or wetlands—can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. Even small facilities, such as fast food restaurants, taxicab staging areas, rental car facilities, aircraft viewing areas, and public parks, can produce substantial attractions for hazardous wildlife.

During the past century, wildlife-aircraft strikes have resulted in the loss of hundreds of lives worldwide, as well as billions of dollars in aircraft damage. Hazardous wildlife attractants on and near airports can jeopardize future airport expansion, making proper community land-use planning essential. This AC provides airport operators and those parties with whom they cooperate with the guidance they need to assess and address potentially hazardous wildlife attractants when locating new facilities and implementing certain land-use practices on or near public-use airports.

6. MEMORANDUM OF AGREEMENT BETWEEN FEDERAL RESOURCE AGENCIES. The FAA, the U.S. Air Force, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture - Wildlife Services signed a Memorandum of Agreement (MOA) in July 2003 to acknowledge their respective missions in protecting aviation from wildlife hazards. Through the MOA, the agencies established procedures necessary to coordinate their missions to address more effectively existing and future environmental conditions contributing to collisions between wildlife and aircraft (wildlife strikes) throughout the United States. These efforts are intended to minimize wildlife risks to aviation and human safety while protecting the Nation's valuable environmental resources.

DAVID L. BENNETT
Director, Office of Airport Safety
and Standards

Table 1. Ranking of 25 species groups as to relative hazard to aircraft (1=most hazardous) based on three criteria (damage, major damage, and effect-on-flight), a composite ranking based on all three rankings, and a relative hazard score. Data were derived from the FAA National Wildlife Strike Database, January 1990–April 2003.[1]

Species group	Ranking by criteria			Composite ranking[2]	Relative hazard score[3]
	Damage[4]	Major damage[5]	Effect on flight[6]		
Deer	1	1	1	1	100
Vultures	2	2	2	2	64
Geese	3	3	6	3	55
Cormorants/pelicans	4	5	3	4	54
Cranes	7	6	4	5	47
Eagles	6	9	7	6	41
Ducks	5	8	10	7	39
Osprey	8	4	8	8	39
Turkey/pheasants	9	7	11	9	33
Herons	11	14	9	10	27
Hawks (buteos)	10	12	12	11	25
Gulls	12	11	13	12	24
Rock pigeon	13	10	14	13	23
Owls	14	13	20	14	23
H. lark/s. bunting	18	15	15	15	17
Crows/ravens	15	16	16	16	16
Coyote	16	19	5	17	14
Mourning dove	17	17	17	18	14
Shorebirds	19	21	18	19	10
Blackbirds/starling	20	22	19	20	10
American kestrel	21	18	21	21	9
Meadowlarks	22	20	22	22	7
Swallows	24	23	24	23	4
Sparrows	25	24	23	24	4
Nighthawks	23	25	25	25	1

[1] Excerpted from the *Special Report for the FAA, "Ranking the Hazard Level of Wildlife Species to Civil Aviation in the USA: Update #1, July 2, 2003"*. Refer to this report for additional explanations of criteria and method of ranking.

[2] Relative rank of each species group was compared with every other group for the three variables, placing the species group with the greatest hazard rank for $\geq$ 2 of the 3 variables above the next highest ranked group, then proceeding down the list.

[3] Percentage values, from Tables 3 and 4 in Footnote 1 of the *Special Report*, for the three criteria were summed and scaled down from 100, with 100 as the score for the species group with the maximum summed values and the greatest potential hazard to aircraft.

[4] Aircraft incurred at least some damage (destroyed, substantial, minor, or unknown) from strike.

[5] Aircraft incurred damage or structural failure, which adversely affected the structure strength, performance, or flight characteristics, and which would normally require major repair or replacement of the affected component, or the damage sustained makes it inadvisable to restore aircraft to airworthy condition.

[6] Aborted takeoff, engine shutdown, precautionary landing, or other.

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Table of Contents

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SECTION 1.

GENERAL SEPARATION CRITERIA FOR HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS.

1-1. INTRODUCTION. When considering proposed land uses, airport operators, local planners, and developers must take into account whether the proposed land uses, including new development projects, will increase wildlife hazards. Land-use practices that attract or sustain hazardous wildlife populations on or near airports can significantly increase the potential for wildlife strikes.

The FAA recommends the minimum separation criteria outlined below for land-use practices that attract hazardous wildlife to the vicinity of airports. Please note that FAA criteria include land uses that cause movement of hazardous wildlife onto, into, or across the airport's approach or departure airspace or air operations area (AOA). (See the discussion of the synergistic effects of surrounding land uses in Section 2-8 of this AC.)

The basis for the separation criteria contained in this section can be found in existing FAA regulations. The separation distances are based on (1) flight patterns of piston-powered aircraft and turbine-powered aircraft, (2) the altitude at which most strikes happen (78 percent occur under 1,000 feet and 90 percent occur under 3,000 feet above ground level), and (3) National Transportation Safety Board (NTSB) recommendations.

1-2. AIRPORTS SERVING PISTON-POWERED AIRCRAFT. Airports that do not sell Jet-A fuel normally serve piston-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 5,000 feet at these airports for any of the hazardous wildlife attractants mentioned in Section 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between an airport's AOA and the hazardous wildlife attractant. Figure 1 depicts this separation distance measured from the nearest aircraft operations areas.

1-3. AIRPORTS SERVING TURBINE-POWERED AIRCRAFT. Airports selling Jet-A fuel normally serve turbine-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 10,000 feet at these airports for any of the hazardous wildlife attractants mentioned in Section 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between an airport's AOA and the hazardous wildlife attractant. Figure 1 depicts this separation distance from the nearest aircraft movement areas.

1-4. PROTECTION OF APPROACH, DEPARTURE, AND CIRCLING AIRSPACE. For all airports, the FAA recommends a distance of 5 statute miles between the farthest edge of the airport's AOA and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace.

SECTION 2.

LAND-USE PRACTICES ON OR NEAR AIRPORTS THAT POTENTIALLY ATTRACT HAZARDOUS WILDLIFE.

2-1. GENERAL. The wildlife species and the size of the populations attracted to the airport environment vary considerably, depending on several factors, including land-use practices on or near the airport. This section discusses land-use practices having the potential to attract hazardous wildlife and threaten aviation safety. In addition to the specific considerations outlined below, airport operators should refer to *Wildlife Hazard Management at Airports,* prepared by FAA and U.S. Department of Agriculture (USDA) staff. (This manual is available in English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA's wildlife hazard mitigation web site: http://wildlife-mitigation.tc.FAA.gov.). And, *Prevention and Control of Wildlife Damage,* compiled by the University of Nebraska Cooperative Extension Division. (This manual is available online in a periodically updated version at: ianrwww.unl.edu/wildlife/solutions/handbook/.)

2-2. WASTE DISPOSAL OPERATIONS. Municipal solid waste landfills (MSWLF) are known to attract large numbers of hazardous wildlife, particularly birds. Because of this, these operations, when located within the separations identified in the siting criteria in Sections 1-2 through 1-4, are considered incompatible with safe airport operations.

a. Siting for new municipal solid waste landfills subject to AIR 21. Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Public Law 106-181) (AIR 21) prohibits the construction or establishment of a new MSWLF within 6 statute miles of certain public-use airports. Before these prohibitions apply, both the airport and the landfill must meet the very specific conditions described below. These restrictions do not apply to airports or landfills located within the state of Alaska.

The airport must (1) have received a Federal grant(s) under 49 U.S.C. § 47101, et. seq.; (2) be under control of a public agency; (3) serve some scheduled air carrier operations conducted in aircraft with less than 60 seats; and (4) have total annual enplanements consisting of at least 51 percent of scheduled air carrier enplanements conducted in aircraft with less than 60 passenger seats.

The proposed MSWLF must (1) be within 6 miles of the airport, as measured from airport property line to MSWLF property line, and (2) have started construction or establishment on or after April 5, 2001. Public Law 106-181 only limits the construction or establishment of some new MSWLF. It does not limit the expansion, either vertical or horizontal, of existing landfills.

NOTE: Consult the most recent version of AC 150/5200-34, *Construction or Establishment of Landfills Near Public Airports,* for a more detailed discussion of these restrictions.

Figure 1. Separation distances within which hazardous wildlife attractants should be avoided, eliminated, or mitigated.

PERIMETER A: For airports serving piston-powered aircraft, hazardous wildlife attractants must be 5,000 feet from the nearest air operations area.

PERIMETER B: For airports serving turbine-powered aircraft, hazardous wildlife attractants must be 10,000 feet from the nearest air operations area.

PERIMETER C: 5-mile range to protect approach, departure and circling airspace.

b. **Siting for new MSWLF not subject to AIR 21.** If an airport and MSWLF do not meet the restrictions of Public Law 106-181, the FAA recommends against locating MSWLF within the separation distances identified in Sections 1-2 through 1-4. The separation distances should be measured from the closest point of the airport's AOA to the closest planned MSWLF cell.

c. **Considerations for existing waste disposal facilities within the limits of separation criteria.** The FAA recommends against airport development projects that would increase the number of aircraft operations or accommodate larger or faster aircraft near MSWLF operations located within the separations identified in Sections 1-2 through 1-4. In addition, in accordance with 40 CFR 258.10, owners or operators of existing MSWLF units that are located within the separations listed in Sections 1-2 through 1-4 must demonstrate that the unit is designed and operated so it does not pose a bird hazard to aircraft. (See Section 4-2(b) of this AC for a discussion of this demonstration requirement.)

d. **Enclosed trash transfer stations.** Enclosed waste-handling facilities that receive garbage behind closed doors; process it via compaction, incineration, or similar manner; and remove all residue by enclosed vehicles generally are compatible with safe airport operations, provided they are not located on airport property or within the Runway Protection Zone (RPZ). These facilities should not handle or store putrescible waste outside or in a partially enclosed structure accessible to hazardous wildlife. Trash transfer facilities that are open on one or more sides; that store uncovered quantities of municipal solid waste outside, even if only for a short time; that use semi-trailers that leak or have trash clinging to the outside; or that do not control odors by ventilation and filtration systems (odor masking is not acceptable) do not meet the FAA's definition of fully enclosed trash transfer stations. The FAA considers these facilities incompatible with safe airport operations if they are located closer than the separation distances specified in Sections 1-2 through 1-4.

e. **Composting operations on or near airport property.** Composting operations that accept only yard waste (e.g., leaves, lawn clippings, or branches) generally do not attract hazardous wildlife. Sewage sludge, woodchips, and similar material are not municipal solid wastes and may be used as compost bulking agents. The compost, however, must never include food or other municipal solid waste. Composting operations should not be located on airport property. Off-airport property composting operations should be located no closer than the greater of the following distances: 1,200 feet from any AOA or the distance called for by airport design requirements (see AC 150/5300-13, *Airport Design*). This spacing should prevent material, personnel, or equipment from penetrating any Object Free Area (OFA), Obstacle Free Zone (OFZ), Threshold Siting Surface (TSS), or Clearway. Airport operators should monitor composting operations located in proximity to the airport to ensure that steam or thermal rise does not adversely affect air traffic. On-airport disposal of compost by-products should not be conducted for the reasons stated in 2-3f.

f. **Underwater waste discharges.** The FAA recommends against the underwater discharge of any food waste (e.g., fish processing offal) within the separations identified in Sections 1-2 through 1-4 because it could attract scavenging hazardous wildlife.

g. **Recycling centers.** Recycling centers that accept previously sorted non-food items, such as glass, newspaper, cardboard, or aluminum, are, in most cases, not attractive to hazardous wildlife and are acceptable.

h. **Construction and demolition (C&D) debris facilities.** C&D landfills do not generally attract hazardous wildlife and are acceptable if maintained in an orderly manner, admit no putrescible waste, and are not co-located with other waste disposal operations. However, C&D landfills have similar visual and operational characteristics to putrescible waste disposal sites. When co-located with putrescible waste disposal operations, C&D landfills are more likely to attract hazardous wildlife because of the similarities between these disposal facilities. Therefore, a C&D landfill co-located with another waste disposal operation should be located outside of the separations identified in Sections 1-2 through 1-4.

i. **Fly ash disposal.** The incinerated residue from resource recovery power/heat-generating facilities that are fired by municipal solid waste, coal, or wood is generally not a wildlife attractant because it no longer contains putrescible matter. Landfills accepting only fly ash are generally not considered to be wildlife attractants and are acceptable as long as they are maintained in an orderly manner, admit no putrescible waste of any kind, and are not co-located with other disposal operations that attract hazardous wildlife.

   Since varying degrees of waste consumption are associated with general incineration (not resource recovery power/heat-generating facilities), the FAA considers the ash from general incinerators a regular waste disposal by-product and, therefore, a hazardous wildlife attractant if disposed of within the separation criteria outlined in Sections 1-2 through 1-4.

2-3. WATER MANAGEMENT FACILITIES. Drinking water intake and treatment facilities, storm water and wastewater treatment facilities, associated retention and settling ponds, ponds built for recreational use, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. To prevent wildlife hazards, land-use developers and airport operators may need to develop management plans, in compliance with local and state regulations, to support the operation of storm water management facilities on or near all public-use airports to ensure a safe airport environment.

a. **Existing storm water management facilities.** On-airport storm water management facilities allow the quick removal of surface water, including discharges related to aircraft deicing, from impervious surfaces, such as pavement and terminal/hangar building roofs. Existing on-airport detention ponds collect storm water, protect water quality, and control runoff. Because they slowly release water

after storms, they create standing bodies of water that can attract hazardous wildlife. Where the airport has developed a Wildlife Hazard Management Plan (WHMP) in accordance with Part 139, the FAA requires immediate correction of any wildlife hazards arising from existing storm water facilities located on or near airports, using appropriate wildlife hazard mitigation techniques. Airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist.

Where possible, airport operators should modify storm water detention ponds to allow a maximum 48-hour detention period for the design storm. The FAA recommends that airport operators avoid or remove retention ponds and detention ponds featuring dead storage to eliminate standing water. Detention basins should remain totally dry between rainfalls. Where constant flow of water is anticipated through the basin, or where any portion of the basin bottom may remain wet, the detention facility should include a concrete or paved pad and/or ditch/swale in the bottom to prevent vegetation that may provide nesting habitat.

When it is not possible to drain a large detention pond completely, airport operators may use physical barriers, such as bird balls, wires grids, pillows, or netting, to deter birds and other hazardous wildlife. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office.

The FAA recommends that airport operators encourage off-airport storm water treatment facility operators to incorporate appropriate wildlife hazard mitigation techniques into storm water treatment facility operating practices when their facility is located within the separation criteria specified in Sections 1-2 through 1-4.

b. **New storm water management facilities.** The FAA strongly recommends that off-airport storm water management systems located within the separations identified in Sections 1-2 through 1-4 be designed and operated so as not to create above-ground standing water. Stormwater detention ponds should be designed, engineered, constructed, and maintained for a maximum 48–hour detention period after the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. When it is not possible to place these ponds away from an airport's AOA, airport operators should use physical barriers, such as bird balls, wires grids, pillows, or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages

the use of underground storm water infiltration systems, such as French drains or buried rock fields, because they are less attractive to wildlife.

c. **Existing wastewater treatment facilities.** The FAA strongly recommends that airport operators immediately correct any wildlife hazards arising from existing wastewater treatment facilities located on or near the airport. Where required, a WHMP developed in accordance with Part 139 will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should encourage wastewater treatment facility operators to incorporate measures, developed in consultation with a wildlife damage management biologist, to minimize hazardous wildlife attractants. Airport operators should also encourage those wastewater treatment facility operators to incorporate these mitigation techniques into their standard operating practices. In addition, airport operators should consider the existence of wastewater treatment facilities when evaluating proposed sites for new airport development projects and avoid such sites when practicable.

d. **New wastewater treatment facilities.** The FAA strongly recommends against the construction of new wastewater treatment facilities or associated settling ponds within the separations identified in Sections 1-2 through 1-4. Appendix 1 defines wastewater treatment facility as "any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes." The definition includes any pretreatment involving the reduction of the amount of pollutants or the elimination of pollutants prior to introducing such pollutants into a publicly owned treatment works (wastewater treatment facility). During the site-location analysis for wastewater treatment facilities, developers should consider the potential to attract hazardous wildlife if an airport is in the vicinity of the proposed site, and airport operators should voice their opposition to such facilities if they are in proximity to the airport.

e. **Artificial marshes.** In warmer climates, wastewater treatment facilities sometimes employ artificial marshes and use submergent and emergent aquatic vegetation as natural filters. These artificial marshes may be used by some species of flocking birds, such as blackbirds and waterfowl, for breeding or roosting activities. The FAA strongly recommends against establishing artificial marshes within the separations identified in Sections 1-2 through 1-4.

f. **Wastewater discharge and sludge disposal.** The FAA recommends against the discharge of wastewater or sludge on airport property because it may improve soil moisture and quality on unpaved areas and lead to improved turf growth that can be an attractive food source for many species of animals. Also, the turf requires more frequent mowing, which in turn may mutilate or flush insects or small animals and produce straw, both of which can attract hazardous wildlife. In addition, the improved turf may attract grazing wildlife, such as deer and geese. Problems may also occur when discharges saturate unpaved airport areas. The resultant soft, muddy conditions can severely restrict or prevent emergency vehicles from reaching accident sites in a timely manner.

2-4. WETLANDS. Wetlands provide a variety of functions and can be regulated by local, state, and Federal laws. Normally, wetlands are attractive to many types of wildlife, including many which rank high on the list of hazardous wildlife species (Table 1).

NOTE: If questions exist as to whether an area qualifies as a wetland, contact the local division of the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, or a wetland consultant qualified to delineate wetlands.

a. **Existing wetlands on or near airport property.** If wetlands are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. At public-use airports, the FAA recommends immediately correcting, in cooperation with local, state, and Federal regulatory agencies, any wildlife hazards arising from existing wetlands located on or near airports. Where required, a WHMP will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist.

b. **New airport development.** Whenever possible, the FAA recommends locating new airports using the separations from wetlands identified in Sections 1-2 through 1-4. Where alternative sites are not practicable, or when airport operators are expanding an existing airport into or near wetlands, a wildlife damage management biologist, in consultation with the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the state wildlife management agency should evaluate the wildlife hazards and prepare a WHMP that indicates methods of minimizing the hazards.

c. **Mitigation for wetland impacts from airport projects.** Wetland mitigation may be necessary when unavoidable wetland disturbances result from new airport development projects or projects required to correct wildlife hazards from wetlands. Wetland mitigation must be designed so it does not create a wildlife hazard. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Sections 1-2 through 1-4.

   (1) Onsite mitigation of wetland functions. The FAA may consider exceptions to locating mitigation activities outside the separations identified in Sections 1-2 through 1-4 if the affected wetlands provide unique ecological functions, such as critical habitat for threatened or endangered species or ground water recharge, which cannot be replicated when moved to a different location. Using existing airport property is sometimes the only feasible way to achieve the mitigation ratios mandated in regulatory orders and/or settlement agreements with the resource agencies. Conservation easements are an additional means of providing mitigation for project impacts. Typically the airport operator continues to own the property, and an easement is created stipulating that the property will be maintained as habitat for state or Federally listed species.

Mitigation must not inhibit the airport operator's ability to effectively control hazardous wildlife on or near the mitigation site or effectively maintain other aspects of safe airport operations. Enhancing such mitigation areas to attract hazardous wildlife must be avoided. The FAA will review any onsite mitigation proposals to determine compatibility with safe airport operations. A wildlife damage management biologist should evaluate any wetland mitigation projects that are needed to protect unique wetland functions and that must be located in the separation criteria in Sections 1-2 through 1-4 before the mitigation is implemented. A WHMP should be developed to reduce the wildlife hazards.

(2) Offsite mitigation of wetland functions. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Sections 1-2 through 1-4 unless they provide unique functions that must remain onsite (see 2-4c(1)). Agencies that regulate impacts to or around wetlands recognize that it may be necessary to split wetland functions in mitigation schemes. Therefore, regulatory agencies may, under certain circumstances, allow portions of mitigation to take place in different locations.

(3) Mitigation banking. Wetland mitigation banking is the creation or restoration of wetlands in order to provide mitigation credits that can be used to offset permitted wetland losses. Mitigation banking benefits wetland resources by providing advance replacement for permitted wetland losses; consolidating small projects into larger, better-designed and managed units; and encouraging integration of wetland mitigation projects with watershed planning. This last benefit is most helpful for airport projects, as wetland impacts mitigated outside of the separations identified in Sections 1-2 through 1-4 can still be located within the same watershed. Wetland mitigation banks meeting the separation criteria offer an ecologically sound approach to mitigation in these situations. Airport operators should work with local watershed management agencies or organizations to develop mitigation banking for wetland impacts on airport property.

2-5. DREDGE SPOIL CONTAINMENT AREAS. The FAA recommends against locating dredge spoil containment areas (also known as Confined Disposal Facilities) within the separations identified in Sections 1-2 through 1-4 if the containment area or the spoils contain material that would attract hazardous wildlife.

2-6. AGRICULTURAL ACTIVITIES. Because most, if not all, agricultural crops can attract hazardous wildlife during some phase of production, the FAA recommends against the used of airport property for agricultural production, including hay crops, within the separations identified in Sections 1-2 through 1-4. . If the airport has no financial alternative to agricultural crops to produce income necessary to maintain the viability of the airport, then the airport shall follow the crop distance guidelines listed in the table titled "Minimum Distances between Certain Airport Features and Any On-Airport Agricultural Crops" found in AC 150/5300-13, *Airport Design*, Appendix 17. The cost of wildlife control and potential accidents should be weighed against the income produced by the on-airport crops when deciding whether to allow crops on the airport.

a. **Livestock production.** Confined livestock operations (i.e., feedlots, dairy operations, hog or chicken production facilities, or egg laying operations) often attract flocking birds, such as starlings, that pose a hazard to aviation. Therefore, The FAA recommends against such facilities within the separations identified in Sections 1-2 through 1-4. Any livestock operation within these separations should have a program developed to reduce the attractiveness of the site to species that are hazardous to aviation safety. Free-ranging livestock must not be grazed on airport property because the animals may wander onto the AOA. Furthermore, livestock feed, water, and manure may attract birds.

b. **Aquaculture.** Aquaculture activities (i.e. catfish or trout production) conducted outside of fully enclosed buildings are inherently attractive to a wide variety of birds. Existing aquaculture facilities/activities within the separations listed in Sections 1-2 through 1-4 must have a program developed to reduce the attractiveness of the sites to species that are hazardous to aviation safety. Airport operators should also oppose the establishment of new aquaculture facilities/activities within the separations listed in Sections 1-2 through 1-4.

c. **Alternative uses of agricultural land.** Some airports are surrounded by vast areas of farmed land within the distances specified in Sections 1-2 through 1-4. Seasonal uses of agricultural land for activities such as hunting can create a hazardous wildlife situation. In some areas, farmers will rent their land for hunting purposes. Rice farmers, for example, flood their land during waterfowl hunting season and obtain additional revenue by renting out duck blinds. The duck hunters then use decoys and call in hundreds, if not thousands, of birds, creating a tremendous threat to aircraft safety. A wildlife damage management biologist should review, in coordination with local farmers and producers, these types of seasonal land uses and incorporate them into the WHMP.

2-7. GOLF COURSES, LANDSCAPING AND OTHER LAND-USE CONSIDERATIONS.

a. **Golf courses.** The large grassy areas and open water found on most golf courses are attractive to hazardous wildlife, particularly Canada geese and some species of gulls. These species can pose a threat to aviation safety. The FAA recommends against construction of new golf courses within the separations identified in Sections 1-2 through 1-4. Existing golf courses located within these separations must develop a program to reduce the attractiveness of the sites to species that are hazardous to aviation safety. Airport operators should ensure these golf courses are monitored on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

b. **Landscaping and landscape maintenance.** Depending on its geographic location, landscaping can attract hazardous wildlife. The FAA recommends that airport operators approach landscaping with caution and confine it to airport areas not associated with aircraft movements. A wildlife damage management biologist should review all landscaping plans. Airport operators should also monitor all landscaped areas on a continuing basis for the presence of hazardous wildlife. If

hazardous wildlife is detected, corrective actions should be immediately implemented.

Turf grass areas can be highly attractive to a variety of hazardous wildlife species. Research conducted by the USDA Wildlife Services' National Wildlife Research Center has shown that no one grass management regime will deter all species of hazardous wildlife in all situations. In cooperation with wildlife damage management biologist, airport operators should develop airport turf grass management plans on a prescription basis, depending on the airport's geographic locations and the type of hazardous wildlife likely to frequent the airport

Airport operators should ensure that plant varieties attractive to hazardous wildlife are not used on the airport. Disturbed areas or areas in need of re-vegetating should not be planted with seed mixtures containing millet or any other large-seed producing grass. For airport property already planted with seed mixtures containing millet, rye grass, or other large-seed producing grasses, the FAA recommends disking, plowing, or another suitable agricultural practice to prevent plant maturation and seed head production. Plantings should follow the specific recommendations for grass management and seed and plant selection made by the State University Cooperative Extension Service, the local office of Wildlife Services, or a qualified wildlife damage management biologist. Airport operators should also consider developing and implementing a preferred/prohibited plant species list, reviewed by a wildlife damage management biologist, which has been designed for the geographic location to reduce the attractiveness to hazardous wildlife for landscaping airport property.

c. **Airports surrounded by wildlife habitat.** The FAA recommends that operators of airports surrounded by woodlands, water, or wetlands refer to Section 2.4 of this AC. Operators of such airports should provide for a Wildlife Hazard Assessment (WHA) conducted by a wildlife damage management biologist. This WHA is the first step in preparing a WHMP, where required.

d. **Other hazardous wildlife attractants.** Other specific land uses or activities (e.g., sport or commercial fishing, shellfish harvesting, etc.), perhaps unique to certain regions of the country, have the potential to attract hazardous wildlife. Regardless of the source of the attraction, when hazardous wildlife is noted on a public-use airport, airport operators must take prompt remedial action(s) to protect aviation safety.

2-8. SYNERGISTIC EFFECTS OF SURROUNDING LAND USES. There may be circumstances where two (or more) different land uses that would not, by themselves, be considered hazardous wildlife attractants or that are located outside of the separations identified in Sections 1-2 through 1-4 that are in such an alignment with the airport as to create a wildlife corridor directly through the airport and/or surrounding airspace. An example of this situation may involve a lake located outside of the separation criteria on the east side of an airport and a large hayfield on the west side of an airport, land uses that together could create a flyway for Canada geese directly across the airspace of the airport. There are numerous examples of such situations;

therefore, airport operators and the wildlife damage management biologist must consider the entire surrounding landscape and community when developing the WHMP.

SECTION 3.

PROCEDURES FOR WILDLIFE HAZARD MANAGEMENT BY OPERATORS OF PUBLIC-USE AIRPORTS.

3.1. INTRODUCTION. In recognition of the increased risk of serious aircraft damage or the loss of human life that can result from a wildlife strike, the FAA may require the development of a Wildlife Hazard Management Plan (WHMP) when specific triggering events occur on or near the airport. Part 139.337 discusses the specific events that trigger a Wildlife Hazard Assessment (WHA) and the specific issues that a WHMP must address for FAA approval and inclusion in an Airport Certification Manual.

3.2. COORDINATION WITH USDA WILDLIFE SERVICES OR OTHER QUALIFIED WILDLIFE DAMAGE MANAGEMENT BIOLOGISTS. The FAA will use the Wildlife Hazard Assessment (WHA) conducted in accordance with Part 139 to determine if the airport needs a WHMP. Therefore, persons having the education, training, and expertise necessary to assess wildlife hazards must conduct the WHA. The airport operator may look to Wildlife Services or to qualified private consultants to conduct the WHA. When the services of a wildlife damage management biologist are required, the FAA recommends that land-use developers or airport operators contact a consultant specializing in wildlife damage management or the appropriate state director of Wildlife Services.

NOTE: Telephone numbers for the respective USDA Wildlife Services state offices can be obtained by contacting USDA Wildlife Services Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD, 20737-1234, Telephone (301) 734-7921, Fax (301) 734-5157 *(http://www.aphis.usda.gov/ws/)*.

3-3. WILDLIFE HAZARD MANAGEMENT AT AIRPORTS: A MANUAL FOR AIRPORT PERSONNEL. This manual, prepared by FAA and USDA Wildlife Services staff, contains a compilation of information to assist airport personnel in the development, implementation, and evaluation of WHMPs at airports. The manual includes specific information on the nature of wildlife strikes, legal authority, regulations, wildlife management techniques, WHAs, WHMPs, and sources of help and information. The manual is available in three languages: English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA's wildlife hazard mitigation web site: http://wildlife-mitigation.tc.FAA.gov/. This manual only provides a starting point for addressing wildlife hazard issues at airports. Hazardous wildlife management is a complex discipline and conditions vary widely across the United States. Therefore, qualified wildlife damage management biologists must direct the development of a WHMP and the implementation of management actions by airport personnel.

There are many other resources complementary to this manual for use in developing and implementing WHMPs. Several are listed in the manual's bibliography.

3-4. WILDLIFE HAZARD ASSESSMENTS, TITLE 14, CODE OF FEDERAL REGULATIONS, PART 139. Part 139.337(b) requires airport operators to conduct a Wildlife Hazard Assessment (WHA) when certain events occur on or near the airport.

Part 139.337 (c) provides specific guidance as to what facts must be addressed in a WHA.

3-5. WILDLIFE HAZARD MANAGEMENT PLAN (WHMP). The FAA will consider the results of the WHA, along with the aeronautical activity at the airport and the views of the airport operator and airport users, in determining whether a formal WHMP is needed, in accordance with Part 139.337. If the FAA determines that a WHMP is needed, the airport operator must formulate and implement a WHMP, using the WHA as the basis for the plan.

The goal of an airport's Wildlife Hazard Management Plan is to minimize the risk to aviation safety, airport structures or equipment, or human health posed by populations of hazardous wildlife on and around the airport.

The WHMP must identify hazardous wildlife attractants on or near the airport and the appropriate wildlife damage management techniques to minimize the wildlife hazard. It must also prioritize the management measures.

3-6. LOCAL COORDINATION. The establishment of a Wildlife Hazards Working Group (WHWG) will facilitate the communication, cooperation, and coordination of the airport and its surrounding community necessary to ensure the effectiveness of the WHMP. The cooperation of the airport community is also necessary when new projects are considered. Whether on or off the airport, the input from all involved parties must be considered when a potentially hazardous wildlife attractant is being proposed. Airport operators should also incorporate public education activities with the local coordination efforts because some activities in the vicinity of your airport, while harmless under normal leisure conditions, can attract wildlife and present a danger to aircraft. For example, if public trails are planned near wetlands or in parks adjoining airport property, the public should know that feeding birds and other wildlife in the area may pose a risk to aircraft.

Airport operators should work with local and regional planning and zoning boards so as to be aware of proposed land-use changes, or modification of existing land uses, that could create hazardous wildlife attractants within the separations identified in Sections 1-2 through 1-4. Pay particular attention to proposed land uses involving creation or expansion of waste water treatment facilities, development of wetland mitigation sites, or development or expansion of dredge spoil containment areas. At the very least, airport operators must ensure they are on the notification list of the local planning board or equivalent review entity for all communities located within 5 miles of the airport, so they will receive notification of any proposed project and have the opportunity to review it for attractiveness to hazardous wildlife.

3-7 COORDINATION/NOTIFICATION OF AIRMEN OF WILDLIFE HAZARDS. If an existing land-use practice creates a wildlife hazard and the land-use practice or wildlife hazard cannot be immediately eliminated, airport operators must issue a Notice to Airmen (NOTAM) and encourage the land–owner or manager to take steps to control the wildlife hazard and minimize further attraction.

SECTION 4.

FAA NOTIFICATION AND REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS

4-1. FAA REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS.

a. The FAA discourages the development of waste disposal and other facilities, discussed in Section 2, located within the 5,000/10,000-foot criteria specified in Sections 1-2 through 1-4.

b. For projects that are located outside the 5,000/10,000-foot criteria but within 5 statute miles of the airport's AOA, the FAA may review development plans, proposed land-use changes, operational changes, or wetland mitigation plans to determine if such changes present potential wildlife hazards to aircraft operations. The FAA considers sensitive airport areas as those that lie under or next to approach or departure airspace. This brief examination should indicate if further investigation is warranted.

c. Where a wildlife damage management biologist has conducted a further study to evaluate a site's compatibility with airport operations, the FAA may use the study results to make a determination.

4-2. WASTE MANAGEMENT FACILITIES.

a. Notification of new/expanded project proposal. Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Public Law 106-181) limits the construction or establishment of new MSWLF within 6 statute miles of certain public-use airports, when both the airport and the landfill meet very specific conditions. See Section 2-2 of this AC and AC 150/5200-34 for a more detailed discussion of these restrictions.

The Environmental Protection Agency (EPA) requires any MSWLF operator proposing a new or expanded waste disposal operation within 5 statute miles of a runway end to notify the appropriate FAA Regional Airports Division Office and the airport operator of the proposal (40 CFR 258, *Criteria for Municipal Solid Waste Landfills*, Section 258.10, *Airport Safety*). The EPA also requires owners or operators of new MSWLF units, or lateral expansions of existing MSWLF units, that are located within 10,000 feet of any airport runway end used by turbojet aircraft, or within 5,000 feet of any airport runway end used only by piston-type aircraft, to demonstrate successfully that such units are not hazards to aircraft. (See 4-2.b below.)

When new or expanded MSWLF are being proposed near airports, MSWLF operators must notify the airport operator and the FAA of the proposal as early as possible pursuant to 40 CFR 258.

b. **Waste handling facilities within separations identified in Sections 1-2 through 1-4.** To claim successfully that a waste-handling facility sited within the separations identified in Sections 1-2 through 1-4 does not attract hazardous wildlife and does not threaten aviation, the developer must establish convincingly that the facility will not handle putrescible material other than that as outlined in 2-2.d. The FAA strongly recommends against any facility other than that as outlined in 2-2.d (enclosed transfer stations). The FAA will use this information to determine if the facility will be a hazard to aviation.

c. **Putrescible-Waste Facilities.** In their effort to satisfy the EPA requirement, some putrescible-waste facility proponents may offer to undertake experimental measures to demonstrate that their proposed facility will not be a hazard to aircraft. To date, no such facility has been able to demonstrate an ability to reduce and sustain hazardous wildlife to levels that existed before the putrescible-waste landfill began operating. For this reason, demonstrations of experimental wildlife control measures may not be conducted within the separation identified in Sections 1-2 through 1-4.

4-3. OTHER LAND-USE PRACTICE CHANGES. As a matter of policy, the FAA encourages operators of public-use airports who become aware of proposed land use practice changes that may attract hazardous wildlife within 5 statute miles of their airports to promptly notify the FAA. The FAA also encourages proponents of such land use changes to notify the FAA as early in the planning process as possible. Advanced notice affords the FAA an opportunity (1) to evaluate the effect of a particular land-use change on aviation safety and (2) to support efforts by the airport sponsor to restrict the use of land next to or near the airport to uses that are compatible with the airport.

The airport operator, project proponent, or land-use operator may use FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, or other suitable documents similar to FAA Form 7460-1 to notify the appropriate FAA Regional Airports Division Office. Project proponents can contact the appropriate FAA Regional Airports Division Office for assistance with the notification process.

It is helpful if the notification includes a 15-minute quadrangle map of the area identifying the location of the proposed activity. The land-use operator or project proponent should also forward specific details of the proposed land-use change or operational change or expansion. In the case of solid waste landfills, the information should include the type of waste to be handled, how the waste will be processed, and final disposal methods.

a. **Airports that have received Federal grant-in-aid assistance.** Airports that have received Federal grant-in-aid assistance are required by their grant assurances to take appropriate actions to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations. The FAA recommends that airport operators to the extent practicable oppose off-airport land-use changes or practices within the separations identified in Sections 1-2 through 1-4 that may attract hazardous wildlife. Failure to do so may lead to noncompliance with applicable grant assurances. The FAA will not approve the placement of airport

development projects pertaining to aircraft movement in the vicinity of hazardous wildlife attractants without appropriate mitigating measures. Increasing the intensity of wildlife control efforts is not a substitute for eliminating or reducing a proposed wildlife hazard. Airport operators should identify hazardous wildlife attractants and any associated wildlife hazards during any planning process for new airport development projects.

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APPENDIX 1. DEFINITIONS OF TERMS USED IN THIS ADVISORY CIRCULAR.

1. **GENERAL.** This appendix provides definitions of terms used throughout this AC.

    1. **Air operations area.** Any area of an airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft. An air operations area includes such paved areas or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiways, or apron.

    2. **Airport operator.** The operator (private or public) or sponsor of a public-use airport.

    3. **Approach or departure airspace.** The airspace, within 5 statute miles of an airport, through which aircraft move during landing or takeoff.

    4. **Bird balls.** High-density plastic floating balls that can be used to cover ponds and prevent birds from using the sites.

    5. **Certificate holder.** The holder of an Airport Operating Certificate issued under Title 14, Code of Federal Regulations, Part 139.

    6. **Construct a new MSWLF.** To begin to excavate, grade land, or raise structures to prepare a municipal solid waste landfill as permitted by the appropriate regulatory or permitting agency.

    7. **Detention ponds.** Storm water management ponds that hold storm water for short periods of time, a few hours to a few days.

    8. **Establish a new MSWLF.** When the first load of putrescible waste is received on-site for placement in a prepared municipal solid waste landfill.

    9. **Fly ash.** The fine, sand-like residue resulting from the complete incineration of an organic fuel source. Fly ash typically results from the combustion of coal or waste used to operate a power generating plant.

    10. **General aviation aircraft.** Any civil aviation aircraft not operating under 14 CFR Part 119, Certification: Air Carriers and Commercial Operators.

    11. **Hazardous wildlife.** Species of wildlife (birds, mammals, reptiles), including feral animals and domesticated animals not under control, that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard

    12. **Municipal Solid Waste Landfill (MSWLF).** A publicly or privately owned discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR § 257.2. An MSWLF may receive

other types wastes, such as commercial solid waste, non-hazardous sludge, small-quantity generator waste, and industrial solid waste, as defined under 40 CFR § 258.2. An MSWLF can consist of either a stand alone unit or several cells that receive household waste.

13. **New MSWLF.** A municipal solid waste landfill that was established or constructed after April 5, 2001.

14. **Piston-powered aircraft.** Fixed-wing aircraft powered by piston engines.

15. **Piston-use airport.** Any airport that does not sell Jet-A fuel for fixed-wing turbine-powered aircraft, and primarily serves fixed-wing, piston-powered aircraft. Incidental use of the airport by turbine-powered, fixed-wing aircraft would not affect this designation. However, such aircraft should not be based at the airport.

16. **Public agency.** A State or political subdivision of a State, a tax-supported organization, or an Indian tribe or pueblo (49 U.S.C. § 47102(19)).

17. **Public airport.** An airport used or intended to be used for public purposes that is under the control of a public agency; and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft is publicly owned (49 U.S.C. § 47102(20)).

18. **Public-use airport.** An airport used or intended to be used for public purposes, and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft may be under the control of a public agency or privately owned and used for public purposes (49 U.S.C. § 47102(21)).

19. **Putrescible waste.** Solid waste that contains organic matter capable of being decomposed by micro-organisms and of such a character and proportion as to be capable of attracting or providing food for birds (40 CFR §257.3-8).

20. **Putrescible-waste disposal operation.** Landfills, garbage dumps, underwater waste discharges, or similar facilities where activities include processing, burying, storing, or otherwise disposing of putrescible material, trash, and refuse.

21. **Retention ponds.** Storm water management ponds that hold water for several months.

22. **Runway protection zone (RPZ).** An area off the runway end to enhance the protection of people and property on the ground (see AC 150/5300-13). The dimensions of this zone vary with the airport design, aircraft, type of operation, and visibility minimum.

23. **Scheduled air carrier operation.** Any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial

operator for which the air carrier, commercial operator, or their representative offers in advance the departure location, departure time, and arrival location. It does not include any operation that is conducted as a supplemental operation under 14 CFR Part 119 or as a public charter operation under 14 CFR Part 380 (14 CFR § 119.3).

24. **Sewage sludge.** Any solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. (40 CFR 257.2)

25. **Sludge.** Any solid, semi-solid, or liquid waste generated form a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. (40 CFR 257.2)

26. **Solid waste.** Any garbage, refuse, sludge, from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including, solid liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954, as amended, (68 Stat. 923). (40 CFR 257.2)

27. **Turbine-powered aircraft.** Aircraft powered by turbine engines including turbojets and turboprops but excluding turbo-shaft rotary-wing aircraft.

28. **Turbine-use airport.** Any airport that sells Jet-A fuel for fixed-wing turbine-powered aircraft.

29. **Wastewater treatment facility.** Any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes, including Publicly Owned Treatment Works (POTW), as defined by Section 212 of the Federal Water Pollution Control Act (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-576) and the Water Quality Act of 1987 (P.L. 100-4). This definition includes any pretreatment involving the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. (See 40 CFR Section 403.3 (q), (r), & (s)).

30. **Wildlife.** Any wild animal, including without limitation any wild mammal, bird, reptile, fish, amphibian, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, including any part, product, egg, or offspring thereof (50 CFR 10.12, *Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants*). As used in this AC, wildlife includes feral animals and domestic animals out of the control of their owners (14 CFR Part 139, Certification of Airports).

31. **Wildlife attractants.** Any human-made structure, land-use practice, or human-made or natural geographic feature that can attract or sustain hazardous wildlife within the landing or departure airspace or the airport's AOA. These attractants can include architectural features, landscaping, waste disposal sites, wastewater treatment facilities, agricultural or aquaculture activities, surface mining, or wetlands.

32. **Wildlife hazard.** A potential for a damaging aircraft collision with wildlife on or near an airport.

33. **Wildlife strike.** A wildlife strike is deemed to have occurred when:

    a. A pilot reports striking 1 or more birds or other wildlife;

    b. Aircraft maintenance personnel identify aircraft damage as having been caused by a wildlife strike;

    c. Personnel on the ground report seeing an aircraft strike 1 or more birds or other wildlife;

    d. Bird or other wildlife remains, whether in whole or in part, are found within 200 feet of a runway centerline, unless another reason for the animal's death is identified;

    e. The animal's presence on the airport had a significant negative effect on a flight (i.e., aborted takeoff, aborted landing, high-speed emergency stop, aircraft left pavement area to avoid collision with animal) (Transport Canada, Airports Group, *Wildlife Control Procedures Manual*, Technical Publication 11500E, 1994).

2. **RESERVED.**

PBR HAWAII
& ASSOCIATES, INC.

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Chairman

R. STAN DUNCAN, ASLA
President

RUSSELL Y. J. CHUNG, FASLA, LEED®AP BD+C
Executive Vice-President

VINCENT SHIGEKUNI
Vice-President

GRANT T. MURAKAMI, AICP, LEED®AP BD+C
Vice-President

TOM SCHNELL, AICP
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

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printed on recycled paper

July 12, 2015

Mr. Ford Fuchigami, Director
State of Hawai'i
Department of Transportation
Ali'iaimoku Building
869 Punchbowl Street
Honolulu, HI 96813

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Fuchigami,

Thank you for responding to our pre-assessment consultation. In your letter dated April 8, 2015, you provided comments related to potential wildlife attractants near airports and a request for a traffic impact study. Enclosed is a Draft EA for your review. We would appreciate any comments, particularly whether we have adequately addressed your concerns regarding wildlife attractants, photovoltaic systems, and traffic (see Draft EA sections 4.3 and 4.9.4). We have not conducted a traffic impact assessment since the Project does not directly access a State highway and the primary intersections on the State highway that future residents would use are already improved. The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

In Reply Refer To:
EPIF00-2015-I-0258
EPIF00-2015-I-0261
EPIF00-2015-I-0262

JUN 04 2015

Ms. Jobie Masagatani
Chair, Department of Hawaiian Home Lands
Hale Kalanianaole
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

Subject: Informal Consultation for Department of Hawaiian Home Lands Addressing Development and Rehabilitation of Homes at Punaewa and Keaukaha, Hawaii Island and New Construction at Kalamaula, Molokai

Dear Ms. Masagatani:

The U.S. Fish and Wildlife Service (Service) received letters from your Native American Housing Assistance and Self Determination Act (NAHASDA) Manager Niniau Simmons, describing an award of NAHASDA funds from the U.S. Department of Housing and Urban Development (HUD) to the State of Hawaii Department of Hawaiian Home Lands (DHHL) to develop the Punaewa Agricultural Lots, Waiakea, Hawaii Island, rehabilitation and development of homes in Keaukaha, Hilo, Hawaii Island, and New Construction at Kalamaula, Molokai. The letters were dated April 17, 2015, April 27, 2015, and May 1, 2015, respectively. Pursuant to HUD regulations, DHHL is the responsible entity for the purposes of consultation relating to section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). The letter indicated DHHL's determination that the proposed action may affect but is not likely to adversely affect adversely affect the endangered Hawaiian hoary bat (Opeapea, *Lasiurus cinereus semotus*), Hawaiian hawk (Io, *Buteo solitarius*), Hawaiian goose (Nene, *Branta sandvicensis*), Hawaiian petrel (Uau, *Pterodroma phaeopygia sandwichensis*) and Blackburn's sphinx moth (*Manduca blackburni*) and the threatened Newell's shearwater (Ao, *Puffinus auricularis newelli*) and it requested our concurrence with that determination pursuant to section 7 of the ESA.

Project Description

Proposed rehabilitation work including minor interior and exterior improvements such as painting, roof repairs, electrical and plumbing work, termite treatment, repair of damage by termites or wood rot, and kitchen and bath cabinet repairs. Demolition and new construction of homes and retaining walls and construction of new homes on vacant lots is also proposed.

Construction will entail installation of water and sewer or septic systems, grading, driveway installation, drainage improvements, use of herbicide and insecticide to control weeds and fire ants, and construction of the residence buildings and fences.

The proposed subdivision and development of the Punaewa Agricultural Lots is being undertaken to enable the relocation of families and homes threatened by a lava flow at Makuu Farm Lots. The proposed subdivision would result in the development of approximately 50 acres off Mahiai Street (10 acres) and Auwae Road (40 acres) in the Punaewa Agricultural Lots, Waiakea, South Hilo, Hawaii Island. The rehabilitation and development of homes in Keaukaha, Hilo, Hawaii Island, will entail rehabilitation of three homes, and new construction on four vacant lots and two two-lot subdivisions to infill within the existing subdivision. At Kalamaula, Molokai, five vacant lots will be developed within an existing subdivision.

Proposed Conservation Measures

In May 12 and June 1, 2015, emails, Ms. Simmons confirmed the commitments in the letters that the following measures will be implemented at all of the project sites to minimize potential adverse effects to listed species. These conservation measures are considered part of the project description. Any changes to, modifications of, or failure to implement these conservation measures may result in the need to reinitiate this consultation.

Hawaiian hoary bat

The Hawaiian hoary bat roosts in both exotic and native woody vegetation and, while foraging, leaves young unattended in "nursery" trees and shrubs. If trees or shrubs suitable for bat roosting are cleared during the bat breeding season, there is a risk that young bats could inadvertently be harmed or killed. Additionally, Hawaiian hoary bats forage for insects from as low as three feet to higher than 500 feet above the ground. When barbed wire is used in fencing, Hawaiian hoary bats can become entangled. To avoid and minimize potential project impacts to Hawaiian hoary bats, the following measures are included in the project description:

- No woody plants over 15 feet tall will be removed or pruned during the sensitive bat pup birthing and rearing season of June 1 to September 15.
- If a bat is present at the project site, the area will be avoided. If a bat arrives in the construction area after work begins, work will cease until the animal leaves on its own accord.
- The only barbed wire used for fencing for the proposed project will be within 2 inches of the ground surface.

Nene

Nene may be present within the project area. Therefore, all on-site project personnel should be apprised that Nene may be in the vicinity of the project at any time during the year. To avoid and minimize potential project impacts to Nene, the following measures are included in the project description:

- If a Nene appears within 100 feet (30.5 meters) of ongoing work, all activity will be temporarily suspended until the animal leaves the area of its own accord. Moreover, if

any number of Nene are observed loafing or foraging within the project area during the Nene breeding season (October through March), a biologist familiar with the nesting behavior of Nene will survey in and around the project area prior to the resumption of any work, or after any subsequent delay of work of three or more days (during which the birds may attempt to nest). If a nest is discovered within a radius of 150 feet of proposed work, or a previously undiscovered nest is found within said radius after work begins, all work will cease immediately and the Service will be contacted for further guidance.

Seabirds

The Hawaiian petrel and the Newell's shearwater (collectively known as seabirds) may transit the project area flying to upland breeding colonies. Outdoor lighting at this project site could result in seabird disorientation, fallout, and injury or mortality. The seabirds are attracted to lights and after circling the lights they may collide with nearby wires, buildings, or other structures or they may land on the ground due to exhaustion. 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 listed seabirds, the following measures are included in the project description:

- To minimize potential project impacts to seabirds during their breeding season, all outdoor lights at the subject properties will be retrofit or replaced with lighting that is fully shielded so the bulb can only be seen from below bulb height and only used when necessary.
- No nighttime construction will occur during the seabird fledging period, September 15 through December 15.
- If nighttime construction occurs during other times of the year, all lighting will be shielded and directed toward the ground to avoid attracting adult seabirds as they travel from the ocean to their breeding areas.

In her May 14, 2015, email confirmation, Ms. Simmons reconfirmed the commitment in the letters that the following measures will be implemented the Kalamaula project site on Molokai to minimize potential adverse effects to the Blackburn's sphinx moth. The Hawaiian hawk does not occur on Molokai, so hawk surveys would not be done at that project location.

Hawaiian hawk

The reproductive success of the Hawaiian hawk may be reduced if they are disturbed at their nest site during the breeding season. Therefore, where noise greater than 60 dB (at five feet) or vegetation clearing is proposed during the March through September Hawaiian hawk breeding season, surveys of the trees within 328 feet (100 meters) of the project site shall be conducted and if a hawk nest is found, such work shall be delayed until the nest is no longer occupied.

Blackburn's sphinx moth

The adult Blackburn's sphinx moth feeds on nectar from native plants including beach morning glory (*Ipomoea pes-caprae*), iliee (*Plumbago zeylanica*), and maiapilo (*Capparis sandwichiana*).

Blackburn's sphinx moth larvae feed upon non-native tree tobacco (*Nicotiana glauca*), which occupies disturbed areas such as open fields and roadway margins, and the native aiea (*Nothocestrum sp.*). To pupate, Blackburn's sphinx moth larvae burrow into the soil near host plants and can remain in a state of torpor for up to a year (or more) before emerging from the soil. To avoid and minimize potential project impacts to the Blackburn's sphinx moth, the following measures are included in the project description: 1) If any tree removal, brush clearing, or soil disturbance activities are anticipated, a qualified biologist will survey the project area for the presence of larval host plants; and 2) if host plants are discovered in the area affected by the activity, the plant will not be cut or removed and the soil within 10 meters (33 feet) of the plant not be disturbed.

Conclusion

Based on the project's incorporation of the above avoidance and minimization measures, we concur with your determination that the proposed project may affect, but is not likely to adversely affect the Hawaiian hoary bat, Hawaiian hawk, Hawaiian goose, Hawaiian petrel, and Blackburn's sphinx moth, and the threatened Newell's shearwater. Unless the project description changes, or new information reveals that the proposed project may affect listed species in a manner or to an extent not considered, or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to section 7 of the ESA is necessary.

If you have any questions or concerns regarding this consultation, please contact Dawn Bruns (phone: 808-792-9469, email: dawn_bruns@fws.gov).

Sincerely,

Kristi Young
Acting Field Supervisor

Cc: Ms. Catie Cullison, PBR Hawaii
Ms. Claudine Allen, U.S. Department of Housing and Urban Development

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& ASSOCIATES, INC.

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July 12, 2015

Ms. Kristi Young, Acting Field Supervisor
USFWS – Pacific Islands Office
300 Ala Moana Blvd., Rm 3-122
Box 50088
Honolulu, HI 96850

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Ms. Young,

Thank you for your comments dated June 4, 2015 (EPIF00-2015-1-0258, EPIF00-2015-1-0261, EPIF00-201.5-1-0262). Enclosed is a Draft EA for your review. The Draft EA includes a flora and fauna survey as Appendix C. We would appreciate your review of the Draft EA and flora/fauna survey to assess whether we have adequately incorporated your recommended mitigation measures. The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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William P. Kenoi
Mayor

BJ Leithead Todd
Director

John A. Medeiros
Deputy Director

County of Hawai'i
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
345 Kekūanaō'a St., Suite 41• Hilo, Hawai'i 96720
(808) 961-8083 · Fax (808) 961-8086

March 31, 2015

Mr. Roy Takemoto
Managing Director, Hilo Office
PBR Hawai'i and Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

RE: Pre-Assessment Consultation for the Proposed Subdivision of the Pana'ewa Ag lots located in the Ahupua`a of Waiākea, South Hilo District,
TMK: 2-2-061:002, 2-1-025:006, 2-1-025:007, 2-1-025:047 and 2-1-025;048

Our Solid Waste Division will be meeting with DHHL regarding this project in the near future.

Thank you for allowing us to review and comment.

Sincerely,

BJ Leithead Todd
DIRECTOR

cc: Greg Goodale, SWD Chief

Green Waste Processing and Disposal Meeting

April 24, 2015 at WRSA Hilo Office

Attendance:

Isaac Takahashi	DHHL
Louie Hao	DHHL
Leslie Wilson	Earth Karvers Hawaii
Bob Shirai	Island Survey
Dan Bautista	WRSA
Dennis Lee	WRSA

Discussion:

1. Slide Presentation – a slide presentation (enclosed) was conducted in the meeting. The Green Waste Processing & Disposal proposal included the Panaewa Subdivision of Lots 6, 7, 47, & 48. A Sat Photo showed the subdivision in relation to the existing County Green Waste site. The second part of the presentation included the Options for Green Waste Processing Proposal. Three options was proposed: (a) – Level and Process Trees and Dispose on Site; (b) – Level Trees and Haul to County Green Waste Site and County Process Trees; and (c) – Level Trees and Dispose on Site with No Processing of Trees. The third part of the presentation the Demolition and Removal of a house on Panaewa Subdivision of Lot 185. The fourth part of the presentation was the Subdivision Improvement of Panaewa Subdivision of Lot 185.

2. Discussion on Options – the discussion on the options were as follows:

A. Level and Process Trees and Dispose on Site – a cost estimate was provided by Leslie at the meeting on the processing cost of the trees and disposal on site ($8,500 per acre for processing and $12,500 for grubbing). The total cost for the 40 acres is $840,000 for grubbing and processing. The mob/demob fee is 6% of the total cost or around $45,000, so the grand total cost is around $900,000. The shredded green waste would be stored on site for DHHL homesteaders to take for their use on their agricultural or residential leased lands. This option seems to be the best out of the all the options because it is the cheapest and quickest to do and also provides a benefit to the DHHL homesteaders.

B. Level Trees and Haul to County Green Waste Site and County Process Trees – the negative aspect of this option is the cost. A cost estimate (enclosed) was provided earlier by Leslie Wilson to clear and grub, reduce the tree size for County acceptance, preparing a haul road within the

subdivision, and hauling the green waste to the County site. The total cost was around $40,000 per acre or $1.6 M for 40 acres.

C. Level Trees and Dispose on Site with No Processing of Trees – this option may be the cheapest of all the options but not acceptable to DOH or County regulations. The green waste could be buried but that option is not acceptable for a subdivision development.

3. Discussion of Demolition and Removal of the house on Panaewa Lot 185 – a cost estimate (enclosed) was provided by Leslie Wilson. The cost to demolish and remove the house is $11,000. The Lauhala Trees (3) will remain. The other trees will be removed, save the Samoan Coconut Tree. The cost for tree removal and disposal is around $4,000. The total cost is around $15,000.

4. Discussion on Subdivision Improvements for Panaewa Lot 185 – a preliminary Engineer's Cost Estimate was provided in the slide presentation. A waterline was included in the improvement, which included an extension on the road reserve for future tie-ins and 5 fire hydrants. The cost of the water system is around $250,000. The cost of the road construction and lot grading is around $500,000. The grand total cost is around $750,000.

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Tel/Cel: (808) 315-6878

July 12, 2015

Ms. BJ Leithead Todd, Director
County of Hawai'i
Department of Environmental Management
25 Aupuni Street
Hilo, HI 96720

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Ms. Leithead Todd,

Thank you for meeting with the Project engineers on April 24, 2015. We incorporated the understanding from the meeting regarding green waste disposal. Enclosed is a Draft EA for the subject project. We would appreciate your review, particularly whether we have accurately incorporated your comments on green waste disposal (Draft EA section 4.7.4). The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

April 8, 2015

Mr. Roy Takemoto
PBR Hawai'i & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

PRE-ENVIRONMENTAL ASSESSMENT
PROPOSED SUBDIVISION OF THE PANAEWA AG LOTS
TAX MAP KEY 2-1-025:006, 007, 047, 048 AND 2-2-061:002

This is in response to your Pre- Environmental Assessment letter dated March 2, 2015.

Please be informed that there are existing service laterals to Parcels 7, 48 and 2.

For TMK 2-1-025: 2-1-025:006, 007, 047 and 048

Water can be made available from the end of the existing 8-inch waterline within Auwae Road fronting parcels 7 and 48, in accordance with the Department's current water availability conditions, which are subject to change without notice.

For TMK 2-2-061:002

Water can be made available from an existing 8-inch waterline along Mahiai Street fronting this parcel, in accordance with the Department's current water availability conditions, which are subject to change without notice.

The subdivisions will require water system improvements in accordance with the County of Hawai'i, Water System Standards 2002, as amended, and the Rules and Regulations of the Department of Water Supply.

In general, the subdivision water system shall be designed to deliver water at adequate pressure and volume under peak-flow and fire-flow conditions. The water system shall include, but not be limited to, mains (minimum 6 inches in diameter), service laterals to front each lot, and fire hydrants at the appropriate spacing.

All construction plans, calculations, and specifications for the above must be submitted by a professional engineer, registered in the State of Hawai'i, to this Department for review and approval.

In addition to the above water system improvements, the developer must also pay the prevailing facilities charge, which is subject to change, of $5,500.00 for each additional lot created. Payment is due and payable upon completion of the installation of the required water system improvements.

Upon completion of the above water system improvements, payment of the prevailing facilities charges, and

proper dedication and conveyance of said water system to the Water Board of the County of Hawai'i, all requirements of this Department will have been fulfilled.

Please keep in mind that this letter shall not be construed as a water commitment. In other words, unless a water commitment is officially effected, water availability is subject to change, depending on the water situation.

Should there be any questions, please contact Ryan Quitoriano of our Water Resources and Planning Branch at 961-8070, extension 256.

Sincerely yours,

Quirino Antonio, Jr., P.E.
Manager-Chief Engineer

RQdfg

PBR HAWAII
& ASSOCIATES, INC.

HONOLULU OFFICE
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Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

July 12, 2015

Mr. Quirino Antonio, Manager
County of Hawai'i
Department of Water Supply
345 Kekuanaoa Street, Suite 20
Hilo, HI 96720

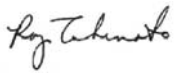
SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Antonio,

Thank you for responding to our pre-assessment consultation. In your letter dated April 8, 2015, we appreciate your confirmation that water is available to serve the Project. Enclosed is a Draft EA for the subject project. We would appreciate your review, particularly whether we have accurately incorporated your comments (Draft EA section 4.7.1). The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII



Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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William P. Kenoi
Mayor

Darren J. Rosario
Fire Chief

Renwick J. Victorino
Deputy Fire Chief

County of Hawai'i
HAWAI'I FIRE DEPARTMENT

25 Aupuni Street • Room 2501 • Hilo, Hawai'i 96720
(808) 932-2900 • Fax (808) 932-2928

March 9, 2015

Mr. Roy Takemoto
PBR Hawaii & Associates, Inc.
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Takemoto,

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS
TMKs: (3) 2-2-061:002, (3) 2-1-025:006, (3) 2-1-025:007, (3) 2-1-025:047 AND (3) 2-1-025:048

The Hawai'i Fire Department does not have any comments to offer at this time regarding the above-referenced project pre-assessment consultation.

Thank you for the opportunity to comment.

Sincerely,

for DARREN J. ROSARIO
Fire Chief

KV:lpc

Hawai'i County is an Equal Opportunity Provider and Employer.

PBR HAWAII
& ASSOCIATES, INC.

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HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cell: (808) 315-6878

July 12, 2015

Chief Darren Rosario
County of Hawai'i
Fire Department
25 Aupuni Street, #2603
Hilo, HI 96720

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Rosario,

Although you responded that you did not have any early consultation comments on the subject project, enclosed is a copy of the Draft EA that provides additional information on the project and anticipated impacts. Your review of the Draft EA would be appreciated. The enclosed transmittal includes the deadline for comments and address to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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William P. Kenoi
Mayor

Duane Kanuha
Director

Bobby Command
Deputy Director

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

County of Hawai'i
PLANNING DEPARTMENT

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

April 2, 2015

Mr. Roy Takemoto
PBR Hawai'i & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Dear Mr. Takemoto:

Subject: **Pre-Consultation for Draft Environmental Assessment**
Project: Subdivision of Pana'ewa Agricultural Lots
TMK: (3) 2-2-061:002, (3) 2-1-025:006, (3) 2-1-025:007, (3) 2-1-025:047, and (3) 2-1-025:048; Waiākea, South Kohala, Hawai'i

Thank you for your letter dated March 2, 2015, requesting comments from this office regarding the preparation of a Draft Environmental Assessment (DEA) for the subject project.

The State of Hawai'i, Department of Hawaiian Home Lands (DHHL) is proposing to subdivide and develop five existing lots, creating a total of 90 lots that will enable the relocation of Maku'u Farm Lot families and homes threatened by the lava flow. Some of the existing Maku'u homes will be cut and moved to the new lots; other lots will require new construction. The lots will be accessed by County-dedicated roadways built to County standards and served by the County water system and individual onsite septic systems.

The subject properties are under the control of the Department of Hawaiian Home Lands (DHHL). Zoning will ultimately be determined by DHHL per the 2002 Memorandum of Agreement (MOA) with Hawai'i County. The table below provides the current County zoning, State Land Use designation and Hawai'i County General Plan Land Use Pattern Allocation Guide (LUPAG) Map designation for the subject properties. In addition, none of the properties are located within the Special Management Area (SMA).

TMK	County Zoning	State Land Use	General Plan LUPAG
(3) 2-2-061:002	A-1a, A-5a	Agricultural	Low Density Urban
(3) 2-1-025:006	MG-1a	Urban	Urban Expansion
(3) 2-1-025:007	MG-1a	Urban	Urban Expansion/ Important Agricultural Land

TMK	County Zoning	State Land Use	General Plan LUPAG
(3) 2-1-025:047	MG-1a	Urban	Urban Expansion
(3) 2-1-025:048	MG-1a	Urban	Urban Expansion/ Important Agricultural Land

Please note that pursuant to the 2002 MOA, DHHL will determine the appropriate County zoning districts that shall apply to the properties. In addition, the MOA provides that all normal land use controls will be applied by Hawai'i County to DHHL property according to the zoning district selected by DHHL.

We have no further comments to offer, at this time. However, please provide our department with a copy of the Draft Environmental Assessment for our review and comment.

If you have any questions, or if you need further assistance, please feel free to contact Bethany Morrison of this office at (808) 961-8138.

Sincerely,

DUANE KANUHA
Planning Director

BJM:cs
\\COH33\planning\public\wpwin60\Bethany\EA-EIS Review\preconsultdrafts\a DHHL Panaewa Ag Lot Subdivision.doc

PBR HAWAII
& ASSOCIATES, INC.

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HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

July 12, 2015

Mr. Duane Kanuha, Director
County of Hawai'i
Planning Department
Aupuni Center
101 Pauahi Street, Suite 3
Hilo, HI 96720

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Kanuha,

Thank you for your comments dated April 2, 2015. Enclosed is a Draft EA that includes a discussion of the MOA between DHHL and the County, and the appropriate zoning designation that would apply to the Project area (see §5.2.2 of the enclosed Draft EA). We would appreciate your review of the Draft EA. The enclosed transmittal includes the deadline and contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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William P. Kenoi
Mayor

Harry S. Kubojiri
Police Chief

Paul K. Ferreira
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

March 16, 2015

PBR HAWAII & Associates, Inc.
Attn: Roy Takemoto
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Dear Mr. Takemoto:

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIAKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAII

Staff, upon reviewing the provided documents, does not anticipate any significant impact to traffic and/or public safety concerns.

Thank you for allowing us the opportunity to comment.

If there are any questions, please contact Captain Richard Sherlock, Commander of the South Hilo District, at (808) 961-2214.

Sincerely,

HENRY J. TAVARES, JR.
ASSISTANT POLICE CHIEF
AREA I OPERATIONS BUREAU

RS:lli
150154

"Hawai'i County is an Equal Opportunity Provider and Employer"

PBR HAWAII
& ASSOCIATES, INC.

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HILO OFFICE
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Hilo, Hawai'i 96720-1553
Tel/Cell: (808) 315-6878

printed on recycled paper

July 12, 2015

Henry Tavares, Jr., Assistant Police Chief
County of Hawai'i
Police Department
349 Kapiolani Street
Hilo, HI 96720

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Tavares,

Thank you for your comments dated March 16, 2015. We appreciate your assessment that the subject project should not have any significant traffic impact or other public safety concerns. Enclosed is a Draft EA for your further review, The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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Nathalie Razo

From: Roy Takemoto
Sent: Tuesday, March 31, 2015 1:04 PM
To: Nathalie Razo
Cc: Isaac.M.Takahashi@hawaii.gov; Dennis Lee
Subject: FW: Pre-Assessment Consultation For The Proposed Subdivision of the Pana'ewa AG Lots Located in the Ahupua'a of Waiakea, South Hilo District

Nathalie, please file as a early consultation comment for Panaewa. Isaac and Dennis, nice of HELCO to respond; FYI, they want to be kept informed as design progresses.

From: Kuwaye, Kristen [mailto:kristen.kuwaye@hawaiianelectric.com]
Sent: Tuesday, March 31, 2015 12:52 PM
To: Roy Takemoto
Cc: Liu, Rouen; '1.11.153750@ecollab.heco.com'
Subject: Pre-Assessment Consultation For The Proposed Subdivision of the Pana'ewa AG Lots Located in the Ahupua'a of Waiakea, South Hilo District

Kristen Kuwaye on behalf of Rouen Liu

Dear Mr. Roy Takemoto,

Thank you for the opportunity to comment on the subject project. Hawaiian Electric Company has no objection to the project. Should HECO have existing easements and facilities on the subject property, we will need continued access for maintenance of our facilities.
We appreciate your efforts to keep us apprised of the subject project in the planning process. As the proposed subdivision and development of the Pana'ewa Ag Lots comes to fruition, please continue to keep us informed. Further along in the design, we will be better able to evaluate the effects on our system facilities.
If you have any questions, please call me at 543-7245.

Sincerely,
Rouen Q. W. Liu
Permits Engineer

PBR HAWAII
& ASSOCIATES, INC.

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HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cell: (808) 315-6878

July 12, 2015

Mr. Kerstan Wong, Manager
Hawaiian Electric Company, Inc.
Engineering Department (Mail Stop: WA2-BA)
P.O. Box 2750
Honolulu, HI 96840

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISION OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIĀKEA, SOUTH HILO DISTRICT, ISLAND AND COUNTY OF HAWAI'I, TMK: (3) 2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048

Dear Mr. Wong,

Thank you for the email comments dated March 31, 2015. Although HELCO expressed no objection to the subject project, enclosed is a Draft EA for your further review. The enclosed transmittal includes the deadline for comments and the contact information to send any comments.

Thank you for your participation in the environmental review process.

Sincerely,
PBR HAWAII

Roy Takemoto
Managing Director, Hilo Office

Attachments: Draft EA

Cc: Department of Hawaiian Home Lands

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Appendix C

FLORA AND FAUNA SURVEY AND ASSESSMENT

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FLORA AND FAUNA SURVEY AND ASSESSMENT

FOR

THE DEPARTMENT OF HAWAIIAN HOME LANDS PROJECT

5 PARCELS AT PANAEWA, HILO - HAWAII

by

ROBERT W. HOBDY
ENVIRONMENTAL CONSULTANT
Kokomo, Maui
April 2015

Prepared for:
Department of Hawaiian Home Lands

INTRODUCTION

The Department of Hawaiian Home Lands, Panaewa Project encompasses five parcels of land on the eastern edge of Hilo Town. Four of these parcels, each 10 acres in size, are adjacent in a single block at the north end of Auwae Street, TMK's (3) 2-1-025:006, 007, 047, 048 (see Figures 1 - 7). The fifth parcel, 10.171 acres in size, is nearby on Mahi′ai Street, TMK (3) 2-2-061:02. The Department plans to develop these parcels into residential lots. This study was initiated in response to environmental requirements of the planning process.

