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LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

CDUA: HA-3893

Aug 26, 2022

To: Mary Alice Evans, Director
Office of Planning and Sustainable Development
Environmental Review Program

From: Suzanne D. Case, Chairperson
Department of Land and Natural Resources

Subject: Publication of the Final Environmental Assessment (FEA) for Conservation District Use Application (CDUA) OA-3893 for the Zweng Single-Family Residence, Landscaping, and Related Improvements Project located at 48-479 Waiahole Valley North Branch Road, Waikane, Koolaupoko, Oahu, Tax Map Key (TMK): (1) 4-8-006:001

The Department of Land and Natural Resources (DLNR) has reviewed the subject FEA for CDUA OA-3893 and a Finding of No Significant Impact Determination (FONSI). The Draft Environmental Assessment (DEA) was published in the Environmental Review Program's (ERP) April 23rd, 2022 edition of *The Environmental Notice*. Comments on the DEA were sought from relevant agencies as well as the public and were included in the FEA. The FEA has been prepared pursuant to Chapter 343, Hawaii Revised Statutes and Chapter 11-200.1, Hawaii Administrative Rules.

Please publish notice of this FEA and FONSI determination in the September 8th, 2022 edition of *The Environmental Notice*.

Please contact Trevor Fitzpatrick of our Office of Conservation and Coastal Lands staff at (808) 798-6660 or trevor.j.fitzpatrick@hawaii.gov or Bruce Tsuchida of Townscape, Inc. at (808) 536-6999 x3 or bruce@townscapeinc.com should you have any questions.

From: webmaster@hawaii.gov
To: DBEDT OPSD Environmental Review Program
Subject: New online submission for The Environmental Notice
Date: Monday, August 29, 2022 10:41:52 AM

Action Name

Zweng Single-Family Residence

Type of Document/Determination

Final environmental assessment and finding of no significant impact (FEA-FONSI)

HRS §343-5(a) Trigger(s)

- (2) Propose any use within any land classified as a conservation district

Judicial district

Koʻolaupoko, Oʻahu

Tax Map Key(s) (TMK(s))

(1) 4-8-006:001

Action type

Applicant

Other required permits and approvals

State of Hawai'i: Conservation District Use Permit, Wastewater System Approval, Road Access Approval, Chapter 6E; City and County of Honolulu: Grubbing, Grading, and Building Permits

Discretionary consent required

Conservation District Use Application

Approving agency

Board and Department of Land and Natural Resources

Agency contact name

Trevor Fitzpatrick

Agency contact email (for info about the action)

trevor.j.fitzpatrick@hawaii.gov

Email address or URL for receiving comments

trevor.j.fitzpatrick@hawaii.gov

Agency contact phone

(808) 798-6660

Agency address

1151 Punchbowl Street
Room 131
Honolulu, HI 96813
United States

Map It

Applicant

Mr. Paul Zweng, Executive Director of Ohulehule Forest Conservancy c/o Bruce Tsuchida, President of Townscape, Inc.

Applicant contact name

Bruce Tsuchida

Applicant contact email

bruce@townscapeinc.com

Applicant contact phone

(808) 536-6999

Applicant address

900 Fort Street Mall, Suite 1160
Honolulu, HI 96813
United States
Map It

Was this submittal prepared by a consultant?

Yes

Consultant

Townscape, Inc.

Consultant contact name

Bruce Tsuchida

Consultant contact email

bruce@townscapeinc.com

Consultant contact phone

(808) 536-6999

Consultant address

900 Fort Street Mall, Suite 1160
Honolulu, HI 96813
United States
Map It

Action summary

The applicant is proposing to construct an approximately 4,955 sq. ft single-story slab-on-grade single-family residence consisting of 4 bedrooms, 3.5 bathrooms, kitchen, living and dining room, laundry room, carport and large covered lanai space. Electrical (via a Hawaiian Electric Company connection as well as photovoltaic system), a rainwater catchment system, and an independent septic system for wastewater disposal are also proposed to support the residence. Additionally, the applicant is proposing to utilize and extend the existing driveway to the proposed residence as well as install landscaping over an approximate area of 0.90-acres (39,204 sq. ft) consisting of non-invasive plantings including trees, hedges, and areas of grass lawn near the proposed driveway and dwelling.

Reasons supporting determination

Please see section 5.1 FINDINGS AND SUPPORTING REASONS of the project's Final Environmental Assessment for a discussion of the Significance Criteria and reasons supporting the agency's determination.

Attached documents (signed agency letter & EA/EIS)

- Zweng-SFR-OA-3893-FEA-n-FONSI-Transmittal-Ltr-to-ERP_Sept-8-TEN-part-1-signed.pdf
- Zweng-SFR-FEA_Appendices-August-2022.pdf
- Zweng-SFR-FEA-August-2022.pdf

Shapefile

- The location map for this Final EA is the same as the location map for the associated Draft EA.

Action location map

- Ohulehule_TMK_shp.zip

Authorized individual

Trevor Fitzpatrick

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

FINAL ENVIRONMENTAL ASSESSMENT
ZWENG SINGLE-FAMILY RESIDENCE

AUGUST 2022

TMK: (1) 4-8-006:001 [makai parcel] & (1) 4-8-014:005 [mauka parcel]

Waiāhole & Waikāne, Koʻolaupoko, Oʻahu, Hawaiʻi

This document prepared pursuant to Chapter 343, HRS

Applicant:	ʻŌhulehule Forest Conservancy Attn: Paul Zweng 1236 Aalapapa Drive Kailua, Hawaiʻi 96734
Agent:	Townscape, Inc. 900 Fort Street Mall Suite 1160 Honolulu, Hawaiʻi 96813
Determining Agency:	State of Hawaiʻi Department of Land and Natural Resources Office of Conservation and Coastal Lands 1151 Punchbowl Street #131 Honolulu, Hawaiʻi 96813
Class of Action:	Use of Land in the Conservation District

This document is prepared pursuant to:
The Hawaiʻi Environmental Policy Act, Chapter 343, Hawaiʻi Revised Statutes (HRS), and
Title 11, Chapter 200.1, Hawaiʻi Department of Health Administrative Rules (HAR).

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Appendix B. Waikāne Valley Faunal Surveys – Final Report (VanderWerf 2012)
Appendix C. Waikāne Botanical Survey (Ross 2020)
Appendix D. Archaeological Field Survey Letter Report (Cultural Surveys Hawai'i 2012)
Appendix E. Interim Archaeological Preservation Plan (Cultural Surveys Hawai'i 2012)
Appendix F. Cultural Impact Interview Summaries (Townscape, Inc. 2012 and 2021)
Appendix G. Ka Wai Ola: April 2021 Issue (OHA 2021)
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1. INTRODUCTION

Project Name:	Zweng Single-Family Residence in the Conservation District
Applicant:	ʻŌhulehule Forest Conservancy, LLC Paul Zweng, Managing Member 1236 Aalapapa Street Kailua, Hawaiʻi 96734
Agent:	Townscape, Inc. Bruce Tsuchida, Principal Planner 900 Fort Street Mall Suite 1160 Honolulu, Hawaiʻi 96813
Accepting Agency:	Department of Land and Natural Resources (DLNR), Office of Conservation and Coastal Lands (OCCL) 1151 Punchbowl Street #131 Honolulu, Hawaiʻi 96813
Project Location:	Waiāhole & Waikāne Valley, Oʻahu
Property Owner:	ʻŌhulehule Forest Conservancy, LLC
State Land Use Classification:	Conservation District, Resource Subzone
Anticipated Determination of Environmental Assessment:	Finding of No Significant Impact (FONSI)

Agencies and parties consulted:

Federal:	U.S. Department of Agriculture, Natural Resources Conservation Service U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Branch U.S. Army Environmental Programs Branch
State:	DLNR Office of Conservation and Coastal Lands DLNR Commission on Water Resources Management DLNR Division of Forestry and Wildlife DLNR State Historic Preservation Division DLNR Division of Aquatic Resources DLNR Division of Engineering Department of Agriculture Agribusiness Development Corporation Hawai´i Housing Finance and Development Corporation Office of Hawaiian Affairs

City: Department of Planning and Permitting
Honolulu Fire Department

Other Organizations:
Waiāhole-Waikāne Community Association
Kahaluʻu Neighborhood Board #29
KEY Project
Koʻolaupoko Hawaiian Civic Club
Koʻolau Mountains Watershed Partnership
The Nature Conservancy
Hawaiʻi Plant Extinction Prevention Program

*Edits to this document are shown in Ramseyer Format with deletions shown using ~~strikethrough~~ and additions shown using **bold**.

2. Summary of Proposed Actions, Environmental Impacts and Mitigation Measures.

Paul Zweng, managing member of the ʻŌhulehule Forest Conservancy, and his family "the applicants" seek a Conservation District Use Permit (CDUP) to build a single-family residence on their lands in the ahupuaʻa of Waiāhole, moku of Koʻolaupoko, on the Island of Oʻahu. **These two parcels are identified by the City and County of Honolulu as portions of "Lot 1", a subdivided lot which totals 1,443.48 acres. These two parcels have individual tax map key numbers used for taxation purposes, though they are collectively identified by the City and County of Honolulu simply as "Lot 1." The** Tax Map Key (TMK) 4-8-014:005 ~~is~~ **refers to** the mauka parcel containing ~~1,117~~ **1,116.7200** acres, and TMK 4-8-006:001 ~~is~~ **refers to** the makai parcel containing ~~327~~ **326.7600** acres, totaling ~~1,444~~ **1,443.48** acres.

The proposed single-family residence project is located in Waiāhole Valley, along Waiāhole Valley North Branch Road. The proposed residence is located at the southwest corner of the makai parcel, and the only vehicular access to this area is via Waiāhole Valley North Branch Road. The proposed residence is within the mesic climate zone on land that is currently largely overgrown with non-native plant species. See Figure 1 for the approximate location of the proposed residence in relation to the property boundaries and surrounding ahupuaʻa.

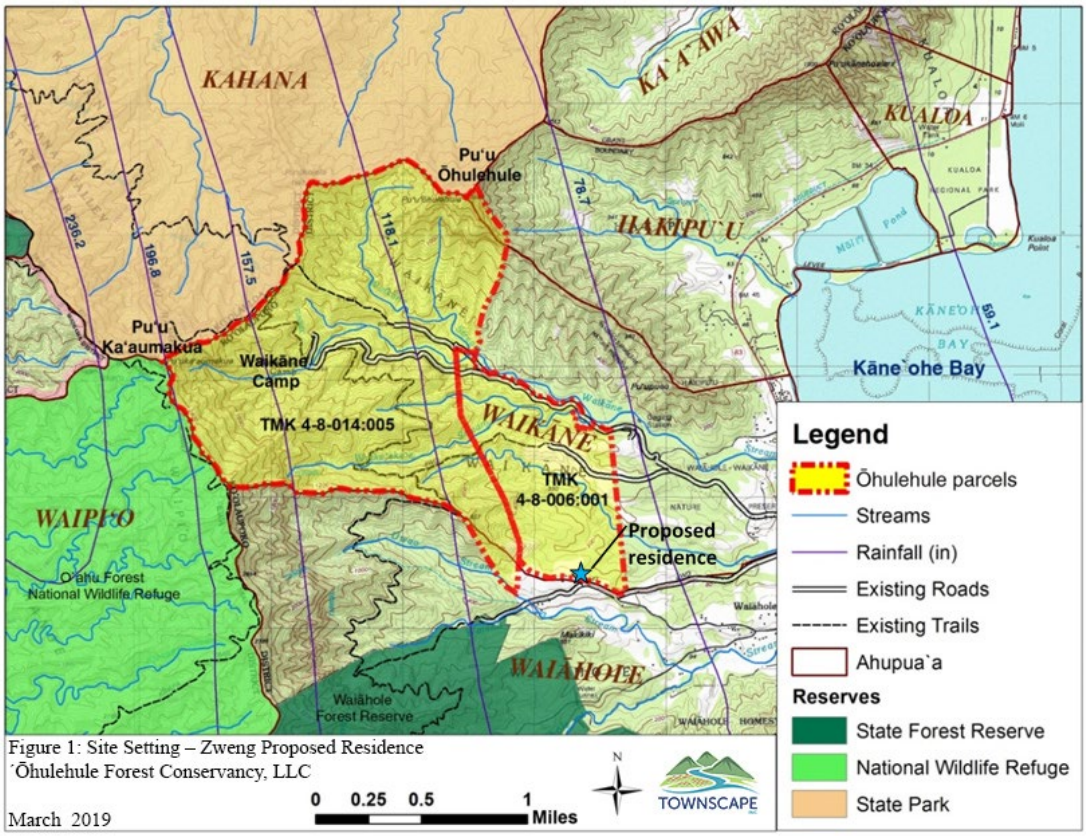

Figure 1 - Site Setting

The proposed single-family residence will be approximately 4,955 square feet in total according to the formula for measurement outlined in Hawai'i Administrative Rules Chapter 13-5, Exhibit 4. This includes all floor areas under roof including the covered lānai and carport. The home will be located roughly 200 feet from the southern property line, and about 500 feet from Waiāhole Valley Road. The elevation at the site of the proposed residence is about 300 feet above sea level. See Figure 2 for a view of the overall building pad.



Figure 2 - Southwest facing view of proposed overall building pad location.

Land clearing and construction activities for the residence and driveway will be kept to a minimum and are anticipated to occur over an area of 1.4 acres, which would produce minor short-term impacts to noise, air and water quality and scenery. The proposed residence and driveway are sited in the general location of the former residence and driveway. The former residence included a large looping gravel driveway and formerly cleared and graded large areas for agriculture and livestock. The former residence and all other structures were removed in 2017, and these locations are currently overgrown with invasive plants and trees.

The applicants will utilize the existing gravel driveway for most of the proposed new driveway access to the new dwelling in order to minimize disturbance to the land. Impacts from construction will be mitigated by Best Management Practices (BMPs) to control erosion and sedimentation, as described in this Final Environmental Assessment. The applicants will ensure that their contractor performs all earthwork and grading in conformance with applicable laws, regulations and standards. See Figures 4 and 5 for views of the existing driveway.

No threatened or endangered plant or animal species were identified in the vicinity of the proposed residence during a faunal survey (VanderWerf, 2012) and botanical surveys (Lau, 2012; Ross, 2020). One native bird, the kōlea (*Pluvialis fulva)* was observed on the makai parcel. See Appendices A, B & C for further information regarding flora and fauna on the ʻŌhulehule Forest Conservancy.

Unlike the mauka forest restoration areas with critical habitat designated for the endangered O‘ahu ‘elepaio (*Chasiempis ibidis*), no critical habitat for endangered fauna has been designated on the makai parcel of the property (TMK: [1] 4-8-006:001). Potential impacts to the ‘ōpe‘ape‘a or endangered Hawaiian hoary bat (whose range may be island-wide but is not known to occur in the area) will be avoided through careful observation and timing of vegetation removal.

An archaeological field survey of the mauka and makai parcels was conducted by Cultural Surveys Hawai‘i, Inc. in 2012 confirmed that no historic sites are present in the proposed residence area (See Appendix D: Archaeological Field Survey Letter Report). The historic sites that are located on this parcel are outside of the project area. The location of the proposed residence, identified in the field survey letter report as “Southern Project Area 2”, was previously disturbed by residential structures and mass grading associated with road construction, a tropical flower nursery and chicken farming. Based on these findings, it is anticipated that no cultural or historic sites will be significantly impacted by construction of the proposed residence or driveway. Residents of the Waiāhole-Waikāne Valley area and cultural practitioners who were contacted for a cultural impact review did not feel that any of the proposed activities would have adverse impacts to cultural practices in Waiāhole or Waikāne Valley.

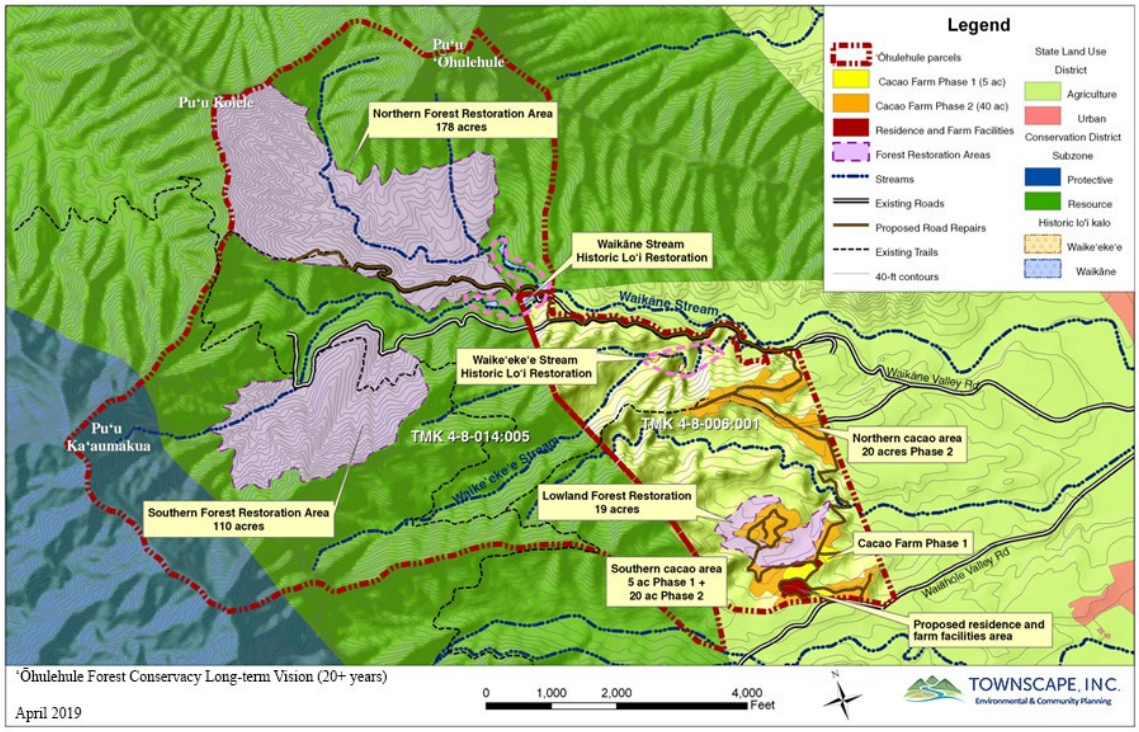

Figure 3 - Long-range Vision Map

Figure 3 above shows the Long-range Vision for the ‘Ōhulehule Forest Conservancy property. At this time, this ~~Draft~~ **Final** Environmental Assessment is only for the proposed single-family residence. Any other proposed plans and activities articulated in the Long-range Vision Map will be submitted in future applications for a permit from the relevant agencies.



Figure 4 - View of existing driveway



Figure 5 - View of the existing driveway loop

2.1. SINGLE FAMILY RESIDENCE DESIGN

2.1.1. *SINGLE-FAMILY RESIDENCE*

Proposed Single Family Residence:

The proposed single-family residence will be a one-story structure with a total floor area of 4,955 square feet. This total floor area includes all floor areas under a roof, including the carport and covered lānai. Design work for the residence, including preliminary floor plans and elevation drawings shown in Appendix J: Graphics Package, is by Honolulu-based Geoffrey Lewis Architect, Inc.

The building structure will consist of a slab on grade foundation or raised foundation for the main house interior living spaces. The carport and exterior living spaces will have a slab on grade foundation. The house construction will consist of wood frame construction for balance of the house, with metal roofing. The exterior siding will be a cementitious product, Hardie panel with Hardie battens. The paint and roofing color will be earth toned to blend in with the landscape. The motor court construction will be concrete pavers with strips of permeable area in between such as grass strips, gravel or similar materials. The driveway will be 4" concrete slab on grade at 12' wide with 4' of 95% compaction graveled borders at each side in order to provide appropriate fire lane access of a 20'

width. The motor court retaining walls will be 8" to 12" poured in place concrete walls with 7' maximum exposed height at its tallest. The site terraced retaining walls will be Concrete Rock Masonry (CRM) gravity retaining walls with 3' to 5' average exposed height and 8' maximum exposed height at the lower loop of the driveway. Footings for the CRM walls will be constructed with rocks that are wet set into a concrete footing.

The design for the dwelling is to have a residential character and scale that will blend in with the rural nature and agricultural community of Waiāhole Valley. The program for the dwelling is as follows: (4) bedrooms, (3.5) bathrooms, kitchen, living & dining room, laundry room, carport and large covered lānai space. The home will have the following utilities: electrical (Hawaiian Electric Company [HECO] as well as photovoltaic cells), a rainwater catchment system, and an independent septic system for wastewater disposal. Connection to the Waiāhole Valley potable water system is planned at a later date.

2.1.2. *GENERAL SITE IMPROVEMENTS*

In order to minimize the impact to the site the proposed residence and driveway are sited in the general vicinity of the previous residence and use much of the existing driveway. See Figures 4-5 for views of the existing driveway. The grading plan, found in Appendix J: Sheet C100 - Preliminary Grading & Drainage Plan, depicts the scope of the grading for the project area. The extent of the entire project area is approximately 1.4 acres and focuses on the main components of the proposed residence: the new dwelling, a linear driveway from Waiāhole Valley Road to the new dwelling, and a small apron surrounding these components that will be landscaped. The vehicular access to the proposed residence will include the rehabilitation of the existing driveway including the implementation of proper drainage controls. Site disturbance and additional grading and drainage will be greatly reduced by utilizing the alignment of the existing unpaved road and grading. The newly proposed vehicular access will be constructed with a 12-foot-wide concrete driveway with an additional 4-foot wide apron on either side. This apron will consist of 95% compacted fill and will allow for a 20-foot wide access for fire trucks to the proposed residence in the event of an emergency. In addition to the 20-foot wide access, the driveway will consist of no less than a 13-foot and six-inch vertical clearance for emergency vehicles.

The landscaping will consist of non-invasive plantings including trees and hedges as well as areas of grass lawn for easy maintenance and erosion control over an area of 0.90 acres, a narrow apron surrounding the proposed driveway and dwelling. A list of potential plants that will be used in the landscaping of the project area include the following:

Table 1 - Proposed Landscaping Plants

Hawaiian or Common Name	Botanical Name	Status/(Risk Score)
Trees		
Breadfruit	*Artocarpus altilis*	Polynesian Introduction (-12)
Colville's Glory Tree	*Colvillea racemosa*	Non-invasive alien (-8)
Firewheel	*Stenocarpus sinuatus*	Non-invasive alien (-4)
Floss-silk tree	*Chorisia speciosa*	Non-invasive alien (-7)

Gold Tree	***Tabebuia donnell-smithii***	**Non-invasive alien (-4)**
Hōʻawa	***Pittosporum glabrum***	**Native**
Illwara Flame Tree	***Brachychiton acerifolius***	**Non-invasive alien (-5)**
Jacaranda	***Jacaranda mimosifolia***	**Non-invasive alien (1)**
Koa	***Acacia koa***	**Native**
Kokiʻo keʻokeʻo	***Hibiscus punaluuensis***	**Native**
Kōpiko	***Psychotria mariniana***	**Native**
Lama	***Diospyros sandwicensis***	**Native**
Lemon tree	***Citrus limon***	**Non-invasive alien (-3)**
Loulu	***Pritchardia martii***	**Native**
Lunalilo Yellow	***Cassia x nealiae***	**Non-invasive alien (-8)**
Māmaki	***Pipturus albidus***	**Native**
Mauve tabebuia	***Tabebuia impetiginosa***	**Non-invasive alien (-2)**
Neleau	***Rhus sandwicensis***	**Native**
ʻOhe makai	***Polyscias sandwicensis***	**Native**
ʻŌhiʻa lehua	***Metrosideros polymorpha***	**Native**
Orange tree	***Citrus sinensis***	**Non-invasive alien (-2)**
Panama Flame Tree	**Brownea macrophylla**	**Non-invasive alien (-8)**
Pāpala kēpau	***Pisonia umbellifera***	**Native**
Shrubs & Tree Ferns		
ʻAʻaliʻi	***Dodonaea viscosa***	**Native**
ʻĀkōlea	***Boehermia grandis***	**Native**
Bird of Paradise	***Strelitzia reginae***	**Non-invasive alien (-3)**
Golden Shrimp Plant	***Pachystachys lutea***	**Non-invasive alien (-4)**
Gordon's Bay pincushion	***Leucospermum bolusii***	**Non-invasive alien (-4)**
Hāhā	***Cyanea angustifolia***	**Native**
Hāpuʻu (tree fern)	***Cibotium chamissoi***	**Native**
ʻIlima	***Sida fallax***	**Native**
Kokiʻo ula	***Hibiscus kokio* subsp. *kokio***	**Native**
Naupaka kuahiwi	***Scaevola gaudichaudiana***	**Native**
Groundcover Plants		
ʻAhaniu	***Machaerina mariscoides* subsp. *meyenii***	**Native**
ʻĒkaha	***Asplenium nidus***	**Native**
Hōʻiʻo (fern)	***Diplazium sandwichianum***	**Native**
ʻŌkupukupu	***Nephrolepis exaltata* subsp. *hawaiiensis***	**Native**
Palaʻā (fern)	***Odontosoria chinensis***	**Native**
Palapalai (fern)	***Microlepia strigosa* var. *strigosa***	**Native**
Pōhinahina (aka pōlinalina)	***Vitex rotundifolia***	**Native**
ʻUki (?) Some say Hawaiian name has been lost.	***Carex wahuensis* subsp. *wahuensis***	**Native**
ʻUkiʻuki	***Dianella sandwicensis***	**Native**
No known Hawaiian name	***Gahnia beecheyi***	**Native**
Vines		
Blue Jade Vine	***Strongylodon macrobotrys***	**Non-invasive alien (-9)**
Nuku ʻiʻiwi	***Strongylodon ruber***	**Native**
Maile	***Alyxia stellata***	**Native**

***Risk Scores from Pacific Island Ecosystems at Risk (PIER)—Risk Assessments. See:** http://www.hear.org/pier/wra.htm

An irrigation system for the landscaping will not be necessary due to the high rainfall in the region. A wastewater management system for the proposed residence will include an anaerobic septic system. The treated wastewater will leach back into the ground through a leach field system. Location of the proposed septic system is identified in Appendix J: Sheets C100, C200 and A001.

Due to the sheer size of ʻŌhulehule Forest Conservancy parcel, the larger drainage system of the valley was established long before human contact. The drainage approach for the area of development is to effectively transfer any water collected on the developed site, pass it through this area with a designed drainage system and then return the water to the larger hydrologic system (gullies & small streams) of Waiāhole Valley.

2.2. POTABLE WATER

Water service to residential and agricultural lots in Waiāhole Valley is supplied mainly by the Waiāhole Valley Water System (WVWS) operated by the Hawaiʻi Housing Finance & Development Corporation (HHFDC). A future application for water service connection will be submitted to HHFDC in order to provide potable water to the property once HHFDC is accepting applications for water service connection. In correspondence with the HHFDC as a part of the early consultation for the Draft Environmental Assessment for this CDUA, HHFDC staff stated in a letter dated November 4, 2021 that there are currently no administrative rules and regulations for the WVWS and the HHFDC is not considering any new water applications for service connection until the administrative rules and regulations are adopted. A timeline for the adoption of administrative rules and regulations was not included in this correspondence. **See Appendix H to view this letter from HHFDC.** The proposed development of this dwelling will include a rainwater catchment system for potable water supply until such time as a water meter connection to the Waiāhole Valley Water system is possible.

The source, storage, and transmission system for the WVWS was constructed in 1989 and includes a well station with two deep wells, a 1.0 million gallon steel reservoir, and a booster pump station. The two wells have a combined Water Use Permit of 0.075 MGD from the CWRM, although they can supply up to 1.15 MGD of good-quality water. As of 2019, the system served 159 total lots for agricultural, residential, commercial, open space, water lots, stream lots. The water line that runs along the north branch of Waiāhole Valley Road, adjacent to the property, is an 8-inch-diameter pipe. The HHFDC will begin critical repairs and improvements to the WVWS in the coming months. These repairs are meant to extend the lifespan of the existing system.

2.2.1. *RAINWATER CATCHMENT SYSTEM*

A rainwater catchment system will be constructed to supply the proposed dwelling with potable water. Agricultural water is not needed at this time as the proposed minimal landscaping will be able to sustain itself with the natural rainfall in the area. Any plans for future agricultural water supply will be included in future applications for a CDUA to support agricultural activities.

The proposed rainwater catchment system will capture water from the rooftop of the proposed dwelling in the gutters of the roof. Water will be transferred to a water holding tank, 15 foot 5 inch by 7 foot 2inch 18 gauge galvanized steel tank with 3/8 inch bolts and a food grade liner. See Figure 6 and Figure 7 for details of the proposed Water Tank Plans.

The water tank will be located approximately 25 feet from the proposed dwelling. See Appendix J: Graphics Package, drawing C100 for Site plan graphic and approximate location of the water catchment system components. The connections between the water tank and house will be via a 4" ABS supply line from the gutters to the tank and a ¾" copper supply water line to the dwelling. See Figures 8 and 9 for schematics of the proposed rainwater catchment system.

According to the National Fire Protection Association (NFPA) 1;2018 Edition Section 18.4.5.1, the minimum fire flow and flow duration requirements for the proposed structure, which does not exceed 5,000 sf, is 1000 gallons per minute (gpm) for 1 hour. Section 18.4.5.1.4 states that a fire flow reduction of 40% is permitted for buildings that are separated by at least 50 feet. As the proposed residence will not have any other buildings within 50 feet, this reduces the required fire flow to 600 gpm. The proposed water supply will meet these standards. (See Appendix L)

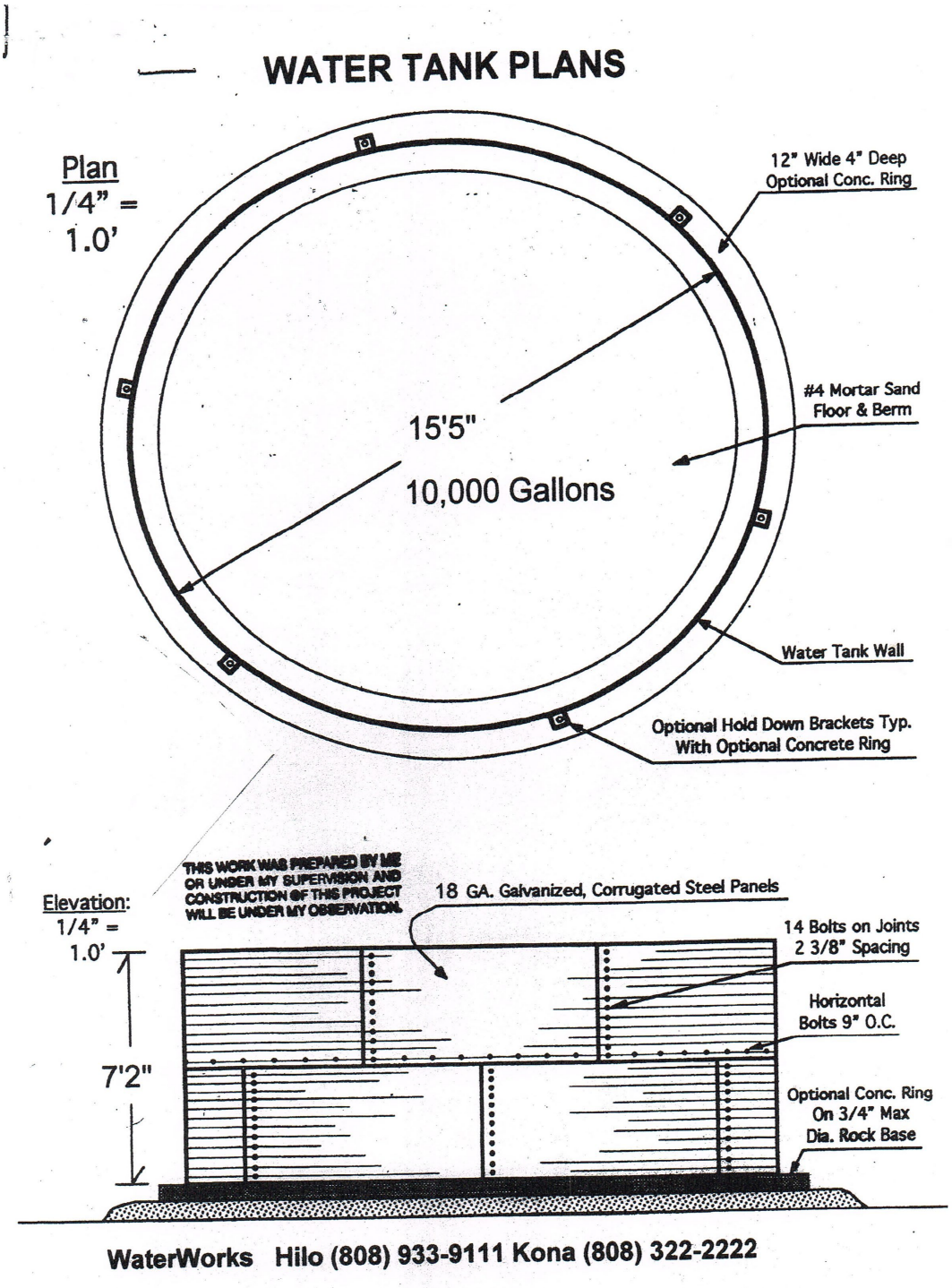

Figure 6 - Water Tank Plan I

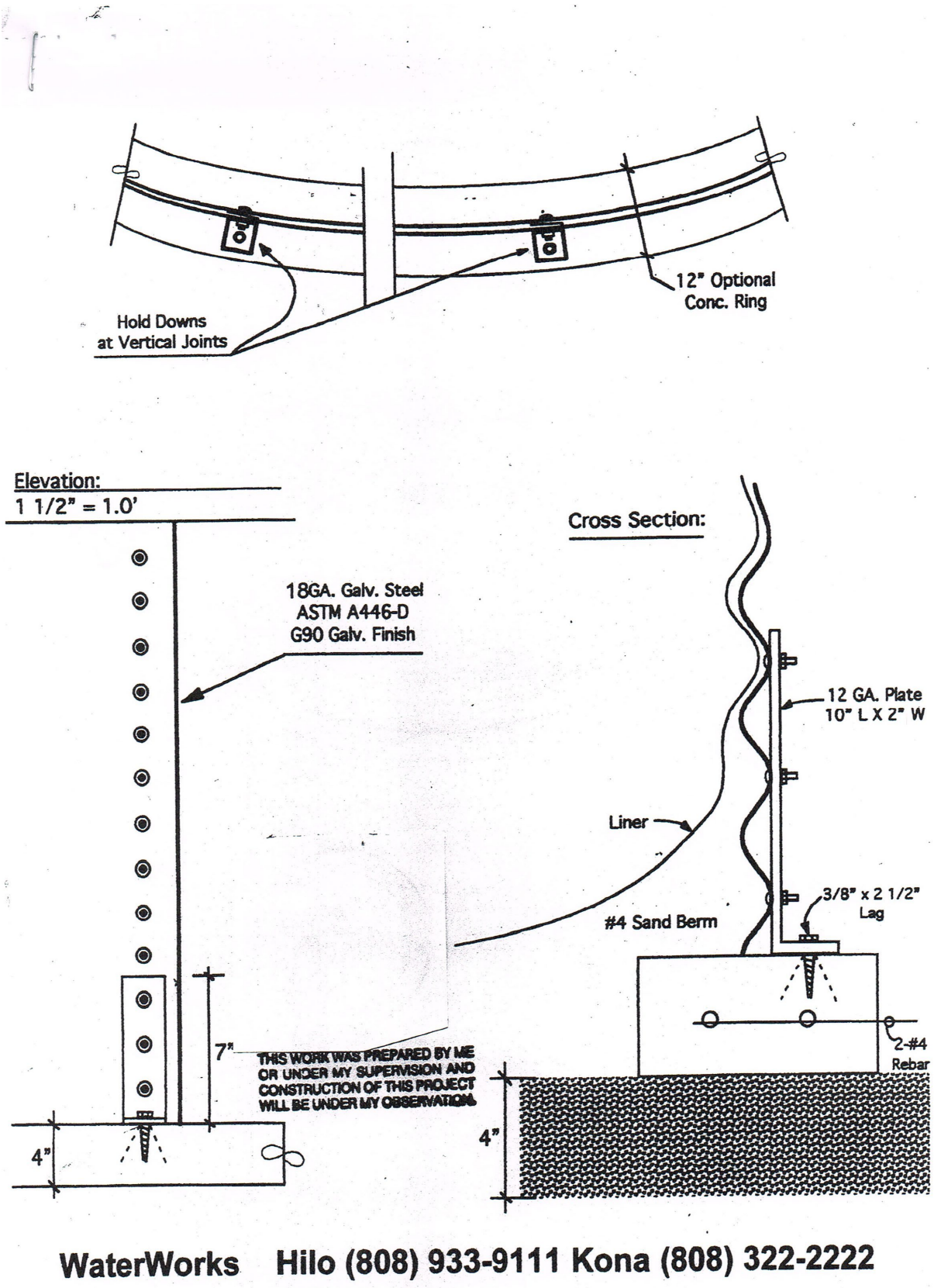

Figure 7 - Water Tank Plan II

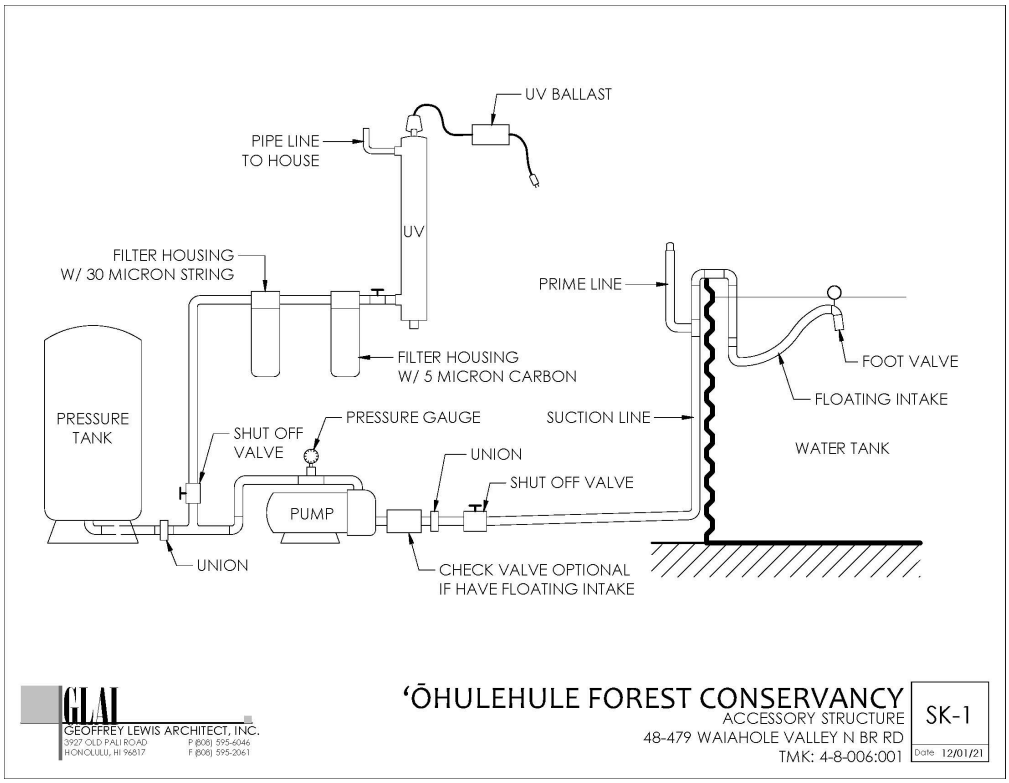

Figure 8 - Rainwater Catchment System Diagram SK-1

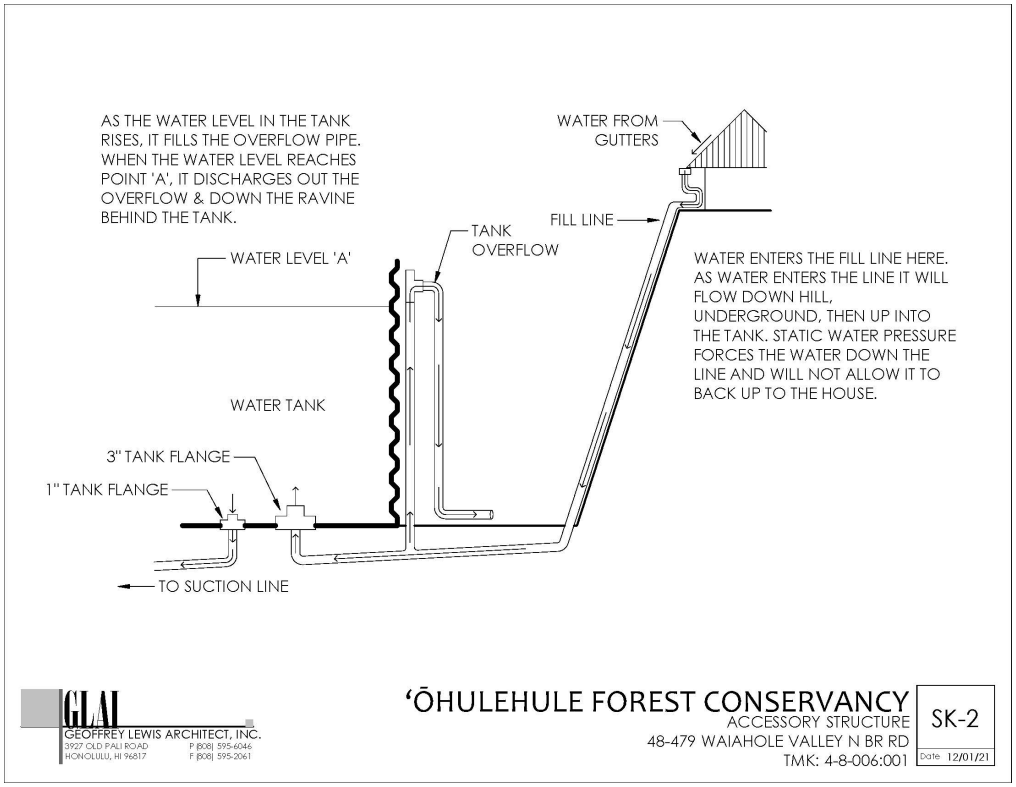

Figure 9 - Rainwater Catchment System Diagram SK-2

2.3. WASTEWATER DISPOSAL

An on-site septic system will serve the residence. It will be designed according to standards recommended by the Hawai'i State Department of Health, generally as shown in Figure 10. The wastewater management for the residence will be provided by an anaerobic septic system. The treated wastewater will leach back into the ground through a leach field system. The system will include a 1,250 gallon septic tank and a 30 foot by 50 foot or 1,500 square foot infiltrator seepage bed.

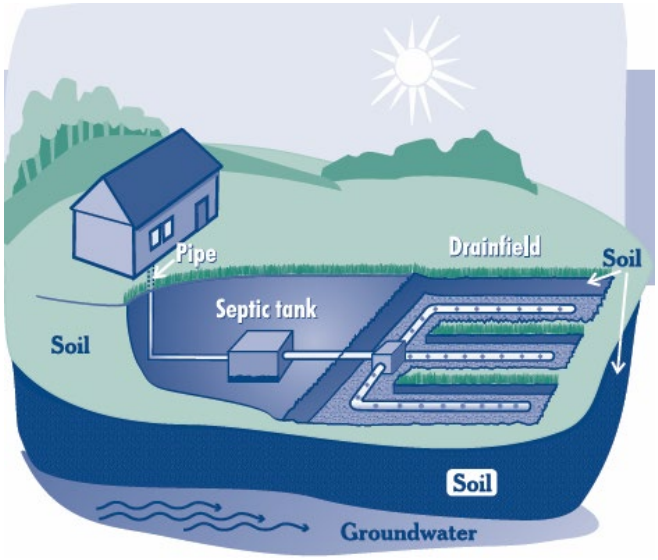

Figure 10 - General Design of proposed septic systems
Source: EPA Homeowner's Guide to Septic Systems (2005)

Prior to construction of the septic system, an Individual Wastewater System application will be submitted to the State Department of Health for approval. Once the septic system is installed, the applicant will follow standard pumping and inspection guidelines to ensure that the system is in good working order. With a properly designed septic system, it is not anticipated that wastewater disposal will cause adverse impacts to the surrounding environment.

2.4. ROAD ACCESS

Primary vehicular access to the proposed residence will be via a driveway connected to the Waiāhole Valley Road along the southern boundary of the makai parcel. An existing gravel driveway from Waiāhole Valley North Branch Road will be extended to access the proposed residence. The Waiāhole Valley Road is owned by the HHFDC, who is also the owner and operator of the valley water system as describe in section 2.~~1~~**2** Potable Water. The 'Ōhulehule Forest Conservancy received permission from the HHFDC for vehicular access to the property from Waiāhole Valley Road in a letter from HHFDC dated November 4, 2021.



Figure 11 - Entry to site for proposed residence from Waiāhole Valley Road

This letter grants permission for vehicular road access and use including for the duration of construction activities with a caution that should any damage to the road occur during construction, ʻŌhulehule Forest Conservancy will be responsible for repairing the road to its current condition. See Figure 11 for view of the entry from Waiāhole Valley Road. **Refer to Appendix H to view this letter from HHFDC.**

Site disturbance to the proposed project area and additional grading and drainage will be reduced by utilizing much of the existing driveway **(See Appendix J: Sheets C100 & A001 for detailed graphics of the proposed grading and drainage plan as well as the construction erosion and sediment control plan).**

The proposed dwelling will be constructed such that no portion of any of the exterior walls are no more than 150 feet (46 meters) from the driveway, which will function as a fire department access road during emergencies. This driveway will extend within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and provides access to the interior of the building per the design standard guidance provided by the Honolulu Fire Department.

2.5. UTILITIES

Electrical power to the home will be provided by rooftop solar photovoltaic panels and a connection to the electrical grid provided by the Hawaiian Electric Company via a utility pole located on Waiāhole Valley North Branch Road. Telecommunications will be connected from this same utility pole. These cable connections from the existing utility pole at the driveway entrance will extend into the makai parcel of the property approximately 550 feet to the site of the new dwelling.

Utilities such as electrical connection to the HECO grid, phone and cable will be connected to the dwelling via underground trench. Utilities will enter the property from a utility pole located at the main driveway access off of Waiāhole Valley Road. The underground trench will be 24 inches wide and 30 inches deep and will have a 3 inch PVC conduit for the electrical and a 2 ½ inch low voltage conduit for phone and cable lines to reach the dwelling. **See Appendix J: Sheets C100 & C200 for approximate location of the underground utility trench and existing utility pole at the entrance to the property.**

2.5.1. *SOLAR ELECTRICITY*

An estimate from RevoluSun for the purchase and installation of a photovoltaic system for the proposed residence stated that a suitable PV system to support the needs of the dwelling would consist of the following components:

- 14 kW DC
- 35 SunPower 400 White Watt modules
- 2 SE HD wave 7,600 Watt inverter
- 35 SE P505 Optimizer Watt inverter
- 3 Tesla Powerwall 2
- monument
- HECO connect/disconnect meter

The production and consumption estimate for the proposed residence and system includes estimated consumption of 41.3 average kWh per day or 15,070 kWh per year. The estimated solar electric system production is 44.1 average kWh per day or 16,096.23 kWh per year. **See Figure 12 for the proposed roof plan which features 35 photovoltaic panels which will be flush mounted to the roof of the proposed new dwelling. Refer to graphics in Appendix J and Appendix K for the approximate location of the components of the proposed solar electric system.**

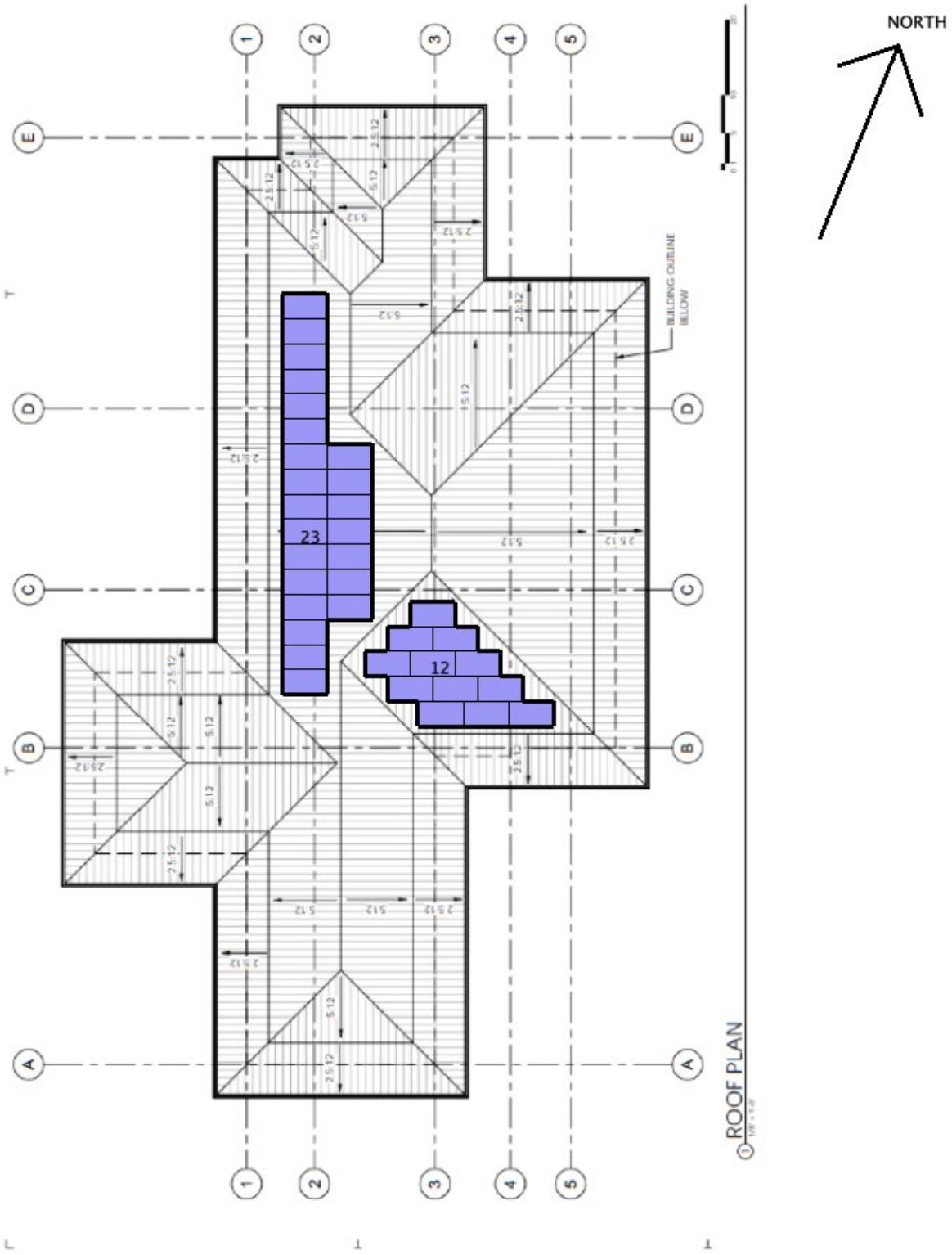

Figure 12 - Roof Plan

2.6. Environmental Assessment Process

This Environmental Assessment (EA) is being conducted in accordance with Chapter 343 of the Hawai'i Revised Statutes (HRS). This law along with its implementing regulations Title 11, Chapter 200.1 of the Hawai'i Administrative Rules (HAR) is the basis for the environmental impact assessment process in the State of Hawai'i. The preparation of this document is triggered by HRS Chapter 343-5 which states that: (a) Except as otherwise provided, an environmental assessment shall be required for actions that: (2) Propose any use within any land classified as a conservation district by the state land use communtion under chapter 205". Part 5 of this document states that no significant impacts are expected to occur, based on the findings for each criterion made by the agent in consultation with the Hawai'i State Department of Land and Natural Resources, Office of Conservation and Coastal Lands, the determining agency. If, after considering comments to the Draft EA, OCCL concludes that as anticipated, no significant impacts would be expected to occur, then the OCCL will issue a Finding of No Significant Impact (FONSI) and the action will be permitted to proceed with other necessary permits. If the agency concludes that significant impacts are expected to occur as a result of the proposed action, then and Environmental Impact Statement (EIS) will be prepared.

2.7. Public Involvement and Agency Coordination

The following agencies, organizations and individuals have been consulted during the Environmental Assessment process:

Agencies and parties consulted:

Federal:
- U.S. Department of Agriculture, Natural Resources Conservation Service
- U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Branch
- U.S. Army Environmental Programs Branch

State:
- DLNR Office of Conservation and Coastal Lands
- DLNR Commission on Water Resources Management
- DLNR Division of Forestry and Wildlife
- DLNR State Historic Preservation Division
- DLNR Division of Aquatic Resources
- DLNR Division of Engineering
- Department of Agriculture
- Agribusiness Development Corporation
- Hawai'i Housing Finance and Development Corporation
- Office of Hawaiian Affairs

City:
- Department of Planning and Permitting
- Honolulu Fire Department

Other Organizations:
- Waiāhole-Waikāne Community Association
- Kahalu'u Neighborhood Board #29
- KEY Project
- Ko'olaupoko Hawaiian Civic Club
- Ko'olau Mountains Watershed Partnership

The Nature Conservancy
Hawai'i Plant Extinction Prevention Program

Private Individuals:

Ted Saizon
Laurence Uyemura
Māhoe Collins
Norman Sadoyama
Keoki Fukumitsu
Pat Royos

Copies of communications ~~during~~ from consultations are found in Appendix H**. Copies of comments received during the comment period and official response letters can be found in Appendix L. Copies of correspondence regarding the lots for the property can be found in Appendix M.**

3. ALTERNATIVES CONSIDERED

Two alternatives to the proposed action were considered to meet the purpose of the proposed project, which is to provide a single-family residence for the Zweng family, landowners of the property. The purpose of considering project alternatives is to see if there are other options that can meet the purpose of the project while having lesser detrimental effect on the environment. The two alternatives to the proposed action are:

- No Action Alternative
- Alternative location

3.1. NO ACTION ALTERNATIVE

For the "No Action" alternative, there would be no change from the current situation where there is no residence available on the property for the landowners. The land cover and resources would continue to be dominated by invasive vegetation and would be visited by trespassers who illegally dump refuse and contribute to soil erosion through off-roading activities. The 'Ōhulehule Forest Conservancy would be limited in its capacity to fulfill its native forest restoration activities, as well as its planned agricultural operations. Both activities require security for the necessary tools and equipment.

3.2. ALTERNATIVE LOCATION

An alternative location would require the construction of a dwelling in an area that is potentially previously undisturbed. Though the entire property is over 1,400 acres, the only area previously developed as a residence is the former residence located off of Waiāhole Valley Road, where the proposed residence will be sited. Siting of the residence in an alternative location would potentially require more ground disturbance and land clearing of a site previously undeveloped and extensive construction of vehicular access to this alternative location, as much of the property is inaccessible via

automobile. The proposed single-family residence is sited to utilize an area that was previously developed. This will include utilizing much of the existing driveway, and will limit the need for grading and grubbing previously undisturbed spaces. The proposed project area is the closest site to existing infrastructure (electric, and roads) and will limited the need for construction of new infrastructure to support a residence. See Figure 13 for a topographic view of the ʻŌhulehule parcels and the location of the proposed residence.

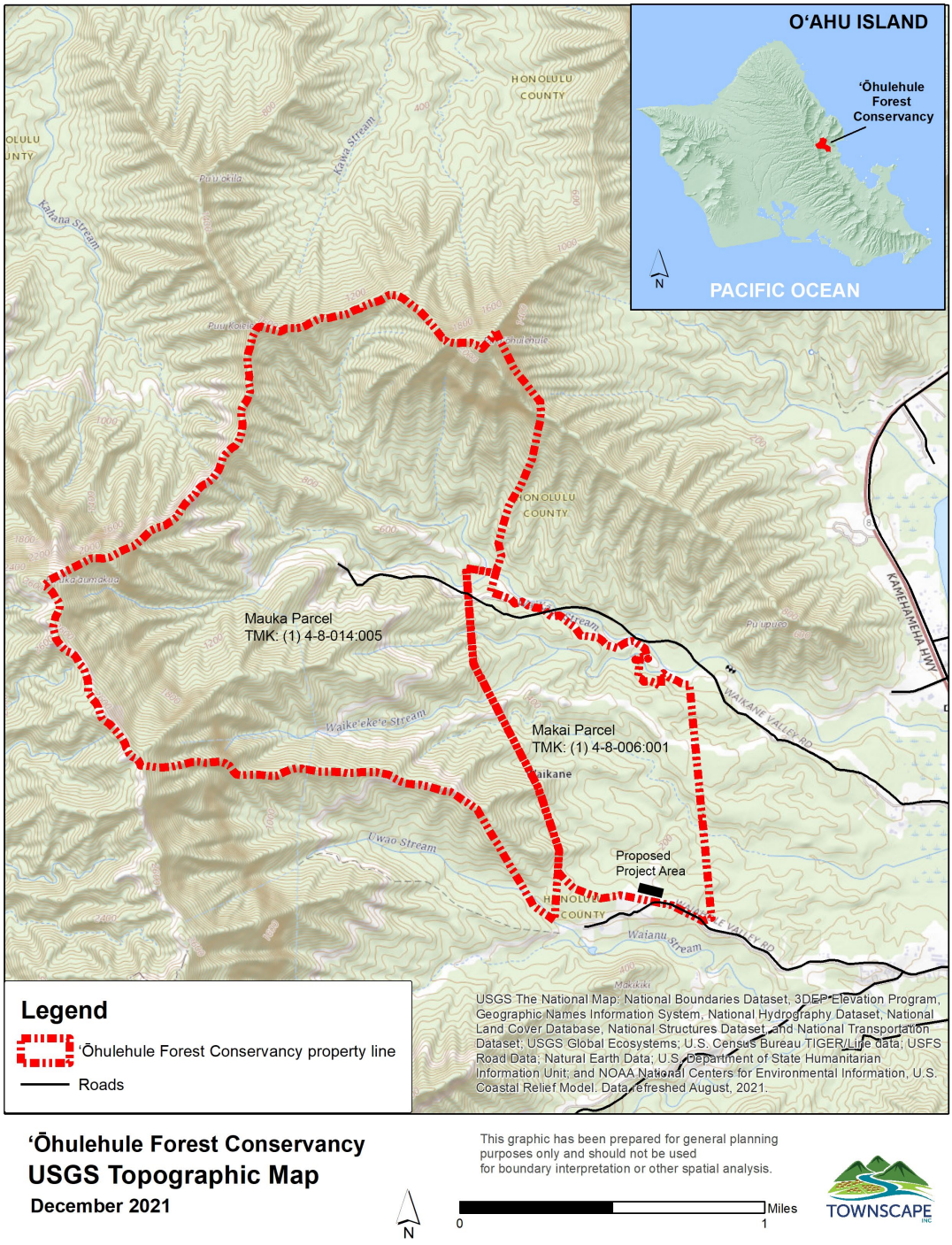

Figure 13 - USGS Topographic Map

4. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION

4.1. NATURAL ENVIRONMENT

4.1.1. *CLIMATE*

Trade wind patterns have a significant effect on Windward Oʻahu's climate patterns. Trade winds blow from the northeast most of the year and bring warm moist air from the ocean onto the land. As the air is forced upwards over the Koʻolau Mountains, a phenomenon known as orographic lift, the air cools, forms clouds and creates precipitation. As a result, the mountainous regions of Windward Oʻahu experience frequent rainfall and are often cloudy. Fog drip at higher elevations also contributes to the overall precipitation.

The highest annual average rainfall in the Koʻolaupoko district (5,000 millimeters, or approximately 197 inches) occurs near the summit of Puʻukaʻaumakua in the upper portions of the Waiāhole and Waikāne ahupuaʻa. The average annual rainfall on the makai parcel of the property ranges from approximately 80 to 110 inches.

Data from the Western Regional Climate Center (WRCC) indicate that average temperatures in the vicinity of the mauka and makai parcels (temperatures recorded in Kāneʻohe mauka) vary minimally throughout the year with the warmest temperatures averaging 79.8° F in the summer months and the coolest temperatures averaging 68.8° F in the winter months. The average annual wind speed recorded at the Marine Corps Base in Kāneʻohe between 1996 and 2006 was 8.4 miles per hour. Refer to **Figure 13** above for a USGS topographic map of the ʻŌhulehule property.

4.1.2. *GEOLOGY AND SOILS*

The Island of Oʻahu is formed by the eroded remnants of two elongated shield volcanoes; the older Waiʻanae Volcano on the western part of the island (main shield-building stage approximately 3.8-2.95 million years ago) and the younger Koʻolau Volcano on the eastern part (shield-building stage approximately 2.5-1.7 million years ago). The approximate area of the Koʻolau caldera would have encompassed the areas where the towns of Kāneʻohe and Kailua are now located. Two rift zones trending northwest from the caldera generated lava flows that formed the bulk of the island. The eruptive period of the volcano was followed by a long period of extensive erosion, leading to the amphitheater-shaped valleys of windward Oʻahu. The ʻŌhulehule property is located in Waiāhole and Waikāne Valleys, two of the smaller amphitheater-shaped valleys of the windward coast, just north of the town of Kāneʻohe. The mauka portions of the valley have narrow ridges and very steep to precipitous slopes, which become gradually less steep in the center and makai portions of the valley.

In the very steep mauka portions of the valley, the Koʻolau Basalt is exposed. Below the mauka cliffs, a thin layer of weathered alluvium and rock overlays the Koʻolau Basalt in the upper reaches of the valley. In the middle and lower reaches of the valley, the layer of weathered alluvium becomes deeper and is locally overlain with younger alluvium. The rich alluvial soils of Waikāne Valley are in the Waikāne silty clay series. On the lower to moderate slopes in the makai parcel, these soils are considered to be very

fertile for agriculture and are included in the Agricultural Lands of Importance to the State of Hawai‘i (ALISH). Lands classified as ALISH are those lands that (1) are capable of producing sustained high agricultural yields when treated and managed according to accepted farming methods, (2) contribute to the State's economic base and produce agricultural commodities, and/or (3) are needed to promote the expansion of agricultural activities and income for the future, even if not currently in agriculture. ALISH maps were drafted in 1977 by the State Department of Agriculture, with support from the U.S. Department of Agriculture and the University of Hawai‘i College of Tropical Agriculture and Human Resources (CTAHR). Soils and areas of the property included in the ALISH are shown in Figure 14 Soil Map below. Three classes of agriculturally important lands were established for the State of Hawai‘i:

- **Prime Agricultural Lands**: criteria for these lands include adequate moisture supply, pH between 4.5 and 8.4, deep water table, soils that are not flooded frequently during the growing season, soils that do not have serious erosion hazard, and soils that contain less than 10% of rock fragments coarser than 3 inches.

- **Unique Agricultural Lands**: those lands are used for the production of specific high-value crops (*e.g.,* coffee, taro, rice, non-irrigated pineapple, *etc.*)

- **Other Important Agricultural Lands**: other agricultural lands that do not qualify as prime lands or unique lands. Generally, these lands may require greater application of agricultural inputs or improvements (*e.g.*, erosion control, drainage improvements) to produce good crop yields.

Impacts and Mitigation

Potential impacts on soil and water quality are primarily limited to early establishment of the site. Potential sources of water contamination by soil deposition include erosion from construction of roads, buildings and land clearing. Best management practices will be followed to avoid soil erosion, which has the potential to contribute to impaired water quality in Waikāne and Waike‘eke‘e Streams.

The ‘Ōhulehule Forest Conservancy will do its best to schedule work activities during periods of minimal rainfall for the area in addition to utilizing other best management practices to mitigate erosion and run-off from the site. Ground cover cloths, cover crops and mulching will improve soil quality and moisture retention while landscaping is being established. Vegetated buffer areas, sediment basins and silt fences between areas of land disturbance and streams are anticipated to filter sediment and improve soil water absorption. Therefore, it is unlikely that the construction of the residence would have significant adverse impacts on the water quality of Waikāne and Waike‘eke‘e Streams.

A Site-Specific Construction Best Management Practice Plan ("SSBMPP") will be followed during construction activities. **The ‘Ōhulehule Forest Conservancy will ensure that a SSBMPP is created and distributed prior to the commencement of any construction activity, and that this plan include regularly scheduled checks to ensure adherence. Should any event occur that poses a possible threat to nearby aquatic resources, DAR staff will be contacted immediately.** The SSBMPP will identify appropriate BMPs for sediment control and contractor activities, and provide information on BMP

installation and monitoring. BMPs related to building construction may include silt fences, compost socks, proper location of potential sediment sources, dust control, proper stockpile management, and/or other BMPs as needed.

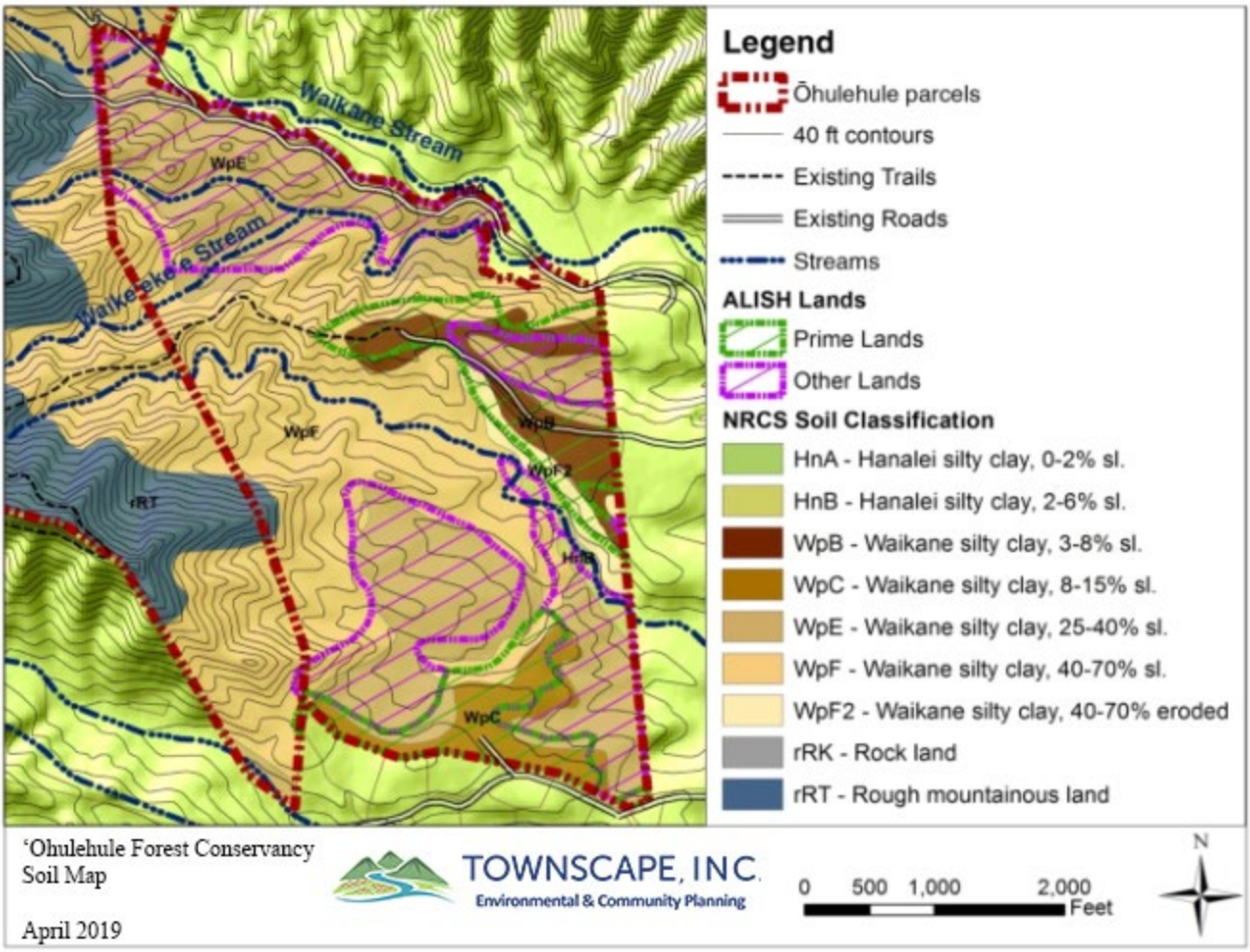

Figure 14 - Soil Map

4.1.3. *HYDROLOGY AND DRAINAGE*

Dikes in the rift zone of the Koʻolau Range consist of steeply-dipping intrusive rocks that have very low permeability and impound groundwater into high-altitude confined aquifers. These high-level aquifers discharge groundwater through seeps and springs into the streams of windward Oʻahu. The Waikāne watershed is approximately 2.65 sq. miles in area and is drained by the Waikāne Stream and its tributary, the Waikeʻekeʻe Stream, into Kāneʻohe Bay. The Waikāne Stream is naturally a perennial stream throughout its course. Waiāhole watershed is of a similar size and is drained by the Waiāhole Stream and its tributaries, Waianu and ʻŪwao into Kāneʻohe Bay.

The USGS estimates that the average daily natural stream flow was approximately 2.3 million gallons per day (MGD) in the upper reaches of the Waikāne Stream and 1.3 MGD in the Waikeʻekeʻe Stream. However, these natural flows were significantly modified by the construction of the Waiāhole Ditch between 1913 and 1916 to transport water from the windward side to the sugar plantations of leeward Oʻahu. The ditch produced approximately 27 MGD water by collecting surface and dike-impounded groundwater from the watersheds of Kahana, Waikāne, Waiāhole, ʻUwao, and Waianu. Diversion of water into the ditch led to significant reductions in stream and spring flows on the windward side of the Island.

Struggle over the Waiāhole Irrigation System began when the Oʻahu Sugar Company announced that it would be closing its plantation in 1995 and thus would no longer need the ditch water. A series of water-use petitions were submitted to the Commission on Water Resources Management (CWRM) from parties with interests on the windward and leeward sides of Oʻahu. Leeward petitioners wanted the water that had been allocated to Oʻahu Sugar Company to continue to be transported to the leeward side, whereas windward petitioners wanted the water to be returned to the windward streams. The Waiāhole Contested Case Hearing lasted for nearly two years and in 1997, CWRM issued its Decision and Order, requiring that a significant amount of water from the Waiāhole Ditch be returned to windward streams. CWRM's Decision and Order was appealed twice to the Hawaiʻi Supreme Court and amended twice. The most recent Decision and Order was issued in 2006, which ordered the allocation of 12 MGD of water to windward streams and 12.57 MGD of water to the Waiāhole Ditch.

Approximately 2.1 MGD of water was returned from the Waiāhole Irrigation System to the south fork of the Waikāne Stream. As a result, the Waikāne Stream is now perennial again throughout its length, whereas the Waikeʻekeʻe Stream is still intermittent in its upper reaches.

Impacts and Mitigation

Drainage around proposed structures will be designed to prevent flooding of facilities. Site grading and drainage will utilize Low Impact Development (LID) features to encourage on-site infiltration, retention and detention. These features include vegetated and rock swales, as well as natural energy dissipators and basins. Storm drain inlets and underground drain lines will be used to convey flows at walls and across roadways and to direct runoff into and from LID features. Sediment control BMPs will be implemented, including perimeter controls (fiber rolls, silt fence, etc.), storm drain inlet protection and use of buffer zones.

A Storm Water Pollution Prevention Plan will be prepared and implemented throughout the duration of construction until final stabilization of all disturbed areas. Proposed impervious areas, such as roof and hardscapes, will drain to site landscaping, vegetated or rock drainage swales, and/or bioretention basins. Energy dissipators will be used at downspouts or drainage pipe outlets to disperse concentrated flows and minimize erosion. Vegetated and rock swales will be used to convey stormwater runoff from the site while also encouraging infiltration. Bioretention basins will be used to encourage infiltration, retention, detention and increase sediment capture. In larger storm events, runoff will sheet flow over existing buffer and vegetated areas. Gravel aprons flanking the concrete driveway will reduce site

imperviousness and help filter and capture roadway sediments. Routine operations and maintenance will be provided to ensure longevity and effectiveness of LID and drainage features.

4.1.4. *WATER QUALITY*

Under the provisions of the Clean Water Act, the State of Hawai'i Department of Health (DOH) is responsible for setting the state's Water Quality Standards (WQS). The WQS define (1) the classification system for state surface waters, which assigns different protected uses to different water classes, and (2) the specific numeric and qualitative water quality criteria needed to support those protected uses. The DOH is also responsible for monitoring surface water bodies to assess whether they are meeting the criteria of the WQS. Streams that do not meet those criteria are included on the state's Section 303(d) List of Impaired Waters. After identifying water bodies with impaired water quality, the DOH is responsible for establishing and enforcing Total Maximum Daily Loads (TMDLs), which are the total amounts of pollutants that can flow into a water body from various pollutant sources. The establishment of TMDLs is a long and complex process, so the DOH prioritizes streams for TMDL development by severity of water quality concerns. The Waikāne Stream was listed in 2006 on the State's 303(d) List of Impaired Waters with nitrate-nitrite as the pollutant of concern impacting stream water quality. However, the stream is classified as a low-priority for the development of TMDLs.

Nitrates are essential plant nutrients, but in excess amounts they can cause significant water-quality problems. Together with phosphorus, nitrates in excess amounts can accelerate eutrophication, causing increases in aquatic plant growth and changes in the types of plants and animals that survive in streams. Nitrates are naturally produced in the environment through the microbial decomposition of dead plant and animal matter. However, natural processes generally do not lead to excessive concentrations of nitrates in aquatic habitats. Human activities which may increase nitrate concentrations in aquatic habitats, including those of Waikāne Valley, include runoff from fertilized agricultural lands and farm animal enclosures, as well as leaching from cesspools or failing septic systems. These potential sources of pollutants to Waikāne Stream are primarily located in the makai portion of the valley, near the Kamehameha Highway.

Impacts and Mitigation

Measures to mitigate impacts to the water quality of the extended watershed will be utilized throughout construction and post-construction processes. BMPs include sediment controls such as fiber rolls, silt fence, storm drain inlet protection, as well as use of buffer zones. Special care shall be made to prevent sediment from entering swale and basin areas. Impervious surfaces will drain to vegetated or rock swales and/or bioretention basins. Bioretention basins will be used to encourage infiltration, retention, detention, and sediment capture in order to protect the water quality and limit pollution of the watershed from runoff. Energy dissipators will be used to disperse concentrated flows at downspouts or drainage pipe outlets.