SITE DESCRIPTION

All of these five parcels lie on nearly level ′ā′ā lava substrate classified as Papa′i Extremely Stony Muck (rPAE) which is a thin organic soil over the lava (Sato et al, 1973). Rainfall averages 150 inches a year. The four contiguous parcel are a dense, wet forest with many large trees over a thick shrub and vine understory. The fifth parcel was previously cleared and has a now dilapidated structure on it. The area is mostly an open grassland but is mostly overgrown with deep grass and scattered shrubs.

BIOLOGICAL HISTORY

The relatively recent 'a'ā lava flows in the upper and eastern parts of Hilo were originally colonized by young, vigorous 'ōhi'a (*Metrosideros polymorpha*) and hala (*Pandanus tectorius*) forests and such other pioneer species as uluhe fern (*Dicranopteris linearis*), kupukupu fern (*Nephrolepis exaltata*) and 'ie'ie (*Freycinetia arborea*). This native species composition began to change during the 1900s as Hilo became a center for flower culture. Many exotic plant species were introduced by nurseries, landscape professionals and plant lovers because everything grew so well in Hilo. Many of these introductions began to naturalize and move out into the wild. Today, the Hilo area is inundated with hundreds of species of these introductions that have proliferated and have replaced the original native species, forming dense and nearly impenetrable jungles. This is what was encountered in most of the project area.

SURVEY OBJECTIVES

This report summarizes the findings of a flora and fauna survey of the proposed Department of Hawaiian Homes Panaewa Project conducted in April 2015. The objectives of the survey were to:

1. Document what plant, and animal species occur on the property or may likely occur in the existing habitat.

2. Document the status and abundance of each species.

3. Determine the presence or likely occurrence of any native flora and fauna, particularly any that are Federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.

4. Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the flora and fauna in this part of the island.

BOTANICAL SURVEY REPORT

SURVEY METHODS

A walk-through botanical survey method was used following routes to ensure that all parts of these parcels were covered. Areas most likely to harbor native or rare plants such as the rocky outcrops and gullies were more intensively examined. Notes were made on plant species, distribution and abundance as well as on terrain and substrate. Inventories of the disjunct 4 parcel block and the single parcel were kept separately and are shown in two separate columns.

DESCRIPTION OF THE VEGETATION

The four parcel block and the single parcel were very different in aspect. While they had many species in common, they were dominated by different plants.

The four parcel block was a dense jungle. Species that were abundant included: albizia trees (*Falcataria moluccana*), strawberry guava (*Psidium cattleianum*), melastoma (*Melastoma candida*) and basket grass (*Oplismenus hirtellus*). Common species included: hala (*Pandanus tectorius*), miconia (*Miconia calvescens*), maile hohono (*Paederia foetida*), cecropia (*Cecropia obtusifolia*) and dissotis (*Dissotis rotundifolia*).

Forty nine plant species were recorded in the four parcel block. Of these eight species were native to Hawaii. These included three species that are endemic to Hawaii: ʻōhiʻa (*Metrosideros polymorpha*), hāpuʻu pulu (*Cibotium glaucum*), and hāpuʻu ʻīʻī (*Cibotium menziesii*), and five indigenous species that are native here as well as in other parts of the Pacific: uluhe fern *(Dicranopteris linearis*), pākahakaha fern (*Lepisorus thunberginaus*), puapuamoa fern (*Ophioderma pendulum S*ubsp. *falcatum*), moa (*Psilotum nudum*) and hala. All of these native species are widespread and common in Hawaii.

The single parcel was previously cleared but is now an overgrown grassland. Just one species was abundant, pangola grass (*Digitaria eriantha*). Common species included: broad-leaved carpetgrass (*Axonopus compressus*), wedelia (*Sphagneticola trilobata*), sensistive plant (*Mimosa pudica*), maile pilau (*Paederia foetida*) and ōwī (*Stachytarpheta australis*).

Sixty two plant species were recorded in the single parcel. Of these six species were native to Hawaii. These included two species that are endemic to Hawaii: hāpuʻu pulu and ʻōhiʻa, and an

additional four indigenous species: (*Cyperus polystachyos*) no common name, nanea (*Vigna marina*), pākahakaha and hala. All of these native species are widespread and common in Hawaii.

DISCUSSION AND RECOMMENDATIONS

The vegetation throughout the project area is dominated by non-native grasses, vines, ferns, shrubs and trees. The area has been heavily altered by historical land uses and continues to be invaded by aggressive weed species. All of the ten native species found in the two focus areas are widespread in Hawaii and of no special conservation concern.

No Federally listed Threatened or Endangered plant species (USFWS, 2015) were found on the property, nor were any found that are candidates for such status. No special native plant habitats were found here either.

Because of the above existing conditions, it is determined that the future development of these five parcels will not have a significant negative impact on the botanical resources in this part of Hawaii island. No recommendations regarding the botanical resources are deemed appropriate or necessary.

PLANT SPECIES LIST

Following is a checklist with two columns, each representing a separate focus area of all those vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within four groups: Conifers, Ferns, Monocots and Dicots. Taxonomy and nomenclature of the ferns follow Palmer (2003), while the Conifers, Monocots and Dicots are in accordance with Wagner et al. (1999) and Staples and Herbst (2005).

For each species, the following information is provided:

1. Scientific name with author citation

2. Common English or Hawaiian name.

3. Bio-geographical status. The following symbols are used:

   endemic = native only to the Hawaiian Islands; not naturally occurring anywhere else in the world.

   indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

   Polynesian = all those plants brought to Hawaii during the course of Polynesian migrations.

   non-native = all those plants brought to the islands intentionally or accidentally after western contact.

4. Abundance of each species within the project area:

   abundant = forming a major part of the vegetation within the project area.

   common = widely scattered throughout the area or locally abundant within a portion of it.

   uncommon = scattered sparsely throughout the area or occurring in a few small patches.

   rare = only a few isolated individuals within the project area.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE	
			Single Parcel	Four Parcels
FERNS				
BLECHNACEAE (Chain Fern Family)				
*Blechnum appendiculatum*Willd.	palm fern	non-native		U
DICKSONIACEAE (Dicksonia Family)				
Cibotium glaucum (Sm.) Hook. & Arn.	*hāpu'u pulu*	endemic	R	R
Cibotium menziesii Hook.	*hāpu'u* ʻīʻī	endemic		R
GLEICHENIACEAE (False Staghorn Fern Family)				
Dicranopteris linearis (Burmf.) Underw.	*uluhe*	indigenous		U
LINDSAEACEAE (Lindsaea Fern Family)				
Lindsaea ensifolia Sw.	----------	non-native		R
NEPHROLEPIDACEAE (Sword Fern Family)				
Nephrolepis brownii (Desv.) Hovencamp & Miyamoto	Asian sword fern	non-native	U	U

OPHIOGLOSSACEAE (Adder's Tongue Fern Family)				
Ophioderma pendulum (L.) C. Presl subsp. *falcatum* (C. Presl) R.T. Clausen	puapua moa	indigenous		R
POLYPODIACEAE (Polypody Fern Family)				
Lepisorus thunbergianus (Kaulf.) Ching	*pākahakaha*	indigenous	R	R
Phlebodium aureum (L.) J. Sm.	rabbits foot fern	non-native	R	R
Phymatosorus grossus (Langsd. & Fisch.) Brownlie	*laua'e*	non-native	R	R
PSILOTACEAE (Whisk-fern Family)				
Psilotum nudum (L.) P. Beauv.	*moa*	indigenous		R
PTERIDACEAE (Brake Fern Family)				
Pityrogramma calomelanos (L.) Link	silver fern	non-native	R	
Pteris vittata L.	ladder brake fern	non-native	R	
THELYPTERIDACEAE (Marsh Fern Family)				
Christella parasitica (L.) H. Lev.	----------	non-native		U
CONIFERS				
CUPRESSACEAE (Cypress Family)				
Cupressus sempervirens L.	Italian cypress	non-native	R	
MONOCOTS				
ARACEAE (Aroid Family)				
Epipremnum pinnatum (L.) Engl.	taro vine	non-native		R
Monstera deliciosa Liebmann	monstera	non-native	R	
ARECACEAE (Palm Family)				
Archontophoenix alexandrae (V. Muell) Wendl. & Drude	king palm	non-native	U	
Cocos nucifera L.	*niu*, coconut	Polynesian	U	
Dypsis lutescens (Wendl.) Beentje & Dransfield	Golden- fruited palm	non-native	R	
Veitchia merrillii (Becc.) H.E. Moore	Manila palm	non-native	U	
ASPARAGACEAE (Asparagus Family)				
Cordyline fruticosa (L.) A. Chev.	*ki*, ti	Polynesian	U	U
SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE	
			Single Parcel	Four Parcels
COMMELINACEAE (Spiderwort Family)				
Commelina diffusa N.L. Burm.	honohono	non-native	R	R
CYPERACEAE (Sedge Family)				
Cyperus haspan L.	----------	non-native	U	
Cyperus polystachyos Rottb.	----------	indigenous	R	
Kyllinga brevifolia Rottb.	*kili'o'opu*	non-native	R	
Rhynchospora caduca Elliot	----------	non-native	U	
ORCHIDACEAE (Orchid Family)				
Arundina graminifolia (D.Don) Hochr.	bamboo orchid	non-native		U
Phaius tankarvilliae (Banks ex L'Her.) Blume	Chinese ground orchid	non-native		R
PANDANACEAE (Screw Pine Family)				
Pandanus tectorius S. Parkinson ex Z.	hala	indigenous	U	C
POACEAE (Grass Family)				
Andropogon virginicus L.	broomsedge	non-native	U	
Axonopus compressus (Sw.) P. Beauv.	broad-leaved carpet grass	non-native	C	

Cenchrus purpureus (Schumach.) Morrone	Napier grass	non-native		U
Digitaria eriantha Steud.	pangola grass	non-native	A	
Megathyrsus maximus (Jacq.) Simon & Jacobs	Guinea grass	non-native	U	U
Melinis minutiflora P. Beauv.	molasses grass	non-native	R	
Melinis repens (Willd.) Zizka	Natal redtop	non-native	U	
Oplismenus hirtellus (L.) P. Beauv.	basket grass	non-native		A
Panicum repens L.	torpedo grass	non-native	U	
Paspalum scrobiculatum L.	rice grass	non-native	U	
Sacciolepis indica (L.) Chase	Glenwood grass	non-native	U	
Schizachyrium condensatum (Kunth) Nees	bushy beardgrass	non-native	R	
Setaria palmifolia (J. Kong) Stapf	palm grass	non-native		U
Urochloa mutica (Forssk.) T. Q. Nguyen	California grass	non-native	U	
DICOTS				
ACANTHACEAE (Acanthus Family)				
Blechum brownie-Juss.	----------	non-native	U	
APOCYNACEAE (Dogbane Family)				
Alstonia scholaris R. Br.	devil tree	non-native		R
Plumeria rubra L.	plumeria	non-native	R	
ARALIACEAE (Ginseng Family)				
Schefflera actinophylla (Endl.) Harms	octopus tree	non-native		U
ASTERACEAE (Sunflower Family)				
Ageratum conyzoides L.	maile hohono	non-native		R
Conyza bonariensis (L.) Cronq.	hairy horseweed	non-native	R	
Emilia sonchifolia (L.) DC.	violet pualele	non-native	R	
Pluchea carolinensis (Jacq.) G. Don	sourbush	non-native	R	
Sphagneticola trilobata (L.) Pruski	wedelia	non-native	C	U
SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE	
			Single Parcel	Four Parcels
BALSAMINACEAE (Impatiens Family)				
Impatiens walleriana J.D. Hook.	impatiens	non-native		R
BEGONIACEAE (Begonia Family)				
Begonia hirtella Link	----------	non-native		R
BIGNONIACEAE (Bignonia Family)				
Spathodea campanulata P. Beauv.	African tulip tree	non-native	R	R
CANNABACEAE (Hemp Family)				
Trema orientalis (L.) Blume	gunpowder tree	non-native		U
CONVOLVULACEAE (Morning Glory Family)				
Ipomoea alba L.	moon flower	non-native		R
CUCURBITACEAE (Gourd Family)				
Momordica charantia L.	bitter melon	non-native	R	R
EUPHORBIACEAE (Spurge Family)				
Aleurites moluccana (L.) Willd.	kukui	Polynesian	U	
Macaranga mappa (L.) Willd.	bingabing	non-native	R	U
FABACEAE (Pea Family)				
Bauhinia x blakeana Dunn	Hong Kong orchid tree	non-native	R	

Chamaecrista nictitans (L.) Moench	partridge pea	non-native	U	
Desmodium heterophyllum(Willd.) DC.	variable leaved tick trefoil	non-native	U	
Desmodim incanum DC.	kaimi clover	non-native		R
Falcataria moluccana (Mig.) Barneby & Grimes	albizia	non-native	U	A
Mimosa pudica L.	sensitive plant	non-native	C	
Vigna marina (J. Burm) Merr.	*nanea*	indigenous	R	
LAMIACEAE (Mint Family)				
Hyptis pectinata (L.) Poit.	comb hyptis	non-native	R	
MALVACEAE (Mallow Family)				
Melochia umbellata (Houtt.) Stapf	melochia	non-native	R	R
MELASTOMATACEAE (Melastoma Family)				
Clidemia hirta (L.) D. Don	Koster's curse	non-native	R	U
Dissotis rotundifolia (Sm.) Triana	dissotis	non-native	U	C
Melastoma candidum D. Don	melastoma	non-native	U	A
Miconia calvescens DC.	miconia	non-native		C
MYRTACEAE (Myrtle Family)				
Metrosideros polymorpha Gaud.	*'ōhi'a*	endemic	R	U
Psidium cattleinanum Sabine	strawberry guava	non-native		A
Syzygium malaccense (L.) Merr. & Perry	ʹōhiʹaʹai	Polynesian	R	
PHYLLANTHACEAE (Phyllanthus Family)				
Phyllanthus debilis Klein ex Willd.	niruri	non-native	U	
RUBIACEAE (Coffee Family)				
Gardenia augusta (L.) Merrill	gardenia	non-native	R	
SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE	
			Single Parcel	Four Parcels
Morinda citrifolia L.	*noni*	Polynesian	R	
Paederia foetida L.	*maile pilau*	non-native	C	C
SCROPHULARIACEAE (Figwort Family)				
Buddleia asiatica Lour.	dog tail	non-native	U	
SOLANACEAE (Nightshade Family)				
Cestrum diurnum L.	day cestrum	non-native		U
URTICACEAE (Nettle Family)				
Cecropia obtusifolia Bertol.	cecropia	non-native		C
VERBENACEAE (Verbena Family)				
Citharexylum caudatum L.	----------	non-native	R	U
Lantana camara L.	lantana	non-native		U
Stachytarpheta australis Moldenke	ōwī	non-native	C	R
Stachytarpheta cayennensis (Rich.) Vahl	nettle-leaved vervain	non-native	U	R

SURVEY METHODS

A walk-through fauna survey method was conducted in conjunction with the botanical survey. All parts of the project area including all habitat types were covered. Field observations were made with the aid of binoculars and by listening to vocalizations. Notes were made on species, abundance, activities and location as well as observations of trails, tracks, scat and signs of feeding. In addition an evening visit was made to the area to record crepuscular activities and vocalizations and to see if there was any evidence of occurrence of the Hawaiian hoary bat (*Lasiurus cinereus semotus*) in the area.

RESULTS

MAMMALS

Just one mammal species was recorded during four site visits in the project area. Taxonomy and nomenclature follow Tomich (1986). This mammal was the ʻōpeʻapeʻa or the Hawaiian hoary bat.

An evening survey was conducted at two locations in the project area in order to ascertain the presence of the endemic and Endangered 'ōpe'ape'a or Hawaiian hoary bat. A bat detecting device (Batbox IIID) was employed, set to the frequency of 27,000 Hertz which these bats are known to use for echolocation. As soon as this device was turned on at each location, multiple bats were detected emitting their echolocation calls as they flew about in search of flying insects. This level of activity indicated a substantial population of these bats at the time of the survey.

Other non-native mammals that would be expected to be present in this habitat but which were not seen include mice (*Mus domesticus*), rats (*Rattus* spp.), mongoose (*Herpestes auropunctatus*), cats (*Felis catus*) and the feral pig (*Sus scrofa*). Mice and rats feed on seeds, fruits and herbaceous vegetation, while the mongoose and cats would prey on these rodents and birds. Feral pigs are common throughout much of the Big Island.

BIRDS

Birdlife was moderate in the single parcel where eight species were recorded and sparse in the dense forest in the four parcel block where smaller numbers of six non-native species were seen. Taxonomy and nomenclature follow American Ornithologists' Union (2013). Most common in both areas were the common myna (*Acridotheres tristis*), zebra dove (*Geopelia striata*) and Japanese white-eye (*Zosterops japonicus*). Less common were the northern cardinal (*Cardinalis cardinalis*), spotted dove (*Streptopelia chinensis*), house finch (*Carpodacus mexicanus*), nutmeg mannikin (*Lonchura punctulata*) and the hwamei (*Leucodioptron canorum*).

A few other non-native birds would be occasional users of this site, but the habitat is unsuitable for Hawaii's native forest birds which presently occupy native forest uplands beyond the elevational range of mosquitoes and the avian diseases they carry and transmit. These two areas also do not provide habitat for the other native Endangered birds like the ae'o or Hawaiian stilt (*Himantopus mexicanus knudseni*), the alae ke'oke'o or Hawaiian coot (*Fulica alai*) and the nēnē or Hawaiian goose (*Branta sandvicensis*). None of these native birds were seen. The Endangered ʻio or Hawaiian hawk is known from forests around Hilo and is occasionally sighted, but was not seen during this survey.

INSECTS

There were moderate amounts of insect life in the single parcel where eight non-native species were recorded. Most common were the beet webworm moth (*Spoladea recurvalis*) and the dung fly (*Musca sorbens*). Uncommon were the longtail blue butterfly (*Lampides boeticus*), small rice grasshopper (*Oxya japonica*) and the spittle bug (*Philaenus spumarius*). Three other non-native species were rare.

The four parcel block had just six species of non-native insects. Three species were common in the dense forest: the day mosquito (*Aedes albopictus*), the Southern day mosquito (*Culex quinquefasciatus*) and the little fire ant (*Wasmannia auropunctata*). Less common were the dungfly (*Musca sorbens*) and the beet webworm moth (*Spoladea recurvalis*).

No native insects were observed in either area. The Endangered Blackburn's sphinx moth (*Manduca blackburni*) was not seen. None of the specific host plants utilized by either the larvae or adults were found in the project areas.

AMPHIBIANS

Just one non-native amphibian the Puerto Rican coqui frog (*Eleutherodactylus coqui*) was found to be abundant in occurrence in both project focus areas during evening surveys. Their piercing calls can be heard at distances up to a hundred yards.

REPTILES AND MOLLUSKS

No reptiles or mollusks were observed during the survey.

DISCUSSION AND RECOMMENDATIONS

The fauna of on these two project area components is largely made up of non-native species that have been either purposeful or accidental introductions to Hawaii. Just one native mammal, the ʻōpeʻapeʻa or Hawaiian hoary bat, was recorded as common in both focus areas during the surveys.

The ʻōpeʻapeʻa carries federal protections where it occurs. It occurs on at least five of the major Hawaiian islands and has its largest population on Hawaii island. These bats are highly mobile and are known to occur in a variety of habitats from nearly 10,000 feet down to sea level. These movements are likely driven by food source availability and seasonal temperatures. ʻŌpeʻapeʻa were well represented in the project area during the time of the survey. The U.S. Fish and Wildlife Service has guidelines for the removal of vegetation from the project area, and the timing of such removal, that minimize potential harm to these bats. They should be consulted regarding these guidelines.

Hawaiian petrels (*Pterodroma phaeopygia sandwichensis*) and Newell's shearwaters (*Puffinus auricularis newellii*), (collectively known as seabirds) may transit over the project area when flying between the ocean and nesting sights in the moutains during their breeding season (March through November). Fatalities to these seabirds resulting from collisions with artificial structures that extend above the surrounding vegetation have been documented in Hawaii where high densities of transiting seabirds occur. Additionally, artificial lighting such as floodlighting for construction work can adversely impact seabirds by causing disorientation which may result in collision with utility lines, buildings, fences and vehicles. Fledgling seabirds are especially affected by artificial lighting and have a tendency to exhaust themselves while circling the light sources and become grounded. Too weak to fly, these birds become vulnerable to predation by predators such as mongoose (*Herpestes auropunctatus*), cats (*Felis catus*) and dogs (*Canis familiaris*). These threats can be minimized by the shielding of any outdoor lighting so that the light is visible only from below.

The Blackburn's sphinx moth was not found in the project area. None of the specific host plants that the larvae feed upon were present on or around the project area, and none of the nectar producing plants that the adult moths feed upon were found here either. No Blackburn's sphinx moths, their eggs or larvae were seen.

No other fauna concerns are foreseen and no other recommendations are offered regarding the fauna resources on this project.

ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within four groups: Mammals, Birds, Insects and Amphibians. For each species the following information is provided:

1. Common name

2. Scientific name

3. Bio-geographical status. The following symbols are used:

endemic = native only to Hawaii; not naturally occurring anywhere else in the world.

indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

non-native = all those animals brought to Hawaii intentionally or accidentally after western contact.

migratory = spending a portion of the year in Hawaii and a portion elsewhere. In Hawaii the migratory birds are usually in the overwintering/non-breeding phase of their life cycle.

4. Abundance of each species within the project area:

abundant = many flocks or individuals seen throughout the area at all times of day.

common = a few flocks or well scattered individuals throughout the area.

uncommon = only one flock or several individuals seen within the project area.

rare = only one or two seen within the project area.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE	
			1 parcel	4 parcels
MAMMALS				
*Lasiurus cinereus semotus*Allen	ʻōpe'ape'a, Hawaiian bat	endemic	C	C
BIRDS				
Geopelia striata L.	zebra dove	non-native	C	C
Acridotheres tristis L.	common myna	non-native	C	U
Zosterops japonicus Temminck & Schlegel	Japanese white-eye	non-native	U	C

Cardinalis cardinalis L.	northern cardinal	non-native	U	U
Streptopelia chinensis Scopoli	spotted dove	non-native	U	U
Carpodacus mexicanus Muller	house finch	non-native	R	U
Lonchura punctulata L.	nutmeg mannikin	non-native	U	
Leucodioptron canorum L.	hwamei	non-native	R	
AMPHIBIANS				
Eleutherodactylus coqui Thomas	coqui frog	non-native	A	A

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE	
INSECTS			1 parcel	4 parcels
Order DIPTERA - flies				
CULICIDAE (Mosquito Family)				
Aedes albopictus Seuse	day mosquito	non-native		C
Culex quinquefasciatus Say	Southern house mosquito	non-native		C
MUSCIDAE (Housefly Family)				
Musca sorbens Wiedemann	dung fly	non-native	C	U
Order HEMIPTERA - true bugs				
ALEYRODIDAE (Whitefly Family)				
Aleurodicus dispersus Russell	spiraling whitefly	non-native		R
APHROPHORIDAE (Spittle Bug Family)				
Philaenus spumarius L.	spittle bug	non-native	U	
Order HYMENOPTERA - bees, wasps, ants				
FORMICIDAE (Ant Family)				
Wasmannia auropunctata Roger	little fire ant	non-native		C
Order LEPIDOPTERA - butterflies, moths				
CRAMBIDAE (Grass Moth Family)				
Spoladea recurvalis Fabricius	beet webworm moth	non-native	C	U
HESPERIIDAE (Skipper Butterfly Family)				
Hylephila phyleus Drury	fiery skipper	non-native	R	
LYCAENIDAE (Gossamer-winged Butterfly Family)				
Lampides boeticus L.	long tail blue butterfly	non-native	U	
NYMPHALIDAE (Brush-footed Butterfly Family)				
Agraulis vanillae L.	passion flower butterfly	non-native	R	
Order ORTHOPTERA - grasshoppers, crickets				
ACRIDIDAE (Grasshopper Family)				
Oxya japonica Thunberg	small rice grasshopper	non-native	U	
TETTIGONIIDAE (Katydid Family)				
Elimaea punctifera Walker	katydid	non-native	R	

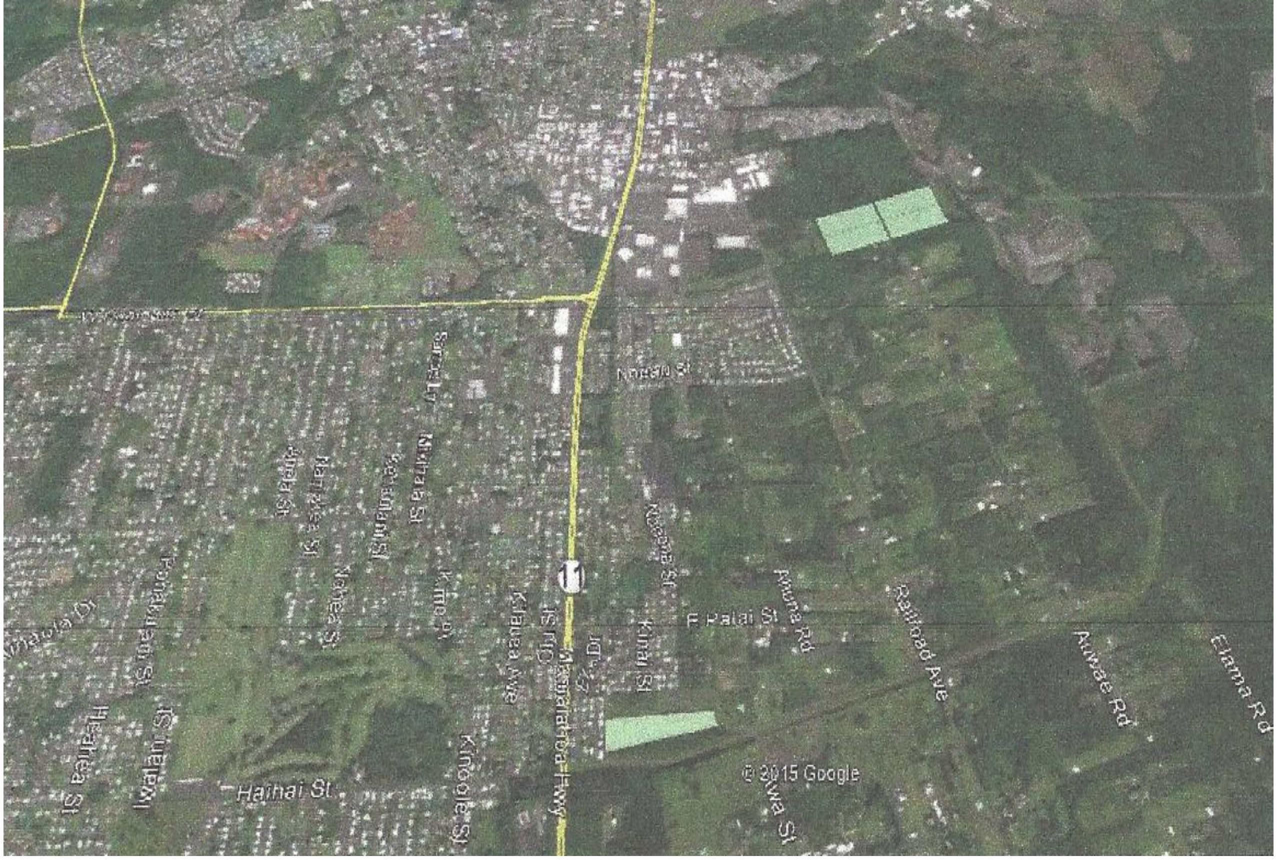

FIGURE 1. Project area on the east side of Hilo – Five parcels highlighted.

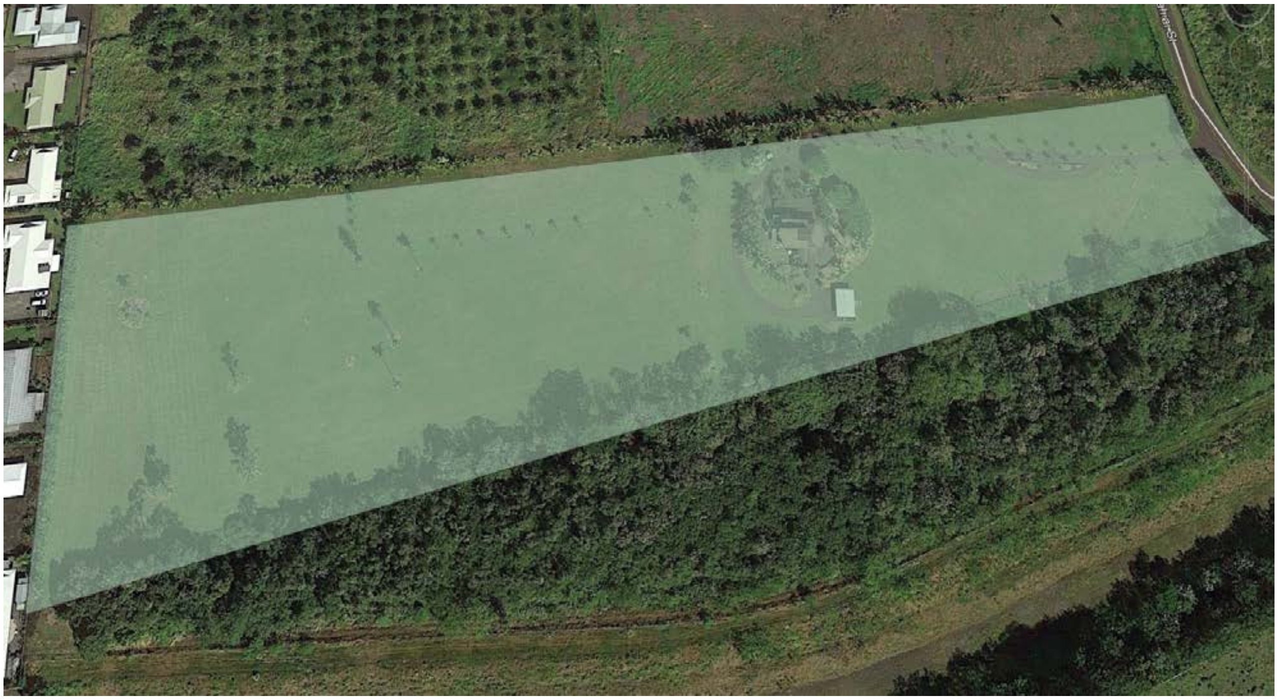

FIGURE 2. Single parcel along Mahiʻai Street.

Figure 3 Project Map TMK (3-2-2-061:02. Single Parcel

FIGURE 4 - SINGLE PARCEL TMK (3) 2-2-061:02 A formerly mowed lawn surrounding a residence, now overgrown with deep grass and scattered shrubs.

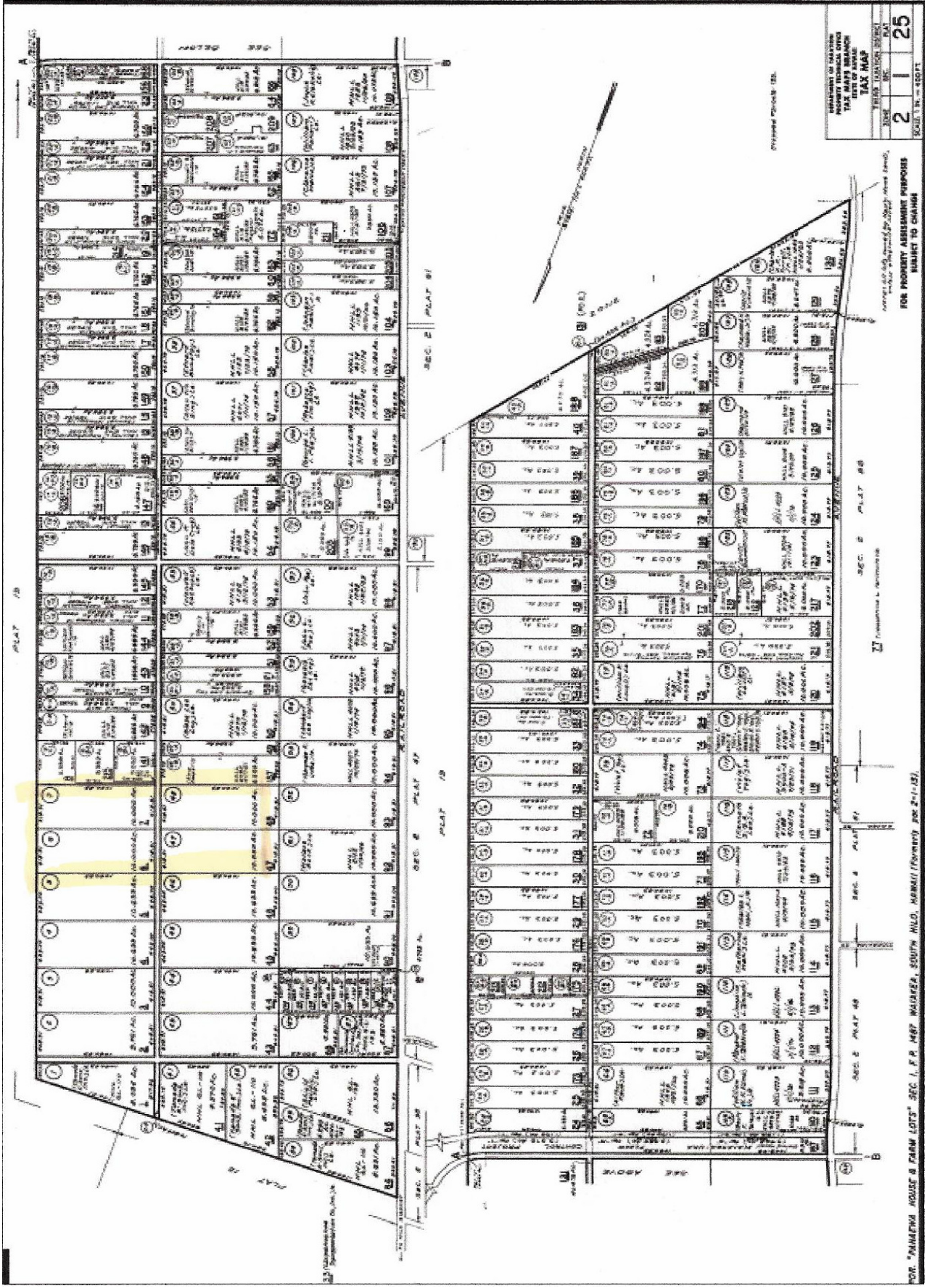

Figure 5 – 4 PARCELS TMK's (3) 2-1-25: 06, 07, 47, 48.

FIGURE 6. Four parcel block – The entire 40 acres is a dense wet jungle.

FIGURE 7. Four parcel block – Typical dense wet forest with large albizia trees.

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Appendix D

ARCHAEOLOGICAL INVENTORY SURVEY; APPLICATION FOR HISTORIC PRESERVATION REVIEW (INCLUDING SECTION 106 CONSULTATION)

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SCIENTIFIC CONSULTANT SERVICES Inc.
Hawai‘i Island Office: PO Box 155 Kea‘au, HI 96749

June 10, 2015

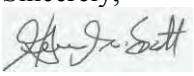
Sean Naleimaile
Hawai‘i Island Archaeologist
State Historic Preservation Division
40 Po‘okela Street
Hilo, HI 96720

Submittal of Draft Report: An Archaeological Assessment of Five 10-Acre DHHL Parcels in the Pana‘ewa Region of Waiākea Ahupua‘a, South Hilo District, Island of Hawai‘i, Hawai‘i [TMK: (3) 2-1-025: 006, 007, 047, 048; & 2-1-061: 002].

Aloha e Sean:

Thank you in advance for your review of the above referenced draft report. The proposed project addressed in the report is federally funded and constitutes an undertaking as defined under Section 106 of the National Historic Preservation Act (36 CFR Section 800.16(y). The Archaeological Assessment report is supporting documentation for Section 106 requirements. The report is attached with this letter. The review fee for the draft report has been sent to the SHPD Kapolei office. Please feel free to contact me if you have questions or concerns.

Sincerely,



Glenn G. Escott, MA
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Enclosure A: Draft Report

SCS Project Number 1706-1

AN ARCHAEOLOGICAL ASSESSMENT OF FIVE 10-ACRE DHHL PARCELS IN THE PANA‘EWA REGION OF WAIĀKEA AHUPUA‘A, SOUTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I [TMK: 2-1-025: 006, 007, 047, 048; & 2-1-061: 002]

Prepared By:
Glenn G. Escott, M.A.

June 2015
DRAFT

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ABSTRACT

At the request of PBR Hawai‘i, Scientific Consultant Services, Inc. (SCS) conducted an archaeological assessment of 50.0 acres of Department of Hawaiian Home Lands (DHHL) land [TMK: (3) 2-1-025: 006, 007, 047, 048; and (3) 2-1-061: 002] located in the Pana‘ewa region of Waiākea Ahupua‘a, South Hilo District, Island of Hawai‘i, Hawai‘i. DHHL is proposing to subdivide the five 10-acre parcels into 90 half-acre lots to enable relocation of Maku'u Farm Lot lessees who may have to move due to threat of the lava flow, and other lessees who may have to relocate for various reasons (e.g., UXO issues), as well as awarding to those on the wait list.

The proposed project will be conducted, in part, using federal funds and constitutes an undertaking as defined under Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR Part 800). The proposed project is also covered under Hawai‘i Revised Statutes, Title 13, Chapter 6-E Historic Preservation Review regulations. The undertaking Area of Potential Effect (APE) is defined as the five 10-acre parcels.

The northern most four parcels form a contiguous 40-acre area of undeveloped land at the northern end of ‘Auwae Street. The land is approximately 95 feet (29 meters) above mean sea level (amsl). The southwest corner of the 40-acres is bordered by a grubbed and graded residential lot containing a house. The east and west boundaries are bordered by grubbed and graded macadamia nut orchards and garden fields, respectively. The northern boundary borders undeveloped land.

The southernmost 10-acre parcel, TMK (3) 2-2-061:002, is located at 230 Mahi‘ai Street at an elevation of between 180 and 200 feet (55 to 60 meters) amsl. The property is bounded to the north by grubbed and graded gardens and orchards. The east and west boundaries are bordered by residential lots, and the southern boundary is bordered by undeveloped land. The entire 10-acre property is grubbed, graded, and landscaped. There is a house on the property built in the mid 1980s.

A pedestrian survey was carried out in March 2015 by Glenn Escott, M.A and Suzan Keris, B.A.. A series of transects spaced ten meters apart were walked across the entire project area. The northernmost 40-acres had some areas of thick forest, but ground surface visibility was good. The southernmost 10-acre parcel ground surface was grass lawn and visibility was excellent. No archaeological sites or historic properties were identified during the survey. This archaeological assessment report is intended as supporting documentation for Section 106 consultation.

It has been determined through archaeological survey that no historic properties exist within the APE and that no historic properties will be affected by the proposed undertaking. This report recommends that, pursuant to Section 106 of the National Historic Preservation Act of 1966 as amended and 36 CFR part 800.2(c), the SHPO concur with the determination of no effect.

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LIST OF FIGURES

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INTRODUCTION

PROJECT AREA DESCRIPTION

At the request of PBR Hawai‘i, Scientific Consultant Services, Inc. (SCS) conducted an archaeological assessment of five 10-acre parcels of Department of Hawaiian Home Lands (DHHL) property [TMK: (3) 2-1-025: 006, 007, 047, 048; and (3) 2-1-061: 002] located in the Pana‘ewa region of Waiākea Ahupua‘a, South Hilo District, Island of Hawai‘i, Hawai‘i (Figure 1 and Figure 2). The Department of Hawaiian Home Lands (DHHL) is proposing to subdivide the five 10-acre parcels into 90 half-acre lots to enable relocation of Maku'u Farm Lot lessees who may have to move due to threat of the lava flow, and other lessees who may have to relocate for various reasons (e.g., UXO issues), as well as awarding to those on the wait list.

The proposed project will be conducted, in part, using federal funds and constitutes an undertaking as defined under Section 106 of the National Historic Preservation (36 CFR Section 800.16[y]). The undertaking Area of Potential Effect (APE) is defined as the five 10-acre parcels. This archaeological assessment report is intended as supporting documentation for Section 106 requirements.

The northern most four parcels form a contiguous 40-acre area of undeveloped land at the northern end of ‘Auwae Street (Figure 3). The land is approximately 95 feet (29 meters) above mean sea level (amsl). The southwest corner of the 40-acres is bordered by a grubbed and graded residential lot containing a house. The east and west boundaries are bordered by grubbed and graded d macadamia nut orchards and garden fields, respectively. The northern boundary borders undeveloped land.

The southernmost 10-acre parcel, TMK (3) 2-2-061:002, is located at 230 Mahi‘ai Street at an elevation of between 180 and 200 feet (55 to 60 meters) amsl (Figure 4). The property is bounded to the north by grubbed and graded gardens and orchards. The east and west boundaries are bordered by residential lots, and the southern boundary is bordered by undeveloped land. The entire 10-acre property is grubbed, graded, and landscaped. There is a house on the property built in the mid 1980s.

METHODS

Because the proposed undertaking is a governmental project covered, in part, under Sections 6E-7 and 6E-8, the archaeological assessment was conducted in

accordance with Hawai‘i Administrative Rules 13§13-284 and was performed in compliance with the Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports contained in Hawai‘i Administrative Rules 13§13-275/276. Because the proposed undertaking will also be conducted using federal funds, it is also covered under Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR Part 800).

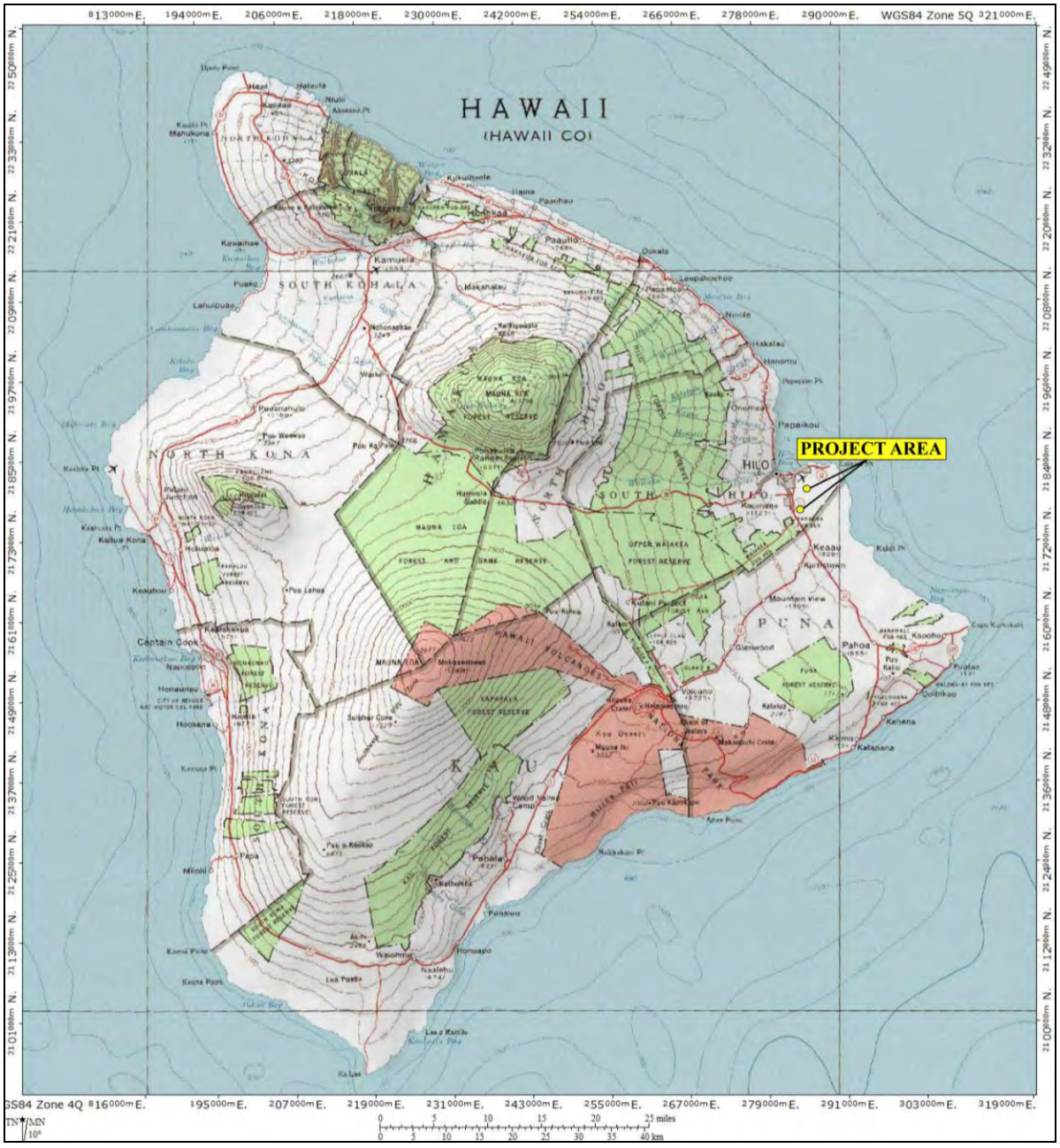

Figure 1: 5,500 K-Series Map of Hawai‘i Showing Location of Project Area (National Geographic Topo!, 2003. Sources: National Geographic Society, USGS).

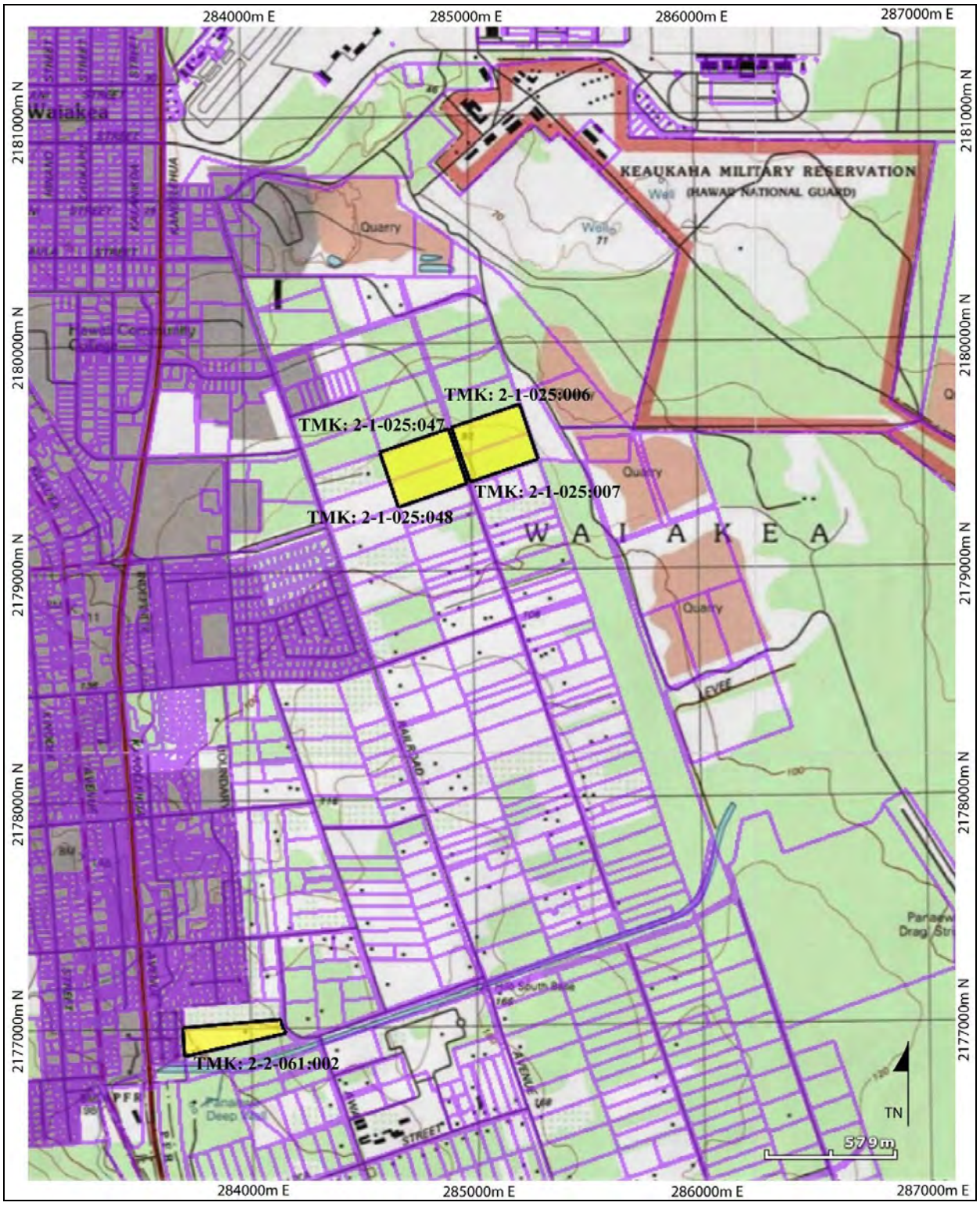

Figure 2: 7.5-Minute Series USGS Topographic Map Showing Location of Project Area Shaded Yellow (ESRI, 2011. Sources: National Geographic Society, USGS Hilo Quadrangle).

Figure 3: Aerial Photograph Showing Northern Four Project Area Parcels (Google Earth, 2013 Image. Hilo, HI, 5Q 284875m E 2179315m N).

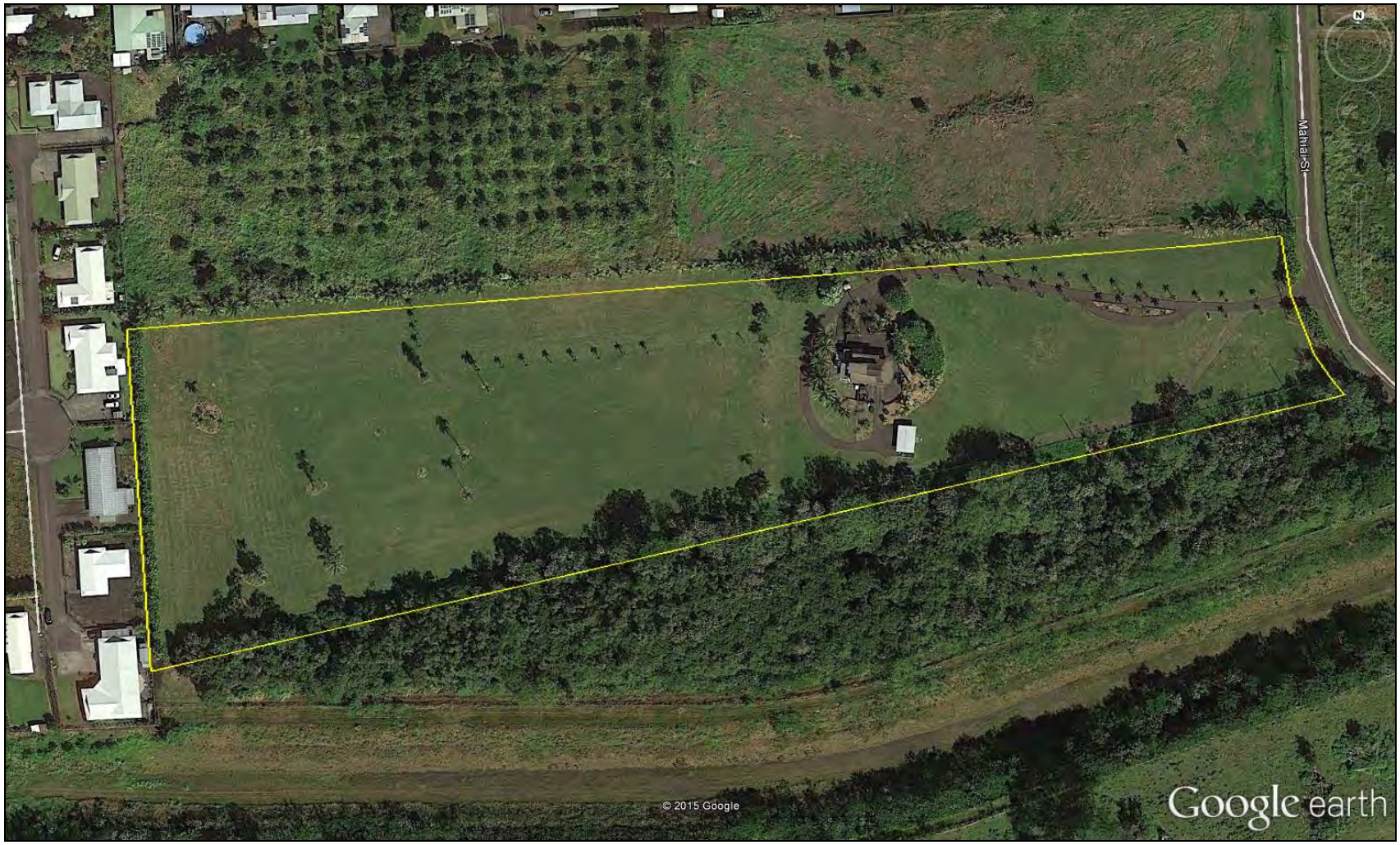

Figure 4: Aerial Photograph Showing Northern Four Project Area Parcels (Google Earth, 2013 Image. Hilo, HI, 5Q 283981m E 2176888m N).

The investigation included the following procedures:

1. Historical and archaeological archival research was conducted, including a search of historic maps, aerial photos, written records, Land Commission Award documents, State and County Planning Division documents, and previous archaeological reports. The research was aimed at determining past land-use in the project area.

2. A 100 percent pedestrian survey of the project area. All sites and features were located, mapped (GIS), described, drawn at appropriate scales, and photographed. Sites were assigned temporary numbers pending State Historic Preservation Division (SHPD) assignment of State Inventory of Historic Property site numbers.

Archival Methods

Prior to commencing field work, archival research was conducted in the State Historic Preservation Division (SHPD) report database and library facility (Hilo, HI), the Hawai‘i County land records office, the *Waihona ‘Āina Māhele* database website, the Hawaiian collections holdings at the University of Hawai‘i-Hilo Library, and the Hawai‘i State Library system.

Archival work consisted of general research on the history and cultural practices specific to the project area, as well as research of previous archaeological studies in and around the subject parcels. Historic land use data, land ownership, maps, and narrative information were obtained from the Hawai‘i County land records office, the *Waihona ‘Āina Māhele* database website, and the University of Hawai‘i, Hilo, Special Collections.

Based on previous studies, none of the five 10-acre parcels are within areas of traditional pre-Contact Hawaiian settlement and habitation. The parcels are inland of the coast where early settlements were located. In 1825, the majority of Waiākea’s estimated 2,000 inhabitants lived along the coast (Ellis1963: 253). While there were settlements along the coast at Keaukaha and in Puna District to the southeast, the majority of habitation and gardens were along, what is now, Hilo Bay.

Field Methods

A pedestrian survey was conducted by Glenn Escott, M.A. and Suzan Keris Escott between March 10 and 19, 2015. The field effort totaled 96 man-hours. The

pedestrian survey consisted of a series of north/south transects spaced ten meters apart across the entire project area. The northernmost 40-acres had some areas of thick forest, but ground surface visibility was good. The southernmost 10-acre parcel ground surface was grass lawn and visibility was excellent. No archaeological sites or historic properties were identified during the survey. Glenn Escott is the principal investigator for the project.

This report contains background information outlining the project area environmental and cultural contexts, a presentation of previous archaeological work within the study area and in the immediate vicinity, and current survey expectations based on that previous work, as well as an explanation of project methods.

ENVIRONMENTAL SETTING

The ground surface at all five parcels is level to slightly undulating Paipai Series (rPAE) extremely stony muck (Sato et al. 1973: 46) overlaying a Mauna Loa lava flow dated between 750 and 1,500 years before present (ybp) (Wolf and Morris 1996). There are exposed ʻaʻa bedrock outcrops and low ridges on the ground surface across the properties. Annual rainfall ranges from 120 to 160 inches.

Vegetation within the south, east, and northeast portions of the contiguous four parcels, where ground disturbance is evident, is composed of a suite of invasive plant species dominated by albizia trees (*Falcataria moluccana*) and guava (*Psidium* sp.) (Starr Environmental 2014). Vegetation on the remainder of 40 acres is primarily ʻōhiʻa (*Metrosideros polymorpha*, *hala* (*Pandanus odoratissimus*), as well as invasive species including guava, gunpowder tree (*Trema orientalis*), miconia (*Miconia calvescens*), Asian Melastoma (*Melastoma septemnervium*), and bingabing (*Macaranga mappa*). The entire southernmost 10-acre parcel is grubbed, graded, and landscaped. There is a house on the property built in the mid 1980s.

HISTORICAL AND CULTURAL CONTEXTS

The rich marine resources of Hilo Bay and the gently sloping forests of Mauna Loa and Mauna Kea provided abundant resources. Fresh water was available from the Wailoa and Wailuku rivers and smaller streams such as Waiākea, Waiolama, Pukihae, and ʻAlenaio.

The project area is located in the *ahupua‘a* of Waiākea, Hilo Hanakāhi ‘Okana, in the *moku-o-loko* (district) of Hilo (Maly 1996:4–5) (Figure 5). The *ahupua‘a* of Waiākea is large, consists of roughly 95,000 acres, and was regarded as a region of abundant natural resources and numerous fishponds. Waiākea was also an early important political center, notably under chief Kulukulu‘a (Kelly et al. 1981:3). Kamehameha lived and often returned to his *‘ili kūpono* (independent land division where all tributes were paid to the chief of the *‘ili* and not the *ahupua‘a*) lands of Pi‘opi‘o in the *ahupua‘a* of Waiākea (Figure 6). The *‘ili kūpono* lands and its royal fishpond were passed on to his son Liholiho after his death.

PRE-CONTACT ACCOUNTS OF HILO

The earliest account of Hilo appears in ‘Umi-a-Liloa’s (1600–1620) conquest of the Island of Hawai‘i, which establishes Hilo as a royal center by the seventeenth century. In the account, ‘Umi-a-Liloa began his conquest of the Island of Hawai‘i by defeating chief Kulukulu‘ā, who lived in Waiākea, and the other chiefs of Hilo (Kamakau 1992:16–17). ‘Umi-a-Liloa’s second son, Keawe-nui-a-‘Umi, ruled Hamākua, Hilo, and Puna from his residence at Hilo (*ibid*: 34). It was from Hilo that he waged war on the Kona chiefs and unified the island. Keawe-nui-a-‘Umi’s descendants single handedly continued to rule, from Hilo, for many generations.

After the death of Keawe-nui-a-‘Umi the kingdom was divided into three parts and was established under warring chiefs; Hilo was ruled by Kumalae-nui-pu‘awa-lau and his son Makua *(ibid*: 45). It was during the period of time that Kamehameha I was born. Kalani‘ōpu‘u’s grandson, Keoua Kuahu‘ula and nephew Kamehameha vied for control over the six chiefdoms constituting the island kingdom and Keoua conquered Hilo chief Keawe-mau-hili and harvested the benefits for a short time only to be killed by Kamehameha late in 1791. Kamehameha’s son Liholiho was born in Hilo in November 1797 (Kamakau 1992:22). Waiākea was inherited by Lihiliho after Kamehameha’s death. The *‘ili kūpono* of Pi‘opi‘o and its royal fishpond were given to his favorite wife, Ka‘ahumanu (Figure 6).

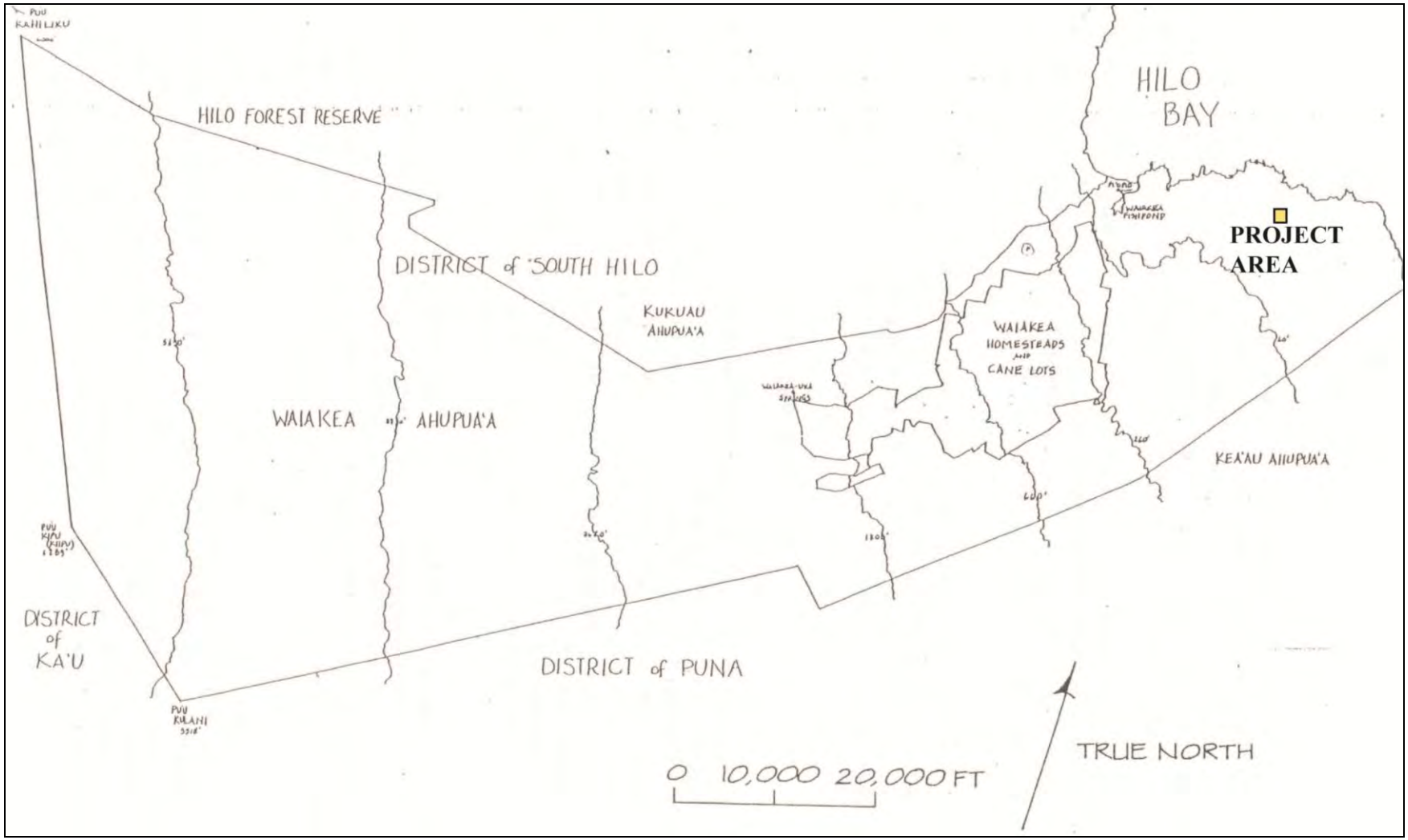

Figure 5: Map of Waiākea Ahupua‘a Showing Location of Project Area (adapted from Bush et al. 2000).

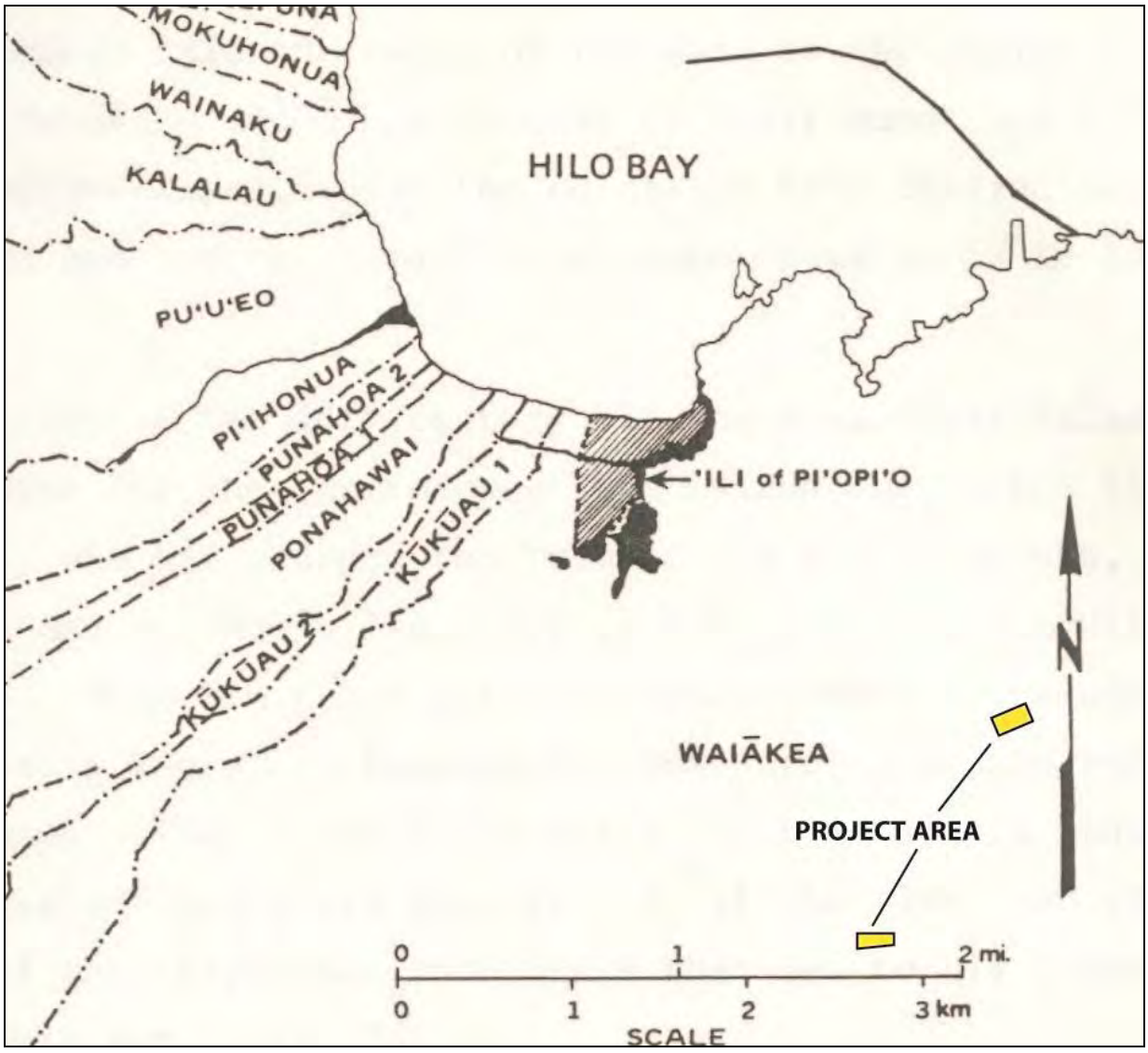

Figure 6: Map of Kamehameha,s *'Ili Kūpono* Lands of Pi'opi'o in the *Ahupua'a* of Waiākea Showing Project Area Location (adapted from Kelly et al. 1981).

TRADITIONAL SETTLEMENT PATTERNS, SUBSISTENCE, AND LAND-USE

Historical accounts and archaeological/cultural studies pertaining to the *ahupua'a* of Waiākea (Bingham 1969; Bird 1974; Ellis 1963; Handy and Handy 1972; Kelly et al. 1981; Maly 1996; McEldowney 1979) provide a wealth of information on traditional residence patterns, land-use, and subsistence horticulture of the area. It is widely held that these historical accounts of residence patterns, land-use, and subsistence horticulture, indicative of traditional practices, developed long before contact with Europeans (McEldowney 1979). These are synthesized below in order to explain the types of cultural resources possibly located within the current project area.