4.1.5. *SCENIC RESOURCES*

The makai portions of the property have significant scenic resources including views towards the ocean of Kāneʻohe Bay and Puʻu ʻŌhulehule to the north. Figure 15 below shows the view into Waikāne Valley from the makai parcel.

Impacts and Mitigation

The proposed residence is sited to have a minimal visual impact from Waiāhole Valley Road and from other parts of the valley. It is sited approximately 200+ feet further inward from the site of the former residence on the makai parcel that was removed in 2017. The former residence was a two-story structure, whereas the proposed residence will be a single-story dwelling. These design aspects will result in a less conspicuous structure with minimal visual impacts on the community view planes.

4.1.6. *BIOLOGICAL RESOURCES*

Habitats

Major vegetation climate zones in Hawaiʻi are generally classified by elevation and rainfall. The most recent vegetation classification by Gagné and Cuddihy (1990) identifies the following general rainfall regimes:

- Dry: less than 1,200 millimeters (mm) (47.2 inches) annually
- Mesic: between 1,200 mm (47.2 inches) to 2,500 mm (98.4 inches) annually
- Wet: greater than 2,500 mm (98.4 inches)

Additionally, vegetation zones for Oʻahu are also classified in three major elevation zones: lowlands located below 150 feet above mean sea level (amsl), mid-elevation lands between 150 and 1,000 feet amsl, and mountainous lands above 1,000 feet in elevation.

Mesic Forest Ecosystem

The makai parcel of the property has annual rainfall ranging between 80 to 110 inches, placing it largely in the mesic climate zone, and has land elevations ranging from 120 to 500 feet. As a result of the relatively mild slopes of the makai parcel and moderate rainfall, the makai parcel was historically used for ranching, resulting in significant disturbance to the native forest vegetation. Some hala, ʻōhiʻa lehua and koa trees remain on the parcel, however, the native canopy has been largely replaced by non-native invasive plants.

Wet Forest Ecosystem

The mauka parcel of the property is largely in the wet climate zone with land elevations ranging from about 300 to 2,600 ft amsl. The wet forest ecosystem occurs throughout much of the mauka parcel. In the minimally disturbed areas, this ecosystem is characterized by high biodiversity and a high rate of

endemism. Areas still dominated by native plant species are limited to the relatively steep mauka portions of Waikāne Valley, at elevations above 1,000 feet amsl.

Flora

Endangered Species

Records from the Hawai'i Biodiversity Mapping Program (HBMP) database, the U.S. Fish and Wildlife Service (USFWS) and the Bishop Museum indicated that no endangered plant species have been recorded to occur within the makai parcel of the property – which is in contrast with the mauka area of the property where 24 rare plant species have been recorded historically. This is likely due in large part to the long history of land disturbances in the makai of the property, including deforestation by cattle ranching and military training. There are also no endangered plant critical habitats listed within the makai parcel.

A botanical survey conducted by Mr. Joel Lau in May 2012 (see Appendix A) confirmed that no endangered plant species were identified on the makai parcel of the property. An additional botanical survey conducted by Mr. Michael C. Ross in December 2020 (see Appendix C) further confirmed that no endangered plant species were identified in the vicinity of the proposed residence.

The only native species encountered on the property were the Pala'ā fern (*Odontosoria chinensis*), the indigenous sedge, *Cyperus polystachyos*, and 'Uhaloa (*Waltheria indica*). The Pala'ā fern is one of the most common indigenous ferns in the Hawaiian Islands, occurring in mesic to wet areas on all the major islands (Palmer 2003). *Cyperus polystachyos*, an annual sedge, and the indigenous subshrub 'Uhaloa, are both quite common in disturbed, grassy areas (Wagner et al. 1990). These species are restricted to the northeast portion of the mauka parcel.



Figure 15 - View of Pu'u 'Ōhulehule from the makai property.

Non-Native Species

In the botanical survey conducted by Mr. Ross (December 2020), the upper canopy layer observed in the vicinity of the project area is dominated by a fairly young and open stand of Albizia (*Falcataria mollucana*), approximately 20-30ft. in height, with other invasive non-native trees, such as Fiddlewood (*Citharexylum caudatum*), Octopus tree (*Schefflera actinophylla*), Gunpowder tree (*Trema orientalis*), Autograph tree (*Clusia rosea*), African tulip tree (*Spatholdea campanulata*), and Mango (*Mangifera indica*) occuring in smaller stands. In the understory, and especially in openings in the canopy, a thick, nearly impentrable field of Guinea grass (*Megathyrsus maximus*) and Wedelia (*Sphagneticola trilobata*) form. Other common weedy species include Honohono (*Commelina diffusa*), *Stachytarpheta* spp., Koster's curse (*Clidemia hirta*), and Dog's tongue (*Pseudelephantopus spicatus*). The saplings of Fiddlewood and Shoebutton ardisia (*Ardisia elliptica*) are also quite common in the understory. In shadier areas, invasive vines, such as Maile pilau (*Paederia foetida*) and *Ipomoea obscura*, can be found climbing the taller grasses and smothering the lower branches of the trees.

In the location of the former chicken farm, the space is more open and disturbed compared to other areas at the site. A diverse assemblage of non-native herbs and grasses favor this disturbed spot. These include Horseweed (*Conyza bonariensis*), Flora's paintbrush (*Emilia sonchifolia* var. *javanica*), Partridge pea (*Chamaecrista nictitans var. glabrata*), Sensitive plant (*Mimosa pudica* var. *unijuga*), *Pterolepis glomerata*, *Polygala paniculata*, Buttonweed (*Spermacoce assurgens*), and a couple of terrestrial Orchids, including the Bamboo orchid (*Arundina graminifolia*) and the Philippine ground orchid (*Spathoglottis plicata*). Common grasses found in this area include Broomsedge (*Andropogon virginicus*), Broadleaf carpetgrass (*Axonopus compressus*), and the Yellow foxtail (*Setaria parviflora*).

Along the western boundary of the makai parcel near Waiāhole Valley Road, there are various landscape plantings consisting of mostly ornamental species that have persisted in the area, but do not appear to be naturalizing. These include various palms, such as the Chinese Fan Palm (*Livistona chinesis*), Thurston's palm (*Pritchardia thursontii*), Areca palms (*Dypsis* sp.), and the Royal palm (*Roystonea regia*), the latter appears to be spreading on its own. There is a non-native sword fern (*Nephrolepis brownii*) that grows as an epiphyte on many of the palm trees. There are also some bromeliads, dumb cane (*Dieffenbachia* sp.), and a single Cardboard palm (*Zamia furfuracea*) growing in the understory of the palms. A small stand of Polynesian bamboo (*Schizostachyum glaucifolium*) and several Pua kenikeni (*Fagraea berteroan*) trees can be found scattered in the same area, along with a single variegated Hala (*Pandanus tectorius*). In addition, some fruit trees, such as Avocado (*Persea americana*), a few different species of Heliconia (*H. caribaea, H. metallica*, and *H. psittacorum*), and a couple of Gingers, including White ginger (*Hedychium coronarium*) and the Polynesian introduced Shampoo ginger (*Zingiber zerumbet*), grow in this area. The single Cook pine (*Araucaria columnaris*) found near the driveway entrance off of Waiāhole Valley Road appears to have been planted. See Appendix C for more details on the Ross 2020 survey of the project area.

Fauna

Endangered Species

According to the HBMP database and the USFWS, no endangered fauna have previously been recorded to occur within the makai parcel of the property. A survey conducted by Eric VanderWerf in April 2012 (See Appendix B) also identified no endangered species on the makai parcel.

Although it is possible that the ʻōpeʻapeʻa or Hawaiian hoary bat (*Lasiurus cinereus semotus*) occurs in the Waikāne Valley area, it was not recorded during the April 2012 survey. There is currently very little information available on the distribution, biology, and ecology of ʻōpeʻapeʻa on Oʻahu. Some research on this bat has been conducted over the past five years on the Island of Hawaiʻi, which provides some clues as to its habitats, prey, and potential threats. Research indicates that the bat roosts in native and non-native trees with no strong preference for any particular tree species, shows seasonal patterns in movements, and establishes distinct feeding areas (Bonaccorso, 2010). Research also indicates that the bat is widespread at all elevations sampled, from 10 to 2,000 meters amsl, and it was observed in coastal areas, above wetlands and streams, rainforests, and dry forests. The ʻōpeʻapeʻa preys on *Lepidoptera* and *Coleoptera*. The decline of the ʻōpeʻapeʻa may be related in large part to deforestation in the early 19th Century. Other threats to the bats include barb-wire fences and pesticide use that may reduce or alter their prey populations. To help protect the ʻōpeʻapeʻa, the USFWS recommends not cutting trees greater than 15 feet in height during the bat's breeding season. Female ʻōpeʻapeʻa are known to leave their pups in a roost while they search for food. Pups are vulnerable during these times as they cannot fly away from the roost if threatened. Based on data, the pupping season is currently estimated to occur between June and September.

Non-native Fauna

There are several non-native species of concern on the property, including feral pigs and rodents. Feral pigs are of concern as they can significantly alter ecosystems by trampling, uprooting and eating native plants, and spread the seeds of invasive species. Pigs can also contribute to soil erosion as well as negatively impact cultivated plants by foraging and rooting. Rodents can impact agricultural harvests by feeding on cultivated plants and fruits.

Impacts and mitigation

In the 2012 and 2020 surveys conducted on the makai parcel, including the site of the proposed project area, no rare, threatened or endangered species were recorded (See Appendix B and C). **In correspondence with Eric VanderWerf regarding the potential risk of the native ʻelepaio or pueo occurring in the vicinity of the proposed project area, he stated that previous surveys that he conducted located no pueo, and seven ʻelepaio, two pair and three individual males. The ʻelepaio were found at elevations of 800 to 1000 feet in the upper Waikāne Valley. He went on to state that ʻelepaio are sedentary creatures and are unlikely to disperse away from established territories. As such, Mr. VanderWerf concluded that additional surveying of the proposed project area for ʻelepaio or pueo is unnecessary. (See Appendix L for this correspondence)**

In order to help protect the endemic ʻōpeʻapeʻa, the cutting or clearing of trees that are 15 feet in height or taller will not occur during the pupping season of June to September. The ʻŌhulehule Forest Conservancy does not anticipate any adverse impacts to these species in the proposed project area.

The ʻŌhulehule Forest Conservancy does not anticipate any nighttime work in the construction of the proposed project. Should any nighttime work occur during the period of September 15 to December 15, the ʻŌhulehule Forest Conservancy will ensure that any outdoor lighting used be fully shielded for the protection of young seabirds during fledgling season. The ʻŌhulehule Forest Conservancy will consult with the Oʻahu Invasive Species Committee to learn of any high-risk invasive species in the area and ways to mitigate the spread as well as additional processes to mitigate the risk of the spread of Rapid ʻŌhiʻa Death during construction activities. During two biological surveys of the project area conducted in 2012 and in 2020, no ʻŌhiʻa trees were observed in or near the project area. Plans for the project do not include any removal, trimming or potential for injury to any ʻŌhiʻa trees. If any ʻŌhiʻa trees are discovered near the project area and are at risk for removal, trimming or potential injury, the ʻŌhulehule Forest Conservancy will follow guidance provided at the following website: https://cms.ctahr.hawaii.edu/rod

4.1.7. *NATURAL AND ENVIRONMENTAL HAZARDS*

Flood Hazard Risk

The project area is located in Zone D, "unstudied areas where flood hazards are undetermined but flooding is possible". The proposed residence is sited near the site of the former residence at an elevation of 245 feet above sea level. The nearest streams are Waikeʻekeʻe Stream to the north and Waianu Stream to the south. The project area is outside of any possible floodway from either of these two streams. Flooding near the proposed residence is not likely. (See Figure 16 below)

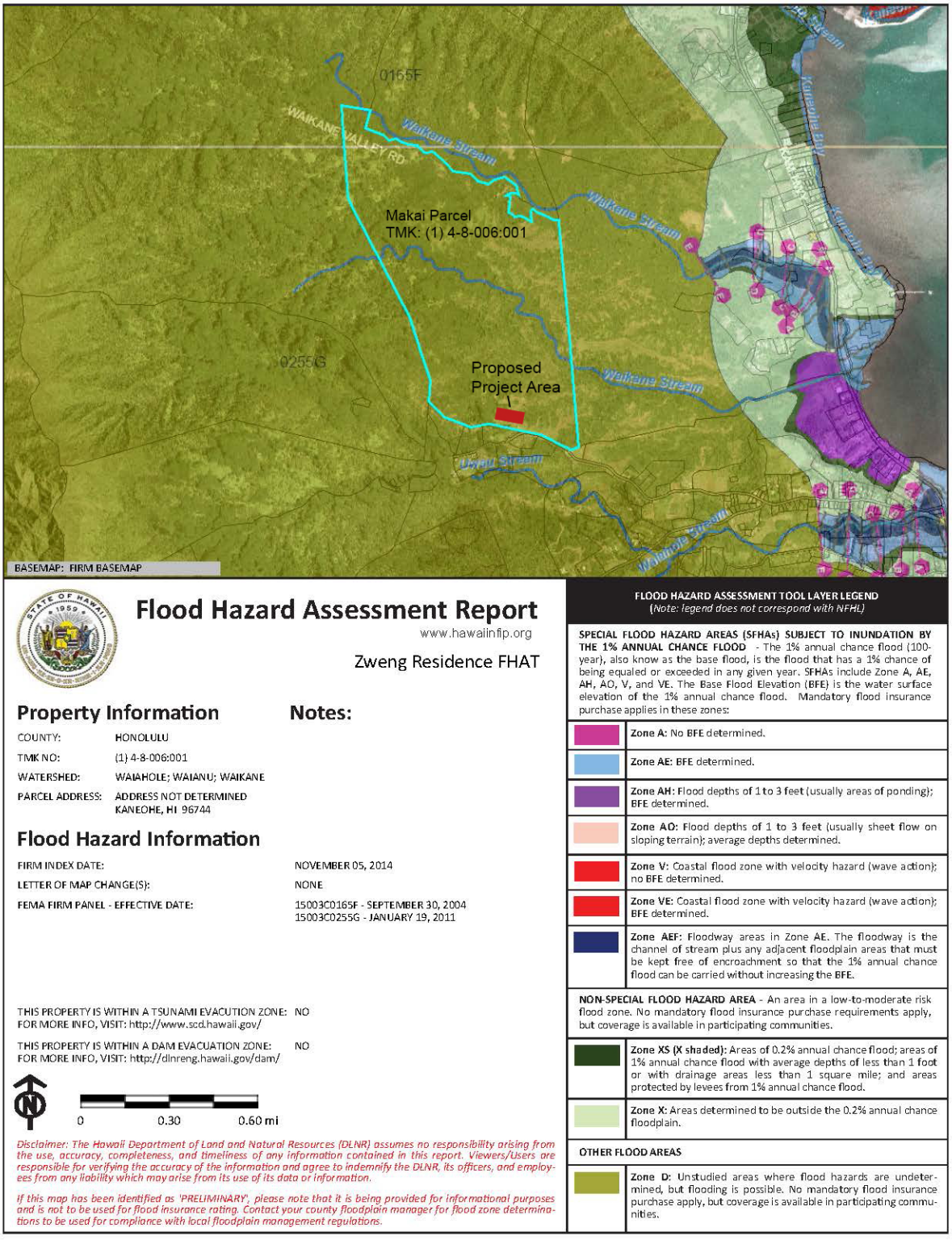

Figure 16 - Flood Zone Map [Source: Hawai'i DLNR: http://gis.hawaiinfip.org/fhat/]

Military-related Environmental Contaminants

The property was used by the U.S. military as a training ground from 1942 to 1976. The U.S. Military designated the area as the Waikāne Training Area (WTA). A series of Unexploded Ordnance (UXO) investigations and removal efforts have been conducted by the U.S. Army Corps of Engineers (USACE) on the property since the 2000's and are summarized below. An Engineering Evaluation/Cost Analysis (EE/CA) to evaluate munitions and explosives of concern (MEC) within the WTA was conducted in 2006. During the EE/CA, seven MEC items were recovered in the southeastern portion of the WTA and removed. One hundred and seventy-two munitions debris items were also found.

An abbreviated Site Investigation (SI) focusing on the WTA was conducted in 2008. A team of samplers collected two multi-incremental soil samples in areas where MEC were found during the EE/CA and collected two co-located surface water and sediment samples from the Waikāne Stream, downstream of locations where MEC were found. The samples were analyzed for Target Analyte List metals and explosives. Contaminants of potential concern identified in the SI were chromium, iron, vanadium, cobalt, mercury, and Research Department Explosive or "RDX", an explosive nitroamine widely used in military applications during World War II. Chromium, iron, and vanadium exceeded action levels, and additional analysis will be required to clarify whether those concentrations are background levels or related to military activities. Elevated concentrations of hexavalent chromium and mercury would be of particular concern for human and environmental health.

A Remedial Investigation/Feasibility Study (RI/FS) and removal of MECs was conducted in 2011. The purpose of the RI/FS was to determine further actions to reduce the risk of remaining UXO, discarded munitions, and constituents of concern. The study included three general investigation areas: the "Western/Mountainous Region" in the mauka portions of Waikāne Valley, the "Southern Impact Region" just mauka of the northern cacao area, and the "Southeastern Region" in the general vicinity of the northern cacao area. The investigation indicated that only minimal amounts of munitions debris were found in the Western/Mountainous Region. In the Southern Impact Region and Southeastern Region, munitions debris were found but no MECs were recovered outside of the removal areas. The highest munitions debris concentrations were found in the Southeastern Region. A qualitative MEC hazard assessment was conducted for the Southern and Southeastern Regions, which assigned a Hazard Level of 4 indicating "low potential explosive hazard conditions."

Removal of MECs was conducted in a large portion of the northern cacao farm area. The removal effort included a 100% sweep of the removal areas and recovered 50 MEC items from the Southeastern Region. Although no MECs were identified outside of the removal areas, the USACE cannot guarantee that all MECs have been removed from the property. Based on the work conducted by the USACE, areas where the MEC removal effort was conducted are considered clear.

Steep Terrain and Erosion

The morphology of the terrain on the makai parcel is highly variable, ranging from nearly level on ridge tops and in gulch bottoms to slopes in excess of 35% along gulch walls. Slopes in excess of 35% are

generally considered unsuitable for agricultural activities. Gully erosion is visible in disturbed sloping areas and on steep jeep trails where the vegetation has been removed.

There is a significant amount of erosion on-or-about the Waikāne Valley Road and the tops of ridges in the northern part of the makai parcel. The erosion is related to illegal recreational off-road vehicle motoring gained by trespass.

Illegal Property Access

The mauka and makai parcels are illegally accessed on a regular basis for hunting, dumping, and recreational off-road vehicle use. Off-road vehicle use has developed significant erosion in the northern part of the parcel. Additionally, illegal dumping of refuse also occurs in parts of the property.

Impacts and Mitigation

Siting of the proposed residence in a flat open area will help minimize soil erosion. An Erosion and Sediment Control plan will be prepared and implemented throughout the duration of construction until final stabilization of all disturbed areas is complete. Erosion control best management practices include providing temporary or permanent stabilization of exposed areas, preserving existing vegetation as long as possible, and minimizing soil compaction. Wind erosion controls and dust management will be implemented to minimize impacts. Protection of post-construction LID improvements will be required until all phases of construction are complete. Construction equipment and heavy truck traffic will be minimized to reduce compaction and infiltration capability at the basin areas. Special care will be made to prevent sediment from entering and clogging swale and basin areas. All exposed areas will be stabilized using either vegetative or non-vegetative means. The ʻŌhulehule Forest Conservancy will help to mitigate the impacts of illegal off-roading and refuse dumping on the property by maintaining a presence.

4.2. SOCIO-ECONOMIC , CULTURAL AND ARCHAEOLOGICAL RESOURCES

4.2.1. *WAIĀHOLE-WAIKĀNE VALLEY AREA HISTORY*

Pre-Contact

It is estimated that Hawaiians first settled the windward coast of Oʻahu as early as 1,500 years ago. The abundance of fresh water in streams and springs along the coast allowed the development of extensive loʻi kalo (taro terraces) and loko iʻa (fishponds) in the watersheds of Kāneʻohe Bay. The fertile soils and extensive agricultural lands allowed the growth of a large Hawaiian population on the windward coast, which was estimated at 20,000-25,000 inhabitants at the time of initial Western contact.

Before Western contact, Hawaiians had established an intricate land tenure system and hierarchical structure, whereby the land could not be owned or traded, but instead was carefully managed to sustain its resources for the people of Hawaiʻi. In this land tenure system, ahupuaʻa were land divisions that generally extended from the mountain tops out into the sea to allow their inhabitants access to a full range of resources. Exchange between mauka and makai resources allowed most ahupuaʻa to be fairly

self-sufficient. Groups of ahupua‘a formed large moku or districts. The mauka and makai parcels of the property are located within the Waiāhole and Waikāne ahupua‘a in the moku of Ko‘olaupoko.

The name Waikāne is an abbreviation of the word Wai-a-Kāne, which means “Water of Kāne” (Pukui *et al.*, 1974:223). Kāne was one of the four principal Hawaiian gods representing the source of life. Handy and Handy (1972, p.446) describe the following story about the naming of Waikāne:

> “As Hi‘iaka’s canoe skirted the windward coast of O‘ahu, she greeted many a site made famous or hallowed by the exploits of her ancestors in the area before the Pele clan moved onward to the younger island, Hawai‘i. Passing the shores of Waikāne (the original name was Wai-a-Kāne, Water-of-Kāne), she explained to her companion, Wahine-oma‘o, that here Kāne first dug for water at a place called Poliuli, creating the Wai‘ola-li, which was male, and the Wai‘ola-la, which was female.”

Handy and Handy (1972, p.442) also describe the traditional Hawaiian taro agriculture in the ahupua‘a of Waikāne:

> “Waikāne was a major source of Ko‘olau taro, especially in the broad area between the highway and the sea, and as much as half a mile inland there was extensive lo‘i cultivation. The northern (and larger) section, extending mauka for two or more miles, used to have cultivated lo‘i and home sites all along Waikāne Stream. The southern section of the valley, divided off by a low ridge, comprises a gulch where there were old terraces watered by Waike‘eke‘e Stream, no longer cultivated in taro.”

Post-Contact

Many changes occurred with Western contact in Hawai‘i, including catastrophic Hawaiian population declines from disease epidemics, changes in land tenure from the traditional ahupua‘a model to the Western private property model, the start of new agricultural endeavors for profit rather than subsistence, and the importation of many immigrant workers from Asia and the Pacific Islands to work on large plantations. By the 1880s, taro production on the windward side was largely replaced by sugar and rice plantations. In Waikāne Valley three rice plantations were in operation in 1880 in the makai part of the valley. The rice industry declined in the early part of the 20th Century, partly because of demographic and economic changes, and also because of the introduction of pests including rice birds and the rice borer insect.

Between February 1913 and December 1916, the Waiāhole Irrigation Company, a subsidiary of O‘ahu Sugar company, built the Waiāhole irrigation system. The system was designed to bring water from the wet valleys of windward O‘ahu to O‘ahu Sugar’s plantation in leeward O‘ahu. Additions to the system were made from 1925 to 1933 and in 1964. The whole system is approximately 25 miles long and stretches from Kahana Valley to Kunia in the ‘Ewa District of O‘ahu. The system collects primarily dike-impounded groundwater and historically produced 27 million gallons of water per day for the

plantation. Flows in Kahana, Waikāne, and Waiāhole Streams were significantly reduced as a result of the Waiāhole irrigation system.

Despite the agricultural changes throughout the windward and leeward Oʻahu, Handy reported that in 1935, there was still a broad area of terraces at Waikāne, where large crops of taro were being raised to sell to poi factories (Handy 1940, p.97). There were also inland terraces with taro for milling situated between the Waikāne and Waikeʻekeʻe Streams. These inland terraces are still present on the property, although they are not cultivated and are now overgrown by invasive plants.

Starting in 1942, the U.S. Army leased 1,061 acres of land in Waikāne Valley from the McCandless heirs and Waiāhole Water Company to conduct advanced offensive warfare training and air-to-ground practice bombing. In 1953, the lease was transferred to the U.S. Marine Corps, which continued training in the valley until 1976 when the lease was terminated. The Marine Corps conducted ordnance clearance sweeps in 1976 and 1984. The 1976 clearance effort resulted in the removal of over 24,000 pounds of practice ordnance and fragments, including 42 unexploded ordnances (UXOs). The 1984 effort resulted in the removal of 16,000 pounds of demilitarized practice ordnance and 190 UXOs. In 1989, the U.S. Marine Corps acquired title to the 187-acre ordnance impact area located immediately to the northeast of the mauka parcel. In 2003, a proposal to use the parcel for blank-fire training was abandoned as a result of safety concerns from UXOs.

Meanwhile, the Koʻolaupoko District experienced a population boom starting in the 1940s. Several factors contributed to the district's rapid rate of population growth and development, including the decline of the agriculture industry and subdivision of land by large landowners to lease or sell parcels for residential or commercial use. Additionally, the completion of the Pali Tunnels in 1957 and the Wilson Tunnels in 1960 improved access to the windward side from Honolulu and further spurred the transformation of Kāneʻohe and Kailua from small rural communities into suburban population centers.

Land subdivision and development also was proposed for the Waiāhole and Waikāne Valleys in the 1970s. However, the small community of residents and farmers of Waiāhole-Waikāne organized to oppose these proposed commercial developments. When threatened with eviction by the Waiāhole Valley landowner, Mrs. Elizabeth Lloyd Marks, the Waiāhole residents organized protests, including a civil disobedience demonstration that temporarily blocked the Kamehameha Highway. In order to resolve the issue, the State acquired the Waiāhole Valley lands in 1977 and organized the grounds as an agricultural state park and rural community subdivision in 1986. These lands cover approximately 600-acres in Waiāhole and Waikāne valleys. The majority of these lands are currently under the management of the Hawaiʻi Housing Finance and Development Corporation (HHFDC), an agency under the Department of Business, Economic Development and Tourism.

The Waiāhole-Waikāne community has continued to fight against development threats to land and water in the valleys. In one of the most significant water struggles in the State, the Waiāhole-Waikāne community fought throughout the 1990s and 2000s for the return of water from the Waiāhole Irrigation System (which transports water to leeward agricultural producers) to windward streams. In 2006, CWRM issued its Decision and Order on this case, which resulted in the restoring of 12 MGD to

windward streams and allocated 12.57 MGD to leeward users. The case is further discussed in Section 2.3 above.

4.2.2. *Archaeology in the Vicinity of the Proposed Residence*

The most recent archaeological inventory survey conducted in the project area was completed by Ms. Coral Rasmussen in 2008 in support of the UXO assessment and removal operations conducted by the U.S. Army Corps of Engineers in 2008 through 2010. The archaeological inventory survey recorded the following sites on the makai parcel:

- Site 50-80-06-1078: a loʻi complex nominated to the National Register in 1973 ("Waikāne Taro Flats"). The site is at the confluence of the north fork and south fork of Waikāne Stream and extends across the northwest corner of the makai parcel, the mauka parcel, and the neighboring U.S. Marines parcel. The site is composed of eight traditional Hawaiian terrace sets that include stone-built terrace walls enclosing loʻi, ʻauwai, and probable habitation sites on raised ground near the loʻi.

- Site 50-80-06-4356: a loʻi complex that was originally recorded by Dunn *et al*. 1992. The site is located along the Waikeʻekeʻe Stream, approximately 250 meters upstream of the junction with Waikāne Stream. Five terrace sets were identified along the alluvial stream deposits on the bends in the stream. The complex includes traditional Hawaiian features such as terrace walls enclosing loʻi, ʻauwai, a trail, and probable habitation areas near the loʻi.

- Site 50-80-06-4361: a post-contact site near the Waikeʻekeʻe Stream with nine charcoal kilns, a rock alignment, and remnants of a historic trail or road. Remnants of two types of kiln are present at this site, including earth covered mound kilns and excavated kilns.

- Site 50-80-06-4352: a small loʻi complex located on a small meander loop of a tributary to an unnamed intermittent stream that crosses the makai parcel. Traditional Hawaiian loʻi features, including terraces, embankments, and a possible habitation were identified, as well as ʻulu and noni trees on the opposite side of the stream from the habitation site.

- Site 50-80-06-4359: two excavated charcoal kilns (first recorded by Dunn *et al.* 1992) on the south side of a gulch with flowing water.

- Site 50-80-06-4362: a charcoal kiln first recorded by Dunn *et al.* (1992).

- Site 50-80-06-6862: a set of six fighting positions or foxholes excavated into the hillside and top of a small knoll. M-60 machine gun bullets, other ammunitions, and miscellaneous fragments were present on the ground surface around the foxholes.

Prior to that survey, Dunn *et al.* (1992) conducted a survey of the entire makai parcel in 1972 and recorded a few additional sites outside of the 2008 survey area:

- Site 50-80-06-4360: a small loʻi in a gulch near the border between the makai parcel and the City and County of Honolulu property.
- Sites 50-80-06-4354 and 50-80-06-4355: Excavated charcoal kilns.
- Sites 50-80-06-4351, 50-80-06-4353, and 50-80-06-4358: small loʻi sets near an unnamed intermittent stream that crosses the makai parcel, near the eastern boundary of the parcel.

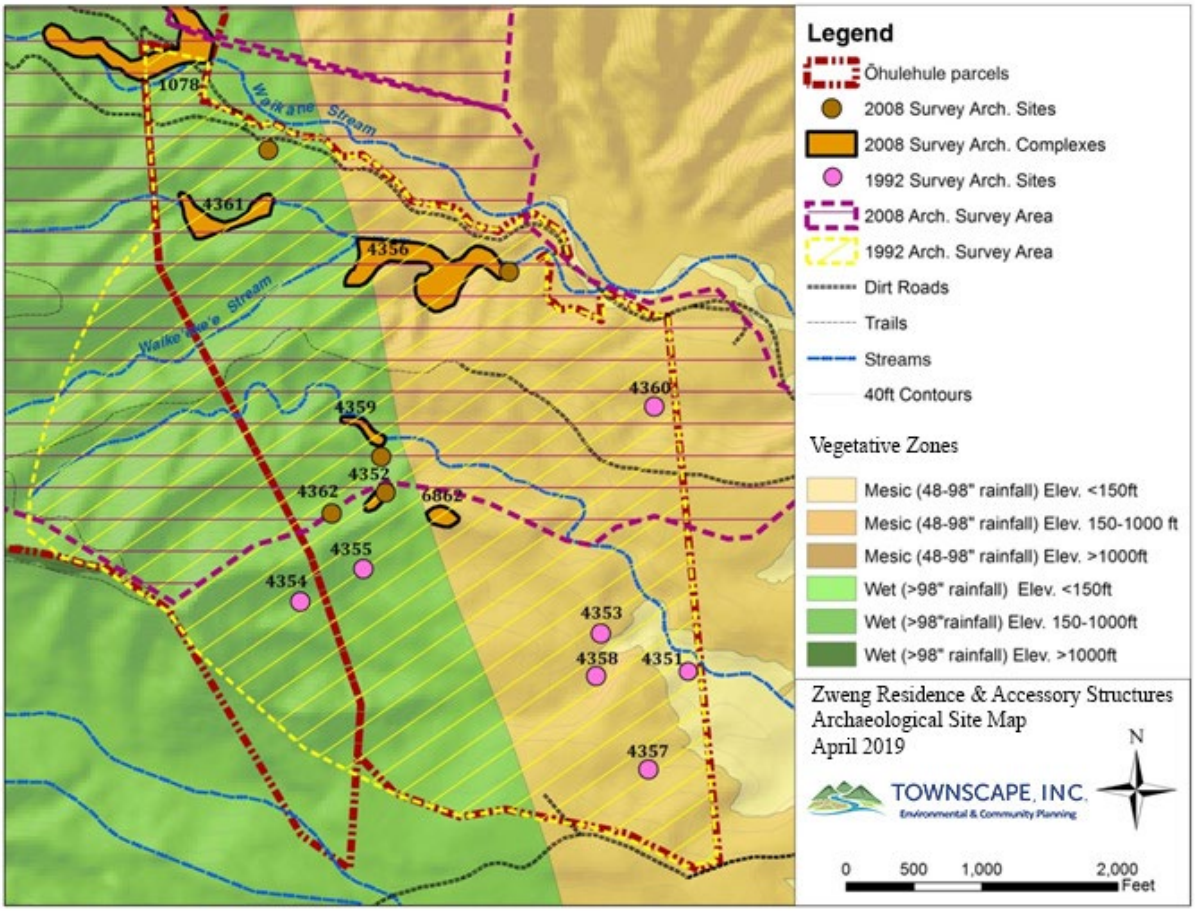

Figure 17 - Archaeological Site Map

A field survey was conducted by Cultural Surveys Hawaiʻi in 2012 that confirmed the findings of the previous archaeological surveys and did not identify any historic sites within the vicinity of the proposed residence. The letter report from that field survey is included as Appendix D. The survey areas and locations of historic sites on the makai parcel are shown in Figure 17 above.

Impacts and Mitigation

No historic sites were identified in the area of the proposed residence, surrounding landscaped areas and the driveway access road during previous archaeological surveys. The identified historic loʻi sites, "Waikāne Taro Flats," are approximately one-half mile from the site of the proposed residence.

Therefore, the proposed project is not expected to cause any adverse impacts to historic archaeological sites within the makai parcel. A restoration plan prepared by Cultural Surveys Hawai'i, in consultation with SHPD/DLNR, describes the methods and procedures that will be used to restore and reuse historic taro lo'i and also protect certain features of those sites which have been identified as having traditional cultural significance.

4.2.3. *CULTURAL PRACTICES*

Cultural practices in Waiāhole and Waikāne Valleys and the surrounding area of windward O'ahu go back many centuries through oral tradition and storied landscapes. Many of the current residents can trace familial descent for generations, and they carry with them stories of the land, resources, and people of this area. To assess the potential impact of the proposed uses by the 'Ōhulehule Forest Conservancy (native forest restoration, farming, and a single-family residence) on cultural practices in Waiāhole-Waikāne Valleys, historical and cultural source materials were consulted, along with interviews with knowledgeable community members. Permission to include information gathered during interviews was granted by all interviewees.

A number of historic sources were reviewed and summarized by Cultural Surveys Hawai'i during their preparation of the lo'i restoration plan (See Appendix E). Source materials include *The Kumulipo,* translated by Beckwith in 1951; *Native Planters in Old Hawai'i* by Handy and Handy (1972); and *Nā Wahi Pana 'o Ko'olaupoko*, compiled by Landgraf (1994), among others. These sources document many stories, significant places and traditions connected to the ahupua'a of Waikāne, including references to the Hawaiian akua (gods) Kāne and Hi'iaka, the Hawaiian demi-god Kamapua'a as well as the Kumulipo (Hawaiian origins chant).

In historic times, Waikāne Valley was famed for its abundance of water and other resources utilized by traditional Hawaiians. Kalo and other crops provided food for a large population. Sites of religious and/or political significance include Kukuianiani Heiau, located near the coast of Waikāne, and Ka'awakoa Heiau, which at one time stood in close proximity. Additionally, several upland sites have been interpreted as agricultural shrines. Waikāne is one of three pu'uhonua (place of refuge) lands of Ko'olaupoko. The sport of hōlua sledding was practiced by the chiefs and ordinary people on a steep incline behind the present-day Catholic Church, ending on a lower plain area. Ala hele (trails) constructed by ancient chiefs are described in mythology of the area.

Three kuleana parcels or Land Commission Awards (LCA) are located on the mauka and makai parcels of the property in the vicinity of the proposed residence.

- Ku #5716:4
- Pua'a #10880 B:4
- Wahahe'e #10973:2

The LCA to Ku #5716:4 is located in Waikāne Valley and is identified as a banana patch and is located approximately 3,500+ feet from the proposed project area (See Figure 18). The LCA to Pua'a #10880 B:4

is located in Waikāne and was approximately ¼ of an acre and was used as gardens. This parcel was documented as having two hala trees, two ʻulu trees and 3 orange trees. There was no house lot, loʻi or other structures documented on this site. It is approximately 375 feet from the project area. The LCA to Wahaheʻe #10973:2 is identified as a having one kalo patch. This parcel does not have a house site or structure identified on it. It is located over 1,300 feet from the proposed project area.