Early accounts of Waiākea portray it as divided into several distinct environmental regions. From the coast to a distance of five or six miles scattered subsistence agriculture was evident, followed by a region of tall fern and bracken, flanked at higher elevations by a forest region between 10 and 20 miles wide, beyond which was an expanse of grass and lava (Ellis 1963:403). The American Missionary C.S. Stewart wrote, "the first four miles of the country is open and uneven, and beautifully sprinkled with clumps, groves, and single trees of the bread-fruit, pandanus, and candle tree (Stewart 1970:361-363). The majority of Waiākea's estimated 2,000 inhabitants (in 1825) lived within this coastal region (Ellis1963: 253). Taro, plantains, bananas, coconuts, sweet potatoes, and breadfruit were grown individually or in small garden plots. Fish, pig, dog, and birds were also raised and captured for consumption.

The present study area is situated inland of the coastal region, in the Panaʻewa Forest. The project area lands are not located in an area of known traditional habitation. The Panaʻewa forest area was traditionally known as a forbidding and dangerous landscape. The legendary origin of the Panaʻewa Forest is associated with Pele's search for a suitable home in the island chain of Hawaiʻi.

> When a suitable place was finally discovered on Hawaii, the Paoa staff was planted in Panaewa and became a living tree, multiplying itself until it was a forest. The writer's informant says that it is a tree known to the present generation of men. "I have seen sticks cut from it," said he, "but not the living tree itself" [Emerson 2005:xi].

When Pele sent her sister Hiʻiakapoliopele (referred to as Hiʻiaka) to travel to Kauaʻi to contact Lohiʻau, Hiʻiaka passed through the Panaʻewa Forest. Hiʻiaka could have passed around the forest, taking the pathway along the shoreline from Hāʻena (southeast of the project area) to Waiākea and Hilo, but she instead chose to cut through the forest taking a more direct, and shorter route.

> Two routes offered themselves for Hiiaka's choice, a makai road, circuitous but safe, the one ordinarily pursued by travelers; the other direct but bristling with danger, because it traversed the territory of the redoubtable witch-moʻo, Pana-ewa. … When Hiiaka announced her determination to take the short road, the one of danger that struck through the heart of Pana-ewa, Pa-pulehu drew back in dismay and expostulated:

> "That is not a fit road for us, or for any but a band of warriors. If we go that way we shall be killed" [Emerson 1:2005:30].

Pana'ewa did not let her pass without a fight.

> The battle that ensued when Pana'ewa sent to the attack his nondescript pack of mo'o, dragonlike anthropoids, the spawn of witchcraft, inflamed with the spite of demons, was hideous and uncanny. Tooth and claw ran amuck. Flesh was torn, limbs rent apart, blood ran like water. If it had been only a battle with enemies in the open Hiiaka would have made short work of the job. Her forces lay ambushed in every wood and brake and assumed every imaginable disguise. A withered bush, a bunch of grass, a moss-grown stone, any, the most innocent object in nature, might prove to be an assailant ready to spit venom or tear with hook and talon [Emerson 2005:35].

The mo'o Pana'ewa and all of his minions were defeated by Hi'iaka and her assistants. "Hawaii for once, and for all time, was rid of that pestilential, man-eating, mo'o band headed by Pana-ewa who, from the time of Pele's coming, had remained entrenched in the beautiful forest-land that still bears the name – Pana-ewa" (Emerson 2005:46).

The forest is heavily wooded and dense with thickets. Travel through it is made more difficult by the broken and undulating ground surface. There is an historic trail that leads from the modern day Lili'uokalani Gardens area to the Puna coast. The trail is often called the Puna Trail and/or the Old Government Road (Escott and Tolleson 2003). Remains of the trail cross the Hawai'i Army Reserve National Guard (HIARNG) Keaukaha Military Reserve (KMR) property, and it has the current appearance of a gravel-covered dirt road (Figure 7 and Figure 8). While there may have been some scattered home sites and gardens in this area, most of the known habitation was along the coast. The probable use of the area prehistorically was for trapping birds and collecting plants, including the plentiful *pandanus* or *hala* (Kelly et al. 1981:20).

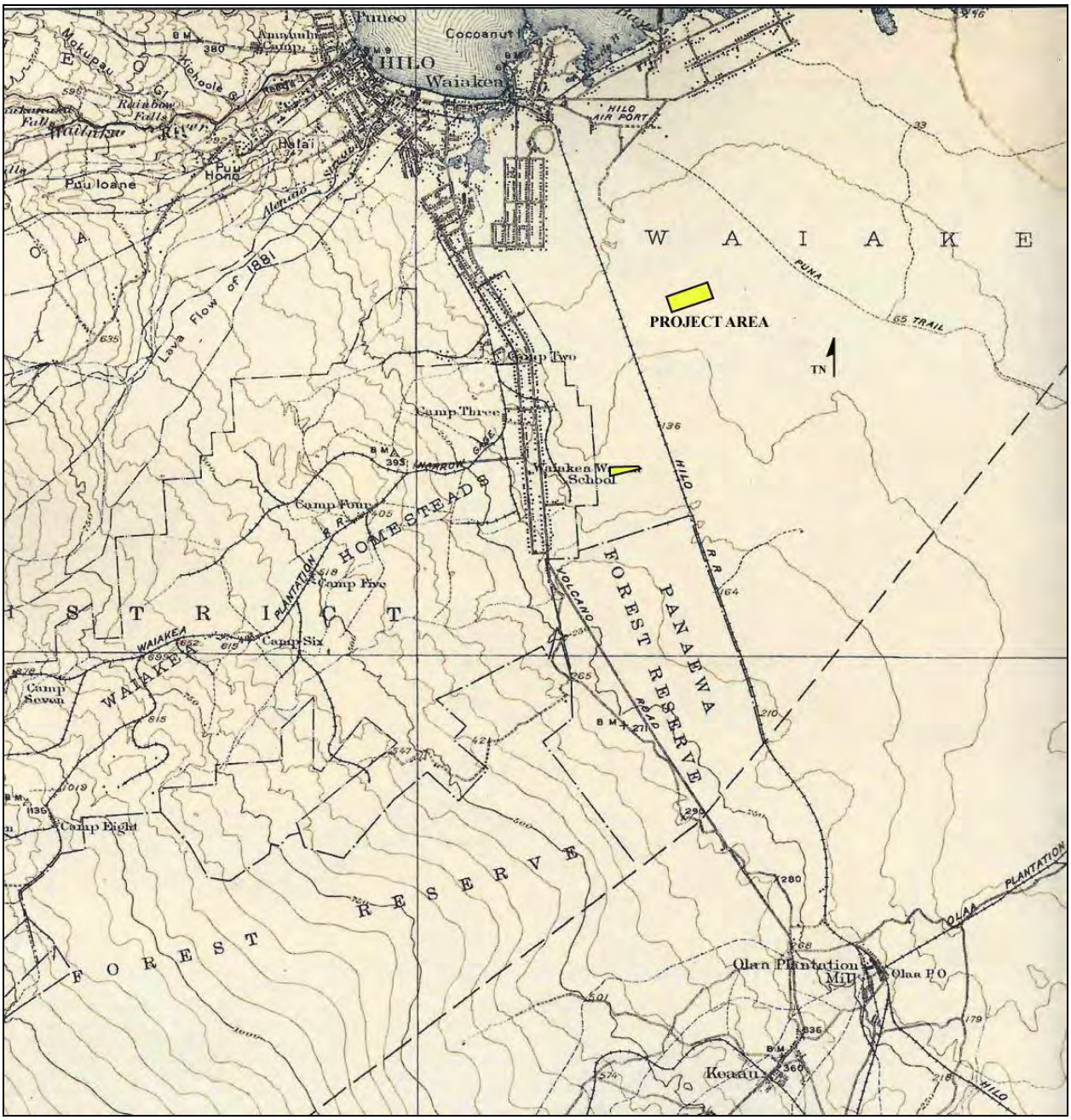

Figure 7: Portion of 1932 15-Minute Series USGS Topographic Map Showing Puna Trail and Location of Project Area (USGS Hilo Quadrangle).

Figure 8: Portion of 1954 USDA Aerial Photograph of Hilo Airport Showing Location of Northern Project Area.

THE MĀHELE OF 1848 AND LAND COMMISSION AWARDS

Prior to the Māhele, Waiākea Ahupua‘a belonged to King Kamehameha, then Lihiliho, and was later held by the chiefess Ka-unu-o-hua, granddaughter of Keawe-mauhili (Kelly et al. 1981:40). Waiākea became Crown Lands during the Māhele of 1848 and in the following years twenty-six Land Claims were awarded within the *ahupua‘a* of Waiākea (Table 1). The awards were small in area, 25 of which went to native claimants. The vast majority of awards were further west in the area of Hilo Bay. No Land Commission awards were made within or near the current project area. The project area property is owned by the State of Hawai‘i lands and is administered by DHHL.

Table 1: Land Commission Awards in Waiākea *Ahupua‘a*.

Grantee	LCA	Acreage
Barenaba	2327	12.25
Halai, L.K.	1279	0.60
Hale	40004	4.25
Kahue	2663	3.75
Kaiana, J.B.	2281	10.25
Kaihenui	11050-B	5.19
Kalolo	1333	2.25
Kalua	8854	3.40
Kaluhikaua	1738	2.98
Kamamalu, V.	7713	*‘ili ‘aina*
Kamanuhaka	8803	1.02
Kapu	1-F	1.60
Kealiko	11174	1.00
Keaniho	2402	5.00
Keawe	5018	0.24
-	10505	-
Kuaio	4344	1.22
Leoi	9982	0.80
Lolo	4738-B	1.27
Mahoe	1-E	4.46
Moealoha	4737	1.03
Nakai	4785	1.05
Napeahi	2603	1.30
Wahine	4737-B	1.01
Wahinealua	11173	2.50
Wahinenohoihilo	10004	1.69

CHANGING RESIDENTIAL AND LAND-USE PATTERNS (1845-1865)

Between 1845 and 1865 traditional land-use and residential patterns underwent a change. In particular, the regular use of Hilo Bay by foreign vessels and the whaling industry, in addition to the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugar cane cultivation, all brought about changes in settlement patterns and long-established land-use patterns (Kelly et al. 1981).

As Hilo became the center of population, settlements in outlying regions declined or disappeared. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export. Sugar cane plantations, and industrial, transportation, and military facilities were established in areas that were once upland agricultural areas and coastal settlements, respectively. In particular, the land immediately north of the current project area was used as the location of a jail, an airfield, and the Keaukaha Military Reserve (KMR).

HISTORIC OVERVIEW OF KMR

KMR comprises 503.6 acres located between General Lyman Field (Hilo International Airport) to the north, and the current project area to the south. The area lies in rugged, broken, undulating lava flows, and where unmodified by bulldozing, a dense forest of mixed and native flora abounds. Rainfall in this portion of Hilo keeps the jungle wet, and the ground surface slippery.

In 1914, the Territory of Hawai‘i, via Executive Order Number (EO) 26 set aside 213.43 acres of government lands in Waiākea, north of the current project area, for a National Guard rifle range. In 1925, the Territory withdrew 33 acres for the building of Lyman Airfield by the Army Corp of Engineers.

In August of 1938, a territorial prison camp was constructed on 13.55 acres in Waiākea, north of the current project area. The complex included a Jailer's and acting Jailer's cottage, and a large fenced area with two dormitories, a mess/laundry building, and a recreation/workshop. The prison camp was moved in 1946 and all buildings were removed.

The Army Corp of Engineers constructed a coral runway at KMR beginning in 1925. Hawaiian Airlines used the airport at the outbreak of World War II. The Navy expanded the airfield to three runways, built storage for 450,000 gallons of gasoline, and 24 airplane revetments. KMR became a Naval Station in August 1943 under the 14th Naval District Command Servicing Carrier Aircraft Service Unit (CASU) No. 31 and Air Group One. Extensive building took place including officer and enlisted men's quarters, a swimming pool, two clubs, a three-tank tank farm, water systems, cesspools, tennis courts, and other infrastructure. Personnel at KMR hit a wartime peak of 4,500 upon completion of construction in 1945.

Naval Air Station Hilo officially closed on August 31, 1947. On May 10, 1943, Hilo Airport was officially renamed General Lyman Field. In May 1946, while the Naval Station at KMR was being reduced to caretaker status, the Army Air Force announced that the 7th Army Air Corps (AAC) would begin 24-hour operations at Lyman Field.

In 1947, reactivation of the Hawai‘i Army Reserve and National Guard (HIARNG) resulted in the HIARNG using several Navy buildings. During this time, many buildings were demolished or sold to the public as war surplus. KMR is the headquarters for the island of Hawai‘i National Guard units of the 2nd Battalion, 299th Infantry Company D and 2nd Battalion 299th Infantry, as well as Army Air Guard units 451Bt Aviation Detachment, and the 452nd Aviation Attachment. KMR has firing ranges, training areas, barracks, support facilities, an armory and offices. During annual or special training operations, several hundred to thousands of Guardsmen are housed in cabins and tents pitched in the encampment area.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Many archaeological and historical studies have been conducted in Waiākea Ahupua‘a from Hilo Bay west of the current project area, to the Waiākea Sugar Mill sugarcane fields southwest of the current project area, to the KMR lands just north of the current project area. Summaries of 38 of these studies are provided in Table 2 below. Figure 7 shows the locations of archaeological studies in the region surrounding the current project area. A rough model of archaeological site types and distribution can be formulated from these regional archaeological studies.

Table 2: Inventory of Previous Archaeological Investigations in Waiākea.

Reference	Study	Location	Results
Ching and Staruder (1974)	Reconnaissance	Proposed Road alignment from S. Hilo to Puna	Wall, enclosure, platform burial, and habitation site near Puna boundary
Bonk (1979)	Survey	West of KMR	Historic wall and road alignment
McEldowney (1979)	Historical research	Hilo	Settlement pattern
Kelly, Nakamura and Barrère (1981)	Historical research	Hilo	Chronology
Kam (1983)	Site inspection	Reed's Bay	1 site, heiau
Smith and Tourtellotte (1988)	Burial removal	Wailoa Bridge	One individual encountered
Rosendahl, M. (1988)	Reconnaissance	Various parcels in Hilo Town	No sites
Rosendahl, M. and L. Talea (1988)	Reconnaissance	North West of KMR	No sites
Rosendahl, P. (1988)	Reconnaissance		No sites
Pietrusewsky (1989)	Skeletal analysis	Wailoa Bridge	1 Individual
Stokes (1991)	Intermittent survey	Various Parcels	Heiau locations
Hunt and McDermott (1993)	Inventory Survey	Puainako Street Extension	11 sites, historic sugarcane
Borthwick et al. (1993)	Inventory Survey	UH Hilo	Sugar cane remains in uplands
Maly (1996)	Cultural History	Puainako- Komohana Street area	Sugar cane history
Robbins and Spear (1996)	Inventory Survey	Puainako Street	Sugar cane sites in the uplands
Eblé et al. (1997)	Supplemental Testing	Puainako Street	Sugar cane sites in the uplands
Deveroux, et al. (1997)	Reconnaissance	KMR	2 sites
Carson (1999)	Inventory Survey	Pana‘ewa	No sites
McGerty and Spear (1999)	Inventory Survey	Puainako Street Extension	1 site
Dega and Benson (1999)	Reconnaissance	Puainako Street Extension	Possible prehistoric *‘auwai*

Reference	Study	Location	Results
Dega (2000)	Inventory Survey	Puainako Street Extension	*'Auwai* equals historical ditch
Bush et al. (2000)	Inventory Survey	Puainako Street Extension	Burial in cave in uplands
Hammatt & Bush (2000)	Inventory Survey	KMR	Mounds and Puna Trail
McDermott and Hammatt (2001)	Inventory Survey	Puainako Street Extension	2 historical sites in uplands
Tolleson and Godby 2001		KMR	Historic era sites and Puna Trail
Rosendahl, P. (2002)	Assessment Survey	Quarry Site on Southeast Edge of KMR	No sites
Escott and Tolleson (2002)	Inventory Survey	KMR	Trail and planting features
Haun & Henry (2002)		Southwest of KMR	No sites
Rechtman (2003)	Archaeological study and limited CIA	Western edge of KMR	No site
Escott (2004)	Inventory Survey	Puainkao Street and Komohana Street area	WWII sites in the uplands
Wolforth (2004)	Inventory Survey	Reed's Bay	Fishponds, railroad, Historic era foundations
Wolforth (2006)	Inventory Survey	Western edge of KMR	Modern military building remains
Rechtman (2006)	Inventory Survey	Quarry site south of KMR	No sites
Hammatt & Uyeoka (2007)	Archaeological Monitoring	Southeast of KMR	No sites
Tulchin & Hammatt (2007)	Field Inspection	Wal-Mart Property	No sites
Escott (2013a)	Archaeological Assessment	Quarry site west of KMR	No sites
Escott (2013b)	Archaeological Assessment	Quarry site west of KMR	No sites
Wheeler et al. (2014)	Inventory Survey	KMR	Eleven sites, some pre-Contact era, some historic, and some more modern including military features

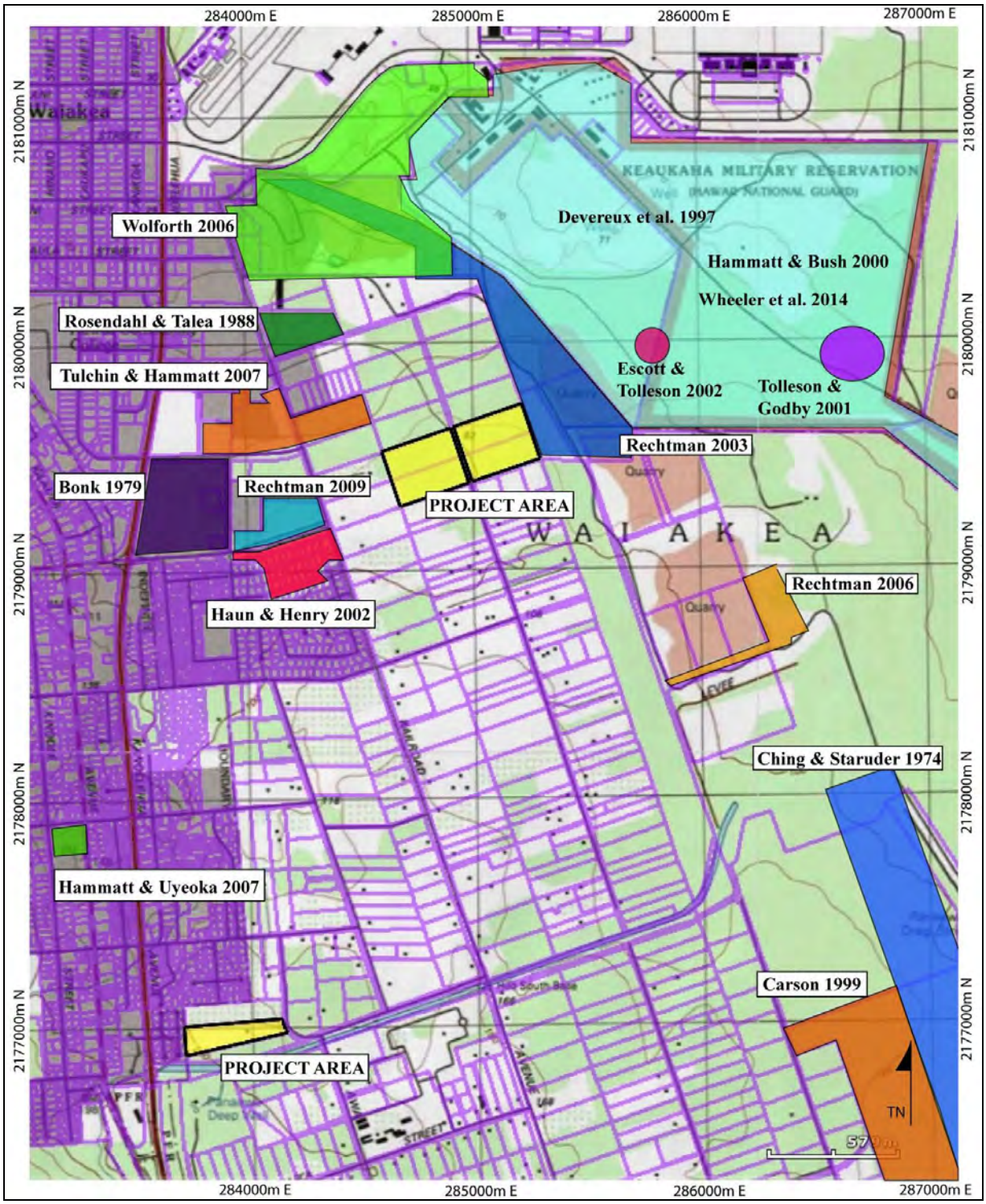

Figure 9: 7.5-Minute Series USGS Topographic Map Showing Location of Previous Archaeological Studies Near the Project Area (ESRI, 2011. Sources: National Geographic Society, USGS Hilo Quadrangle).

The current project area lands are situated inland of the Coastal Settlement Zone of the east Hawai‘i settlement model (McEldowney 1979). As reflected in the name of that zone, prehistoric habitation is focused along the coastline. Fishponds for *ali‘i* and *maka‘āinana* were created, maintained, and used all along the coast. The basic cultivated crops such as irrigated and dry taro, bananas, breadfruit, *kukui* nuts, pandanus and *ti* were grown in these lower elevations. They did not grow uniformly over the coastal zone, however. The heavily weathered soils on the Mauna Kea flows along the western portion of Hilo Bay were particularly well suited for agriculture. This bias towards the western area is evident in the distribution of fields portrayed in an early depiction of the Hilo Bay (Figure 10). The eastern half of the Hilo Bay area and further south and east are covered by younger Mauna Loa flows that lack soil the level of soil development present in the Mauna Kea flows.

Few archaeological sites have been recorded as a result of the projects conducted in the lower elevations of Waiākea. It is likely that the extent of disturbance by the 200 years of development in Hilo town is partially to blame for the lack of recorded lowland sites. In the case of archaeological projects conducted very close to the current project area, it is more likely that the lack of habitation is the result of this region being an inland, rugged, forest area that was not settled. Also, modern disturbance from historic and modern uses have likely removed some archaeological remains.

Paul H. Rosendahl Inc. (PHRI) (Rosendahl and Talea1988) conducted research on five 5-acre lots dispersed through the South Hilo area, recording no cultural deposits due to extensive landform changes caused by the development of Hilo Town (see Figure 9). A reconnaissance survey by PHRI (M. Rosendahl 1988) conducted at the eastern end of General Lyman Field again resulted in no extant archaeological remains due to previous land disturbance.

Devereux et al (1997) conducted a reconnaissance level survey for HIARNG on selected portions of KMR along a corridor parallel to the Puna Trail (see Figure 9). Two sites (assigned temporary site numbers CSH 1 and CSH 2) were recorded: as a prehistoric C-shaped enclosure and a coral mound, the team also addressed 10 historic structures over 50 years of age. CSH2 was later interpreted as a modern bulldozer push.

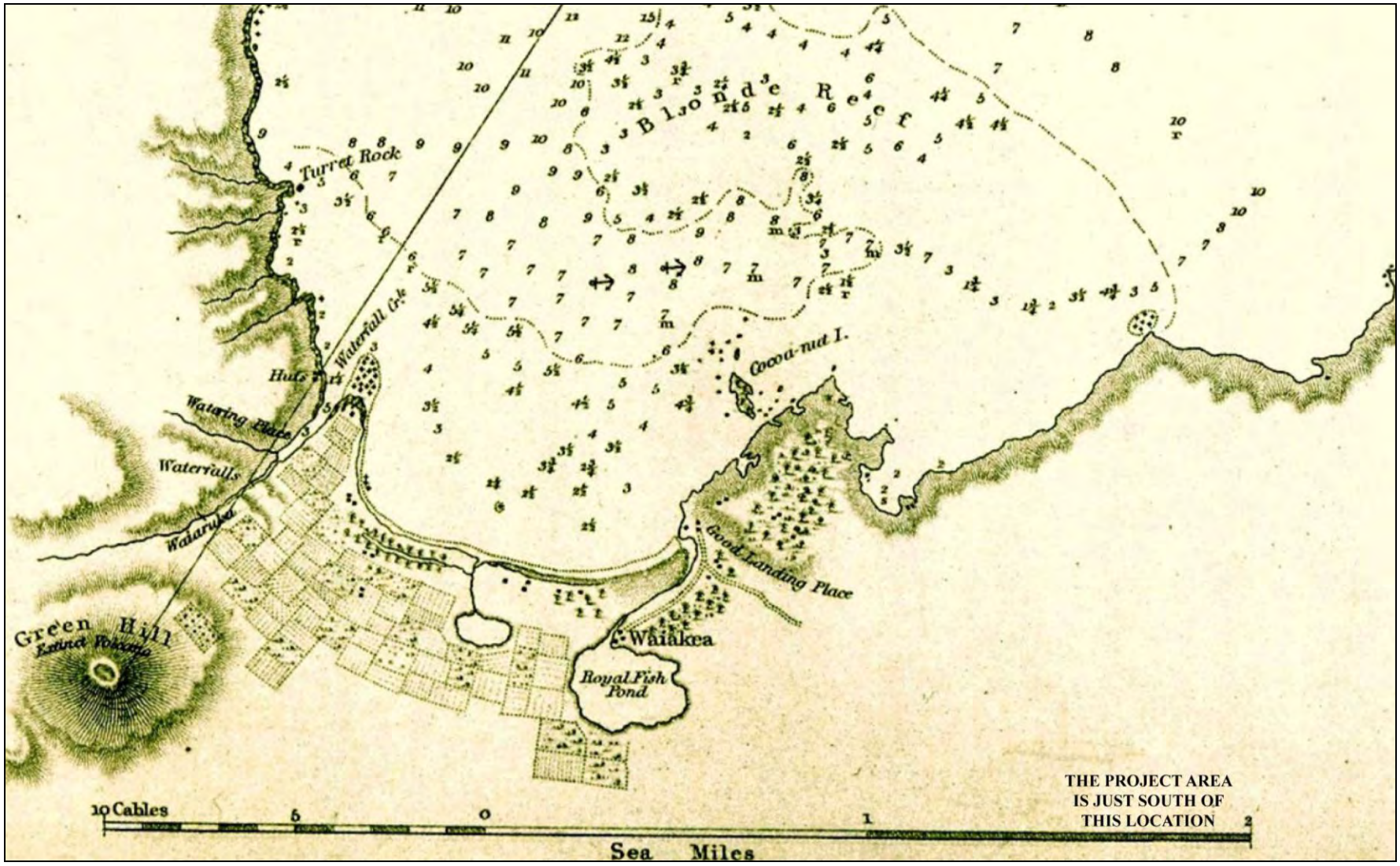

Figure 10: Portion of 1825 Map of Hilo Bay Showing Location of Major Habitation and Agricultural Fields (Malden 1825).

Hammatt and Bush (2000) conducted an inventory level survey of KMR adjacent to the portion of the Puna Trail that extends through the facility. In this report, they discussed the history of the Puna Trail that continues down to south Puna where it meets with the Old Gov't Road (also called the Puna trail). They noted extensive mechanical grading of the ground surface at KMR during military occupation that has effectively removed all surface traces of historic/prehistoric occupation. However, the entire facility was not completely surveyed. Hammatt and Bush recorded three archaeological sites, a C-shaped enclosure, thought to be military in origin, a group of five *ahu,* possibly markers to denote the trail set parallel to the Puna Trail and a modified natural lava blister interpreted as a traditional Hawaiian agricultural planting feature.

Tolleson and Godby (2001) conducted archaeological data recovery at Site 21771 located adjacent to the paved portion of the Puna Trail the traverses KMR. This site consists of a complex comprised of a low platform, an enclosure, a possible *imu*, fruit trees, and a meadow. Artifacts, such as horse/mule shoes, sharpening implements, a sharpening wheel, and hoof files suggest the site is related to historical road construction along the Puna Trail.

PHRI (P. Rosendahl 2002) conducted an archaeological assessment survey of 14.99-acres of the quarry site within the current project area. No archaeological sites were identified during the study.

Escott and Tolleson (2003) conducted an archaeological inventory survey just east of the current project area. A single site (Site 23273) consisting of a remnant trail segment and two planting features were recorded along the south west boundary of the project area.

Wolforth (2006) conducted an archaeological inventory survey of 147 acres south of the Hilo International Airport. Four sites (SIHP 50-10-35-25538, 25539, 25540, and 25541) associated with a Naval Air Station facilities and quarry were recorded. No pre-Contact orearly post-Contact era sites were documented on the project area.

Scientific Consultant Services, Inc. (Escott 2013a, Escott 2013b) conducted two archaeological assessments of 50 and 85 acres of land along the eastern edge of the KMR. No archaeological sites or historic properties were identified during the study.

The study did document modern dirt roads that were cut by bulldozers, likely in anticipation of building out this area. The dirt roads were straight and were oriented northwest/southeast. A search was made of Hawai‘i County Planning documents, historic maps, and archival documents to ensure the dirt road was not constructed over a pre-existing trail or government road. In addition, SCS consulted with Ala Kahakai and Na Ala Hele. There were no documents showing a traditional trail or government road in the location of the dirt road identified during the current study.

Cultural Surveys Hawai‘i, Inc. recently conducted an archaeological inventory survey of the KMR (Wheeler et al. 2014). During that study eleven sites were documented, including seven early post-Contact era to modern era sites, and four pre-Contact to Historic era sites (Wheeler et al. 2014:64). The pre-Contact era to Historic era sites included two trails, a modified lava tube, and a modified outcrop complex. The trails were associated with travel and transportation through the area, and the latter two sites were associated with temporary habitation, possibly while traveling through the area, or while collecting forest resources.

The early post-Contact to modern era sites included three trail segments, a military position, and two possible homesteads with small agricultural garden plots.

EXPECTED ARCHAEOLOGICAL PATTERNS

Based on previous archaeological studies, geological studies, historical research, archaeological sites in the area surrounding the current project should be associated primarily with Historic era and modern land-uses. This is likely since this area is not known to have been used for habitation or agricultural purposes, ever. The Pana‘ewa forest area where the project parcels only began to be accessed to a larger degree in the Historic era as new areas were explored to open up for agricultural pursuits. The Pana‘ewa region where the project area is located contains marginally thin soils and is not well suited to mechanical agricultural techniques.

It is possible that pre-Contact era site types such as trail segments, temporary habitation features associated with travel and forest resource extraction might be present on the project area. It is less likely, but possible, that scattered temporary habitation features adjacent to planting features might be present. It is also possible that more

modern features associated with WWII training and quarrying in the area might be present on the project area.

RESULTS OF FIELDWORK

No archaeological sites and no remains of historic properties were identified during the pedestrian survey conducted at the project area. Three overgrown, bulldozed road alignments were identified in the northernmost 40 acres during the survey. The bulldozed road alignments are evident in a 1954 USDA aerial photograph (see Figure 8). The bulldozer roads were likely created in anticipation of future development for the expansion of Hilo.

CONCLUSION AND RECOMMENDATIONS

No archaeological sites or historic properties were identified within the project area APE during the archaeological survey. The results of the survey support the results of the ethnographic and historical archival record for this area. According to ethnographic and historical documentation, the Pana‘ewa forest was traditionally considered an inhospitable place. The forest was thick and was difficult to travel through. The Pana‘ewa forest was not a traditional location for settlements or gardens. Settlements and garden areas were located along the coast on the outside edges of the forest.

Previous archaeological studies in the region have identified archaeological sites further north, closer to the Hilo International Airport. The majority are the remains of post-Contact era to modern era trails, military sites and individual homestead sites. There are a small number of pre-Contact era sites that include small rock mound complexes and trail segments. All of these sites have been identified north of the current project area.

It has been determined through archaeological survey that no historic properties exist within the APE and that no historic properties will be affected by the proposed undertaking. SCS recommends that, pursuant to Section 106 of the National Historic Preservation Act of 1966 as amended and 36 CFR part 800.2(c), the SHPO concur with the determination of no effect. This archaeological assessment report is intended as supporting documentation for Section 106 requirements.

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SUBJECT: SECTION 106 AND HRS 6E CONSULTATION FOR PANA'EWA AGRICULTURAL LOTS SUBDIVISION

On behalf of the Department of Hawaiian Home Lands, PBR HAWAII invites you to contribute feedback on the Pana'ewa Agricultural Lots Subdivision, pursuant to Section 106 of the National Historic Preservation Act (NHPA) and State of Hawai'i historic preservation law (Hawai'i Revised Statutes, Chapter 6E).

The purpose of Section 106 is to take into account the effect that Federal agency actions (including use of Federal funds) may have on historic properties within the area of potential effect. The purpose of Chapter 6E is to conserve and develop the historic and cultural property within the State for the public good.

You are receiving this letter either because you are a Native Hawaiian Organization (NHO) currently listed with the Office of Native Hawaiian Relations, or because you are a non-listed NHO but may wish to be involved based on your area of interest.

Project Description:

Name of Project: Pana'ewa Agricultural Lots Subdivision

Location: Pana'ewa **Island**: Hawai'i **District**: South Hilo

Tax Map Key:	Mahiai Lot	(3) 2-2-061:002
	Auwae Lots	(3) 2-1-025-006 (3)2-1-025:007 (3)2-1-025:047 (3)2-1-025:048

Proposed Undertaking: DHHL proposes to subdivide five existing 10-acre lots into half-acre lots, for a total of 80 lots for homestead agricultural leases. These lots will be awarded to current lessees who need to relocate or reconstruct their homes due to lava or other hazards, as well as new lessees on the wait list. The lots will be accessed by County roadways, and will be served by the County water system. The lots will have individual onsite septic systems, with plans to connect to the County sewer once plans for the surrounding area are finalized.

Area of Potential Effect (APE):
The Area of Potential Effect has been determined to be the aforementioned TMKs and the portion of Auwae Road to be extended to serve these lots. Please see the enclosed map, which shows the project area and the APE.

Your NHO is encouraged to comment on *historic or potential historic properties, historic or potential historic districts,* this project's *area of potential effect,* and *the nature of these potential effects*. You are encouraged to identify other NHOs that should participate in the 106 consultation process for Pana‘ewa Agricultural Lots Subdivision.

A Draft Environmental Assessment (EA) for Pana‘ewa Agricultural Lots Subdivision has been prepared pursuant to the State of Hawai‘i EIS law (Hawai‘i Revised Statutes, Chapter 343) and the State of Hawai‘i EIS rules (Hawai‘i Administrative Rules, Title 11, Chapter 200). It includes an Archaeological Assessment as an appendix. The Archaeological Assessment did not identify any historic properties, and recommended a determination of no effect.

The Draft EA is available online for your review: http://tiny.cc/7ccb2x

Your comments must be received or postmarked 30 days from the date of this letter, and must be accompanied with a full name and mailing address. Please reference “Section 106 Consultation” in your subject heading.

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Please send comments to the Consultant and/or the Applicant.

Thank you for participating in the environmental review process.

LEGEND

- Project Area
- Area of Potential Effect (same as Project Area)
- Proposed Lots and Mahiai Easement
- property lines

Project Area and APE

PANA'EWA AGRICULTURAL LOTS SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawai'i

North

Linear Scale (feet)

0 375 750 1500

PBR HAWAII & ASSOCIATES, INC.

Source: ESRI online basemap. Hawaii State DBEDT, 2014. Department of Hawaiian Home Lands, 2015.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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KAPOLEI HI 96707

PHONE (808) 594-1888

FAX (808) 594-1938

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAI'I 96817

HRD15/7408D

September 8, 2015

PBR Hawaii & Associates, Inc.
ATTN: Roy Takemoto, Managing Director – Hilo
1001 Bishop St., Suite 650
Honolulu, HI 96813

Re: Request Consultation for Section 106 and Chapter 6E for the Department of Hawaiian Homelands Pana'ewa Lands
Waiākea Ahupua'a, Hilo Moku, Hawai'i Mokupuni
Tax map key (3) 2-1-025:006, 007, 047, 048 and (3) 2-1-061:002

Aloha Mr. Takemoto:

The Office of Hawaiian Affairs (OHA) is in receipt of your August 28, 2015 letter requesting consultation under Section 106 of the National Historic Preservation Act and the State of Hawai'i Historic Preservation Law Chapter 6E, for the Department of Hawaiian Home Lands (DHHL) property located in Pana'ewa, Hilo.

The DHHL is proposing to subdivide the five, 10-acre parcels into 90, half-acre lots. The subdivision will enable the relocation of Maku'u Farm Lot, other lessees, and allow for awards to current individuals on the waitlist.

OHA would like to suggest that the following individual be contacted:

- Bill Brown, President of the Pana'ewa Community Association
  - phhlca@aol.com

OHA previously commented on this project's cultural impact assessment on July 15, 2015, and on the draft environmental assessment on August 17, 2015.

Mahalo for the opportunity to consult. Should you have any questions, please contact Jeannin Jeremiah at 594-1790 or by email at jeanninj@oha.org.

'O wau iho nō me ka 'oia 'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KC:jj

C: Niniau Simmons – Department of Hawaiian Home Lands
Lukela Ruddle – OHA Community Outreach Coordinator, East Hawai'i Island
Kamuela Bannister – OHA Community Outreach Coordinator, East Hawai'i Island

**Please address replies and similar, future correspondence to our agency:*
Dr. Kamana'opono Crabbe
Attn: OHA Compliance Enforcement
560 N. Nimitz Hwy, Ste. 200
Honolulu, HI 96817

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State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Building, 601 Kamokila Blvd., Suite 555, Kapolei, HI 96707
Ph: (808) 692-8015 Fax: (808) 692-8020
DLNR.Intake.SHPD@hawaii.gov

APPLICATION FOR HISTORIC PRESERVATION REVIEW

Please complete one copy of this form for each project for which review is requested and attach it to all information submitted to this office for review. This application is required for both Chapter 6E and Section 106 review processes. Complete and submit one form for each project/building permit required to be reviewed for Chapter 6E and Section 106 review. Applications must be accurate and complete for review to begin. Incomplete or inaccurate applications will be sent back to the applicant without comment. Send only the information and attachments requested on this application.

I. APPLICATION INFORMATION

☐ **NEW SUBMITTAL**
(if this is a new submittal please complete Section II)

☒ **MORE INFORMATION RELATING TO LOG#: 20**15 **.** 01397 **; in response to DOC#: 1504SN08**
(if you have checked this box and noted the previous LOG IN # assigned by this office you do not need to continue unless the required information below has changed)

II. PROPERTY INFORMATION and AREA OF POTENTIAL EFFECTS

Project Name: Panaewa Agricultural Lots Subdivision

Project Address/Location: Waiākea ahupua‘a

City/Town/Place Name: South Hilo **County:** Hawai‘i

TMK # (3) 2 - 1 - 025 : 047
(3) 2 - 1 - 025 : 048
(3) 2 - 1 - 025 : 006
(3) 2 - 1 - 025 : 007
(3) 2 - 2 - 061 : 002

Area of Potential Effects:
(Every project has an Area of Potential Effect (APE). The APE includes the entire area within which historic properties could be affected by the project. This includes all areas of construction, demolition, and ground disturbance (direct effects) and the broader surrounding area that might experience visual or other effects from the project (indirect effects)

The APE is the aforementioned TMKs.

Acreage of APE: Approximately 50 acres total (2,185,448 sf)

APE Map:

☒ **Attachment I:** (submit separately or include at the end of this document)
SHPD requires map(s) locating the project and outlining the Area of Potential Effect. Include a map locating the project in the community. The map must clearly show street and road names surrounding the project area as well as the location of all portions of the project. Appropriate maps include tax maps, Sanborn Insurance maps, GIS or satellite maps, and/or USGS quadrangle maps.

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III. LAND USE

Previous Land Use/Disturbances:
(Include general description of the land disturbance when the building was originally constructed and any subsequent land disturbance caused by additions or construction of out-buildings)

The Auwae lots form a contiguous 40-acre area of undeveloped land, with no structures. Three overgrown, bulldozed road alignments were identified in the Auwae lots during the Archaeological Assessment ground survey. The alignments can be seen in a 1954 aerial photograph, and were likely created in anticipation of the expansion of Hilo.

The 10-acre Mahiai lot is grubbed, graded and landscaped, with one dilapidated, 1980s-era house on the property.
A 2015 Archaeological Assessment encompassing the project site concluded that there are no properties eligible for the National Register within the APE, and suggests that no historic properties will be affected by the proposed undertaking

Current Land Use/Conditions:
(Include a general description of the current land use and the current condition of the property)

The lots are currently vacant.
The Auwae lots have some areas of thick forest, but ground surface visibility is good across the property. The south, east and northeast portions of the lots exhibit marked ground disturbance, and are dominated by invasive plants including albizia and guava. The rest of the Auwae property is dominated by ʻōhiʻa and a number of invasive plants.
The Mahiai lot is entirely grubbed, graded and covered with grass lawn.
No informal use of the properties was observed. Surrounding land use includes residential lots, agricultural use, and undeveloped land.

Does the landowner know of any archaeological resources found on the property?
(If so, then please describe.)

The landowner is <u>not</u> aware of any archaeological resources on the property. A 2015 Archaeological Assessment of the project area found only one structure, the 1980s-era house described above. No properties or remains of properties eligible for the National Register were identified within the APE.

IV. IDENTIFICATION OF HISTORIC PROPERTIES

Part A.
Does the project area or area of potential effects include buildings, structures, or designed landscape features (such as parks or cemeteries) that area 45 years of age or older?

☐ **YES** (please complete the rest of this section)

☒ **NO** (please skip this section and move on to the next)

Part B. **Determination of Eligibility:**

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☐ The property is **listed** on the State or National Register of Historic Places. Please provide the property's Historic Name or Name of the Historic District the property Contributes to:

☐ The property is **eligible** for listing on the State or National Register of Historic Places

☐ The property is **not eligible** for listing on the State or National Register of Historic Places

Inventory of Resources:
(Please include a list of each building/structure on the site and what the date of construction is for each building/structure)

.

V. PROJECT WORK DESCRIPTION

Project Type (check all that applies):

☐Repair, Rehabilitation, or Renovation of Structure(s)
☒Site Excavation/Ground Disturbing Activity
☒Utilities and Infrastructure
☐Addition to Existing Structure(s)
☒New Construction
☒Other: Subdivision of existing parcels with intent to develop

*****If site excavation/ground disturbing activity is to occur, please explain the proposed ground disturbing activity including width, length, and depth of activity within the project work description

Part A. Project Work Description (and project drawings if available)

In an earlier letter dated April 7, 2015, DHHL's proposed undertaking was the subdivision of five existing 10-acre lots, for a total of 90 homestead lots. This number should be updated to 80 lots although the diagram ("General Layout Plan"), included in Exhibit A of the letter, remains the same. A detailed Project Work Description is included with this form.

☒ **Attachment II:** (submit separately or include at the end of this document)

SHPD requires a detailed written description of the project/scope of work (and project drawings if available). Attach a full description of the nature and extent of the work to be undertaken as part of this project. Plans, specifications, Environmental Impact Statements (EIS), Environmental Assessments (EA), etc., **cannot** be substituted for the written description. Please attach a full written project work description outlining the scope of work to be undertaken through this project. **If site excavation/ground disturbing activity is to occur, please explain the proposed ground disturbing activity including width, length, and depth of activity within the project work description**

Part B. Photographs

☒ **Attachment III:** (submit separately or include at the end of this document)

SHPD requires photo documentation of the project area and the APE. Photographs may be black and white prints, color prints, or color laser/photo copies; standard (black and white) photocopies are NOT acceptable. If the project involves rehabilitation, include photographs of the building(s) involved. Label each exterior view to a site map and label all interior views. If the project involves new construction, include photographs of any buildings (fifty years old or older) that are located on the project property or on adjoining property.

☐NORTH ELEVATION
☐SOUTH ELEVATION
☐EAST ELEVATION
☐WEST ELEVATION

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☐PHOTO KEY

Is there any interior work involved within the scope of work for the proposed project?

☐YES ☒NO

If there is interior work involved within the scope of work please provide interior photographs of the area(s) where proposed work is to occur.

☐INTERIOR PHOTOGRAPHS

☐INTERIOR PHOTOGRAPH KEY

VI. DETERMINATION OF EFFECT

Part A. Determination of Effect

☒There are no historic properties within the APE, therefore no **historic properties** will be **effected.**

☐There are historic properties within the APE, but the project will have **no adverse effect** on historic properties.

☐There are historic properties within the APE and the project will have an **adverse effect** on historic properties.

VII. CONSULTATION

Part A. Consultation with Interested Parties/Public Notification

(*The SHPD is only one consulting party under Section 106 (36 CFR 800.2). Other Participants entitled to comment on the Section 106 process include Native Hawaiian Organizations, interested parties, and the public. For more information about consulting parties and satisfying the public notification element of Section 106 consultation please refer to the instructions for this form.)*

Consulting Parties included within this Section 106 Consultation:

☒Office of Hawaiian Affairs (OHA)
☒ Hawaii Island Burial Council (HIBC)
☐ Kauai Island Burial Council (KIBC)
☐ Oahu Island Burial Council (OIBC)
☐Historic Hawaii Foundation (HHF)
☐Public Notice: (which publication/when)
☐Maui/Lanai Islands Burial Council (MLIBC)
☐Molokai Island Burial Council (MIBC)
☒Other Consulting Parties (including Native Hawaiian Organizations, Civic Clubs, etc.) NHOs listed by DOI Office of Native Hawaiian Relations

VIII. CONTACT INFORMATION

Contact information may vary between the Section 106 and Chapter 6E consultation processes. If this application is being submitted in request for **both** Chapter 6E and Section 106 review, please indicate **all parties that will need to be consulted** in the fields reserved below. If this application is being submitted for **only** Section 106; or only Chapter 6E please **only fill out the required contact information for either consultation process below.** Any additional contacts that do not fit within the fields below must be included at the back of the form on a typed 8.5x11 sheet of paper, labeled Attachment VIII: Additional contacts.

Contact Information

Federal Agency:

Contact Name: **Title:**

Address: **City:** **State:** **Zip:**

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Phone: **Fax:** **Email:**

State/City/County Agency (if applicable): Hawai'I State Department of Hawaiian Home Lands

Contact Name: Ms. Niniau Simmons **Title: NAHASDA Manager**

Address: 91-5420 Kapolei Parkway **City: Kapolei** **State: HI Zip: 96707**

Phone: (808) 620-9513 **Fax: (808) 620-9529** **Email: .simmons@hawaii.gov**

Non-Government Project Proponent/Consultant: PBR HAWAII, Inc.

Contact Name: Mr. Roy Takemoto **Title: Planner**

Address: 1001 Bishop Street, Suite 650 **City: Honolulu** **State: HI Zip: 96813**

Phone: (808) 521-5631 **Fax: (808) 523-1402** **Email: rtakemoto@pbrhawaii.com**

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Attachment I

Area of Potential Effect

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LEGEND

- Project Area
- Area of Potential Effect (same as Project Area)
- Proposed Lots and Mahiai Easement
- property lines

ATTACHMENT 1

Project Area and APE

PANA'EWA AGRICULTURAL LOTS SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawai'i

North

Linear Scale (feet)

0 375 750 1500

PBR HAWAII & ASSOCIATES, INC.

Source: ESRI online basemap. Hawaii State DBEDT, 2014. Department of Hawaiian Home Lands, 2015.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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Attachment II

Project Work Description

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1.1 SUMMARY

Project Name:	Panaʻewa Agricultural Lots Subdivision
Location:	Waiākea *ahupua'a*, South Hilo, Island and County of Hawaiʻi
Judicial District:	South Hilo
Tax Map Key (TMK):	Parcels off of Auwae Road (hereafter referred to as the "Auwae Lots"): (3) 2-1-025:047 (Lot 47 of Panaʻewa House & Farm Lots) (3) 2-1-025:048 (Lot 48 of Panaʻewa House & Farm Lots) (3) 2-1-025:006 (Lot 6 of Panaʻewa House & Farm Lots) (3) 2-1-025:007 (Lot 7 of Panaʻewa House & Farm Lots) Parcel off of Mahiai Street (hereafter referred to as the "Mahiai Lot"): (3) 2-2-061:002 (Lot 185 of Panaʻewa House & Farm Lots)
Land Area:	Approximately 50 acres total (10 acres each of five lots)
Landowner:	Department of Hawaiian Home Lands
Existing Use:	One open area with a single home to be demolished (Mahiai Lot), and four undeveloped parcels with existing vegetation dominated by albizia trees (Auwae Lots)
Proposed Action:	The project consists of subdividing the various parcels into approximately 80 half-acre lots with County dedicated roads and water system. DHHL will award the lots to native Hawaiian beneficiaries on the wait list, and/or to existing lessees who need to relocate due to lava or other hazards.
Current Land Use Designations:	*State Land Use:* Agriculture *County General Plan LUPAG*: Urban Expansion (Auwae Lots); Low Density Urban (Mahiai Lot) *County Zoning*: General industrial district (MG-1a) (Auwae Lots); Agricultural (A-5a) (Mahiai Lot) *Special Management Area (SMA)*: Not in SMA *DHHL Land Designation (Hawai'i Island Plan 2002):* Commercial (Auwae Lots); Supplemental Agricultural (Mahiai Lot)
Alternatives Considered:	Three alternatives were considered: • No action • Alternative sites • Alternative designs
Potential Impacts and Mitigation Measures:	Beneficial impact by providing affordable housing opportunity for native Hawaiians within the urban core in proximity to jobs, schools, and shopping. One-half acre lot size provides opportunity for self-sufficiency agriculture. Mitigation measures include: *Threatened or endangered species.* DHHL to provide notice to lessees: • To protect night-flying seabirds, outdoor illumination be shielded so that the bulb is not visible at or above bulb-height. • To protect the low-flying, foraging Hawaiian hoary bat, barbed wire not be used for fencing. Construction scheduling and documents will incorporate the following applicable recommendations of the USFW: • Hawaiian hawk. If construction occurs during the hawk's breeding season (March through September), the contractor will retain a qualified ornithologist to conduct a nest search of the area of the proposed construction site and surrounding area prior to the advent of construction activities. Surveys should ensure that construction activity will not occur within 1,600 feet of any Hawaiian hawk nest. • Hawaiian hoary bat. It is recommended that woody plants greater than 15 feet tall should not be removed or trimmed during the Hawaiian hoary bat

	breeding season (June 1 to September 15). • Seabirds. If night work must be conducted, it should take place outside the sea bird fledging season (September 15 through December 15) and should utilize shielded lighting. *Air quality, noise, water quality.* Construction documents will include: • Standard dust control measures • Standard noise control measures • Best management practices for erosion and sedimentation control in accordance with approved Grading and NPDES permits *Land use plans consistency.* DHHL will amend the Hawai'i Island Plan to reflect the proposed Subsistence Agricultural use and update the County per MOU. *Solid Waste.* Construction documents will include requirement to mulch the green waste onsite and make available to DHHL homesteaders. Whenever green waste cannot be processed on site, the green waste will be hauled to the Hawaii County Green Waste Site in Hilo for final disposal. *Wastewater*. Find additional funding to install dry sewers as part of the Project for the Auwae Lots. Upon updating the master planning for the Auwae Lots area, determine the required wastewater capacity of a collection system and find a funding source to construct. *Toxics and Hazardous Waste.* ▪ Auwae Lots o Properly dispose of the illegal dumping solid waste at the end of Auwae Road; o Retain a Phase 1 consultant to conduct further research as follows: ▪ Inspect for any industrial use encroachment along the boundary of parcels [3] 2-1-025: parcels 092 and 093 with mitigation as needed to properly cleanup. ▪ Use best efforts to research the extent of historic military use of the Auwae Lots. o As long as groundwater is not pumped, no groundwater testing is necessary for potential impacts from the landfill or green waste site. ▪ Mahiai Lot. Retain a Phase 1 consultant for further research as follows: o Test the soil for arsenic; o Inspect the kennel drainage area and conduct further testing as appropriate. *Historic preservation.* Construction documents will include a condition that should burials or other traditional deposits be identified during intrusive activities, all work in the area will cease and the appropriate agencies will be contacted. *Coordination with DOT Airports.* DHHL or contractor will file FAA Form 7460-1 "Notice of Proposed Construction or Alteration" and also notify DOT when filing the grubbing and/or grading permit.
Approvals and Permits Required:	Subdivision, UIC, NPDES, Grubbing/Grading, Noise, Individual Wastewater System Approval (by future lessee of each lot), Building (by future lessee of each lot)

2 PROJECT DESCRIPTION

2.1 BACKGROUND INFORMATION

2.1.1 Location and Property Description

The Project is proposed to be located in the Waiākea *ahupua'a*, South Hilo District, Island and County of Hawai'i. One 10-acre parcel is located off Mahiai Street, north of a drainage channel (TMK (3) 2-2-061:002) (hereafter referred to as the "Mahiai Lot"), while the other four 10-acre parcels are located off the north end of Auwae Road (TMKs (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, and (3)2-1-025:048) (hereafter referred to as the "Auwae Lots") (the Mahiai Lot and Auwae Lots collectively referred to as the "Site").

The five 10-acre parcels are part of the Pana'ewa House and Farm Lots filed in 1976 in the Bureau of Conveyances as File Plan 1487 (see Figure 1). The Auwae Lots are Lots 6, 7, 47, and 48 of Section 1 of this File Plan. The Mahiai Lot is Lot 185 of Section 2.

2.1.2 Existing and Surrounding Land Uses

A portion of the Mahiai Lot is open land with a single home (DHHL canceled the existing lease and will demolish the home), and the other four parcels of the Auwae Lots are undeveloped.

The surrounding uses are as follows (see Figure 2):

	Mahiai Lot (TMK 322061002)	**Auwae Lots** (TMK 321025006, 321025007, 321025047, 321025048)
North	Orchard agricultural	Forested, undeveloped parcels designated by DHHL for Commercial use; quarry located approximately 1700' from nearest boundary
South	Open undeveloped parcels	DHHL agricultural homestead lots
East	Mahiai Street; agricultural, low-density residential	County green waste site; landfill
West	Residential homes	DHHL agricultural homestead lots

2.2 PURPOSE AND NEED

The Project will enable the relocation of Maku'u Farm Lot lessees threatened by the lava flow, accommodate other lessees who may need to be relocated (e.g., Pu'ukapu lessees with UXO issues), and/or awarded to new lessees on the wait list.

2.3 PROJECT DESCRIPTION

The Project consists of subdividing the Mahiai Lot into 16 approximately half-acre lots, a road lot, and a road reserve for a future connection. The four 10-acre Auwae Lots will each be subdivided into 16 approximately half-acre lots and roadway lots. The resulting subdivision of the Mahiai Lot and Auwae Lots will total 80 lots for homestead agricultural leases. For lessees relocating from another homestead lot, these lessees will have the option to move their existing home to the new lots. The other lots will require new construction. The lots will be accessed by County-dedicated roadways built to County standards. The lots will be served by the County water system and individual onsite septic systems (see Figure 3).

2.4 DEVELOPMENT TIMETABLE AND PRELIMINARY COSTS

The estimated total construction cost is $5 million. Federal (Native American Housing Assistance and Self-Determination Act (NAHASDA) funds) and possibly State funds will be used. Construction will commence by the start of next year and will require approximately 12 months for construction.

3 DESCRIPTION OF THE HUMAN ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing conditions of the human environment, preliminary potential impacts of the Project, and preliminary mitigation measures to minimize any impacts.

3.1 ARCHAEOLOGICAL AND HISTORIC RESOURCES

Scientific Consultant Services (SCS) conducted an archaeological inventory survey (AIS) of the Site and submitted to SHPD for review (Appendix D). The survey was conducted in accordance with Hawai‘i Administrative Rules Chapter 13-275 (Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports) and Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR Part 800). The archaeologist determined through archaeological survey that no historic properties exist within the area of potential effect and that no historic properties will be affected by the proposed undertaking. The report recommended that, pursuant to Section 106 of the National Historic Preservation Act of 1966 as amended and 36 CFR part 800.2(c), the State Historic Preservation Officer (SHPO) concur with the determination of no effect.

Historic Background

The project area is located in the *ahupua‘a* of Waiākea, Hilo Hanakāhi ‘Okana, in the *moku-o-loko* (district) of Hilo. The *ahupua‘a* of Waiākea is large, consists of roughly 95,000 acres, and according to the AIS was regarded as a region of abundant natural resources and numerous fishponds. Waiākea was also an early important political center, notably under chief Kulukulu‘a. Kamehameha lived and often returned to his *‘ili kūpono* (independent land division where all tributes were paid to the chief of the *‘ili* and not the *ahupua‘a*) lands of Pi‘opi‘o in the *ahupua‘a* of Waiākea. The *‘ili kūpono* lands and its royal fishpond were passed on to his son Liholiho after his death.

Early accounts of Waiākea portray it as divided into several distinct environmental regions. From the coast to a distance of five or six miles scattered subsistence agriculture was evident, followed by a region of tall fern and bracken, flanked at higher elevations by a forest region between 10 and 20 miles wide, beyond which was an expanse of grass and lava (Ellis 1963:403). The American Missionary C.S. Stewart wrote, “the first four miles of the country is open and uneven, and beautifully sprinkled with clumps, groves, and single trees of the bread-fruit, pandanus, and candle tree (Stewart 1970:361-363). The majority of Waiākea’s estimated 2,000 inhabitants (in 1825) lived within this coastal region (Ellis1963: 253). Taro, plantains, bananas, coconuts, sweet potatoes, and breadfruit were grown individually or in small garden plots. Fish, pig, dog, and birds were also raised and captured for consumption.

The present study area is situated inland of the coastal region, in the Pana‘ewa Forest. The project area lands are not located in an area of known traditional habitation. The Pana‘ewa forest area was traditionally known as a forbidding and dangerous landscape.

The forest is heavily wooded and dense with thickets. Travel through it is made more difficult by the broken and undulating ground surface. There is an historic trail that leads from the modern day Lili‘uokalani Gardens area to the Puna coast. The trail is often called the Puna Trail and/or the Old Government Road (Escott and Tolleson 2003). Remains of the trail cross the Hawai‘i Army Reserve National Guard (HIARNG) Keaukaha Military Reserve (KMR) property, and it has the current appearance of a gravel-covered dirt road (Figure 4 and Figure 5). While there may have been some scattered home sites and gardens in this area, most of the known habitation was along the coast. The probable use of the area prehistorically was for trapping birds and collecting plants, including the plentiful *pandanus* or *hala* (Kelly et al. 1981:20).

Prior to the Māhele, Waiākea Ahupua‘a belonged to King Kamehameha, then Lihiliho, and was later held by the chiefess Ka-unu-o-hua, granddaughter of Keawe-mau-hili (Kelly et al. 1981:40). Waiākea became Crown Lands during the Māhele of 1848 and in the following years twenty-six Land Claims were awarded within the *ahupua‘a* of Waiākea (Table 1). The awards were small in area, 25 of which went to native claimants. The vast majority of awards were further west in the area of Hilo Bay. No Land Commission awards were made within or near the current project area. The project area property is owned by the State of Hawai‘i lands and is administered by DHHL.

Between 1845 and 1865, traditional land-use and residential patterns underwent a change. In particular, the regular use of Hilo Bay by foreign vessels, the whaling industry, the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugarcane cultivation all brought about changes in settlement patterns and long-established land-use patterns. Hilo became the center of population and traditional settlements along the shoreline in outlying regions declined or disappeared. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export. Sugarcane plantations and industrial facilities were established in areas that were once upland agricultural areas and coastal settlements, respectively.

Expected Archaeological Patterns

Based on previous archaeological studies, geological studies, historical research, archaeological sites in the area surrounding the current project should be associated primarily with Historic era and modern land-uses. This is likely since this area is not known to have been used for habitation or agricultural purposes, ever. The Pana‘ewa forest area where the project parcels only began to be accessed to a larger degree in the Historic era as new areas were explored to open up for agricultural pursuits. The Pana‘ewa region where the project area is located contains marginally thin soils and is not well suited to mechanical agricultural techniques.

It is possible that pre-Contact era site types such as trail segments, temporary habitation features associated with travel and forest resource extraction might be present on the project area. It is less likely, but possible, that scattered temporary habitation features adjacent to planting features might be

present. It is also possible that more modern features associated with WWII training and quarrying in the area might be present on the project area.

Results of Fieldwork

No archaeological sites and no remains of historic properties were identified during the pedestrian survey conducted at the project area. Three overgrown, bulldozed road alignments were identified in the northernmost 40 acres during the survey. The bulldozed road alignments are evident in a 1954 USDA aerial photograph (see Figure 5). The bulldozer roads were likely created in anticipation of future development for the expansion of Hilo.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. Given the findings of the AIS, no archaeological or historical properties are anticipated to be affected. Review comments from SHPD will be included in the Final EA.

The construction documents will include a provision that should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentrations of shell or charcoal or artifacts be inadvertently encountered during construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected. The contractor will immediately contact the State Historic Preservation Division, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

3.2 CULTURAL RESOURCES

The archaeological assessment report included archival research with findings summarized in the previous section. Pre-assessment consultation and meetings included the Office of Hawaiian Affairs and Keaukaha-Pana‘ewa Farmers Association.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. According to the AIS, the project area had not been used for traditional cultural purposes. Based on historical research and the responses from the above listed contacts, it is reasonable to conclude that Hawaiian rights related to gathering, access or other customary activities within the project area will not be affected and there will be no direct adverse effect upon cultural practices or beliefs. The Project is intended to benefit native Hawaiians by providing homestead leasing opportunities.

3.3 ROADWAYS AND TRAFFIC

Regional access to the Auwae Lots and Mahiai Lot is provided by Kanoelehua Avenue (Route 11). From Kanoelehua Avenue, local access is provided by East Kahaopea Street and Auwae Road for the Auwae Lots, and East Palai Street and Mahiai Street for the Mahiai Lot. The following describes these key roadways in the project vicinity:

Kanoelehua Avenue (Route 11) is a State arterial four-lane divided highway, also designated as Māmalahoa Highway, which extends through Hilo and is part of a network of roadways that encircles the island of Hawai'i. This highway is located approximately 1.5 mile *west* of the Auwae Lots via a signalized intersection on East Kahaopea Street, and approximately 0.6 mile west of the Mahiai Lot via an unsignalized intersection at East Palai Street and Mahiai Street.

Kahaopea Street is a two-lane County collector that extends westerly from Kanoelehua Avenue to Auwae Road. The intersections along East Kahaopea Street are un-signalized, side-street stop intersections. This roadway currently does not have paved sidewalks in either direction.

Auwae Road is a two-lane, undivided, north-south County collector that currently deadends at the southern boundary of the Auwae Lots. File Plan 1487 created the 50' rights-of-way that extend Auwae Road and connect it to Railroad Avenue (refer to Figure 1).

East Palai Street is an east-west County 2-lane collector. There is a channelized left turn lane from Kanoelehua Avenue to enter this street.

Mahiai Street is a north-south County 2-lane collector that connects to East Palai Street and curves to connect to Railroad Avenue.

DHHL will construct the extension of Auwae Road through the Auwae Lots and stop at the project boundary. DHHL will construct the internal roads for the Auwae Lots as looped roads with 50' rights-of-way width. For the Mahiai Lot, will construct an internal road within a 50' wide right-of-way that will connect to Mahiai Road. Although this internal road ends in a cul-de-sac, a 50' wide roadway reserve will enable a future connection of this internal road to an extension of Kinai Street to provide an alternative access. All roads are intended to be dedicated to the County with shoulders and swales in keeping with the agricultural-rural character of the Project, and to minimize impervious surfaces.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. DHHL will construct the required roads within the Project to dedicable County standards. Since maintenance of County roads are primarily funded by fuel tax, which the lessees pay at the pump like other vehicle owners, the fiscal impact to the County would be insignificant. The Auwae Lots and the Mahiai Lot are surrounded by lower density agricultural lots where the existing level of traffic is relatively low. The Project is not expected to result in any significant traffic impacts to the roadway system in the Project vicinity. The intersections along the State Kanoelehua Highway that future Project residents will primarily use are already improved (signalized or channelized turning lanes).

3.4 INFRASTRUCTURE AND UTILITIES

3.4.1 Water System

According to the County Department of Water Supply (DWS) in its pre-assessment consultation comments (see Appendix B), water can be made available from an existing 8-inch County waterline within Auwae Road and an 8-inch County waterline within Mahiai Street, fronting the proposed project sites (see Figure 6). The required water system improvements, designed to deliver water at adequate pressure and volume under peak-flow and fire-flow conditions in accordance with the County of Hawai'i, Water System Standards 2002, as amended, and the Rules and Regulations of the Department of Water Supply, include, but not be limited to, mains (minimum 6 inches in diameter), service laterals to front each lot, and fire hydrants at the appropriate spacing. All construction plans, calculations, and specifications must be submitted by a professional engineer, registered in the State of Hawai'i, to DWS for review and approval. In addition to the above water system improvements, DHHL must also pay the prevailing facilities charge, which is subject to change, of $5,500.00 for each additional lot created. Payment is due and payable upon completion of the required water system improvements.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. The County water system has adequate capacity to serve the Project. DHHL must construct and dedicate the water system improvements to the County and pay the prevailing facilities charge (estimated at $5,500 x 75 additional lots= $412,500) upon dedication of the water system to DWS.

3.4.2 Wastewater System

There are no sewer lines within Auwae Road or Mahiai Street that connect to the project sites (see Figure 7). Cesspools will not be allowed since the Auwae Lots are in the Critical Wastewater Disposal Area and the Mahiai Lot is in an area that requires a minimum lot size of 1-acre for a cesspool, pursuant to the Department of Health's wastewater systems rules (Hawai'i Administrative Rules chapter 11-62) (see Figure 8). DHHL will require the Mahiai Lot lessees to install septic systems approved by the Department of Health (DOH).

For the Auwae Lots, in response to DOH consultation comments (see letter in Appendix B), DHHL examined an alternative to sewer these 64 lots by connecting to the County's sewer system at a manhole located near Home Depot on Railroad Avenue. A lift station would be required at Auwae Road. A force main minimally sized to accommodate the Auwae Lots approximately 3,000 l.f. in length would connect the lift station to the Home Depot manhole via a 10' sewer easement on DHHL land. The collection system within the Auwae Lots would require approximately 3,600 l.f. of collector lines and 12 manholes. The estimated additional cost for this sewer system is approximately $2.4 million, a 150% increase in the Project cost. Since DHHL is still in the process of re-examining their plans for this area to update the Island Plan, the future sewer needs are not certain. The proposal, therefore, is to install dry sewers as part of this Project and increase the Project funding by approximately $1.2 million to

accommodate this proposal. This dry sewer proposal commits DHHL to a future sewer system, puts the future residents on notice to locate their interim septic system to cost-effectively connect to the sewer system when required, buys time to enable DHHL to plan this area to properly size the main collector system, facilitates finding the additional funds with a reduced cost estimate, and avoids having to dig up the roads within the Project to install sewer lines in the future.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigable impact. For the Mahiai Lot, the minimum one-half acre lot size provides adequate area for the septic system's leach field. The DOH requires a licensed engineer to design and inspect the completed septic system (Hawai'i Administrative Rules section 11-62-31.1). For the Auwae Lots, the dry sewer system and interim septic systems commit the area to a future sewer connection. DHHL will look into potential funding sources such as the U.S. Department of Agriculture water and wastewater loan and grant program.

3.4.3 Drainage System

The Site is located in an area described as "outside floodplain/minimal flooding area" on the Flood Insurance Rate Map (FIRM) (see Figure 5). The grass shoulders and swales along the roads would promote infiltration, consistent with Low Impact Design (LID) site design measures. LID measures are intended to accomplish the following: (1) decrease the erosive potential of increased runoff volumes and velocities associated with development-induced changes in hydrology; (2) remove suspended solids and associated pollutants entrained in runoff that result from activities occurring during and after development; and (3) retain hydrological conditions to closely resemble those of the pre-disturbance condition. Any runoff along the streets would drain into drywells that will be installed within the Project rights-of-way.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. Runoff would be minimized with the 2-lane pavement width and grass shoulders and swales. Any increase in runoff from roofs and pavement would flow into drywells within the Project and recharge the groundwater.

3.4.4 Solid Waste

The County of Hawai'i Solid Waste Division operates and maintains, either by County personnel or by contracted services, two landfills and twenty-one transfer stations. The South Hilo Sanitary Landfill, transfer station, and green waste processing site are located near the Auwae Lots. Since the volume and size of the Project's grubbed material exceed the capacity of the County's green waste facility, the grubbed material will be chipped on site. The stockpiled materials will not exceed 5' in height. The mulch will be made available to DHHL lessees.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigated impact. Construction documents will require chipping the grubbed material on site and making the mulch available to DHHL lessees. Whenever green waste cannot be processed on site, the green waste will be hauled to the Hawaii County Green Waste Site in Hilo for final disposal. Soil and rocks displaced from grading and clearing will be used as fill within the site as needed.

3.4.5 Utilities

The Hawai'i Electric Light Company, Inc. (HELCO), a privately-owned utility company regulated by the State Public Utilities Commission, provides electrical power to the island of Hawai'i. The HELCO network of power plants serving Hilo includes the Kanoelehua Power Plant, Puna Power Plant, Wailuku Hydro Power Plant, Hilo Coast Power Plant, and Shipman Power Plant.

Telecommunication services are provided by Hawaiian Telcom via overhead lines. Sandwich Isles Communication is the sole provider of fiber optics serving DHHL properties.

POTENTIAL IMPACTS AND MITIGATION MEASURES

No significant impact. Electrical and telephone services are currently sized, adequate, and available to supply the Project. In response to pre-assessment consultation, HELCO had no objections to service the Project (see Appendix B).

FILE PLAN 1487

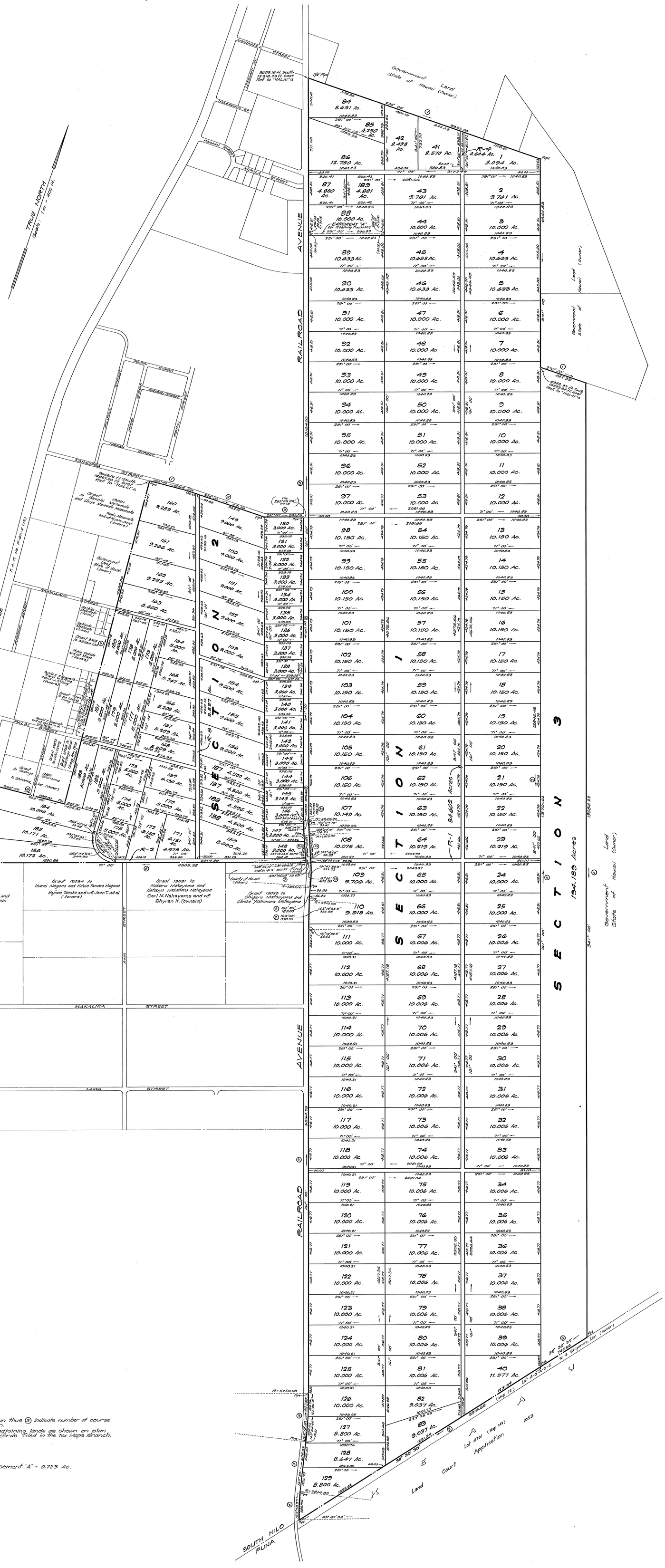


Figure 1: File Plan

PANAEWA HOUSE AND FARM LOTS

OWNER: HAWAIIAN HOME LANDS

ADDRESS: 550 HALEKAUWILA STREET
HONOLULU, HAWAII

SECTION 1

LAND SITUATED ON THE NORTHEASTERLY SIDE
OF RAILROAD AVENUE
AT WAIAKEA, SOUTH HILO, ISLAND OF HAWAII, HAWAII

BEING A PORTION OF HAWAIIAN HOME LAND OF PANAEWA

**SUBDIVIDED INTO LOTS 1 TO 129, INCLUSIVE
LOTS 189, R-1 AND R-4
AND DESIGNATION OF EASEMENT "A" OVER AND ACROSS
LOT 88
TOTAL AREA = 1319.788 ACRES**

SECTION 2

LAND SITUATED ON THE SOUTHWESTERLY SIDE OF RAILROAD AVENUE
AND ON THE SOUTHERLY SIDE OF KAHAOPEA STREET
AT WAIAKEA, SOUTH HILO, ISLAND OF HAWAII, HAWAII

BEING A PORTION OF HAWAIIAN HOME LAND OF PANAEWA

**SUBDIVIDED INTO LOTS 130 TO 188, INCLUSIVE
AND LOTS R-2 AND R-3
TOTAL AREA = 341.328 ACRES**

SECTION 3

LAND SITUATED ON THE NORTHERLY SIDE OF LAND COURT APPLICATION 1053
APPROXIMATELY 3150 FEET NORTHEASTERLY OF RAILROAD AVENUE
AT WAIAKEA, SOUTH HILO, ISLAND OF HAWAII, HAWAII

BEING A PORTION OF THE GOVERNMENT (CROWN) LAND OF WAIAKEA
CONVEYED TO DEPARTMENT OF HAWAIIAN HOME LANDS BY STATE OF
HAWAII BY EXCHANGE DEED DATED JANUARY 8, 1962 AND RECORDED
IN LIBER 4265, PAGES 456 AND 464 (LAND OFFICE DEEDS S-18729
AND S-18730)

TOTAL AREA = 194.189 ACRES

This map is from an actual survey on the ground made by or under the direct supervision of the undersigned between December 1, 1975 and January 22, 1976 and may be checked by the State Surveyor with our field books and calculation folders filed under Job Number 75-129.

WILLIAM HEE & ASSOCIATES, INC.

1020 Auahi St.
Honolulu, Hawaii
January 22, 1976

By: Jerry S. Nakagawa
Registered Professional Surveyor
Certificate Number 1698

I hereby certify that the description of survey and map hereon has been examined and checked as to form and mathematical correctness but not on the ground and the same is approved in accordance with Sections 502-17, 18 and 19 of the Hawaii Revised Statutes.

Honolulu, Hawaii
March 22, 1976

Kazuteru Ishii
State Land Surveyor

State of Hawaii
Office of
Bureau of Conveyances
Received for filing this 22ND day of
March A.D. 1976 at 3:29 P.M.
and filed in File No. 1487

Charles F. Neumann III
Registrar of Conveyances

METES AND BOUNDS DESCRIPTION RECORDED
IN LIBER 11307 PAGES 250-255

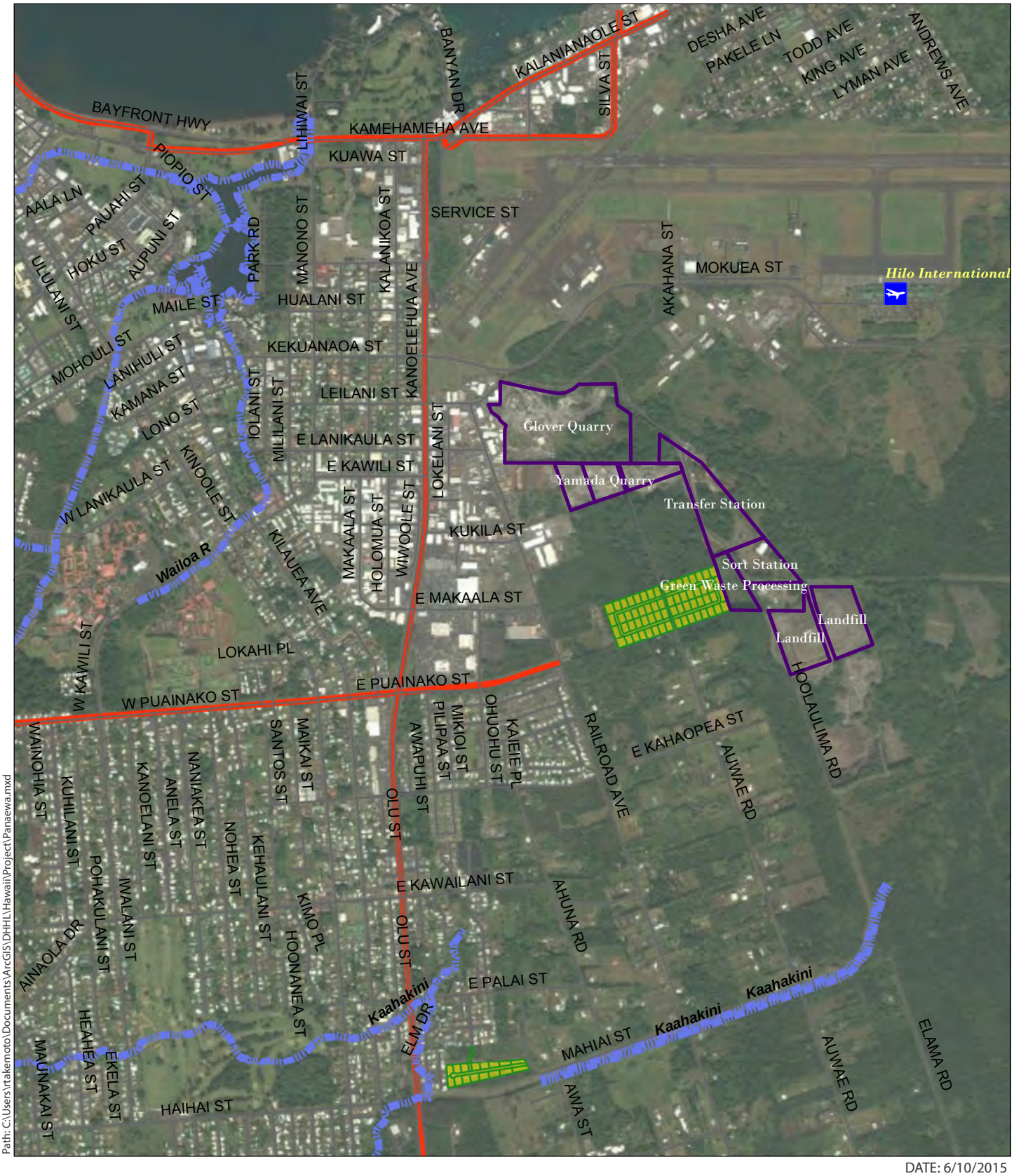
NOTES:

Figures shown thus ⑤ indicate number of course in description.
Owners of adjoining lands as shown on plan are from records filed in the Tax Maps Branch.

Area of Easement "A" = 0.723 Ac.

Tax Map Key: 3rd. Div. 2-1-13-3, 12 to 141, inclusive and 152
79-129
2-2-47-7 to 57, inclusive

42" x 36" = 16.3 Sq. Ft.



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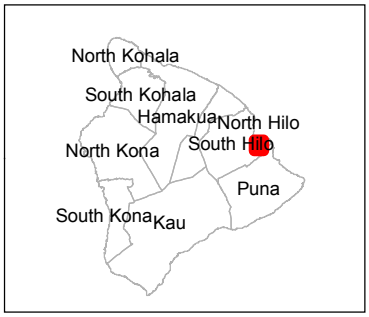
DATE: 6/10/2015

LEGEND

- airport
- Panaewa_Surrounding_Uses
- Proposed Subdivision Lots 6 & 7
- Proposed Subdivision Lots 47 $ 48
- Proposed Subdivision Lot 185
- Panaewa Ag Lots
- darstreams
- State Highways

Source: ESRI Online Basemaps.



Panaewa Ag Lots

Figure 2. Surrounding Uses

SFD New Construction

Department of Hawaiian Home Lands

Island of Hawaii

North

0 6501,300 2,600

Feet

PBR HAWAII & ASSOCIATES, INC.

Figure 3A. Site Plan

PLAN SHOWING

CONSOLIDATION OF LOTS 6 AND 7 OF
HAWAIIAN HOME LANDS,
PANAEWA HOUSE AND FARM LOTS, SECTION 1

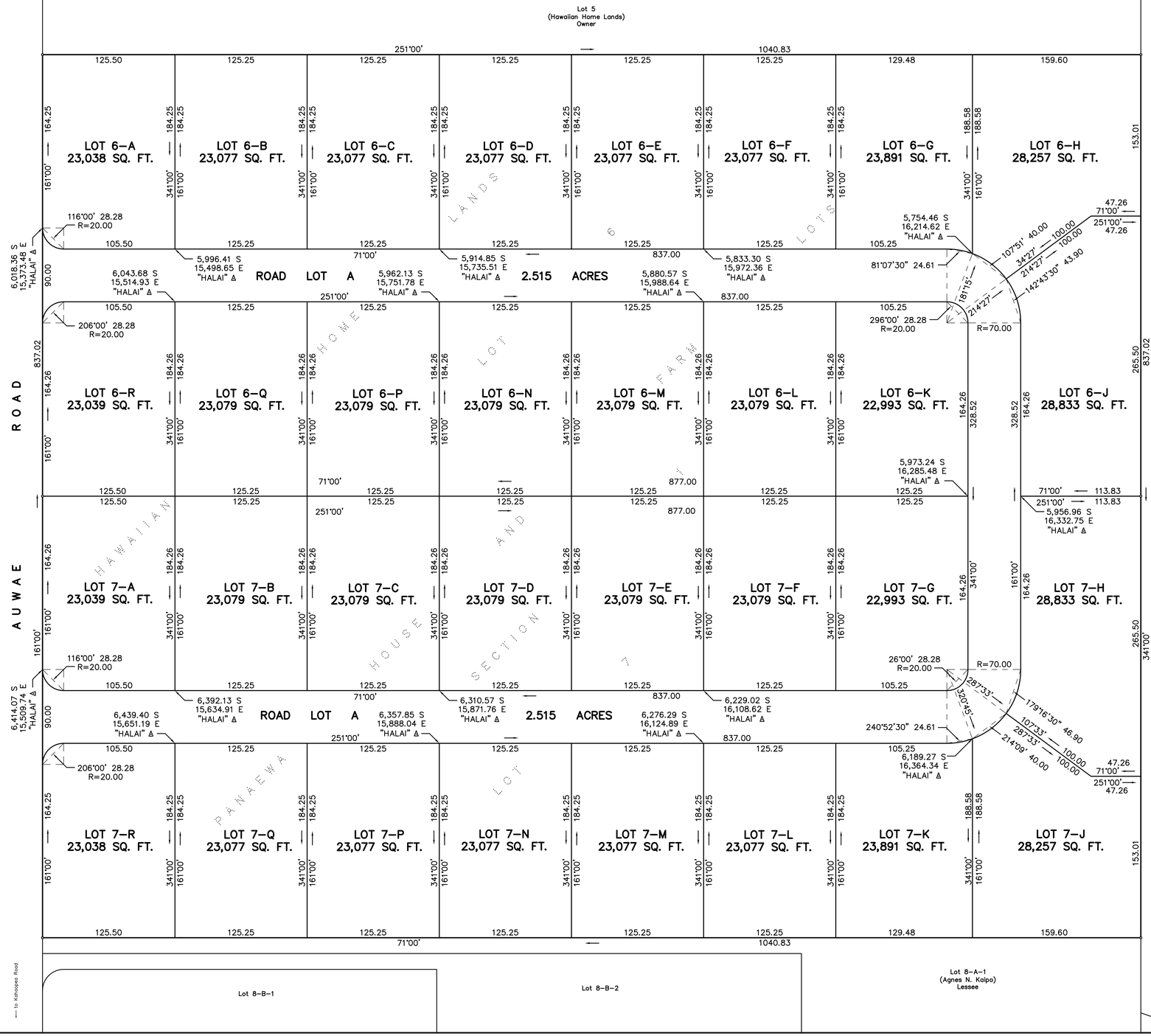
AND THE RESUBDIVISION OF SAID CONSOLIDATION INTO

**LOTS 6-A TO 6-H, 6-J TO 6-N, 6-P TO 6-R,
LOTS 7-A TO 7-H, 7-J TO 7-N, 7-P TO 7-R,
AND ROAD LOT A**

WAIAKEA, SOUTH HILO, ISLAND OF HAWAII, HAWAII

Survey and Plan by Island Survey, Inc.
P. O. Box 4215, Hilo, Hawaii 96720
February 27, 2015

TRUE NORTH
Scale: 1 in = 50 ft



OWNER: LOTS 6 AND 7
HAWAIIAN HOME LANDS
162 Baker Avenue
Hilo, Hawaii 96720-4817

ROBERT T. SHIRAI
LICENSED PROFESSIONAL LAND SURVEYOR
No. 5985
HAWAII U.S.A.

This work was prepared by me or under my supervision.

ROBERT T. SHIRAI, PLS
State of Hawaii Cert. No. LS-5985
License Expires April 30, 2016

Tax Map Key: (3)2-1-025:006 and 007

R-1270-A

Size: 21" x 32" = 4.67 Sq. Ft.

Figure 3B. Site Plan

PLAN SHOWING

SUBDIVISION OF LOT 47

INTO LOTS 47–A TO 47–H, 47–J TO 47–N, AND 47–P TO 47–R

AND SUBDIVISION OF LOT 48

INTO LOTS 48–A TO 48–H, 48–J TO 48–N, AND 48–P TO 48–R

BEING A PORTION OF HAWAIIAN HOME LANDS, PANAEWA HOUSE AND FARM LOTS, SECTION 1

WAIAKEA, SOUTH HILO, ISLAND OF HAWAII, HAWAII

Survey and Plan by Island Survey, Inc.
P. O. Box 4215, Hilo, Hawaii 96720
February 27, 2015

TRUE NORTH
Scale: 1 in = 50 ft.

OWNER: LOT 47 AND LOT 48
HAWAIIAN HOME LANDS
162 BAKER AVENUE
HILO, HAWAII 96720–4817

ROBERT T. SHIRAI
LICENSED PROFESSIONAL LAND SURVEYOR
No. 5985
HAWAII U.S.A.

This work was prepared by me or under my supervision.

ROBERT T. SHIRAI, PLS
State of Hawaii Cert. No. LS–5985
License Expires April 30, 2016

Tax Map Keys: (3)2–1–025:047 and 048

R–1270–B

Size: 21" x 32"=4.67 Sq. Ft

Figure 3C. Site Plan

PLAN SHOWING

SUBDIVISION OF LOT 185

INTO LOTS 185–A TO 185–H, 185–J TO 185–N, 185–P TO 185–R AND A ROAD RESERVE AND THE DESIGNATION OF A ROAD LOT

BEING A PORTION OF PANAEWA HOUSE AND FARM LOTS, SECTION 2

WAIAKEA, SOUTH HILO, ISLAND OF HAWAII, HAWAII

Survey and Plan by Island Survey, Inc.
P.O. Box 4215, Hilo, Hawaii 96720
March 25, 2015

ROBERT T. SHIRAI
LICENSED PROFESSIONAL LAND SURVEYOR
No. 5985
HAWAII, U.S.A.

This work was prepared by me or under my supervision.

ROBERT T. SHIRAI, PLS
State of Hawaii Cert. No. LS–5985
License Expires April 30, 2016

OWNER: HAWAIIAN HOME LANDS
162 Baker Avenue
Hilo, Hawaii 96720

Tax Map Key: (3)2–2–061: 002

R–1270–C

Size: 24" x 36" = 6.00 Sq. Ft.

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DATE: 2/5/2015

LEGEND

Tax Map Key Parcels

Streams

Not Perennial

Perennial

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Pond

Figure 4

Surface Water

PANAEWA SUBDIVISION

Department of Hawaiian Home Lands

Island of Hawaii

North

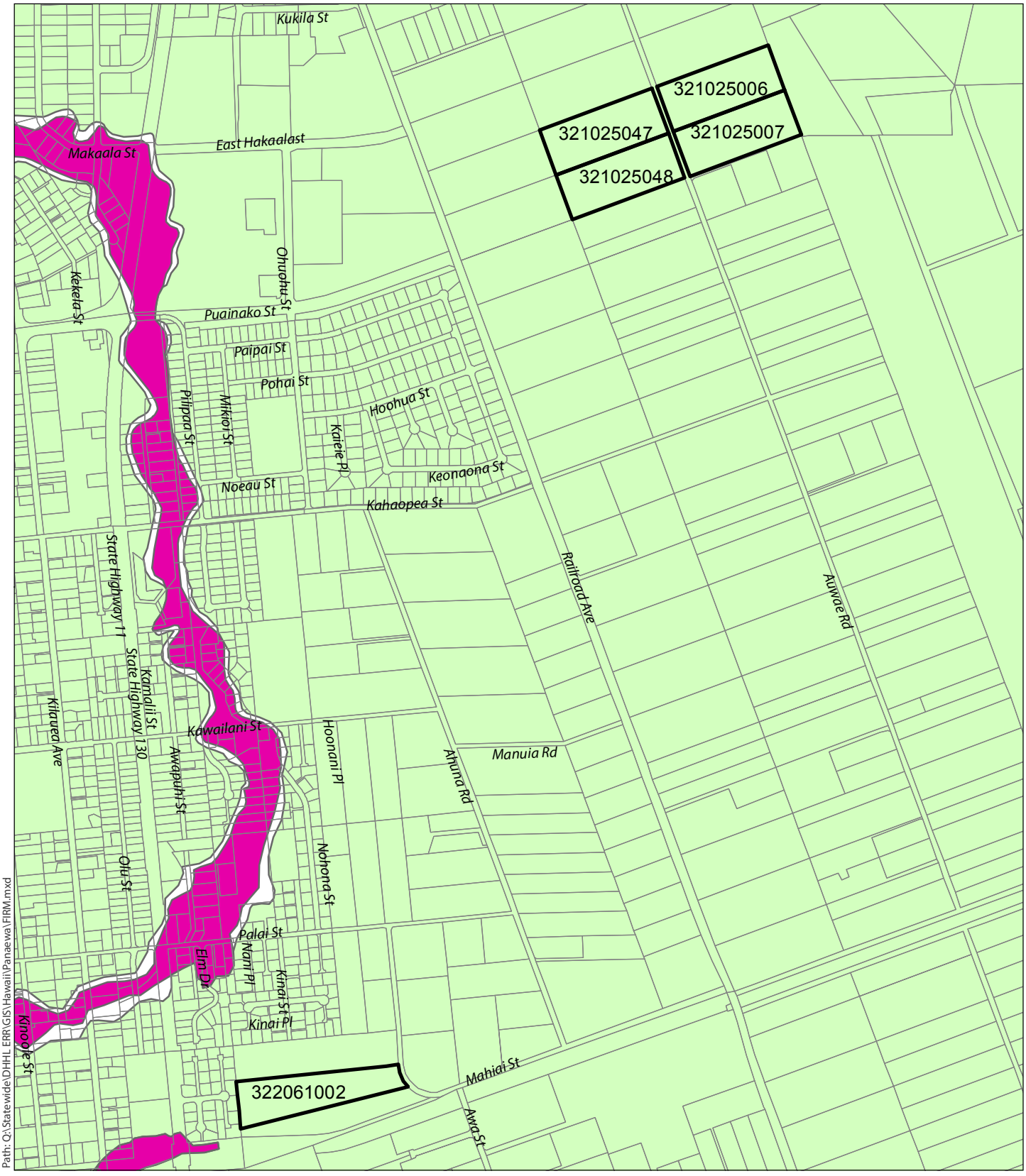
Linear Scale (feet)

0 300 600 1200

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2014. Hawaii Department of Land and Natural Resources Division of Aquatic Resources, 2008. Hawaii Department of Health, 2002. USFWS National Wetlands Inventory. GDSI, 1995.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



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Path: Q:\Statewide\DHHL ERR\GIS\Hawaii\Panaewa\FIRM.mxd

DATE: 2/5/2015

LEGEND

Tax Map Key Parcels

Flood Zone

A *Areas subject to inundation by the 1-percent-annual-chance flood event*

X *Areas determined to be outside 0.2-percent-annual-chance floodplain*

Figure 5

Flood Insurance Rate Map

PANAEWA SUBDIVISION

Department of Hawaiian Home Lands
Island of Hawaii

North

Linear Scale (feet)

0 300 600 1200

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2014. FEMA Flood Insurance Rate Map, 2007. [Panel 890C]

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

PDF - Q:\Statewide\DHHL ERR\PDF\Hawaii\Panaewa\14_Water System.pdf
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DATE: 2/27/2015

LEGEND

- Tax Map Key Parcels
- Node
- Pipe
- Pump
- Tank
- Valve

Figure 6
County Water System
PANAEWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

Linear Scale (feet)
0 300 600 1200

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2014. Hawaii Department of Land and Natural Resources Division of Aquatic Resources, 2008. Hawaii Department of Health, 2002. USFWS National Wetlands Inventory. GDSI, 1995.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

PDF - Q:\Statewide\DHHL ERR\PDF\Hawaii\Panaewa\12_ Sewer System.pdf
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DATE: 2/27/2015

LEGEND

- Tax Map Key Parcels
- Hawaii Island Sewer Manholes
- Hawaii Island Sewer Mains

Figure 7

County Sewer System

PANAEWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

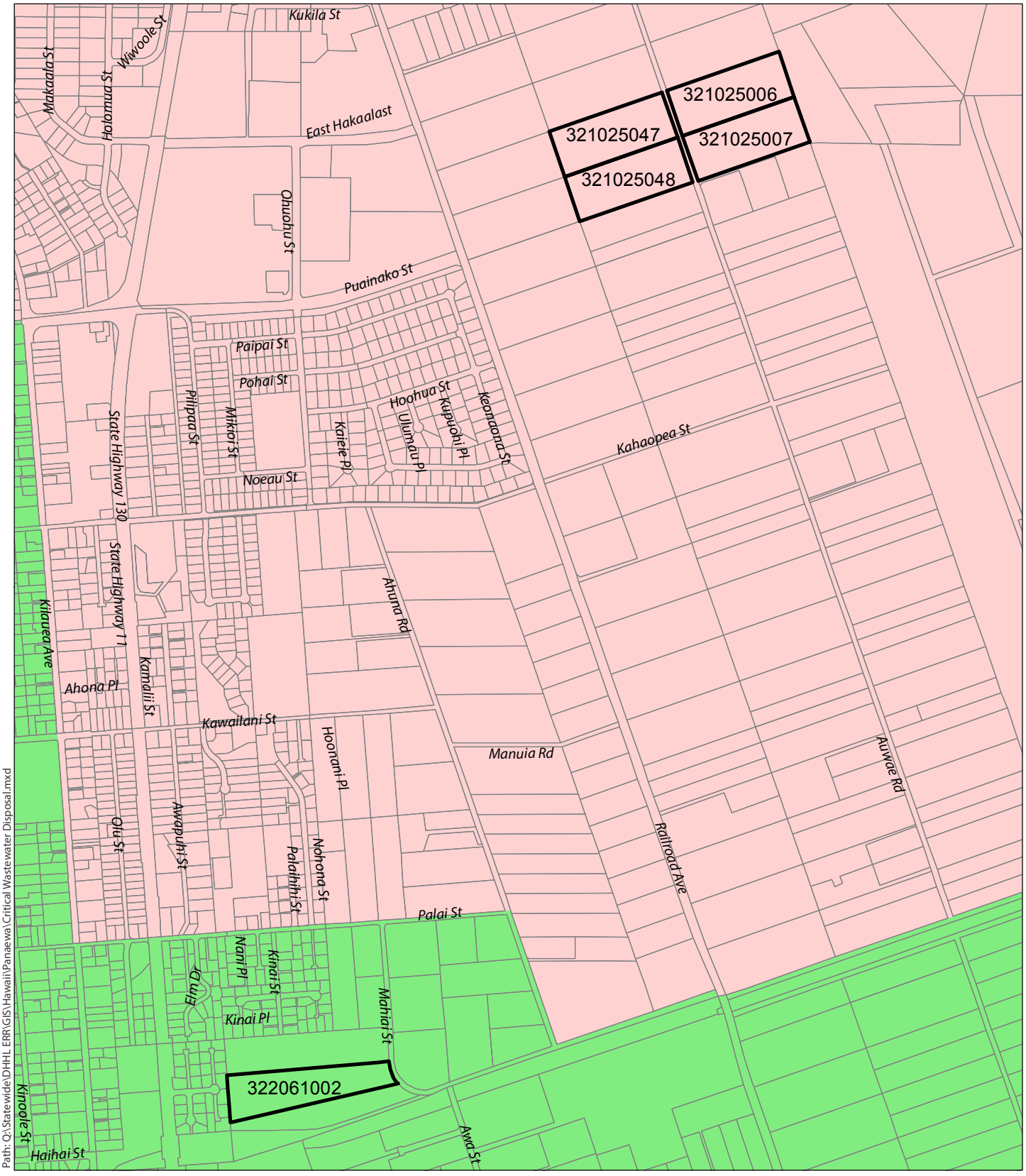
Linear Scale (feet)

0 300 600 1200

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2014. Hawaii Department of Land and Natural Resources Division of Aquatic Resources, 2008. Hawaii Department of Health, 2002. USFWS National Wetlands Inventory. GDSI, 1995.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



PDF - Q:\Statewide\DHHL ERR\PDF\Hawaii\Panaewa\Wastewater Disposal.pdf
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DATE: 2/6/2015

LEGEND

- Tax Map Key Parcels
- Critical Wastewater Disposal Area
- Cesspool 1

Figure 8
DOH Critical Wastewater Disposal
PANAEWA SUBDIVISION

Department of Hawaiian Home Lands — Island of Hawaii

North

Linear Scale (feet)
0 300 600 1200

PBR HAWAII & ASSOCIATES, INC.

Source: County of Hawaii, 2014 & Department of Health, 2014.

Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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Attachment III

Site Photos

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Mahiai Lot: A formerly mowed lawn surrounding a residence, now overgrown with deep grass and scattered shrubs.

Photo Source: R. Hobdy, 2015. Flora and Fauna Survey and Assessment for The Department of Hawaiian Home Lands Project, 5 Parcels at Panaewa, Hilo - Hawaii.

Auwae Lots: The entire 40 acres is a dense wet jungle.

Auwae Lots: Typical dense wet forest with large albizia trees.

Photo Source: R. Hobdy, 2015. Flora and Fauna Survey and Assessment for The Department of Hawaiian Home Lands Project, 5 Parcels at Panaewa, Hilo - Hawaii.

Transformer and wire located near the entrance to the subject property at the end of Auwae Street, view looking north. Photo taken 06/09/2015.

Dense vegetation on subject property at the end of Auwae Street, view looking north-east. Photo taken 06/09/2015.

Photo Source: Element Environmental LLC, 2015. Phase I Environmental Site Assessment.

Illegal dumping of lawn-mower tractor on subject property surrounded by dense vegetation within 50 feet of Auwae Road terminus. Photo taken 06/09/2015.

Illegal dumping of an old television set, located within 50 feet of the Auwae Road terminus. Photo taken 06/09/2015.

Photo Source: Element Environmental LLC, 2015. Phase I Environmental Site Assessment.

Google Earth 2015 aerial photograph showing solid waste disposal (junk vehicles) on adjacent properties to the west of the Auwae Lots. Photo taken 06/09/2015.

Photo Source: Element Environmental LLC, 2015. Phase I Environmental Site Assessment.

Aerial Photograph Showing Auwae Parcels (Google Earth, 2013 Image. Hilo, HI, 5Q 284875m E 2179315m N).

Photo Source: Scientific Consultant Services Inc., 2015. Request for Determination Letter for five 10-acre parcels of Department of Hawaiian Home Lands property in the Pana'ewa region of Waiakea Ahupua'a, South Hilo District, Hawai'i Island (a previous letter to SHPD dated March 25, 2015).

Aerial Photograph Showing Mahiai Parcel (Google Earth, 2013 Image. Hilo, HI, 5Q 283981m E 2176888m N).

Photo Source: Scientific Consultant Services Inc., 2015. Request for Determination Letter for five 10-acre parcels of Department of Hawaiian Home Lands property in the Pana'ewa region of Waiakea Ahupua'a, South Hilo District, Hawai'i Island (a previous letter to SHPD dated March 25, 2015).

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Appendix E

CULTURAL IMPACT ASSESSMENT

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SCS Project Number 1706-CIA-1

A CULTURAL IMPACT ASSESSMENT FOR FIVE 10-ACRE DHHL PARCELS IN THE PANA‘EWA REGION OF WAIĀKEA AHUPUA‘A, SOUTH HILO DISTRICT, HAWAI‘I ISLAND, HAWAI‘I

[TMK: 2-1-025: 006, 007, 047, 048; & 2-1-061: 002]

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OCTOBER 2015

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INTRODUCTION

At the request of PBR Hawaii, Scientific Consultant Services, Inc. (SCS) conducted a Cultural Impact Assessment for five 10-acre parcels of Department of Hawaiian Home Lands (DHHL) property [TMK: (3) 2-1-025: 006, 007, 047, 048; and (3) 2-1-061: 002] located in the Panaʻewa region of Waiākea Ahupuaʻa, South Hilo District, Island of Hawaiʻi, Hawaiʻi (Figure 1 and Figure 2). The Department of Hawaiian Home Lands (DHHL) is proposing to subdivide the five 10-acre parcels into 90 half-acre lots to enable relocation of Maku'u Farm Lot lessees who may have to move due to threat of the lava flow, and other lessees who may have to relocate for various reasons (e.g., UXO issues), as well as awarding to those on the wait list.

The northern most four parcels form a contiguous 40-acre area of undeveloped land at the northern end of ʻAuwae Street (Figure 3). The land is approximately 95 feet (29 meters) above mean sea level (amsl). The southwest corner of the 40-acres is bordered by a grubbed and graded residential lot containing a house. The east and west boundaries are bordered by grubbed and graded d macadamia nut orchards and garden fields, respectively. The northern boundary borders undeveloped land.

The southernmost 10-acre parcel, TMK (3) 2-2-061:002, is located at 230 Mahiʻai Street at an elevation of between 180 and 200 feet (55 to 60 meters) amsl (Figure 4). The property is bounded to the north by grubbed and graded gardens and orchards. The east and west boundaries are bordered by residential lots, and the southern boundary is bordered by undeveloped land. The entire 10-acre property is grubbed, graded, and landscaped. There is a house on the property built in the mid 1980s.

The Constitution of the State of Hawaiʻi clearly states the duty of the State and its agencies is to preserve, protect, and prevent interference with the traditional and customary rights of native Hawaiians. Article XII, Section 7 requires the State to "protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by *ahupuaʻa* tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778" (2000). In spite of the establishment of the foreign concept of private ownership and western-style government, Kamehameha III (Kauikeaouli) preserved the people's traditional right to subsistence.

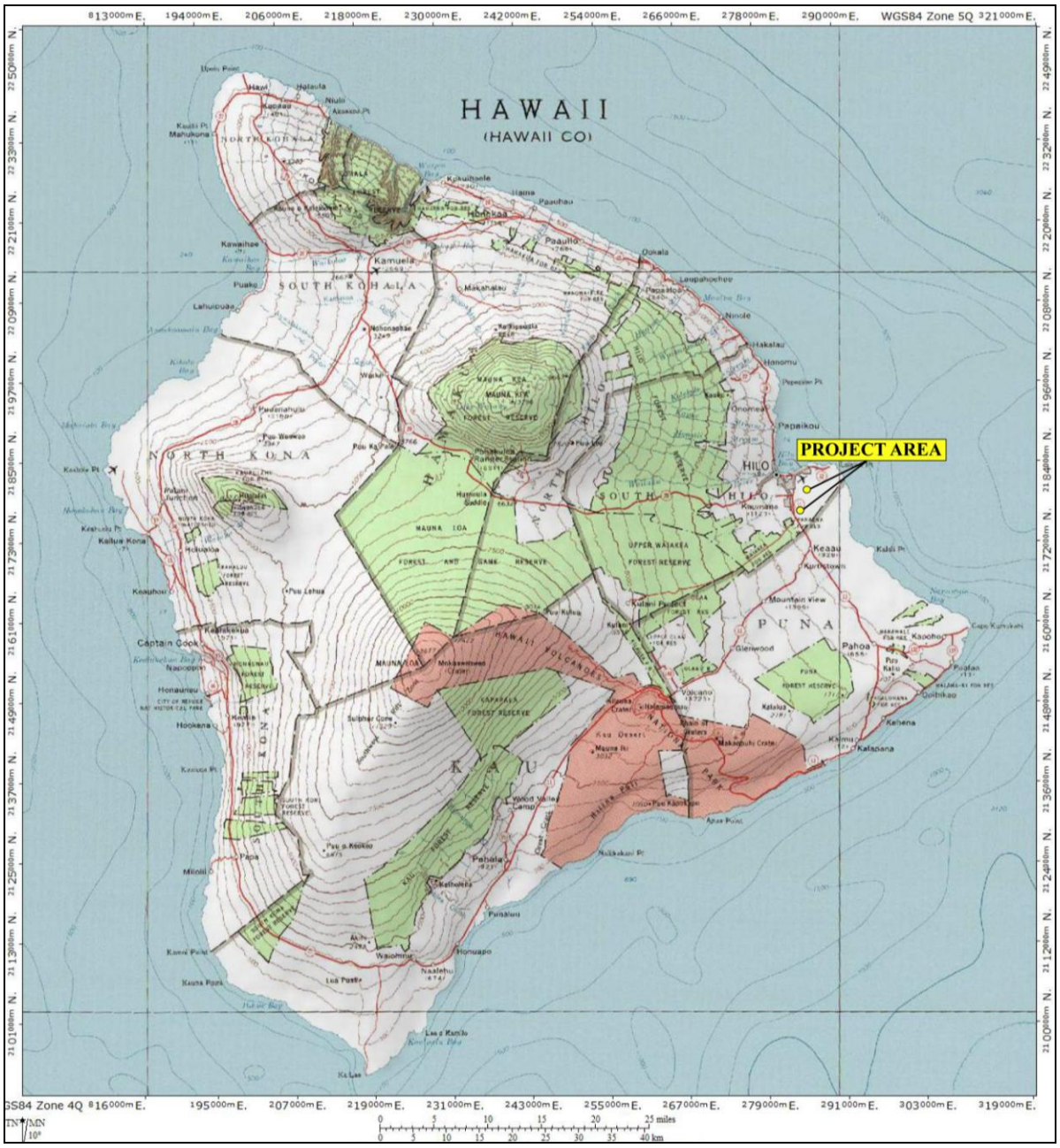

Figure 1: 5,500 K-Series Map of Hawai'i Showing Location of Project Area (National Geographic Topo!, 2003. Sources: National Geographic Society, USGS).

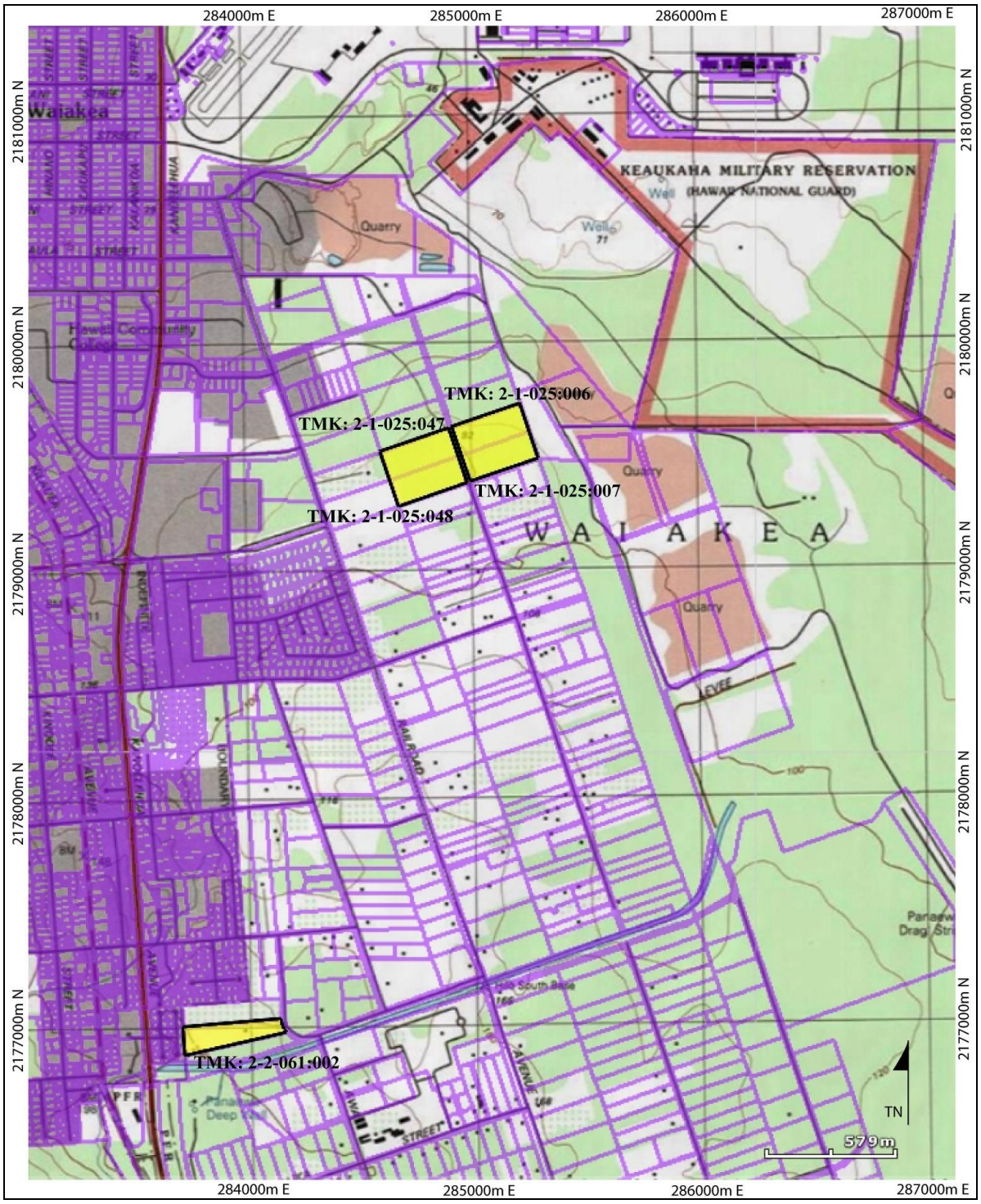

Figure 2: 7.5-Minute Series USGS Topographic Map Showing Location of Project Area Shaded Yellow (ESRI, 2011. Sources: National Geographic Society, USGS Hilo Quadrangle).

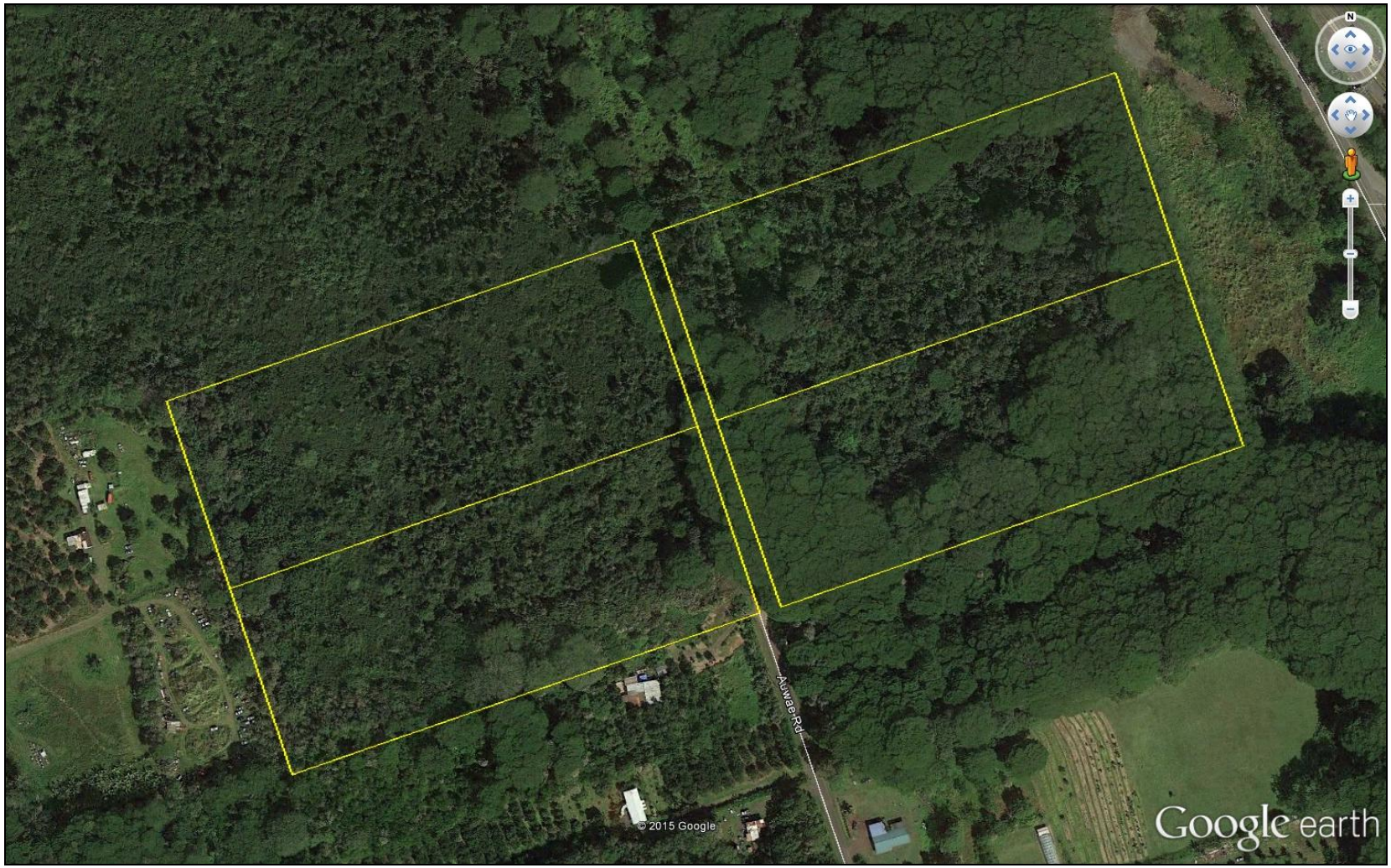

Figure 3: Aerial Photograph Showing Northern Four Project Area Parcels (Google Earth, 2013 Image. Hilo, HI, 5Q 284875m E 2179315m N).

Figure 4: Aerial Photograph Showing Northern Four Project Area Parcels (Google Earth, 2013 Image. Hilo, HI, 5Q 283981m E 2176888m N).

In 1850, the Hawaiian Government confirmed the traditional access rights to native Hawaiian *ahupua'a* tenants to gather specific natural resources for customary uses from undeveloped private property and waterways, codified now under the Hawai'i Revised Statutes (HRS) 7-1. In 1992, the State of Hawai'i Supreme Court reaffirmed HRS 7-1 and expanded it by stating "native Hawaiian rights…may extend beyond the *ahupua'a* in which a native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner" (Pele Defense Fund v. Paty, 73 Haw.578, 1992).

Act 50, enacted by the Legislature of the State of Hawai'i (2000) with House Bill 2895, relating to Environmental Impact Statements, stated that:

> …there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii's culture, and traditional and customary rights… [H.B. NO. 2895].

Act 50 requires state agencies and other developers to assess the effects of proposed developments subject to the HRS Chapter 343 environmental review process on the "cultural practices of the community and State" (2001).

The purpose of HRS 343 has broadened, "to promote and protect cultural beliefs, practices and resources of native Hawaiians [and] other ethnic groups, and it also amends the definition of 'significant effect' to be re-defined as "the sum of effects on the quality of the environment including actions that are…contrary to the State's environmental policies…or adversely affect the economic welfare, social welfare, or cultural practices of the community and State" (H.B. 2895, Act 50, 2000). The *ahupua'a* or district is recognized as a culturally appropriate geographic unit of study, depending on the scale of the project.

The process distinguishes 'anthropological' cultural practices from 'social' cultural practices. For example, *limu* (edible seaweed) gathering would be considered an anthropological cultural practice, while a modern-day marathon would be considered a social cultural practice.

> According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 1997): The types of cultural practices and beliefs subject to assessment may include subsistence,

commercial, residential, agricultural, access-related, recreational, and religions and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both manmade and natural, which support such cultural beliefs.

This Cultural Impact Assessment involves evaluating the probability of impacts on identified cultural resources, including values, rights, beliefs, objects, records, properties, and stories occurring within the project area and its vicinity (H.B. 2895, Act 50, 2000). The vicinity can be defined as "the broad geographical area, e.g. district or *ahupua'a*" (QEQC 1997).

METHODOLOGY

This Cultural Impact Assessment was prepared in accordance with the methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997). In outlining the "Cultural Impact Assessment Methodology", the OEQC state: …information may be obtained through scoping, community meetings, ethnographic interviews and oral histories… (1997).

The report contains archival and documentary research, as well as communication with organizations having knowledge of the project area, its cultural resources, and its practices and beliefs. This Cultural Impact Assessment was prepared in accordance with the methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997). According to these Guidelines, the assessment concerning cultural impacts should address, but not necessarily be limited to, the following matters:

(1) a discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints of limitations with might have affected the quality of the information obtained;

(2) a description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken;

(3) ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained;

(4) biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area;

(5) a discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken, as well as the particular perspective of the authors, if appropriate, any opposing views, and any other relevant constraints, limitations or biases;

(6) a discussion concerning the cultural resources, practices and beliefs identified, and for the resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site.

(7) a discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project;

(8) an explanation of confidential information that has been withheld from public disclosure in the assessment;

(9) a discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs;

(10) an analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place, and;

(11) the inclusion of bibliography of references, and attached records of interviews, which were allowed to be disclosed.

Based on the inclusion of the above information, assessments of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

ARCHIVAL RESEARCH

Archival research involved study of both published and unpublished sources. These included legendary accounts of native and early foreign writers; early historical journals and narratives; historic maps and land records such as Land Commission Awards, Royal Patent Grants, and Boundary Commission records; historic accounts, and previous archaeological project reports. Such scholars as ʻĪʻī, Kamakau, Chinen, Kameʻeleihiwa, Fornander, Kuykendall, Kelly, Handy and Handy, Pukuʻi and Elbert, Thrum, and Cordy have contributed, and continue to contribute to our knowledge and understanding of Hawaiʻi, past and present. The works of these and other authors were consulted and incorporated in the report where appropriate. Land use document research was conducted using several online databases including, the Waihona ʻĀina 2014 database, the Papakilo database, and the Ukukau Hawaiian Library. Historical and cultural source materials were extensively used and can be found listed in the *References Cited* portion of the report.

INTERVIEW METHODOLOGY

Interviews were conducted in accordance with Federal and State laws and guidelines. Individuals and/or groups who have knowledge of traditional practices and beliefs associated with the project area or who know of historical properties within the project area were sought for consultation. Individuals who have particular knowledge of traditions passed down from preceding generations and a personal familiarity with the project area were invited to share their relevant information. Organizations including the Hawaiʻi Island Burial Council (HIBC), the State Historic Preservation Division (SHPD) Burial Sites Specialist, the Kona Hawaiian Civic Club, and the Office of Hawaiian Affairs were asked for their recommendations of suitable informants. These groups were invited to contribute their input, and suggest further avenues of inquiry, as well as specific individuals to interview.

The “level of effort undertaken” to identify a proposed project's potential effect to cultural resources, traditional cultural places, or traditional cultural beliefs (OEQC 1997) has not been officially defined and is left up to the investigator. A good faith effort can mean contacting agencies by letter, interviewing people who may be affected by the project or who know its history, research identifying sensitive areas and previous land use, holding meetings in which the public is invited to testify, notifying the community through the media, and other appropriate strategies based on

the type of project being proposed and its impact potential. Sending inquiring letters to organizations concerning development of a piece of property that has already been totally impacted by previous activity and is located in an already developed industrial area may be, in itself, a "good faith effort". However, when many factors need to be considered, such as in coastal or mountain development, a good faith effort might mean an entirely different level of research activity.

In the case of the current project, letters of inquiry briefly outlining the development plans along with maps of the project area were sent to individuals and organizations whose jurisdiction includes knowledge of the area with an invitation for consultation. In the case of the proposed project, consultation was sought from Kai Markell, the Director of Native Rights, Land and Culture, Office of Hawaiian Affairs on Oʻahu; Shane Palacat Nelson, Coordinator of the Hawaiʻi Branch of the Office of Hawaiian Affairs; Herbert Poepoe, SHPD Hawaiʻi Island Burial sites Specialist; Edwin Miranda, HIBC Chairman; and William "Bill" Brown, President of the Panaʻewa Community Association.

Public notices were published in the Office of Hawaiian Affairs Ka Wai Ola Newspaper, the Honolulu Star-Advertiser and the Hawaiʻi-Tribune Herald (see Appendix A). Personal interviews with knowledgeable individuals are written out in summary form and returned to each of the participants for their review and comments. Key topics discussed with the interviewees included personal association to the *ahupuaʻa*; land use in the project's vicinity; knowledge of traditional trails, gathering areas, burials, water sources, religious sites; place names and their meanings; stories that were handed down concerning special places or events in the vicinity of the project area; and evidence of previous activities identified while in the project vicinity.

ENVIRONMENTAL SETTING

The ground surface at all five parcels is level to slightly undulating Paipai Series (rPAE) extremely stony muck (Sato et al. 1973: 46) overlaying a Mauna Loa lava flow dated between 750 and 1,500 years before present (ybp) (Wolf and Morris 1996). There are exposed ʻaʻa bedrock outcrops and low ridges on the ground surface across the properties. Annual rainfall ranges from 120 to 160 inches.

Vegetation within the south, east, and northeast portions of the contiguous four parcels, where ground disturbance is evident, is composed of a suite of invasive plant

species dominated by albizia trees (*Falcataria moluccana*) and guava (*Psidium* sp.) (Starr Environmental 2014). Vegetation on the remainder of 40 acres is primarily ʻōhiʻa (*Metrosideros polymorpha*, *hala* (*Pandanus odoratissimus*), as well as invasive species including guava, gunpowder tree (*Trema orientalis*), miconia (*Miconia calvescens*), Asian Melastoma (*Melastoma septemnervium*), and bingabing (*Macaranga mappa*). The entire southernmost 10-acre parcel is grubbed, graded, and landscaped. There is a house on the property built in the mid 1980s.

HISTORICAL AND CULTURAL CONTEXTS

The rich marine resources of Hilo Bay and the gently sloping forests of Mauna Loa and Mauna Kea provided abundant resources. Fresh water was available from the Wailoa and Wailuku rivers and smaller streams such as Waiākea, Waiolama, Pukihae, and ʻAlenaio.

The project area is located in the *ahupuaʻa* of Waiākea, Hilo Hanakāhi ʻOkana, in the *moku-o-loko* (district) of Hilo (Maly 1996:4–5) (Figure 5). The *ahupuaʻa* of Waiākea is large, consists of roughly 95,000 acres, and was regarded as a region of abundant natural resources and numerous fishponds. Waiākea was also an early important political center, notably under chief Kulukuluʻa (Kelly et al. 1981:3). Kamehameha lived and often returned to his *ʻili kūpono* (independent land division where all tributes were paid to the chief of the *ʻili* and not the *ahupuaʻa*) lands of Piʻopiʻo in the *ahupuaʻa* of Waiākea (Figure 6). The *ʻili kūpono* lands and its royal fishpond were passed on to his son Liholiho after his death.

PRE-CONTACT ACCOUNTS OF HILO

The earliest account of Hilo appears in ʻUmi-a-Liloa's (1600–1620) conquest of the Island of Hawaiʻi, which establishes Hilo as a royal center by the seventeenth century. In the account, ʻUmi-a-Liloa began his conquest of the Island of Hawaiʻi by defeating chief Kulukuluʻā, who lived in Waiākea, and the other chiefs of Hilo (Kamakau 1992:16–17). ʻUmi-a-Liloa's second son, Keawe-nui-a-ʻUmi, ruled Hamākua, Hilo, and Puna from his residence at Hilo (*ibid*: 34). It was from Hilo that he waged war on the Kona chiefs and unified the island. Keawe-nui-a-ʻUmi's descendants single handedly continued to rule, from Hilo, for many generations.

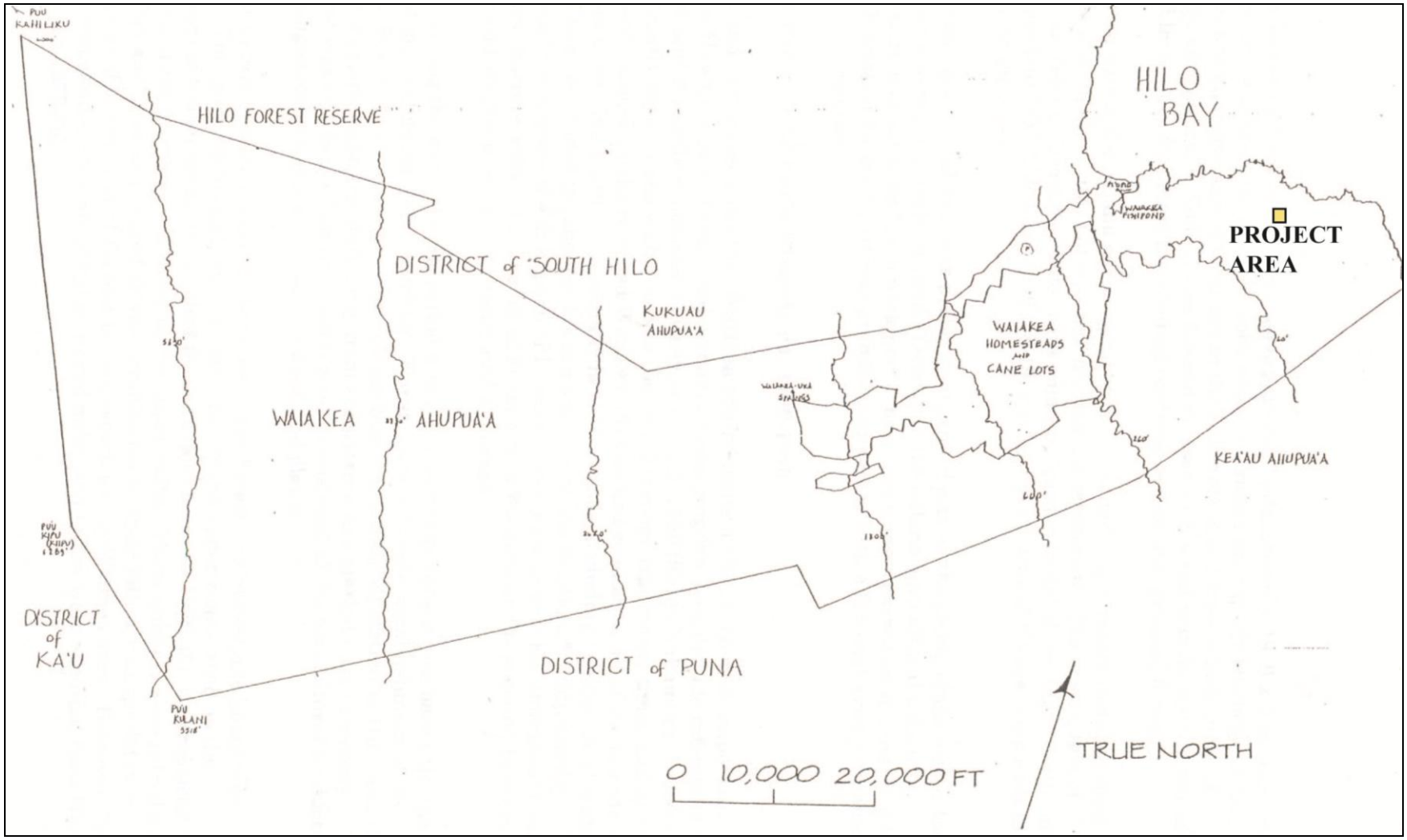

Figure 5: Map of Waiākea Ahupua‘a Showing Location of Project Area (adapted from Bush et al. 2000).

After the death of Keawe-nui-a-ʻUmi the kingdom was divided into three parts and was established under warring chiefs; Hilo was ruled by Kumalae-nui-puʻawa-lau and his son Makua *(ibid*: 45). It was during the period of time that Kamehameha I was born. Kalaniʻōpuʻu's grandson, Keoua Kuahuʻula and nephew Kamehameha vied for control over the six chiefdoms constituting the island kingdom and Keoua conquered Hilo chief Keawe-mau-hili and harvested the benefits for a short time only to be killed by Kamehameha late in 1791. Kamehameha's son Liholiho was born in Hilo in November 1797 (Kamakau 1992:22). Waiākea was inherited by Lihiliho after Kamehameha's death. The *ʻili kūpono* of Piʻopiʻo and its royal fishpond were given to his favorite wife, Kaʻahumanu (Figure 6).

TRADITIONAL SETTLEMENT PATTERNS, SUBSISTENCE, AND LAND-USE

Historical accounts and archaeological/cultural studies pertaining to the *ahupuaʻa* of Waiākea (Bingham 1969; Bird 1974; Ellis 1963; Handy and Handy 1972; Kelly et al. 1981; Maly 1996; McEldowney 1979) provide a wealth of information on traditional residence patterns, land-use, and subsistence horticulture of the area. It is widely held that these historical accounts of residence patterns, land-use, and subsistence horticulture, indicative of traditional practices, developed long before contact with Europeans (McEldowney 1979). These are synthesized below in order to explain the types of cultural resources possibly located within the current project area.

Early accounts of Waiākea portray it as divided into several distinct environmental regions. From the coast to a distance of five or six miles scattered subsistence agriculture was evident, followed by a region of tall fern and bracken, flanked at higher elevations by a forest region between 10 and 20 miles wide, beyond which was an expanse of grass and lava (Ellis 1963:403). The American Missionary C.S. Stewart wrote, "the first four miles of the country is open and uneven, and beautifully sprinkled with clumps, groves, and single trees of the bread-fruit, pandanus, and candle tree (Stewart 1970:361-363). The majority of Waiākea's estimated 2,000 inhabitants (in 1825) lived within this coastal region (Ellis1963: 253). Taro, plantains, bananas, coconuts, sweet potatoes, and breadfruit were grown individually or in small garden plots. Fish, pig, dog, and birds were also raised and captured for consumption.

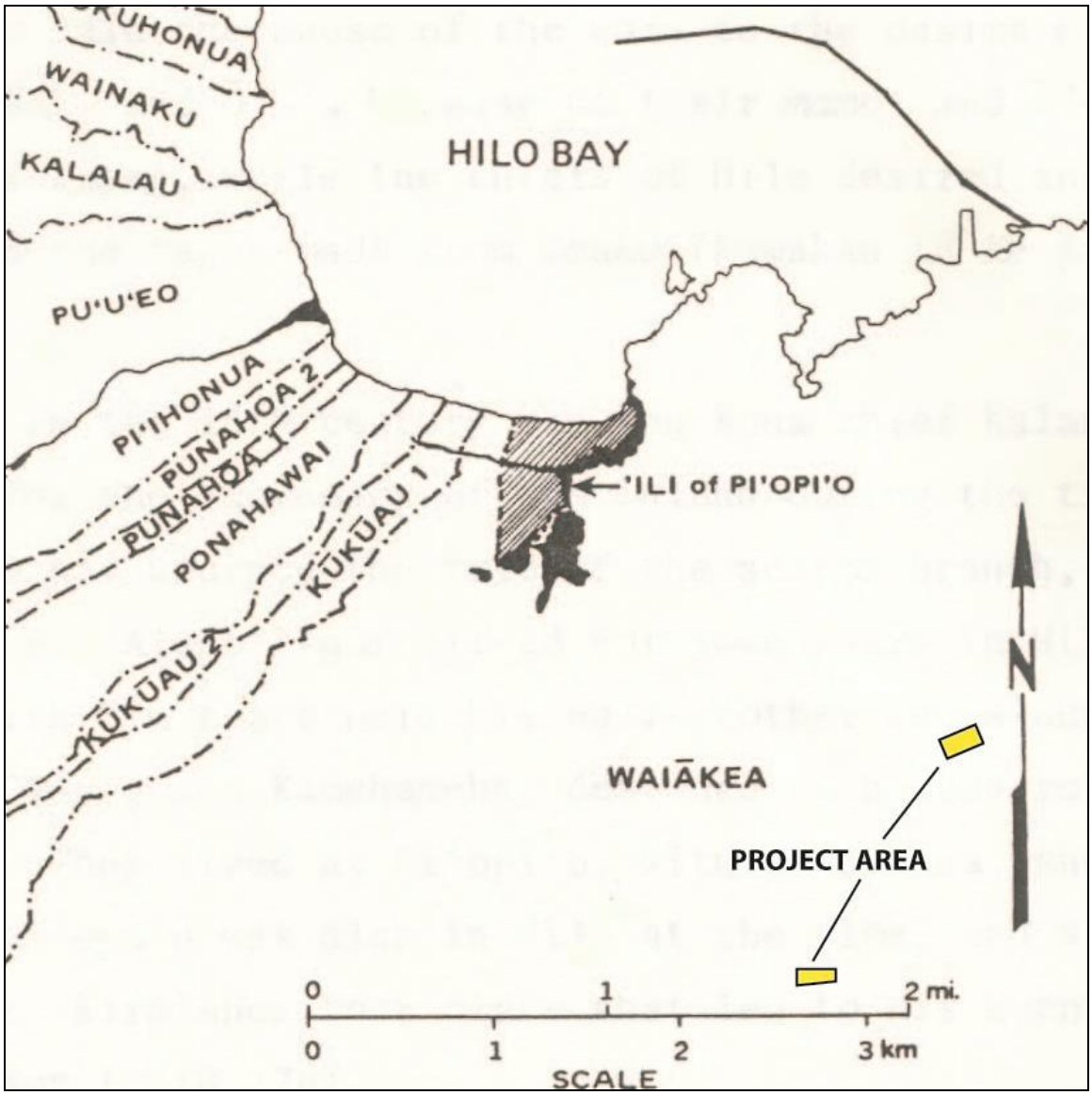

Figure 6: Map of Kamehameha,s *'Ili Kūpono* Lands of Piʻopiʻo in the *Ahupuaʻa* of Waiākea Showing Project Area Location (adapted from Kelly et al. 1981).

The present study area is situated inland of the coastal region, in the Panaʻewa Forest. The project area lands are not located in an area of known traditional habitation. The Panaʻewa forest area was traditionally known as a forbidding and dangerous landscape. The legendary origin of the Panaʻewa Forest is associated with Pele's search for a suitable home in the island chain of Hawaiʻi.

When a suitable place was finally discovered on Hawaii, the Paoa staff was planted in Panaewa and became a living tree, multiplying itself until it was a forest. The

writer's informant says that it is a tree known to the present generation of men. "I have seen sticks cut from it," said he, "but not the living tree itself" [Emerson 2005:xi].

When Pele sent her sister Hi'iakapoliopele (referred to as Hi'iaka) to travel to Kaua'i to contact Lohi'au, Hi'iaka passed through the Pana'ewa Forest. Hi'iaka could have passed around the forest, taking the pathway along the shoreline from Hā'ena (southeast of the project area) to Waiākea and Hilo, but she instead chose to cut through the forest taking a more direct, and shorter route.

> Two routes offered themselves for Hiiaka's choice, a makai road, circuitous but safe, the one ordinarily pursued by travelers; the other direct but bristling with danger, because it traversed the territory of the redoubtable witch-mo'o, Pana-ewa. … When Hiiaka announced her determination to take the short road, the one of danger that struck through the heart of Pana-ewa, Pa-pulehu drew back in dismay and expostulated: "That is not a fit road for us, or for any but a band of warriors. If we go that way we shall be killed" [Emerson 1:2005:30].

Pana'ewa did not let her pass without a fight.