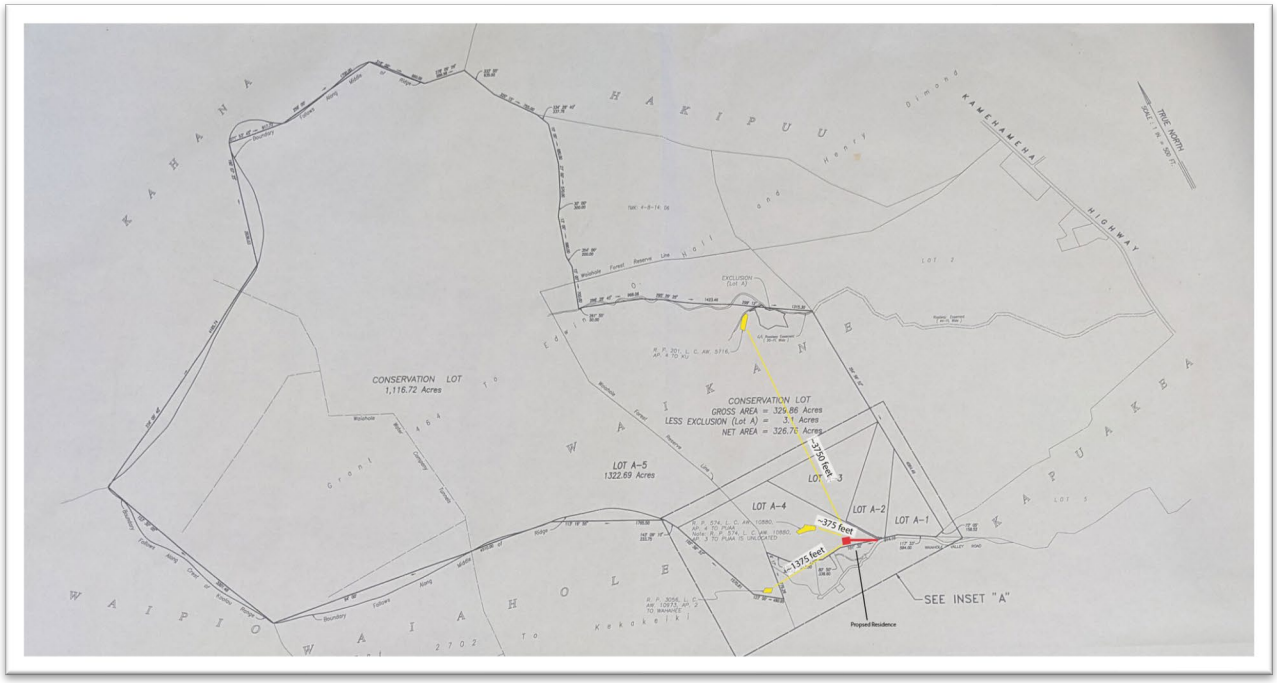

Figure 18 - Property Map with Kuleana parcels

A number of community members were contacted and interviewed to assess the potential impacts of the proposed residence on cultural resources in the area. A list of prospective interviewees was assembled by consulting with Cultural Surveys Hawaiʻi, who had conducted some interviews for the historic taro loʻi preservation plan. Members of the Waiāhole-Waikāne Community Association also provided contact information for knowledgeable interviewees. Phone interviews were conducted with community leaders, cultural practitioners and long-time residents. A total of sixteen people were contacted, and five were willing and able to discuss cultural practices in the Waikāne Valley area. Interviews were conducted in 2012, and December 2020/January 2021 with long-time residents and cultural practitioners who are familiar with the site. A public notice was published in the Office of Hawaiian Affair's April Issue of Ka Wai Ola soliciting community input on the proposed residence. Two individuals responded to this public notice via telephone and left voicemail messages requesting the opportunity to comment. These individuals were contacted via telephone on multiple occasions for a follow-up interview but did not respond to these inquiries. Details of community outreach can be found in Appendix F & G.

Mr. Ted Saizon has lived on Waiāhole Valley Road. for twenty years. Before Waikāne Valley, his family lived in nearby Kahaluʻu. His family traces its origins in Kahaluʻu to the 1800's, and many of Mr. Saizon's

relatives still live on the peninsula behind the fishpond. As a child he attended school in Waiāhole Valley, and remembers the valley was mostly in farming then as it is now. Now, more people live in the valley. Way back, there used to be cattle in the valley. Mr. Saizon thought that a farm would be good because it's all farming in the area. Some people go pig hunting, hiking and bike riding in the valley. Old families sometimes go into the forest to get bamboo for decoration and garden trellises. Some people also gather edible fern shoots from the forest. The government closed off the back side of the valley where the Kamaka's used to be because it was a former military training area. Before that, the Kamaka's used that land for a long time. They used to have loʻi way up in the valley. Mr. Saizon takes care of his five grandchildren who live with him. He is thankful that they have a place to stay for a while, but is unsure what will happen in the future (Saizon interview, 2012). [Note: the Saizon family has since moved away and their house and related structures have been taken down and removed from the area.] Mr. Saizon mentioned that in his time as a tenant on the property, no cultural or lineal descendants ever requested access to the property for traditional or customary practices. The only persons who requested access to the property were friends who accessed the property for pig hunting. These persons were identified as friends of the Saizon's and not as long-time residents of the area.

Mr. Keoki Fukumitsu is a resident of Hakipuʻu, an ahupuaʻa next to Waikāne. His family is a kuleana landowner, receiving title to the land during the Great Māhele. The family migrated from Waikāne to Hakipuʻu in the time of Kamehameha I. Mr. Fukumitsu has been active in the community with a focus on agriculture and Native Hawaiian subjects for many years. He was a founder of the Native Hawaiian legal corporation, and used to be very active in the area's Neighborhood Boards. He served on the Governor's "Taro Purity and Security Task Force" that had been monitoring and advocating for expanded taro production. Mr. Fukumitsu shared his knowledge of the area's history and its cultural significance.

Hakipuʻu and Waikāne valley were very sacred places that the king gave to the kahuna. This area is where the first voyagers from the Pacific landed, so it holds the significance of what they brought on the voyage in their canoes. Lāʻau lapaʻau (medicinal plants) and trees were some of the plants they brought from across the Pacific. Each site signified an individual and his trade, with trades going from mountain to ocean. For example, Kahaʻi brought ʻulu to Hakipuʻu. Mauiloa is buried between Waikāne and Hakipuʻu. The history here goes back 25,000 years. In the modern day, as we put these pieces together, it becomes a more significant reality, a real history. This history represents a way of life that is being modernized and Westernized. People started using animals like buffalo and oxen to pull carts. It was sophisticated living, even in grass shacks, pounding poi. Then cars arrived. Now we're trying to integrate tradition with modern life (Fukumitsu interview, 2012).

Mr. Fukumitsu has done extensive research on the history of the area, and has documents from the Great Māhele, population counts, Land Commission awards and court awards from the approximate time period of 1850-1920. He is interested in preserving the ahupuaʻa, with particular emphasis on native crops. Cacao is believed to be compatible with native crops, and is environmentally sound and has good economic potential. Taro is culturally and educationally important, but labor-intensive. There is economic possibility there, but it needs to be an agricultural operation, a business. In the olden days

taro was a dietary staple and an industrial crop with significance throughout Hawai‘i and the Pacific. We need to prove to future generations that taro can be grown again (Fukumitsu interview, 2012).

Based on her archaeological investigation, Ms. Coral Rasmussen concluded the documented cultural resources in the valley represent ". . . part of a landscape of traditional Hawaiian taro production and later historic period charcoal manufacturing that likely occurred alongside the taro production." These planting sites were located along the alluvial flats near streams, and probable habitation sites were present on higher ground near these fields. Rasmussen also noted that metal tools found in association with some cultivated fields indicate these were being farmed into the early 20th century, an observation that is consistent with oral- historical information from local families who report such activities into the 1920s (Cultural Surveys Hawai‘i, 2012).

Many people are interested in perpetuating the cultural and agricultural traditions of the Waikāne and Waiāhole area in the modern context. Mrs. Pat Royos was born in Waiāhole Valley in 1945, was raised there and continues to live in the valley today. She has served as president of the Waiāhole-Waikāne Community Association (WWCA) and is currently an active member. Her parents came to Waiāhole Valley in 1932, after her father lost his leg while working at the quarry in Waimānalo. Their family farmed banana and papaya on a seven-acre lot. There were many taro lo‘i in those days. Mrs. Royos shared her perspective on the area's history, and the importance of activities like farming, canoe building and preservation of important natural and cultural sites.

One significant historic site is the Waikāne pier, which has a legacy of more than 100 years. Ships used to pick up crops grown in Waiāhole and Waikāne valleys, such as coffee, sugarcane, rice, and pineapple. There was a train track that carried food from up in the valley down to the pier. Mrs. Royos believes that restoration of the collapsing pier could foster mauka-makai connections within the ahupua‘a. Canoes carved out of albizia trees from the valley could serve as an educational tool for children and could be launched from the pier.

Agriculture plays a prominent role in Waikāne's history, and Mrs. Royos felt it important to maintain a residential and agricultural community that is different from "outside" (Royos interview, 2012). The number of cultivated taro patches in the valley declined significantly in the 1960's. Now very few farmers in the valley still grow taro, although many people are interested. If more taro and other crops are grown, that may help the community get back more of the water that is currently being diverted to Leeward O‘ahu. Another challenge is that all the old-timers who knew how to farm are fading away, and the next generation is more interested in office jobs. There is a need for "serious farming" in Waiāhole and Waikāne (Royos interview 2012).

Mrs. Royos and the WWCA support plans for a proposed farm, because they would rather see farming than development. They believe Mr. Zweng is different from the previous landowner. He is involved in the community, and they see him every weekend. He is going through the correct process, showing the community his proposal, and they trust him. Seeing what he's doing so far, they support the project. Mr. Fukumitsu agreed that the ‘Ōhulehule Forest Conservancy's plans to plant cover crops, use mulch

and avoid land clearing during the rainy season would help to mitigate the potential impacts of soil runoff on the aquatic environment. The interviewees agreed that it would be reasonable for Mr. Zweng and his family to live on the same property as a farm.

Access to land, loans and markets will also be critical to developing viable agricultural operations in the Waikāne area. An open market has been proposed for Waiāhole-Waikāne Park, to encourage more farming since farmers would have a place to sell their products. Mrs. Royos feels that people living in the area would care for the park and that it would be a beautiful place for the community. The cleaning of public spaces and restoration of the natural environment is seen as a means of bringing members of the community together and teaching young people. People want to clean the area near the *poi* factory, and to see beautiful scenery with plenty of loʻi. "Anything can happen with willpower, then people want to get involved" (Royos interview, 2012).

Mr. Fukumitsu used to volunteer cultivating taro 30 years ago on the Kamaka family kuleana parcel up in Waikāne valley. They also used to clean the land, propagate native species, and also hike on trails to hunt and gather mountain apples. Those lands were condemned by the Federal government to serve as military training grounds until 9/11. The government hasn't made an attempt to clean up that part of the valley, only the lower areas (Fukumitsu interview, 2012).

Regarding the proposed development of the residence and farm, Mr. Fukumitsu commented that removal of vegetation may cause runoff that would impact water quality in the streams, shore areas and ocean. Sediment running off the land can smother limu, ʻoʻopu, and other native aquatic species as well as coral reefs. There needs to be a good vegetated buffer zone between the cleared land and the stream, which can be accomplished by planting from the bottom up. This practice was followed in traditional taro planting. Mr. Fukumitsu did not think that the proposed farm would impact any cultural practices in Waikāne Valley (Fukumitsu interview, 2012).

An interview was conducted with Laurence Uyemura, a long-time resident of Waiāhole Valley North Branch road, current President of the WWCA and lineal descendant of Inoino, a land commission awardee in Hakipuʻu ahupuaʻa. Mr. Uyemura stated that he has lived in Waiāhole since his childhood, and he has explored the property now owned by the ʻŌhulehule Forest Conservancy. He mentioned that he does not recall any loʻi or other ancient structures or sites in the vicinity of the proposed residence. He mentioned that most of the loʻi were closer to the Waikeʻekeʻe Stream and Waianu Stream in the valley. Mr. Uyemura remembers walking through the property when portions of it were used by the military after the attack on Pearl Harbor. He recalls that that area was further north closer to the Waikāne Valley area. When asked if he is aware of any kuleana landowners or lineal or cultural descendants connected to the property, he shared that he does not know of any lineal or cultural descendants who access the property for cultural purposes. Mr. Uyemura does remember the Saizon family living on the property for many years. He remembers that there was a horse stable, a residence, a chicken farm, nursery, and some other agricultural areas. Mr. Uyemura does not feel that the construction of the proposed residence would impact traditional or customary practices in the valley.

An interview was conducted with Māhoe Collins, a lifelong resident of Waiāhole Valley, cultural practitioner, member of the WWCA steering committee, and landowner of a kuleana land parcel located on Waiāhole Valley North Branch Road. Mr. Collins was raised in Waiāhole Valley, and he attended Waiāhole Elementary School as a child. He explored the property that is now owned by the ʻŌhulehule Forest Conservancy as a child, and remembers playing on the property with his childhood friends. Māhoe is a cultural practitioner and speaker of ʻōlelo Hawaiʻi, the native language. When asked if he knew of any cultural or lineal descendants to the property, Mr. Collins stated that he does not know of any ʻohana or persons who claim lineal or cultural descendancy to that property. He also mentioned that he is not aware of any kalo farming that took place in the vicinity of the proposed residence. He mentioned that the kalo farming that he is aware of was located along Waianu Stream in the south side of Waiāhole Valley, and nearer to Waikeʻekeʻe Stream in Waikāne. He also mentioned that there was extensive kalo farming makai of the Kamehameha Highway, in what is now City and County owned lands. Mr. Collins was not familiar with the location of the three kuleana land parcels located within the property. He asked that appropriate research be conducted to see if the Land Commission Award documents show any official trails or ʻauwai. He mentioned that access rights to those trails and ʻauwai will need to be protected into the future and asked that should these exist on the land documents that appropriate protection measures be implemented to preserve those important uses and rights.

The coastal ecosystem has a great deal of cultural and environmental significance. The muliwai (river mouth area) is important because many fish and crustaceans conceive there. Species like hīhīwai and ʻōpae lay eggs in the sand. Ocean species like mullet, moi and awa come to the muliwai, where their hormones are activated by sweet (brackish) water and they reproduce (Fukumitsu interview, 2012). Community members are interested in protecting and restoring the aquatic environment by making an area for fish to lay eggs. They would need netting and more fresh water from the streams to create the right habitat for āholehole (mullet), crabs and limu (seaweed, algae).

The ʻŌhulehule Forest Conservancy is planning to restore two areas where taro was historically grown on the property. The Waikāne Taro Flats, located primarily in the mauka parcel, with some terraces in the northwestern corner of the makai parcel, was placed on the National Register of Historic Places in 1973. The site consists of seven terrace sets; associated agricultural features such as ʻauwai; possible habitation features; and religious features including an agricultural shrine and a birthing stone. The Waikeʻekeʻe Loʻi is located in the northern portion of the makai parcel, and consists of five terrace sets and other agricultural features; a number of charcoal kilns and a boulder with historic petroglyphs.

A restoration plan prepared by Cultural Surveys Hawaiʻi, in consultation with SHPD/DLNR, describes the methods and procedures that will be used to restore and reuse the loʻi and also protect certain features of those sites which have been identified as having traditional cultural significance (See Appendix E). Although neither of the areas lie within the boundaries of the proposed residence, the restoration of historic loʻi so that traditional agriculture may be practiced is a positive impact of the activities proposed by the ʻŌhulehule Forest Conservancy.

Impacts and Mitigation

The proposed residence is not anticipated to impact traditional and customary practices in the vicinity of the proposed project area. Community members interviewed for the cultural impacts of the proposed action supported the ʻŌhulehule Forest Conservancy's overall vision for the property. Mr. Fukumitsu expressed some concern that the ground-disturbing activities proposed for the early stages of site preparation and construction could cause runoff into the stream. Best Management Practices will be used during land clearing, road repairs and facilities construction to control runoff.

Community members interviewed regarding access rights to the property for traditional and customary practices on the property stated that they are not aware of any families or persons who are identified as cultural or lineal descendants to kuleana parcels on the property. The ʻŌhulehule Forest Conservancy is committed to allowing access for traditional and customary practices to cultural or lineal descendants of Waiāhole and Waikāne in the future. The proposed residence will not impede upon the protected access rights of native persons to the property. In the land documents for the kuleana land commission awards identified on the property, there were no references to walking trails.

4.2.4. *SOCIO-ECONOMIC ENVIRONMENT*

Most of Waiāhole-Waikāne Valleys remain relatively undeveloped, with a number of tenants leasing both residential and agricultural lots from the HHFDC. The agricultural park neighboring the ʻŌhulehule Forest Conservancy parcels are intended to provide long-term affordable rental housing for tenants in Waiāhole and Waikāne Valleys who were threatened with eviction during the 1970s, to promote diversified agriculture, and to preserve the rural lifestyle of the valleys. Construction and development activities have been concentrated in the southwestern portions of the ahupuaʻa, near Kamehameha Highway.

The ʻŌhulehule Forest Conservancy will continue to host volunteer workdays for their native forest restoration activities. The average size of volunteer groups has been around 2-5 individuals per group. Volunteer workdays have taken place on the property for several years, with volunteers using Waiāhole Valley Road for access to the site. The proposed residence will provide safe and secure parking for volunteers.

The proposed single-family residence will not be used for any commercial tourism or visitor industry activities, which was a concern expressed by some members of the community. This site will be used as a residence for the Zweng family and future planning includes the construction of additional facilities to support the forest restoration activities of the ʻŌhulehule Forest Conservancy and the planned agricultural operation for which a CDUA was submitted and approved in 2013. [note: the permits submitted and approved for native forest restoration and a cacao farm are currently expired. A new application for a permit will be submitted for any future facilities or activities that require a conservation district permit.[*As is stated in HAR §13-5-41 (b) "not more than one single family residence shall be authorized within the conservation district on a legal lot of record", the proposed residence will be the*

*only dwelling for the entire 1,400+ acre property. It is understood that though the parcels have two independent TMK's, the property will be treated as one legal lot of record and will only allow one single-family residence to be constructed as the Department of Planning and Permitting of the City & County of Honolulu shared in correspondence ~~from~~ **dated June 20,** 2012 **and August 15, 2022** that they ~~list~~ **confirm that** the property ~~as~~ is one ~~legal~~ lot of record totaling 1,443.48 acres. (See Appendix ~~L~~ **M for copies of the correspondence, and other supporting documents**)].*

Impacts and Mitigation

Construction of the proposed residence will provide temporary local jobs in Waiāhole Valley. Due to the small size of the volunteer groups and a history of use for one residence with no disturbance to the local community, there are no anticipated significant impacts on traffic to the two-lane residential Waiāhole Valley Road. The proposed single-family residence will have no anticipated impact on the rural, agricultural character of the community.

4.3. EXISTING INFRASTRUCTURE

4.3.1. *POTABLE WATER*

The nearest Board of Water Supply water main in the Waiāhole-Waikāne area is located along Kamehameha Highway. This water main services lots located in the vicinity of the highway. Water service to residential and agricultural lots in Waiāhole Valley is supplied mainly by the Waiāhole Valley Water System (WVWS) operated by Doonwood Engineering on behalf of the Hawaii Housing Finance & Development Corporation (HHFDC).

The source, storage, and transmission system for the WVWS was constructed in 1989 and includes a well station with two deep wells, a 1.0 million gallon steel reservoir, and a booster pump station. The two wells have a combined Water Use Permit of 0.075 MGD from the CWRM, although they can supply up to 1.15 MGD of good-quality water. As of 2019, the system served 159 total lots for agricultural, residential, commercial, open space, water lots, stream lots and roadways including the Waiāhole Elementary School. The line located along the north branch of Waiāhole Valley Road, adjacent to the makai parcel, is an 8-inch-diameter PVC pipe. The basic charge for water use from the WVWS as of 2016 was $3.00 monthly per meter in addition to a domestic rate of $0.90 per thousand gallons, and/or an agricultural rate equal to the domestic rate for the first 15,000 gallons and $0.22 for each additional thousand gallons.

In a letter received in April 2021, HHFDC stated that administrative rules and regulations need to be adopted for the Waiāhole Valley Water System, and new connections to the water system will need to be held until that time. An additional letter dated November 4, 2021 from HHFDC states that no applications for water connections to the Waiāhole Valley Water System will be accepted at this time. Given this information from HHFDC, the ʻŌhulehule Forest Conservancy is proposing a rainwater catchment system to provide a domestic water source for the proposed residence. Details of this rainwater catchment system can be found in Section 2.~~1~~**2** Potable water. Copies of these letters can be

found in Appendix H. If a water meter connection to the Waiāhole Valley Water system as a source of potable water for the ʻŌhulehule parcels is possible, a connection to that water system will be sought in the future. Until this time, the proposed residence will only be serviced by a rainwater catchment system.

4.3.2. *NON-POTABLE AGRICULTURAL WATER*

The proposed residence does not include any landscaping which would require agricultural irrigation. The rainfall in this area is very plentiful, and the minimal landscaping that was proposed will be able to be irrigated naturally by rainwater. There are two existing non-potable or agricultural water systems in Waiāhole, the Waiāhole Irrigation System and the McCandless Pipe System. Any future activities on the ʻŌhulehule parcels that may require agricultural irrigation will include proposed agricultural irrigation systems in future applications to the appropriate agencies for use.

Waiāhole Irrigation System

The Waiāhole Irrigation System crosses the mauka portion of the property. The Waiāhole Irrigation System collects impounded dike groundwater from Kahana, Waikāne, and Waiāhole Valleys and transports this water to agricultural water users in leeward Oʻahu. The Waiāhole Irrigation System is currently permitted by CWRM to collect and transport 15 MGD of groundwater. Existing water permits related to the Waiāhole Ditch total 12.57 MGD, leaving 2.43 MGD unpermitted. The unpermitted water currently goes back into the windward streams.

There are currently several pending permit applications for this unpermitted water. However, those applications have been placed on hold for several months. The new applications are contentious because windward residents are advocating against allowing any new permits to transfer water to leeward Oʻahu.

McCandless Pipe System

Another existing private groundwater system in the vicinity of the property is the McCandless Pipe System, which diverts water from the Waianu Stream, a tributary of the Waiāhole Stream. Even though the McCandless system diverts water from the Waianu Stream, water in the system is considered ground water because it was originally established as a water reserve released from the Waiāhole Irrigation System for Waiāhole users. The McCandless Pipe System can provide up to 0.5 MGD of non-potable water to some of the farmers in Waiāhole Valley. Currently, some of the farmers are using the McCandless water for irrigation. However, because the system is not metered, there is no public information on the current number of users and the amount of water they consume. The McCandless water system, which runs along Waiāhole Valley Road adjacent to the property, is maintained by a group of residents in Waiāhole-Waikāne. Members of the Waiāhole-Waikāne community that use water from the McCandless system cooperate to conduct maintenance and do repairs on the system.

4.3.3. *SEWER SERVICE*

There is no municipal sewer service to the rural communities north of Kahaluʻu in the Koʻolaupoko District of Oʻahu. Consequently, homes in Waiheʻe to Waikāne use septic systems or cesspools. Residents in the area of the Kahaluʻu Neighborhood Board have voiced concern that leaking cesspools may impact the surface water resources of the area. An individual septic system will be installed for the proposed residence. The Zwengs will be responsible for the long-term maintenance of the septic system.

4.3.4. *ROADS*

The property is accessible via two main access roads. The paved two-lane Waiāhole Valley Road borders the makai parcel to the southeast and provides the only vehicular access point to the proposed residence. The mauka parcel is accessible via the unpaved Waikāne Valley Road, which traverses across the property all the way to Waikāne Camp where an intake of the Waiāhole Irrigation System is located.

The Waiāhole Valley Road is a public road that is owned by the HHFDC. The ʻŌhulehule Forest Conservancy received permission from the HHFDC for vehicular access to the makai parcel from Waiāhole Valley Road in a letter from HHFDC dated November 4, 2021. This letter grants permission for vehicular road access and use including for the duration of construction activities with a caution that should any damage to the road occur during construction, ʻŌhulehule Forest Conservancy will be responsible for repairing the road to its current condition. **Refer to Appendix H to view the above mentioned letter.**

The Waikāne Valley Road is a public road from the Kamehameha Highway until it reaches the property of the City and County of Honolulu (TMK 4-8-006:008), at which point a locked gate is present across the road. This private road is legally utilized by local residents and landowners who have either an access agreement with the City or an easement recorded in their property deeds. The road is also legally utilized by the Agribusiness Development Corporation for the purpose of maintaining the Waiāhole Irrigation System. Illegal trespassing onto the subject property and the City lands by hunters and recreational off-road vehicles represents a significant concern.

4.4. EXISTING LAND USE

4.4.1. *LAND USE ON THE PROPERTY*

The makai parcel of the property is largely overgrown with trees and shrubs. Land uses on that parcel include the following activities:

- In the northeastern corner of the property, the Roberts family and relatives use the Waikāne Valley Road to access their kuleana parcel (TMK 4-8-006:009).

Drivers of 4x4 vehicles access the northeastern portion of the property for off-roading recreational use (unpermitted). The vast majority of the mauka parcel is forested and uses of the land are limited to the following activities:

- Access by the State Department of Agriculture, Agribusiness Development Corporation (ADC) for maintenance of the Waiāhole Irrigation System. The ADC has an access easement on the property for this maintenance.
- Access by pig hunters and recreational hikers (trespassing).

4.4.2. *SURROUNDING LANDOWNERS AND LAND USES*

Land uses in the vicinity of the property are dominated by small farms and rural neighborhoods in the makai portions of valleys, and by large expanses of forested lands in mauka areas. The bulk of lands surrounding the property are owned and managed by various federal, state, and local government agencies, with the exception of one large private landowner. Surrounding landowners are described below:

- To the north of the property, the ahupua‘a of Kahana is owned and managed by the State Department of Land and Natural Resources as a State Park.
- To the west of the property, across the crest of the Ko‘olau Mountains is the O‘ahu Forest National Wildlife Refuge managed by the USFWS in the Waipi‘o ahupua‘a. The U.S. Army East Range is just north of the wildlife refuge, in the Wai‘anae Uka ahupua‘a.
- To the south of the property, about half of the Waiāhole ahupua‘a is owned and managed as the Waiāhole Agriculture Park by the Hawai‘i Housing Finance and Development Corporation (HHFDC). The other half of the ahupua‘a is managed by the State Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) as a Forest Reserve.
- To the east of the property in Waikāne Valley, the City and County of Honolulu owns most of the makai portion of the ahupua‘a. The City previously intended to develop a nature park on the large vacant parcel adjacent to the property. However as a result of budget constraints, community concerns, and a changing administration, this plan is no longer being pursued. The Department of Parks and Recreation currently manages the vacant parcel.
- The U.S. Marine Corps owns the parcel located adjacent to the property, just north of the makai parcel. The U.S. Marine Corps acquired title to the land in 1989 due to concerns associated with unexploded ordnances from decades of use as a missile-training-and-target area. The U.S. Marine Corps has been conducting ordnance survey and removal efforts, which may lead to the return of portions of the property to its previous owners, the Kamaka family, or to the public.
- To the northeast of the property, the largest part of the ahupua‘a of Hakipu‘u and Ka‘a‘awa is privately owned by Kualoa Ranch Hawai‘i, Inc (“Kualoa Ranch”). Kualoa Ranch operates a cattle ranch as well as a number of tourist attractions.

Refer to Figure 19: Surrounding Landowners Map for a map of the large landowners in the region.

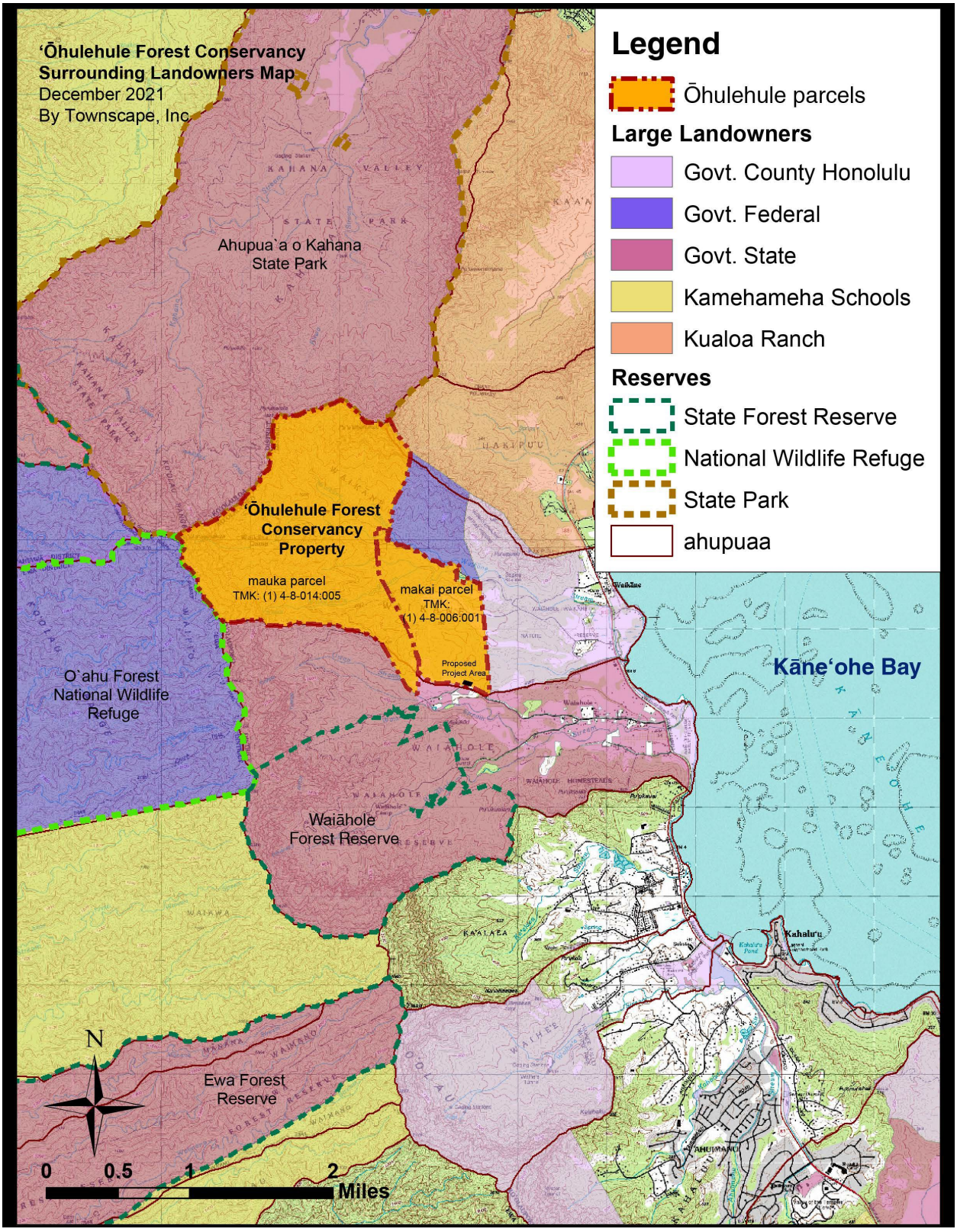

Figure 19 - Surrounding Landowners Map

4.5. REQUIRED PERMITS AND APPROVALS

~~*State of Hawai'i:*~~

- ~~Conservation District Use Permit~~
- ~~Individual Wastewater System Approval~~
- ~~Road Access Approval~~

~~*City & County of Honolulu:*~~

- ~~Grubbing, Grading and Building Permits~~

Table 2 - Required Permits

STATE OF HAWAI'I PERMITS		
Road Access Approval	**Department of Business, Economic Development and Tourism – Hawai'i Housing, Finance and Development Division**	***complete***
Conservation District Use Permit	**Department of Land and Natural Resources – Office of Conservation and Coastal Lands**	***in-progress***
Individual Wastewater System Approval	**Department of Health – Wastewater Branch**	***not started***
CITY & COUNTY OF HONOLULU PERMITS		
Grading, Grubbing and Building permits	**Department of Planning and Permitting**	***not started***

4.6. RELATION TO FEDERAL, STATE AND LOCAL LAND USE POLICIES AND REGULATIONS

4.6.1. *GENERAL PLAN*

The General Plan for the City and County of Honolulu, a requirement of the City Charter, is a broad statement of objectives and policies to guide the City's future. The General Plan is a guide for all levels of government, private enterprise, neighborhood and citizen groups, organizations, and individual citizens in eleven areas of concern: population, economic activity, the natural environment, housing, transportation and utilities, energy, physical development and urban design, public safety, health and education, culture and recreation, and government operations and fiscal management. The General Plan is used as policy guidance in developing plans, programs, and legislation. The proposed residence on the makai parcel of the property supports the following objectives of the General Plan (2002):

Population growth

Objective C: To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.

Policy 3: Manage physical growth and development in the urban-fringe and rural areas so that:

a. An undesirable spreading of development is prevented; and

b. Their population densities are consistent with the character of development and environmental qualities desired for such areas.

Discussion: The proposed residence would allow Mr. Zweng and his family to live on the same property as a proposed farm. One single-family residence per zoning lot in the Conservation District, in this case on a 327-acre parcel, is consistent with the desired rural character of Waiāhole-Waikāne Valleys.

Economic activity

Objective A: To promote employment opportunities that will enable all the people of Oahu to attain a decent standard of living.

Policy 1: Encourage the growth and diversification of Oahu's economic base.

Policy 2: Encourage the development of small businesses and larger industries which will contribute to the economic and social well-being of Oahu residents.

Discussion: The proposed construction and occupation of a single-family home is in balance with the natural, cultural and social environment of the County, would create temporary construction jobs for local residents, and would indirectly boost the economy through construction industry purchases from local suppliers. A multiplier effect takes place when these employees spend their income for food, housing, and other living expenses in the retail sector of the economy. Such activities are in keeping with the overall economic development of the island.

Natural Environment

Objective A: To protect and preserve the natural environment.

Policy 4: Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water- recharge areas, distinctive land forms, and existing vegetation.

Objective C: To preserve and enhance the natural monuments and scenic views of O'ahu for the benefit of both residents and visitors.

Discussion: The single-story residence will be sited to minimize impacts to the scenic views of Waikāne Valley. Best management practices will be followed to minimize erosion hazards. Residents and visitors may be granted access to the property for recreational hiking.

Physical Development and Urban Design

Objective D: To maintain those development characteristics in the urban-fringe and rural areas which make them desirable places to live.

Policy 4: Maintain rural areas as areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses.

Discussion: The proposed single-family residence on a working farm is consistent with the policy to allow for continued rural agricultural and residential communities on O'ahu.

4.6.2. *SUSTAINABLE COMMUNITIES PLAN*

The Ko'olaupoko Sustainable Communities Plan (SCP) is one of eight community-oriented plans required by the City Charter to implement objectives and policies set forth in the General Plan. Each of the eight plans guides development in one of eight districts on the island of O'ahu. The Ko'olaupoko SCP is was updated in 2017. The original Ko'olaupoko SCP was developed in 1998-2000.

Land uses identified in the Kahalu'u to Kualoa area in the Ko'olaupoko SCP are dominated by open space/preservation in mauka areas, and agriculture, parks, and low-density residential in the makai areas. The SCP identifies the mauka parcel as open space/preservation area and the makai parcel agricultural area.

4.6.3. *ZONING AND STATE LAND USE*

The City and County Land Use Ordinance (LUO) establishes land-use zoning and development regulations in accordance with the policies of the O'ahu General Plan and Development Plans/Sustainable Communities Plans. The entire property is zoned as P-1: Restricted Preservation District. The P-1 District covers all lands that are designated by the State as "Conservation District". Within the P-1 District, all land uses, structures, and development standards are governed by the Conservation District Rules of the State's Department of Land and Natural Resources, Office of Conservation and Coastal Lands (OCCL).

The entire makai parcel and the greater part of the mauka parcel are within the Conservation District's Resource Subzone. The purpose of this subzone is to ensure, with proper management, the sustainable use of the natural resources within this subzone. A number of uses can be permitted within this subzone, including agriculture, one single-family residence per lot, aquaculture, commercial forestry, botanical gardens, *etc.* A Conservation District Use Permit is required for most major projects within the Conservation District.

The 'Ōhulehule Forest Conservancy has prepared this environmental assessment (EA) for the construction of a single-family residence. Per the Hawai'i Administrative Rules Chapter 13-5-41 (b): "Not more than one single family residence shall be authorized within the conservation district on a legal lot of record." According to a letter dated August 15, 2022 from the City & County of Honolulu, Department of Planning and Permitting (DPP), the current Tax Map Keys for the makai parcel (TMK 4-8-006:001) and mauka parcel (4-8-014:005) constitute one single subdivided lot. This letter confirms that on "July 24, 1975, the Department of Land Utilization (now DPP) granted approval to Subdivision

File No. 1975/SUB-202 for the consolidation and resubdivision of various parcels into Lot 1 of 1,443.48 acres and Lot 2 of 528.937 acres, and the cancellation and designation of various easements. The boundaries of the approved Lot 1 correspond to the combined boundaries of the abovementioned TMKs. Although Lot 1 consists of two TMKs, it is a single lot for the administration of building permits and zoning regulations of the City and County of Honolulu." Please refer to Appendix M for a copy of this letter and for more information regarding Lot 1, the lot of record for this property.

4.6.4. *Other Regulations Affecting Proposed Activities*

There are several other regulatory requirements that may affect the proposed activities in the project area. These requirements are summarized in the below table.

Table 3 - Other Regulations Affecting the Proposed Activities

Law or Guidance Document	Govt Level	Requirements and Prohibited Uses
Endangered Species Act (ESA)	Federal	Regulates activities that may impact Federally-listed threatened and endangered plant and animal species, as well as their habitats. The law prohibits any action that causes a "taking" of any threatened or endangered species. A "taking" is defined as harassing, harming, pursuing, hunting, wounding, killing, trapping, capturing, or collecting.
Grubbing, grading & stockpiling (ROH Chapter 14-13 thru 16)	City & County	The City and County of Honolulu requires a permit for any grubbing, grading, and stockpiling (except small exempt quantities). Alternatively, land being managed in accordance with a Conservation Plan acceptable to the applicable Soil and Water Conservation District directors is exempt from this requirement. Actions that will require a Conservation Plan or grading and grubbing permit include: - Construction of access roads, - Land preparation for a farm, - Grading and grubbing for a residence.
Historic Preservation (HRS Chapter 6E)	State	Regulates activities that may impact historic properties. Requires a survey to identify whether historic properties may be impacted by a proposed action and the preparation of a preservation plan or a mitigation plan if a historic property may be affected.
State Water Code (HRS Chapter 174C)	State	Regulates the use of surface water and groundwater in the State. Potential activities that would be subject to the requirements of the State Water Code include: - Groundwater well for crop irrigation - Spring or stream diversion for crop irrigation

4.7. Cumulative Impacts

The cumulative impact of the proposed project over time and in the context of the surrounding area is expected to be primarily positive. In addition to a single-family residence, long-term plans for the property include a farm, restoration of native forest and 'elepaio habitat in the mauka portion of the

valley, and restoration of the historic taro loʻi on Waikāne Stream and Waikeʻekeʻe Stream. These actions are consistent with past and present land uses, as well as the desire of community members to perpetuate agriculture and the rural lifestyle of Waiāhole Valley. All uses and activities beyond the proposed single-family residence will be included in future Conservation District Use Applications for acceptance by the OCCL.

Best Management Practices will be implemented during road repairs, construction work, and occupation of the residence to avoid adverse impacts to soil, air and water quality in the Valley. By protecting important watershed area and allowing limited public access to the property, the ʻŌhulehule Forest Conservancy is maintaining and improving the environmental quality of the land and allowing for continued cultural practices in the area. The proposed residence is not expected to have significant impacts to roads, utilities or water supply in the Waiāhole-Waikāne area. *The Conservation District zoning limits residential development to one dwelling per lot, removing the concern of excessive development in this rural agricultural area.*

5. Summary of Impacts and Mitigation

5.1. Findings and Supporting Reasons

Chapter 11-200 1-13, Hawaiʻi Administrative Rules, outlines those factors agencies must consider when determining whether an Action has significant effects: (a) In considering the significance of potential environmental effects, agencies shall consider and evaluate the sum of effects of the proposed action on the quality of the environment. (b) In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected impacts, and the proposed mitigation measures. In most instances, an action shall be determined to have a significant effect on the environment if it may:

1. *Irrevocably commit a natural, cultural, or historic resource*. No natural or cultural resources will be committed or lost from the construction of the Zweng Residence. No rare or endangered native species of flora or fauna were identified in the project area. Archaeological studies have determined that several historic sites occur on the large 300+ acre parcel where the residence is proposed, and none of these sites occur within the vicinity of the project area. No adverse effects to the historic sites will occur. Interviews with long-time residents and cultural descendants of the ahupuaʻa found no on-going traditional or customary practices within the vicinity of the project area. No valuable cultural resources and practices such as gathering, hunting, or access to ceremonial sites will be adversely affected in any way. The property owner is committed to allowing access to cultural and lineal descendants for traditional and customary practices should access be needed/requested in the future.

2. *Curtail the range of beneficial uses of the environment.* No restriction of beneficial uses will occur by residential use on this lot.

3. *Conflict with the State's environmental policies or long-term environmental goals established by law*. The State's long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. The scope of this project is minor and it is thus consistent with all elements of the State's long-term environmental policies.

4. *Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State.* The project will not have any substantial effect on the economic or social welfare of the Waiāhole community or the State of Hawai'i. This project is likely to provide positive impacts on local industries, such as short-term employment opportunities during construction of the residence.

5. *Have a substantial adverse effect on public health.* The project will not affect public health and safety. Wastewater will be disposed of in conformance with State Department of Health regulations.

6. *Involve adverse secondary impacts, such as population changes or effects on public facilities.* The proposed project is of a small scale and will not produce any significant secondary impacts, such as population changes or effects on public facilities.

7. *Involve a substantial degradation of environmental quality.* The proposed project is of a small scale and therefore will not contribute to environmental degradation.

8. *Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions.* The adverse effects of the building of a single-family residence are limited to minor, temporary disturbances to traffic, air quality, noise, and visual quality during construction. Adverse effects on traffic will be mitigated by providing on-site parking for any vehicles during construction, and strict adherence to all traffic regulations and posted speed limits. There are no scheduled major government or private projects in construction or planned in the area, and no accumulation of adverse construction effects are expected. Other than the Best Management Practices that will be incorporated to prevent the adverse effects during construction listed above, no special mitigation measures should be required to counteract the small adverse cumulative effect.

9. *Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat.* The site has been surveyed for threatened and endangered plants, and none are present. This project will include invasive species removal and landscaping with native plants and non-invasive naturalized plants to ensure no adverse impacts to native species or habitats. No rare, threatened or endangered species of fauna are known to exist on or near the property. Impacts to the Hawaiian Hoary Bat will be mitigated through seasonal timing of vegetation removal. Minimal exterior lighting is planned, will be shielded and will consist of blue-deficient lighting such as filtered LED lights or amber LED lights, with a Correlated Color Temperature (CCT) of 2700 Kelvin. This will reduce the risk that transiting threatened or endangered seabirds may be attracted to and then disoriented by the lighting.

10. *Have a substantial adverse effect on air or water quality or ambient noise levels.* No substantial effects to air, water, or ambient noise will occur. Short-term effects will occur during construction and will be mitigated using best practices. The makai parcel along Waiāhole Valley Road is bordered by only one parcel with a dwelling. The property is otherwise bordered on three sides with no nearby dwellings.

Impacts from the effects of the short-term construction activities will be further limited due to the rural location of the property and lack of surrounding dwellings. Erosion and sedimentation impacts will be avoided by implementation of Best Management Practices during grading and grubbing, which will occur in a limited area.

11. *Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.* The proposed residence is not located in an identified flood zone nor will it affect one. The project area is located at over 300 feet above sea level and is also located quite a distance from and on high ground between the nearby Waianu and Waikeʻekeʻe Streams with no history of flooding at the residence previously located on the site. Therefore, there is no risk of flood risk or tsunami hazard for the proposed residence. The project area is located over one mile from the nearest shoreline and will not be affected by sea level rise.

12. *Have a substantial adverse effect on scenic vistas and view planes, during day or night, identified in county or state plans or studies.* No protected scenic views are located nearby or will be affected in any way. The proposed use is consistent with the surrounding community, which includes residential and agricultural uses. The proposed residence is sited approximately 200 feet farther inland from Waiāhole Valley Road than the previous residence structure on the makai parcel, which was removed. The former structure was a two-story building located within 100 feet of the nearest property line. The proposed residence is a single-story structure that is located an additional 200 feet from the nearest property line, which will make this structure significantly less visible to neighboring residences and from the Waiāhole Valley Road. Only minimal exterior lighting is planned, and it will be shielded and will consist of blue-deficient lighting such as filtered LED lights or amber LED lights, with a Correlated Color Temperature (CCT) of 2700 Kelvin. This will protect dark skies and will reduce the risk to threatened or endangered seabirds that may be attracted to and then disoriented by the lighting.

13. *Require substantial energy consumption or emit substantial greenhouse gases*. Negligible amounts of energy input and greenhouse gas emissions will be required for construction and occupation of the residence. The residence is designed as a single structure supporting efficient use of energy and materials and facilitating natural ventilation and lighting. The residence will have roof mounted photovoltaic panels to decrease greenhouse gas emissions. Energy-efficient appliances will be used throughout the house.

5.2. ANTICIPATED DETERMINATION

Based on the research and information included in this document, and the comments received on the Draft EA, the applicants expect that the State of Hawaiʻi, Department of Land and Natural Resources, **Office of Conservation and Coastal Lands** will determine that the proposed action will not significantly alter the environment, as impacts will be minimal, and that this agency will accordingly issue a Finding of No Significant Impact (FONSI). ~~This determination will be reviewed based on comments to the Draft EA, and the Final EA will present the final determination.~~

Zweng Single-Family Residence
Final Environmental Assessment

APPENDICES

Appendix A. Waikāne Valley Botanical Survey (Lau 2012)
Appendix B. Waikāne Valley Faunal Surveys – Final Report (VanderWerf 2012)
Appendix C. Waikāne Botanical Survey (Ross 2020)
Appendix D. Archaeological Field Survey Letter Report (Cultural Surveys Hawai
Appendix E. Interim Archaeological Preservation Plan (Cultural Surveys Hawai
Appendix F. Cultural Impact Interview Summaries (Townscape, Inc. 2012 and 2021)
Appendix G. Ka Wai Ola: April 2021 Issue (OHA 2021)
Appendix H. Agency Correspondence/Early Consultation
Appendix I. Letters of Support
Apprendix J. Graphics Package
Appendix K. Utilities: Proposed Photovoltaic System & Rainwater Catchment System
Appendix L. Draft EA Comment Period: Comment Letters & Responses
Appendix M. Correspondence and documents regarding lots/parcels of property

APPENDIX A: Waikāne Valley Botanical Survey Oʻahu Hawaiʻi

(Lau 2012)

Waikāne Valley Botanical Survey
Oʻahu, Hawaiʻi

Prepared for:
ʻŌhulehule Forest Conservancy, LLC
Kailua, Hawaiʻi 96734

By:
Joel Lau

July 2012

INTRODUCTION/DESCRIPTION OF THE AREA

This report presents the findings of a botanical survey of mountainous lands in Waikāne Valley, O`ahu, Hawai`i that are proposed for native forest management and restoration by the `Ōhulehule Forest Conservancy, and of other lands in the valley bottom proposed for the cultivation of cacao (*Theobroma cacao*). The primary objectives of the field studies were to:

1. Provide a description of the vegetation;
2. Compile a list of the vascular plant taxa seen on the survey.
3. Search for plant taxa listed as endangered or threatened by the U. S. Fish and Wildlife Service, plant taxa that are currently proposed for listing, or are candidates for listing.
4. Search for plant taxa that have no federal status, but are nevertheless of conservation concern.
5. Identify threats to the native biota of the area, such as the major invasive weed threats and incipient weeds.

Property owned by the `Ōhulehule Forest Conservancy is made up of two land parcels that lie within the ahupuaʻa of Waikāne in the Koʻolaupoko district (Figure 1, Appendix A). Both parcels sit on the mauka (mountain) side of the ahupuaʻa with Puʻuʻōhulehule and Pu`ukoiele to the north of the property and the Koolau summit to the west of the property (Figure 1, Appendix A). Within these parcels, two proposed project areas are designated for native plant restoration along with four smaller areas allotted for cacao farming (Figure 2, Appendix A).

Two separate areas are proposed to be managed for the perpetuation of native Hawaiian ecosystems and the native plants and animals they contain, and for the restoration of native ecosystems in the portions of the areas that are no longer dominated by native plants. The northern restoration area is the larger of the two areas and includes 166 acres. It extends from the bottom of Waikāne Valley up to the crest of the ridge that divides Waikāne Valley from Kahana Valley to the north (Figure 2, Appendix A). Its elevations range from about 300 feet in the valley bottom to 1,683 feet at Pu`ukoiele, which is a peak on the ridge dividing Waikāne and Kahana Valleys. The southern restoration area includes 110 acres. It is located in the head of Waikāne Valley, and extends from 520 to 1,620 feet in elevation (Figure 2, Appendix A). Both areas include much steeply sloped terrain. Four separate areas constitute the cacao farming areas, which are located in the lower elevations of Waikāne Valley, and include a total of 49 acres. These areas consist of gently sloped land in between more steeply sloped gulches.

SURVEY METHODS

Prior to the field survey, a search was made for any records of rare and endangered plants found in the survey areas, in the neighboring areas, and in the general area. Information from the Hawai`i Biodiversity and Mapping Program and the Bishop Museum was reviewed.

The survey was conducted in April to May 2012. A total of seven non-consecutive days were spent surveying the northern restoration area (3 days) the southern restoration area (3 days) and the cacao farming areas (1 day).

The survey was conducted on foot, utilizing few existing trails as well as going into areas where there were no trails. Off trail routes often followed ridge tops, gulch bottoms, or streambeds. The full range of vegetation and habitat types within the survey areas were sampled.

In order to maximize the chances of finding rare and endangered plants, the survey was concentrated in the areas judged to have the most potential for these plants. These high potential areas were often those with a high diversity of native plant taxa in the upper elevations of the survey areas. Also judged to have a high potential for rare and endangered plant taxa were the habitats in the gulch bottoms. Plant taxa were mostly identified in the field. For the plants that could not be positively identified in the field, collections were made for later determination.

The plant taxa included in the species list were the observed native plants, the non-native plants that are known to be naturalized, and any non-native plants that were observed to be spreading. Not included were the various planted ornamental plants present in the survey areas that were persisting after being planted, but not were not observed to be spreading. Also, there are currently inhabited residences as well as currently cultivated crops in the southern cacao farming areas. The various plants planted around those residences and the various crop species still under cultivation in the proposed cacao farming area were also not included in the species list. Included in the species list are a few plant taxa that were observed only outside of the survey areas but were thought to be worthy of mention; these taxa are indicated in the species list as being observed only outside of the survey area boundaries.

DESCRIPTION OF THE VEGETATION

Restoration Areas

Both of the restoration areas contain native dominated and non-native dominated areas (Figure 5, Appendix A). The northern restoration area has a greater percentage of native dominated vegetation than the southern restoration area however; there are areas in the upper elevation portions of the southern restoration area where the vegetation is almost completely native. In general, in both of the restoration areas, the lower elevations tend to be more alien dominated, and the gulch bottoms are mostly alien dominated. The native vegetation of both of the forest restoration areas ranges from mesic to wet. Portions of the native-dominated vegetation of the restoration areas, especially in the northern restoration area, are dominated by uluhe (*Dicranopteris linearis*). Such areas are blanketed with a layer of the fern forming an impenetrable mat 1 or 2 meters thick, with scattered native trees sticking out of the mat. Uluhe dominated areas range from the lower gulch slopes to the ridge crests. In other areas the common forms of tree `ōhi`a lehua (*Metrosideros polymorpha* var. *glaberrima*, var. *incana*, and var. *polymorpha*) are co-dominant with uluhe. There are some areas, especially near the ridge tops, where uluhe is lacking and `ōhi`a lehua is the only dominant. In native vegetation areas not dominated or co-dominated by uluhe the native tree canopy is denser, and there is a greater diversity of native shrub and groundcover species. In the lower elevations of the northern restoration area, there are areas where hala (Pandanus tectorius) is abundant enough to be considered a co-dominant or a dominant species.

In the northern restoration area, there is a fair amount of koa (*Acacia koa*) in the lower elevations, but it is not a dominant species. In the southern restoration area there are also some trees of it in the lower elevations. The common to occasional native trees of the native forests on the gulch slopes and on the ridges of the two forest restoration areas seen on this survey were lama (*Diospyros sandwicensis*), the most common species of kōpiko, *Psychotria mariniana*, `ahakea (*Bobea elatior*), mehame (*Antidesma platyphyllum* var. *platyphyllum*), and `ōhi`a hā (*Syzygium sandwicense*). Occasional to uncommon native trees seen on the survey were the native holly, kāwa`u (*Ilex anomala*), manono (*Kadua affinis*), `āla`a (*Planchonella sandwicensis*), maua (*Xylosma hawaiiense*), kōlea (*Myrsine lessertiana*), hō`awa (*Pittosporum glabrum*), olopua (*Nestegis sandwicensis*), `ohe mauka (*Polyscias oahuensis*), the less common species of *Metrosideros*, lehua `āhihi (*Metrosideros tremuloides*) and *M. macropus*, an uncommon kōpiko, *Psychotria kaduana*, kalia (*Elaeocarpus bifidus*), olomea (*Perrottetia sandwicensis*), hao (*Rauvolfia sandwicensis*) (seen only just outside of the southern restoration area), and māmaki (*Pipturus albidus*).

Common to occasional shrubs seen in the restoration areas included naupaka kuahiwi (*Scaevola gaudichaudiana*), ha`iwale (*Cyrtandra calpidicarpa, C. hawaiensis, C. laxiflora, and C. propinqua*), `ākia (*Wikstroemia oahuensis* var. *oahuensis*), and the occasional to uncommon shrubs included `ōhelo (*Vaccinium calycinum, V. dentatum,* and *V. calycinum* x *V. dentatum* hybrids), pilo (*Coprosma longifolia*), kanawao (*Broussaisia arguta*), pūkiawe (*Leptecophylla tameiameiae*), and ko`oko`olau (*Bidens macrocarpa*).

The native tree fern hāpu`u (*Cibotium chamissoi*) was fairly common at all elevations of the restoration areas, and hāpu`u `i`i (*Cibotium menziesii*) was occasional in the upper elevations of the two areas. Common to occasional native vines seen in the restoration areas were maile (*Alyxia stellata*) and `ie`ie (*Freycinetia arborea*). An uncommon native vine was hoi kuahiwi (*Smilax melastomifolia*).

Native groundcover and small understory plants included `uki`uki (*Dianella sandwicensis*), the sedges *Gahnia beecheyi*, `uki (*Machaerina angustifolia*),`ahaniu (*Machaerina mariscoides* subsp. *meyenii*), *Carex wahuensis* subsp. *wahuensis*, and *Rhynchospora sclerioides*. Native terrestrial ferns included the common to occasional pala`ā (*Sphenomeris chinensis*), sword fern (*Nephrolepis exaltata* subsp. *hawaiiensis*), and the occasional to uncommon palapalai (*Microlepia strigosa* var. *strigosa*), *Asplenium contiguum* var. *contiguum*, `alae (*Asplenium caudatum*), and pāmoho (*Doodia kunthiana*).

Common to occasional native epiphytic (growing on trees) ferns and fern allies seen in the restoration areas were hoe a Māui (*Elaphoglossum crassifolium*), the whiskferns or moa (*Psilotum complanatum* and *P. nudum*), wahine noho mauna (*Adenophorus tamariscinus* var. *tamariscinus*), kolokolo (*Adenophorus tenellus*), adder's tongue or puapua moa (*Ophioglossum pendulum*), palai hinahina (*Hymenophyllum lanceolatum*), `ōhi`a kū (*Hymenophyllum recurvum*), and pākahakaha (*Lepisorus thunbergianus*). Occasional to uncommon native epiphytic ferns and fern allies included `ohe`ohe (*Haplopteris elongata*), wāwae `iole (*Huperzia phyllantha*), bird's-nest fern (*Asplenium nidus*), `opeha (*Elaphoglossum aemulum*), and palai lau li`i (*Hymenophyllum obtusum*).

Certain native plant taxa were restricted or were most common in the gulch bottoms of the two restoration areas. Included among these were the trees pāpala kēpau (*Pisonia umbellifera*), koki`o ke`oke`o (*Hibiscus arnottianus* subsp. *punaluuensis*), loulu (*Pritchardia martii*) and pāpala (*Charpentiera tomentosa* var. *maakuaensis*). Shrubs found mainly in the gulch bottoms were `ākōlea (*Boehmeria grandis*), olonā (*Touchardia latifolia*), the various species of ha`iwale (*Cyrtandra calpidicarpa, C. hawaiensis, C. laxiflora,* and *C. propinqua*), and the hybrid combination *C. laxiflora* x *C. propinqua*. Native ferns found mainly in the gulch bottoms were *Callistopteris baldwinii, Crepidomanes draytonianum, Crepidomanes minutum, Vandenboschia cyrtotheca,* and *Vandenboschia davallioides*.

Polynesian introduced plants seen on the survey of the restoration areas included the tree kukui (*Aleurites moluccana*), which was a dominant in some gulch bottoms, and ti (*Cordyline fruticosa*), which was common in some areas. A single stand of the Polynesian introduced bamboo (*Schizostachyum glaucifolium*) was seen in the southern restoration area. Another Polynesian introduced tree, kamani (*Calophyllum inophyllum*), was seen in the southern restoration area, but these were evidently planted sometime in the early 1900's. A single plant of the culturally important Polynesian plant kava (*Piper methysticum*), was seen alongside a stream in the northern restoration area. A few plants of the taro relative `ape (*Alocasia macrorrhizos*) were seen in the gulch bottoms of the southern restoration area.

Hau (*Hibiscus tiliaceus*) is a tree whose branches form a tangled, almost impenetrable mass. The species is thought to be either a native plant or a Polynesian introduced plant. It was seen in both restoration

areas, with a large area of the main gulch bottom in the northern restoration area dominated by the species.

Common Invasive Weeds in the Restoration Areas

Albizia (*Falcataria moluccana*), which grows into a large, tall tree, is a major non-native canopy dominant in the gulch bottoms in both restoration areas, and it can be found additionally on the gulch slopes up to the ridge tops. The tree koka (*Bischofia javanica*) is very common particularly in the SRA, dominating some of the gulch bottoms and extending up to the ridge tops. The tree white moho (*Heliocarpus popayanensis*) is common in both restoration areas extending from the gulch bottoms to the ridge tops. Bingabing (*Macaranga mappa*) is a tree that was seen only in the southern restoration area, where it is a dominant tree in some gulch bottoms and lower gulch slopes. Large mature trees of octopus tree (*Schefflera actinophylla*) are not yet very common in the restoration areas, but numerous seedlings and saplings, often epiphytic, can be found throughout the restoration areas as the seeds are apparently being spread by fruit eating birds. Shoebutton ardisia (*Ardisia elliptica*) is a small tree that is common in some areas of both of the restoration areas. Its seeds are also apparently being dispersed by fruit eating birds, and young plants of this species can be found throughout the restoration areas. There are areas in both restoration areas where strawberry guava (*Psidium cattleianum*) has become a dominant understory species. It is not spreading as rapidly as the weed species whose seeds are being spread by fruit eating birds. Koster's curse (*Clidemia hirta* var. *hirta*) is a very common to dominant understory shrub in both restoration areas. The species may have already spread into its entire potential habitat, and is possibly no longer increasing in numbers.

Cacao Farming Areas

Much of the acreage of the areas proposed for the cultivation of cacao are lands that were formerly utilized as pasture lands, but have not been used as such for at least two or three decades. There are still currently occupied residences on the large southern cacao farming area, and portions of that area are still being utilized for the cultivation of various crops.

The parts of the cacao farming areas that have not been utilized for agricultural purposes in recent years are dominated by non-native plant species. There are small areas of native dominated vegetation in the general area of the cacao farming areas, but these areas are generally on the steeper gulch slopes outside of the cacao farming area boundaries. Parts of the cacao farming areas are dominated by strawberry guava (*Psidium cattleianum*), growing in thick, impenetrable stands. The areas not dominated by strawberry guava are more open, with various tree species growing amongst alien grasses, shrubs, and herbs. Non-native tree species aside from strawberry guava seen on this survey included Java plum (*Syzygium cumini*), albizia (*Falcataria moluccana*), octopus tree (*Schefflera actinophylla*), shoebutton ardisia (*Ardisia elliptica*), Christmas berry (*Schinus terebinthifolius*), rose apple (*Syzygium jambos*), fiddlewood (*Citharexylum caudatum*), koa haole or haole koa (*Leucaena leucocephala*), hau (*Hibiscus tiliaceus*, either a Polynesian introduction or a native species), coconut (*Cocos nucifer*), royal palm (*Roystonea regia*), and the common guava (*Psidium guajava*). The dominant grass in the cacao farming areas is broomsedge or yellow bluestem (*Andropogon virginicus*). Shrubs and shrub sized woody plants seen were Koster’s curse (*Clidemia hirta* var. *hirta*), saplings of strawberry guava, young plants of shoebutton ardisia, and ti (*Cordyline fruticosa*). Non-native ferns encountered on this survey included sword fern (*Nephrolepis brownii*), *Blechnum appendiculatum*, laua`e (*Phymatosorus scolopendria*), silver fern (*Pityrogramma calomelanos*), and *Cyclosorus parasiticus*. Terrestrial non-native orchids seen were the bamboo orchid (*Arundina graminifolia*) and the Philippine ground orchid (*Spathoglottis plicata*).

The most common remnant native plants seen in the cacao farming areas were the trees `ōhi`a lehua (*Metrosideros polymorpha*) and hala (*Pandanus tectorius*), the shrub `ākia (*Wikstroemia oahuensis* var. *oahuensis*), and the ferns uluhe (*Dicranopteris linearis*) and pala`ā (*Sphenomeris chinensis*). Uncommon remnant native plant taxa included the tree koa (*Acacia koa*), the fern moa (*Psilotum nudum*), and the sedges *Cyperus polystachyos* and *Fimbristylis dichotoma*.

DISCUSSION AND RECOMMENDATIONS

No rare plant taxa or taxa federally listed as endangered or threatened were found on this survey. However, there is still some potential for undiscovered rare plant occurrences to found, and it is recommended that further searching for rare plant taxa be conducted.

Although no rare plants are currently known from the restoration areas, the areas are suitable for the reintroduction of rare plant taxa historically known from the general area or known from similar habitats in neighboring areas.

The following are some plant taxa that would benefit from being outplanted in the Waikāne Valley restoration areas. The first group of taxa are those of high conservation concern that are especially relevant to Waikāne Valley because of their restricted historical ranges that include Waikāne Valley. The second group of plant taxa includes those of high conservation concern that are relevant to conservation efforts throughout the Ko`olau Mountains. The third group includes taxa that are of lower conservation concern, that would be appropriate for outplanting in Waikane.

Group 1: Taxa of high conservation concern that are especially relevant to Waikāne

Cyanea truncata (Rock) Rock (hāhā; federally listed as endangered) – *Cyanea truncata* is a shrub that is unbranched or branched from the base. It is endemic to the windward Ko`olau Mountains. No plants of the species were known to be extant when a single plant was discovered in 1998 in the Hau`ula area. That plant died about two years after it was discovered, however, seeds were collected from it before it died. Offspring from that plant are still in cultivation and in outplantings. A new wild population of three plants was discovered in 2004 in Kahana on the seaward extension of the ridge system between Kahana and Waikāne Valleys. Two of those plants are still alive, and the genetic material of the population has been secured (Susan Ching, personal communication, Feb. 1, 2012). *Cyanea truncata* has been recorded from gulches against the main spine of the Ko`olau Mountains as well as in two of the gulches on the seaward extension of the ridge between Kahana and Waikāne Valleys, so the gulch bottoms of both of the restoration areas in Waikāne should be suitable for the outplantings of this species.

Cyrtandra kaulantha H. St. John & Storey (ha`iwale; proposed for listing as federally endangered) – *Cyrtandra kaulantha* is a shrub that is narrowly endemic to the windward central Ko`olau Mountains from Waikāne Valley to Waiāhole Valley. There are only seven wild plants known to remain in a single gulch along the Waiāhole Ditch Trail between the valleys of Waikāne and Waiāhole (Susan Ching, personal communication, June 28, 2012). A vegetative *Cyrtandra* plant seen by the principal investigator in April 2011 in Waike`eke`e Gulch just to the south of the southern restoration area appeared be a plant of *C. kaulantha* based on its vegetative characteristics. The plant is outside of the southern restoration area but on the property of the `Ōhulehule Forest Conservancy. *Cyrtandra kaulantha* has proven easy to propagate from leaf cuttings (Susan Ching, personal communication, Feb. 1, 2012). Because so few wild plants are known to remain, this individual in a different drainage from the other known plants of *C. kaulantha* potentially represents an important addition to the conserved genetic material of the species.

Leaf material from this individual should be collected for propagation so that the resulting plants can be positively identified when they come into flower in cultivation and so that their genetic material can be conserved should they prove to be *C. kaulantha*. The species has been found only in the very wet gulches right up against the main spine of the Ko`olau Mountains, and as such, only the southern restoration area appears to contain suitable habitat for this species.

Delissea subcordata Gaudich. subsp. *subcordata* (hāhā; federally listed as endangered) - *Delissea subcordata* subsp. *subcordata* is a branched or unbranched shrub. *Delissea subcordata* subsp. *subcordata* is now considered to include only certain historically collected specimens from the southern and central Ko`olau Mountains. All of the plants of *Delissea* known to be extant in the Wai`anae Mountains are now assigned to the species *D. waianaeensis*. No plants of *D. subcordata* subsp. *subcordata* are currently known to be extant. However, should the taxon be rediscovered, Waikāne Valley would be a good place for outplantings of the taxon since several of the historically collected specimens of this taxon were collected in the valley, most recently in 1934.

Lysimachia filifolia C. N. Forbes & Lydgate (no common name; federally listed as endangered) – *Lysimachia filifolia* is endemic to the islands of Kaua`i and O`ahu. However, the plants on Kaua`i may prove to constitute a separate taxon from the O`ahu plants since the plants on Kaua`i grow to be much larger than the O`ahu plants (Susan Ching, personal communication, June 28, 2012). On O`ahu it has been found only in Waiāhole Valley and in one other gulch between Waiāhole and Waikane Valleys. The O`ahu plants occur only on the faces of nearly vertical dry or dripping waterfalls. At least one of the waterfalls seen on this survey in the southern restoration area seemed possibly suitable for outplantings of this species. Additional survey of the southern restoration area may result in the finding of other apparently suitable waterfalls.

Pritchardia lowreyana Rock (loulu; no federal status)
Pritchardia lowreyana is a native fan palm endemic to Moloka`i and the Ko`olau Mountains of O`ahu. The only currently known wild *P. lowreyana* plants in Ko`olau Mountains are located only 0.7 kilometers (0.45 miles) from the boundary of the northern restoration area, where there is a grove of six mature plants and additional immature plants. In order to minimize the risk of hybridization, the species should not be planted close to natural or out-planted populations of other species of *Pritchardia*. Since *P. martii* occurs naturally in the SRA, but no naturally occurring *Pritchardia* plants are known from the NRA, the NRA could be reserved for outplantings of *P. lowreyana*, while the SRA could be reserved for outplantings of *P. martii*. Outplantings of *P. lowreyana* could also be tried outside of the restoration areas in the lower elevations of Waikāne Valley, as the natural range of the species may have included lower elevations in the valley bottoms. The species may have originally occurred in the lowlands primarily where groundwater was available to the plants, such as in gulch bottoms, along streams, and around springs.

A note concerning *Cyrtandra crenata* H. St. John & Storey (ha`iwale; federally listed as endangered) – The only recorded location for *Cyrtandra crenata* is along the windward leg of the Schofield-Waikāne Trail. However, *Cyrtandra crenata* is now recognized to be a hybrid between *C. hawaiensis* and *C. subumbellata* (Warren L. Wagner, personal communication, May 18, 2010).

Group 2: Taxa of high conservation concern that are relevant to Waikāne as well as to conservation efforts throughout the Ko`olau Mountains

Acacia koaia Hillebr. (koai`e; no federal status) and intermediates between *A. koa* A. Gray and *A. koaia* (no federal status) – *Acacia koaia* is a rare plant endemic to Kaua`i, O`ahu, Moloka`i, Lāna`i, Maui, and the island of Hawai`i. It is usually a small tree. *Acacia koa* is similar to *A. koaia*, but it is usually a much larger tree. Naturally occurring *A. koaia* is known from only a single location on O`ahu, namely in

Wailupe Valley in the southern Ko`olau Mountains. All of the plants at that location look identical, and they appear to have been clonally reproduced by root suckering ultimately from a single original plant. The genetic material of that apparent clone has not yet been safeguarded in cultivation or in outplantings. Intermediates between *A. koa* and *A. koaia* have been found in several areas of the Ko`olau Mountains. One of the areas where they have been found is in Kahana Valley just to the north of Waikāne Valley. Outplantings of *A. koaia* and/or the *A. koa-koaia* intermediates could be tried in lowest elevations of the southern restoration area or in areas seaward of the restoration areas.

Cyanea crispa (Gaudich.) Lammers, Givnish & Sytsma (hāhā; federally listed as endangered) – *Cyanea crispa* is a shrub with somewhat fleshy stems that is unbranched or branched from the base. It is endemic to the Ko`olau Mountains. There are still widely scattered populations of the species known to remain in various parts of the mountain range. Plants of this species still survive in the gulches on the seaward extension of the ridge system between Kahana and Waikāne Valleys. The gulch bottoms in the mid- and high elevation portions of the southern restoration area may constitute the most suitable habitat within the two restoration areas in Waikāne for this species.

Cyperus odoratus L. (kili`o`opu, pu`uka`a, mau`u pu`uka`a, pu`uko`a, pūko`a; no federal status) – The Hawaiian plants of *C. odoratus* are considered by Koyama (1990) to represent an endemic Hawaiian taxon, *Torulinium odoratum* subsp. *auriculatum*. *Cyperus odoratus* is an annual or short-lived perennial sedge. It is native to the Hawaiian Islands as well as to many other regions of the world. There is a wide diversity in the morphology of the Hawaiian specimens. Mature Hawaiian plants can be as short as 15 centimeters tall or grow to be over 1.5 meters tall. The non-Hawaiian plants are extremely variable as well, and taxonomic study of *C. odoratus* complex world-wide could possibly result in the recognition of taxa endemic to Hawai`i. No wild populations of *C. odoratus* are known to be extant in Hawai`i. However, there are plants of Hawaiian origin in cultivation, all of which originated from seeds collected by the principal investigator in 1998 from a few plants found growing at a seep along the Maunawili Trail on the windward side of the southern Ko`olau Mountains. Although the 1998 finding of *C. odoratus* constitutes the only record of the species in Hawai`i since 1939, it seems likely to the principal investigator that the species still persists in the wild in multiple locations throughout the Hawaiian Islands, and efforts should be made to find any surviving plants. This species could be planted in either of the restoration areas in its favored habitats, namely at springs and seeps, and along streams.

Cyrtandra kalichii Wawra (ha`iwale; no federal status) – *Cyrtandra kalichii* is a shrub endemic to the Ko`olau Mountains and the Ka`ala area in the northern Wai`anae Mountains. It is one of the rarer of the *Cyrtandra* species occurring on O`ahu. There is at least one individual growing along the Kahana section of the Waiāhole Ditch Trail. There also used to be a plant of this species in a gulch on the Kahana side of the seaward portion of the ridge system between Kahana and Waikāne Valleys, but that plant died a few years ago. However, that area should be searched for additional currently unknown plants. The gulch bottoms and lower gulch slopes of both restoration areas seem to constitute good habitat for this species.

Embelia pacifica Hillebr. (kilioe; no federal status) – *Embelia pacifica* is a long-lived perennial vine endemic to Kaua`i, O`ahu, Moloka`i, Lāna`i, Maui, and Hawai`i. There is only a single currently known plant of this species in the Ko`olau Mountains. The plant was found by the principal investigator in May 2011 in Kaluanui in the windward northern Ko`olau Mountains. It was growing in wet forest, which is unusual for the species on O`ahu. All of the plants of *E. pacifica* known in the Wai`anae Mountains occur in mesic forests. All parts of the two restoration areas seem to constitute appropriate habitat for this species depending on the stock that is outplanted. The Kaluanui stock seems to be appropriate for the wetter portions of the restoration areas, while stock from the Wai`anae Mountains may be more appropriate for the lower, drier portions of the restoration areas.

Eurya sandwicensis A. Gray (ānini, wānini; no federal status) – *Eurya sandwicensis* is a shrub or a small tree endemic to Kaua`i, O`ahu, Moloka`i, Maui, and the island of Hawai`i. There are only about seven plants of *E. sandwicensis* currently known on O`ahu. All except one of these are in the Ko`olau Mountains. A plant of this species was seen by the principal investigator in 1980 on the seaward extension of the Kahana-Waikāne ridge system, on the ridge between Kahana Valley and Makaua Gulch. That area should be searched for the plant seen in 1980 and any other individuals of the species that may survive in the area. The ridge tops and upper ridge slopes in the upper elevation portions of both restoration areas seem to be suitable for outplantings of this species.

Exocarpos gaudichaudii A. DC. (heau; no federal status) – *Exocarpos gaudichaudii* is a shrub or a small tree endemic to O`ahu, Moloka`i, Lāna`i, Maui, and the island of Hawai`i. The species is rare throughout its range. There are fewer than 10 currently known plants of this species in the Ko`olau Mountains. There are three currently known plants of this species on the windward side of the Ko`olau Mountains. All three are in the Hau`ula area in the northern part of the mountain range. The upper ridge slopes and ridge crests of the northern restoration area seem to best match the conditions where the plants in the Hau`ula area are growing.

Gardenia mannii H. St. John & Kuykendall (nā`ū, nānū; federally listed as endangered) – *Gardenia mannii* is a tree endemic to both mountain ranges of O`ahu. Fewer individuals of this species are known to survive in the Wai`anae Mountains than in the Ko`olau Mountains, where the species can still be found in various areas throughout the mountain range. However, the number of individuals in the Ko`olau Mountains has declined significantly over the last two or three decades. The species has been recorded at more than one location on the ridge system between Kahana and Ka`a`awa Valleys within the last two decades, and its persistence there should be confirmed. Outplantings of this species could be tried in the upper elevations of both of the restoration areas in Waikāne Valley.

Hibiscus kokio Hillebr. ex Wawra subsp. *kokio* (koki`o `ula`ula; no federal status) - *Hibiscus kokio* subsp. *kokio* is a tree endemic to Kaua`i, O`ahu, Moloka`i, Maui, and the island of Hawai`i. There may be fewer than 20 plants of this native tree species currently known on O`ahu, most of which are in two populations in the Ko`olau Mountains. There is habitat that is seemingly appropriate for this species in the lower elevations of both of the restoration areas.

Joinvillea ascendens Gaudich. ex Brongn. & Gris subsp. *ascendens* (`ohe; proposed for listing as federally endangered) – *Joinvillea ascendens* subsp. *ascendens* is a large, grass-like, clumping perennial plant. The subspecies is endemic to Kaua`i, O`ahu, Moloka`i, Maui, and Hawai`i. The most appropriate material to use in outplantings in the two restoration areas in Waikāne Valley may be material originating from plants of the species in the Wai`anae Mountains rather than in the Ko`olau Mountains, since all of the plants known to be extant in the Ko`olau Mountains grow in extremely wet habitats on or near the main dividing ridge of the mountain range, habitats that are much wetter than the wettest parts of the two restoration areas. All of the known plants in the Wai`anae Mountains are in mesic habitats that seem to be fairly similar to habitats in the mesic, lower elevation portions of the two restoration areas.