> The battle that ensued when Pana'ewa sent to the attack his nondescript pack of mo'o, dragonlike anthropoids, the spawn of witchcraft, inflamed with the spite of demons, was hideous and uncanny. Tooth and claw ran amuck. Flesh was torn, limbs rent apart, blood ran like water. If it had been only a battle with enemies in the open Hiiaka would have made short work of the job. Her forces lay ambushed in every wood and brake and assumed every imaginable disguise. A withered bush, a bunch of grass, a moss-grown stone, any, the most innocent object in nature, might prove to be an assailant ready to spit venom or tear with hook and talon [Emerson 2005:35].

The mo'o Pana'ewa and all of his minions were defeated by Hi'iaka and her assistants. "Hawaii for once, and for all time, was rid of that pestilential, man-eating, mo'o band headed by Pana-ewa who, from the time of Pele's coming, had remained entrenched in the beautiful forest-land that still bears the name – Pana-ewa" (Emerson 2005:46).

The forest is heavily wooded and dense with thickets. Travel through it is made more difficult by the broken and undulating ground surface. There is an historic trail that leads from the modern day Liliʻuokalani Gardens area to the Puna coast. The trail is often called the Puna Trail and/or the Old Government Road (Escott and Tolleson 2003). Remains of the trail cross the Hawaiʻi Army Reserve National Guard (HIARNG) Keaukaha Military Reserve (KMR) property, and it has the current appearance of a gravel-covered dirt road (Figure 7 and Figure 8). While there may have been some scattered home sites and gardens in this area, most of the known habitation was along the coast. The probable use of the area prehistorically was for trapping birds and collecting plants, including the plentiful *pandanus* or *hala* (Kelly et al. 1981:20).

THE MĀHELE OF 1848 AND LAND COMMISSION AWARDS

Prior to the Māhele, Waiākea Ahupuaʻa belonged to King Kamehameha, then Lihiliho, and was later held by the chiefess Ka-unu-o-hua, granddaughter of Keawe-mauhili (Kelly et al. 1981:40). Waiākea became Crown Lands during the Māhele of 1848 and in the following years twenty-six Land Claims were awarded within the *ahupuaʻa* of Waiākea (Table 1). The awards were small in area, 25 of which went to native claimants. The vast majority of awards were further west in the area of Hilo Bay. No Land Commission awards were made within or near the current project area. The project area property is owned by the State of Hawaiʻi lands and is administered by DHHL.

CHANGING RESIDENTIAL AND LAND-USE PATTERNS (1845-1865)

Between 1845 and 1865 traditional land-use and residential patterns underwent a change. In particular, the regular use of Hilo Bay by foreign vessels and the whaling industry, in addition to the establishment of missions in the Hilo area, the introduction of the sandalwood trade, the legalization of private land ownership, the introduction of cattle ranching, and the introduction of sugar cane cultivation, all brought about changes in settlement patterns and long-established land-use patterns (Kelly et al. 1981).

As Hilo became the center of population, settlements in outlying regions declined or disappeared. While food was still grown for consumption, greater areas of land were continually given over to the specialized cultivation and processing of commercial foodstuffs for export.

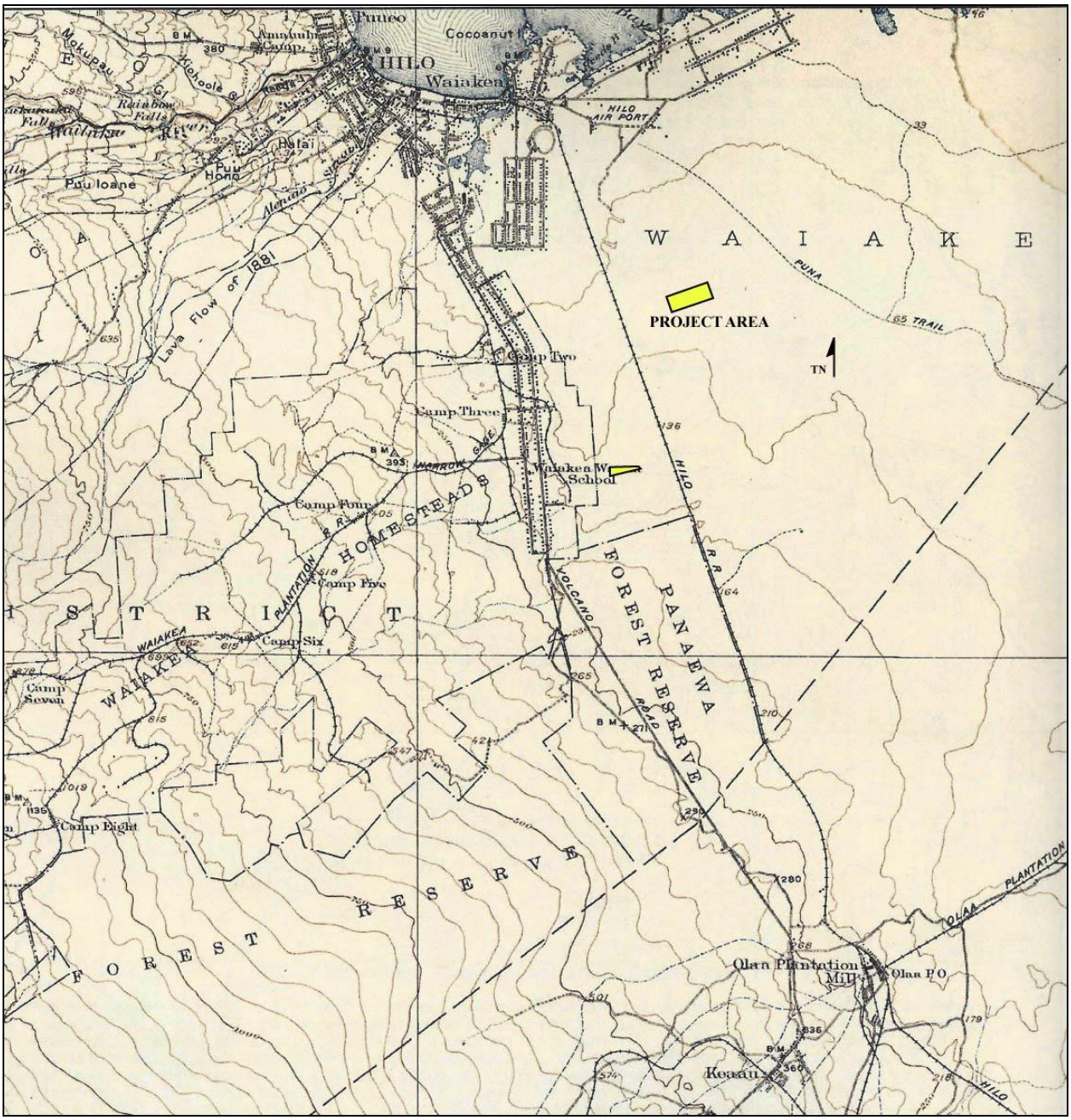

Figure 7: Portion of 1932 15-Minute Series USGS Topographic Map Showing Puna Trail and Location of Project Area (USGS Hilo Quadrangle).

Figure 8: Portion of 1954 USDA Aerial Photograph of Hilo Airport Showing Location of Northern Project Area.

Table 1: Land Commission Awards in Waiākea *Ahupua'a*.

Grantee	LCA	Acreage
Barenaba	2327	12.25
Halai, L.K.	1279	0.60
Hale	40004	4.25
Kahue	2663	3.75
Kaiana, J.B.	2281	10.25
Kaihenui	11050-B	5.19
Kalolo	1333	2.25
Kalua	8854	3.40
Kaluhikaua	1738	2.98
Kamamalu, V.	7713	*'ili 'aina*
Kamanuhaka	8803	1.02
Kapu	1-F	1.60
Kealiko	11174	1.00
Keaniho	2402	5.00
Keawe	5018	0.24
-	10505	-
Kuaio	4344	1.22
Leoi	9982	0.80
Lolo	4738-B	1.27
Mahoe	1-E	4.46
Moealoha	4737	1.03
Nakai	4785	1.05
Napeahi	2603	1.30
Wahine	4737-B	1.01
Wahinealua	11173	2.50
Wahinenohoihilo	10004	1.69

Sugar cane plantations, and industrial, transportation, and military facilities were established in areas that were once upland agricultural areas and coastal settlements, respectively. In particular, the land immediately north of the current project area was used as the location of a jail, an airfield, and the Keaukaha Military Reserve (KMR).

HISTORIC OVERVIEW OF KMR

KMR comprises 503.6 acres located between General Lyman Field (Hilo International Airport) to the north, and the current project area to the south. The area lies in rugged, broken, undulating lava flows, and where unmodified by bulldozing, a dense forest of mixed and native flora abounds. Rainfall in this portion of Hilo keeps the jungle wet, and the ground surface slippery.

In 1914, the Territory of Hawai‘i, via Executive Order Number (EO) 26 set aside 213.43 acres of government lands in Waiākea, north of the current project area, for a National Guard rifle range. In 1925, the Territory withdrew 33 acres for the building of Lyman Airfield by the Army Corp of Engineers.

In August of 1938, a territorial prison camp was constructed on 13.55 acres in Waiākea, north of the current project area. The complex included a Jailer's and acting Jailer's cottage, and a large fenced area with two dormitories, a mess/laundry building, and a recreation/workshop. The prison camp was moved in 1946 and all buildings were removed.

The Army Corp of Engineers constructed a coral runway at KMR beginning in 1925. Hawaiian Airlines used the airport at the outbreak of World War II. The Navy expanded the airfield to three runways, built storage for 450,000 gallons of gasoline, and 24 airplane revetments. KMR became a Naval Station in August 1943 under the 14th Naval District Command Servicing Carrier Aircraft Service Unit (CASU) No. 31 and Air Group One. Extensive building took place including officer and enlisted men's quarters, a swimming pool, two clubs, a three-tank tank farm, water systems, cesspools, tennis courts, and other infrastructure. Personnel at KMR hit a wartime peak of 4,500 upon completion of construction in 1945.

Naval Air Station Hilo officially closed on August 31, 1947. On May 10, 1943, Hilo Airport was officially renamed General Lyman Field. In May 1946, while the Naval Station at KMR was being reduced to caretaker status, the Army Air Force announced that the 7th Army Air Corps (AAC) would begin 24-hour operations at Lyman Field.

In 1947, reactivation of the Hawai‘i Army Reserve and National Guard (HIARNG) resulted in the HIARNG using several Navy buildings. During this time, many buildings were demolished or sold to the public as war surplus. KMR is the headquarters for the island of Hawai‘i National Guard units of the 2nd Battalion, 299th Infantry Company D and 2nd Battalion 299th Infantry, as well as Army Air Guard units 451Bt Aviation Detachment, and the 452nd Aviation Attachment. KMR has firing ranges, training areas, barracks, support facilities, an armory and offices. During annual or special training operations, several hundred to thousands of Guardsmen are housed in cabins and tents pitched in the encampment area.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Many archaeological and historical studies have been conducted in Waiākea Ahupuaʻa from Hilo Bay west of the current project area, to the Waiākea Sugar Mill sugarcane fields southwest of the current project area, to the KMR lands just north of the current project area. Summaries of 38 of these studies are provided in Table 2 below. Figure 9 shows the locations of archaeological studies in the region surrounding the current project area. A rough model of archaeological site types and distribution can be formulated from these regional archaeological studies.

The current project area lands are situated inland of the Coastal Settlement Zone of the east Hawaiʻi settlement model (McEldowney 1979). As reflected in the name of that zone, prehistoric habitation is focused along the coastline. Fishponds for *aliʻi* and *makaʻāinana* were created, maintained, and used all along the coast. The basic cultivated crops such as irrigated and dry taro, bananas, breadfruit, *kukui* nuts, pandanus and *ti* were grown in these lower elevations. They did not grow uniformly over the coastal zone, however. The heavily weathered soils on the Mauna Kea flows along the western portion of Hilo Bay were particularly well suited for agriculture. This bias towards the western area is evident in the distribution of fields portrayed in an early depiction of the Hilo Bay (Figure 10). The eastern half of the Hilo Bay area and further south and east are covered by younger Mauna Loa flows that lack soil the level of soil development present in the Mauna Kea flows.

Few archaeological sites have been recorded as a result of the projects conducted in the lower elevations of Waiākea. It is likely that the extent of disturbance by the 200 years of development in Hilo town is partially to blame for the lack of recorded lowland sites. In the case of archaeological projects conducted very close to the current project area, it is more likely that the lack of habitation is the result of this region being an inland, rugged, forest area that was not settled. Also, modern disturbance from historic and modern uses have likely removed some archaeological remains.

Paul H. Rosendahl Inc. (PHRI) (Rosendahl and Talea1988) conducted research on five 5-acre lots dispersed through the South Hilo area, recording no cultural deposits due to extensive landform changes caused by the development of Hilo Town (see Figure 9).

Table 2: Inventory of Previous Archaeological Investigations in Waiākea.

Reference	Study	Location	Results
Ching and Staruder (1974)	Reconnaissance	Proposed Road alignment from S. Hilo to Puna	Wall, enclosure, platform burial, and habitation site near Puna boundary
Bonk (1979)	Survey	West of KMR	Historic wall and road alignment
McEldowney (1979)	Historical research	Hilo	Settlement pattern
Kelly, Nakamura and Barrère (1981)	Historical research	Hilo	Chronology
Kam (1983)	Site inspection	Reed's Bay	1 site, heiau
Smith and Tourtellotte (1988)	Burial removal	Wailoa Bridge	One individual encountered
Rosendahl, M. (1988)	Reconnaissance	Various parcels in Hilo Town	No sites
Rosendahl, M. and L. Talea (1988)	Reconnaissance	North West of KMR	No sites
Rosendahl, P. (1988)	Reconnaissance		No sites
Pietrusewsky (1989)	Skeletal analysis	Wailoa Bridge	1 Individual
Stokes (1991)	Intermittent survey	Various Parcels	Heiau locations
Hunt and McDermott (1993)	Inventory Survey	Puainako Street Extension	11 sites, historic sugarcane
Borthwick et al. (1993)	Inventory Survey	UH Hilo	Sugar cane remains in uplands
Maly (1996)	Cultural History	Puainako- Komohana Street area	Sugar cane history
Robbins and Spear (1996)	Inventory Survey	Puainako Street	Sugar cane sites in the uplands
Eblé et al. (1997)	Supplemental Testing	Puainako Street	Sugar cane sites in the uplands
Deveroux, et al. (1997)	Reconnaissance	KMR	2 sites
Carson (1999)	Inventory Survey	Pana‘ewa	No sites
McGerty and Spear (1999)	Inventory Survey	Puainako Street Extension	1 site

Reference	Study	Location	Results
Dega and Benson (1999)	Reconnaissance	Puainako Street Extension	Possible prehistoric *'auwai*
Dega (2000)	Inventory Survey	Puainako Street Extension	*'Auwai* equals historical ditch
Bush et al. (2000)	Inventory Survey	Puainako Street Extension	Burial in cave in uplands
Hammatt & Bush (2000)	Inventory Survey	KMR	Mounds and Puna Trail
McDermott and Hammatt (2001)	Inventory Survey	Puainako Street Extension	2 historical sites in uplands
Tolleson and Godby 2001		KMR	Historic era sites and Puna Trail
Rosendahl, P. (2002)	Assessment Survey	Quarry Site on Southeast Edge of KMR	No sites
Escott and Tolleson (2002)	Inventory Survey	KMR	Trail and planting features
Haun & Henry (2002)		Southwest of KMR	No sites
Rechtman (2003)	Archaeological study and limited CIA	Western edge of KMR	No site
Escott (2004)	Inventory Survey	Puainkao Street and Komohana Street area	WWII sites in the uplands
Wolforth (2004)	Inventory Survey	Reed's Bay	Fishponds, railroad, Historic era foundations
Wolforth (2006)	Inventory Survey	Western edge of KMR	Modern military building remains
Rechtman (2006)	Inventory Survey	Quarry site south of KMR	No sites
Hammatt & Uyeoka (2007)	Archaeological Monitoring	Southeast of KMR	No sites
Tulchin & Hammatt (2007)	Field Inspection	Wal-Mart Property	No sites
Escott (2013a)	Archaeological Assessment	Quarry site west of KMR	No sites
Escott (2013b)	Archaeological Assessment	Quarry site west of KMR	No sites
Wheeler et al. (2014)	Inventory Survey	KMR	Eleven sites, some pre-Contact era, some historic, and some more modern including military features

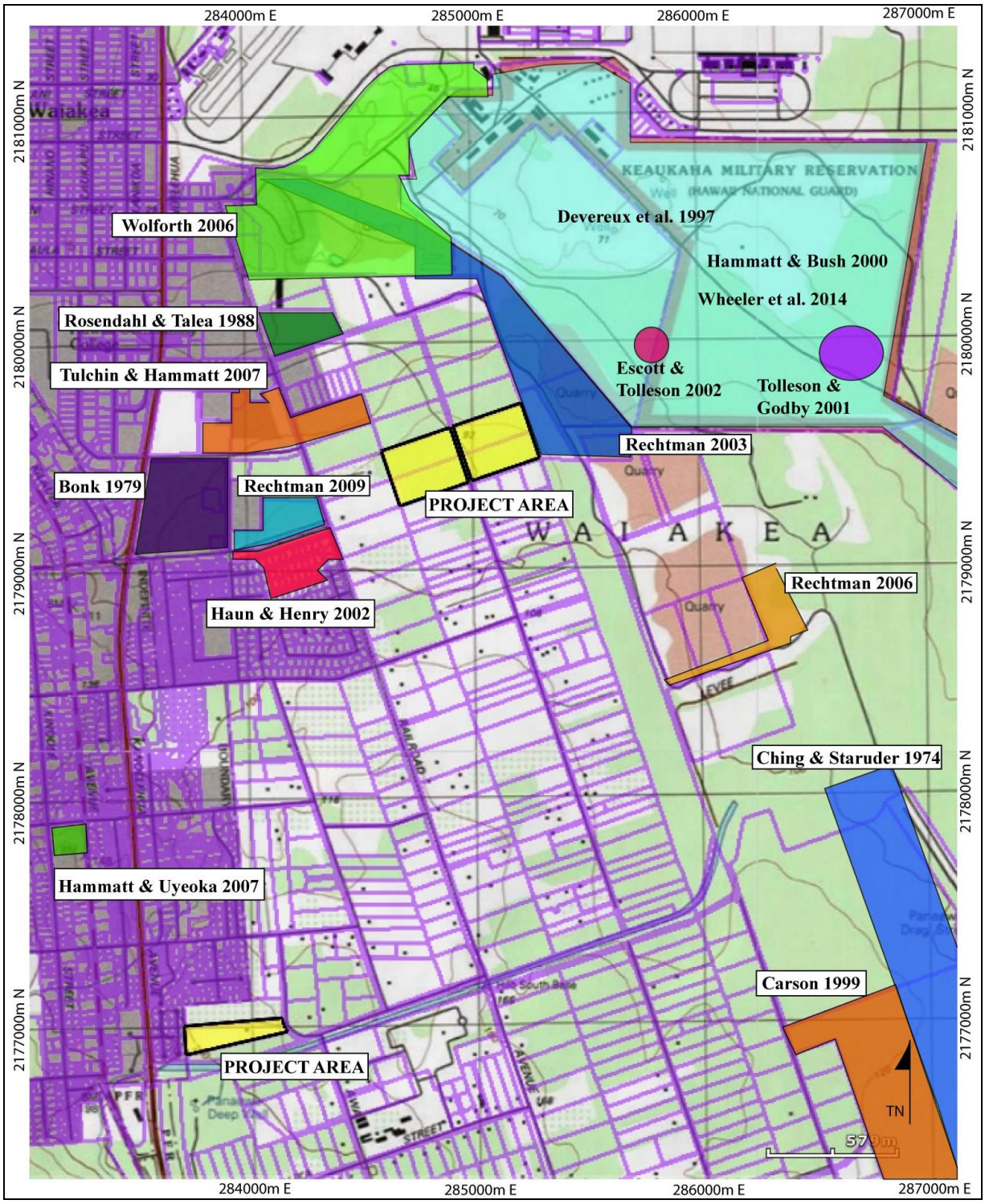

Figure 9: 7.5-Minute Series USGS Topographic Map Showing Location of Previous Archaeological Studies Near the Project Area (ESRI, 2011. Sources: National Geographic Society, USGS Hilo Quadrangle).

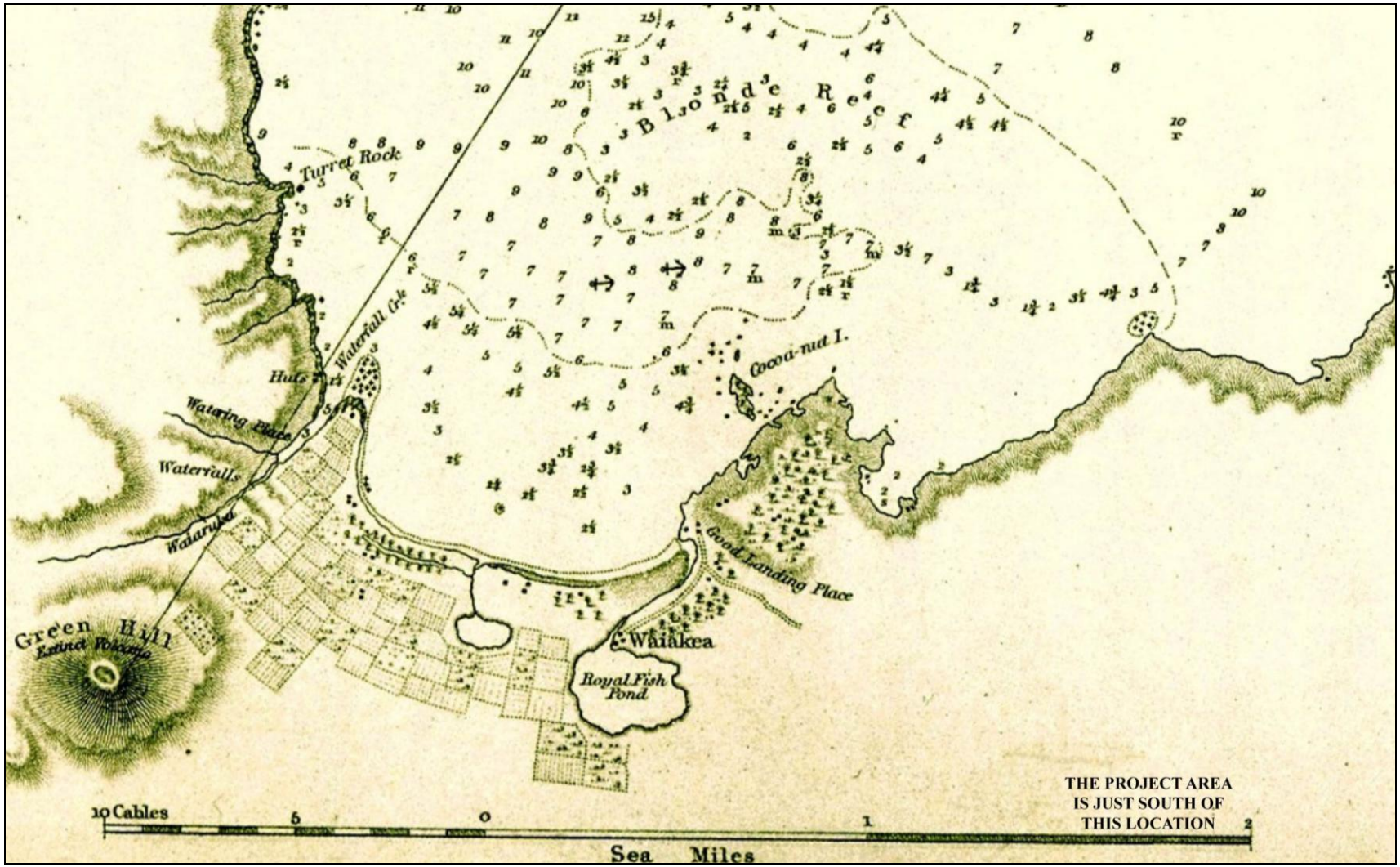

Figure 10: Portion of 1825 Map of Hilo Bay Showing Location of Major Habitation and Agricultural Fields (Malden 1825).

A reconnaissance survey by PHRI (M. Rosendahl 1988) conducted at the eastern end of General Lyman Field again resulted in no extant archaeological remains due to previous land disturbance.

Devereux et al (1997) conducted a reconnaissance level survey for HIARNG on selected portions of KMR along a corridor parallel to the Puna Trail (see Figure 9). Two sites (assigned temporary site numbers CSH 1 and CSH 2) were recorded: as a prehistoric C-shaped enclosure and a coral mound, the team also addressed 10 historic structures over 50 years of age. CSH2 was later interpreted as a modern bulldozer push.

Hammatt and Bush (2000) conducted an inventory level survey of KMR adjacent to the portion of the Puna Trail that extends through the facility. In this report, they discussed the history of the Puna Trail that continues down to south Puna where it meets with the Old Gov't Road (also called the Puna trail). They noted extensive mechanical grading of the ground surface at KMR during military occupation that has effectively removed all surface traces of historic/prehistoric occupation. However, the entire facility was not completely surveyed. Hammatt and Bush recorded three archaeological sites, a C-shaped enclosure, thought to be military in origin, a group of five *ahu*, possibly markers to denote the trail set parallel to the Puna Trail and a modified natural lava blister interpreted as a traditional Hawaiian agricultural planting feature.

Tolleson and Godby (2001) conducted archaeological data recovery at Site 21771 located adjacent to the paved portion of the Puna Trail the traverses KMR. This site consists of a complex comprised of a low platform, an enclosure, a possible *imu*, fruit trees, and a meadow. Artifacts, such as horse/mule shoes, sharpening implements, a sharpening wheel, and hoof files suggest the site is related to historical road construction along the Puna Trail.

PHRI (P. Rosendahl 2002) conducted an archaeological assessment survey of 14.99-acres of the quarry site within the current project area. No archaeological sites were identified during the study.

Escott and Tolleson (2003) conducted an archaeological inventory survey just east of the current project area. A single site (Site 23273) consisting of a remnant trail segment and two planting features were recorded along the south west boundary of the project area.

Wolforth (2006) conducted an archaeological inventory survey of 147 acres south of the Hilo International Airport. Four sites (SIHP 50-10-35-25538, 25539, 25540, and 25541) associated with a Naval Air Station facilities and quarry were recorded. No pre-Contact or early post-Contact era sites were documented on the project area.

Scientific Consultant Services, Inc. (Escott 2013a, Escott 2013b) conducted two archaeological assessments of 50 and 85 acres of land along the eastern edge of the KMR. No archaeological sites or historic properties were identified during the study.

The study did document modern dirt roads that were cut by bulldozers, likely in anticipation of building out this area. The dirt roads were straight and were oriented northwest/southeast. A search was made of Hawai‘i County Planning documents, historic maps, and archival documents to ensure the dirt road was not constructed over a pre-existing trail or government road. In addition, SCS consulted with Ala Kahakai and Na Ala Hele. There were no documents showing a traditional trail or government road in the location of the dirt road identified during the current study.

Cultural Surveys Hawai‘i, Inc. recently conducted an archaeological inventory survey of the KMR (Wheeler et al. 2014). During that study eleven sites were documented, including seven early post-Contact era to modern era sites, and four pre-Contact to Historic era sites (Wheeler et al. 2014:64). The pre-Contact era to Historic era sites included two trails, a modified lava tube, and a modified outcrop complex. The trails were associated with travel and transportation through the area, and the latter two sites were associated with temporary habitation, possibly while traveling through the area, or while collecting forest resources. The early post-Contact to modern era sites included three trail segments, a military position, and two possible homesteads with small agricultural garden plots.

Scientific Consultant Services, Inc. (Escott 2015) conducted an archaeological assessment of the current project area lands in March 2015. The pedestrian survey consisted of a series of north/south transects spaced ten meters apart across the entire project area. No archaeological sites and no remains of historic properties were identified during the pedestrian survey. Three overgrown, modern bulldozed road alignments were identified in the northernmost 40 acres during the survey. The bulldozed road alignments are evident in a 1954 USDA aerial photograph (see Figure 8).

CULTURAL INFORMANT INTERVIEWS

As part of the consultation methodology discussed above, SCS, Inc. consulted with Kai Markell, the Director of Native Rights, Land and Culture, Office of Hawaiian Affairs on Oʻahu; Shane Palacat Nelson, Coordinator of the Hawaiʻi Branch of the Office of Hawaiian Affairs; Herbert Poepoe, SHPD Hawaiʻi Island Burial sites Specialist; Edwin Miranda, HIBC Chairman; and William "Bill" Brown, President of the Panaʻewa Community Association (PCA) (Table 1).

Table 3: Results of CIA Consultation.

Name	Affiliation (Family/Agency)	Response (Written/Oral)	Knowledge (Yes/No)	Practices & Beliefs (Yes/No)
Kai Markell	Office of Hawaiian Affairs	Written	No	-
Shane Palacat Nelson	Office of Hawaiian Affairs	-	-	-
Herbert Poepoe	State Historic Preservation Division Cultural Historian	Oral	No	-
Edwin Miranda	HIBC Chair	-	-	-
Bill Brown	PCA	-	-	-

A public meeting held on August 21, 2015 was attended by members of the Keaukaha-Panaʻewa Farmers Association (KPFA), the Panaʻewa Community Association, DHHL, and state representatives. SCS archaeologist Glenn Escott, M.A. presented cultural and historical information for the Panaʻewa area, discussed the archaeological assessment (Escott 2015) survey results, and asked for input concerning past and ongoing cultural practices within the project area lands. While some attendees knew the history of the project area lands, none knew of cultural practices associated with project area.

CULTURAL ASSESSMEMNT

No past or ongoing cultural practices associated with the project area lands were identified during the current CIA study. Based upon an evaluation of responses to inquiries, meeting discussions, and archival research, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by development activities on the project area.

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APPENDIX A: PUBLIC NOTICES

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
CULTURAL IMPACT ASSESSMENT NOTICE

STATE OF HAWAII }
} **SS.**
City and County of Honolulu }

Doc. Date: MAR - 9 2015 **# Pages:** 1

Notary Name: Patricia K. Reese First Judicial **Circuit**

Doc. Description: Affidavit of Publication

Notary Signature — MAR - 9 2015 Date

PATRICIA K. REESE NOTARY PUBLIC Comm. No. 86-467 STATE OF HAWAII

CULTURAL IMPACT ASSESSMENT NOTICE
Information requested by Scientific Consultant Services, Inc. of cultural resources or ongoing cultural practices on five parcels located near the Prince Kuhio Plaza Mall on lands of Walakea Ahupua'a, Hilo, South Hilo District, Island of Hawai'i [TMK: (3) 2-1-025: 006, 007, 047, 048, and (3) 2-2-061:002]. Please respond within 30 days to Glenn Escott at (808) 938-0968. (HTH729925 3/4, 3/5, 3/8/15)

Rose Rosales being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

Honolulu Star-Advertiser 0 times on:

MidWeek 0 times on:

The Garden Island 0 times on:

Hawaii Tribune-Herald 3 times on:
03/04, 03/05, 03/08/2015

West Hawaii Today 0 times on:

Other Publications: 0 times on:

PATRICIA K. REESE NOTARY PUBLIC Comm. No. 86-467 STATE OF HAWAII

And that affiant is not a party to or in any way interested in the above entitled matter.

Rose Rosales

Subscribed to and sworn before me this 9th day of March A.D. 20 15

Patricia K. Reese, Notary Public of the First Judicial Circuit, State of Hawaii

My commission expires: Oct 07, 2018

Ad # 0000729925 SP.NO.: _____ L.N.

Hawai'i Tribune-Herald Public Notice Affidavit.

AFFIDAVIT OF PUBLICATION

IN THE MATTER OF
CULTURAL IMPACT ASSESSMENT NOTICE

STATE OF HAWAII }
} **SS.**
City and County of Honolulu }

Doc. Date: MAR - 9 2015 **# Pages:** 1

Notary Name: Patricia K. Reese First Judicial **Circuit**

Doc. Description: Affidavit of Publication

PATRICIA K. REESE NOTARY PUBLIC Comm. No. 86-467 STATE OF HAWAII

Notary Signature MAR - 9 2015 Date

CULTURAL IMPACT ASSESSMENT NOTICE
Information requested by Scientific Consultant Services, Inc. of cultural resources or ongoing cultural practices on five parcels located near the Prince Kuhio Plaza Mall on lands of Waiakea Ahupua'a, Hilo, South Hilo District, Island of Hawai'i [TMK: (3) 2-1-025: 006, 007, 047, 048, and (3) 2-2-061:002]. Please respond within 30 days to Glenn Escott at (808) 938-0968.
(SA729916 3/4, 3/5, 3/8/15)

Rose Rosales being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

Honolulu Star-Advertiser 3 times on:
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MidWeek 0 times on:

The Garden Island 0 times on:

Hawaii Tribune-Herald 0 times on:

West Hawaii Today 0 times on:

Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Rose Rosales

Subscribed to and sworn before me this 9th day of March A.D. 2015

PATRICIA K. REESE NOTARY PUBLIC Comm. No. 86-467 STATE OF HAWAII

Patricia K. Reese, Notary Public of the First Judicial Circuit, State of Hawaii

My commission expires: Oct 07, 2018

Ad # 0000729916 SP.NO.: _____ L.N.

Honolulu Star-Advertiser Public Notice Affidavit.

CULTURAL IMPACT ASSESSMENT

Information requested by Scientific Consultant Services, Inc. of cultural resources or ongoing cultural practices on five parcels located near the Prince Kūhiō Plaza Mall on lands of Waiākea Ahupua'a, Hilo, South Hilo District, Island of Hawai'i [TMK: (3) 2-1-025: 006, 007, 047, 048, and (3) 2-2-061:002]. Please respond within 30 days to Glenn Escott at (808) 938-0968.

Ka Wai Ola Public Notice (May 2015 Issue).

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Appendix F

PHASE I ENVIRONMENTAL SITE ASSESSMENT

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element environmental llc
environmental · engineering · water resources

July 8, 2015

Mr. Roy Takemoto, Managing Director, Hilo Office
PBR HAWAII & Associates, Inc.
1719 Haleloke Street
Hilo, Hawaii 96720

Subject: **Phase I Environmental Site Assessment**
Department of Hawaiian Home Lands
Non-Contiguous Residential Parcel
230 Mahiai Street
Hilo, Hawaii, Hawaii
Tax Map Key: (3) 2-2-061: Parcel 002

Dear Mr. Takemoto:

Element Environmental LLC (E2) has performed a Phase I Environmental Site Assessment (ESA) of the subject property, referenced above. The purpose of this assessment was to evaluate the environmental condition of the subject property and identify recognized environmental conditions. The property will be subdivided into half-acre lots to provide house lots for DHHL Makuu Farm Lots residents forced to relocate due to advancing Kilauea lava flows.

The accompanying report summarizes our findings and relates our opinions with respect to the property and potential sources of contamination at the property. Our findings and opinions are based on information that we obtained on given dates through records review, site reconnaissance, interviews, and related activities. It is possible that other information exists or subsequently has become known, just as it is possible for conditions we observed to have changed after our observation. For these and associated reasons, E2 and many of its peers routinely advise clients for ESA services that it would be a mistake to place unmerited faith in findings and opinions conveyed via ESA reports. E2 cannot under any circumstances warrant or guarantee that not finding indicators of hazardous substances or petroleum products means that hazardous substances or petroleum products do not exist on the property.

It has been a pleasure conducting this assessment for you. If you have questions regarding this report please contact me on my mobile phone at 551-9552.

Respectfully submitted,

Element Environmental LLC

Arlene H. Campbell

Arlene H. Campbell, L.G.
Senior Geologist

98-030 Hekaha Street Unit 9 Aiea Hawaii 96701 **tel:** (808) 488-1200 **fax:** (808) 488-1300
www.e2hi.com

ELEMENT ENVIRONMENTAL LLC
ENVIRONMENTAL CERTIFICATION

E2 Project No. 150024

Report:	Phase I Environmental Site Assessment, ASTM E1527-13
Inspection Dates:	June 10, 2015
Report Date:	July 6, 2015
Site:	Non-Contiguous Residential Parcel 230 Mahiai Street, Hilo, Hawaii, Hawaii Tax Map Key: (3) 2-2061: Parcel 002
Weather Conditions:	Mostly cloudy with periodic light rain showers, 82°
Client:	PBR HAWAII & Associates, Inc. (PBR HAWAII)

Report Prepared By:

Angela Peltier

Angela Peltier Date: July 8, 2015

ENVIRONMENTAL PROFESSIONAL CERTIFICATION

I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental Professional* as defined in §312.10 of 40 Code of Federal Regulations (CFR) 312.

Arlene H. Campbell

Arlene H. Campbell, L.G Date: July 8, 2015

DIRECTING ENVIRONMENTAL PROFESSIONAL CERTIFICATION

The *Environmental Professional* who directed this project has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property.

We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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Table of Contents

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Section **Page**

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APPENDICES

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List of Acronyms and Abbreviations

§	Section
ACM	asbestos-containing material
AST	aboveground storage tank
ASTM	ASTM International
c.	circa
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
CFR	Code of Federal Regulations
CORRACTS	Corrective Action Sites under RCRA
CREC	controlled recognized environmental condition
CWB	Clean Water Branch
CWRM	Commission on Water Resources Management
DHHL	Department of Hawaiian Home Lands
DLNR	Department of Land and Natural Resources, State of Hawaii
E2	Element Environmental LLC
EDR	Environmental Data Resources, Inc.
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
HDOH	State of Hawaii, Department of Health
HELCO	Hawaiian Electric Light Company
HEER	Hazard Evaluation and Emergency Response
HREC	historical recognized environmental condition
IEC	Institutional / Engineering Controls
IRHB	Indoor & Radiological Health Branch
kg	kilogram
LBP	lead-based paint
LUST	leaking underground storage tank
msl	mean sea level
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NPL	National Priorities List (Superfund sites)
PBR HAWAII	PBR HAWAII & Associates, Inc.
PCB	polychlorinated biphenyl
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
SCS, Inc.	Scientific Consultant Services, Inc.
SDWB	Safe Drinking Water Branch
SHWB	Solid and Hazardous Waste Branch
SHWS	State of Hawaii Hazardous Waste Sites
TMK	tax map key
TSD	treatment, storage and disposal (category of RCRA facility)
U.S.	United States of America
U.S.C	United States Code
USGS	United States Geological Survey (U.S. Department of the Interior)
UST	underground storage tank
VRP	Voluntary Response Program
WWB	Wastewater Branch

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Executive Summary

Element Environmental LLC (E2) was retained by PBR HAWAII & Associates, Inc. (PBR HAWAII) to conduct a Phase I Environmental Site Assessment (ESA) in conformance with ASTM International (ASTM) Practice E 1527-13, Standard Practice for Environmental Site Assessments. The subject property is located at 230 Mahiai Street, Hilo, Hawaii, Oahu, Hawaii, and designated as Tax Map Key (TMK): (3) 2-2-061: parcel 002; hereinafter referred to as "the site, the subject property and/or the property". The site is owned by the State of Hawaii Department of Hawaiian Home Lands (DHHL) and is leased by Frederick H. K. Baker Jr.

E2 conducted the site reconnaissance on June 10, 2015. At the time of the site reconnaissance, the subject property was occupied by one residential structure, an electrical utility shed, one small kennel on the north side of the dwelling, and a large kennel to the southeast of the dwelling. The subject property is bounded on the north by grubbed and graded gardens and orchards, to the east and west by residential lots, and to the south by undeveloped land. At the time of the site reconnaissance, a large portion of the property was covered by thick grassy vegetation; therefore, assessment of the site was restricted due to restricted access and/or visibility.

The purpose of this assessment was to evaluate the environmental condition of the subject property and identify recognized environmental conditions (REC). ASTM guidance defines a REC as the presence or likely presence of any hazardous substances or petroleum products, in, on, or at the property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

Recognized Environmental Conditions

This assessment has revealed the following evidence of RECs associated with the site:

1. Fill material: According to Ms. Laura Young, with the State of Hawaii Department of Health, Hazard Evaluation and Emergency Response Office, the subject and surrounding properties were graded and filled with soil from an unknown source.

   REC: The nature and source of fill brought onto the site are unknown. It is possible that fill material was obtained from former agricultural lands and may be negatively impacted by historical use of pesticides (conditions indicative of a release to the environment).

2. Potential illegal discharge to the ground: The large kennel, located on the southeast side of the dwelling, has a narrow concrete drainage channel at the back of the structure, with what appears to be a polyvinyl chloride drainage pipe. It is likely that the pipe discharged animal waste to the ground resulting from kennel cleaning operations. The ground in the vicinity of the drainage pipe appears to have subsided and the depression is covered by a piece of plywood.

   REC: Discharge of wastewater directly to the ground without a discharge permit is not authorized by state and/or local agencies (conditions indicative of a release to the environment).

Potential Environmental Concerns

The following, while not RECs, are considered to be potential environmental concerns.

1. There is a small area of stressed vegetation in the vicinity of the small kennel located on the north side of the residence. There may be something buried beneath a "wood cover"

(covered with vegetation) observed on the ground in front of the kennel. The cause of the stressed vegetation is unknown and is considered to be a potential environmental concern.

Section 1 Introduction

1.1 Overview

Element Environmental LLC (E2) was retained by PBR HAWAII & Associates, Inc. (PBR HAWAII) to conduct a Phase I Environmental Site Assessment (ESA) in conformance with ASTM International (ASTM) Practice E 1527-13, Standard Practice for Environmental Site Assessments. The subject property consists of one parcel of land located at 230 Mahiai Street, Hilo, Hawaii, Hawaii, designated as tax map key (TMK): (3) 2-2-061: parcel 002; hereinafter referred to as "*the site, the subject property and/or the property".* The objective of this assessment was to determine the presence or absence of recognized environmental conditions (REC), as defined in ASTM, International (ASTM) 1527-13. There are no exceptions or deletions from ASTM Practice E 1527-13.

The subject property consists of one 10.171-acre parcel of land that is owned by the State of Hawaii Department of Hawaiian Home Lands (DHHL) and is leased by Frederick H. K. Baker Jr (County of Hawaii 2015).

1.2 Purpose

This Phase I ESA was requested by the client, PBR HAWAII, to document the environmental condition of the subject property. E2 conducted this Phase I ESA to identify RECs associated with the property. The purpose of this practice is to define good commercial and customary practice in the United States of America (U.S.) for conducting an ESA of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S. Code [U.S.C.] §9601) and petroleum products. As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability (hereinafter, the "landowner liability protections," or "LLPs"): that is, the practice that constitutes all appropriate inquiries into the previous ownership and uses of the property consistent with good commercial and customary practice as defined at 42 U.S.C. Section (§)9601(35)(B).

For the purposes of this practice:

- The definition of a release includes contamination in the soil vapor phase, as well as in soil or groundwater.
- "Migrate' and "migration" refer to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface and vapor in the subsurface.
- Vapor migration/intrusion *does not fall under the category of an Indoor Air Quality concern*, which is not included in the ASTM 1527 scope of work.

ASTM guidance defines a REC as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment (ASTM 2013).

Controlled RECs (CREC) are defined as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action [NFA] letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls) (ASTM 2013).

Historical RECs (HREC) are defined as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls) (ASTM 2013).

RECs do not include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies (ASTM 2013).

1.3 Detailed Scope-of-Services

This Phase I ESA was performed under the conditions of, and in general accordance with E2s' Proposal, dated March 2, 2015, and with the ASTM *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM Designation E 1527-13). Adherence to the ASTM standard is intended to limit liability of property owners from inherited environmental contamination.

The Phase I ESA included the following tasks:

- **Review of regulatory records.** E2 reviewed standard environmental record sources including the U.S. Environmental Protection Agency (EPA) Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) database, U.S. EPA's Resource Conservation and Recovery Act (RCRA) database, U.S. Institutional Controls database, U.S. Engineering Controls database, U.S. EPA's Emergency Response Notification System (ERNS) database, State of Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office site list, HDOH Underground Storage Tank (UST) lists, HDOH list of landfills and other solid waste facilities, HDOH Voluntary Response Program (VRP) sites list, and the HDOH Brownfield sites list.
- **Review of site history.** E2 reviewed reasonably ascertainable standard historical sources including historical maps; aerial photographs; building permits, zoning records, and property tax records available online; various printed publications as well as publications posted on the internet; and documents and/or records provided by the owner's representative.
- **Review of site geology and hydrogeology.** E2 reviewed reasonably ascertainable published information on surface and subsurface conditions at the site and surrounding area. E2 used this information to assess topography, drainage, surface water bodies, anticipated subsurface geology, and groundwater occurrence and usage in the area.
- **Site reconnaissance.** E2 performed a site reconnaissance of the property to note visual signs of contamination, and conducted a limited assessment of portions of the neighboring properties visible from the subject property boundaries. During the site reconnaissance E2

specifically looked for hazardous substances; petroleum products; aboveground storage tanks (AST) and USTs; odors; pools of liquid; drums; electrical and hydraulic equipment; means of heating and cooling structures; stains or corrosion; drains and sumps; pits, ponds, or lagoons; stained soil or pavement; stressed vegetation; solid waste; wastewater; wells; and septic systems.

- **Interviews**. E2 interviewed available personnel familiar with the site conditions and/or history of site use.
- **Data evaluation and report preparation.** E2 evaluated the information collected and prepared this report that documents our assessment and presents our findings, opinions, and conclusions.

1.4 Significant Assumptions

Significant assumptions include the following:

1) The information provided by the owner/user and the owner/user representatives is complete and accurate;
2) The information provided by the regulatory database search service is complete and accurate; and
3) The responses of government agencies to public requests for information are complete and accurate.

1.5 Limitations and Exceptions

Phase I ESAs, by their very nature, are limited. E2 has endeavored to meet what it believes is the applicable standard of care and, in so doing is obliged to advise its client, PBR HAWAII, of Phase I ESA limitations. This Phase I ESA did not assess environmental issues or conditions at the property that are outside the scope of ASTM Practice E1527-13, including, but not limited to, asbestos-containing material (ACM), biological agents, cultural and historical resources, ecological resources, endangered species, health and safety, indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment, industrial hygiene, lead-based paint (LBP), lead in drinking water, mold, radon, regulatory compliance, and wetlands, nor did it include any sampling or testing for biological agents and mold, radon, methane, ACM, LBP, or other environmental contaminants. Our investigation was limited to the procedures described in the Phase I ESA Standard Practice (ASTM 2013).

The conclusions presented in this report are professional opinions based solely upon visual observations of the site and vicinity and our interpretation of the available historical and regulatory information and documents reviewed. They are intended exclusively for the purpose outlined herein and apply only to the site location and project indicated.

The findings and opinions are based on information that E2 obtained on given dates through records review, site reconnaissance, interviews, and related activities. It is possible that other information exists or subsequently has become known, just as it is possible for conditions E2 observed to have changed after our observation. For these and associated reasons, E2 and many of its peers routinely advise clients for ESA services that it would be a mistake to place unmerited faith in findings and opinions conveyed via ESA reports. E2 cannot under any circumstances warrant or guarantee that not finding indicators of hazardous substances or

petroleum products means that hazardous substances or petroleum products do not exist on the site.

1.6 Special Terms and Conditions

E2's services are performed, within the limits prescribed by our clients, with the usual thoroughness and competence of the consulting profession in accordance with the standard for professional services at the time those services are rendered. No warranty or representation, either expressed or implied, is included or intended in the proposals, contracts, or reports.

Findings and opinions presented herein apply to site conditions existing at the time of E2's investigation and those reasonably foreseeable; they cannot necessarily apply to site changes of which E2 is not aware and has not had the opportunity to evaluate.

1.7 Data Gaps

Based on the information obtained during this ESA, it is the professional opinion of E2 that a historical data failure, as defined in the ASTM guidelines, has occurred in attempting to document the history of the subject property back to the earlier part of 1940 or the first developed usage of the property in five year increments, as follows:

1. Historical information regarding the subject property from 1907 to 1910, 1915 to 1930, 1933 to 1953, 1957 to 1962, and 1966 to 1974 was limited.
2. A large portion of the property was covered by thick grassy vegetation; therefore, assessment of the site was restricted due to restricted access and/or visibility.

Based on the information obtained, the lack of documentation is not deemed critical and did not affect the ability to identify potential REC(s) associated with the subject property.

1.8 User Reliance

This report is intended for the use of PBR HAWAII and its assignees. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or re-use of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Section 2 Site Description

2.1 Location and Legal Description

The subject property is located at 230 Mahiai Street in the Panaewa region of the Waiakea Ahupuaa, South Hilo District, Hawaii, Hawaii, as shown on Figure 1, included in Appendix A. The property consists of one parcel of land with an area of 10.171 acres, designated as TMK: (3) 2-2-061: parcel 002 (County of Hawaii 2015).

2.2 Site and Vicinity General Characteristics

The property is located on the windward coast of Hawaii Island on the lower east slope of Mauna Loa. The subject property is located at 230 Mahiai Street, approximately 120 feet north of the Waiakea-Uka Flood Control Channel and 530 feet east of Mamalahoa Highway (Route 11) (Google Earth 2015).

The climate in the region of Hilo has mean monthly temperatures ranging from 64 to 84 degrees Fahrenheit (Western Regional Climate Center 2015) with an average annual rainfall of approximately 133.6 inches per year (Giambelluca et al. 1986). Trade winds are generally from the northeast.

2.3 Current Use of the Property

The subject property is currently occupied by a residential house constructed in the mid-1980s and is heavily overgrown with vegetation (Figure 2). At the time of the site reconnaissance, the property was vacant.

2.4 Descriptions of Structures, Roads, and Other Improvements on the Site

The property consists of one parcel of land with an area of 10.171 acres; access to the site is from Mahiai Street. The property is roughly rectangular in shape with gently sloping topography and a general topographic gradient towards the east. The elevation of the property is approximately 180 to 200 feet above mean sea level (msl). The residential dwelling on this site was built in the mid-1980s. Public water is provided by the County of Hawaii; and electricity is provided by the Hawaiian Electric Light Company (HELCO). Figure 2 shows the site layout. Photographs of the subject property are included in Appendix A.

2.5 Current Uses of the Adjacent Properties

Table 2-1 lists the parcel numbers, owners/occupants, and owner/occupant activities for the adjacent properties. The property is bounded to the north by grubbed and graded gardens and orchards, to the east and west boundaries by residential lots, and the southern boundary is bordered by undeveloped land. Figure 2 shows the locations of adjacent properties.

Table 2-1: Adjacent Properties

Parcel Number	Owner/Occupant	Owner/Occupant Activities
Parcel adjacent to the north		
2-2-061:003	DHHL (owner) Garry L. Yamada (lessee) No associated address	Agricultural / Residential
Parcel adjacent to the east across Mahiai Street		
2-2-061:008	DHHL (owner) Mary Kim K. Lum Ho (lessee) 175 Mahiai Street	Residential
Parcel adjacent to the south		
2-2-061:001	DHHL (owner) Davy P Mahi (lessee) No associated address	Undeveloped agricultural land
Parcel adjacent to the west		
2-2-046:078	Robert K. Palea and Susan L. Palea (owners) No associated address	Hillcrest Subdivision - Residential
2-2-046:079	Carol E. Manoha and Maile Manoha (owners) No associated address	Hillcrest Subdivision - Residential
2-2-046:080	Terry Kobayashi and Gwen Kobayashi (owners) 110 Waianuhea Place	Hillcrest Subdivision – Residential Kobayashi T. Lawn Maintenance
2-2-046:066	Charles T. Ikeda and Joyce Higashi Ikeda (owners) 111 Waianuhea Place	Hillcrest Subdivision - Residential

Section 3 User Provided Information

Mr. Isaac Takahashi, Acting Branch Chief, Housing Projects Branch for DHHL, completed an ASTM E1527-13 Questionnaire. The ASTM questionnaire is provided in Appendix B, and Mr. Takahashi's responses are provided in the following sections.

3.1 Title Records

Title records were not provided by the user.

3.2 Environmental Liens or Activity and Use Limitations

During the course of this investigation, the user did not provide E2 with information pertaining to activity and/or use limitations associated with the subject property.

3.3 Specialized Knowledge

No specialized knowledge in connection with the subject property was identified by the user.

3.4 Commonly Known or Reasonably Ascertainable Information

The user did not provide information regarding any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the property.

3.5 Valuation Reduction for Environmental Issues

E2 was not provided with an appraisal for the subject property. No environmental issues were identified by the user that could result in property value reduction.

3.6 Owner, Property Manager, and Occupant Information

DHHL is the current property owner. The land owner contact is Ms. Niniau K. Simmons, Housing Administrator with the Native American Housing Assistance & Self Determination Act, Office of the Chairman, DHHL, and the site contact is Mr. Louis Hao, East Hawaii District Manager, with DHHL Hawaii District Office.

According to Mr. Takahashi, the property has been in residential and agricultural use for over 19 years. The prior use of the property was unknown to Mr. Takahashi, and he was not aware of any environmental concerns at the property.

3.7 Reason for Performing the Phase I ESA

The purpose of this assessment was to evaluate the environmental condition of the subject property and identify recognized environmental conditions on or associated with the subject property. The property will be subdivided into half-acre lots to provide house lots for DHHL Makuu Farm Lots residents forced to relocate due to advancing Kilauea lava flows.

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Section 4 Records Review

4.1 Standard Environmental Record Sources

4.1.1 Overview

To identify the presence of adverse environmental conditions at the subject property, several published sources of environmental records were reviewed. This section lists the records that were searched and the results of each search.

ASTM E1527-13 specifies search distances for specific environmental record sources. The following record sources were searched for incidents or sites within the listed search distances of the subject property:

Standard Environmental Record Sources	Search Distance (miles)	Number of Sites Identified
Federal NPL site list	1.0	0
Federal Delisted NPL site list	0.5	0
Federal CERCLIS list	0.5	0
Federal CERCLIS NFRAP site list	0.5	0
Federal RCRA CORRACTS facilities list	1.0	0
Federal RCRA Non-CORRACTS TSD facilities list	0.5	0
Federal RCRA generators list	Subject and Adjacent properties	0
Federal IEC registries	Subject property only	0
Federal ERNS list	Subject property only	0
State list of hazardous waste sites identified for investigation or remediation (NPL or CERCLIS equivalents)	1.0	1
State landfill and/or solid waste disposal site lists	0.5	0
State LUST list	0.5	0
State registered UST list	Subject and Adjacent properties	0
State IEC registries	Subject and Adjacent properties	0
State VRP sites	0.5	0
State Brownfield sites	0.5	0

Note: NPL = National Priorities List
NFRAP = No Further Remedial Action Planned
CORRACTS = facilities subject to Corrective Action under RCRA
TSD = treatment, storage, and disposal
IEC = institutional / engineering controls
LUST = leaking underground storage tank

E2 used an online regulatory database search service, provided by EDR, to review the above Federal and State government databases. A copy of the EDR report is included in Appendix C.

The following sections summarize the findings of the regulatory database search. In reviewing the environmental databases, it should be noted that such databases are not instantaneously updated by the specific regulatory agencies. Depending on the database and the agency, update frequency may be as infrequent as annually. The dates of the most recent updates for the searched environmental databases are listed in the EDR report in Appendix C.

The subject and adjoining properties were not listed on any of the databases searched by EDR (EDR 2015a).

4.1.2 Federal NPL Site List

The Federal NPL is a subset of CERCLIS and identifies over 1,200 sites identified for priority cleanup under the Superfund Program. The ASTM-designated search distance for the Federal NPL is one mile. EDR did not identify Federal NPL sites within one mile of the subject property.

4.1.3 Federal Delisted NPL Site List

The National Oil and Hazardous Substances Pollution Contingency Plan establish the criteria that the U.S. EPA uses to delete sites from the NPL. In accordance with 40 Code of Federal Regulations (CFR) 300.425(e), sites may be deleted from the NPL where no further response is appropriate. The ASTM-designated search distance for Federal delisted NPL sites is one-half mile. EDR did not identify Federal delisted NPL sites within one-half mile of the subject property.

4.1.4 Federal CERCLIS List

The CERCLIS list contains data on potentially hazardous sites that have been reported to the U.S. EPA by states, municipalities, private companies, and private persons pursuant to Section 103 of CERCLA. CERCLIS contains sites which are either proposed to be, or on the NPL and sites which are in the screening and assessment phase for possible inclusion on the NPL. The ASTM-designated search distance for Federal CERCLIS sites is one-half mile. EDR did not identify Federal CERCLIS sites within one-half mile of the subject property.

4.1.5 Federal CERCLIS NFRAP Site List

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of U.S. EPA's knowledge, assessment at a site has been completed and that U.S. EPA has determined no further steps will be taken to list this site on the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site. The ASTM-designated search distance for Federal CERCLIS NFRAP sites is one-half mile. EDR did not identify Federal CERCLIS NFRAP sites within one-half mile of the subject property.

4.1.6 Federal RCRA CORRACTS Facilities List

U.S. EPA's facilities subject to CORRACTS or Corrective Action Sites database, identifies facilities that generate, treat, store, or dispose of hazardous wastes where RCRA corrective action activity has occurred. These sites have experienced spills or releases of hazardous chemicals prompting the need for corrective action. The ASTM-designated search distance for the Federal RCRA CORRACTS list is one mile. EDR did not identify Federal RCRA CORRACTS site within one mile of the subject property.

4.1.7 Federal RCRA Non-CORRACTS TSD Facilities List

The Federal RCRA Non-CORRACTS TSD facilities list is the U.S. EPA's list of TSD facilities that are not currently subject to corrective action. The RCRAInfo is U.S. EPA's comprehensive information system, providing access to data supporting the RCRA of 1976 and the Hazardous and Solid Waste Amendments of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System. The database includes

selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the RCRA. The RCRAInfo list includes facilities that treat, store, dispose of, or incinerate hazardous waste (TSD facilities). The ASTM-designated search distance for Federal RCRA Non-CORRACTS TSD facilities is one-half mile. EDR did not identify Federal RCRA Non-CORRACTS TSD sites within one-half mile of the subject property.

4.1.8 Federal RCRA Generators List

In addition to TSD facilities discussed above in Section 4.1.7, the RCRAInfo list also includes selective information on sites which generate hazardous waste as defined by the RCRA. Conditionally exempt small quantity generators generate less than 100 kilograms of hazardous waste, or less than one kilogram (kg) of acutely hazardous waste per month. Small quantity generators generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators generate over 1,000 kg of hazardous waste, or over one kg of acutely hazardous waste per month. The ASTM-designated search distance for Federal RCRA generators is the subject property and adjacent properties. EDR did not identify the subject or adjacent properties as Federal RCRA Generator sites.

4.1.9 Federal Institutional / Engineering Controls Registries

Federal IEC Registries are lists of sites that have institutional and/or engineering controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health. The ASTM-designated search distance for Federal IEC Registries is the subject property only. EDR did not identify the subject property as a Federal IEC Registry site.

4.1.10 Federal ERNS List

ERNS is a national database of more than 365,000 records, which contains information on specific notification of releases of oil and hazardous substances to the environment. The ASTM-designated search distance for Federal ERNS incidents is the subject property only. No reported Federal ERNS incidents have occurred on the subject property.

4.1.11 State of Hawaii Hazardous Waste Sites List

The State of Hawaii Hazardous Waste Sites (SHWS) list is Hawaii's equivalent to the NPL or CERCLIS. These sites may or may not already be listed on the federal NPL or CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The HDOH HEER Office maintains a *Sites of Interest Database*, which includes sites that HDOH HEER has an interest in, has investigated, or may investigate under Hawaii Revised Statute 128D (the State Superfund law). The ASTM-designated search distance for the SHWS List is one mile. EDR identified one SHWS site within one mile of the subject property. General information on the SHWS site is provided below, and more detailed information is provided in the EDR report in Appendix C.

SHWS Site Name	Location Relative to the Subject Property	Site Status/Comments
KHI dba Waiakeawaena Chevron (Larry's Waiakea Chevron) 2188 Kinoole Street Hilo, HI	½ to 1 mile northwest (lower elevation/ crossgradient)	Response Ongoing – Hazard Undetermined, Low priority (contaminants of concern: Petroleum in two drywells)

It is not likely that the SHWS site listed above has negatively impacted the subject property due to the distance from, and/or location relative to the subject property (i.e., hydraulically crossgradient, etc.).

4.1.12 State of Hawaii Landfill and/or Solid Waste Disposal Site List

HDOH Solid and Hazardous Waste Branch (SHWB) has a list of permitted solid waste disposal facilities and landfills in the State of Hawaii. The ASTM-designated search distance for permitted solid waste disposal sites / landfills is one-half mile of the subject property. EDR did not identify permitted solid waste disposal facility sites within one-half mile of the subject property.

4.1.13 State of Hawaii LUST List

The State of Hawaii LUST database, compiled by the HDOH SHWB UST Section, contains an inventory of reported LUST incidents. The ASTM-designated search distance for State of Hawaii LUST sites is one-half mile. EDR did not identify State of Hawaii LUST sites within one-half mile of the subject property.

4.1.14 State of Hawaii Registered UST List

State of Hawaii Registered USTs are regulated under RCRA and must be registered with the state department responsible for administering the UST program. The list of registered UST sites is compiled by the HDOH SHWB UST Section. The ASTM-designated search distance for State of Hawaii Registered UST sites is the subject property and adjacent properties. EDR did not identify the subject or adjacent properties as State of Hawaii Registered UST sites.

4.1.15 State of Hawaii Institutional / Engineering Controls Registry

The ASTM-designated search distance for State of Hawaii IEC registries is the subject and adjacent properties. EDR did not identify any State of Hawaii IEC registries on the subject or adjacent properties.

4.1.16 State of Hawaii Voluntary Cleanup Sites

The ASTM-designated search distance for State of Hawaii VRP sites is one-half mile. EDR did not identify State of Hawaii VRP sites within one-half mile of the subject property.

4.1.17 State of Hawaii Brownfield Sites

The ASTM-designated search distance for State of Hawaii Brownfield sites is one-half mile. EDR did not identify State of Hawaii Brownfield sites within one-half mile of the subject property.

4.1.18 Additional Environmental Record Sources

4.1.18.1 Zoning and Land Use

The State Land Use Ordnance zoning for the subject property and surrounding property is Urban. The subject property and adjacent properties to the north and south are zoned A-1a (Agricultural District, minimum building site of 1 acre) and A-5a (Agricultural District, minimum building site of

5 acres), the adjacent property to the east is zoned A-5a, and the adjacent property to the west is zoned RS-10 (Multiple-Family Residential District [required land area of 14,500 square feet for each dwelling unit, or for each separate rentable unit]) (County of Hawaii 2015).

4.1.18.2 Hawaii Seismic and Lava Flow Hazard Zones

The site is located within the Hawaii Seismic Zone Assignment 4 (U.S. Geological Survey [USGS] 2001). The South Hilo area is rated Lava Flow Hazard Zone 3 on a scale of ascending risk 9 to 1. Zone 3 have has only one to five percent of their surfaces covered by lava since 1800, and 15 to 75 percent of their surfaces covered by lava within the past 750 years (USGS 2006).

4.1.18.3 Local Electric Utility Company

Electricity is supplied to the subject property by HELCO. One pole-mounted transformer is located on the north-central boundary of the subject property, according to Mr. James Moules, Commercial Account Manager with HELCO the transformer does not contain polychlorinated biphenyls (PCB).

4.2 Other Information Sources

The following sections describe information obtained from other information sources.

4.2.1 State of Hawaii Department of Health File Review

E2 submitted requests to access public information for the subject and adjacent properties and received responses from the following HDOH sections/branches:

4.2.1.1 Clean Water Branch

On June 15, 2015, Mr. Bobbie Teixeira, Environmental Health Specialist with the Clean Water Branch (CWB) confirmed that CWB has no relevant information regarding the subject property. On June 24, 2015, Ms. Angela Peltier, Geologist with E2, reviewed the *Hawaii Environmental Health Portal* and *Water Pollution Control Viewer*. No RECs or environmental concerns were identified.

4.2.1.2 Hazard Evaluation and Emergency Response Office

On June 15, 2015, Ms. Mae Domingo, Administrative Assistant for the HEER Office, confirmed there are no records for the subject or adjacent properties.

Mr. Marvin Heskett, Senior Chemist with E2 interviewed Ms. Laura Young, with the HEER Office. Ms. Young stated that to her knowledge, the subject and surrounding properties were graded and filled with soil from an unknown source.

The nature and source of fill brought onto the site are unknown. It is possible that fill material was obtained from former agricultural lands and may be negatively impacted by historical use of pesticides.

4.2.1.3 Indoor and Radiological Health Branch

The Indoor and Radiological Health Branch (IRHB) has not yet responded to the Request to Access Government Records sent to their office on June 3, 2015.

4.2.1.4 Safe Drinking Water Branch

On June 15, 2015, Mr. Norris Uehara, Supervisor of the Groundwater Pollution Control Section for the Safe Drinking Water Branch (SDWB), confirmed there are no Underground Injection Control permits associated with the subject and adjacent properties.

4.2.1.5 Solid and Hazardous Waste Branch

On June 16, 2015, Ms. Amy Susana Liana, Planner for SHWB, confirmed there are no records on the subject or adjacent properties at the UST, Hazardous Waste, or Solid Waste Sections.

4.2.1.6 Waste Water Branch

On June 3, 2015, Ms. Lori Morikami, Planner for the Planning & Design Section of the Waste Water Branch (WWB), confirmed there are two cesspools located on adjacent residential properties to the west within the Hillcrest Subdivision at TMK (3) 2-2-046: parcels 078 and 080; and one septic tank at TMK (3) 2-2-046: parcel 078. No RECs or environmental concerns were identified.

4.2.2 Department of Land and Natural Resources Commission on Water Resources Management

E2 interviewed Mr. Jonas Burgon with the Department of Land and Natural Resources (DLNR) Commission on Water Resources Management (CWRM) on June 6, 2015. According to the maps and documents provided by Mr. Burgon, no wells are located on the subject or adjacent properties. The municipal Panaewa wells owned by the Department of Water Supply Hawaii – Hilo, are located within 1/8 mile to the south of the subject property.

4.3 Physical Setting Sources

4.3.1 U.S. Geological Survey Topographic Map Coverage

Topographic map coverage of the site is included on the USGS 7.5-minute Honolulu quadrangle map, as shown on Figure 1. The property is located at 19° 40' 34.32'' north latitude and 155° 3' 39.96'' west longitude. The elevation of the subject property is approximately 180 to 200 feet msl (EDR 2015a).

4.3.2 Geologic and Hydrogeologic Setting

E2 reviewed published geologic and hydrogeologic reports and maps to obtain information regarding subsurface conditions in the general area of the site and to evaluate potential migration of contaminants.

4.3.2.1 Geology

The island of Hawaii has an area of 4,028 square miles and is comprised of five separate shield volcanoes (from oldest to youngest): 1) Kohala; 2) Mauna Kea; 3) Hualalai; 4) Mauna Loa; and 5) Kilauea. Moana Loa, makes up more than half of the Big Island. The site is located approximately 3.3 miles south of Hilo Bay in South Hilo, on the southeast flank of the Mauna Loa Volcano in the saddle near the boundary of the Kilauea Volcano. Mauna Loa rocks are divided into the oldest Ninole Volcanic Series, then the Kahuku Volcanic Series, Pahala Ash layer, then the newest Kau Volcanic Series (Macdonald et al. 1983). The Kuhuku Series is capped by Pahala Ash, and is believed to be coeval with the Hilina Series of Kilauea (Macdonald et al. 1983). The Kau Series overlies the Pahala ash and is correlative with the Puna Series of Kilauea (Macdonald et al. 1983). Lava flows of the Kau Series interfinger with the Puna Series of Kilauea interfinger along the boundary between the two volcanoes (Macdonald et al. 1983). The site is located on

the pre-historic rocks of the Kau Volcanic Series with an age of 5,000-11,000 years before present (Macdonald et al. 1983).

The geology of the region has been heavily influenced by lava flows from two active volcanoes, Kilauea and Mauna Loa. Lava tubes and lava tube caves are a notable geological feature underlying the area. In many cases, the presence of a lava tube is not known unless a cave roof collapses from construction activity or vegetation clearing otherwise results in the discovery of a skylight. The depth of lava tube caves often canoe be determined without detailed surveying.

4.3.2.2 Soils

According to the U.S. Department of Agriculture Natural Resources Conservation Service, the soil in the area of the site is classified as Papai extremely stony muck, three to 25 percent slopes. The Papai Complex consists of well drained to excessively drained sands and gravels (Soil Survey Staff et al. 2015). In a typical profile, the surface layer is very dark brown extremely stony muck about eight inches thick, underlain by fragmental aa lava. Permeability is rapid, runoff is slow, and the erosion hazard is slight (Soil Survey Staff et al. 2015).