Lindsaea repens (Bory) Thwaites var. *macraeana* (Hook. & Arn.) C. Chr. (no common name; no federal status) – *Lindsaea repens* var. *macraeana* is a rare wet forest fern with a creeping rhizome that is either terrestrial or epiphytic. The taxon is endemic to most of the main Hawaiian Islands. One of the locations where it has been seen in recent years is in Kahana Valley, along the trail that connects the Schofield-Waikāne Trail to the Kahana Valley portion of the Waiāhole Ditch Trail. The higher, wetter parts of the southern restoration area appear to be the most appropriate habitat for this species.

Neraudia melastomifolia Gaudich. (ma`aloa, ma`oloa, `oloa; no federal status) – There has been only one observation of this native shrub species in the Ko`olau Mountains in the last two decades. The

observation was of a single plant on the windward side of the mountain range opposite the land section of Waimano on the leeward side of the mountain range. If no other plants are discovered in the Ko`olau Mountains in the coming years, plants originating from the Wai`anae Mountains may have to be used in any outplanting trials in Waikāne. Various areas of both restoration areas seem to be suitable for this species, depending on the stock utilized.

Nothocestrum longifolium A. Gray (`aiea; no federal status) – At most, only about 6-8 plants of this native tree species are currently known in the Ko`olau Mountains. The species was known to occur on the seaward extension of the ridge system between Kahana and Waikāne Valleys, namely in Makaua Gulch, into at least the 1990's or maybe past the year 2000, but those plants appear to have died. The area should be searched for any additional unknown plants that might still survive. Various areas of both restoration areas seem to be suitable for this species, depending on the stock utilized.

Pteralyxia macrocarpa (Hillebr.) K. Schum (kaulu; proposed for listing as federally endangered) – *Pteralyxia macrocarpa* is a native tree species endemic to O`ahu. It is more common in the Wai`anae Mountains than in the Ko`olau Mountains. Fewer than 30 mature individuals of the species are known to survive in the Ko`olau Mountains. Included among these individuals are several that are known from the seaward extension of the ridge system between Kahana and Waikāne Valleys, in the drainages of Makaua and Kahana. Outplantings of this species could be tried in the lower elevations of both of the restoration areas.

Strongylodon ruber Vogel (nuku `i`iwi, kā `i`iwi; no federal status) – *Strongylodon ruber* is a long-lived woody vine endemic to Kaua`i, O`ahu, Moloka`i, Maui, and Hawai`i. A single plant of this species in Pālolo Valley is the only wild plant known to be extant in the Ko`olau Mountains. Habitat that is seemingly appropriate for this species exists in both of the restoration areas. If no more plants of the species are discovered in the Ko`olau Mountains in the coming years, augmentation of outplantings of the Pālolo Valley stock with stock from outside the Ko`olau Mountains should be considered. Plants originating from wet forest areas on the neighbor islands may be more appropriate for outplanting in the restoration areas in Waikāne Valley than plants originating from the Wai`anae Mountains, which occur in habitats that may be drier than any of the habitats within the two restoration areas.

Group 3: Taxa that are appropriate for outplanting in Waikane that are of lower conservation concern

Asplenium insiticium Brack. (no common name; no federal status) – *Asplenium insiticium* is a fern native to all of the major Hawaiian Islands, and is also native to Fiji and New Caledonia. The species was not seen on this survey within the boundaries of the restoration areas, but it occurs along the Waiāhole Ditch Trail to the south of Waikāne Valley. The form of *A. insiticium* occurring along the Waiāhole Ditch Trail appears to favor the gulch bottoms and it appears to grow primarily epiphytically on the trunks or main limbs of trees.

Diospyros hillebrandii (Seem.) Fosberg (lama; no federal status) – This tree species is endemic to O`ahu and Kaua`i. No plants of this species were seen on this survey. It is occasional in Hakipu`u Valley, which adjoins the northeastern side of Waikāne Valley. The lower elevations of both of the restoration areas seem to contain suitable habitat for the species.

Dodonaea viscosa Jacq. (*D. sandwicensis* Sherff type) (`a`ali`i; no federal status) – The *D. sandwicensis* type of `a`ali`i is a shrub or a small tree. It was not found on this survey, but two individuals of it are known to be present in the northern restoration area. It seems that the existing population of this type of `a`ali`i within the restoration area may need to be augmented if it is to persist. Propagules for augmentation of the population could be obtained further seaward on the ridge system between Kahana

and Waikāne Valleys, where this type of `a`ali`i is more common than within the northern restoration area.

Hibiscus arnottianus A. Gray subsp. *punaluuensis* (Skottsb.) D. M. Bates (koki`o ke`oke`o, no federal status) – This white flowered native hibiscus grows into a medium sized tree. It is endemic to parts of the Ko`olau Mountains. The taxon was seen on this survey only in the northern restoration area. Suitable habitat for it appears to be available in the gulch bottoms of the southern restoration area as well, in addition to areas in the northern restoration area where it is currently absent.

Ochrosia compta K. Schum. (hōlei; no federal status) – This native tree species is endemic to the islands of O`ahu and Moloka`i. No plants were seen on this survey, but the species is known to occur on the seaward portion of the ridge system between Kahana and Waikāne Valleys. Seemingly suitable habitat for the species is found in the lower elevation portions of both of the restoration areas.

Peperomia membranacea Hook. & Arn. (`ala`ala wai nui; no federal status) – *Peperomia membranacea* is a native herb endemic to Kaua`i, O`ahu, Moloka`i, Maui, and Hawai`i. It grows terrestrially or epiphytically. It is common in many parts of the Ko`olau Mountains, but it was not seen on this survey within the boundaries of the restoration areas. It is known to occur along the Waiāhole Ditch Trail to the south of Waikāne Valley. There is appropriate habitat for this species in both of the restoration areas, primarily in the gulch bottoms and on the lower gulch slopes.

Peperomia oahuensis C. DC. (`ala`ala wai nui; no federal status) – This herb species is endemic to O`ahu and Kaua`i. It usually grows epiphytically on the trunks and main limbs of trees. The species is currently known to occur along the Kahana Valley section of the Waiāhole Ditch Trail. The gulch bottoms of both of the restoration areas seem to constitute appropriate habitat for this species. In the Ko`olau Mountains the species occurs primarily on the trunks and branches of the native white flowered hibiscus, *Hibiscus arnottianus* subsp. *punaluuensis*, which was seen on this survey in one of the gulch bottoms of northern restoration area. Establishing that taxon of hibiscus in the southern restoration area, and outplanting it in the parts of the northern restoration area where it is currently absent would improve the chances for the successful establishment of populations of *P. oahuensis* in the restoration areas.

Rauvolfia sandwicensis A. DC. (hao; no federal status) – *Rauvolfia sandwicensis* is a tree endemic to Kaua`i, O`ahu, Moloka`i, Lāna`i, Maui, and Hawai`i. No plants of this species were seen within the boundaries of the two restoration areas on this survey. However, three individuals were seen just outside the boundaries of the southern restoration area. The lower, drier portions of both of the restoration areas appear to constitute suitable habitat for this species.

Santalum freycinetianum Gaudich. (sandalwood, `iliahi; no federal status) – The native tree species *S. freycinetianum* is now considered to be endemic to the island of O`ahu. The species is more common on the leeward side of the Ko`olau Mountains than on the windward side. The known plants of the species on the windward side of the Ko`olau Mountains closest to Waikāne are in the Hau`ula area in the northern part of the mountain range. The lower elevations of both of the restoration areas seem to constitute suitable habitat for the species.

Urera glabra (Hook. & Arn.) Wedd. (ōpuhe; no federal status) – *Urera glabra* is a small tree endemic to Kaua`i, O`ahu, Moloka`i, Lana`i, Maui, and the island of Hawai`i. In the Ko`olau Mountains it is locally common, but in many areas it is uncommon to absent. No plants of this species was seen on this survey. However, both restoration areas seem to contain appropriate habitat for this species, particularly in the lower elevation gulch bottoms. Extant populations of the species can be found in various locations along the windward side of the Ko`olau Mountains.

Weed Recommendations

An invasive alien plant species, the Australian tree fern (*Sphaeropteris cooperi*) was seen along the Schofield-Waikāne Trail outside of the restoration areas. This incipient occurrence should be eradicated to prevent its spread to other parts of the valley. Other invasive species that may be considered to be incipient that should be considered for eradication are African tulip tree (*Spathodea campanulata*), kahili ginger (*Hedychium gardnerianum*), Moreton Bay fig (*Ficus macrophylla*), and desert fig (*Ficus platypoda*).

There are some non-native plant species in or around the restoration areas that are not known to be extremely invasive, that are still localized, but are spreading outwards. Since they still are localized it may be best to eradicate them early on, before they become bigger problems. Plants in this category include golden pothos (*Epipremnum pinnatum*), the heliconias *Heliconia caribaea* and *H. metallica*, ivory cane palm (*Pinanga coronata*), and cat's claw (*Caesalpinia decapetala*. This species was not seen on this survey, but it is known to occur in the Waike`eke`e Drainage just to the south of the southern restoration area.).

Tropical kudzu (*Pueraria phaseoloides*) was only recently documented as being naturalized in Hawai`i, so its potential to become a serious weed threat in Hawai`i is unknown. It was collected in 2009 along the main dirt road into Waikāne Valley not far from the where the road branches off from the paved road (Alex Lau, personal communication, May 17, 2012). A sterile plant of what appears to be tropical kudzu was found during this survey in one of the cacao farming areas. Alternatively, the sterile plant could be a plant of kudzu (*Pueraria montana* var. *lobata*), which in Hawai`i seems to persist from cultivation, but has not become truly naturalized (Alex Lau, personal communication, May 17, 2012). The identity of the plant should be confirmed when the plant is flowering and fruiting, or if it is just a single plant, it might be best to simply destroy it instead of waiting for a confirmation of its specific identity.

Hau (*Hibiscus tiliaceus*) is a plant that forms thick patches in the gulch bottoms that smother native plant species. It is currently unknown whether the species is a Polynesian introduction or a plant native to Hawai`i. However, whether it is native or not, the species should be treated as a plant that is not compatible with the goal of maintaining and increasing the native plant diversity of the restoration areas, and the existing patches of it within the restoration areas should be gradually eliminated.

APPENDIX B: Waikāne Faunal Surveys – Final Report

(VanderWerf 2012)

Waikane Valley Faunal Surveys – Final Report

Part 2, Cacao Farm Areas

20 April 2012

Prepared for: Mr. Paul Zweng, Ohulehule Forest Conservancy

Prepared by: Dr. Eric VanderWerf, Pacific Rim Conservation, 3038 Oahu Avenue, Honolulu, HI 96822, 808-377-7114, cell 808-292-2884



Northern cacao farm area, looking northward toward the peak of Ohulehule

Background

Pacific Rim Conservation (PRC) was contracted by the Ohulehule Forest Conservancy to conduct faunal surveys to identify birds, mammals, and other animals present in the vicinity of two proposed project areas in Waikane Valley. The proposed project consists of two components 1) forest restoration and Oahu Elepaio (*Chasiempis ibidis*) protection on approximately 270 acres in the mauka part of the valley, and 2) a cacao farm on approximately 40 acres in the makai part of the valley (Figure 1). Species of particular interest included the Oahu Elepaio, the Hawaiian hoary bat (*Lasiurus cinereus semotus*), and the tree snail *Achatinella decipiens*, all of which are listed as endangered under the U.S. Endangered Species Act and by the State of Hawaii. This report consists of two parts, one for the forest restoration areas and the other for the cacao farm areas.

Methods

Surveys for the Oahu Elepaio and other bird species were conducted in the cacao farm areas on 20 March 2012. Surveys consisted of walking through the proposed project areas and looking and listening for birds. Playbacks of recorded Oahu Elepaio songs were broadcast at approximately 100-meter intervals in an attempt to elicit a response. Elepaio defend territories year-round and song playbacks are an efficient method of locating elepaio and determining the extent of their territory (VanderWerf 2004). Elepaio often respond more strongly to local song dialects (VanderWerf 2007), so recordings used during playbacks were from Waikane Valley. After each playback observers listened and watched for elepaio for several minutes. Most elepaio respond to recorded songs within one minute (VanderWerf 2007), but some approach quietly and must be searched for visually.

Surveys for the Hawaiian hoary bat were conducted using an SM2BAT+ bat detector (Wildlife Acoustics Inc., Concord, MA), which records their ultrasonic echolocation calls. The bat detector was deployed from 20 to 26 March, or 6 nights, and was programmed to record from sunset to sunrise each day. It was located on top of a small ridge in the middle of the 5.1 acre section of southern cacao area, near an un-named Stream (Figure 2), and was mounted on a tree 2.0 meters above the ground (Figure 3). The nearby stream provided an open flight corridor that bats might use while foraging.

Results

A total of 17 bird species was observed in the cacao farm areas of Waikane Valley (Table 1). Only one native bird species was observed, a single Kolea or Pacific Golden Plover (*Pluvialis fulva*) that was foraging on a grassy lawn. The other 16 bird species observed were non-native (Table 1). No Oahu Elepaio or other native forest birds were observed.

No Hawaiian hoary bat calls were recorded by the bat detector on any of the six nights surveyed. The bat detector made a total of 246 recordings that spanned all nights it was deployed, demonstrating that it was functioning properly, but all of recordings were of noise, such as wind or squeaking branches, and not bat calls.

Discussion and Recommendations

The absence of Oahu Elepaio in the proposed cacao farm areas is not surprising. The habitat in the cacao farm areas is generally not suitable for Oahu Elepaio because it consists primarily of open ground, agricultural plantings, and low shrubby vegetation, which elepaio

generally avoid (VanderWerf et al. 2001). There is some forest on the edges and along nearby streams, but it is dominated by alien tree species not favored by elepaio, such as *Albizia* and *Ardesia*. The proposed cacao farm areas are outside the critical habitat for the Oahu Elepaio and are fairly distant (>1.5 kilometers) from the nearest known Oahu Elepaio territories (Figure 2) and currently are of no value to the Oahu Elepaio. Modification of the existing vegetation in the proposed cacao farm areas thus would have no impact on the Oahu Elepaio or its habitat.

Little is known about the distribution or abundance of the Hawaiian hoary bat on Oahu. The Hawaiian hoary bat roosts in trees at night, usually by itself, but it may use a variety of tree species. Modification of the existing vegetation in the proposed cacao farm areas would not be expected have any impact on the Hawaiian hoary bat because it is not known to occur in the area.

Table 1. List of bird species observed in the cacao farm area of Waikane Valley. Status codes: A = Alien, I = Indigenous to Hawaii (native but also found elsewhere), Species native to Hawaii are in bold type.

Common Name	Scientific Name	Status
Pacific Golden Plover	***Pluvialis fulva***	**I**
Spotted Dove	*Streptopelia chinensis*	A
Zebra Dove	*Geopelia striata*	A
White-rumped Shama	*Copsychus malabaricus*	A
Melodious Laughing-thrush	*Garrulax canorus*	A
Japanese White-eye	*Zosterops japonicus*	A
Japanese Bush-warbler	*Cettia diphone*	A
Red-vented Bulbul	*Pycnonotus cafer*	A
Red-whiskered Bulbul	*Pycnonotus jocosus*	A
Red-billed Leiothrix	*Leiothrix lutea*	A
Common Myna	*Acridotheres tristis*	A
Red-crested Cardinal	*Paroaria coronata*	A
Northern Cardinal	*Cardinalis cardinalis*	A
House Finch	*Carpodacus mexicanus*	A
Common Waxbill	*Estrilda astrild*	A
Java Sparrow	*Padda oryzivora*	A
Nutmeg Mannikin	*Lonchura punctulata*	A

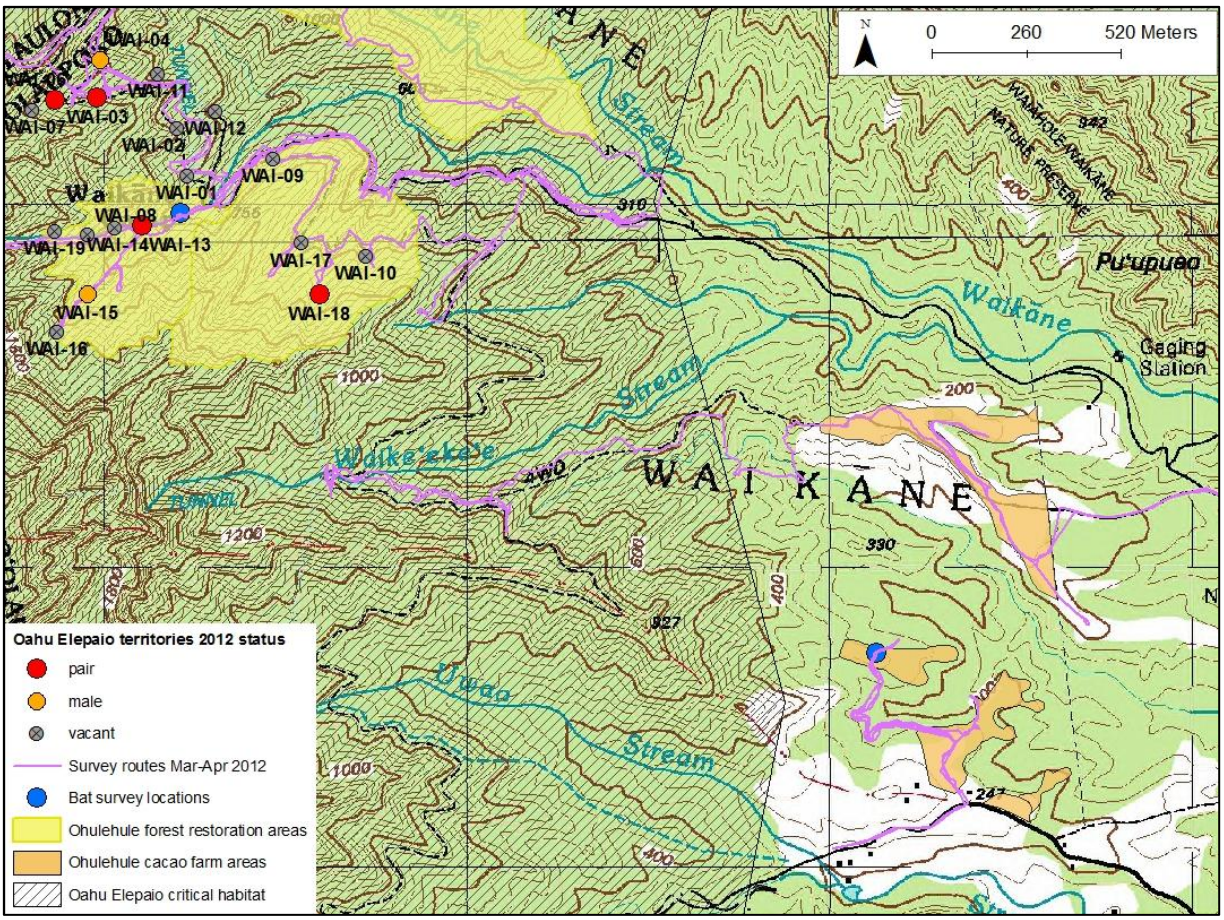

Figure 1. Location of survey routes and bat survey locations in the proposed cacao farm areas in Waikane Valley in relation to known Oahu Elepaio territories.



Figure 2. Bat detector mounted on a tree in the 5.1 acre section of the southern cacao farm area.

APPENDIX C: Botanical Survey Waikāne Valley, Oʻahu, Hawaiʻi (Ross 2020)

Botanical Survey, Waikāne Valley, Oʻahu, Hawaiʻi

Prepared for:

ʻŌhulehule Forest Conservancy, LLC

Kailua, Hawaiʻi 96734

By:

Michael C. Ross

Assistant Professor, Botany

Kapiʻolani Community College

December 2020

INTRODUCTION

This report summarizes the results of a botanical survey conducted on an approximately 3.5-acre plot of land in Waikāne Valley, Oʻahu, Hawaiʻi. Waikāne Valley is situated on the windward side of Oʻahu in the ahupuaʻa of Waikāne. Conditions are generally mesic to wet, with moderate to heavy winter rainfall. The terrain is quite rugged towards the back of the valley near the steep slopes of the Koʻolau mountains. The topography is gently sloped in most other areas of the valley, making it an ideal location for agriculture. It is therefore no surprise to find numerous agricultural plantings along the roadside and in the adjacent areas.

The property is located approximately 1.2 miles west of Kamehameha Highway along Waiahole Valley Road and is part of a larger property owned by the `Ōhulehule Forest Conservancy. Although nearby areas on the `Ōhulehule Forest Conservancy property have been surveyed in the past, this particular location was not included in those surveys. Since the land plot has been proposed as a site for a single home development, documenting the vegetation was a priority in this study. The primary objectives of this study were to:

1. Conduct a baseline survey of the vegetation at the site.
2. Provide a description of the vegetation.
3. Prepare a checklist of the vascular plant taxa observed.

SURVEY METHODS

The property was surveyed on foot on December 6, 2020. An effort was made to survey all possible locations. Most plant taxa were identified on site, and for those that required magnification or otherwise could not be identified in the feild, collections were made and identified later. Voucher specimens were not collected.

RESULTS & DISCUSSION

VEGETATION

The vegetation in the survey area consists largely of invasive non-native species. The upper canopy layer is dominated by a fairly young and open stand of Albizia (*Falcataria mollucana*), approximately 20-30ft. in height, with other invasive non-native trees, such as Fiddlewood (*Citharexylum caudatum*), Octopus tree (*Schefflera actinophylla*), Gunpowder tree (*Trema orientalis*), Autograph tree (*Clusia rosea*), African tulip tree (*Spatholdea campanulata*), and Mango (*Mangifera indica*) occuring in smaller stands. In the understory, and especially in openings in the canopy, a thick, nearly impentrable feild of Guinea grass (*Megathyrsus maximus*) and Wedelia (*Sphagneticola trilobata*) form. Other common weedy species include Honohono (*Commelina diffusa*), *Stachytarpheta* spp., Koster's curse (*Clidemia hirta*), and Dog's tongue (*Pseudelephantopus spicatus*). The saplings of Fiddlewood and Shoebutton ardisia (*Ardisia elliptica*) are also quite common in the understory. In shadier areas, invasive vines, such

as Maile pilau (*Paederia foetida*) and *Ipomoea obscura*, can be found climbing the taller grasses and smothering the lower branches of the trees.

The only native species encountered on the property were the Pala'ā fern (*Odontosoria chinensis*), the indigenous sedge, *Cyperus polystachyos*, and 'Uhaloa (*Waltheria indica*). The Pala'ā fern is one of the most common indigenous ferns in the Hawaiian Islands, occurring in mesic to wet areas on all the major islands (Palmer 2003). *Cyperus polystachyos*, an annual sedge, and the indigenous subshrub 'Uhaloa, are both quite common in disturbed, grassy areas (Wagner et al. 1990). These species are restricted to the northeast portion of the property. No endemic taxa were observed during the survey.

The Polynesian introduced Ti (*Cordyline fruticosa*) also appears to be naturalized in the same area as the native species mentioned above. This particular location is more open and disturbed compared to other areas at the site. In the past it operated as a chicken farm, which likely explains the localized erosion (Pers. Comm., current owner). A diverse assemblage of non-native herbs and grasses favor this disturbed spot. These include Horseweed (*Conyza bonariensis*), Flora's paintbrush (*Emilia sonchifolia* var. *javanica*), Partridge pea (*Chamaecrista nictitans var. glabrata*), Sensitive plant (*Mimosa pudica* var. *unijuga*), *Pterolepis glomerata*, *Polygala paniculata*, Buttonweed (*Spermacoce assurgens*), and a couple of terrestrial Orchids, including the Bamboo orchid (*Arundina graminifolia*) and the Philippine ground orchid (*Spathoglottis plicata*). Common grasses found in this area include Broomsedge (*Andropogon virginicus*), Broadleaf carpetgrass (*Axonopus compressus*), and the Yellow foxtail (*Setaria parviflora*).

Along the western boundary of the property, near Waiahole Valley Road, there are various landscape plantings consisting of mostly ornamental species that have persisted in the area, but do not appear to be naturalizing. These include various palms, such as the Chinese Fan Palm (*Livistona chinesis*), Thurston's palm (*Pritchardia thursontii*), Areca palms (*Dypsis* sp.), and the Royal palm (*Roystonea regia*), the latter appears to be spreading on its own. There is a non-native sword fern (*Nephrolepis brownii*) that grows as an epiphyte on many of the palm trees. There are also some bromeliads, dumb cane (*Dieffenbachia* sp.), and a single Cardboard palm (*Zamia furfuracea*) growing in the understory of the palms. A small stand of Polynesian bamboo (*Schizostachyum glaucifolium*) and several Pua kenikeni (*Fagraea berteroan*) trees can be found scattered in the same area, along with a single variegated Hala (*Pandanus tectorius*). In addition, some fruit trees, such as Avocado (*Persea americana*), a few different species of Heliconia (*H. caribaea, H. metallica*, and *H. psittacorum*), and a couple of Gingers, including White ginger (*Hedychium coronarium*) and the Polynesian introduced Shampoo ginger (*Zingiber zerumbet*), grow in this area. The single Cook pine (*Araucaria columnaris*) found near the entrance of the property appears to have been planted.

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CHECKLIST OF VASCULAR PLANT TAXA

The following is a checklist of all native and naturalized vascular taxa observed during the survey. The arrangement is alphabetical by family and then genus within each major taxonomic grouping. All native and naturalized flowering plant taxa listed in this report follow the taxonomic treatments of the *Manual of the Flowering Plants of Hawai'i* (Wagner et al. 1990). To reflect the most current taxonomy, the online *Flora of the Hawaiian Islands website* (Wagner et al. 2005, 2012) was used to update names. Flowering plant families used in this report follow the classification of the Angiosperm Phylogeny Group IV (2017). For ornamental plants (e.g., those persisting from plantings, but not naturalizing), taxonomic treatments follow *A Tropical Garden Flora: Plants Cultivated in the Hawaiian Islands and other Tropical Places* (Staples & Herbst 2005). Although ornamental plants were not included in the checklist, there is a discussion of these plants observed during the survey in the last paragraph of the vegetation section of this report. For native and naturalized ferns, *Hawaii's Ferns and Fern Allies* (Palmer 2008) and *Taxonomic and Nomenclatural Updates to the Fern and Lycophyte Flora of the Hawaiian Islands* (Ranker et al. 2019) were referenced. Information about the biogeographic status and growth habit are included. Abbreviations used in the checklist include, "I" for indigenous taxa, "NZ" for naturalized/non-native taxa, and "Poly" for Polynesian Introduced taxa.

Ferns

Family	Species name	Status	Common name	Growth habit
Lindsaeaceae	*Odontosoria chinensis* (L.) J. Sm.	I	Pala'ā	fern
Nephrolepidaceae	*Nephrolepis brownii* (Desv.) Hovenkamp & Miyam.	NZ	Sword fern	fern
Thelypteridaceae	*Christella parasitica* (L.) H.Lev.	NZ		fern

Angiosperms – Eudicots

Anacardiaceae	*Mangifera indica* L.	NZ	Mango, manakō	tree
Apiaceae	*Centella asiatica* (L.) Urb.	NZ	Pennywort, pohe kula	herb
Araliaceae	*Schefflera actinophylla* (Endl.) Harms	NZ	Octopus tree	tree
Asteraceae	*Conyza bonariensis* (L.) Cronquist	NZ	Hairy horseweed	herb
Asteraceae	*Emilia sonchifolia* (L.) DC. var. *javanica* (Burm. f.) Mattf.	NZ	Flora's paintbrush	herb
Asteraceae	*Pseudelephantopus spicatus* (B. Juss. ex Aubl.) C.F. Baker	NZ	Dog's tongue	herb

Asteraceae	*Sphagneticola trilobata* (L.) Pruski	NZ	Wedelia	herb
Bignoniaceae	*Spathodea campanulata* P. Beauv.	NZ	African tulip tree	tree
Cannabaceae	*Trema orientalis* (L.) Blume	NZ	Gunpowder tree, charcoal tree	tree
Clusiaceae	*Clusia rosea* Jacq.	NZ	Autograph tree	shrub or tree
Convolvulaceae	*Ipomoea obscura* (L.) Ker Gawl.	NZ		vine
Fabaceae	*Chamaecrista nictitans* (L.) Moench var. *glabrata* (Vogel) H. S. Irwin & Barneby	NZ	Partridge pea	herb
Fabaceae	*Crotalaria incana* L.	NZ	Fuzzy rattlepod	herb
Fabaceae	*Falcataria moluccana* (Miq.) Barneby & J. W. Grimes	NZ	Albizia	tree
Fabaceae	*Mimosa pudica* L. var. *unijuga* (Duchass. & Walp.) Griseb.	NZ	Sensitive plant	herb
Malvaceae	*Waltheria indica* L.	I	ʻUhaloa	subshrub
Melastomataceae	*Clidemia hirta* (L.) D. Don var. hirta	NZ	Koster's curse	shrub
Melastomataceae	*Pterolepis glomerata* (Rottb.) Miq.	NZ		herb or subshrub
Oxalidaceae	*Oxalis corniculata* L.	NZ	Yellow wood sorrel, ʻihi mākole	herb
Phyllanthaceae	*Phyllanthus debilis* Klein ex Willd.	NZ		herb
Polygalaceae	*Polygala paniculata* L.	NZ		herb
Primulaceae	*Ardisia elliptica* Thunb.	NZ	Shoebutton ardisia	shrub
Rubiaceae	*Paederia foetida* L.	NZ	Maile pilau	vine
Rubiaceae	*Spermacoce assurgens* Ruiz & Pav.	NZ	Buttonweed	herb
Verbenaceae	*Citharexylum caudatum* L.	NZ	Fiddlewood	tree
Verbenaceae	*Stachytarpheta cayennensis* (Rich.) Vahl	NZ		herb
Verbenaceae	*Stachytarpheta jamaicensis* (L.) Vahl	NZ	Jamaican vervain	herb
Angiosperms - Monocots				
Arecaceae	*Roystonea regia* (Kunth) O. F. Cook	NZ	Royal palm	tree
Asparagaceae	*Cordyline fruticosa* (L.) A. Chev.	Poly	Ti, kī	shrub
Commelinaceae	*Commelina diffusa* Burm. f.	NZ	Honohono	herb
Cyperaceae	*Cyperus polystachyos* Rottb.	I		sedge

Orchidaceae	*Arundina graminifolia* (D. Don) Hochr.	NZ	Bamboo orchid	herb
Orchidaceae	*Spathoglottis plicata* Blume	NZ	Philippine ground orchid	herb
Poaceae	*Andropogon virginicus* L.	NZ	Broomsedge, yellow bluestem	grass
Poaceae	*Axonopus compressus* (Sw.) P. Beauv.	NZ	Broadleaf carpetgrass	grass
Poaceae	*Megathyrsus maximus* (Jacq.) B.K. Simon & S.W.L. Jacobs	NZ	Guinea grass	grass
Poaceae	*Oplismenus hirtellus* (L.) P. Beauv. subsp. *hirtellus*	NZ	Basketgrass, honohono kukui	grass
Poaceae	*Setaria parviflora* (Poir.) Kerguelen	NZ	Yellow foxtail, perennial foxtail	grass

APPENDIX D: Archaeological Field Survey – Request for historic preservation review for ʻŌhuluehule Forest Conservancy Proposed Cacao Farm Project, Waikāne Ahupuʻa, Koʻolaupoko District, Oʻahu Island [TMK: (1) 4-8-006: 001 por.]

(Cultural Surveys Hawaiʻi 2012)

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June 27, 2012

Dr. Pua Aiu
State Historic Preservation Division
Department of Land and Natural Resources
State of Hawai‘i
Kakuhihewa Building
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Request for historic preservation review (HRS Chapter 6E-42 and HAR 13-284) for the Ōhulehule Forest Conservancy Proposed Cacao Farm Project, Waikāne Ahupua‘a, Ko‘olaupoko District, O‘ahu Island [TMK: (1) 4-8-006: 001 por.]

Dr. Pua Aiu:

At the request of Townscape, Inc., Cultural Surveys Hawai‘i, Inc. (CSH) is requesting a historic preservation review of the proposed Ōhulehule Forest Conservancy Proposed Cacao Farm Project. Based on a review of previous archaeological investigations and a recently conducted pedestrian inspection of the entire project area CSH feels that an effect determination of “no historic properties affected” is warranted for the proposed project, and thus seeks SHPD’s concurrence. A description of the proposed project as well as a summary of previous archaeology and the recently conducted fieldwork is provided below.

The proposed project comprises approximately 49 acres of land located at Waikāne, on the windward side of O‘ahu. The entire acreage is divided into four discrete areas (hereafter referred to as NPA, SPA 1, SPA 2 and SPA 3). The northernmost portion (NPA) is accessible on Waikāne Valley Road; and the three southern portions (SPA 1, SPA 2 and SPA 3) are accessible on Waiahole Valley Road (Figure 1, Figure 2 and Figure 3). All areas of the proposed project are accessible on paved roads; however, within the project areas, road conditions are poor and require 4-wheel drive to traverse. The proposed project includes plans to develop these areas by preparing the land for planting multiple shaded orchards with organic cacao varieties, constructing buildings related to cacao processing, creating a base yard for storing and staging farm equipment, and a single residence for the caretaker/proprietor of the farm.

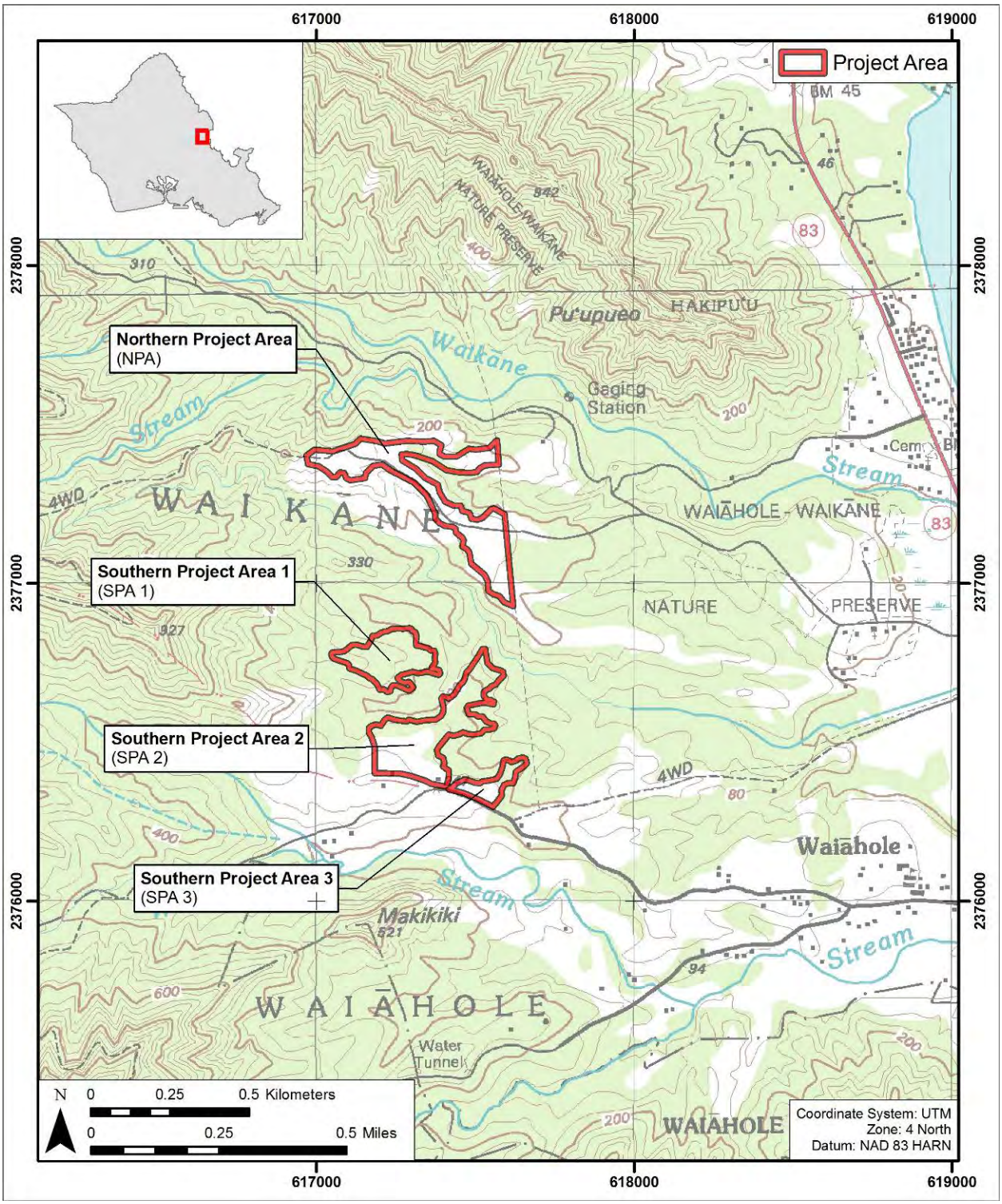

Figure 1. USGS topographic map, Kanehoe Quadrangle (1998), showing extent of the project area

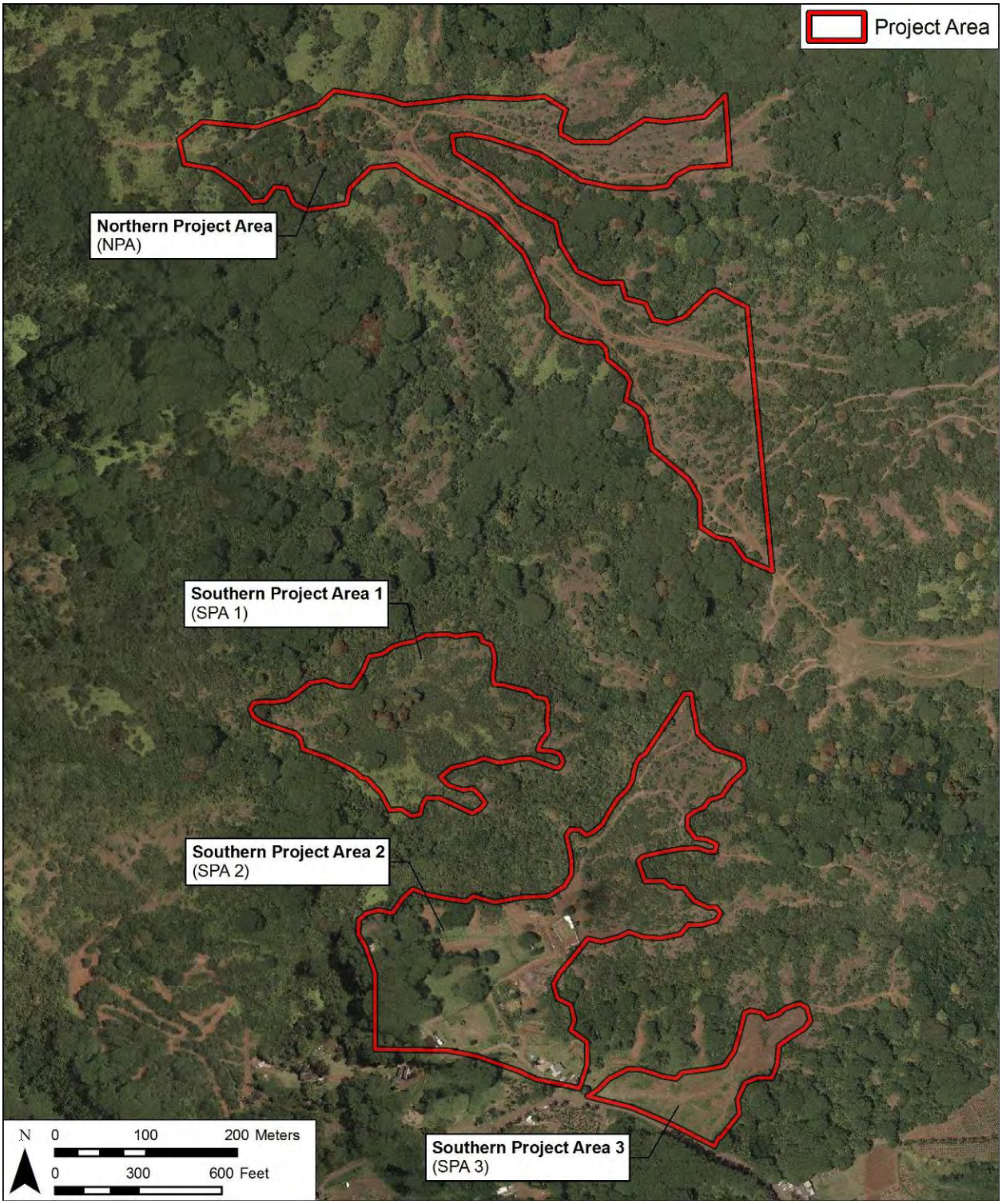

Figure 2. Aerial photograph showing extent of the project area (USGS orthoimagery 2005)

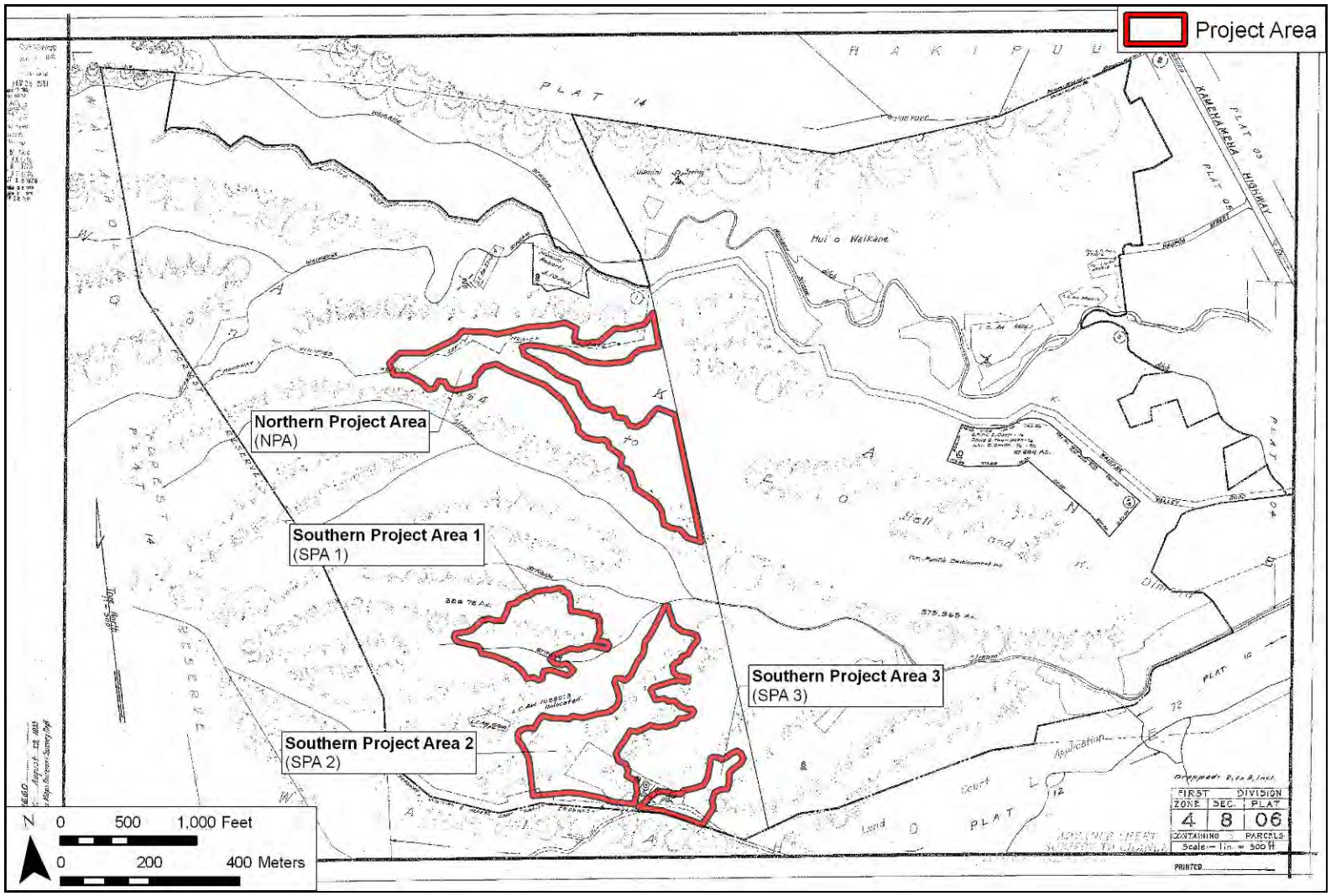

Figure 3. TMK Map of the project area

Previous Archaeological Research

Previous archaeological investigations in and around the project area are summarized in Table 1 and depicted on Figure 4 and Figure 5.

In 1988, Paul H. Rosendahl, Ph.D., Inc. (PHRI) conducted an archaeological reconnaissance survey with limited subsurface testing in support of the Waikāne Golf Course Project (Shapiro et al. 1988). The approximately 300-acre survey area abuts the *makai* (eastern) edge of the current project area (see Figure 4). Shapiro et al. (1988) identified 29 sites (consisting of 60 component features), including the previously-identified Kukuianiani Heiau site. The sites included agricultural, boundary, tool manufacture, habitation, transportation, and religious sites for cemeteries, burials, shrines, and *heiau*. All of the religious sites were identified well outside the current project area; most are clustered within 300 m of Kamehameha Highway.

In 1992, PHRI conducted an archaeological inventory survey with subsurface testing in support of two proposed golf course projects (Dunn et al. 1992). The approximately 407-acre survey area, which comprises the entire project area, is depicted in Figure 4. Dunn et al. (1992) identified 13 sites (consisting of 100 component features). It is noteworthy that all identified sites were found within perennial or ephemeral stream drainages, and not within the current project area, which is situated entirely atop ridges that have been impacted by agriculture and military activities. Most of the features were interpreted as pre-Contact agricultural features; nine were related to historic charcoal production; three were related to temporary habitation; and one was interpreted as ceremonial. SIHP #50-80-10-4356 appears to have been a major pre-Contact/post-Contact agricultural complex with 46 identified features. Eight C-14 dates were reported; the oldest was calibrated to A.D. 1400–1640.

The abovementioned Dunn et al. (1992) study was reviewed and accepted by the SHPD/DLNR on February 5, 1993 (Log. No. 7438; Doc. No. 9302TD08: see Appendix A).

In 2008, International Archaeological Research Institute, Inc., (IARII) conducted an archaeological survey and monitoring at the former Waikane Training Area in anticipation of ordnance assessment and removal operations (Rasmussen 2008). The IARII study area encompassed the northern portion of the current project area (see Figure 4). 10 historic properties were documented and included archaeological sites associated with pre-Contact traditional Hawaiian taro cultivation and post-Contact charcoal manufacturing. Probable habitation areas were observed on higher ground near *loʻi* (irrigated terraces), suggesting the farmers lived near their fields. The *loʻi* and associated features were observed along alluvial flats adjacent to streams. Metal tools found within some of the fields indicate the fields were being farmed into the 19th and early 20th century. No historic properties were observed within the current project area.

Table 1. Previous archaeological studies done within the existing project area and vicinity

Reference	Type of Investigation	General Findings
Shapiro et al. 1988	Archaeological Reconnaissance Survey and Limited Subsurface Testing	Identified 29 sites, features included terraces, mounds, ditches, walls, alignments, sunken fields, burials, coral scatters, midden and lithic scatters
Dunn et al 1992	Archaeological Inventory Survey	Identified 13 sites consisting of 100 component features including mounds, terraces, alignments, excavated depressions, enclosures, ditches, rubble concentrations and an underground chamber
Rasmussen 2008	Archaeological Survey and Monitoring	10 historic properties were documented and included archaeological sites associated with pre-Contact traditional Hawaiian taro cultivation and post-Contact charcoal manufacturing

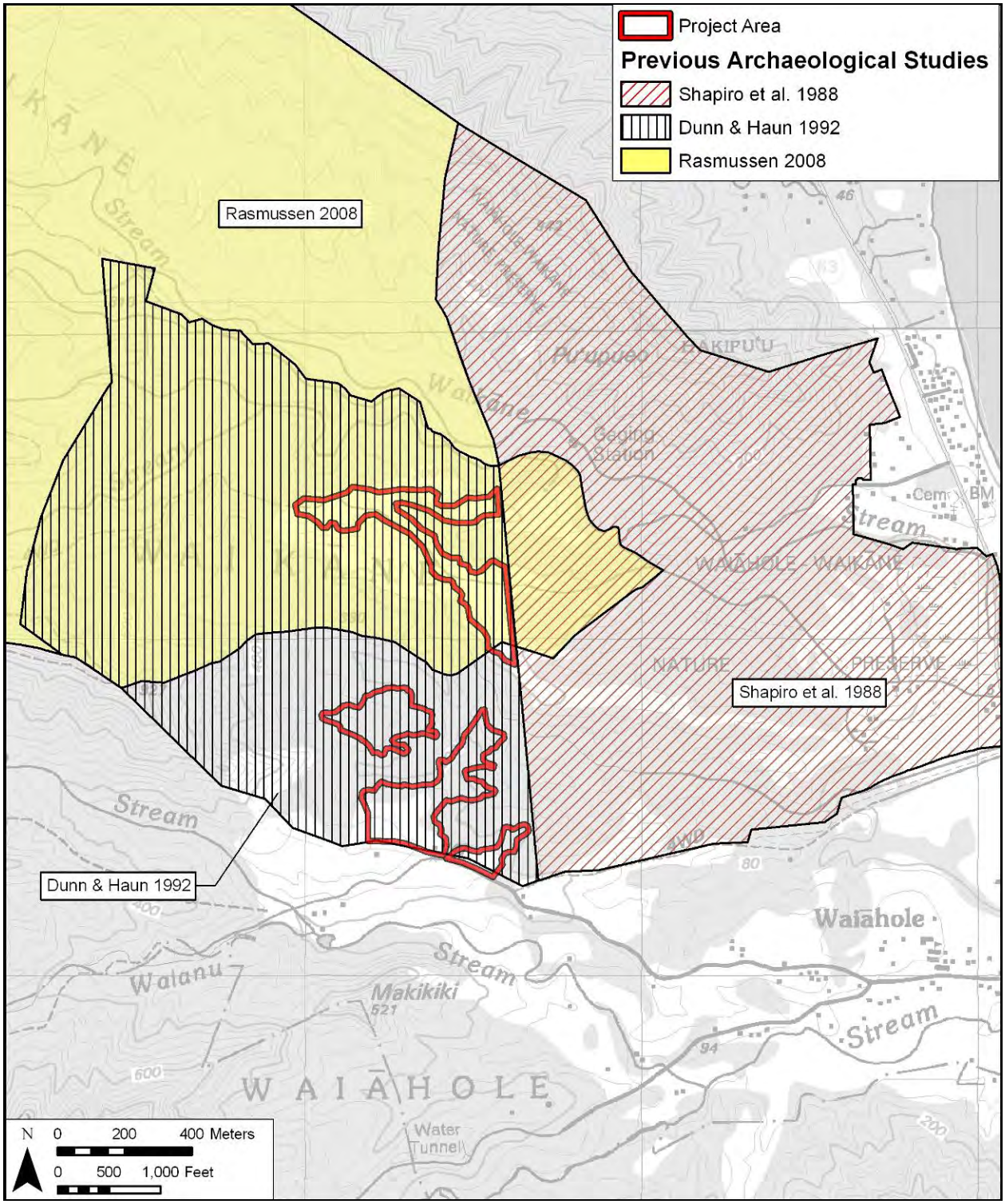

Figure 4. USGS map with overlay of previous archaeological studies in immediate vicinity of the project area

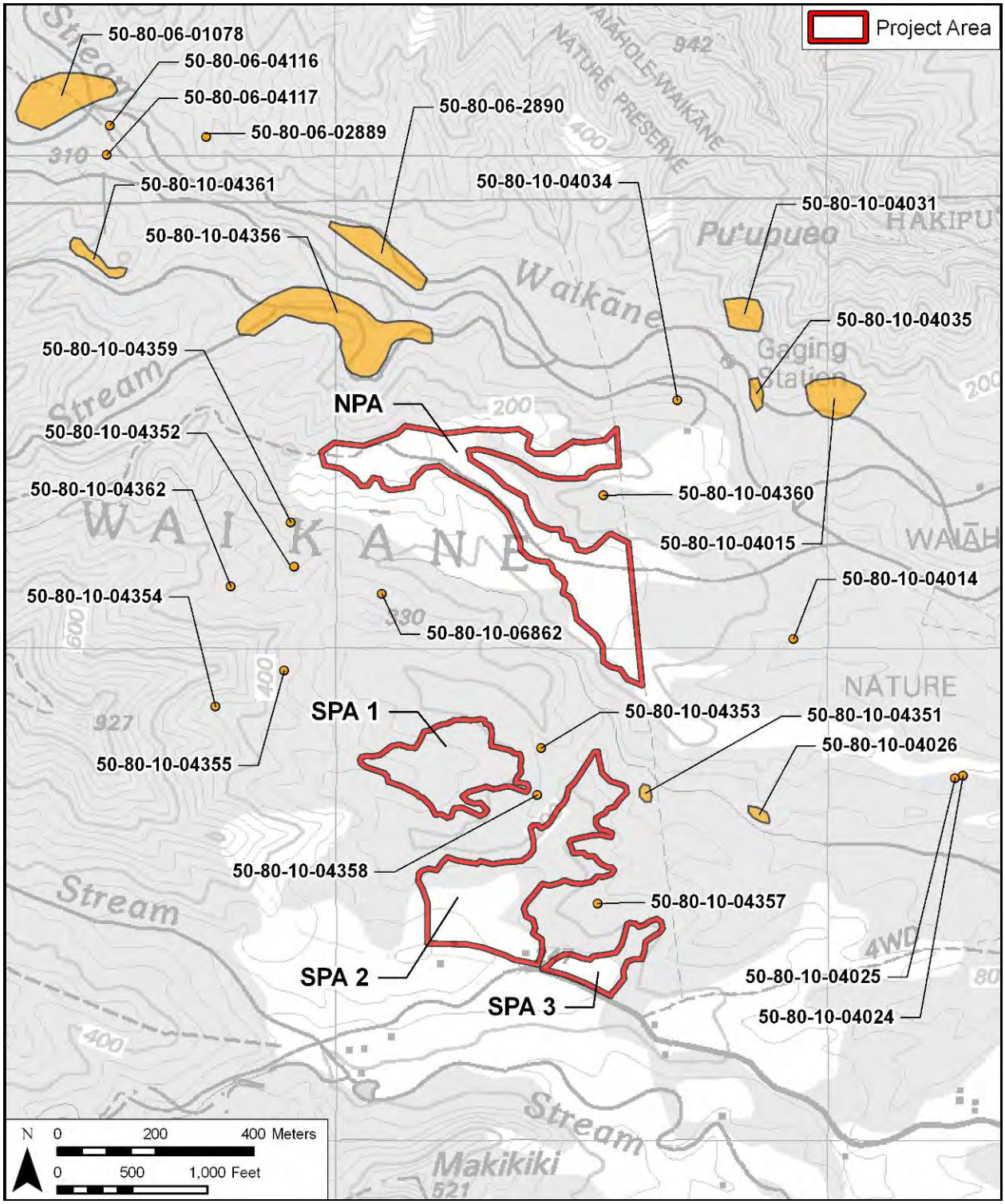

Figure 5. USGS topographic map overlay with historic properties relative to the current project area

Results of Fieldwork

The project area is characterized by low ridge tops with level to gently sloping topography bounded by steep slopes and gulches. The project area is divided into four areas: the Northern Project Area (NPA), which is 20.91 acres; Southern Project Area 1 (SPA 1), 8.86 acres; Southern Project Area 2 (SPA 2), 16.22 acres; and Southern Project Area 3 (SPA 3), 3.2 acres (see Figure 1 and Figure 2).

The pedestrian inspection consisted of a 100% ground survey of the project area. A graphic depiction of CSH's survey coverage is provided in Figure 6 and Figure 7. The ground survey of the project area was accomplished through systematic sweeps where applicable. The interval between archaeologists was typically between 5 m to 10 m.

In general, surface visibility was fair to poor due to dense vegetation that obscured the ground surface. The areas surveyed are lightly to densely vegetated; vegetation includes *uluhe* fern (*Dicranopteris linearis*), *kukui* (*Aleurites moluccana*), *ʻōhiʻa* (*Metrosideros collina*), *hau* (*Hibiscus tiliaceus*), *naupaka-kuahiwi* (*Scaevola gaudichaudiana*), *koa* (*Acacia koa*), *hala* (*Pandanus odoratissimus*), *ʻākia* (*Wikstroemia* sp.), *pukiawe* (*Styphelia tameiameiae*), Christmas berry (*Schinus terebinthifolius*), Java plum (*Eugenia cuminii*), octopus tree (*Brassaia actinophylla*), *lilikoʻi* (*Passiflora* sp.), false staghorn fern (*Dicranopteris linearis*), strawberry guava (*Psidium cattleianum*), mango (*Mangifera indica*), and various grasses.

The entire project area consists of small ridges and tablelands that have been impacted by prior land alterations related to agricultural, military and illegal dumping. Abandoned cars and other large items were dumped within the project area.

The Southern Project Area 1 (SPA 1) was approximately 9 acres. The vegetation at SPA 1 was sparse to very thick. The sparse, clear areas exhibited evidence of prior disturbance related to clearing and cutting access roads. No historic properties were observed during survey of SPA 1.

The Southern Project Area 2 (SPA 2) was approximately 16 acres. This portion of the project area was the most developed. Observed land modifications included residential structures and mass grading associated with road construction, agriculture and chicken farming (Figure 8, Figure 9, and Figure 10). No historic properties were observed during survey of SPA 2.

The Southern Project Area 3 (SPA 3) was approximately 3 acres, and consisted of an open field with a manicured lawn and an adjacent abandoned dirt road (Figure 11 and Figure 12). No historic properties were observed during survey of SPA 3.

The Northern Project Area (NPA) was approximately 21 acres. Extensive clearing and modification had taken place in the NPA due to cutting for roadways and past land use as a military training area (Figure 13). In contrast to SPA 1, 2 and 3, the NPA exhibited substantial disturbance due to military training activities and more recent ordnance detection and disposal efforts. The NPA exhibited numerous pit excavations related to these detection and disposal events, some measuring as deep as 60 cmbs (centimeters below surface) and over a meter in diameter. "Much of the project area has been affected by alluvial and colluvial erosion" (Dunn et al 1992: 7). No historic properties were observed during survey of the NPA.

Date: June 5, 2012

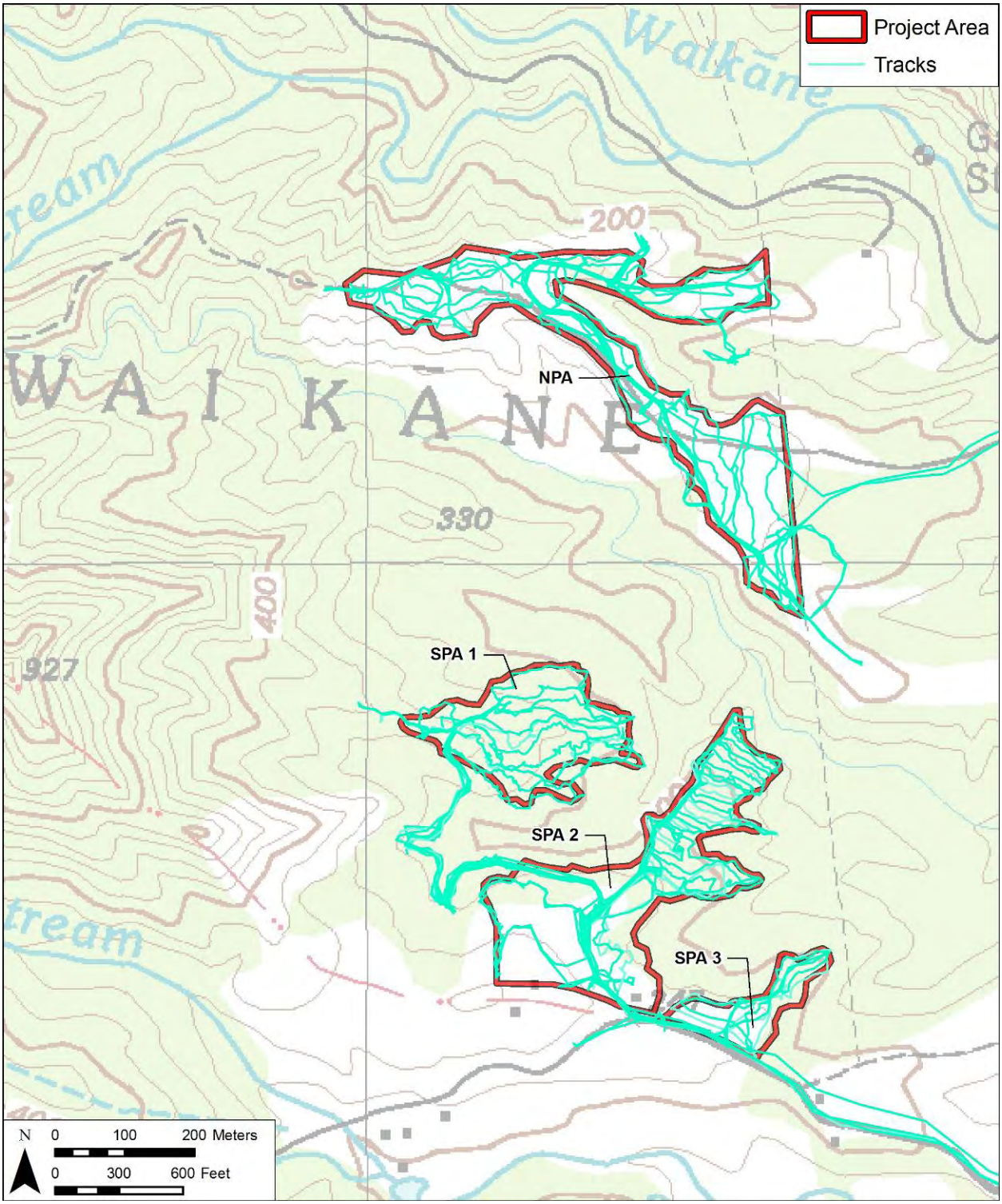

Figure 6. USGS map showing GPS tracks recorded during survey

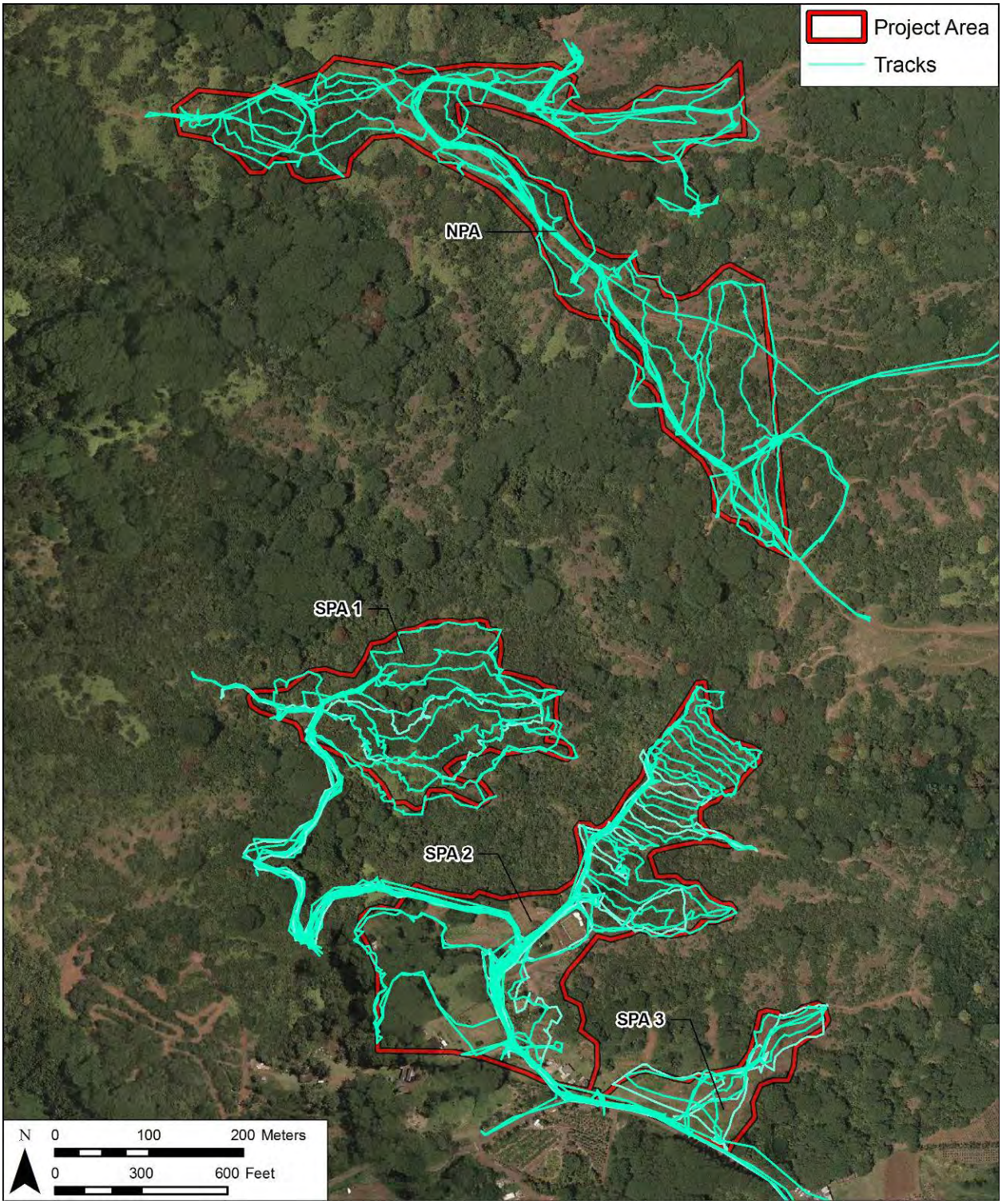

Figure 7. Aerial photograph showing GPS tracks recorded during survey



Figure 8. General view of SPA 2 with house overlooking chicken farm, view to the west



Figure 9. Small house adjacent to Waiahole Valley Road within SPA 2, view to the north



Figure 10. Cultivated lands within SPA 2, view to the south



Figure 11. Open field with manicured lawn at SPA 3, view to the north-west



Figure 12. General view of SPA 3, view to the north-east



Figure 13. Erosion impacted roadway in the NPA, view to the west

In conclusion, no historic properties were observed during a 100% pedestrian survey of the entire project area. The extensive land modifications observed within this entire project area would have destroyed and completely removed any surface historic properties that may have been present. Additionally agricultural (i.e., grading and plowing) and military (i.e., training and ordinance clearance) activities noted within the project area likely have destroyed and completely removed and subsurface cultural deposits that may have been present.

Conclusion

No historic properties were identified within the project area during previous archaeological investigations (Dunn et al. 1992 and Rasmussen 2008) and during a recent pedestrian inspection by CSH. The Dunn et al. (1992) study which encompassed the entire current project area was reviewed and accepted by SHPD/DLNR on February 5, 1993 (Log. No. 7438; Doc. No. 9302TD08: Appendix A). Additionally, the recent survey of the project area by CSH indicated that the project area has been subjected to extensive land modifications associated with agricultural and military activities. These observed disturbances have likely destroyed and/or completely removed any surface and/or subsurface historic properties that may have been present within the project area. Based on these findings CSH seeks SHPD concurrence that an effect determination of "no historic properties affected" is warranted for the proposed project, and that no additional archaeological investigation and/or mitigation is necessary for the project to proceed. We appreciate your attention to this matter and look forward to receiving your response.

Sincerely,



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Appendix A: 1993 SHPD Acceptance Letter for Dunn et al 1992 AIS

JOHN WAIHEE
GOVERNOR OF HAWAII

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCE

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Project

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

February 5, 1993

Paul H. Rosendahl, Ph.D.
Paul H. Rosendahl, Ph.D., Inc.
305 Mohouli Street
Hilo, Hawaii 96720

LOG NO: 7438
DOC NO: 9302TD08

Dear Dr. Rosendahl:

SUBJECT: **Final Report, Archaeological Inventory Survey of Proposed SMF/HDI Golf Courses Waikane, Ko'olaupoko, O'ahu TMK: 4-8-6: por. 1; 4-8-14: por. 5**

The revisions respond adequately to the comments in our January 4th letter to you. The inventory survey report for this project is now acceptable.

Sincerely,

DON HIBBARD, Administrator
State Historic Preservation Division

TD:amk

c: E. Henry OCEA

2/10/93 pmo

APPENDIX E: Interim Archaeological Preservation Plan for the Reuse of Taro Loʻi along Waikāne and Waikeʻekeʻe Streams, on the property of the ʻŌhulehule Forest Conservancy

(Cultural Surveys Hawaiʻi 2012)

INTERIM
Archaeological Preservation Plan for the Reuse of Taro Loʻi along Waikāne and Waikeʻekeʻe Streams, on the property of the ʻŌhulehule Forest Conservancy, Waikāne Ahupuaʻa, Koʻolaupoko District, Oʻahu Island

[TMKs (1) 4-8-014:005 and 4-8-006:001]

Prepared for

ʻŌhulehule Forest Conservancy, LLC

Prepared by

Andrea Kay, M.Sc.,

and

Hallett H. Hammatt, Ph.D.

Cultural Surveys Hawaiʻi, Inc.

Kailua, Hawaiʻi

(Job Code: WAIKANE 5)

December 2012

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Management Summary

Reference	Archaeological Preservation Plan for the Reuse of Taro Lo‘i along Waikāne and Waike‘eke‘e Streams, on the property of the ‘Ōhulehule Forest Conservancy, LLC, Waikāne Ahupua‘a, Ko‘olaupoko District, O‘ahu Island [TMKs (1) 4-8-014:005 and 4-8-006:001]
Date	December 2012
Project Number (s)	Cultural Surveys Hawai‘i Inc. (CSH) Job Code: WAIKANE 5
Project Location	The project area is within the boundaries of TMKs [1] 4-8-014:005 and 4-8-006:001along the Waikāne and Waike‘eke‘e Streams between 41 and 89 meters (134 – 292 ft.) AMSL. This area is depicted on the U.S. Geological Survey 7.5-minute series topographic map, Kahana (1992) and Kaneohe (1998) Quadrangles.
Land Jurisdiction	Private, ‘Ōhulehule Forest Conservancy, LLC
Agencies	SHPD/DLNR
Project Description	The proposed project consists of the restoration and reuse of ancient *lo‘i* along the Waikāne and Waike‘eke‘e Streams for *kalo* farming.
Project Acreage	Approximately 10 acres.
Area of Potential Effect (APE)	For the purposes of this preservation plan, the APE is defined as the entire approximately 10-acre project area.
Background to the Plan	The land on which the current project area rests was part of the Former Waikane Valley Training Area (FWVTA). This site is a Formerly Used Defense Site (FUDS) and has undergone the process of demilitarization. This entire training area was “used by the Army and marine Corps for training from 1942 to 1976” (US Army Corps of Engineers 2011). In 2008, International Archaeological Research Institute, Inc., (IARII) conducted an archaeological survey and monitoring at the FWVTA in anticipation of ordnance assessment and removal operations (Rasmussen 2008). The IARII study area (approximately 900-acres) completely encompasses the current project area and thoroughly documented the two sites addressed in this plan. After the ordnance clearance was completed, large portions of the FWVTA were purchased by ‘Ōhulehule Forest Conservancy, LLC and a number of revitalization projects were planned: planting of native species in three separate forest restoration areas; an organic cacao farm in the lowlands; and the restoration and reuse of taro lo‘i along Waikāne and Waike‘eke‘e Streams, addressed here.
Historic Properties Addressed in this Plan	SIHP # 50-80-06-04356, pre and post-Contact agricultural terrace complex SIHP # 50-80-06-01078, pre and post -Contact agricultural terrace complex

Historic Preservation Regulatory Context	Prepared in consultation with SHPD/DLNR and ‘Ōhulehule Forest Conservancy, LLC, this preservation plan is designed to fulfill the State requirements for preservation plans per HAR 13-277-3. This document was prepared to support the proposed project’s historic preservation review under Hawai‘i Revised Statutes (HRS) Chapter 6E-42 and HAR Chapter 13-284. The plan describes the methods and procedures that will be used to restore and reuse the lo‘i of two historic properties and also protect certain features of those sites which have been identified as having traditional cultural significance.

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Section 1 Introduction

At the request of ‘Ōhulehule Forest Conservancy, LLC, Cultural Surveys Hawai‘i, Inc. (CSH) has prepared this preservation plan for ten (10) lo‘i terraces and associated features identified along Waikāne and Waike‘eke‘e streams on the property of the ‘Ōhulehule Forest Conservancy. These sites are identified as the Waikāne Taro Flats (SIHP #: 50-80-10-1078), and the Waike‘eke‘e lo‘i (SIHP #: 50-80-10-4356). The project area is within the boundaries of TMKs [1] 4-8-014:005 and 4-8-006:001along the Waikāne and Waike‘eke‘e Streams between 41 and 89 meters (134 – 292 ft.) AMSL. This area is depicted on the U.S. Geological Survey 7.5-minute series topographic map, Kahana (1992) and Kaneohe (1998) Quadrangles, tax map and aerial photograph (Figure 1 to Figure 3).

The project area is located on land privately owned by ‘Ōhulehule Forest Conservancy, LLC. The proposed project consists of the restoration and reuse of ancient and historic *lo‘i* along the Waikāne and Waike‘eke‘e Streams for *kalo* farming.

1.1 Project Background

The land on which the current project area rests was part of the Former Waikāne Valley Training Area (WVTA). This site is a Formerly Used Defense Site (FUDS) and has undergone the process of demilitarization. This entire training area was “used by the Army and marine Corps for training from 1942 to 1976” (US Army Corps of Engineers 2011).

In 2008, International Archaeological Research Institute, Inc., (IARII) conducted an archaeological survey and monitoring at the FWVTA in anticipation of ordnance assessment and removal operations (Rasmussen 2008). The IARII study area (approximately 900-acres) completely encompasses the current project area and thoroughly documented ten historic properties, including the two sites addressed in this plan.

After the ordnance clearance was completed, large portions of the FWVTA were purchased by ‘Ōhulehule Forest Conservancy, LLC and a number of revitalization projects were planned: planting of native species in three separate forest restoration areas; an organic cacao farm in the lowlands; and the restoration and reuse of taro lo‘i along Waikāne and Waike‘eke‘e Streams, addressed here.