4.3.2.3 Hydrogeology

Groundwater resources beneath the site are part of the Hilo Aquifer System of the Northeast Mauna Loa Sector. The aquifer is classified as basal, unconfined, where the water table is the upper surface of the saturated aquifer, and occurs in flank deposits (horizontally extensive basalt lavas). The aquifer is listed as currently used as a drinking water aquifer. This aquifer has fresh salinity (<250 milligram per liter chloride), is listed as irreplaceable, and is highly vulnerable to contamination (Mink and Lau 1993).

The subsurface conditions under the subject property are interpreted from available data and may vary. Groundwater is assumed to flow downgradient, based on topography and nearby water features, in a north northeast direction toward the shoreline of Hilo Bay. The depth to and direction of groundwater flow beneath the property are not definitively known. Characterization would require subsurface exploration, installation of groundwater monitoring wells, and surveys of groundwater elevations.

4.3.2.4 Surface Water

The closest surface water body to the site is the Waiakea-Uka Flood Control Channel located approximately 120 feet. The Palai Stream flows into the unlined open Waiakea-Uka Flood Control Channel, a continuation of the Four-Mile Creek Flood Control Channel. The channel runs from the Hilo Golf Course to Palai Stream.

4.4 Historical Use Information

4.4.1 Standard Historical Sources

Historical use of the subject and adjacent properties was obtained by reviewing the following standard historical sources: aerial photographs (1954 - 2014); property tax records available online; recorded land title records; historical topographic maps (1914 – 1995); other historical maps (1906 – 1976); local street directories; various printed publications and publications posted on the internet; documents, maps, and information from interviews with the owner's representative.

4.4.1.1 Aerial Photograph Review

E2 reviewed available historical aerial photographs of the subject property dated 1954, 1965, 1975, 1977, 1987, 1992, 2010, 2011, 2012, 2013, and 2014 (EDR 2015b, University of Hawaii 2015, and Google Earth 2015). No RECs or environmental concerns were identified during the review of the aerial photographs.

4.4.1.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps were not available for this area from EDR (EDR 2015c).

4.4.1.3 Real Property Tax Records

According to real property tax records available online, the subject property is owned by DHHL and is leased by Frederick H.K. Baker Jr. The parcels consists of 10.171 acres of residential/agricultural land.

4.4.1.4 Historical Topographic Map Review

E2 reviewed available USGS topographic maps of the area dated 1914, 1932, 1963, 1980, 1981, and 1995 (EDR 2015d, Scientific Consultant Services, Inc. [SCS, Inc.] 2015, and University of Hawaii 2015). RECs and/or potential environmental concerns were not identified during review of the historical topographic maps.

4.4.1.5 Other Historical Maps Review

E2 reviewed other available historical maps of the area dated 1906, 1912, 1931, 1955, 1956, and 1976 (David Rumsey Map Collection Cartography Associates 1906 and County of Hawaii 2015, and DAGS 2015). RECs and/or potential environmental concerns were not identified during review of the historical topographic maps.

4.4.1.6 Local Street Directories

E2 reviewed local street directories dated 1992, 1995, 1999, 2003, 2008, and 2013 for Mahiai Street and Waianuhea Place (EDR 2015e). A copy of the local street directories is included in Appendix C. No RECs and/or environmental concerns were identified during the review of the local street directories. Previous Environmental Investigations and Information

4.4.2 Summary of Historical Land Use

E2 reviewed the historical use of the subject and adjacent properties from readily available standard historical sources. A brief summary of the historical use of the area and subject and adjacent properties is provided below.

A review of standard historical sources indicates that the subject and adjacent properties are located within an area formerly occupied by sugar cane fields from c. 1870s until c. 1966. The subject property was turned over to DHHL c. 1982 and the residential dwelling was constructed in the mid-1980s (County of Hawaii 2015 and SCS, Inc. 2015).

Section 5 Site Reconnaissance

Site reconnaissance was conducted on June 10, 2015, by Ms. Arlene Campbell, Senior Geologist, and Mr. Marvin Heskett, Senior Chemist with E2. Site reconnaissance included visual surveys of the property and brief surveys of the visible portions of the adjacent parcels. Site photographs are included in Appendix A.

5.1 Limiting Conditions

Large portions of the property were heavily overgrown with grassy vegetation at the time of the site reconnaissance; therefore, assessment of the parcel was limited to areas that were accessible and visible through the vegetation. E2 did not have access to the interior of the dwelling.

5.2 General Site Setting and Observations

The subject property was assessed on foot. At the time of the site reconnaissance, the subject property was occupied by one residential dwelling, an electrical utility shed, and a large kennel to the southeast of the dwelling. Observations made during the site reconnaissance are summarized below, in their pertinent section/subsection.

5.2.1 Hazardous Substances and Petroleum Products in Connection with Identified Uses

E2 did not observe any hazardous substances and/or petroleum products associated with identified uses at the site during the site reconnaissance.

5.2.2 Hazardous Substance and Petroleum Products Containers (Not Necessarily in Connection with Identified Uses)

E2 did not observe hazardous substances and petroleum products that were not associated with identified uses at the site during the site reconnaissance.

5.2.3 Storage Tanks

E2 did not observe the presence of storage tanks on the subject property during the site reconnaissance.

5.2.4 Odors

E2 did not note any unusually strong, pungent, or noxious orders in or at the subject property during the site reconnaissance.

5.2.5 Pools of Liquid

E2 did not observe the presence of standing water or pools of liquid on the subject property at the time of the site reconnaissance.

5.2.6 Drums

E2 did not observe the presence of drums on the subject property at the time of the site reconnaissance.

5.2.7 Unidentified Substance Containers

E2 did not observe unidentified substance containers on the subject property at the time of the site reconnaissance with the exception of the following:

- 5-gallon plastic bucket most likely filled with rainwater with algae growth.

The unidentified contents of one 5-gallon bucket is considered to be *de minimis*.

5.2.8 Polychlorinated Biphenyls

E2 did not observe electrical transformers, electrical equipment, or other signs of PCBs on the subject property at the time of the site reconnaissance with the exception of the following:

- One pole-mounted transformer, located on the north-central boundary.
- An abandoned electrical utility shed, located on the south side of the residence.

The abandoned electrical utility shed was empty and stripped of electrical components and HELCo confirmed that the pole-mounted transformer does not contain PCBs.

5.2.9 Pits, Ponds, or Lagoons

E2 did not observe pits, ponds, or lagoons on the subject property during the site reconnaissance with the exception of the following:

- The large kennel, located on the southeast side of the dwelling, has a narrow concrete drainage channel at the back of the structure, with what appears to be a polyvinyl chloride drainage pipe. It is likely that the pipe discharged animal waste to the ground resulting from kennel cleaning operations. The ground in the vicinity of the drainage pipe appears to have subsided and the depression is covered by a piece of plywood.

  Discharge of wastewater directly to the ground without a discharge permit is not authorized by state and/or local agencies (conditions indicative of a release to the environment).

5.2.10 Stained Soil or Pavement

E2 did not observe stained soil or pavement at the site during the site reconnaissance.

5.2.11 Stressed Vegetation

E2 did not observe stressed vegetation on the subject property during the site reconnaissance with the exception of the following:

- There is a small area of stressed vegetation in the vicinity of the small kennel located on the north side of the residence. There may be something buried beneath a “wood cover”.

5.2.12 Solid Waste

E2 did not observe the presence of solid waste on the subject property at the time of the site reconnaissance.

5.2.13 Wastewater

E2 did not observe wastewater and/or wastewater generation on the subject property during the site reconnaissance with the exception of the following:

- A polyvinyl chloride drainage tube and concrete ditch located on the east side of the kennels indicated that wastewater was generated on-site.

It is unknown where the ditch drains to, its specific use, and no permits are listed for the subject property; therefore, this is considered a REC.

5.2.14 Wells

E2 did not observe wells on the subject property during the site reconnaissance.

5.2.15 Septic Systems

E2 did not observe septic systems on the subject property during the site reconnaissance, however, it is likely there is a cesspool present in the vicinity of the residential dwelling.

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Section 6 Interviews

Information obtained during interviews is included in the pertinent sections of this report. Questionnaires and/or documentation completed/received as a result of the interviews are included in Appendix B.

6.1 Subject Property Owner and Manager

E2 interviewed Mr. Isaac Takahashi, Acting Branch Chief, Housing Project Branch for DHHL, Ms. Niniau K. Simmons, Housing administrator with the Native American Housing Assistance & Self Determination Act, Office of the Chairman, DHHL, and Mr. Louis Hao, East Hawaii District Manager, with DHHL Hawaii District Office regarding past and current use and activities on the property and adjacent properties. A copy of the User and Site Evaluation Questionnaires are included in Appendix B.

6.2 Local Government Agencies

6.2.1 State of Hawaii Department of Health

E2 interviewed the following HDOH representatives regarding the subject and adjacent properties: Mr. Bobbie Teixeira, Environmental Health Specialist with the CWB; Ms. Mae Domingo, Administrative Assistant and Ms. Laura Young, with the HEER Office; Mr. Norris Uehara, Supervisor of the Groundwater Pollution Control Section for the SDWB; Ms. Amy Susana Liana, Planner for the SHWB; and Ms. Lori Morikami, Planner for the Planning & Design Section of the WWB. The CWB, HEER Office, and SDWB confirmed that there were no files for the subject or adjacent properties.

E2 interviewed Mr. Jonas Burgon, Engineer Technician with the DLNR CWRM, regarding wells located in the vicinity of the subject property. Well information provided by Mr. Burgon is included in Section 4.2.2.

6.2.2 Hawaiian Electric Light Company

E2 interviewed Mr. James Moules, Commercial Account manager with HELCO, regarding a transformer located on the subject property. Transformer information provided by Mr. Moules is included in Section 4.1.18.3.

6.3 Other Interviews

No other interviews were conducted.

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Section 7 Findings, Opinions, and Conclusions

E2 has been retained by PBR HAWAII to conduct a Phase I ESA in conformance with ASTM Practice E 1527-13, Standard Practice for Environmental Site Assessments. The subject property is located at 230 Mahiai Street, Honolulu, Oahu, Hawaii, and designated as TMK: (3) 2-2-061: parcel 002. Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report.

Recognized Environmental Conditions

This assessment has revealed the following evidence of RECs associated with the site:

1. Fill material: According to Ms. Laura Young, with the HDOH HEER Office, the subject and surrounding properties were graded and filled with soil from an unknown source.

   REC: The nature and source of fill brought onto the site are unknown. It is possible that fill material was obtained from former agricultural lands and may be negatively impacted by historical use of pesticides (conditions indicative of a release to the environment).

2. Potential illegal discharge to the ground: The large kennel, located on the southeast side of the dwelling, has a narrow concrete drainage channel at the back of the structure, with what appears to be a polyvinyl chloride drainage pipe. It is likely that the pipe discharged animal waste to the ground resulting from kennel cleaning operations. The ground in the vicinity of the drainage pipe appears to have subsided and the depression is covered by a piece of plywood.

   REC: Discharge of wastewater directly to the ground without a discharge permit is not authorized by state and/or local agencies (conditions indicative of a release to the environment).

Potential Environmental Concerns

The following, while not RECs, are considered to be potential environmental concerns.

1. There is a small area of stressed vegetation in the vicinity of the small kennel located on the north side of the residence. There may be something buried beneath a “wood cover” (covered with vegetation) observed on the ground in front of the kennel. The cause of the stressed vegetation is unknown and is considered to be a potential environmental concern.

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Section 8 Deviations

In conducting this Phase I ESA, there were no deletions from the standard practice (ASTM Designation E1527-13 and E2600-10) and no client-imposed constraints.

In addition to the limitations described in Sections 1.5 and 5, the following data gaps were encountered:

1. Historical information regarding the subject property between 1907 to 1910, 1915 to 1930, 1933 to 1953, 1957 to 1962, and 1966 to 1974 was limited; however, the data gaps are not considered significant since use of the site and adjacent properties did not change much throughout the years.
2. At the time of the site reconnaissance, a large portion of the property was covered by thick grassy vegetation; therefore, assessment of the site was restricted due to restricted access and/or visibility.
3. IRHB did not respond to the Request to Access Government Records sent to their office on June 3, 2015.

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Section 9 Additional Services

Although E2 was not contracted to conduct additional services; as a courtesy to the client, the following additional services were performed:

- E2 listed a potential environmental concern, which is not considered to be a REC due to a lack of /or limited information, for the subject or adjacent properties based on their historical use.

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Section 10 Qualifications of Environmental Professionals

Qualifications of the Environmental Professionals are included in Appendix D.

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Section 11 References

ASTM International [ASTM] 2013. *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM Designation E1527-13). ASTM International (ASTM)*, Washington, 11 November.

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Department of Accounting and General Services 2015. *Land Survey Map Search.* Retrieved from website 28 June. http://ags.hawaii.gov/survey/map-search/

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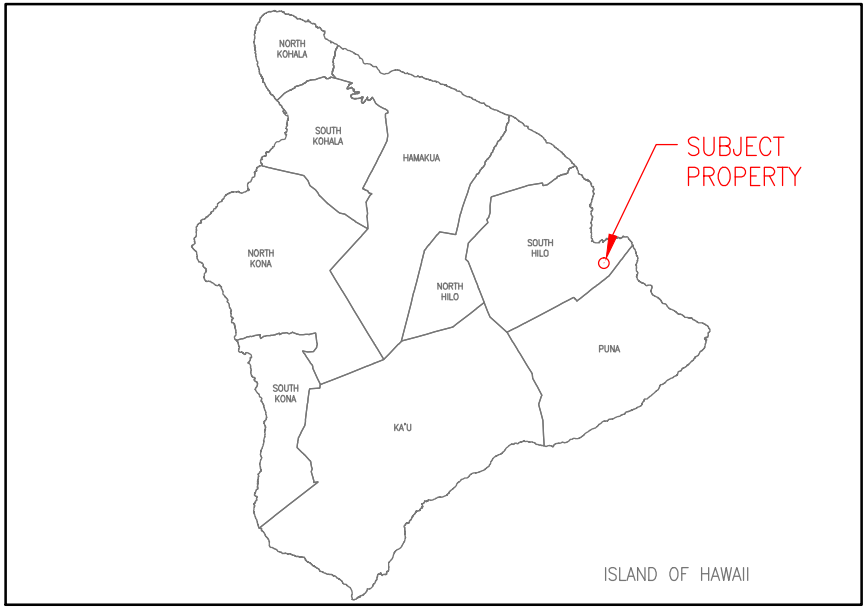
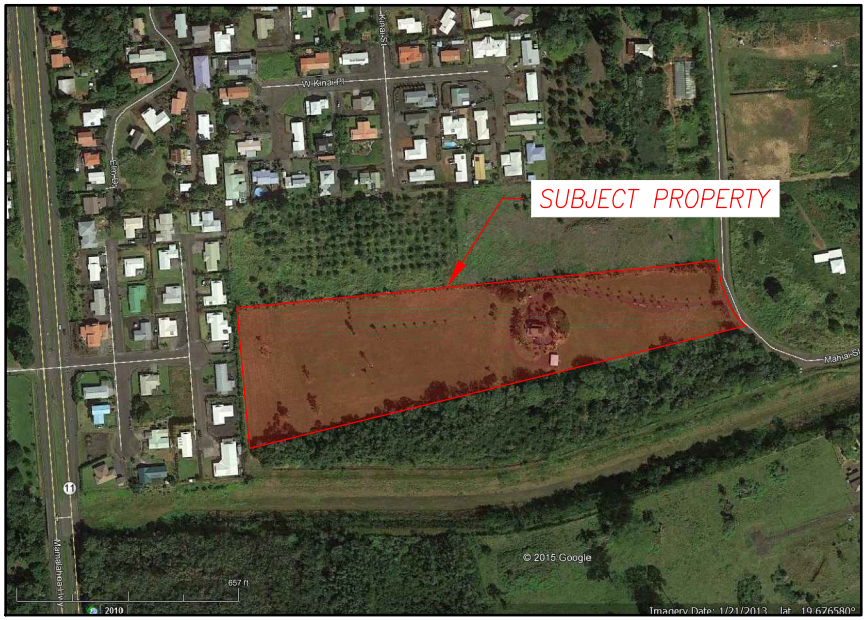
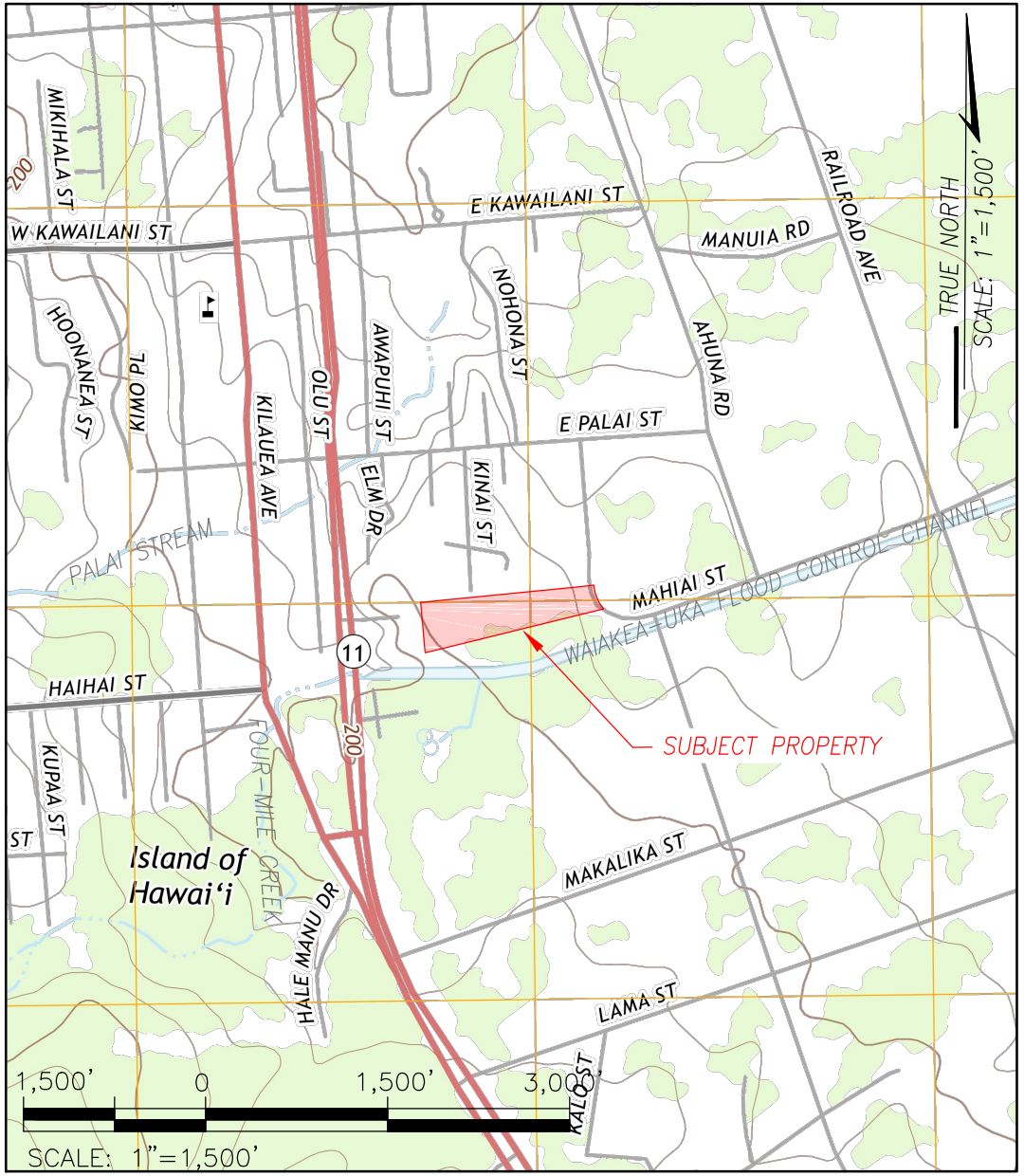
APPENDIX A

FIGURES AND PHOTOGRAPHS

Figures

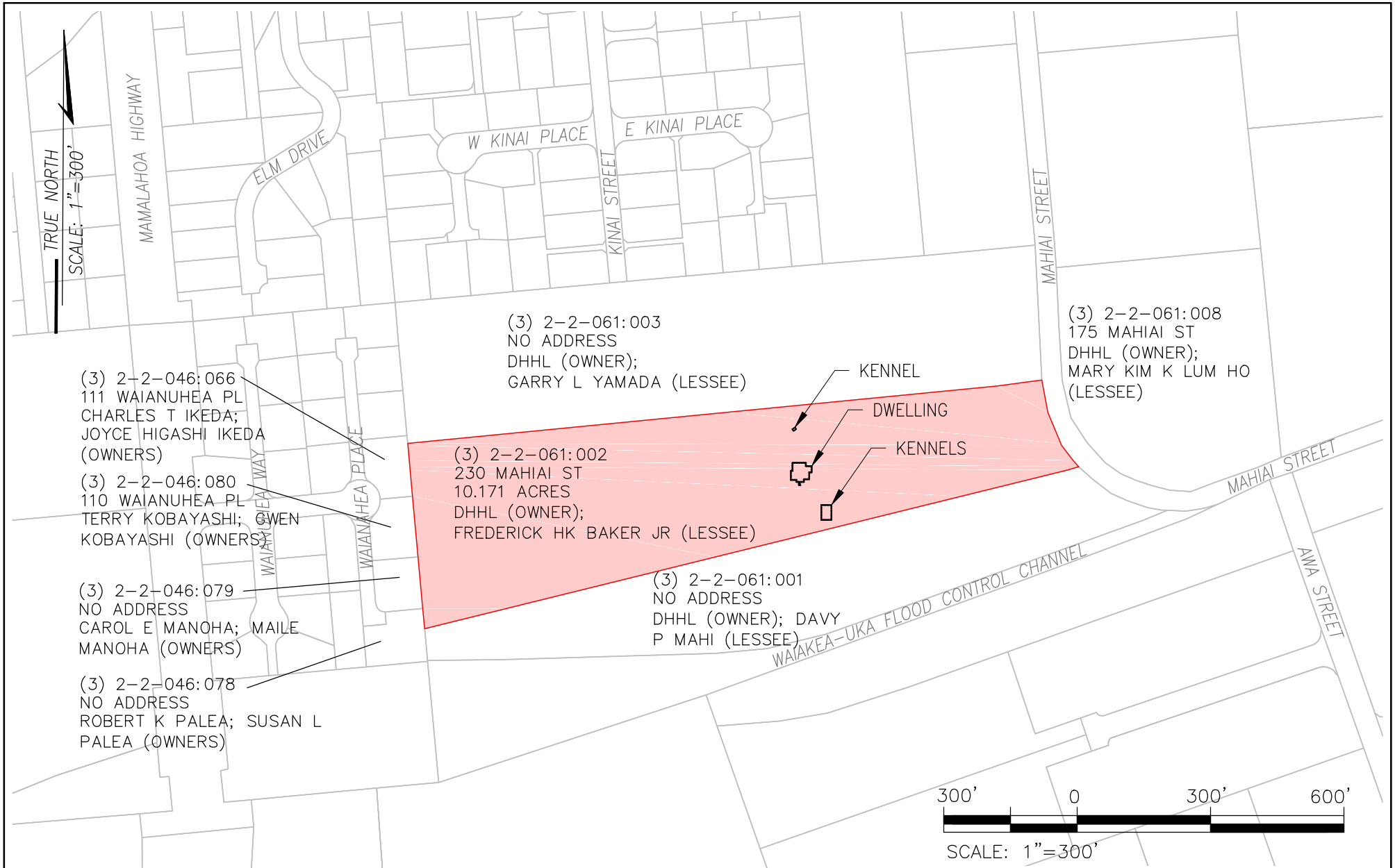






	DATE: JUL 2015	PROJECT TITLE: PHASE I ESA FOR 230 MAHIAI STREET (3) 2-2-061: PARCEL 002 HILO, HAWAII, HAWAII
	FIGURE TITLE: SITE LOCATION MAP	FIGURE NO.: 1

REF: GOOGLE EARTH 2015; USGS 2013; AND STATE OF HAWAII 2015



	DATE: JUL 2015	PROJECT TITLE: PHASE I ESA FOR 230 MAHIAI STREET (3) 2-2-061: PARCEL 002 HILO, HAWAII, HAWAII
	FIGURE TITLE: SITE VICINITY MAP	FIGURE NO.: 2

Site Reconnaissance Photographs

E2 Project No.:	Description	View looking southeast from balcony of the residence.	Photo 1
150024	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	Photo Date 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	View looking northwest from balcony of the residence.	Photo 2
150024	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	Photo Date 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	View looking west from balcony of residence.	Photo 3
150024	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	Photo Date 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
150024	**Description**	Residential dwelling on the property, view looking north.	**Photo 4**
	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	**Photo Date** 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
150024	**Description**	Residential dwelling on the property, view looking northeast.	**Photo 5**
	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	**Photo Date** 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
150024	**Description**	Residential dwelling on property, view looking east.	**Photo 6**
	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	**Photo Date** 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
150024	**Description**	Electrical utility shed, located on the south side of the residential dwelling.	**Photo 7**
	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	**Photo Date** 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
150024	**Description**	Transformer located on the north-central boundary of the subject property.	**Photo 8**
	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	**Photo Date** 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
150024	**Description**	Kennel located on the north side of the residential dwelling. Stressed vegetation present fronting the opening of the kennel.	**Photo 9**
	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	**Photo Date** 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	Kennels located on the subject property, view looking east.	Photo 10
150024	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	Photo Date 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	Drainage channel, drain, and covered pit (dry) located on the east side of the kennels.	Photo 11
150024	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	Photo Date 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
150024	**Description**	PVC pipe drain inside drainage channel adjacent to the kennel.	**Photo 12**
	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	**Photo Date** 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:			
150024	**Description**	Covered pit (dry) located next to the kennel.	**Photo 13**
	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	**Photo Date** 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	View of the interior of the covered pit.	Photo 14
150024	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	Photo Date 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.:	Description	Bucket of what is likely rainwater with algae growth.	Photo 15
150024	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	Photo Date 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

E2 Project No.: **150024**	**Description**	Cable wire, plastic bucket lid, and other miscellaneous debris.	**Photo 16**
	Site Name	DHHL Phase I ESA, Non-Contiguous Residential Parcel, 230 Mahiai Street, Hilo, Hawaii, Hawaii TMK (3) 2-2-061: parcel 002	**Photo Date** 06/10/2015
	Client	PBR HAWAII & Associates, Inc.	

APPENDIX B

QUESTIONNAIRES

Site Evaluation Questionnaire

INTERVIEW QUESTIONNAIRE

Date: June 25, 2015

Project Name: DHHL Phase I ESAs

Site 1: 230 Mahiai Street TMK (3) 2-2-061: parcel 002

Site 2: TMK: (3) 2-1-025: parcels 006, 007, 047, and 048

1. NAME AND PHONE NUMBER OF PERSON BEING INTERVIEWED.

Ms. Niniau K. Simmons, Housing Administrator, Native American Housing Assistance & Self Determination Act Office of the Chairman, DHHL, 91-5420 Kapolei Parkway, Kapolei, HI 96707 (808) 620-9513

2. PERSON'S RELATIONSHIP TO THE PROPERTY (i.e., past or present owner or occupant, key site manager, neighboring owner or occupant). owner - trust lands

3. HOW LONG HAS THE PROPERTY BEEN DEVELOPED? WHAT WAS THE PROPERTY USED FOR IN THE PAST?

Site 1 19+ years
Site 2 Undeveloped lands

4. CAN YOU PROVIDE A LIST OF TENANTS AND THE NATURE OF THEIR BUSINESS?

N/A

5. IS THERE A HEATING OR COOLING SYSTEM FOR BUILDINGS ON THE PROPERTY? WHAT IS THE FUEL SOURCE (i.e., heating oil, gas, electric, radiators from steam boiler fueled by gas).

NO

6. IS THERE A DISCHARGE OF WASTEWATER OR STORM WATER FROM THE PROPERTY? IS THERE A WASTEWATER DISCHARGE PERMIT OR A NPDES PERMIT?

NO

7. ARE THERE ANY ABOVE-GROUND OR UNDERGROUND STORAGE TANKS? NO

SIZE/TYPE	CONTENT	AGE	REGISTERED WITH DOH?	HAVE THEY LEAKED?
None.				

8. ARE THERE ANY HYDRAULIC LIFTS OR OTHER HYDRAULIC EQUIPMENT? NO

9. IS OR WAS THERE A DRY CLEANER, PHOTO PROCESSING SHOP, GAS STATION, MOTOR REPAIR FACILITY, COMMERCIAL PRINTING FACILITY, JUNK YARD, LANDFILL, OR WASTE DISPOSAL OR RECYCLING FACILITY ON THE PROPERTY OR ON ADJOINING PROPERTIES? NO

10. ARE THERE ANY WASTE OR CHEMICAL PIPELINES, PITS, PONDS, OR LAGOONS ON THE PROPERTY OR ON ADJOINING PROPERTIES? NO

11. ARE THERE ANY WELLS ON THE PROPERTY (including water wells, dry wells, irrigation wells, injection wells, abandoned wells, or other wells)? NO

12. HAVE ANY OF THE FOLLOWING MATERIALS BEEN USED ON THE PROPERTY? NO

PESTICIDES/HERBICIDES (Are they EPA registered pesticides?):

FERTILIZERS:

PETROLEUM PRODUCTS (oils, lubricants, gasoline, waste oil): NO

SOLVENTS (cleansers, degreasers, paint thinners, coolants): NO

PCBs (electrical or hydraulic equipment):

ACIDS/BASES (lead-acid batteries): NO

IGNITABLE OR REACTIVE MATERIALS: NO

METALS (Arsenic, Cadmium, Chromium, Lead, Mercury, Silver): NO

RADIOACTIVE MATERIALS: NO

13. HOW WERE THESE MATERIALS DISPOSED OF? N/A

14. DO YOU KNOW OF ANY SPILLS OR LEAKS OF THESE MATERIALS ON THE PROPERTY? NO

15. WERE ANY OTHER TYPES OF WASTE GENERATED? IF YES, WHAT TYPES OF WASTES? NO

16. ARE YOU AWARE OF ANY WASTE DISPOSAL AREAS ON THE PROPERTY OR NEARBY PROPERTIES (including mounds or depressions or areas that are filled or graded by non-natural causes or filled by fill of unknown origin suggesting trash, construction debris, demolition debris, or other solid waste disposal or)? NO

17. ARE YOU AWARE OF ANY CONTAMINATION, ODORS, STAINED SOIL OR PAVEMENT, OR STRESSED VEGETATION (from something other than insufficient water) ON THE PROPERTY OR ON NEARBY PROPERTIES? NO

18. IS THERE ANY RUNOFF FROM ADJACENT PROPERTIES ON TO THE PROPERTY? NONE

19. ARE ANY OF THE FOLLOWING ENVIRONMENTAL DOCUMENTS AVAILABLE? NO

- Old site plans that show former buildings and other appurtenances
- Recent site plans that show buildings and other appurtenances
- Environmental site assessment reports
- Environmental compliance audit reports
- Environmental permits (for example, solid waste disposal permits, hazardous waste disposal permits, wastewater permits, NPDES permits, underground injection permits)
- Registrations for underground and above-ground storage tanks
- Registrations for underground injection systems
- Material Safety Data Sheets
- Community right-to-know plan
- Safety plans; preparedness and prevention plans; spill prevention, countermeasure, and control plans; etc.
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the property or relating to environmental liens encumbering the property
- Hazardous waste generator notices or reports
- Geotechnical studies
- Risk assessments
- Recorded activity and land use limitations

User Questionnaire

USER QUESTIONNAIRE
Department of Hawaiian Home Lands Parcel
230 Mahiai Street, Hilo, Hawaii
TMK: (3) 2-2-061: parcel 002

In order to qualify for one of the Landowner Liability Protections (LLPs)[1] offered by the Small Business Liability Relief and Brownfield information (if available) to the environmental professional. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

(1.) Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).
Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law? NO

(2.) Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).
Are you aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? NO

(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28). As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? NO

(4.) Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29). Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? NO

(5.) Commonly known or reasonably ascertainable information about the property (40 CFR 312.30). Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

(a.) Do you know the past uses of the property? Residence and agricultural use.

---

[1] *Landowner Liability Protections*, or *LLPs*, is the term used to describe the three types of potential defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability* ("*Common Elements*" Guide) issued on March 6, 2003.

(b.) Do you know of specific chemicals that are present or once were present at the property? NO

(c.) Do you know of spills or other chemical releases that have taken place at the property? NO

(d.) Do you know of any environmental cleanups that have taken place at the property? NO

(6.) The degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31). As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property? NO

Please provide the following additional information:

(a) The reason why the Phase I environmental site assessment is required. Subdivision

(b) The type of property and type of property transaction, for example, sale, purchase, exchange, etc.
Subdivision of property into 1/2 acre subsistence AG lots.

(c) The complete and correct address for the property (a map or other documentation showing property location and boundaries is helpful).

(d) The scope of services desired for the Phase I (including whether any parties to the property transaction may have a required standard scope of services on whether any considerations beyond the requirements of Practice E 1527 are to be considered).

(e) Identification of all parties who will rely on the Phase I report.

(f) Identification of the site contact and how the contact can be reached.
Louise Hao, East Hawaii District Manager # 808 974-4250

(g) Any special terms and conditions which must be agreed upon by the environmental professional.

(h) A copy of the title report for the property. N/A

(i) Any proceedings involving the property, for example:

(1) Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property; NO

(2) Any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property; NO

(3) Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products. NO

(j) Any other knowledge or experience with the property that may be pertinent to the environmental professional (for example, copies of any available prior environmental site assessment reports, documents, correspondence, etc., concerning the property and its environmental condition.) Documents that would be helpful include the following:

- Environmental site assessment reports:
- Environmental compliance audit reports:
- Environmental permits (for example, solid waste disposal permits, hazardous waste disposal permits, wastewater permits, NPDES permits, underground injection permits):
- Registrations for underground and above-ground storage tanks:
- Registrations for underground injection systems:
- Material Safety Data Sheets:
- Community right-to-know plan:
- Safety plans; preparedness and prevention plans; spill prevention, countermeasure, and control plans; etc:
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the property or relating to environmental liens encumbering the property:
- Hazardous waste generator notices or reports:
- Geotechnical studies:
- Risk assessments:
- Recorded activity and land use limitations:

Form Completed by:

Isaac Takahashi Acting Branch Chief, Housing Projects Branch	6/25/2015
Name, Title	Date
Department of Hawaiian Home Lands	
Company	

APPENDIX C

EDR REPORTS

The EDR Radius Map™ Report with GeoCheck®

DHHL Hilo Property 3 2-2-061 002
230 Mahiai Street
Hilo, HI 96720

Inquiry Number: 4315064.2s
June 03, 2015

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

230 MAHIAI STREET
HILO, HI 96720

COORDINATES

Latitude (North):	19.6762000 - 19° 40' 34.32''
Longitude (West):	155.0611000 - 155° 3' 39.96''
Universal Tranverse Mercator:	Zone 5
UTM X (Meters):	283921.2
UTM Y (Meters):	2176829.5
Elevation:	191 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	19155-F1 HILO, HI
Most Recent Revision:	Not reported

MAPPED SITES SUMMARY

Target Property Address:
230 MAHIAI STREET
HILO, HI 96720

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	RAWSON SERVICES	63 A EAST PALAI ST	RCRA NonGen / NLR, FINDS	Lower	1247, 0.236, NW
2	KHI DBA WAIAKEAWAENA	2188 KINOOLE ST	SHWS, LUST, UST, Financial Assurance	Lower	3649, 0.691, NW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Permitted Landfills in the State of Hawaii

State and tribal leaking storage tank lists

LUST ---------- Leaking Underground Storage Tank Database
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ---------- Underground Storage Tank Database
INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

ENG CONTROLS ---------- Engineering Control Sites
INST CONTROL ---------- Sites with Institutional Controls

State and tribal voluntary cleanup sites

VCP ---------- Voluntary Response Program Sites
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ---------- Brownfields Sites

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---------- Clandestine Drug Labs
CDL ---------- Clandestine Drug Lab Listing
US HIST CDL ---------- National Clandestine Laboratory Register

Local Land Records

LIENS 2 ---------- CERCLA Lien Information

EXECUTIVE SUMMARY

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
SPILLS	Release Notifications
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
UIC	Underground Injection Wells Listing
DRYCLEANERS	Permitted Drycleaner Facility Listing
AIRS	List of Permitted Facilities
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
Financial Assurance	Financial Assurance Information Listing
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
EPA WATCH LIST	EPA WATCH LIST
US FIN ASSUR	Financial Assurance Information
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
COAL ASH DOE	Steam-Electric Plant Operation Data
2020 COR ACTION	2020 Corrective Action Program List
PRP	Potentially Responsible Parties

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat	EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List

EXECUTIVE SUMMARY

RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank
RGA HWS ---------- Recovered Government Archive State Hazardous Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Health.

A review of the SHWS list, as provided by EDR, and dated 12/02/2014 has revealed that there is 1 SHWS site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
KHI DBA WAIAKEAWAENA	***2188 KINOOLE ST***	***NW 1/2 - 1 (0.691 mi.)***	***2***	***8***

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/09/2014 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

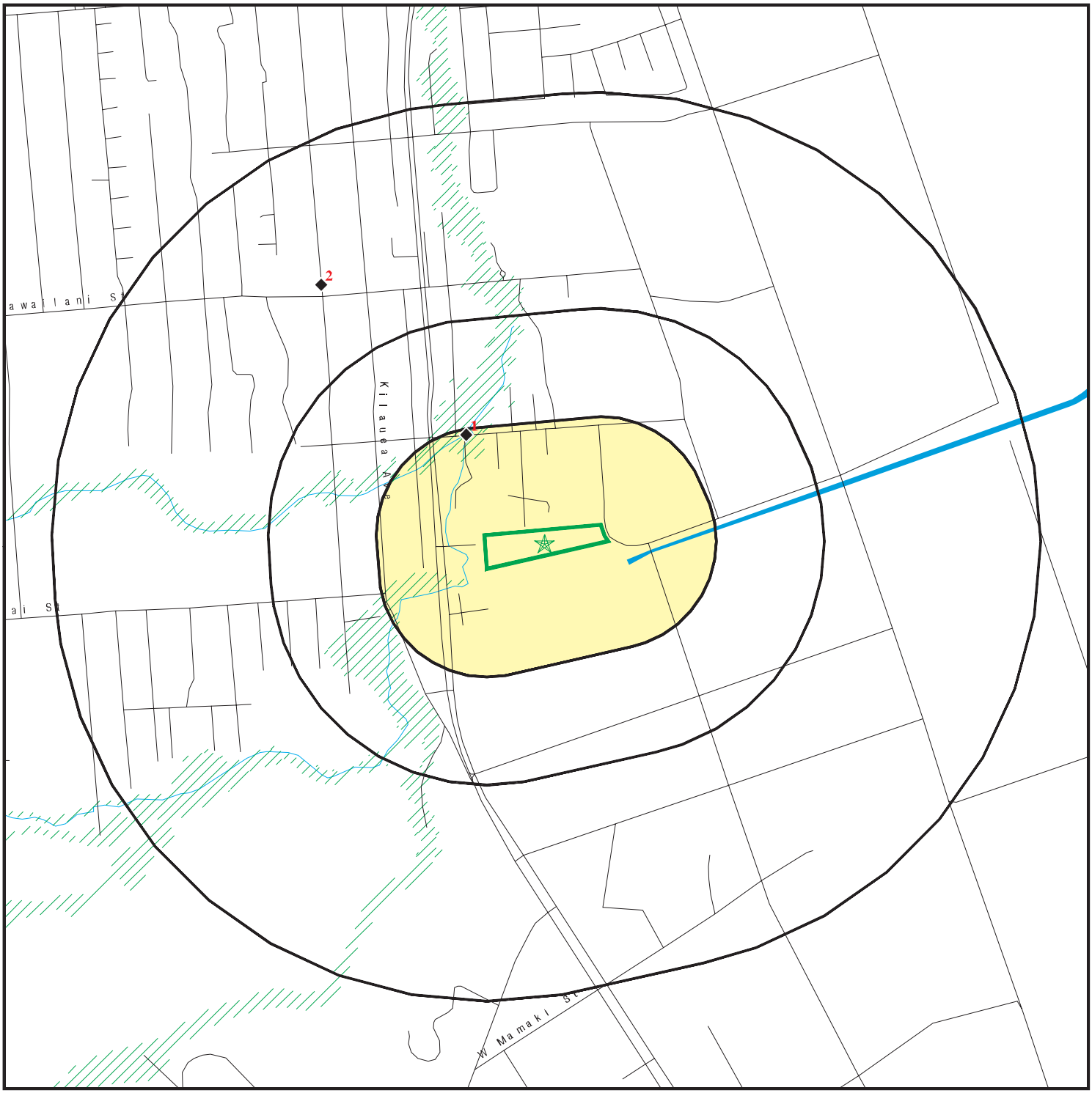
Lower Elevation	Address	Direction / Distance	Map ID	Page
RAWSON SERVICES	***63 A EAST PALAI ST***	***NW 1/8 - 1/4 (0.236 mi.)***	***1***	***7***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
HILO JUDICIARY CENTER PROJECT	SHWS, ENG CONTROLS, INST CONTROL
HILO SAFEWAY/TARGET	SHWS, ENG CONTROLS, INST CONTROL
KILAUEA VOLCANO AIR MONITORING	CERCLIS

OVERVIEW MAP - 4315064.2S

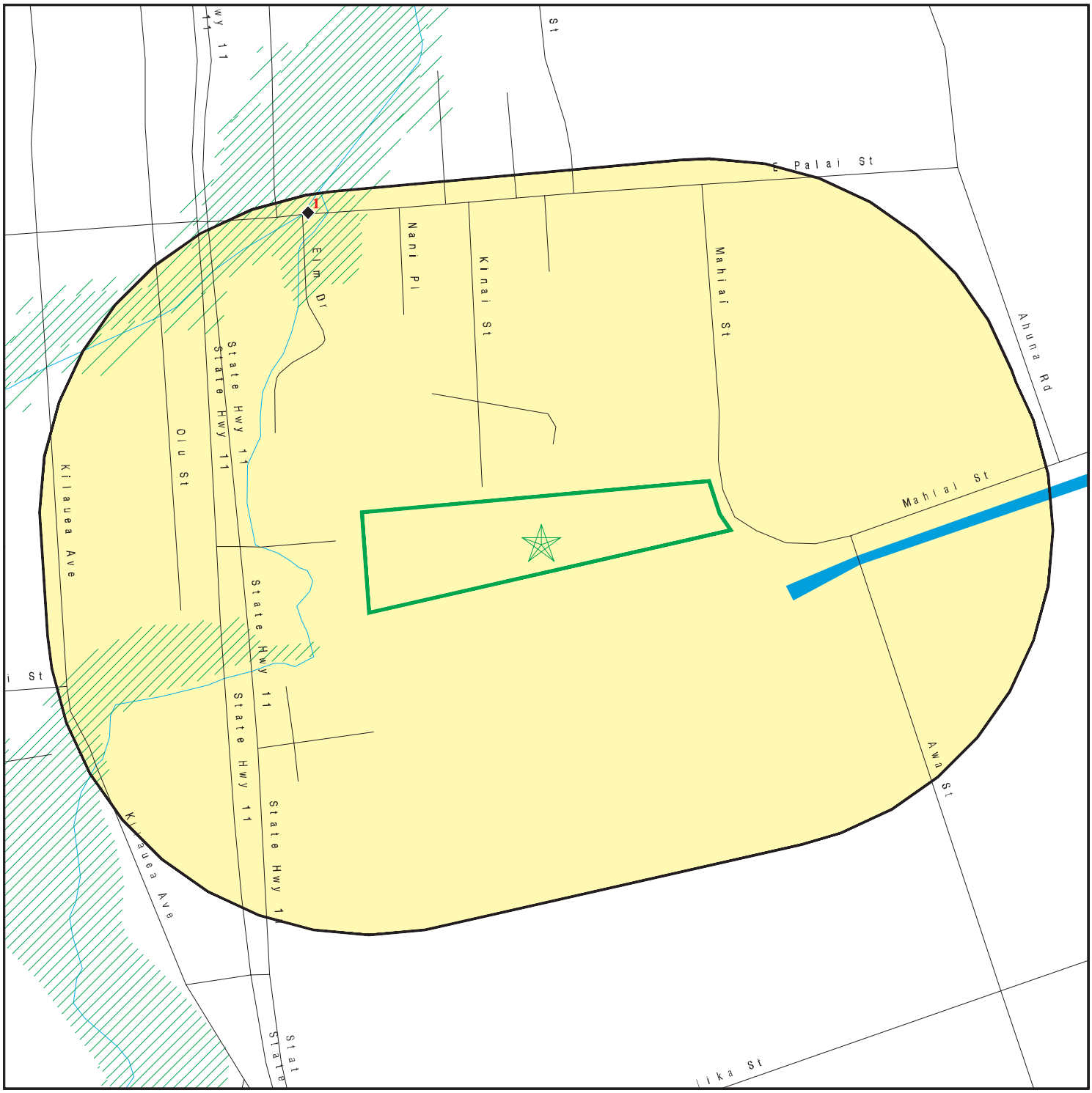


- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: DHHL Hilo Property 3 2-2-061 002	CLIENT: Element Environmental , LLC
ADDRESS: 230 Mahiai Street Hilo HI 96720	CONTACT: Angela Peltier
LAT/LONG: 19.6762 / 155.0611	INQUIRY #: 4315064.2s DATE: June 03, 2015 9:52 pm

DETAIL MAP - 4315064.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

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LAT/LONG: 19.6762 / 155.0611	INQUIRY #: 4315064.2s DATE: June 03, 2015 9:52 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	1.000		0	0	0	1	NR	1
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
RGA HWS	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	1	0	1	0	2

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
NW
1/8-1/4
0.236 mi.
1247 ft.

RAWSON SERVICES
63 A EAST PALAI ST
HILO, HI 96720

RCRA NonGen / NLR
FINDS

1000385103
HID151130986

Relative:
Lower

Actual:
145 ft.

RCRA NonGen / NLR:

Date form received by agency:	07/22/1986
Facility name:	RAWSON SERVICES
Facility address:	63 A EAST PALAI ST HILO, HI 96720
EPA ID:	HID151130986
Contact:	ENVIRONMENTAL MANAGER
Contact address:	63 A EAST PALAI ST HILO, HI 96720
Contact country:	US
Contact telephone:	(808) 959-6396
Contact email:	Not reported
EPA Region:	09
Land type:	Other land type
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	GARY RAWSON
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No

RAWSON SERVICES (Continued) **1000385103**

Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 08/08/1980
Site name: RAWSON SERVICES
Classification: Not a generator, verified

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 05/15/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

FINDS:

Registry ID: 110005723360

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

2
NW
1/2-1
0.691 mi.
3649 ft.

Relative:
Lower

Actual:
149 ft.

KHI DBA WAIAKEAWAENA CHEVRON **SHWS** **U001237008**
2188 KINOOLE ST **LUST** **N/A**
HILO, HI 96720 **UST**
Financial Assurance

SHWS:
Organization: Not reported
Supplemental Location: Not reported
Island: Hawaii
Environmental Interest: Larry's Waiakea Chevron
HID Number: Not reported
Facility Registry Identifier: 110013772462
Lead Agency: HEER
Program: State
Project Manager: Cal Miyahara
Hazard Priority: Low
Potential Hazards And Controls: Hazard Undetermined
Organization: Not reported
Island: Hawaii
Supplemental Location Text: Not reported
SDAR Environmental Interest Name: Larry's Waiakea Chevron
HID Number: Not reported
Facility Registry Identifier: 110013772462
Lead Agency: HEER
Progran Name: State
Potential Hazard And Controls: Hazard Undetermined

KHI DBA WAIAKEAWAENA CHEVRON (Continued) **U001237008**

Priority:	Low
Assessment:	Response Necessary
Response:	Response Ongoing
Nature of Contamination:	Found: Petroleum in two drywells.
Nature of Residual Contamination:	Not reported
Use Restrictions:	Undetermined
Engineering Control:	Not reported
Description of Restrictions:	Not reported
Institutional Control:	Not reported
Within Designated Areawide Contamination:	Not reported
Site Closure Type:	Not reported
Document Date:	Not reported
Document Number:	Not reported
Document Subject:	Not reported
Project Manager:	Cal Miyahara
Contact Information:	(808) 586-4249 919 Ala Moana Blvd, Honolulu, HI 96814

LUST:

Facility ID:	9-601134
Facility Status:	Site Cleanup Completed (NFA)
Facility Status Date:	04/21/2006
Release ID:	040071
Project Officer:	Richard Takaba

Facility ID:	9-601134
Facility Status:	Site Cleanup Completed (NFA)
Facility Status Date:	01/06/1999
Release ID:	980215
Project Officer:	Richard Takaba

UST:

Facility ID:	9-601134
Owner:	KHI dba Waiakeawaena Chevron
Owner Address:	2188 Kinoole Street
Owner City,St,Zip:	Hilo, 96720 96720
Latitude:	19.684658
Longitude:	-155.069184
Horizontal Reference Datum Name:	NAD83
Horizontal Collection Method Name:	GPS

Tank ID:	87
Date Installed:	07/18/1984
Tank Status:	**Currently In Use**
Date Closed:	Not reported
Tank Capacity:	10000
Substance:	Gasoline

Tank ID:	89
Date Installed:	07/18/1984
Tank Status:	**Currently In Use**
Date Closed:	Not reported
Tank Capacity:	10000
Substance:	Gasoline

KHI DBA WAIAKEAWAENA CHEVRON (Continued) **U001237008**

Tank ID: 92
Date Installed: 07/18/1984
Tank Status: **Currently In Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-4
Date Installed: 07/18/1984
Tank Status: **Permanently Out of Use**
Date Closed: 09/20/2004
Tank Capacity: 1000
Substance: Used Oil

HI Financial Assurance:
Alt Facility ID: 9-601134
Tank Id: 87
Tank Status: Currently In Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-601134
Tank Id: 92
Tank Status: Currently In Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-601134
Tank Id: R-4
Tank Status: Permanently Out of Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-601134
Tank Id: 89
Tank Status: Currently In Use
FRTYPE: Other
Expiration Date: Not reported

Alt Facility ID: 9-601134
Tank Id: R-4
Tank Status: Permanently Out of Use
FRTYPE: Insurance
Expiration Date: 05/09/2015

Alt Facility ID: 9-601134
Tank Id: 92
Tank Status: Currently In Use
FRTYPE: Insurance
Expiration Date: 05/09/2015

Alt Facility ID: 9-601134
Tank Id: 87
Tank Status: Currently In Use
FRTYPE: Insurance
Expiration Date: 05/09/2015

KHI DBA WAIAKEAWAENA CHEVRON (Continued) **U001237008**

Alt Facility ID:	9-601134
Tank Id:	89
Tank Status:	Currently In Use
FRTYPE:	Insurance
Expiration Date:	05/09/2015

Count: 3 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
HILO	S107022566	HILO JUDICIARY CENTER PROJECT	KILAUEA AVE	96720	SHWS, ENG CONTROLS, INST CONT
HILO	1011487908	KILAUEA VOLCANO AIR MONITORING	KILAUEA VOLCANO		CERCLIS
HILO	S110061564	HILO SAFEWAY/TARGET	MAKAALA ST X RAILROAD AVE	96720	SHWS, ENG CONTROLS, INST CONT

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/21/2014
Date Data Arrived at EDR: 10/07/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/03/2014
Date Data Arrived at EDR: 12/12/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 48

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Sites List

Facilities, sites or areas in which the Office of Hazard Evaluation and Emergency Response has an interest, has investigated or may investigate under HRS 128D (includes CERCLIS sites).

Date of Government Version: 12/02/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 36

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Permitted Landfills in the State of Hawaii

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/17/2012
Date Data Arrived at EDR: 04/03/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 37

Source: Department of Health
Telephone: 808-586-4245
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 03/02/2015
Date Data Arrived at EDR: 03/04/2015
Date Made Active in Reports: 03/17/2015
Number of Days to Update: 13

Source: Department of Health
Telephone: 808-586-4228
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 32

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/03/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/10/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 31

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 01/28/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 03/02/2015
Date Data Arrived at EDR: 03/04/2015
Date Made Active in Reports: 03/17/2015
Number of Days to Update: 13

Source: Department of Health
Telephone: 808-586-4228
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Semi-Annually

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/29/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 36

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/28/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Control Sites

A listing of sites with engineering controls in place.

Date of Government Version: 12/02/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 36

Source: Department of Health
Telephone: 404-586-4249
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

INST CONTROL: Sites with Institutional Controls

Voluntary Remediation Program and Brownfields sites with institutional controls in place.

Date of Government Version: 12/02/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 36

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Response Program Sites

Sites participating in the Voluntary Response Program. The purpose of the VRP is to streamline the cleanup process in a way that will encourage prospective developers, lenders, and purchasers to voluntarily cleanup properties.

Date of Government Version: 12/02/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 36

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Sites
With certain legal exclusions and additions, the term 'brownfield site' means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Date of Government Version: 12/02/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 36
Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/23/2015
Date Data Arrived at EDR: 03/24/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 70
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/24/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/23/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Quarterly

CDL: Clandestine Drug Lab Listing
A listing of clandestine drug lab site locations.

Date of Government Version: 08/04/2010
Date Data Arrived at EDR: 09/10/2010
Date Made Active in Reports: 10/22/2010
Number of Days to Update: 42
Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37
Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 12/30/2014
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 69

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

SPILLS: Release Notifications

Releases of hazardous substances to the environment reported to the Office of Hazard Evaluation and Emergency Response since 1988.

Date of Government Version: 12/02/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/28/2015
Number of Days to Update: 37

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 03/10/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/11/2013
Number of Days to Update: 39

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/05/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014
Date Data Arrived at EDR: 12/31/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/06/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 110

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/29/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/27/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/17/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 21

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 02/27/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Biennially

UIC: Underground Injection Wells Listing

A listing of underground injection well locations.

Date of Government Version: 02/07/2013
Date Data Arrived at EDR: 02/12/2013
Date Made Active in Reports: 04/09/2013
Number of Days to Update: 56

Source: Department of Health
Telephone: 808-586-4258
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

DRYCLEANERS: Permitted Drycleaner Facility Listing
A listing of permitted drycleaner facilities in the state.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 01/09/2015
Date Made Active in Reports: 02/11/2015
Number of Days to Update: 33
Source: Department of Health
Telephone: 808-586-4200
Last EDR Contact: 04/06/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

AIRS: List of Permitted Facilities
A listing of permitted facilities in the state.

Date of Government Version: 04/08/2015
Date Data Arrived at EDR: 04/10/2015
Date Made Active in Reports: 04/30/2015
Number of Days to Update: 20
Source: Department of Health
Telephone: 808-586-4200
Last EDR Contact: 04/06/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34
Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing
The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

2020 COR ACTION: 2020 Corrective Action Program List
The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64
Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 04/15/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

Financial Assurance: Financial Assurance Information Listing

A listing of financial assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 03/13/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 8

Source: Department of Health
Telephone: 808-586-4226
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Varies

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST
EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339
Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: N/A

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information
All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health in Hawaii.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/17/2014
Number of Days to Update: 200

Source: Department of Health
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health in Hawaii.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/08/2014
Number of Days to Update: 191

Source: Department of Health
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health in Hawaii.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Health
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

DHHL HILO PROPERTY 3 2-2-061 002
230 MAHIAI STREET
HILO, HI 96720

TARGET PROPERTY COORDINATES

Latitude (North):	19.6762 - 19° 40' 34.32''
Longitude (West):	155.0611 - 155° 3' 39.96''
Universal Tranverse Mercator:	Zone 5
UTM X (Meters):	283921.2
UTM Y (Meters):	2176829.5
Elevation:	191 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	19155-F1 HILO, HI
Most Recent Revision:	Not reported

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

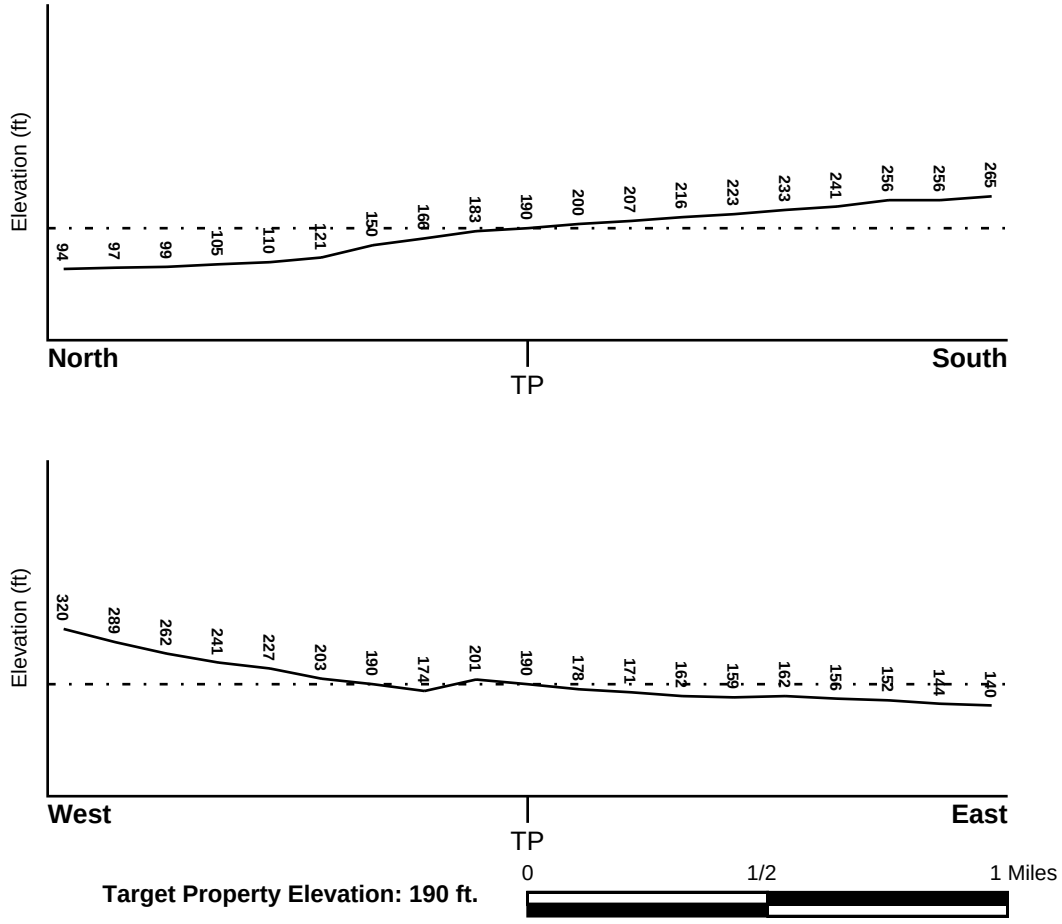
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
HAWAII, HI	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	1551660890C - FEMA Q3 Flood data
Additional Panels in search area:	1551660885C - FEMA Q3 Flood data 1551660880C - FEMA Q3 Flood data 1551660895C - FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
HILO	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

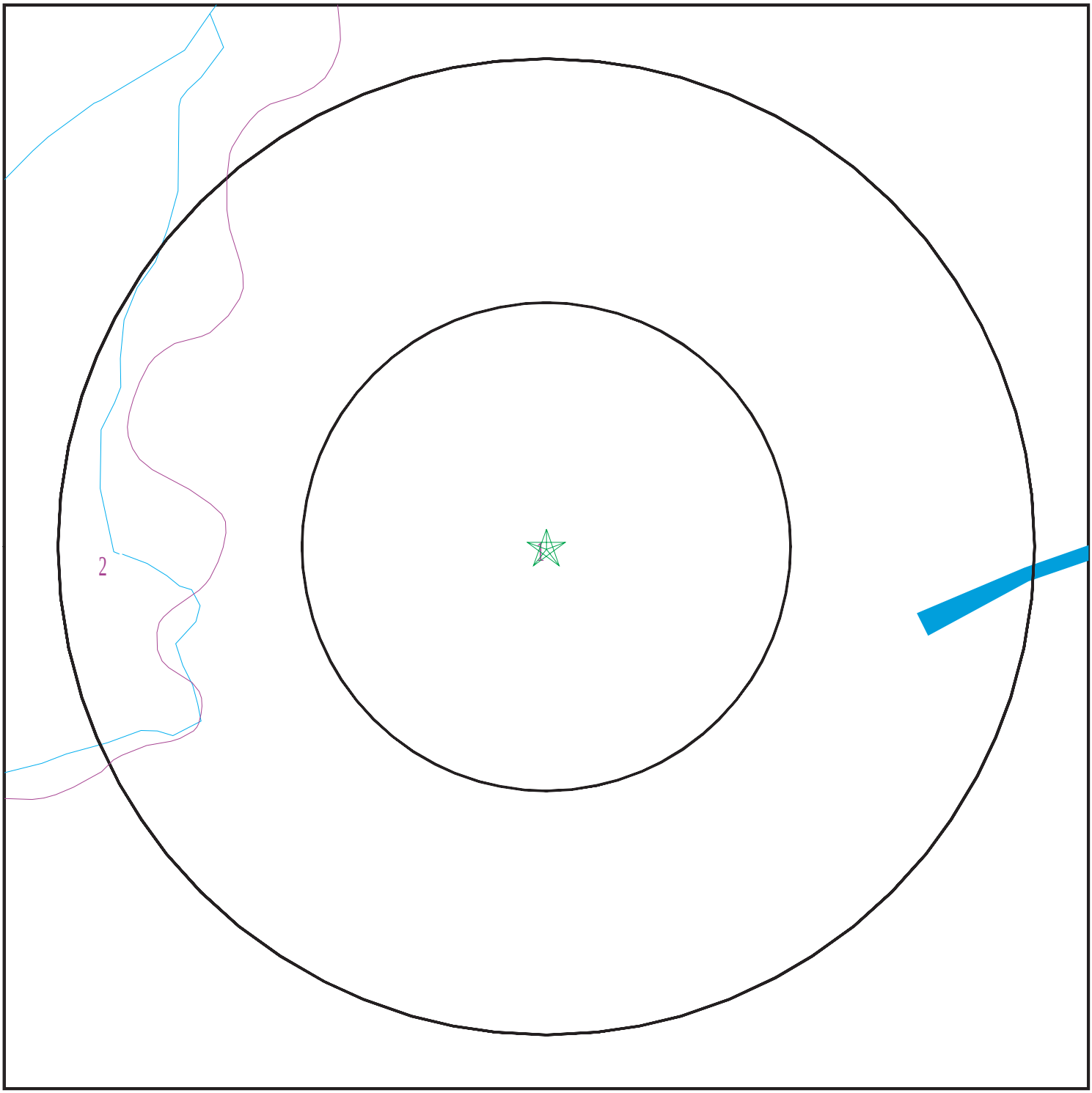
Era: -
System: -
Series: -
Code: N/A *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: -

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4315064.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	DHHL Hilo Property 3 2-2-061 002	CLIENT:	Element Environmental , LLC
ADDRESS:	230 Mahiai Street	CONTACT:	Angela Peltier
	Hilo HI 96720	INQUIRY #:	4315064.2s
LAT/LONG:	19.6762 / 155.0611	DATE:	June 03, 2015 9:52 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Papai

Soil Surface Texture: extremely stony muck

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 152 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	extremely stony muck	A-8	Highly organic soils, Peat.	Max: 141 Min: 14	Max: 6.9 Min: 5.5
2	7 inches	59 inches	extremely cobbly material	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 700 Min: 141.14	Max: Min:

Soil Map ID: 2

Soil Component Name: Olaa

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 42.34 Min: 14.11	Max: 6.5 Min: 5.6
2	7 inches	25 inches	extremely stony silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 141.14 Min: 42.34	Max: 6.5 Min: 5.6
3	25 inches	35 inches	extremely cobbly material	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel.	Max: 700 Min: 141.14	Max: 6.5 Min: 5.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	USGS40000268543	0 - 1/8 Mile SSW
A3	USGS40000268541	1/8 - 1/4 Mile SSW
B7	USGS40000268542	1/4 - 1/2 Mile SSW
9	USGS40000268540	1/2 - 1 Mile ESE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

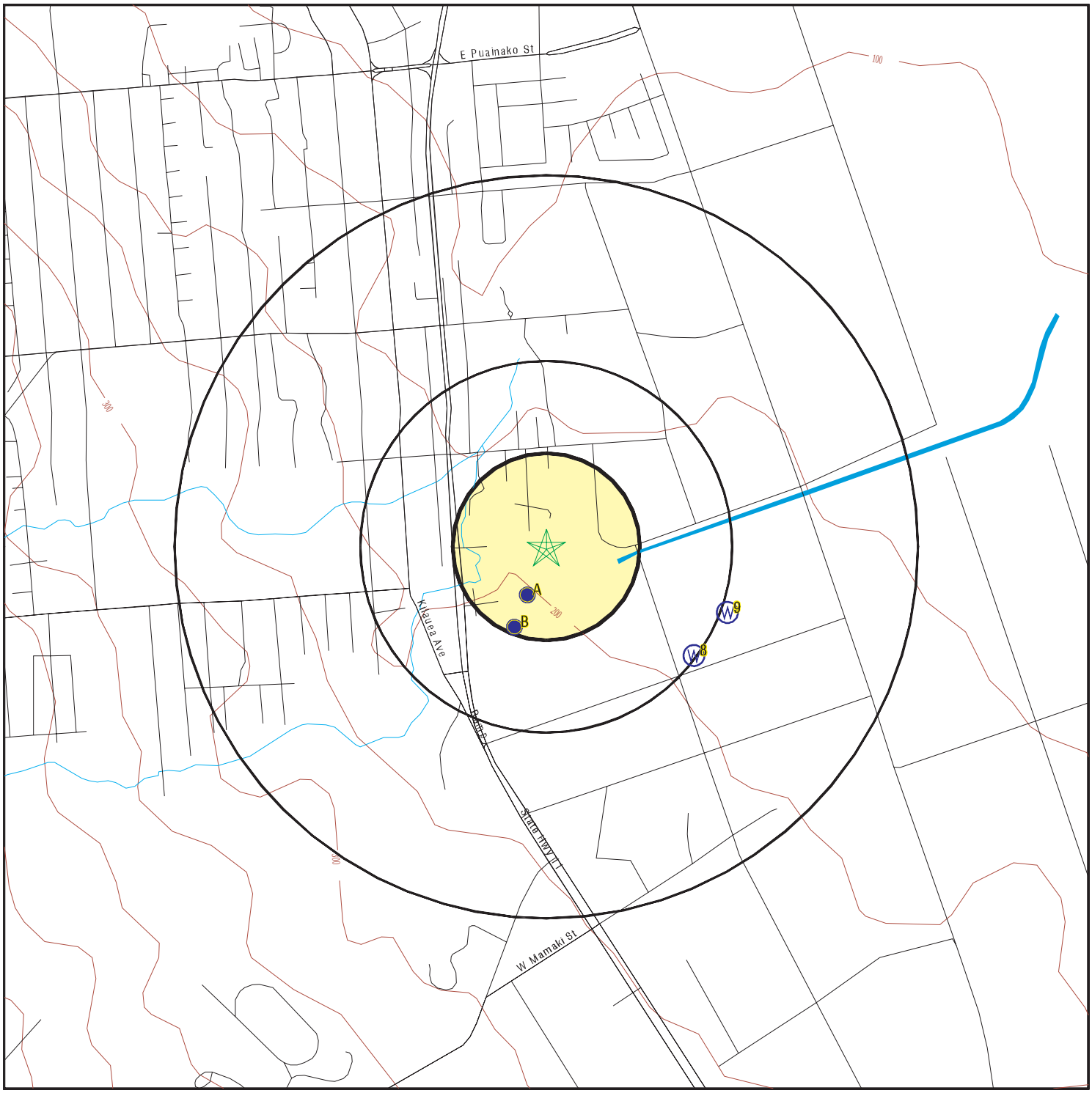
MAP ID	WELL ID	LOCATION FROM TP
A1	HI0000101	0 - 1/8 Mile SSW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A4	HI9000000004251	1/8 - 1/4 Mile SSW
B5	HI9000000004252	1/8 - 1/4 Mile SSW
B6	HI9000000004250	1/8 - 1/4 Mile SSW
8	HI9000000004253	1/4 - 1/2 Mile SE

PHYSICAL SETTING SOURCE MAP - 4315064.2s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location

N

SITE NAME:	DHHL Hilo Property 3 2-2-061 002	CLIENT:	Element Environmental , LLC
ADDRESS:	230 Mahiai Street Hilo HI 96720	CONTACT:	Angela Peltier
LAT/LONG:	19.6762 / 155.0611	INQUIRY #:	4315064.2s
		DATE:	June 03, 2015 9:52 pm

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
SSW
0 - 1/8 Mile
Higher | **FRDS PWS** | **HI0000101**

Epa region:	09	State:	HI
Pwsid:	HI0000101		
Pwsname:	HILO		
City served:	HILO	State served:	HI
Zip served:	Not Reported	Fips county:	Not Reported
Status:	Active	Pop srvd:	39658
Pwssvcconn:	14421	Source:	Groundwater
Pws type:	CWS	Owner:	Local_Govt
Contact:	ANTONIO, JR., QUIRINO		
Contactor gname:	ANTONIO, JR., QUIRINO		
Contact phone:	808-961-8050	Contact address1:	DEPARTMENT OF WATER SUPPLY
Contact address2:	345 KEKUANAOA STREET, SUITE 20	Contact city:	HILO
Contact state:	HI	Contact zip:	96720
Activity code:	A		

Facid:	1		
Facname:	PIIHONUA WELLS A & B CHLORINATOR		
Facility type:	Treatment_plant	Activity code:	A
Treatment obj:	disinfection	Treatment process:	chlorination (frds-1.5)

Facid:	1495		
Facname:	SADDLE ROAD WELL A CHLORINATOR		
Facility type:	Treatment_plant	Activity code:	A
Treatment obj:	disinfection	Treatment process:	chlorination (frds-1.5)

Facid:	2		
Facname:	PIIHONUA WELL C & SADDLE RD WELL A CHLOR		
Facility type:	Treatment_plant	Activity code:	A
Treatment obj:	disinfection	Treatment process:	chlorination (frds-1.5)

Facid:	3		
Facname:	PANAEWA WELLS 1,2,3 CHLORINATOR		
Facility type:	Treatment_plant	Activity code:	A
Treatment obj:	disinfection	Treatment process:	chlorination (frds-1.5)

Facid:	5		
Facname:	PANAEWA WELL 3		
Facility type:	Treatment_plant	Activity code:	A
Treatment obj:	disinfection	Treatment process:	chlorination (frds-1.5)

Facid:	6		
Facname:	LYMAN SPRING		
Facility type:	Treatment_plant	Activity code:	I
Treatment obj:	disinfection	Treatment process:	gaseous chlorination, post

Location Information:			
Name:	HILO		
Pwstypcd:	CWS	Primsrccd:	GW
Popserved:	37430		
Add1:	DEPARTMENT OF WATER SUPPLY		
Add2:	345 KEKUANAOA STREET, SUITE 20		
City:	HILO	State:	HI
Zip:	96720	Phone:	808-961-8050
Cityserv:	HILO	Cntyserv:	Not Reported
Stateserv:	HI	Zipserv:	Not Reported

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2001	Enf act date:	01/21/2001
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2001	Enf act date:	01/22/2001
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2002	Enf act date:	04/16/2002
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2002	Enf act date:	04/16/2002
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2002	Enf act date:	07/31/2002
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2000	Enf act date:	07/21/2000
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2002	Enf act date:	07/25/2002
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2002	Enf act date:	07/25/2002
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2000	Enf act date:	07/13/2000
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2000	Enf act date:	04/30/2000
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2003	Enf act date:	10/31/2002
Enf act detail:	St No addtl Formal Action needed	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2001	Enf act date:	05/15/2001
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2003	Enf act date:	10/31/2002
Enf act detail:	St Compliance achieved	Enf act cat:	Resolving

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2002	Enf act date:	04/21/2002
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2003	Enf act date:	10/24/2002
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2000	Enf act date:	04/20/2000
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2003	Enf act date:	10/31/2002
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2003	Enf act date:	11/25/2002
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2003	Enf act date:	11/25/2002
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2001	Enf act date:	10/26/2000
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2001	Enf act date:	04/27/2001
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	400	Orig cd:	S
Enf fy:	2001	Enf act date:	01/22/2001
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2001 Enf act date: 10/26/2000
Enf act detail: St Violation/Reminder Notice Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2002 Enf act date: 10/23/2001
Enf act detail: St Violation/Reminder Notice Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2002 Enf act date: 01/18/2002
Enf act detail: St Violation/Reminder Notice Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2002 Enf act date: 10/23/2001
Enf act detail: St Public Notif requested Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2003 Enf act date: 10/24/2002
Enf act detail: St Public Notif requested Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2002 Enf act date: 10/31/2001
Enf act detail: St Public Notif issued Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2002 Enf act date: 01/18/2002
Enf act detail: St Public Notif requested Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2002 Enf act date: 01/22/2002
Enf act detail: St Public Notif issued Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2003 Enf act date: 12/20/2002
Enf act detail: St Public Notif issued Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2000 Enf act date: 04/20/2000
Enf act detail: St Violation/Reminder Notice Enf act cat: Informal

Enforcement Information:
Violation id: 400 Orig cd: S
Enf fy: 2001 Enf act date: 05/15/2001
Enf act detail: St Violation/Reminder Notice Enf act cat: Informal

Enforcement Information:

Violation id:	300	Orig cd:	S
Enf fy:	2000	Enf act date:	01/19/2000
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Enforcement Information:

Violation id:	300	Orig cd:	S
Enf fy:	2000	Enf act date:	01/19/2000
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	300	Orig cd:	S
Enf fy:	2000	Enf act date:	01/31/2000
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	203499	Orig cd:	S
Enf fy:	2009	Enf act date:	02/20/2009
Enf act detail:	St Public Notif received	Enf act cat:	Informal

Enforcement Information:

Violation id:	203499	Orig cd:	S
Enf fy:	2009	Enf act date:	02/06/2009
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Enforcement Information:

Violation id:	203499	Orig cd:	S
Enf fy:	2009	Enf act date:	02/28/2009
Enf act detail:	St Compliance achieved	Enf act cat:	Resolving

Enforcement Information:

Violation id:	200	Orig cd:	S
Enf fy:	2000	Enf act date:	01/31/2000
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	200	Orig cd:	S
Enf fy:	2000	Enf act date:	01/19/2000
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Enforcement Information:

Violation id:	200	Orig cd:	S
Enf fy:	2000	Enf act date:	01/19/2000
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	100	Orig cd:	S
Enf fy:	2000	Enf act date:	01/19/2000
Enf act detail:	St Public Notif requested	Enf act cat:	Informal

Enforcement Information:

Violation id:	100	Orig cd:	S
Enf fy:	2000	Enf act date:	01/31/2000
Enf act detail:	St Public Notif issued	Enf act cat:	Informal

Enforcement Information:

Violation id:	100	Orig cd:	S
Enf fy:	2000	Enf act date:	01/19/2000
Enf act detail:	St Violation/Reminder Notice	Enf act cat:	Informal

Violations Information:

Violoation id:	400	Orig cd:	S
State:	HI	Viol fy:	2000
Contamcd:	0200		
Contamnm:	SWTR		
Viol code:	42		
Viol name:	Failure to Filter (SWTR)		
Rule code:	121		
Rule name:	SWTR		
Violmeasur:	Not Reported	Unitmeasur:	Not Reported
State mcl:	Not Reported	Cmpbdt:	01/01/2000
Cmpedt:	Not Reported		

Violations Information:

Violoation id:	203499	Orig cd:	S
State:	HI	Viol fy:	2009
Contamcd:	0200		
Contamnm:	SWTR		
Viol code:	41		
Viol name:	Treatment Technique (SWTR and GWR)		
Rule code:	121		
Rule name:	SWTR		
Violmeasur:	Not Reported	Unitmeasur:	Not Reported
State mcl:	Not Reported	Cmpbdt:	01/01/2009
Cmpedt:	01/31/2009		

PWS ID: HI0000101
Date Initiated: Not Reported Date Deactivated: Not Reported
PWS Name: DOW HILO
DOWS
25 AUPUNI STREET
HILO, HI 96720

Addressee / Facility: System Owner/Responsible Party
MR. H. WILLIAM SEWAKE
MANAGER, HAWAII DOWS
25 AUPUNI STREET
HILO, HI 96720

Facility Latitude:	19 43 20.0000	Facility Longitude:	155 6 17.0000
Facility Latitude:	19 40 35.0000	Facility Longitude:	155 3 55.0000
Facility Latitude:	19 43 18.0000	Facility Longitude:	155 6 18.0000
Facility Latitude:	19 40 40.0000	Facility Longitude:	155 3 52.0000
Facility Latitude:	16 42 6.0000	Facility Longitude:	155 10 11.0000
Facility Latitude:	19 40 32.0000	Facility Longitude:	155 3 54.0000
City Served:	HILO		
Treatment Class:	Treated	Population:	36356

Violations information not reported.

ENFORCEMENT INFORMATION:

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	103	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	10/1/2002 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	11/25/2002 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	103	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	10/1/2002 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/16/2002 0:00:00
Enf action:	State Compliance Achieved		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	103	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	10/1/2002 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/16/2002 0:00:00
Enf action:	State No Additional Formal Action Needed		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	103	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	10/1/2002 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	12/20/2002 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	103	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	10/1/2002 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	11/25/2002 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	1/22/2002 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/16/2002 0:00:00
Enf action:	State Compliance Achieved		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/23/2001 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/23/2001 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/24/2002 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/24/2002 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	7/31/2002 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/26/2000 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/31/2001 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/31/2002 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	4/16/2002 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	4/16/2002 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	4/20/2000 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	4/20/2000 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	4/21/2002 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	4/27/2001 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	4/30/2000 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	5/15/2001 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	5/15/2001 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	7/13/2000 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	7/21/2000 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	7/25/2002 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	7/25/2002 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	1/22/2001 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	1/22/2001 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	1/21/2001 0:00:00
Enf action:	State Public Notif Issued		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	1/18/2002 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	1/18/2002 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	HI0000101
Pwsname:	HILO		
Retpopsrvd:	39814	Pwstypecod:	C
Vioid:	400	Contaminant:	SWTR
Viol. Type:	Failure to Filter (SWTR)		
Complperbe:	1/1/2000 0:00:00		
Complperen:	10/16/2002 0:00:00	Enfdate:	10/26/2000 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

System Name:	DOW HILO		
Violation Type:	Treatment Technique (SWTR)		
Contaminant:	SWTR		
Compliance Period:	1999-10-01 - 1999-10-31		
Violation ID:	0000001		
Enforcement Date:	2000-01-19	Enf. Action:	State Violation/Reminder Notice

System Name:	DOW HILO		
Violation Type:	Treatment Technique (SWTR)		
Contaminant:	SWTR		
Compliance Period:	1999-11-01 - 1999-11-30		
Violation ID:	0000002		
Enforcement Date:	2000-01-19	Enf. Action:	State Violation/Reminder Notice

System Name:	DOW HILO		
Violation Type:	Treatment Technique (SWTR)		
Contaminant:	SWTR		
Compliance Period:	1999-12-01 - 1999-12-31		
Violation ID:	0000003		
Enforcement Date:	2000-01-19	Enf. Action:	State Violation/Reminder Notice

ENFORCEMENT INFORMATION:

System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2000 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1000		
Enforcement Date:	10/26/2000 0:00:00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2000 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1000		
Enforcement Date:	10/26/2000 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2000 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1000		
Enforcement Date:	10/30/2000 0:00:00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/00 - 12/31/25		
Violation ID:	1000		
Enforcement Date:	10/26/00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/00 - 12/31/25		
Violation ID:	1000		
Enforcement Date:	10/26/00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/00 - 12/31/25		
Violation ID:	1000		
Enforcement Date:	10/30/00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/01 - 12/31/25		
Violation ID:	1001		
Enforcement Date:	10/31/01	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/01 - 12/31/25		
Violation ID:	1001		
Enforcement Date:	10/23/01	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/01 - 12/31/25		
Violation ID:	1001		
Enforcement Date:	10/23/01	Enf. Action:	State Violation/Reminder Notice

ENFORCEMENT INFORMATION:

System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2001 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1001		
Enforcement Date:	10/23/2001 0:00:00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2001 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1001		
Enforcement Date:	10/31/2001 0:00:00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2001 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1001		
Enforcement Date:	10/23/2001 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/02 - 10/16/02		
Violation ID:	1002		
Enforcement Date:	10/24/02	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/02 - 10/16/02		
Violation ID:	1002		
Enforcement Date:	10/31/02	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	1002		
Enforcement Date:	10/31/2002 0:00:00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	1002		
Enforcement Date:	10/24/2002 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	1002		
Enforcement Date:	10/24/2002 0:00:00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	1002		
Enforcement Date:	10/16/2002 0:00:00	Enf. Action:	State Compliance Achieved

ENFORCEMENT INFORMATION:

System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	7/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	1002		
Enforcement Date:	10/16/2002 0:00:00	Enf. Action:	State No Additional Formal Action Needed
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/02 - 10/16/02		
Violation ID:	1002		
Enforcement Date:	10/16/02	Enf. Action:	State No Additional Formal Action Needed
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/02 - 10/16/02		
Violation ID:	1002		
Enforcement Date:	10/16/02	Enf. Action:	State Compliance Achieved
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	07/01/02 - 10/16/02		
Violation ID:	1002		
Enforcement Date:	10/24/02	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2000 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	101		
Enforcement Date:	1/21/2001 0:00:00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2000 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	101		
Enforcement Date:	1/22/2001 0:00:00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2000 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	101		
Enforcement Date:	1/22/2001 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/00 - 12/31/25		
Violation ID:	101		
Enforcement Date:	01/22/01	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/00 - 12/31/25		
Violation ID:	101		
Enforcement Date:	01/21/01	Enf. Action:	State Public Notif Issued

ENFORCEMENT INFORMATION:

System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/00 - 12/31/25		
Violation ID:	101		
Enforcement Date:	01/22/01	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/01 - 12/31/25		
Violation ID:	102		
Enforcement Date:	01/22/02	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/01 - 12/31/25		
Violation ID:	102		
Enforcement Date:	01/18/02	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2001 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	102		
Enforcement Date:	1/18/2002 0:00:00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2001 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	102		
Enforcement Date:	1/18/2002 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2001 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	102		
Enforcement Date:	1/22/2002 0:00:00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/01 - 12/31/25		
Violation ID:	102		
Enforcement Date:	01/18/02	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/02 - 10/16/02		
Violation ID:	103		
Enforcement Date:	10/16/02	Enf. Action:	State No Additional Formal Action Needed
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/02 - 10/16/02		
Violation ID:	103		
Enforcement Date:	10/16/02	Enf. Action:	State Compliance Achieved

ENFORCEMENT INFORMATION:

System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/02 - 10/16/02		
Violation ID:	103		
Enforcement Date:	11/25/02	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/02 - 10/16/02		
Violation ID:	103		
Enforcement Date:	11/25/02	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/01/02 - 10/16/02		
Violation ID:	103		
Enforcement Date:	12/20/02	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	103		
Enforcement Date:	10/16/2002 0:00:00	Enf. Action:	State No Additional Formal Action Needed
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	103		
Enforcement Date:	10/16/2002 0:00:00	Enf. Action:	State Compliance Achieved
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	103		
Enforcement Date:	11/25/2002 0:00:00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	103		
Enforcement Date:	11/25/2002 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	10/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	103		
Enforcement Date:	12/20/2002 0:00:00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/00 - 12/31/25		
Violation ID:	1100		
Enforcement Date:	10/26/00	Enf. Action:	State Public Notif Requested

ENFORCEMENT INFORMATION:

System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	8/1/2000 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1100		
Enforcement Date:	10/30/2000 0:00:00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	8/1/2000 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1100		
Enforcement Date:	10/26/2000 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	8/1/2000 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1100		
Enforcement Date:	10/26/2000 0:00:00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/00 - 12/31/25		
Violation ID:	1100		
Enforcement Date:	10/26/00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/00 - 12/31/25		
Violation ID:	1100		
Enforcement Date:	10/30/00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	8/1/2001 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1101		
Enforcement Date:	10/23/2001 0:00:00	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	8/1/2001 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1101		
Enforcement Date:	10/23/2001 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	8/1/2001 0:00:00 - 12/31/2025 0:00:00		
Violation ID:	1101		
Enforcement Date:	10/31/2001 0:00:00	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/01 - 12/31/25		
Violation ID:	1101		
Enforcement Date:	10/31/01	Enf. Action:	State Public Notif Issued

ENFORCEMENT INFORMATION:

System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/01 - 12/31/25		
Violation ID:	1101		
Enforcement Date:	10/23/01	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/01 - 12/31/25		
Violation ID:	1101		
Enforcement Date:	10/23/01	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/02 - 10/16/02		
Violation ID:	1102		
Enforcement Date:	10/16/02	Enf. Action:	State Compliance Achieved
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	8/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	1102		
Enforcement Date:	10/24/2002 0:00:00	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/02 - 10/16/02		
Violation ID:	1102		
Enforcement Date:	10/24/02	Enf. Action:	State Public Notif Requested
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/02 - 10/16/02		
Violation ID:	1102		
Enforcement Date:	10/31/02	Enf. Action:	State Public Notif Issued
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	08/01/02 - 10/16/02		
Violation ID:	1102		
Enforcement Date:	10/24/02	Enf. Action:	State Violation/Reminder Notice
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	8/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	1102		
Enforcement Date:	10/16/2002 0:00:00	Enf. Action:	State Compliance Achieved
System Name:	HILO		
Violation Type:	Failure to Filter (SWTR)		
Contaminant:	SWTR		
Compliance Period:	8/1/2002 0:00:00 - 10/16/2002 0:00:00		
Violation ID:	1102		
Enforcement Date:	10/16/2002 0:00:00	Enf. Action:	State No Additional Formal Action Needed

CONTACT INFORMATION:

Name:	HILO	Population:	39814
Contact:	PAVAO, MILTON D.	Phone:	808-961-8050
Address:	Department of Water Supply		
Address 2:	345 Kekuanaoa Street, Suite 20 HILO, HI 96720		

A2
SSW **FED USGS** **USGS40000268543**
0 - 1/8 Mile
Higher

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-194040155035201		
Monloc name:	8-4003-02 Panaewa 2, HI		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20010000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	19.6747415
Longitude:	-155.061675	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	201.0
Vert measure units:	feet	Vertacc measure val:	.1
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Hawaii volcanic-rock aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19680401	Welldepth:	301
Welldepth units:	ft	Wellholedepth:	301
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

A3
SSW **FED USGS** **USGS40000268541**
1/8 - 1/4 Mile
Higher

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-194037155035301		
Monloc name:	8-4003-01 Panaewa 1, HI		
Monloc type:	Well		
Monloc desc:	former local no. W8-3		
Huc code:	20010000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	19.6739082
Longitude:	-155.0619528	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	206.1
Vert measure units:	feet	Vertacc measure val:	.1
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Hawaii volcanic-rock aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19631004	Welldepth:	306
Welldepth units:	ft	Wellholedepth:	306
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

A4
SSW
1/8 - 1/4 Mile
Higher

HI WELLS **HI9000000004251**

Wid:	8-4003-002	Island:	Hawaii
Well name:	Panaewa Well #2	Old name:	Panaewa 2
Yr drilled:	1968		
Driller:	Roscoe Moss Hawaii Inc		
Quad map:	67		
Long83dd:	-155.062222		
Lat83dd:	19.673889		
Gps:	-1	Utm:	0
Owner user:	Department of Water Supply Hawaii - Hilo, HDWS		
Land owner:	Department of Water Supply Hawaii - Hilo, HDWS		
Pump insta:	Water Resources International, Inc.		
Old number:	8-3B	Well type:	PER
Casing dia:	18	Ground el:	201
Well depth:	302		
Solid case:	212	Perf case:	300
Use:	MUN - County		
Use year:	Not Reported		
Init head:	13.1	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	3000
Test ddown:	4.4	Test chlor:	8
Test temp:	19.5	Test unit:	C
Pump gpm:	2200		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	QKL		
Pump yr:	1976		
Draft yr:	Not Reported	Bot hole:	-101
Bot solid:	-11	Bot perf:	-99
Spec capac:	Not Reported		
Pump mgd:	3.168		
Draft mgd:	Not Reported	Pump elev:	-9
Pump depth:	210	Tmk:	(3) 2-2-048:006
Aqui code:	80402		
Latest hd:	Not Reported	Wcr:	18-APR-68
Pir:	3/24/2011		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000004251

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
B5 **SSW** **1/8 - 1/4 Mile** **Higher**	**HI WELLS**	**HI9000000004252**

Wid:	8-4003-003	Island:	Hawaii
Well name:	Panaewa Well #3	Old name:	Panaewa 3
Yr drilled:	1983		
Driller:	Big Island Drilling		
Quad map:	67		
Long83dd:	-155.0625		
Lat83dd:	19.673333		
Gps:	-1	Utm:	0
Owner user:	Department of Water Supply Hawaii - Hilo, HDWS		
Land owner:	Department of Water Supply Hawaii - Hilo, HDWS		
Pump insta:	Robert Beylik (Beylik Drilling & Pump Service Inc.)		
Old number:	Not Reported	Well type:	PER
Casing dia:	18	Ground el:	206
Well depth:	303		
Solid case:	222	Perf case:	302
Use:	MUN - County		
Use year:	Not Reported		
Init head:	12.2	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	4/4/1983	Test gpm:	3000
Test ddown:	8.2	Test chlor:	3
Test temp:	20.6	Test unit:	C
Pump gpm:	2100		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	Not Reported		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-97
Bot solid:	-16	Bot perf:	-96
Spec capac:	366		
Pump mgd:	3.024		
Draft mgd:	Not Reported	Pump elev:	-26
Pump depth:	231	Tmk:	(3) 2-2-048:006
Aqui code:	80402		
Latest hd:	Not Reported	Wcr:	14-MAR-83
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000004252

	Database	EDR ID Number
B6 **SSW** **1/8 - 1/4 Mile** **Higher**	**HI WELLS**	**HI9000000004250**

Wid:	8-4003-001	Island:	Hawaii
Well name:	Panaewa Well #1	Old name:	Panaewa 1
Yr drilled:	1963		
Driller:	Goodfellow Construction, Inc. Corporate		
Quad map:	66		
Long83dd:	-155.0625		
Lat83dd:	19.673333		
Gps:	-1	Utm:	0
Owner user:	Department of Water Supply Hawaii - Hilo, HDWS		
Land owner:	Department of Water Supply Hawaii - Hilo, HDWS		

Pump insta:	Not Reported		
Old number:	8-3A	Well type:	PER
Casing dia:	16	Ground el:	206
Well depth:	306		
Solid case:	220	Perf case:	306
Use:	MUN - County		
Use year:	Not Reported		
Init head:	13.12	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	0		
Test date:	10/23/1963	Test gpm:	2200
Test ddown:	1.6	Test chlor:	8
Test temp:	20	Test unit:	C
Pump gpm:	1500		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	QKL		
Pump yr:	1976		
Draft yr:	Not Reported	Bot hole:	-100
Bot solid:	-14	Bot perf:	-100
Spec capac:	1375		
Pump mgd:	2.16		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(3) 2-2-048:006
Aqui code:	80402		
Latest hd:	Not Reported	Wcr:	04-OCT-63
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000004250

B7
SSW **FED USGS** **USGS40000268542**
1/4 - 1/2 Mile
Higher

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-194039155035601		
Monloc name:	8-4003-03 Panaewa 3, HI		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20010000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	19.6725194
Longitude:	-155.0622305	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	205.0
Vert measure units:	feet	Vertacc measure val:	.5
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19830310	Welldepth:	303
Welldepth units:	ft	Wellholedepth:	303
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1983-03-10	192.80	

8
SE
1/4 - 1/2 Mile Higher

HI WELLS **HI9000000004253**

Wid:	8-4003-004	Island:	Hawaii
Well name:	Toyama Gardens	Old name:	Not Reported
Yr drilled:	1988		
Driller:	Paul Frandsen (American Drilling)		
Quad map:	67		
Long83dd:	-155.055		
Lat83dd:	19.671944		
Gps:	0	Utm:	-1
Owner user:	Mark Mattos (Nani Mau Gardens)		
Land owner:	Not Reported		
Pump insta:	Not Reported		
Old number:	Not Reported	Well type:	PER
Casing dia:	10	Ground el:	195
Well depth:	235		
Solid case:	200	Perf case:	235
Use:	UNU - Unused		
Use year:	Not Reported		
Init head:	8	Init head2:	Not Reported
Init head3:	Not Reported		
Init cl:	14		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Test unit:	Not Reported
Pump gpm:	0		
Draft mgy:	Not Reported	Head feet:	Not Reported
Max chlor:	Not Reported	Min chlor:	Not Reported
Geology:	Not Reported		
Pump yr:	0		
Draft yr:	Not Reported	Bot hole:	-40
Bot solid:	-5	Bot perf:	-40
Spec capac:	Not Reported		
Pump mgd:	0		
Draft mgd:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Tmk:	(3) 2-2-048:013
Aqui code:	80402		
Latest hd:	Not Reported	Wcr:	01-JAN-88
Pir:	Not Reported		
Surveyor:	Not Reported		
T:	Not Reported	Site id:	HI9000000004253

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

9
ESE | **FED USGS** | **USGS40000268540**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-HI		
Formal name:	USGS Hawaii Water Science Center		
Monloc Identifier:	USGS-194036155032301		
Monloc name:	8-4003-04 TOYAMA GARDENS		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	20010000	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	19.6736304
Longitude:	-155.0536196	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	195.
Vert measure units:	feet	Vertacc measure val:	1
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	HILOCAL	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19880624	Welldepth:	235
Welldepth units:	ft	Wellholedepth:	235
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1988-06-24	187.	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for HAWAII County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96720

Number of sites tested: 43

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	-0.112 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	-0.106 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Well Index Database
Source: Commission on Water Resource Management
Telephone: 808-587-0214
CWRM maintains a Well Index Database to track specific information pertaining to the construction and installation of production wells in Hawaii

OTHER STATE DATABASE INFORMATION

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

The EDR Aerial Photo Decade Package

DHHL Hilo Property 3 2-2-061 002
230 Mahiai Street
Hilo, HI 96720

Inquiry Number: 4315064.9
June 04, 2015

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography June 04, 2015

Target Property:

230 Mahiai Street

Hilo, HI 96720

Year	***Scale***	***Details***	***Source***
1954	Aerial Photograph. Scale: 1"=500'	Flight Date: April 10, 1954	EDR
1965	Aerial Photograph. Scale: 1"=500'	Flight Date: January 16, 1965	EDR
1975	Aerial Photograph. Scale: 1"=500'	Flight Date: July 17, 1975	USGS
1977	Aerial Photograph. Scale: 1"=1000'	Flight Date: January 03, 1977	EDR
1987	Aerial Photograph. Scale: 1"=1000'	Flight Date: March 22, 1987	EDR
1992	Aerial Photograph. Scale: 1"=500'	Flight Date: September 23, 1992	USGS


INQUIRY #: 4315064.9
YEAR: 1954
= 500'
N
EDR


INQUIRY #: 4315064.9
YEAR: 1965
= 500'
N
EDR


INQUIRY #: 4315064.9
YEAR: 1975
= 500'
N
EDR


GS-VEEC
INQUIRY #: 4315064.9
YEAR: 1977
= 1000'
N
EDR


INQUIRY #: 4315064.9
YEAR: 1987
= 1000'
N
EDR


INQUIRY #: 4315064.9
YEAR: 1992
= 500'
N
EDR

Certified Sanborn® Map Report

DHHL Hilo Property 3 2-2-061 002
230 Mahiai Street
Hilo, HI 96720

Inquiry Number: 4315064.3
June 03, 2015

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

6/03/15

Site Name:
DHHL Hilo Property 3 2-2-061
230 Mahiai Street
Hilo, HI 96720

Client Name:
Element Environmental , LLC
98-030 Hekaha Street
Aiea, HI 96701-0000

EDR Inquiry # 4315064.3

Contact: Angela Peltier

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Element Environmental , LLC were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: DHHL Hilo Property 3 2-2-061 002
Address: 230 Mahiai Street
City, State, Zip: Hilo, HI 96720
Cross Street:
P.O. # 150024
Project: 150024 DHHL Phase I ESA
Certification # 0A6D-4B4B-9B8A

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results
Certification # 0A6D-4B4B-9B8A

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Element Environmental , LLC (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

EDR Historical Topographic Map Report

DHHL Hilo Property 3 2-2-061 002
230 Mahiai Street
Hilo, HI 96720

Inquiry Number: 4315064.4
June 04, 2015

EDR Historical Topographic Map Report

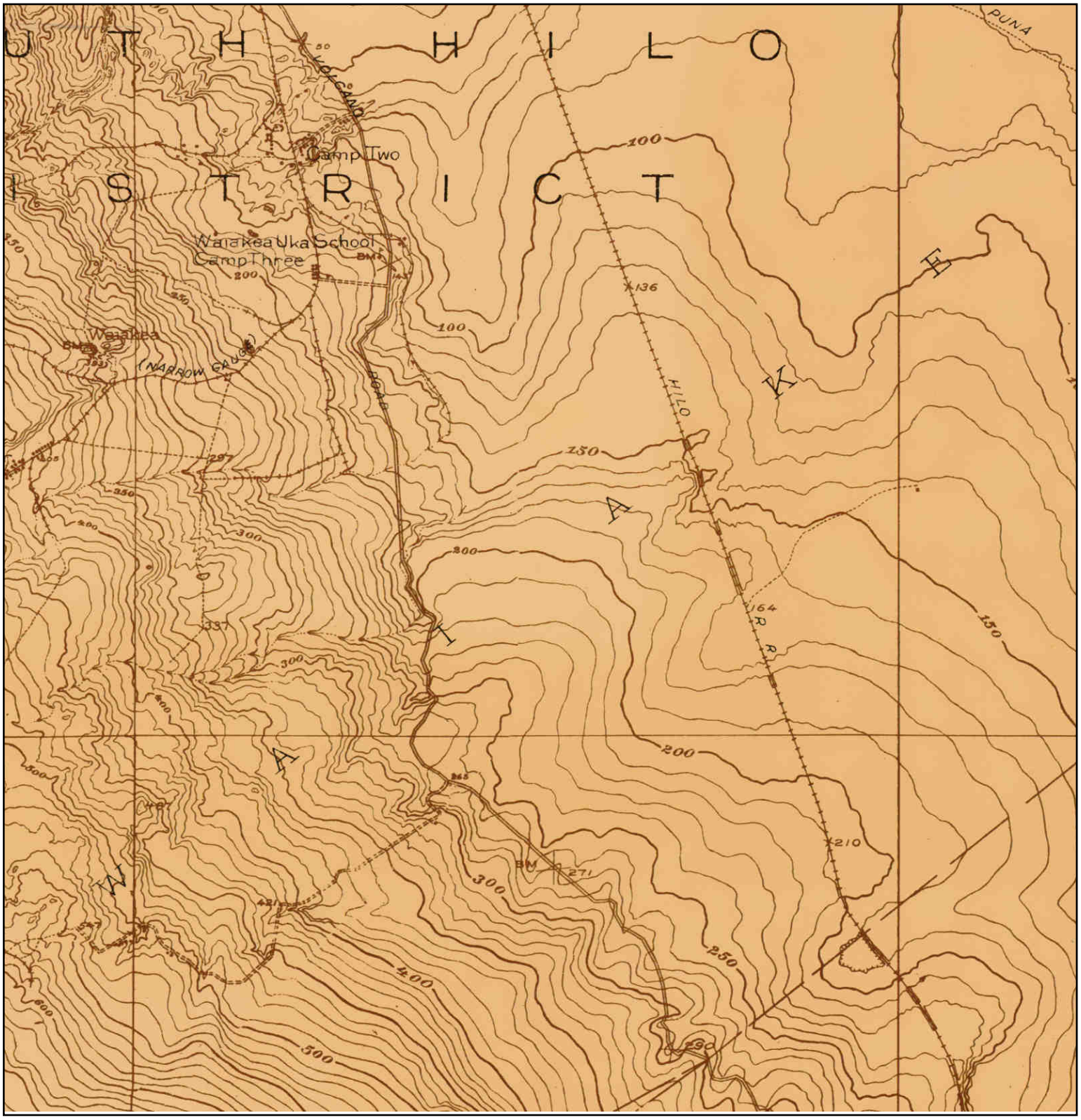
6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

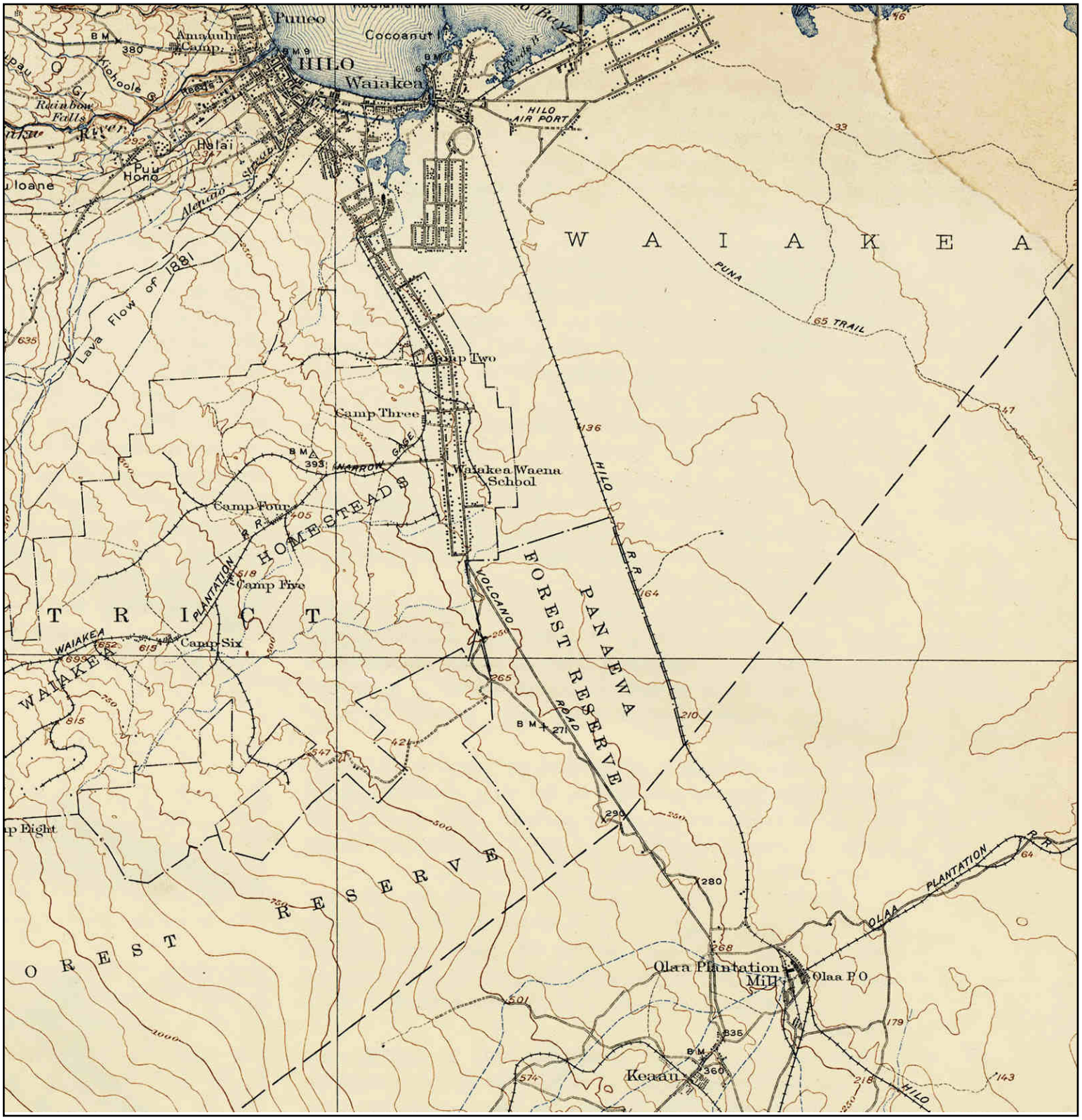
Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map



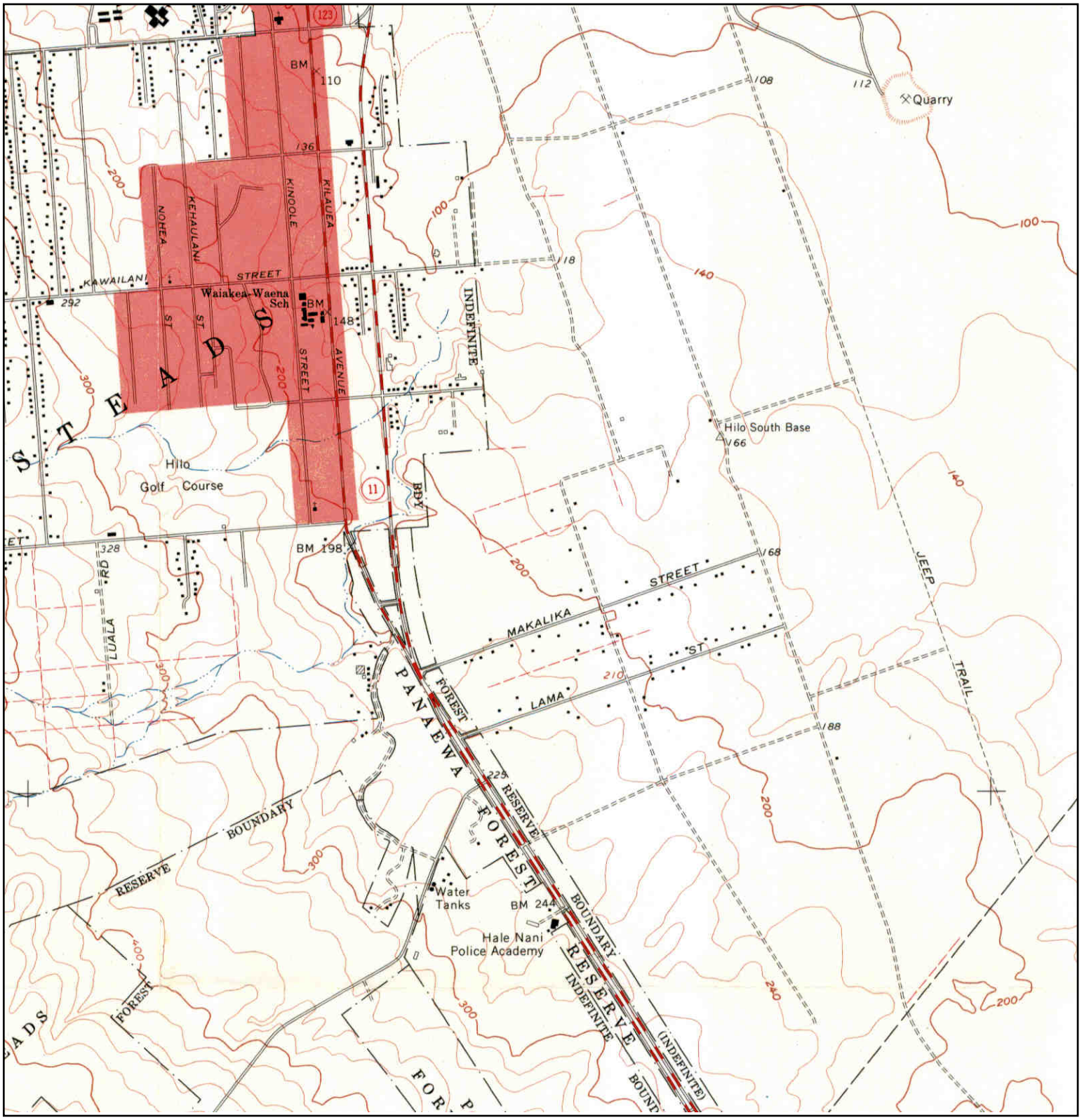
N	TARGET QUAD NAME: WAIAKEA MAP YEAR: 1914 SERIES: 7.5 SCALE: 1:31680	SITE NAME: DHHL Hilo Property 3 2-2-061 002 ADDRESS: 230 Mahiai Street Hilo, HI 96720 LAT/LONG: 19.6762 / -155.0611	CLIENT: Element Environmental , LLC CONTACT: Angela Peltier INQUIRY#: 4315064.4 RESEARCH DATE: 06/04/2015

Historical Topographic Map



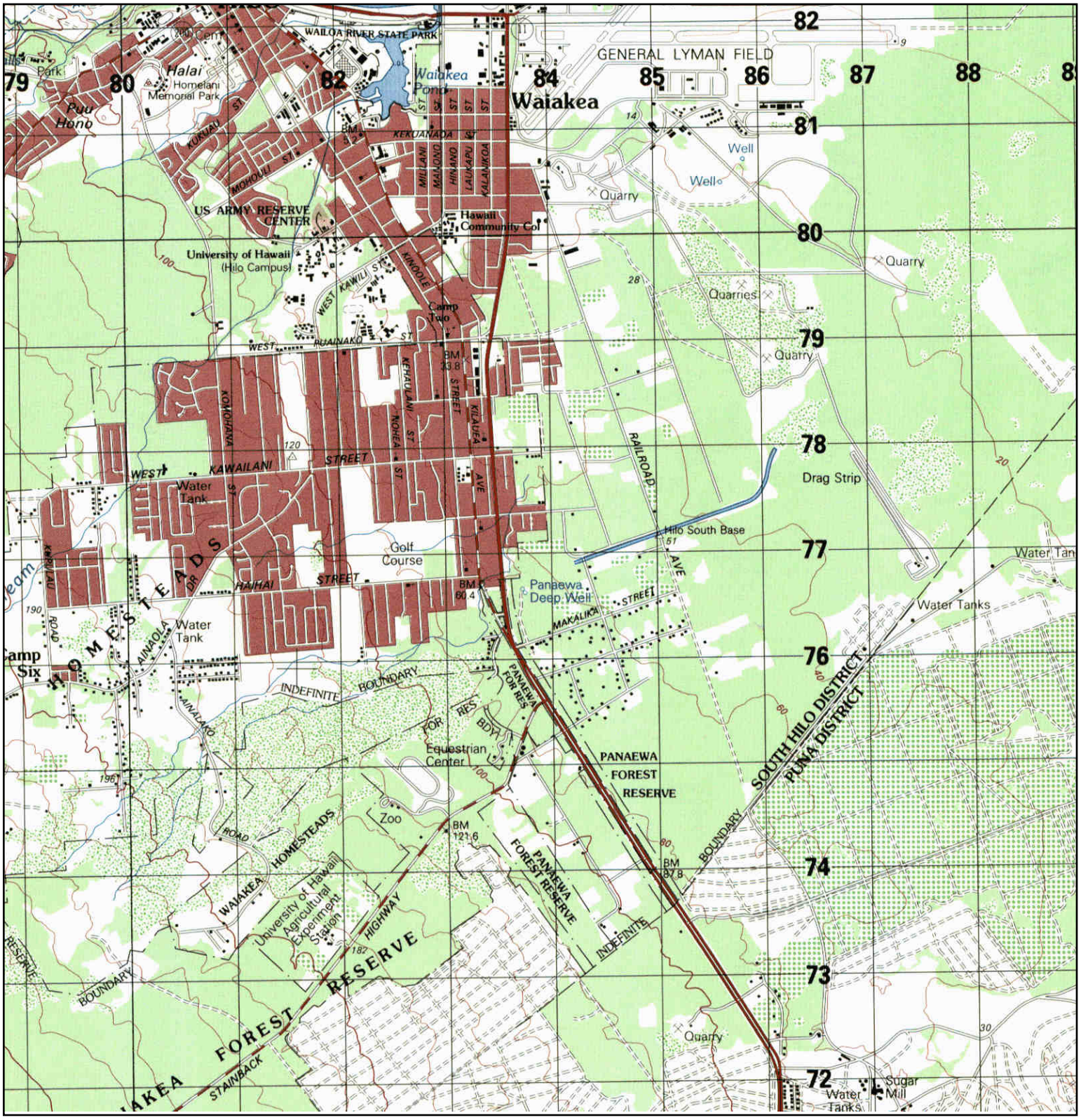
N	TARGET QUAD NAME: HILO MAP YEAR: 1932 SERIES: 15 SCALE: 1:62500	SITE NAME: DHHL Hilo Property 3 2-2-061 002 ADDRESS: 230 Mahiai Street Hilo, HI 96720 LAT/LONG: 19.6762 / -155.0611	CLIENT: Element Environmental , LLC CONTACT: Angela Peltier INQUIRY#: 4315064.4 RESEARCH DATE: 06/04/2015

Historical Topographic Map



N	TARGET QUAD NAME: HILO MAP YEAR: 1963 SERIES: 7.5 SCALE: 1:24000	SITE NAME: DHHL Hilo Property 3 2-2-061 002 ADDRESS: 230 Mahiai Street Hilo, HI 96720 LAT/LONG: 19.6762 / -155.0611	CLIENT: Element Environmental , LLC CONTACT: Angela Peltier INQUIRY#: 4315064.4 RESEARCH DATE: 06/04/2015

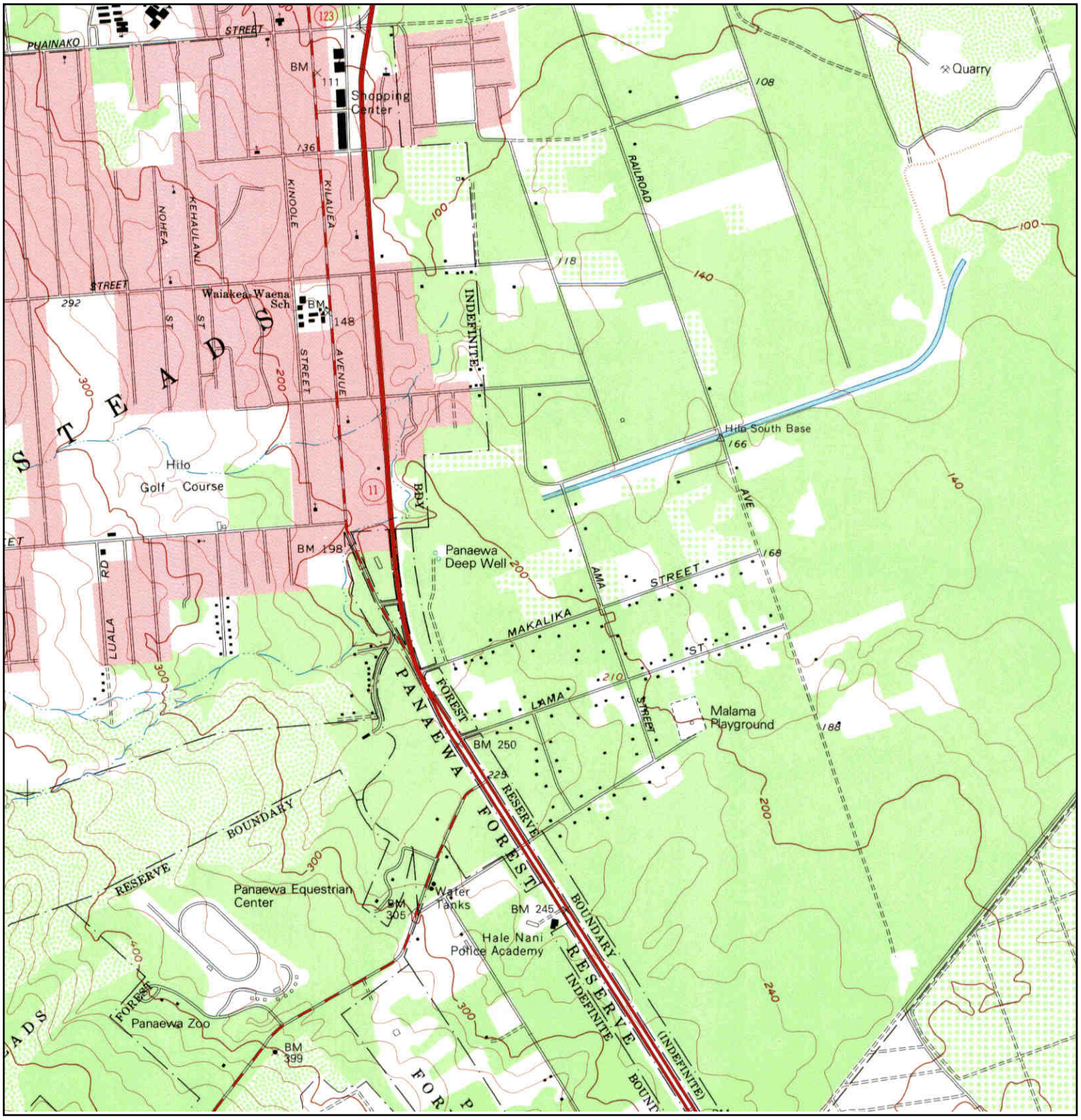
Historical Topographic Map



N	TARGET QUAD			
	NAME:	HILO	SITE NAME:	DHHL Hilo Property 3 2-2-061 002
	MAP YEAR:	1980	ADDRESS:	230 Mahiai Street Hilo, HI 96720
	SERIES:	15	LAT/LONG:	19.6762 / -155.0611
	SCALE:	1:50000		

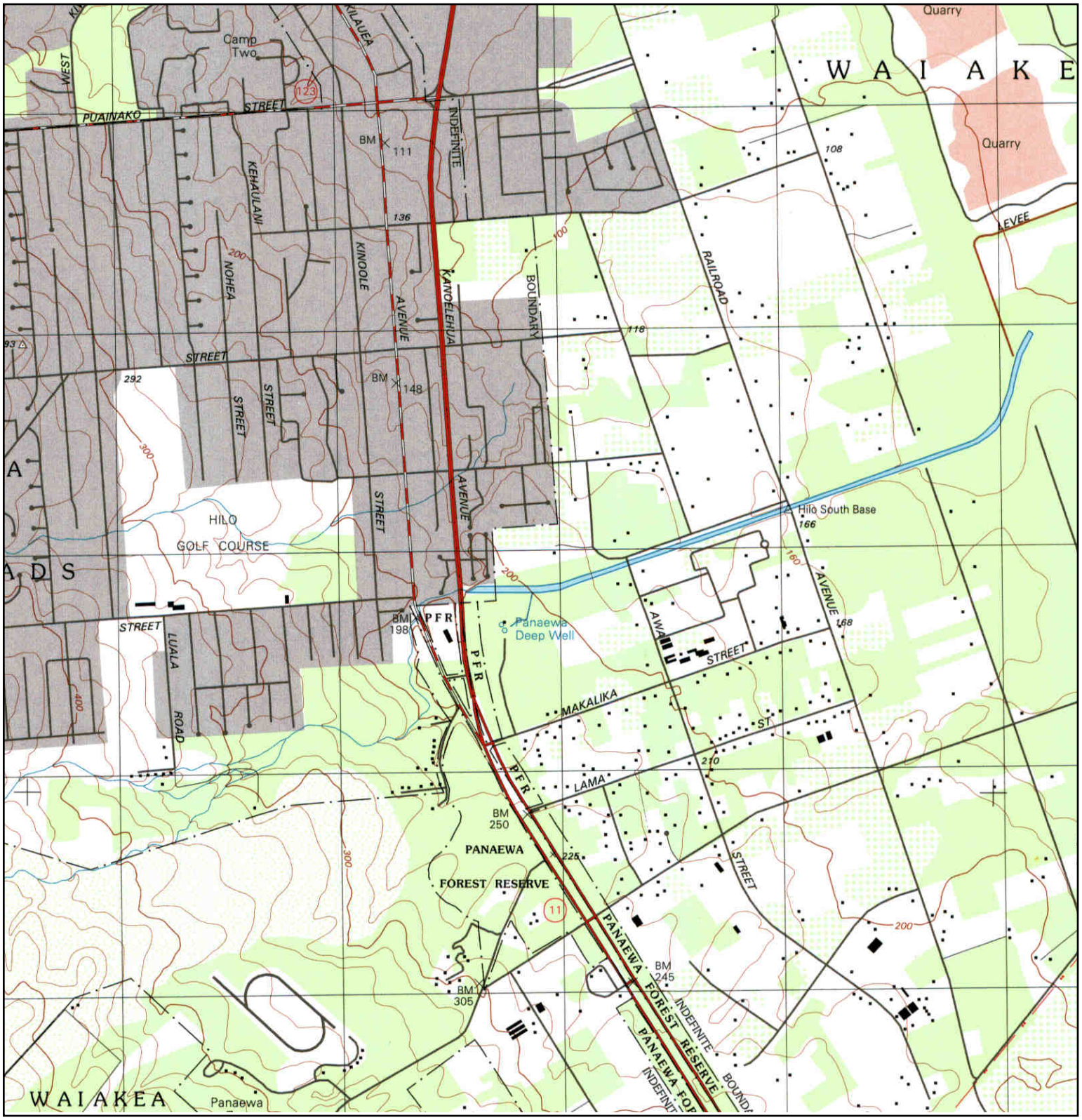
CLIENT: Element Environmental , LLC
CONTACT: Angela Peltier
INQUIRY#: 4315064.4
RESEARCH DATE: 06/04/2015

Historical Topographic Map



N	TARGET QUAD NAME: HILO MAP YEAR: 1981 SERIES: 7.5 SCALE: 1:24000	SITE NAME: DHHL Hilo Property 3 2-2-061 002 ADDRESS: 230 Mahiai Street Hilo, HI 96720 LAT/LONG: 19.6762 / -155.0611	CLIENT: Element Environmental , LLC CONTACT: Angela Peltier INQUIRY#: 4315064.4 RESEARCH DATE: 06/04/2015

Historical Topographic Map



N	TARGET QUAD NAME: HILO MAP YEAR: 1995 SERIES: 7.5 SCALE: 1:24000	SITE NAME: DHHL Hilo Property 3 2-2-061 002 ADDRESS: 230 Mahiai Street Hilo, HI 96720 LAT/LONG: 19.6762 / -155.0611	CLIENT: Element Environmental , LLC CONTACT: Angela Peltier INQUIRY#: 4315064.4 RESEARCH DATE: 06/04/2015

The EDR-City Directory Image Report

DHHL Hilo Property 3 2-2-061 002
230 Mahiai Street
Hilo, HI 96720

Inquiry Number: 4315064.5
June 05, 2015

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2013	☑	☑	Cole Information Services
2008	☑	☑	Cole Information Services
2003	☑	☑	Cole Information Services
1999	☑	☑	Cole Information Services
1995	☑	☑	Cole Information Services
1992	☑	☑	Cole Information Services

RECORD SOURCES

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FINDINGS

TARGET PROPERTY STREET

230 Mahiai Street
Hilo, HI 96720

Year	*CD Image*	*Source*
MAHIAI ST		
2013	pg A1	Cole Information Services
2008	pg A3	Cole Information Services
2003	pg A5	Cole Information Services
1999	pg A7	Cole Information Services
1995	pg A9	Cole Information Services
1992	pg A11	Cole Information Services

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*
WAIANUHEA PL		
2013	pg. A2	Cole Information Services
2008	pg. A4	Cole Information Services
2003	pg. A6	Cole Information Services
1999	pg. A8	Cole Information Services
1995	pg. A10	Cole Information Services
1992	pg. A12	Cole Information Services

City Directory Images

Target Street	Cross Street	Source
✓	-	Cole Information Services

MAHIAI ST 2013

175	R WOOLSEY
220	OCCUPANT UNKNOWN
230	OCCUPANT UNKNOWN
299	OCCUPANT UNKNOWN

Target Street	Cross Street	Source
-	✓	Cole Information Services

WAIANUHEA PL 2013

73	BOBBY SUTTON
77	ELENA BUGARIN
95	JOVENCIO COLLADO
105	OCCUPANT UNKNOWN
110	OCCUPANT UNKNOWN
111	CHARLES IKEDA

Target Street	Cross Street	Source
✓	-	Cole Information Services

MAHIAI ST 2008

175	MATHEW TORRES
299	OCCUPANT UNKNOWN

Target Street	Cross Street	Source
-	✓	Cole Information Services

WAIANUHEA PL 2008

77	ELENA BUGARIN
	ELENAS EXPANDED CARE ARCH LLC
95	JOVENCIO COLLADO
96	YOSHIMI KOBAYASHI
105	OCCUPANT UNKNOWN
110	KOBAYASHI T LAWN MAINTENANCE
	TERRY KOBAYASHI
111	CHARLES IKEDA
121	CARL SMITH BALL LLP

Target Street	Cross Street	Source
✓	-	Cole Information Services

MAHIAI ST 2003

175	OCCUPANT UNKNOWN
230	HAUNANI BAKER
299	OCCUPANT UNKNOWN

Target Street	Cross Street	Source
-	✓	Cole Information Services

WAIANUHEA PL 2003

77	ELENA BUGARIN
95	OCCUPANT UNKNOWN
96	YOSHIMI KOBAYASHI
105	GEORGE YOSHIMURA
110	TERRY KOBAYASHI
111	CHARLES IKEDA

Target Street	Cross Street	Source
✓	-	Cole Information Services

MAHIAI ST 1999

230 H BAKER

Target Street	Cross Street	Source
-	✓	Cole Information Services

WAIANUHEA PL 1999

77	ELENA BUGARIN
	J KUNEWA
95	OCCUPANT UNKNOWN
96	YOSHIMI KOBAYASHI
105	GEORGE YOSHIMURA
110	TERRY KOBAYASHI

Target Street	Cross Street	Source
✓	-	Cole Information Services

MAHIAI ST 1995

175 LUM, HO A

Target Street	Cross Street	Source
-	✓	Cole Information Services

WAIANUHEA PL 1995

77	BUGARIN, ELENA
95	OCCUPANT UNKNOWNN
96	KOBAYASHI, YOSHIMI
105	OCCUPANT UNKNOWNN
110	KOBAYASHI, TERRY
111	GERMONE, GARY J

Target Street	Cross Street	Source
✓	-	Cole Information Services

MAHIAI ST 1992

175 LUM, HO A

Target Street	Cross Street	Source
-	✓	Cole Information Services

WAIANUHEA PL 1992

96	KOBAYASHI, YOSHIMI
105	YOSHIMURA, GEORGE H
110	KOBAYASHI, TERRY
111	GERMONE, GARY J

APPENDIX D

QUALIFICATIONS OF THE ENVIRONMENTAL PROFESSIONALS

Arlene Campbell, Licensed Geologist

element environmental llc
environmental · engineering · water resources

Arlene H. Campbell, L.G.
Associate
Senior Geologist

EDUCATION:

Graduate Work in Geology - Vanderbilt University, 1988 - 1989
B.A., Geology (minor in Hydrology) - Austin Peay State University, 1988

PROFESSIONAL REGISTRATIONS:

Licensed Geologist, Washington State, No. 1664, 2002

SPECIALIZED TRAINING:

OSHA 40-hour Initial HAZWOPER Training and Current 8-hour Refresher
Hazardous Waste Site Supervisor Training

SUMMARY OF EXPERIENCE:

Ms. Campbell is an Associate and Senior Geologist at Element Environmental, LLC (E2). Ms. Campbell joined E2 on July 1, 2006, when E2 merged with Mountain Edge Environmental, Inc. She has 16 years of experience in Hawaii in the environmental consulting field. Her specific expertise includes site assessment, characterization, and remediation. Ms. Campbell has assisted with several state level task forces to assess environmental risk and address petroleum contaminated soils.

Ms. Campbell has managed many environmental projects involving Phase I Environmental Site Assessments (ESAs), preliminary assessments, emergency spill response, subsurface investigation, groundwater monitoring, assessment of fate and transport of surface and groundwater contaminants, soil and groundwater remediation, and risk assessment. She has also managed numerous underground storage tank (UST) removal projects which included preparation of plans and specifications for UST removal, UST removal monitoring, release response activities such as over-excavation, installation of soil borings and groundwater monitoring wells, long term remediation design and implementation, and report preparation.

Ms. Campbell has also managed a number of complex hazardous and biological waste removal and site closure projects which involved geophysical surveys, preparation of plans and specifications, waste characterization, and removal and disposal activities. She has performed Phase I ESAs and has assisted with the preparation and review of environmental impact statements. She has also performed environmental and hydrogeological investigations and has conducted remediation activities for several illegal landfill sites. Noteworthy projects Ms. Campbell has managed included several large emergency response site investigations and remediation projects involving the release of petroleum and PCBs. One of these projects included an emergency response to a major gasoline spill on Kauai that impacted air, soil, surface water, and groundwater. For this project, Ms. Campbell coordinated with the U.S. Coast Guard, county fire and police departments, EPA Region 9, Hawaii DOH, responsible parties, property owners, tenants, and the community. She monitored explosivity and contaminant migration in the subsurface, underground structures/utilities, buildings, a private sewage pumping station, an adjacent stream and the Pacific Ocean; coordinated emergency medical treatment and medical monitoring of affected spill response personnel and civilians; monitored installation of soil vapor points, soil borings, and groundwater monitoring wells; collected soil vapor, soil, groundwater, and stream water samples; prepared release response report; and provided technical support to legal team.

Ms. Campbell has been the principal investigator for several water quality related projects, including preparation of National Pollutant Discharge Elimination System (NPDES) permit applications for an auto recycling facility, an aquarium, a well drilling operation, a cemetery, and a museum; preparation of Storm Water Pollution Control Plans for an auto recycling facility and a solid waste transfer station; storm water and industrial discharge monitoring at various sites; and assisting clients in addressing NPDES compliance issues.

Angela Peltier, Geologist

element environmental llc
environmental · engineering · water resources

Angela K. Peltier
Geologist

EDUCATION:

B.S., Geology and Geophysics – University of Hawaii, 2004

SPECIALIZED TRAINING:

OSHA 40-hour Initial HAZWOPER Training

SUMMARY OF EXPERIENCE:

Ms. Peltier is a Geologist at Element Environmental, LLC (E2). Ms. Peltier joined E2 on July 1, 2006, when E2 merged with Mountain Edge Environmental, Inc. She has 8 years of experience in Hawaii in the environmental consulting field. Her specific expertise includes site assessment, characterization, and remediation.

Ms. Peltier has assisted in many environmental projects involving Phase I Environmental Site Assessments (ESAs), preliminary assessments, emergency spill response, subsurface investigation, groundwater monitoring, assessment of fate and transport of surface and groundwater contaminants, soil and groundwater remediation, risk assessment, groundwater monitoring, and explosive gas monitoring. She has also assisted in underground storage tank (UST) removal projects which included preparation of plans and specifications for UST removal, UST removal monitoring, release response activities such as over-excavation, installation of soil borings and groundwater monitoring wells, long term remediation design and implementation, and report preparation.

Ms. Peltier has also performed Phase I ESAs and has assisted with the preparation of environmental impact statements. She has also performed environmental and hydrogeological investigations and has conducted remediation activities for several illegal landfill sites.

Ms. Peltier has been involved in several water quality related projects, including preparation of National Pollutant Discharge Elimination System (NPDES) permit applications for an auto recycling facility, an aquarium, and a well drilling operation, preparation of Storm Water Pollution Control Plans for an auto recycling facility and a solid waste transfer station; storm water and industrial discharge monitoring at various sites.

Appendix G

DRAFT ENVIRONMENTAL ASSESSMENT COMMENTS AND RESPONSES

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DAVID Y. IGE
GOVERNOR

DOUGLAS MURDOCK
Comptroller

AUDREY HIDANO
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1216.5

AUG 19 2015

Mr. Roy Takemoto
PBR Hawaii & Assoc., Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Dear Mr. Takemoto:

Subject: Draft Environmental Assessment
Proposed Subdivision of the Pana'ewa Ag Lots
Waiakea, South Hilo District, Island of Hawaii
TMK: Various

This is in response to your letter dated July 12, 2015 regarding the subject project. The proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If you have any questions, your staff may call Mr. David DePonte of the Planning Branch at 586-0492.

Sincerely,

Scott M. Oi

for JAMES K. KURATA
Public Works Administrator

DD:mo
c: Mr. Jerry Watanabe, DAGS-Hawaii District Office

PBR HAWAII
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March 15, 2016

Mr. James Kurata, Public Works Administrator
State of Hawai'i, Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810-0119

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Kurata,

Thank you for your letter dated August 19, 2015 (P.1216.5) in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge that you have no comments to offer at this time.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

O:\Job31\3151.02 Panaewa Ag Subdivision\Environmental Review Report\343 EA\Comments and Responses\Response letters\Response Plng.docx

OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
ACTING DIRECTOR
OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

DEPT. OF HAWAIIAN HOME LANDS
2015 AUG 24 PM 1:43

Ref. No. P-14873

August 19, 2015

Ms. Niniau Simmons
Department of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

Dear Ms. Simmons:

Subject: Draft Environmental Assessment for the Panaewa Agricultural Lots Subdivision, Panaewa, Hawaii Island, Hawaii; Tax Map Key (3) 2-1-025:047, (3) 2-1-025:048, (3) 2-1-025:006, (3) 2-1-025:007, and (3) 2-2-061:002

Thank you for the opportunity to provide comments on the Draft Environmental Assessment (Draft EA) for the Panaewa agricultural lots subdivision, which was transmitted to our office by letter dated July 28, 2015.

It is our understanding that this project consists of subdividing the various parcels into approximately 80 half-acre lots with County dedicated roads and water system. The Department of Hawaiian Home Lands will award the lots to native Hawaiian beneficiaries on the wait list, and/or to existing lessees who need to relocate due to lava or other hazards.

This lot subdivision is beneficial to the people of Hawaii by providing affordable housing opportunity for native Hawaiians within the urban core in proximity to jobs, schools, and shopping. Furthermore, the one-half acre lot size provide opportunities for self-sufficiency farming and small scale agricultural use.

The Office of Planning has reviewed the transmitted material and has the following comments to offer:

1. The Draft EA addresses HRS Chapter 226, the Hawaii State Plan's policies, objectives, and priority guidelines by including an examination of the subdivision of the agricultural lots compatibility in Section 5.1.4, pages 32-35. The themes, objectives, and policies that this project is consistent with include: HRS § 226-5 (Objectives and policies for population), HRS § 226-10 (the economy – potential growth activities), HRS § 226-11 (physical environment – land-based, shoreline, and marine resources), HRS § 226-19 (socio-cultural advancement – housing), and 226-106 (the priority guidelines on affordable housing).

2. The project is consistent with HRS § 205A-2, the Hawaii Coastal Zone Management program's objectives and enforceable policies. This issue was adequately addressed in the Draft EA, Section 5.1.3, pages 27 to 32.

3. The Draft EA has provided an adequate examination of the project's plan to mitigate soil erosion, sediment loss, stormwater runoff, and the use of Low-Impact Development site design concepts such as grass swales, dry-wells, and keeping storm runoff on-site and away from fragile coastal resources. This analysis is found in Section 4.8.3 – Drainage Systems, pages 21 to 22.

We have no further comments at this time. If you have any questions regarding this comment letter, please contact Mr. Josh Hekekia of our office at (808) 587-2845.

Sincerely,

Leo R. Asuncion
Acting Director

c: Mr. Roy Takemoto, Managing Director – Hilo, PBR HAWAII & Associates, Inc.

PBR HAWAII
& ASSOCIATES, INC.

March 15, 2016

Mr. Leo Asuncion, Acting Director
State of Hawai'i, Office of Planning
235 South Beretania Street, 6th Floor
Honolulu, HI 96804

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Asuncion,

Thank you for your letter dated August 19, 2015 (Reference Number P-14873) in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and offer the following response.

We acknowledge that the Office of Planning finds that the Draft EA addresses HRS Chapter 226, and that it is consistent with HRS §§ 226-5, 226-10, 226-11, 226-19 and 226-106. We also appreciate your office's concurrence that the Draft EA adequately addresses HRS § 205A-2, as well as concurrence that the Draft EA provides an adequate examination of mitigation regarding soil erosion, sediment loss, stormwater runoff and LID design concepts.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.) Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR

MAJOR GENERAL ARTHUR J. LOGAN
DIRECTOR OF EMERGENCY MANAGEMENT

DOUG MAYNE
ADMINISTRATOR OF EMERGENCY MANAGEMENT

PHONE (808) 733-4300
FAX (808) 733-4287

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE DIRECTOR OF EMERGENCY MANAGEMENT/CIVIL DEFENSE
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

August 12, 2015

Mr. Roy Takemoto
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Takemoto:

Pre-Assessment Consultation for the Proposed Subdivision of the Panaewa Agricultural Lots Located in the Ahupua'a of Wai'akea, South Hilo District, Island and County of Hawaii, TMK: (3) 2-2-061: 002, (3) 2-2-025: 006, (3) 2-1-025: 007, (3) 2-1-025: 047, and (3) 2-1-025: 048

Thank you for the opportunity to comment on the above project.

Based on the documents provided for the project, we have determined that the proposed installation of the warning siren at Pana'ewa Park will not provide coverage to the subject property.

Therefore, as stated in our April 2, 2015, letter responding to the Pre-Assessment Consultation request, we maintain our recommendation that one 121 db(c) omni-directional siren be installed on the property, and that the State of Hawaii Department of Defense, Hawaii Emergency Management Agency (HIEMA) will work with the developer to determine the best location for the siren site.

If you have any questions or concerns, please have your staff contact Ms. Havinne Okamura, Hazard Mitigation Planner, at (808) 733-4300, extension 556.

Sincerely,

DOUG MAYNE
Administrator of Emergency Management

PBR HAWAII
& ASSOCIATES, INC.

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March 15, 2016

Mr. Doug Mayne, Administrator of Emergency Management
State of Hawai'i Department of Defense
Office of the Director of Emergency Management/Civil Defense
3949 Diamond Head Road
Honolulu, HI 96716-4495

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Mayne,

Thank you for your letter dated August 12, 2015 in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and provide the following response.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.) Your office may be contacted in the future to comment on plans for the Auwae Lots.

DHHL acknowledges the DoD's comment that the proposed installation of the warning siren as described in the Draft Environmental Assessment will not provide coverage to the subject property as described. Since the comment pertains to the Auwae Lots, DHHL will consult with the State of Hawaii Department of Defense, Hawaii Emergency Management Agency (HIEMA) to determine the best location for the siren when DHHL decides to proceed with the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,
PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:
EPO 15-180

August 11, 2015

Mr. Roy Takemoto
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Takemoto:

SUBJECT: Draft Environmental Assessment (DEA) for Panaewa Agricultural Lots Subdivision, Hawaii, South Hilo
TMK: (3) 2-1-025:047, (3) 2-1-025:048; (3) 2-1-025:006; (3) 2-1-025:007; (3) 2-2-061:002

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your DEA to our office on July 23, 2015. Thank you for allowing us to review and comment on the proposed Panaewa Agricultural Lots Subdivision, available on the OEQC website at:

http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Hawaii/2010s/2015-07-23-HA-5B-DEA-Panaewa-Agricultural-Lots-Subdivision.pdf

The DEA was routed to various branches. The various branches will provide specific comments to you if necessary. EPO recommends that you review the standard comments and available strategies to support sustainable and healthy design provided at: http://health.hawaii.gov/epo/home/landuse-planning-review-program/. Projects are required to adhere to all applicable standard comments.

EPO offers the following comments:

1. We suggest you review the requirements for the National Pollutant Discharge Elimination System (NPDES) permit. We recommend contacting the Clean Water Branch at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov after relevant information is reviewed at:
   a. http://health.hawaii.gov/cwb
   b. http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/standard-npdes-permit-conditions
   c. http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/forms

2. EPO recommends you review the need and/or requirements for a Clean Air Branch permit. The Clean Air Branch can be consulted via e-mail at: Cab.General@doh.hawaii.gov or via phone: (808) 586-4200.

3. If noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control". A noise permit may be required and should be obtained before the commencement of work. Please call the Indoor and Radiological Health Branch at (808) 586-4700 and review relevant information online at: http://health.hawaii.gov/irhb/noise

Please note that all wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, chapter 11-62, "Wastewater systems". We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please contact the Planning and Design Section of the Wastewater Branch at 586-4294.

EPO also suggests that the Hazard Evaluation and Emergency Response (HEER) Office's Site Discovery and Response (SDAR) Section be contacted. The SDAR section protects human health and the environment by identifying, investigating, and remediating sites contaminated with hazardous substances (non-emergency site investigations and cleanup). The HEER Office's SDAR Section can be contacted at: (808) 586-4249 and relevant information can be reviewed at: http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/site-assessment-and-cleanup-programs

We encourage you to examine and utilize the Hawaii Environmental Health Portal. The portal provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings. The Portal is continually updated. Please visit it regularly at: https://eha-cloud.doh.hawaii.gov

We request that you utilize all of this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design.

Mahalo nui loa,

Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

c: Niniau Simmons, DHHL
DOH: DHO HI, CWB, WWB & IRHB {via email only}

PBR HAWAII
& ASSOCIATES, INC.

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TOM SCHNELL, AICP
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Associate

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printed on recycled paper

March 15, 2016

Ms. Laura Leialoha Phillips McIntyre, AICP
Program Manager
State of Hawai'i, Department of Health
Environmental Planning Office
P.O. Box 3378
Honolulu, HI 96801-3378

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Ms. McIntyre,

Thank you for your letter dated August 11, 2015 (Reference Number EPO 15-180) in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project (*copied below*, along with our response).

Please note that our response below pertains only to your comments on the Mahi'ai Lot, TMK number (3) 2-2-061:002. **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** (The updates are not anticipated to affect the Mahi'ai Lot.) The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot, with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated DHHL plans.

Your office may be contacted in the future to comment on plans for the Auwae Lots.

1. We suggest you review the requirements for the National Pollutant Discharge Elimination System (NPDES) permit. We recommend contacting the Clean Water Branch at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov after relevant information is reviewed at:
a. http://health.hawaii.gov/cwb
b. http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/standard-npdespermit-conditions
c. http:/ /health. hawaii. gov /cwb/site-map/clean-water -branch-home-page/forms

A copy of the Draft Environmental Assessment was sent to the HDOH Clean Water Branch, and any comments will be incorporated in the Final Environmental Assessment. The need for a NPDES permit has been anticipated; DHHL intends to submit, and adhere to the standards of, the permit.

2. EPO recommends you review the need and/or requirements for a Clean Air Branch permit. The Clean Air Branch can be consulted via e-mail at: Cab.General@doh.hawaii.gov or via phone: (808) 586-4200.

The project is not expected to adversely impact air quality. Construction documents will include standard dust control measures to mitigate short-term impacts from fugitive dust, although the potential impact is minimal due to wet climate and low wind speeds at the site. If unanticipated air quality impacts emerge, DHHL will comply with HDOH guidance.

3. If noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control". A noise permit may be required and should be obtained before the commencement of work. Please call the Indoor and Radiological Health Branch at (808) 586-4700 and review relevant information online at: http://health.hawaii.gov/irhb/noise

Construction documents will include standard noise control measures. The need for a noise permit has been anticipated. In addition, the Final Environmental Assessment incorporates pre-assessment consultation comments from Hawai'i District Environmental Health Program Chief Newton Inouye regarding Chapter 11-46, HAR, "Community Noise Control".

Please note that all wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, chapter 11-62, "Wastewater systems". We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please contact the Planning and Design Section of the Wastewater Branch at 586-4294.

We acknowledge that all wastewater plans must conform to applicable provisions of Chapter 11-62, HAR. DHHL will require lessees to install septic systems approved by the Department of Health.

EPO also suggests that the Hazard Evaluation and Emergency Response (HEER) Office's Site Discovery and Response (SDAR) Section be contacted. The SDAR section protects human health and the environment by identifying, investigating, and remediating sites contaminated with hazardous substances (non-emergency site investigations and cleanup). The HEER Office's SOAR Section can be contacted at: (808) 586-4249 and relevant information can be reviewed at: http://eha-web.doh.hawaii.gov/ehacma/Leaders/HEER/site-assessment-and-cleanup-programs

DHHL will conduct testing for soil arsenic. If contamination is found, DHHL will issue a notice to surrounding owners and cooperate with the HEER Office to address contamination concerns.

We encourage you to examine and utilize the Hawaii Environmental Health Portal. The portal provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings. The Portal is continually updated. Please visit it regularly at: https://eha-cloud.doh.hawaii.gov

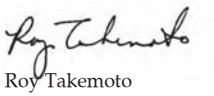
We request that you utilize all of this information on your proposed project to increase sustainable, innovative, inspirational, transparent and healthy design.

All of the information above has been noted and will be incorporated where applicable. We appreciate EPO bringing these items to our attention.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII



Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

08029PCTM.15

August 19, 2015

STATE OF HAWAIIAN HOME LANDS
2015 AUG 24 PM 1:43

Ms. Niniau Simmons
Department of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

Dear Ms. Simmons:

SUBJECT: Comments on the Draft Environmental Assessment (DEA) and Anticipated Finding of No Significant Impact (AFONSI) for the Panaewa Agricultural Lots Subdivision, TMK (3) 2-1-025:006, (3) 2-1-025:007, (3) 2-1-025:047, (3) 2-1-025:048, and (3) 2-2-061:002 Hilo, Island of Hawaii, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated July 9, 2015, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/05/Clean-Water-Branch-Std-Comments.pdf

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55).

For NPDES general permit coverage, a Notice of Intent (NOI) form must be submitted at least 30 calendar days before the commencement of the discharge. An application for a NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, you must submit the applicable form ("CWB Individual NPDES Form" or "CWB NOI Form") through the e-Permitting Portal and the hard copy certification statement with the respective filing fee ($1,000 for an individual NPDES permit or $500 for a Notice of General Permit Coverage). Please open the e-Permitting Portal website located at: https://eha-cloud.doh.hawaii.gov/epermit/. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the appropriate form. Follow the instructions to complete and submit the form.

3. If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 835-4303) regarding their permitting requirements.

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

5. It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. Project planning should:

   a. Treat storm water as a resource to be protected by integrating it into project planning and permitting. Storm water has long been recognized as a source of irrigation that will not deplete potable water resources. What is often overlooked is that storm water recharges ground water supplies and feeds streams and estuaries; to ensure that these water cycles are not disrupted, storm water cannot be relegated as a waste product of impervious surfaces. Any project planning must recognize storm water as an asset that sustains and protects natural ecosystems and traditional beneficial uses of State waters, like

community beautification, beach going, swimming, and fishing. The approaches necessary to do so, including low impact development methods or ecological bio-engineering of drainage ways must be identified in the planning stages to allow designers opportunity to include those approaches up front, prior to seeking zoning, construction, or building permits.

b. Clearly articulate the State's position on water quality and the beneficial uses of State waters. The plan should include statements regarding the implementation of methods to conserve natural resources (e.g. minimizing potable water for irrigation, gray water re-use options, energy conservation through smart design) and improve water quality.

c. Consider storm water Best Management Practice (BMP) approaches that minimize the use of potable water for irrigation through storm water storage and reuse, percolate storm water to recharge groundwater to revitalize natural hydrology, and treat storm water which is to be discharged.

d. Consider the use of green building practices, such as pervious pavement and landscaping with native vegetation, to improve water quality by reducing excessive runoff and the need for excessive fertilization, respectively.

e. Identify opportunities for retrofitting or bio-engineering existing storm water infrastructure to restore ecological function while maintaining, or even enhancing, hydraulic capacity. Particular consideration should be given to areas prone to flooding, or where the infrastructure is aged and will need to be rehabilitated.

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb/, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

ALEC WONG, P.E., CHIEF
Clean Water Branch

CTM:ay

PBR HAWAII
& ASSOCIATES, INC.

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

March 15, 2016

Mr. Alec Wong, P.E., Chief
State of Hawai'i, Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, HI 96801-3378

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Wong,

Thank you for your letter dated August 19. 2015 (Reference number 08029PCTM.15) in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and provide the following response.

1. We acknowledge that the project and its potential impacts to State waters are subject to certain criteria.
   a. The Pana'ewa Agricultural Lots Subdivision complies with the General Policy of Water Quality Antidegradation (§11-5-1.1, HAR). The project is not anticipated to have any significant adverse impact on either groundwater or surface water resources.
   b. DHHL acknowledges designated uses under §11-54-3, HAR, as defined by the classification of receiving State waters. The nearest receiving State water, in this case, is Ka'ahakini Stream (Class 2 according to §11-54-5.1, HAR). The Pana'ewa Agricultural Lots Subdivision, however, is not anticipated to flow into Ka'ahakini Stream.
   c. DHHL acknowledges CWB's comment regarding water quality criteria (§§11-54-4 and 11-54-8, HAR), and does not anticipate the project to degrade water quality with respect to these criteria.

2. DHHL has anticipated the need for a NPDES permit. DHHL will follow all proper procedures to obtain a NPDES permit and adhere to its requirements.

3. The USACE – Engineering Division was sent a copy of the Draft Environmental Assessment, and was invited to offer comments. As of the date of this letter, no comments have yet been received from the division. Stormwater will not discharge directly into Hilo Bay, due to distance of the Project from the ocean.

4. DHHL acknowledges that all discharges related to construction or operation of the Pana'ewa Agricultural Lots Subdivision must comply with State Water Quality Standards, regardless of NPDES and/or Section 401 WQC coverage. DHHL acknowledges the penalties for

noncompliance as specified in §11-55, HAR. Based on all available data and mitigation strategies, the project is not anticipated to have any significant adverse impact on either groundwater or surface water resources.

5. It is acknowledged that all projects must reduce, reuse and recycle to protect, restore and sustain water quality and beneficial uses of State waters.
   a. DHHL acknowledges stormwater as a resource to be integrated into project planning and permitting, and recognizes stormwater's place in the water cycle. Although the project's paved roads will increase impermeable surface area, runoff will be slowed and mitigated by landscaping features such as grass shoulders and swales. Furthermore, the agricultural activities associated with the project ensure that a significant portion of the project area will remain unpaved.
   b. The Environmental Assessment has been revised to clearly articulate the State's position. The document has also been revised to mention proactive mitigation measures, including LID and green building practices, which could reduce the project's overall hydrologic footprint. You will find these revisions in the Hydrology section in the Final Environmental Assessment.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

\\PBRFS04\Data\Shared\Admin\Job31\3151.02 Panaewa Ag Subdivision\Consultation\DEA\Comments and Responses\Response letters\Response DOH CWB.docx

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DAVID Y. IGE
GOVERNOR

RACHAEL WONG, DrPH
DIRECTOR

PANKAJ BHANOT
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawaii 96813

August 14, 2015

Re: 15-0459

PBR HAWAII & Associates, Inc.
Attn: Roy Takemoto
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Takemoto:

Subject: Pre-Assessment Consultation for the proposed subdivision of the Pana'ewa AG Lots Located in the Ahupua'a of Waiakea, South Hilo District, Island and County of Hawaii (TMK (3) 2-2-061:002, (3)2-1-025:006, (3) 2-1-025:007, (3) 2-1-025:047, and (3) 2-1-025:048

This is in response to your letter dated July 12, 2015 requesting the Department of Human Services (DHS) review and comment on the proposed subdivision of the Pana'ewa AG Lots project located in the Ahupua'a of Waiakea, South Hilo, Hawaii.

The DHS has reviewed the latest Draft EA and has no further comment upon the Pana'ewa subdivision construction project.

If you have any questions or need further information, please contact Ms. Jill Arizumi, Child Care Program Specialist, at (808) 586-5240.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Rachael Wong, DrPH, Director

PBR HAWAII
& ASSOCIATES, INC.

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

printed on recycled paper

March 15, 2016

Mr. Scott Nakasone, Assistant Division Administrator
State of Hawai'i, Department of Human Services
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, HI 96813

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Nakasone,

Thank you for your letter dated August 14, 2015 (Reference number 15-0459) in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge that you have no further comments to offer at this time.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

\\PBRFS04\Data\Shared\Admin\Job31\3151.02 Panaewa Ag Subdivision\Consultation\DEA\Comments and Responses\Response letters\Response DHS.docx

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 24, 2015

PBR Hawaii & Associates, Inc.
Attn: Roy Takemoto
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

via email: rtakemoto@pbrhawaii.com

Dear Mr. Takemoto:

SUBJECT: Draft Environmental Assessment (DEA) for Panaewa Agricultural Lots Subdivision, PBR Hawaii & Associates, Inc. for the Department of Hawaiian Home Lands, Applicant, Waiakea, South Hilo, Hawaii; TMK: (3) 2-2-061:002, and 2-1-025:006, 007, 047 & 048

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the (i) Engineering Division, and (ii) Hawaii District Land Office on the subject matter. Should you have any questions, please feel free to call Kevin Moore at 587-0426.

Sincerely,

for Russell Y. Tsuji
Land Administrator

Enclosure(s)

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RECEIVED
2015 AUG 19 AM 11:09
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

'15 AUG 4 AM 10:40 ENGINEERING

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 4, 2015

MEMORANDUM

TO: FR:

DLNR Agencies:
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
__Commission on Water Resource Management
__Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

TO:
FROM: for Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment (DEA) for Panaewa Agricultural Lots Subdivision
LOCATION: Waiakea, South Hilo, Hawaii; TMK: (3) 2-2-061:002, and 2-1-025:006, 007, 047 & 048
APPLICANT: PBR Hawaii & Associates, Inc. for the Department of Hawaiian Home Lands

Transmitted for your review and comment is information on the above-referenced project. The DEA is available for review on the Office of Environmental Quality Control website at http://health.hawaii.gov/oeqc/ in the July 23, 2015 edition of The Environmental Notice. One CD of the DEA is also available for review in the Land Division office in Honolulu. We would appreciate your comments on this project. Please submit any comments by August 20, 2015.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Kevin Moore at 587-0426. Thank you.

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: _____

Print name: Carty S. Chang, Chief Engineer
Date: 8/12/15

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
REF: DEA for Panaewa Agricultural Lots Subdivision, Waiakea, South Hilo Hawaii.045

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone X. The National Flood Insurance Program does not have any regulations for developments within Zone X.**

( ) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project site must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Carter Romero (Acting) at (808) 961-8943 of the County of Hawaii, Department of Public Works.

( ) Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.

( ) Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

(X) **The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.**

( ) Additional Comments: _____

_____

( ) Other: _____

_____

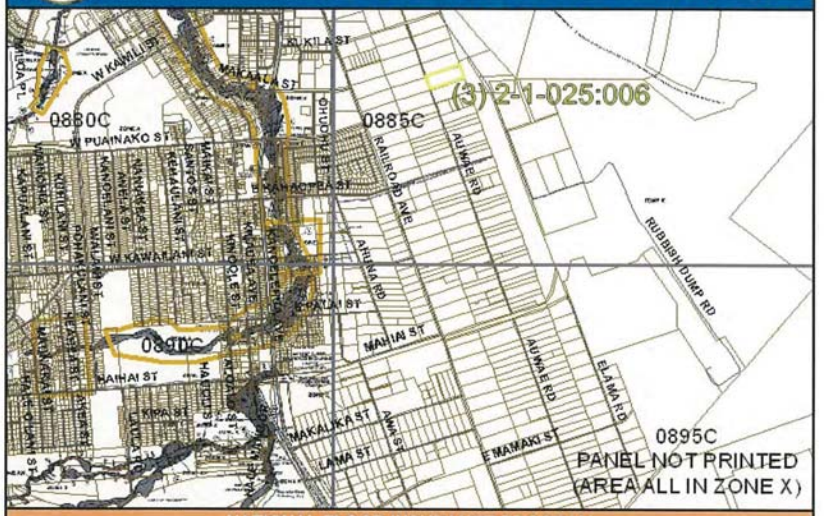
Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 4/12/13

State of Hawaii

FLOOD HAZARD ASSESSMENT REPORT



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD ZONE DEFINITIONS

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD – The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water-surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- **Zone A:** No BFE determined.
- **Zone AE:** BFE determined.
- **Zone AH:** Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- **Zone AO:** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- **Zone V:** Coastal flood zone with velocity hazard (wave action); no BFE determined.
- **Zone VE:** Coastal flood zone with velocity hazard (wave action); BFE determined.
- **Zone AEF:** Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA – An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- **Zone XS (X shaded):** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- **Zone X:** Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

- **Zone D:** Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

PROPERTY INFORMATION

COUNTY:	HAWAII
TMK NO:	(3) 2-1-025-006
PARCEL ADDRESS:	
FIRM INDEX DATE:	APRIL 02, 2004
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL(S):	1551660885C
PANEL EFFECTIVE DATE:	SEPTEMBER 16, 1988
PARCEL DATA FROM:	JUNE 2013
IMAGERY DATA FROM:	MAY 2005

IMPORTANT PHONE NUMBERS

County NFIP Coordinator	
County of Hawaii	
Carter Romero, P.E., CFM	(808) 961-8943
State NFIP Coordinator	
Carol Tyau-Beam, P.E., CFM	(808) 587-0267

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

2015 AUG -5 A 11:28

RECEIVED
LAND DIVISION
HILO, HAWAII
2015 AUG 14 AM 10:13

August 4, 2015

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
__Commission on Water Resource Management
__Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment (DEA) for Panaewa Agricultural Lots Subdivision
LOCATION: Waiakea, South Hilo, Hawaii; TMK: (3) 2-2-061:002, and 2-1-025:006, 007, 047 & 048
APPLICANT: PBR Hawaii & Associates, Inc. for the Department of Hawaiian Home Lands

Transmitted for your review and comment is information on the above-referenced project. The DEA is available for review on the Office of Environmental Quality Control website at http://health.hawaii.gov/oeqc/ in the July 23, 2015 edition of The Environmental Notice. One CD of the DEA is also available for review in the Land Division office in Honolulu. We would appreciate your comments on this project. Please submit any comments by August 20, 2015.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Kevin Moore at 587-0426. Thank you.

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: _____

Print name: GORDON C. HELT
Date: 8/12/15

cc: Central Files

PBR HAWAII
& ASSOCIATES, INC.

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

printed on recycled paper

March 15, 2016

Mr. Carty Chang, Chief Engineer
State of Hawai'i Department of Land and Natural Resources
Engineering Division
P.O. Box 621
Honolulu, HI 96809

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Chang,

Thank you for your letter dated August 4, 2015 in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and provide the following response.

Thank you for confirming that the project site is located in Flood Zone X, for which the National Flood Insurance Program has no regulations for developments. Also, once studies are completed, DHHL will provide DLNR Engineering Division with water demands and calculations for your reference so it can be included in the State Water Projects Plan Update.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.) Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

\\PBRFS04\Data\Shared\Admin\Job31\3151.02 Panaewa Ag Subdivision\Consultation\DEA\Comments and Responses\Response letters\Response DLNR-ENG.docx

PBR HAWAII
& ASSOCIATES, INC.

March 15, 2016

Mr. Russell Tsuji, Land Administrator
State of Hawai'i Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Tsuji,

Thank you for your letter dated August 4, 2015 in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge that you have no further comments to offer at this time.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

\\PBRFS04\Data\Shared\Admin\Job31\3151.02 Panaewa Ag Subdivision\Consultation\DEA\Comments and Responses\Response letters\Response DLNR-LAND.docx

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 313-6878

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

April 29, 2015

Niniau K. Simmons
Department of Hawaiian Home Lands
PO Box 1879
Honolulu, HI 96805

LOG NO: 2015.01397
DOC NO: 1504SN08
Archaeology

Aloha Ms. Simmons:

SUBJECT: **Chapter 6E-8 and National Historic Preservation Act Section 106 Review –**
Proposed Subdivision of the Pana'ewa AG Lots
Waiākea Ahupua'a, South Hilo District, Island of Hawai'i
TMK: (3) 2-1-025:006, 007, 047, and 048; (3) 2-2-061:002

Mahalo for your letter dated April 7, 2015, initiating consultation on the proposed subdivision of the Pana'ewa AG lots. Also included with your letter was a draft letter report prepared by Scientific Consultant Services (SCS) for the five parcels. The draft letter report states that the entire 50-acre APE was surveyed utilizing pedestrian transects spaced 10 m apart and that no historic properties were identified.

Your submittal letter indicates that the Department of Hawaiian Home Lands (DHHL) is conducting an environmental assessment and NEPA review for the proposed project. The project will be funded using Native American Housing Assistance and Self-Determination Act (NAHASA) funds from the U.S. Department of Housing and Urban Development (HUD). The DHHL is acting as the responsible agency for the NHPA Section 106 consultation process. The proposed undertaking will subdivide 90 1/2-acre parcels for single-family housing on undeveloped DHHL state-owned land in Pana'ewa.

The Area of Potential Effect (APE) for this undertaking is the aforementioned TMKs. The acreage of the APE totals approximately 50 acres. Four parcels (TMK: (3) 2-1-025:006, 007, 047, and 048) are located adjacent to each other on Auwae Street. The fifth parcel (TMK: (3) 2-2-061:002) is located on Mahi'ai Street.

Our records indicate that we do not have an Archaeological Inventory Survey (AIS) on file for the APE. The draft SCS letter report was not prepared at the request of SHPD and has not been officially submitted to our division for review. Thus, we have insufficient information to evaluate the efficacy of the SCS surface survey or the potential for the proposed project to affect historic properties.

The State Historic Preservation Officer (SHPO) requests the following:

(1) A letter from DHHL documenting the consultation process and results, including a list of consulting parties, method of consultation, and consultation comments shared by Native Hawaiian Organizations (NHOs) and other interested parties;
(2) A letter from DHHL identifying the historic properties within the APE, the DHHL's determination of eligibility for each identified historic property and, if historic properties may be affected, DHHL's proposed mitigation recommendations; and

(3) An AIS including subsurface testing be conducted and that an AIS report meeting the requirements of Hawaii Administrative Rule (HAR) §13-276 and the *Secretary of the Interior's Standards for Archaeological Documentation* be submitted for SHPD review and acceptance prior to DHHL submitting a project effect determination to SHPD for concurrence.

We look forward to working with you throughout the Section 106 process. Please contact Sean Nāleimaile at (808) 933-7651 or Sean.P.Naleimaile@Hawaii.gov if you have any questions or concerns regarding this letter.

Aloha,

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

cc: Catie Cullison
1001 Bishop Street, Suite 650
Honolulu, HI 96813

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS

THOMAS S. WITTEN, FASLA
Chairman

R. STAN DUNCAN, ASLA
President

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President

VINCENT SHIGEKUNI
Vice-President

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Vice-President

TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

ASSOCIATES

RAYMOND T. HIGA, ASLA
Senior Associate

CATIE CULLISON, AICP
Senior Associate

ROY TAKEMOTO
Managing Director – Hilo

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
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March 15, 2016

Dr. Alan Downer, Administrator
State of Hawai'i Department of Land and Natural Resources
State Historic Preservation Division
Kākuhihewa Building
601 Kamokila Blvd, Ste 555
Kapolei, HI 96707

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Dr. Downer,

Thank you again for your letter dated April 29, 2015 (Log Number 2015.01397, Doc Number 1504SN08) in regard to the proposed Pana'ewa Agricultural Lots Subdivision.
As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we assume that you have no further comments since we did not receive any additional response to the Draft Environmental Assessment (Draft EA).

Since the date of our last correspondence, DHHL has worked with SHPD to comply with the letter and spirit of both Chapter 6E, HRS and Section 106, NHPA. As a result, new information has become available regarding your previous comments. Your comments about the project are copied below, along with our response.

Our records indicate that we do not have an Archaeological Inventory Survey (AIS) on file for the APE. The draft SCS letter report was not prepared at the request of SHPD and has not been officially submitted to our division for review. Thus, we have insufficient information to evaluate the efficacy of the SCS surface survey or the potential for the proposed project to affect historic properties.

Scientific Consultant Services (SCS) conducted an archaeological inventory survey (AIS) of the Site and submitted that AIS to SHPD on June 10, 2015 for review. The AIS was conducted in accordance with Hawai'i Administrative Rules Chapter 13-275 (Rules Governing Minimal Standards for Archaeological Inventory Surveys and Reports) and Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR Part 800). The archaeologist determined through

archaeological survey that no historic properties exist within the area of potential effect and that no historic properties will be affected by the proposed undertaking. The report recommended that, pursuant to Section 106 of the National Historic Preservation Act of 1966 as amended and 36 CFR part 800.2(c), the State Historic Preservation Officer (SHPO) concur with the determination of no effect. The AIS was included in the Draft EA, in Appendix D.

***The State Historic Preservation Officer (SHPO) requests the following**:*

(1) A letter from DHHL documenting the consultation process and results, including a list of consulting parties, method of consultation, and consultation comments shared by Native Hawaiian Organizations (NHOs) and other interested parties

On August 28, 2015 DHHL consulted with all NHOs listed by the U.S. Department of the Interior Office of Native Hawaiian Relations. In addition, consultation was extended to SHPD's Hawai'i Island Burial Council. No responses have been received to date, except for a letter from the Office of Hawaiian Affairs that reiterated previous comments sent during the public review period.

(2) A letter from DHHL identifying the historic properties within the APE, the DHHL's determination of eligibility for each identified historic property and, if historic properties may be affected, DHHL's proposed mitigation recommendations

DHHL submitted a completed SHPD Application for Historic Preservation Review to your office on September 4, 2015. The application states that no historic or eligible properties exist within the APE of the project, and requested concurrence that no historic or eligible properties would be affected by the project. No response has been received to date.

(3) An AIS including subsurface testing be conducted and that an AIS report meeting the requirements of Hawaii Administrative Rule (HAR) §13-276 and the Secretary of the Interior's Standards for Archaeological Documentation be submitted for SHPD review and acceptance prior to DHHL submitting a project effect determination to SHPD for concurrence.

In the AIS, please note that no subsurface work was performed based on the results described in the submitted AIS that there were no historical evidence suggesting the likelihood of finds.

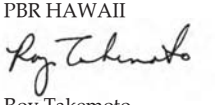
Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII



Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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DAVID Y. IGE
GOVERNOR

FORD N. FUCHIGAMI
DIRECTOR

DEPUTY DIRECTORS
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
DIR 0937
HWY-PS 2.0551

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

September 8, 2015

Mr. Roy Takemoto
Managing Director
PBR Hawaii & Associates, Inc.
1719 Haleloke Street
Hilo, Hawaii 96720-1553

Dear Mr. Takemoto:

Subject: Draft Environmental Assessment
Panaewa Agricultural Lots Subdivision
South Hilo, Waiakea, Hawaii
TMK: (3) 2-2-061:002; (3) 2-1-025:006, 007, 047, 048

The Department of Hawaiian Homelands proposes to subdivide several parcels into eighty (80) ½-acre lots for homestead agriculture leases. The lots will provide for new leasees and for relocating leasees whose lots are threatened by lava flows and other hazards. The bulk of the lots will access Auwae Road and the remainder will access Mahiai Street, roadways are under the jurisdiction of the County of Hawaii.

While the Department of Transportation (DOT) had requested traffic assessment (TA) preparation in its April 8, 2015 letter, STP 8.1783, a TA was not part of the draft environmental assessment. Given that the project will be accessing County roads, the DOT is willing to overlook the deficiency.

Based on the information provided, the project is not anticipated to have a significant impact to State highway facilities.

If there are any questions, please contact Nami Wong, Systems Planning Engineer, Highways Division, Planning Branch, at (808) 587-6336. Please reference file review number PS 2015-052 in all contacts and correspondence regarding these comments.

Sincerely,

FORD N. FUCHIGAMI
Director of Transportation

PBR HAWAII
& ASSOCIATES, INC.

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1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
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1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

March 15, 2016

Mr. Ford Fuchigami
State of Hawai'i Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Fuchigami,

Thank you for your letter dated September 8, 2015 (Reference number DIR 0937, HWY-PS 2.0551) in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and provide the following response.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

We acknowledge that you were willing to excuse the Draft Environmental Assessment document's lack of a traffic assessment since the project is not anticipated to have a significant impact to State highway facilities. DHHL may hire a traffic engineer to produce a Traffic Analysis Impact Report (TIAR) when DHHL plans to proceed with the Auwae Lots. Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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PHONE (808) 594-1888

FAX (808) 594-1938

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
560 N. NIMITZ HWY., SUITE 200
HONOLULU, HAWAI'I 96817

HRD15/7408C

August 17, 2015

PBR HAWAII & Associates, Inc.
ATTN: Roy Takemoto, Managing Director – Hilo
1001 Bishop St., Suite 650
Honolulu, HI 96813

Re: Request Information for Comments on the Draft Environmental Assessment for the Department of Hawaiian Homelands Pana'ewa Agricultural Lots Subdivision
Waiākea Ahupua'a, Hilo Moku, Hawai'i Mokupuni
Tax map key (3) 2-1-025:006, 007, 047, 048 and (3) 2-1-061:002

Aloha Mr. Takemoto:

The Office of Hawaiian Affairs (OHA) is in receipt of your August 4, 2015 letter requesting comments on the draft environmental assessment (DEA) for the Department of Hawaiian Homelands (DHHL) Pana'ewa Agricultural Lots Subdivision.

The DHHL is proposing to subdivide the five, 10-acre parcels into 90 half-acre lots. The subdivision will enable the relocation of Maku'u Farm Lot, other lessees, and allow for awards to individuals currently on the waitlist. Funding for the project derives from state and federal resources,[1] requiring compliance with the National Environmental Policy Act and the National Historic Preservation Act, Section 106. OHA participated in consultation for both federal processes by a July 15, 2015 letter.

An archaeological inventory survey of the proposed project site has been completed by Scientific Consultant Services (SCS) and is being reviewed by the State of Hawai'i Department of Land and Natural Resources State Historic Preservation Division. The survey consisted of 100% pedestrian coverage of the area, and no excavations were determined to be necessary.

[1] Native American Housing Assistance and Self-Determination Act (NAHASDA)

SCS concluded that no archaeological features were observed and that due to the previous ground disturbances and use of land for agriculture purposes they recommend a "no historic properties affected" determination.[2] Nevertheless, OHA does request assurances that should iwi kūpuna or Native Hawaiian cultural deposits be identified during any ground altering activities, all work will immediately cease and the appropriate agencies, including OHA, will be contacted pursuant to applicable law.

Mahalo for the opportunity to comment. Should you have any questions, please contact Jeannin Jeremiah at 594-1790 or by email at jeanninj@oha.org.

'O wau iho nō me ka 'oia 'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KC:jj

C: Niniau Simmons – Department of Hawaiian Home Lands
Lukela Ruddle – OHA Hilo Community Outreach Coordinator *(via email)*
Kamuela Bannister – OHA Hilo Community Outreach Coordinator *(via email)*

**Please address replies and similar, future correspondence to our agency:*
Dr. Kamana'opono Crabbe
Attn: OHA Compliance Enforcement
560 N. Nimitz Hwy, Ste. 200
Honolulu, HI 96817

[2] Hawai'i Administrative Rules § 13-275-6(e).

PBR HAWAII
& ASSOCIATES, INC.

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Associate

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March 15, 2016

Dr. Kamana'opono Crabbe, Ka Pouhana, CEO
State of Hawai'i, Office of Hawaiian Affairs
560 N. Nimitz Highway, Suite 200
Honolulu, HI 96817

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Dr. Crabbe,

Thank you for your letter dated August 17, 2015 (Reference number HRD15/7408C) in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and provide the following response.

We understand that you would like the letter that OHA wrote to our project archaeologist, Scientific Consultant Services (dated July 15, 2015) to stand as consultation comments for the following consultations:

- 343 Pre-Assessment Consultation
- 343 Draft Environmental Assessment Consultation
- Section 106 and HRS 6E Consultation

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.) Your office may be contacted in the future to comment on plans for the Auwae Lots.

The July 15 letter advised SCS to contact Bill Brown of the Pana'ewa Hawaiian Home Lands Community Association (PHHLCA). Cultural information was sent directly from SCS to Mr. Brown on July 29, 2015. While Mr. Brown did not respond directly, the PHHLCA later invited the team to present on the project. The archaeologist solicited audience comments at the meeting; none of the audience members alluded to any past or ongoing cultural practices associated with the project area. A copy of the Draft Environmental Assessment was sent to PHHLCA, and no further comments, were received.

We acknowledge OHA's request for notification, should iwi kūpuna or Native Hawaiian cultural deposits be identified during ground altering activities. As the Draft Environmental Assessment states:

> The construction documents will include a provision that should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentrations of shell or charcoal or artifacts be inadvertently encountered during construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected. The contractor will immediately contact the State Historic Preservation Division, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

Per your comments, the following sentence has been inserted:

> The State Office of Hawaiian Affairs (OHA) will also be contacted.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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UNIVERSITY of HAWAI'I® MĀNOA

Water Resources Research Center

DEPT. OF HAWAIIAN HOME LANDS

2015 AUG 27 P 12:26

August 3, 2015

Department of Hawaiian Homelands
Attn: Niniau Simmons
91-5420 Kapolei Parkway
Kapolei, HI 96707

Ms. Simmons:

This is to acknowledge receipt of your letter for review of an Environmental Assessment.

Unfortunately, the Water Resources Research Center does not have the capacity to review the environmental impact statement at this time due to the faculty position vacancy.

While we continue to explore filling the current vacancy, the Center will exclude itself from commentary on this specific environmental assessment study.

Sincerely,

Darren T. Lerner, PhD
Interim Director

2540 Dole Street, Holmes Hall 283
Honolulu, Hawai'i 96822
Telephone: (808) 956-7847
Fax: (808) 956-5044
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PBR HAWAII & ASSOCIATES, INC.

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March 15, 2016

Dr. Darren Lerner, Interim Director
Water Resources Research Center
Attn: Environmental Assessment & Protection Division
2540 Dole Street
Holmes 283
Honolulu, HI 96822

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Dr. Lerner,

Thank you for your letter dated August 3, 2015 in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge that you would like to exclude yourself from commentary for this specific project.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

We value your participation in the environmental review process, and will continue to invite WRRC to comment on future projects unless you request otherwise. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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William P. Kenoi
Mayor

BJ Leithead Todd
Director

John A. Medeiros
Deputy Director

County of Hawai'i

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

345 Kekūanaō'a St., Suite 41• Hilo, Hawai`i 96720
(808) 961-8083 · Fax (808) 961-8086
http://www.hawaiicounty.gov/environmental-management/

September 10, 2015

Mr. Roy Takemoto
Managing Director, Hilo Office
PBR Hawai'i and Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

RE: Pre-Assessment Consultation for Proposed Subdivision of the Pana'ewa Ag Lots Located in the Ahupuaa of Waiākea, South Hilo, TMK: 2-2-061:002, 2-1-025:006; 2-1-025:006, 2-1-025:047 and 2-1-025:048

Our department has no comments to offer on this project.

Thank you for allowing us to review and comment.

Sincerely,

BJ Leithead Todd
DIRECTOR

PBR HAWAII
& ASSOCIATES, INC.

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

March 15, 2016

Ms. BJ Leithead Todd, Director
County of Hawai'i
Department of Environmental Management
25 Aupuni Street
Hilo, HI 96720

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Ms. Leithead Todd,

Thank you for your letter dated September 10, 2015 in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge that you have no comments to offer at this time.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

August 17, 2015

Mr. Roy Takemoto
PBR Hawai'i & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

DRAFT ENVIRONMENTAL ASSESSMENT
PANA'EWA AGRICULTURAL LOTS SUBDIVISION
TAX MAP KEY 2-1-025:006, 007, 047, 048 AND 2-2-061:002

We have reviewed the subject Draft Environmental Assessment and have no further comments at this time. Our comments from our April 8, 2015, letter to you, still stand.

Should there be any questions, please contact Mr. Ryan Quitoriano of our Water Resources and Planning Branch, at 961-8070, extension 256.

Sincerely yours,

Keith K. Okamoto, P.E.
Manager-Chief Engineer

RQ:dfg

copy – Niniau Simmons, State of Hawai'i, Department of Hawaiian Home Lands

. . .Water, Our Most Precious Resource . . . Ka Wai A Kāne . . .
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PBR HAWAII
& ASSOCIATES, INC.

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March 15, 2016

Mr. Keith K. Okamoto, P.E.
Manager-Chief Engineer
County of Hawai'i, Department of Water Supply
345 Kekūanaō'a Street, Suite 20
Hilo, HI 96720

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Okamoto,

Thank you for your letter dated August 17, 2015 in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge that you have no further comments to offer at this time.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

\\PBRFS04\Data\Shared\Admin\Job31\3151.02 Panaewa Ag Subdivision\Consultation\DEA\Comments and Responses\Response letters\Response DWS.docx

William P. Kenoi
Mayor

Darren J. Rosario
Fire Chief

Renwick J. Victorino
Deputy Fire Chief

County of Hawai'i
HAWAI'I FIRE DEPARTMENT
25 Aupuni Street • Suite 2501 • Hilo, Hawai'i 96720
(808) 932-2900 • Fax (808) 932-2928

August 18, 2015

Mr. Roy Takemoto
PBR Hawaii & Associates, Inc.
1719 Haleloke Street
Hilo, Hawaii 96720-1553

Dear Mr. Takemoto

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR THE PROPOSED SUBDIVISON OF THE PANA'EWA AG LOTS LOCATED IN THE AHUPUA'A OF WAIAKEA, SOUTH HILO DISTRICT, ISLAND AND COUNT OF HAWAI'I, TMK: (3)2-2-061:002, (3)2-1-025:006, (3)2-1-025:007, (3)2-1-025:047, AND (3)2-1-025:048

In regards to the above-referenced project pre-assessment consultation, the following shall be in accordance:

NFPA 1, UNIFORM FIRE CODE, 2006 EDITION
Note: Hawai'i State Fire Code, National Fire Protection Association 2006 version, with County of Hawaii amendments. County amendments are identified with a preceding "C~" of the reference code.

Chapter 18 Fire Department Access and Water Supply

18.1 General. Fire department access and water supplies shall comply with this chapter.

For occupancies of an especially hazardous nature, or where special hazards exist in addition to the normal hazard of the occupancy, or where access for fire apparatus is unduly difficult, or areas where there is an inadequate fire flow, or inadequate fire hydrant spacing, and the AHJ may require additional safeguards including, but not limited to, additional fire appliance units, more than one type of appliance, or special systems suitable for the protection of the hazard involved.

18.1.1 Plans.

18.1.1.1 Fire Apparatus Access. Plans for fire apparatus access roads shall be submitted to the fire department for review and approval prior to construction.

18.1.1.2 Fire Hydrant Systems. Plans and specifications for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction.

C~ 18.1.1.2.1 Fire Hydrant use and Restrictions. No unauthorized person shall use or operate any Fire hydrant unless such person first secures permission or a permit from the owner or representative of the department, or company that owns or governs that water supply or system. Exception: Fire Department personnel conducting firefighting operations, hydrant testing, and/or maintenance, and the flushing and acceptance of hydrants witnessed by Fire Prevention Bureau personnel.

18.2 Fire Department Access.

18.2.1 Fire department access and fire department access roads shall be provided and maintained in accordance with Section 18.2.

18.2.2* Access to Structures or Areas.

18.2.2.1 Access Box(es). The AHJ shall have the authority to require an access box(es) to be installed in an accessible location where access to or within a structure or area is difficult because of security.

18.2.2.2 Access to Gated Subdivisions or Developments. The AHJ shall have the authority to require fire department access be provided to gated subdivisions or developments through the use of an approved device or system.

18.2.2.3 Access Maintenance. The owner or occupant of a structure or area, with required fire department access as specified in 18.2.2.1 or 18.2.2.2, shall notify the AHJ when the access is modified in a manner that could prevent fire department access.

18.2.3 Fire Department Access Roads. (*may be referred as FDAR)

18.2.3.1 Required Access.

18.2.3.1.1 Approved fire department access roads shall be provided for every facility, building, or portion of a building hereafter constructed or relocated.

18.2.3.1.2 Fire Department access roads shall consist of roadways, fire lanes, parking lots lanes, or a combination thereof.

18.2.3.1.3* When not more than two one- and two-family dwellings or private garages, carports, sheds, agricultural buildings, and detached buildings or structures 400ft^2 (37 m^2) or less are present, the requirements of 18.2.3.1 through 18.2.3.2.1 shall be permitted to be modified by the AHJ.

18.2.3.1.4 When fire department access roads cannot be installed due to location on property, topography, waterways, nonnegotiable grades, or other similar conditions, the AHJ shall be authorized to require additional fire protection features.

18.2.3.2 Access to Building.

18.2.3.2.1 A fire department access road shall extend to within in 50 ft (15 m) of at least one exterior door that can be opened from the outside that provides access to the interior of the building. Exception: 1 and 2 single-family dwellings.

18.2.3.2.1.1 When buildings are protected throughout with an approved automatic sprinkler system that is installed in accordance with NFPA 13, NFPA 13D, or NFPA 13R, the distance in 18.2.3.2.1 shall be permitted to be increased to 300 feet.

18.2.3.2.2 Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 ft (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility.

18.2.3.2.2.1 When buildings are protected throughout with an approved automatic sprinkler system that is installed in accordance with NFPA 13, NFPA 13D, or NFPA 13R, the distance in 18.2.3.2.2 shall be permitted to be increased to 450 ft (137 m).

18.2.3.3 Multiple Access Roads. More than one fire department access road shall be provided when it is determined by the AHJ that access by a single road could be impaired by vehicle congestion, condition of terrain, climatic conditions, or other factors that could limit access.

18.2.3.4 Specifications.

18.2.3.4.1 Dimensions.

C~ 18.2.3.4.1.1 FDAR shall have an unobstructed width of not less than 20ft with an approved turn around area if the FDAR exceeds 150 feet. **Exception:** FDAR for one and two family dwellings shall have an unobstructed width of not less than 15 feet, with an area of not less than 20 feet wide within 150 feet of the structure being protected. An approved turn around area shall be provided if the FDAR exceeds 250 feet.

C~ 18.2.3.4.1.2 FDAR shall have an unobstructed vertical clearance of not less then 13ft 6 in.

C~ 18.2.3.4.1.2.1 Vertical clearances may be increased or reduced by the AHJ, provided such increase or reduction does not impair access by the fire apparatus, and approved signs are installed and maintained indicating such approved changes.

18.2.3.4.1.2.2 Vertical clearances shall be increased when vertical clearances or widths are not adequate to accommodate fire apparatus.

C~ 18.2.3.4.2 Surface. Fire department access roads and bridges shall be designed and maintained to support the imposed loads (25 Tons) of the fire apparatus. Such FDAR and shall be comprised of an all-weather driving surface.

18.2.3.4.3 Turning Radius.

C~ 18.2.3.4.3.1 Fire department access roads shall have a minimum inside turning radius of 30 feet, and a minimum outside turning radius of 60 feet.

18.2.3.4.3.2 Turns in fire department access road shall maintain the minimum road width.

18.2.3.4.4 Dead Ends. Dead-end fire department access roads in excess of 150 ft (46 m) in length shall be provided with approved provisions for the fire apparatus to turn around.

18.2.3.4.5 Bridges.

18.2.3.4.5.1 When a bridge is required to be used as part of a fire department access road, it shall be constructed and maintained in accordance with county requirements.

18.2.3.4.5.2 The bridge shall be designed for a live load sufficient to carry the imposed loads of fire apparatus.

18.2.3.4.5.3 Vehicle load limits shall be posted at both entrances to bridges where required by the AHJ.

18.2.3.4.6 Grade.

C~ 18.2.3.4.6.1 The maximum gradient of a Fire department access road shall not exceed 12 percent for unpaved surfaces and 15 percent for paved surfaces. In areas of the FDAR where a Fire apparatus would connect to a Fire hydrant or Fire Department Connection, the maximum gradient of such area(s) shall not exceed 10 percent.

18.2.3.4.6.2* The angle of approach and departure for any means of fire department access road shall not exceed 1 ft drop in 20 ft (0.3 m drop in 6 m) or the design limitations of the fire apparatus of the fire department, and shall be subject to approval by the AHJ.

18.2.3.4.6.3 Fire department access roads connecting to roadways shall be provided with curb cuts extending at least 2 ft (0.61 m) beyond each edge of the fire lane.

18.2.3.4.7 Traffic Calming Devices. The design and use of traffic calming devices shall be approved the AHJ.

18.2.3.5 Marking of Fire Apparatus Access Road.

18.2.3.5.1 Where required by the AHJ, approved signs or other approved notices shall be provided and maintained to identify fire department access roads or to prohibit the obstruction thereof of both.

18.2.3.5.2 A marked fire apparatus access road shall also be known as a fire lane.

18.2.4* Obstruction and Control of Fire Department Access Road.

18.2.4.1 General.

18.2.4.1.1 The required width of a fire department access road shall not be obstructed in any manner, including by the parking of vehicles.

18.2.4.1.2 Minimum required widths and clearances established under 18.2.3.4 shall be maintained at all times.

18.2.4.1.3* Facilities and structures shall be maintained in a manner that does not impair or impede accessibility for fire department operations.

18.2.4.1.4 Entrances to fire departments access roads that have been closed with gates and barriers in accordance with 18.2.4.2.1 shall not be obstructed by parked vehicles.

18.2.4.2 Closure of Accessways.

18.2.4.2.1 The AHJ shall be authorized to require the installation and maintenance of gates or other approved barricades across roads, trails, or other accessways not including public streets, alleys, or highways.

18.2.4.2.2 Where required, gates and barricades shall be secured in an approved manner.

18.2.4.2.3 Roads, trails, and other access ways that have been closed and obstructed in the manner prescribed by 18.2.4.2.1 shall not be trespassed upon or used unless authorized by the owner and the AHJ.

18.2.4.2.4 Public officers acting within their scope of duty shall be permitted to access restricted property identified in 18.2.4.2.1.

18.2.4.2.5 Locks, gates, doors, barricades, chains, enclosures, signs, tags, or seals that have been installed by the fire department or by its order or under its control shall not be removed, unlocked, destroyed, tampered with, or otherwise vandalized in any manner.

18.3 Water Supplies and Fire Hydrants

18.3.1* A water supply approved by the county, capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ. For on-site fire hydrant requirements see section 18.3.3.

EXCEPTIONS:

1. When facilities or buildings, or portions thereof, are completely protected with an approved automatic fire sprinkler system the provisions of section 18.3.1 may be modified by the AHJ.
2. When water supply requirements cannot be installed due to topography or other conditions, the AHJ may require additional fire protection as specified in section 18.3.2 as amended in the code.
3. When there are not more than two dwellings, or two private garage, carports, sheds and agricultural. Occupancies, the requirements of section 18.3.1 may be modified by AHJ.

18.3.2* Where no adequate or reliable water distribution system exists, approved reservoirs, pressure tanks, elevated tanks, fire department tanker shuttles, or other approved systems capable of providing the required fire flow shall be permitted.

18.3.3* The location, number and type of fire hydrants connected to a water supply capable of delivering the required fire flow shall be provided on a fire apparatus access road on the site of the premises or both, in accordance with the appropriate county water requirements.

18.3.4 Fire Hydrants and connections to other approved water supplies shall be accessible to the fire department.

18.3.5 Private water supply systems shall be tested and maintained in accordance with NFPA 25 or county requirements as determined by the AHJ.

18.3.6 Where required by the AHJ, fire hydrants subject to vehicular damage shall be protected unless located within a public right of way.

18.3.7 The AHJ shall be notified whenever any fire hydrant is placed out of service or returned to service. Owners of private property required to have hydrants shall maintain hydrant records of approval, testing, and maintenance, in accordance with the respective county water requirements. Records shall be made available for review by the AHJ upon request.

C~ 18.3.8 Minimum water supply for buildings that do not meet the minimum County water standards:

Buildings up to 2000 square feet, shall have a minimum of 3,000 gallons of water available for Firefighting.

Buildings 2001- 3000 square feet, shall have a minimum of 6,000 gallons of water available for Firefighting.

Buildings, 3001- 6000 square feet, shall have a minimum of 12,000 gallons of water available for Firefighting.

Buildings, greater than 6000 square feet, shall meet the minimum County water and fire flow requirements.

Multiple story buildings shall multiply the square feet by the amount of stories when determining the minimum water supply.

Commercial buildings requiring a minimum fire flow of 2000gpm per the Department of Water standards shall double the minimum water supply reserved for firefighting.

Fire Department Connections (FDC) to alternative water supplies shall comply with 18.3.8 (1)-(6) of *this code.*

NOTE: In that water catchment systems are being used as a means of water supply for firefighting, such systems shall meet the following requirements:

1) In that a single water tank is used for both domestic and firefighting water, the water for domestic use shall not be capable of being drawn from the water reserved for firefighting;

2) Minimum pipe diameter sizes from the water supply to the Fire Department Connection (FDC) shall be as follows:
   a) 4" for C900 PVC pipe;
   b) 4" for C906 PE pipe;
   c) 3" for ductile Iron;
   d) 3' for galvanized steel.

3) The Fire Department Connection (FDC) shall:
   a) be made of galvanized steel;
   b) have a gated valve with 2-1/2 inch, National Standard Thread male fitting and cap;
   c) be located between 8 ft and 16 ft from the Fire department access. The location shall be approved by the AHJ;
   d) not be located less than 24 inches, and no higher than 36 inches from finish grade, as measured from the center of the FDC orifice;
   e) be secure and capable of withstanding drafting operations. Engineered stamped plans may be required;
   f) not be located more than 150 feet of the most remote part, but not less than 20 feet, of the structure being protected;
   g) also comply with section 13.1.3 and 18.2.3.4.6.1 of *this code.*

4) Commercial buildings requiring a fire flow of 2000gpm shall be provided with a second FDC. Each FDC shall be independent of each other, with each FDC being capable of flowing 500gpm by engineered design standards. The second FDC shall be located in an area approved by the AHJ with the idea of multiple Fire apparatus'conducting drafting operations at once, in mind.

5) Inspection and maintenance shall be in accordance to NFPA 25.

6) The owner or lessee of the property shall be responsible for maintaining the water level, quality, and appurtenances of the system.

EXCEPTIONS TO SECTION 18.3.8:

1) Agricultural buildings, storage sheds, and shade houses with no combustible or equipment storage.

2) Buildings less than 800 square feet in size that meets the minimum Fire Department Access Road requirements.

3) For one and two family dwellings, agricultural buildings, storage sheds, and detached garages 800 to 2000 square feet in size, and meets the minimum Fire Department Access Road requirements, the distance to the Fire Department Connection may be increased to 1000 feet.

4) For one and two family dwellings, agricultural buildings, and storage sheds greater than 2000square feet, but less than 3000 square feet and meets the minimum Fire Department Access Road requirements, the distance to the Fire Department Connection may be increased to 500 feet.

5) For buildings with an approved automatic sprinkler system, the minimum water supply required may be modified.

If there are any questions regarding these requirements, please contact the Fire Prevention Bureau at (808) 932-2911.

DARREN J. ROSARIO
Fire Chief

CB:ds

PBR HAWAII
& ASSOCIATES, INC.

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March 15, 2016

Mr. Darren Rosario, Fire Chief
County of Hawai'i, Fire Department
25 Aupuni Street Suite 2501
Hilo, HI 96720

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Chief Rosario,

Thank you for your letter dated August 18, 2015 in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and provide the following response.

The Pana'ewa Agricultural Lots Subdivision will comply with the Uniform Fire Code, as amended by Chapter 26, Hawai'i County Code. We acknowledge that the Fire Prevention Bureau should be contacted if any questions arise regarding the requirements.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.) Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

cc: Department of Hawaiian Home Lands
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Roy Takemoto

From: Morrison, Bethany <Bethany.Morrison@hawaiicounty.gov>
Sent: Monday, August 24, 2015 3:55 PM
To: Roy Takemoto
Subject: Draft EA Proposed Subdivision of Panaewa Ag Lots

Aloha Roy,

Thank you for a copy of the Draft EA. We have no further comments to offer.

Thank you,

Bethany Morrison
Planner
County of Hawaii
Planning Department
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720
Fax (808) 961-8742
Phone (808) 961-8138
Bethany.Morrison@hawaiicounty.gov

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printed on recycled paper

March 15, 2016

Ms. Bethany Morrison, Planner
County of Hawai'i, Planning Department
101 Pauahi Street, Suite 3
Hilo, HI 96720

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Ms. Morrison,

Thank you for your email dated August 24, 2015 (Subject: Draft EA Proposed Subdivision of Panaewa Ag Lots) in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge that you have no further comments to offer at this time.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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Sandwich Isles Communications, Inc.
A Waimana Company

August 21, 2015

Mr. Roy Takemoto
PBR Hawaii & Associates, Inc.
1001 Bishop St., Suite 650
Honolulu, HI 96813

Subject : Comments to Draft Environmental Assessment
Pana'ewa Agricultural Lots Subdivision
South Hilo, Island of Hawaii

Dear Mr. Takemoto:

Sandwich Isles Communications, Inc. (SIC) was issued License No. 372 by the Department of Hawaiian Home Lands to provide telecommunication services to Hawaiian Home Lands. This project is subject to License No. 372 therefore, paragraph 4.8.5 Utilities should be amended to state that SIC will be the telecommunications provider in lieu of Hawaiian Telcom. It can also be noted that SIC will be installing fiber optics to each home.

Additionally, there is an error in the Table of Contents and should be revised to reflect the actual section titles starting with 4.7 Toxics and Hazardous Waste.

Sincerely,

Rodney Kaulupali
Director of Construction
Sandwich Isles Communications, Inc.

P.O. Box 893370 • Mililani, Hawaii • 96789 • Phone: 808-524-8400 • Fax: 808-599-4653

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& ASSOCIATES, INC.

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March 15, 2016

Mr. Rodney Kaulupali, Director of Construction
Sandwich Isles Communications, Inc.
P.O. Box 893370
Mililani, HI 96789

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Kaulupali,

Thank you for your letter dated August 21, 2015 in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and provide the following response.

Paragraph 4.8.5 Utilities will be amended to state that SIC will be the telecommunications provider in lieu of Hawaiian Telecom, and will be installing fiber optics to each home.

The Table of Contents and will be revised to reflect actual section titles. We appreciate SIC bringing this item to our attention.

Please be advised that **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot (TMK number (3) 2-2-061:002) with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.) Your office may be contacted in the future to comment on plans for the Auwae Lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII

Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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Jobie Masagatani, Chairman
Hawaiian Homes Commission
91-5420 Kapolei Parkway
Kapolei, HI 96707

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

RE: **COMMENTS ON EA 2015-07-12-HA-5B-DEA PANA'EWA AGRICULTURE LOTS SUBDIVISION**

Dear Chairman Masagatani:

On behalf of Keaukaha Pana'ewa Farmers Association (KPFA) and homestead stakeholders, this letter formally submits testimony for consideration and response relative to the Draft Environmental Assessment ("DEA") 2015-07-12-HA-5B-DEA PANA'EWA AGRICULTURE LOTS SUBDIVISION and hereby request a 60-day extension to the OEQC 30-day comment period to allow for collection of relevant and pertinent data that is being requested herein, which will ultimately be part of this DEA record.

KPFA, as an agriculture homestead association in good standing, is bound to adhere to their rules of procedure and protocols related to any action it supports. The process of attaining additional information, forming a comprehensive positional statement and having its membership vote on its statement requires more time then that afforded by the Rule of Practice and Procedure by the Department of Environmental Quality Control, generally referenced as the "30-day comment period".

Members of KPFA and community stakeholders have requested a meeting with DDHL and its consultants to obtain additional information regarding the project, however, that meeting is set for Friday August 21, 2015, just 3 days prior to the comment period deadline. We anticipate DHHL and its consultants will require additional time to provide the information desired by KPFA and homestead stakeholders.

Based on the information present within the DEA, KPFA, **at minimum** requests the following:

1. An additional alternative access to the 80-lots planned for Auwae Road.
2. DHHL prepare a Traffic Impact Analysis Report ("TIAR") to assess the traffic impacts to Auwae Road and Kahaopea Street for the additional 80-lot proposed subdivision.
3. DHHL and the TIAR also asses the traffic impacts to the intersection of Kahaopea Street and Railroad based on the proposed subdivision of additional 80-lots.
4. DHHL and the TIAR further asses the cumulative impacts of the use of Railroad by the larger community.
5. DHHL prepare a traffic and crime impact study based upon Police analysis of traffic citations issued, vehicle collisions reported, residential and business crimes reported within a 1-mile radius of the planned Pana'ewa Agriculture Lot Subdivision area.
6. DHHL prepare a detailed report of anticipated environmental findings and contingency plans to address probable health and environmental issues relating to the anticipated environmental findings.
7. Resolve the disparity between the Hawaii County minimum agricultural lot size and the planned DHHL 80-lot subdivision agricultural lot size of 0.5 acres, and the planned roadway that will be constructed to County agricultural standards, which DHHL intends to transfer and dedicate to the County of Hawaii to maintain.
8. DHHL conduct at least two (2) beneficiary consultation meetings with the area native Hawaiian communities to discuss details of the planned ag lot development, including the scheduled meeting set for August 21, 2015, 5:30-7:30 pm at the Pana'ewa Family Center; future beneficiary consultation(s) should include regular public notice practices in conjunction with notice to area homestead organization leaders.

Members of KPFA and homestead stakeholders are either adjacent landowners or will be directly impacted by the proposed Auwae Road 80-lot development and at Mahi'ai 16-lot development and this request for additional time is reasonable and timely.

I can be reached at ianleeloy@hotmail.com, should there be any questions or if follow-up is needed.

Mahalo,

Ian B. Lee Loy
KPFA Board member

PBR HAWAII
& ASSOCIATES, INC.

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March 15, 2016

Mr. Ian Lee Loy, Board Member
Keaukaha Pana'ewa Farmers Association
c/o Department of Hawaiian Home Lands
Hilo District Office
160 Baker Avenue
Hilo, HI 96720

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Mr. Loy,

Thank you for your letter sent August 14, 2015 in regard to the Draft Environmental Assessment for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and provide the following response.

Please note that this response pertains mainly to the Mahi'ai Lot, TMK number (3) 2-2-061:002. **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot, with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.) Your community may be contacted in the future to comment on plans for the Auwae Lots.

DHHL held a meeting with KPFA on August 21, 2015. Topics discussed included DHHL's plans for the Pana'ewa Agricultural Lots Subdivision and more in-depth discussion of KPFA's concerns.

As discussed at the meeting, several discussions initiated in the DEA comment period have not been concluded. Below is a status update on KPFA's comments:

1. *Alternative road access;*

2. *Traffic Impact Analysis Report*;
   The State of Hawai'i Department of Transportation (DOT) determined the project is not anticipated to have a significant impact to State highway facilities. DOT excused

the Draft Environmental Assessment document's lack of a traffic assessment since the project will access County Roads. Further, DHHL may hire a traffic engineer to produce a Traffic Analysis Impact Report (TIAR) when DHHL plans to proceed with the Auwae Lots.

3. *Traffic impacts to the intersection of Kahaopea Street and Railroad Avenue, based on the 80-lot subdivision;* and

4. *Cumulative impacts of the use of Railroad Avenue by the larger community*.
   These topics remain part of an ongoing discussion, pending the update of the Pana'ewa Regional Plan.

5. *Traffic and Crime impact study based on Police reports*.
   As part of the planning process, DHHL engaged in early consultation with the County of Hawai'i Police Department. DHHL received a letter stating that the Police Department does not anticipate any significant impact to traffic and/or public safety concerns. In addition, the Police Department was sent a copy of the Draft Environmental Assessment and was invited to offer comments. As of the date of this letter, DHHL has not received any further comments from the Police Department regarding the project. DHHL will engage public safety discussions with the community as part of the Pana'ewa Regional Plan update process.

6. *Report of anticipated environmental findings and contingency plans*.
   DHHL will send you a copy of the Final Environmental Assessment.

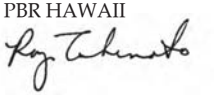
7. *Comparison between Hawai'i County minimum agricultural lot size and DHHL intended lot size, and implications for planned roadway.*
   The topic of lot density remains an ongoing discussion for the Auwae Lots, pending the update of the Pana'ewa Regional Plan. DHHL will proceed with the half-acre lot size for the Mahi'ai Lot since there did not seem to be any community opposition due to the surrounding residential densities in that area.

8. *At least two beneficiary consultation meetings with area native Hawaiian communities to discuss the planned development, including the August 21, 2015 meeting; notification procedures for future beneficiary consultations.*
   The Beneficiary Consultation is part of the consultation process for the Pana'ewa Regional Plan update, and your community will be included in this consultation.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII



Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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Ms. Jojo Tanimoto
P.O. Box 44337
Kawaihae, Hawaii 96743
Email: Mumukukawaihae@yahoo.com

August 7, 2015

Ms. Niniau Simmons
Dept. of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

Dear Ms. Simmons:
Re: Panaewa Agricultural Subdivision-Draft Environmental Assessment.

Thank you for the opportunity to make comment on this Draft Environmental Assessment. DHHL has been very slow in awarding homes to families and this is a great community to begin an exciting journey of home ownership.

However, I have some concerns with this Project EA(which intends to relocate families (into a long-term lease function) into a location that makes plans without including future planning by neighboring interests (the County, businesses, etc.) that could affect the health and safety of these families. For example:

1. **Roads**
   a) These families…and their neighbors on Auwae Road…should be concerned that there is no alternative access to Railroad Avenue (the main artery in Panaewa) in case of any any emergencies. DHHL needs to include a contingency plan in this EA to accommodate these 64 lots and everyone else on Auwae Road.
   b) There is no mention of a traffic analysis that may affect the near future need to increase traffic on Auwae Road, Railroad Avenue and Kaneolehua Avenue. It is a primary concern that the general public proposed to connect the Kea'au community traffic to the businesses in the Panaewa community through Auwae Road and Railroad Avenue.
2. **Noise-**It has been a concern of the current lessees that the noise level from the quarry, the race track and the airport interferes with the phone reception, tv program and internet systems. DHHL needs to include long-term mitigation plans; not only during the construction stage.
3. **Leaching Health effects**-These 64 lots are closer to the Transfer Station than any of the farm sized leases in Panaewa. Therefore, this Environmental Report needs to make reference to what the Transfer Station used to be in order to make proper mitigations for health hazards. The Transfer Station was a dump site. There was no inventory as to what may still be in the soil; and leaching through years of rainfall. There is no reference to County planning to extend the land area or term limit to continuing to accept trash at this site. The EA needs to include this factor.

Thank you for the opportunity to make comments to this EA.

Sincerely
Jojo Tanimoto, homesteader

PBR HAWAII
& ASSOCIATES, INC.

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March 15, 2016

Ms. Jojo Tanimoto
P.O. Box 44337
Kawaihae, HI 96743

SUBJECT: COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED PANA'EWA AGRICULTURAL LOTS SUBDIVISION, TMK: (3) 2-2-061:002, (3) 2-1-025-006, (3) 2-1-025:007, (3) 2-1-025:047 and (3) 2-1-025:048

Dear Ms. Tanimoto,

Thank you for your letter dated August 7, 2015 in regard to the Draft Environmental Assessment (DEA) for the proposed Pana'ewa Agricultural Lots Subdivision. As the planning consultant for the Department of Hawaiian Home Lands (DHHL), we acknowledge your comments about the project and provide the following response.

Please note that this response pertains mainly to the Mahiai Lot, TMK number (3) 2-2-061:002. **DHHL has decided to defer development of the Auwae Lots pending updates to the Pana'ewa Regional Plan and Hawai'i Island Plan.** The project area for the forthcoming Final Environmental Assessment will be limited to the Mahi'ai Lot, with the intention to prepare a separate Final EA for the Auwae Lots that follows the updated plans. (The updates are not anticipated to affect the Mahi'ai Lot.)

Your community may be contacted in the future to comment on plans for the Auwae Lots.

Roads and Noise
Several discussions initiated in the DEA comment period have not been concluded, including your comments on roads and noise. DHHL is currently working to update the Pana'ewa Regional Plan and the Hawai'i Island Plan. The Beneficiary Consultation process will be employed for the Regional Plan update, and your community will be included in this consultation. The Auwae Lots final design will follow this updated regional plan, so we encourage you to remain involved in the planning process and ensure that your concerns are addressed. DHHL may hire a traffic engineer to produce a Traffic Analysis Impact Report (TIAR) when DHHL plans to proceed with the Auwae Lots.

Leaching Health Effects

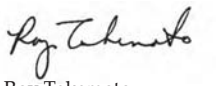
The Hilo Transfer Station on Leilani Street is a State of Hawai'i Brownfield site. The term "Brownfield" indicates that the Hilo Transfer Station is, or is perceived to be, contaminated. However, based on a Phase II Environmental Site Assessment done for HTS, the status of the Brownfield is "no contaminant found." Standards for Phase II Environmental Site Assessments are established by the American Society for Testing and Materials (ASTM) and, by definition, include sampling and laboratory analysis.

Furthermore, any groundwater passing beneath the Hilo Transfer Station would follow elevation down towards the coastline, and not towards the Pana'ewa agricultural lots.

We value your participation in the environmental review process. Your letter will be included in the Final Environmental Assessment. If you have any questions or require more information, please do not hesitate to contact me at 521-5631 or rtakemoto@pbrhawaii.com.

Sincerely,

PBR HAWAII



Roy Takemoto
Planner

Cc: Department of Hawaiian Home Lands

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