SIHP #: 50-80-10-1078 (Waikāne Taro Flats) was placed on the National Register of Historic Places in 1973. The site consists of seven terrace sets; associated agricultural features such as ‘auwai; possible habitation features; and religious features including an agricultural shrine and a birthing stone.

SIHP #: 50-80-10-4356 (Waike‘eke‘e Lo‘i) consists of five terrace sets and other agricultural features; a number of charcoal kilns and a boulder with historic petroglyphs.

Prepared in consultation with SHPD/DLNR and ‘Ōhulehule Forest Conservancy, LLC, this preservation plan is designed to fulfill the State requirements for preservation plans per HAR 13-277-3. This document was prepared to support the proposed project’s historic preservation review under Hawai‘i Revised Statutes (HRS) Chapter 6E-42 and HAR Chapter 13-284. The plan describes the methods and procedures that will be used to restore and reuse the lo‘i of two

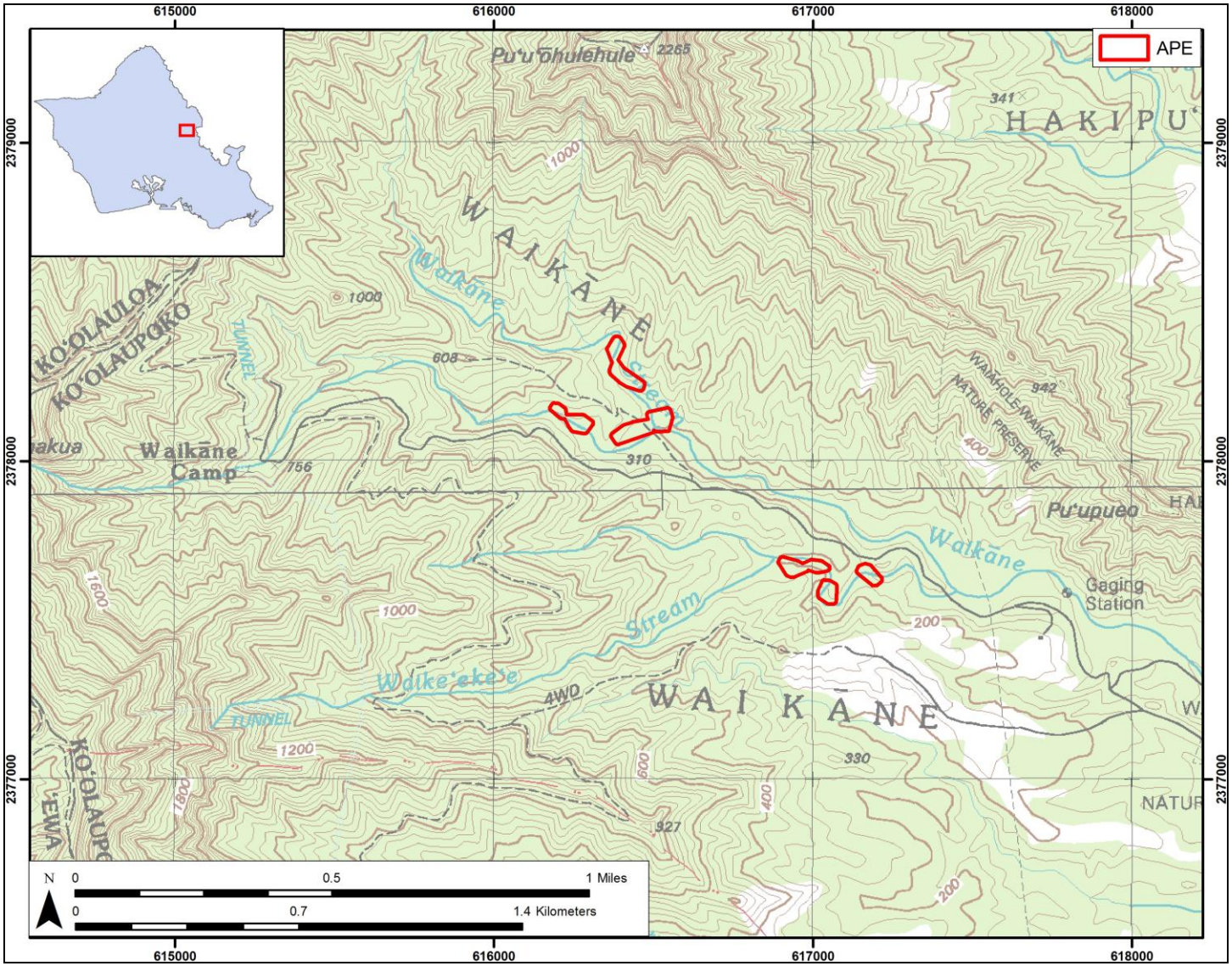


Figure 1. USGS 7.5-minute series topographic map, Kahana (1992) and Kaneohe (1998) Quadrangles Map showing the project area.

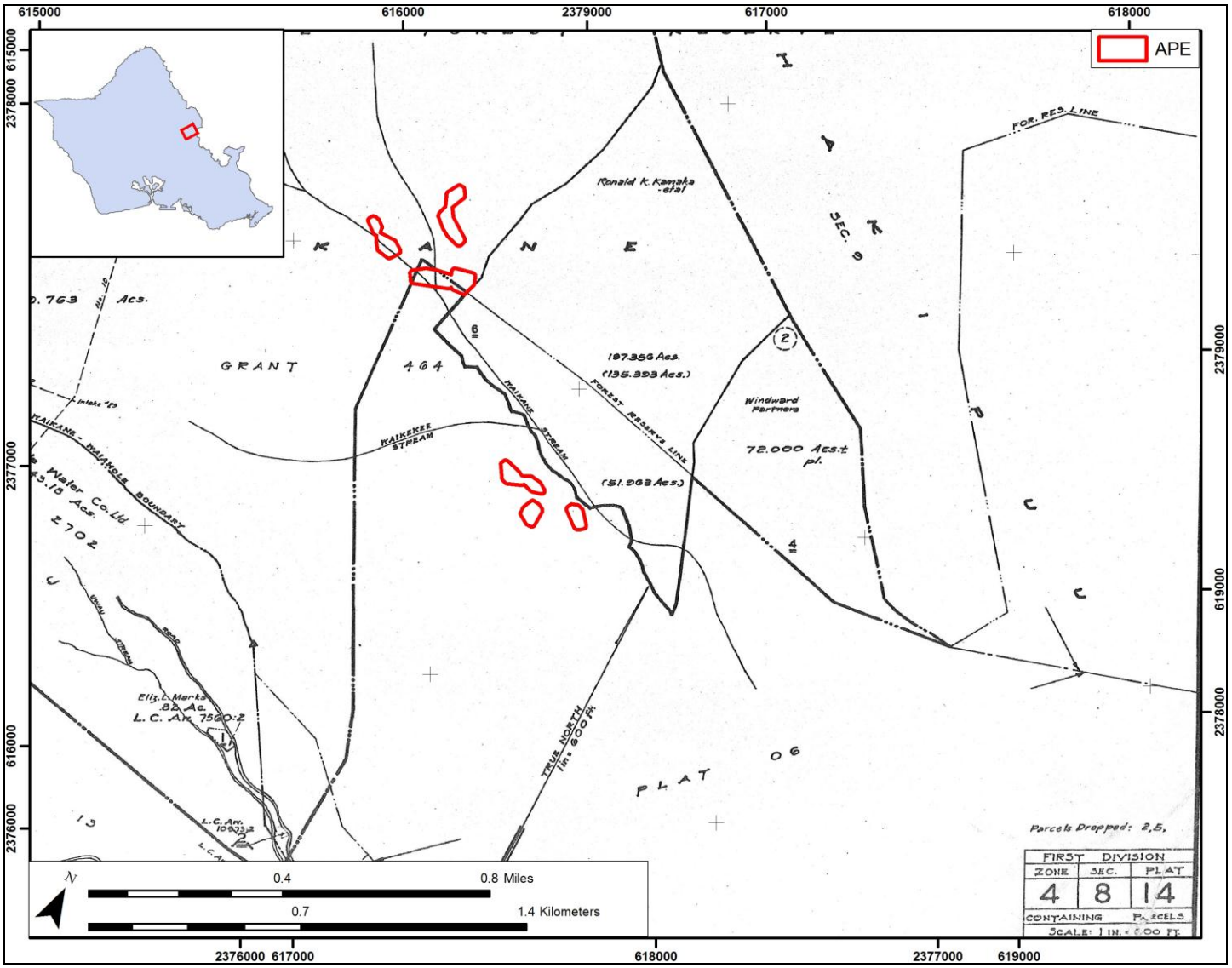


Figure 2. Portion of Tax Map Key (TMK) [1] 4-8-14 depicting the project area.

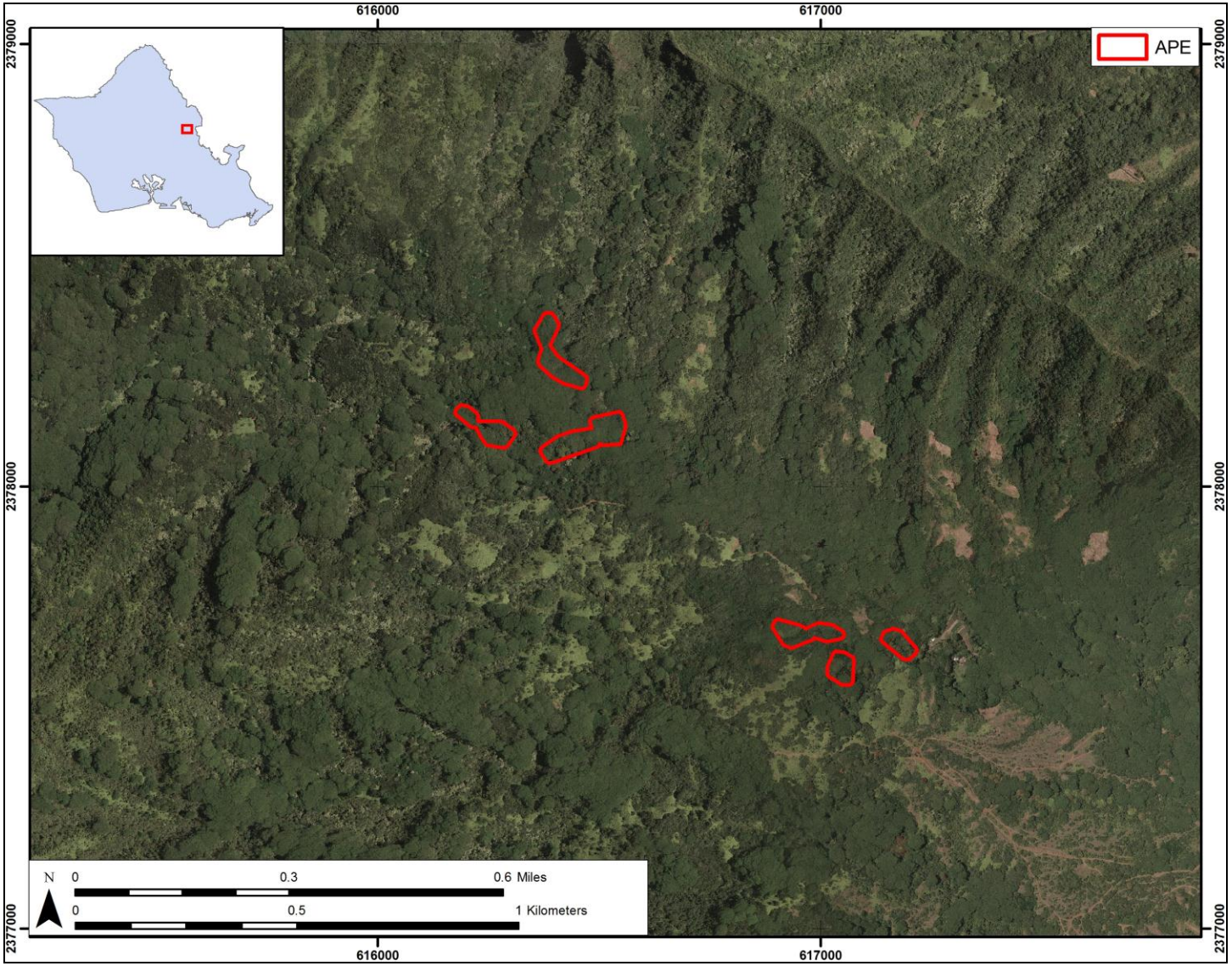


Figure 3. Aerial photograph showing the project area.

historic properties and also protect certain features of those sites which have been identified as having traditional cultural significance.

1.2 Scope of Work

The Scope of Work for Preservation Plans is detailed in HAR 13-277-3, which states that a Preservation Plan shall:

1) Identify, for each significant historic property, which forms of preservation will be implemented: avoidance and protection (conservation), stabilization, rehabilitation, restoration, reconstruction, interpretation, or appropriate cultural use.
2) Specify the buffer zones around each significant historic property and depict them on a map of sufficient scale.
3) Specify short-term protection measures for each significant historic property that will be within or near a construction area.
4) Discuss the agency or person’s consultation process for historic properties deemed significant under paragraphs 13-275-6(b)(5) or 13-284-6(b)(5) of Hawai‘i Administrative Rules (HAR).
5) Specify the long-term preservation measures to be undertaken at each historic property.

1.3 Environmental Setting

1.3.1 Natural Environment

The Waikāne and Waike‘eke‘e Streams Lo‘i Restoration project area is in the ahupua‘a of Waikāne, inland from the northeast coast of the island of O‘ahu. The Waikāne and Waike‘eke‘e Streams wind through the Project areas.

Waiāhole Ahupua‘a is just south of Waikāne. The ahupua‘a of Hakipu‘u and Kahana border northern Waikāne Ahupua‘a, and Waipi‘o Ahupua‘a is to its west. Kāne‘ohe Bay is to the east. Like all of the windward valleys, Waikāne is affected by the prevailing winds in the island, which are the northeast trades that blow against the Ko‘olau Mountains (Juvik and Juvik 1998: 55).

The Project area is located on the wetter windward coast of O‘ahu with annual rainfall averaging 80 inches (Giambelluca et al. 1986). Soils within the Project area are primarily Waikāne Silty Clay, twenty-five to forty percent slopes (WpE) with a smaller percentage of Waikāne Silty Clay, forty to seventy percent slopes (WpF) (Figure 4). The Waikāne series consist of very deep well drained soils that formed in material weathered in alluvium and colluvium from basic igneous rock. Waikāne soils are on fans and terraces and have slopes of three to seventy percent (Foote et al. 1972). Topography varies with proximity to the streams, growing steeper toward to outer edges of the sites with level terraced areas making up the majority of the site areas.

1.3.2 Built Environment

Aside from the historic properties, the project area remains relatively undeveloped; construction and development activities have been concentrated in the southwestern portions of the ahupua‘a, near Kamehameha Highway. There is a dirt jeep road which passes just north of the Waike‘eke‘e project area and through the center of the Waikāne project area. The jeep road will be used to access the project areas and there are plans to improve/realign this road; the realignment will be dealt with in a separate document.

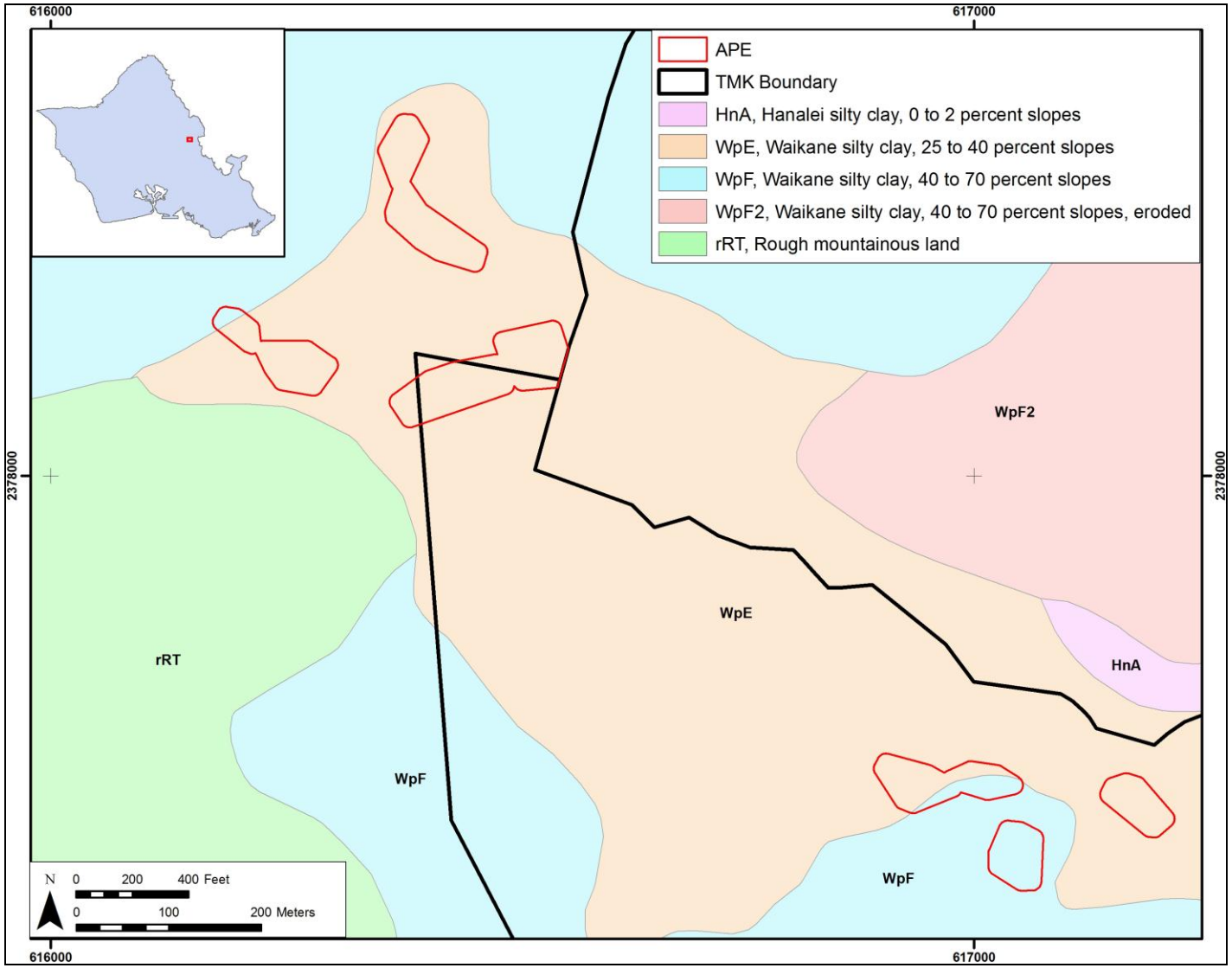


Figure 4. Overlay of Soil Survey of the State of Hawai‘i (Foote et al. 1972), indicating sediment types within the project area.

Section 2 Background Research

2.1 Overview

The ahupua‘a of Waikāne is located in the Ko‘olaupoko District on the windward side of O‘ahu and is bounded on the north by Hakipu‘u and Kahana Ahupua‘a, the west by Waipi‘o Ahupua‘a and the south by Waiāhole Ahupua‘a.

The district of Ko‘olaupoko was rich in many of the resources utilized by traditional Hawaiians. Inland from the coast, rich alluvial soils, an equable climate and abundant water supply allowed the extensive cultivation of traditional crops, especially wetland taro. Handy and Handy characterized the ahupua‘a in the region as being extremely productive and capable of accommodating a significant population. The coastal plains were converted “into an almost continuous expanse of lo‘i (irrigated terraces) irrigated with water from large streams flowing out of the deep valleys” along the Ko‘olau range. This intense food production could support a considerable population. (Handy and Handy 1972:452)

This sentiment was reiterated by early visitors to the region. The valleys were described as being “in a high state of cultivation” with evidence of prehistoric lo‘i and ‘auwai (ditch) found throughout the valley floors (Figure 5). The upland forests and ridges that divide the valleys undoubtedly contained a wide variety of valuable resources as well, one of which is known to have been high-quality basalt that was quarried and used in the manufacture of stone tools. Archaeological sites identified within Waikāne reflect many of the traditional activities associated with the utilization of these resources, including agriculture, habitation, tool manufacture, and religious observance. Lo‘i kalo have been identified along the stream beds from the upper reaches of the valleys to where the streams meet the sea.

2.2 Mo‘olelo of Waikāne

According to Pukui et al. the name Waikāne was Wai-a-Kane and is literally translated as “Kāne’s water” (1974:223). It was here that Kāne first dug for water for the benefit of Paliuli. Paliuli literally translates as “green cliff” and is the equivalent of the Garden of Eden. Below Paliuli are the famous waters of Waiololi and Waiolola (*Hoku o Hawaii*, January 12, 1926). There are many traditions connected with this ahupua‘a including references to the Hawaiian Akua (God) Kāne and Hi‘iaka, the Hawaiian demi-god Kamapua‘a as well as the Kumulipo (Hawaiian origins chant). Hi‘iaka mentions these traditions as she journeys past Waikāne on her way to Kaua‘i. Waikāne was also the home of Laka, the chief that was born at ‘Alae in Kīpahulu (Maui). Laka ruled at Ko‘olaupoko, O‘ahu, and his house was at Hale‘ula in Waikāne (Henriques-Peabody HEN [n.d.]: Vol. 1, p. 985).



Figure 5. CSH Photo of Terrace wall in Waikāne Valley

2.2.1 Kumulipo

The famous waters Waiololi and Waiolola are a common refrain in the Kumulipo (Hawaiian origins chant). “O Kane ia Wai‘ololi, o ka wahine ia Wai‘olola” speaks of Waiololi and Waiolola, generally thought to symbolize the male and female procreative forces respectively. Martha Beckwith explains:

> The words Wai‘ololi and Wai‘olola are applied in everyday speech to a narrow entrance through which water passes with force and a wide one which receives them without a struggle. Thus Pokini says the first term is given to a narrow bay along the coast where the water carries the fish in with a rush, the second to a large shoreline where the surf rolls in without breaking. (Beckwith 1970:51)

This tradition also appears in another early twentieth century Hawaiian language newspaper as follows:

> At Waikane, Koolaupoko, is a land called Pali-uli. Also there in Waikane are two streams that surround this land of Paliuli, for both streams have the same source. In Waikane also are the names Waiolola and Waiololi, mentioned in the Kumulipo Chant. (*Hawai‘i Holomua,* March 20, 1912)

Whether the Kumulipo actually refers to specific sites in Waikāne Valley is less than clear although it does seem clear that certain sources have interpreted it this way since at least as early as 1912 and shows the importance of Waikāne in relation to Hawaiian world views. This cosmogonic, genealogical prayer chant, which is over two thousand lines in length, was used to trace the divine origins of ali‘i through ruling chiefs, deified ancestors, and gods backwards in time through the animals, plants, and elements to the beginning of the universe. The Kumulipo is one of a class of such cosmological chants, but no others of such length are preserved (Silva 2004:103). This chant, titled *He Pule Ho‘ola‘a Ali‘i* (A prayer to consecrate [an] ali‘i) (Silva 2004:98), was composed for the Hawai‘i Island ali‘i Ka‘ī‘īmamao, also known as Lonoikamakahiki, when several kapu (sacred) rituals were performed that elevated him to the status of a god (Beckwith 1970:311), or divine king, in approximately A.D. 1600 (Kirch 2010:83). The text of the Kumulipo was first recorded by David Kalākaua in 1889 and translated by Queen Lili‘uokalani in 1897, which was not available when folklorist Martha Beckwith completed her own translation and detailed study (1951).

Starting from, “*O ke kumu o ka lipo*” (At the beginning of the deep darkness), the Kumulipo divides the genesis of the world into 16 wā (epochs, time periods) (Beckwith 1951). These 16 wā are categorized into two periods, pō (darkness, the realm of the gods) and ao (light). During the first period of pō there was a continuous birthing of the lower life forms to sea life, plants, and eventually mammals. During the second period of ao came the opening of light and the appearance of the first woman and man, La‘ila‘i and Ki‘i, respectively, and the coming of the gods, including Kāne and Kanaloa, which resulted in over a thousand genealogical pairs (Beckwith 1970: 310–11). Significantly, Hawaiian identity today is derived from origin genealogies such as the Kumulipo: “…every aspect of the Hawaiian conception of the world is related by birth, and as such, all parts of the Hawaiian world are one indivisible lineage” (Kame‘eleihiewa 1992:2).

2.2.2 Pele and Hi‘iaka

The ahupua‘a of Waikāne (Figure 6) is mentioned in the accounts of the travels of the goddess Hi‘iaka up the Ko‘olau Coast on her way to bring back her sister Pele’s lover Lohiau. In this section of the mo‘olelo, Hi‘iaka has just departed from He‘eia Kea after offering a remedy to a husband and wife to cure the husband of his illness. As they passed the ‘āina (land) of Waikāne she commented to her traveling companions about the sacred waters of the area.

> *... i ko lākou hele ana a hō‘ea i... Waikāne. I keia wahi huli hou mai la o Hi‘iaka a kama‘ilio hou mai la i kana ‘aikane.*
>
> *“O ka inoa o keia ‘āina la o Waikāne no ka mea, i anei i ‘auwaha wai mua ai o Kāne i na wai e pono ai o Paliuli, He Paliuli no ko‘onei, aia la i kela kaola Pali e waiho mai la, a malalo iho. A he mau wahi wai kaulana loa o onei, o Waiololi, a o Waiolola. He kāne a he wahine keia. O Waiololi ke kāne a o Waiolola ka*

wahine. He ‘āina maika‘i keia he ‘āina piha momona, aka e hele loa aku nae i pahulu a ola lala ka. 'āina." (Ka Na‘i Aupuni, January 26, 1906)

Here Hi‘iaka turned and spoke again to her friend:

"The name of this land is Waikāne because it was here that Kāne first channeled the water need for the land of Paliuli. This place has a Paliuli as well, there on that ridge of cliffs and just below. There are renowned waters here, Wai‘ololī and Wai‘ololā. One is male and the other female. Wai‘olilī is the male and Wai‘ololā, the female. This is a fine land, a place of abundance but the land shall come depleted and withered." (Hooulumahiehie, 150)

From Waikāne, Hi‘iaka and her companions traveled on to Hakipu‘u and Kualoa.

1.1.1.1 Hi‘iaka and Mokoli‘i

According to M.J. Kapihenui's 1862 version published in Hawaiian in *Ka Hōkū o ka Pākīpika*. As they approached Kualoa, the huge mo‘o-dragon, Moko-li‘i, reared himself up and, pluming and vaunting himself, sought to terrify them and prevent their passage. Hi‘iaka did not flinch in her attack. When she had killed the monster, she set up his flukes as a landmark which now forms the rock known to this day as Moko-li‘i. The body of the dragon she disposed in such a way that it helped form the roadbed of the traveled highway. After the achievement she vented her feelings in an exultant song (Kapihenui's text is quoted and translated below):

. . . kō lāua nei hele akula nō ia a hala ‘o Waiāhole, me Waikāne, a Hakipu‘u lāua nei, ‘ī aku ‘o Hi‘iakaikapoliopele iā Wahine‘ōma‘o, aia ke alanui o kāua lā ma uka o Kaikolu, he hula ‘ana ‘o kai.

E kama‘ilio ana nō lāua nei, ho‘olale mai ana ‘o Mokoli‘i i ka hakakā, i nānā aku ka hana o Hi‘iaka i ka poli o Pele, e kā mai ana ka hi‘u o ua mo‘o nei i luna o Mokoli‘i, kō lāua nei hakakā ihola nō ia me Mokoli‘i, a make ‘o Mokoli‘i iā ia nei, e ‘oki a‘e ana k‘ia i ka hi‘u o ua mo‘o nei, kūkulu ‘ia a‘e i luna, ‘o ia nō k‘lā pu‘u e kū lā i loko o ke kai a hiki i k‘ia wā, aia ma waena o ke kai o Kualoa kēlā pu‘u i kapa ‘ia kona inoa ‘o Mokoli‘i.

‘O kona kino ho‘i, ho‘opili ‘ia mai i uka, loa‘a ai ka ‘āina ma kai a me ke alanui, ‘o ke kino nō o ua mo‘o nei. A laila, kani aku ke oli a Hi‘iakaikapoliopele, e uwē aku ana iā Kānehoalani ma ke mele penei:

Ki‘eki‘e Kānehoalani
‘Au Mokoli‘i i ke kai
I keiki, i makahiapo na Ko‘olau
Lau Ko‘olau kena wale i ka ‘ino
He‘ino loa nō — ‘.

Kō lāua nei hele akula nō ia, no ka mea, ua make ihola ‘o Mokoli‘i, ua lilo a‘ela ke kino i alanui, kō lāua hele akula nō ia a hala ‘o Ka‘a‘awa, . . .

Translation:

> . . . They [Hi‘iakaikapoliopele and Wahine‘ōma‘o] went on and passed Waiāhole, Waikāne and as they passed Hakipu‘u, Hi‘iakaikapoliopele said to Wahine‘ōma‘o, “There is our path inland of the ‘Triple Sea,’ where the sea beats against the cliff.”
>
> As they were talking, Mokoli‘i provoked a fight. When you consider the deed of Hi‘iakaikapoliopele, [and] the tail of that mo‘o rising above Mokoli‘i, how those two fought with Mokoli‘i until Mokoli‘i was killed by her and she cut off its tail and set it there. It is that heap standing there in the sea to this day. It is there in the middle of the sea of Kualoa; that heap called by his name, Mokoli‘i.
>
> His body clings to the uplands becoming the seaward land and the road, that is indeed the body of that mo‘o. Then, Hi‘iakaikapoliopele sang this chant and wailed to Kānehoalani this verse as follows:
>
> > Majestic is Kānehoalani
> > Mokoli‘i swims in the sea
> > As a child, as a first-born child of Ko‘olau
> > Ko‘olau is laden with numerous misfortunes/evils* (DS: The tip of the tongue of Ko‘olau commands a great misfortune)
> > A great evil or wickedness
>
> They went on as they had slain Mokoli‘i whose body had become the path they trod and they passed Ka‘a‘awa . . .
>
> [*‘ino: a poetic term for misfortunes, evil, chaos, storms, wildness, etc.]

The verbatim Hawaiian language account in *Ka Hōkū o ka Pākīpika* (*Februari* 13, 1862) quoted above is given in the handwritten Pele and Hi‘iaka Manuscript (n.d). of the Henriques Collection (Bishop Museum). Kepā Maly tells a similar version of the story of Hi‘iaka fighting with supernatural powers — her magic skirt or pā‘ū, which he relates came from Tūtū Kawelo and other Hawaiian informants:

> The people of Waikāne warned Hi‘iaka that this mo‘o, called Mokoli‘i killed and ate people. Hi‘iaka told them not to be afraid and that she could take care of herself.
>
> So the people followed her into Hakipu‘u valley. They listened. They heard a chant and then they waited and they could hear a fight. They saw the mo‘o get ready to jump at Hi‘iaka and as it jumped at her she hit it with her pā‘ū . . . Hi‘iaka’s pā‘ū was kupua also. Through the power of Pele and her family and the power of the volcanoes Hi‘iaka fought with the mo‘o and destroyed it. She cut off its tail and threw it in the ocean where it was turned to stone and it remains there to this day for people to see that the mo‘o had been killed. This piece of tail turned to stone is Mokoli‘i Island. It is called *Ka huelo‘o‘opa i koe o ka mo‘o nui*, the stubby remains of the lizard’s tail.
>
> Other pieces of his body were thrown up into the mountain area, the plains of ‘Āpua and into Palikū. In a small cove in the island, Mokoli‘i, there is a deep cut in the stone which is said to be one of the places Hi‘iaka hit the *mo‘o* with her

pā‘ū as she was fighting him. You can still see the outline in the stone which looks like the scales of the *mo‘o*. (Maly et al. 1978:15-16)

In the Hawaiian language newspaper *Ka Na‘i Aupuni* (*"Ka Mo‘olelo o Hi‘iaka-i-ka-poli-o-Pele,"* Ianuari 26, 1906) is the following account of Hi‘iaka at Kualoa:

. . . Ha‘alele lākou nei iā Waikāne, hele akula lākou nei a hiki i Hakipu‘u, mai laila aku kā‘alo ‘ana lākou nei ma ke alo pono‘ī o ka pali o Kualoa; a ‘ōlelo maila ‘o Hi‘iaka iā Wahine‘ōma‘o:

Eia ka pali o Kānehoalani ke kū mai nei, a ‘o ka mo‘okapu kēia o Hāloa. Eia ke holo nei kēia mo‘okuahiwi a mo‘o pali ho‘i a komo i loko o Wai‘anae. A aia ho‘i kahi moku o Mokoli‘i ke kū maila i ke kai. No laila, ‘eā, e kau a‘e au iā lāua nei:

Kau Kanaono kumamākahi o ka Mo‘olelo o Hi‘iaka

1. Ki‘eki‘e Kānehoalani
2. ‘Au ‘ana Mokoli‘i i ke kai
3. I keiki i makahiapo nā Ko‘olau
4. Lau ke one a Kāne, lau ke ko‘a
5. Lau nā maka lae o Ko‘olau
6. Ua hele wale Ko‘olau a kena i ka ‘ino*

Pau kēia kau ‘ana a Hi‘iaka, hele akula lākou nei a hō‘ea i ka lae pono‘ī i ka palena e pale ai ‘o Ko‘olaupoko a me Ko‘olauloa, ia wā huli maila ‘o Hi‘iaka a kama‘ilio maila i ke ‘aikāne . . .

"Pēlā kāua i hele ho‘omanawanui mai nei ma ka ‘āina a ma ke kai a hō‘ea ihola i ‘ane‘i. Eia kāua lā i ka Laeoka‘ō‘io. A hele aku kāua mai kēia wahi aku, he kula mauka nei a ‘o ke kai kumaluma‘i ho‘i makai, kahi nona ka ‘ōlelo ‘ia ‘ana, moe mālie i ke kai o kō haku."

Translation:

They left Waikāne and went on to Hakipu‘u passing right by the face of the cliff [pali] of Kualoa; and Hi‘iaka said to Wahine‘ōma‘o:

Here is the cliff of Kānehoalani standing before us and this is the sacred ridge [mo‘okapu] of Hāloa. This series of mountains and cliff sections run all the way to Wai‘anae. And here is the place where Mokoli‘i Island stands there in the sea. So, I will offer a chant in honor of them:

Chant Sixty-one in the Story of Hi‘iaka

Majestic is Kānehoalani
Mokoli‘i swims in the sea
As a child, as a first-born child of Ko‘olau
Numerous are the sands of Kāne,
Numerous are the fishing grounds
Numerous are the sea capes of Ko‘olau
Ko‘olau has become laden by storms.*

> When Hi‘iaka was finished chanting, they continued on until they reached the point where the boundary marks the division of Ko‘olau Poko and Ko‘olau Loa, at which time, Hi‘iaka turned and said to her friend:
>
> Thus, we have patiently traveled over land and sea and arrived here. Here we are at ‘Ō‘io Point. Let us go away from this place. On the mountain side here is the kula land and, indeed, the Kumaluma‘i Sea is seaward, the place about which it is said, ‘Sleep peacefully in the sea of your lord.’
>
> When Hi‘iaka finished chanting, then they continued on until they presently arrived at the point which divides Ko‘olau Poko and Ko‘olau Loa and, at which time, Hi‘iaka turned once more and spoke again to her companion, Wahine‘ōma‘o, these words . . .
>
> . . . Here we are at the point of ‘Ō‘io. Let us go away from this place. There is a kula mountainward, [and] also the Lumaluma‘i Sea in the ocean and it is the same sea of which it is said, ‘Sleep peacefully in the sea of your lord.’

All accounts discussed above (Kapihenui 1862, Henriques Collection n.d and Ho‘oulumāhiehie 1906) offer versions of the kau (sacred chant) chanted by Hi‘iaka at Kualoa. In all cases the first three lines are essentially the same and relatively easily translated. The subsequent two or three lines notably differ among the Kapihenui grouping and the later Ho‘oulumāhiehie newspaper accounts.

Kepā Maly shares a different version of the story that was told by Keapo‘okalani, an old Hawaiian woman.

> . . . the *mo‘o* became so ashamed of being wounded so terribly by this young girl [Hi‘iaka], whom he didn’t recognize as a member of the Pele family, that he put his head into the ocean in shame. As he put his head in the water, his tail came up and that is when Hi‘iaka cut it off. (Maly et al. 1978:16)

2.2.3 Lands Distributed by Kamapua‘a

The historic record reveals that all lands containing the word *wai* were given by Kamapua‘a to the kahuna Lonoawohi (*Ka Nūpepa Ku‘oko‘a* 1867). During an ethnographic study of Kualoa, Ko‘olaupoko, O‘ahu, one of the interviewees, Thelma Parish, converses and writes extensively about the priesthood of Palikū and the Sacred Lands of O‘ahu. Ms. Parish identifies the sacred lands of O‘ahu as the ahupua‘a of Kualoa, Hakipu‘u, Waikāne, Waiāhole and ‘Āpua and writes they have been declared sacred by the gods Kū, Kāne, Lono and Kanaloa. She writes:

> The sacredness of these lands was confirmed by the ancient *ali‘i* Kamapua‘a, the demi-god, who declared that all lands whose name contain the word *wai* were to be held sacred and become the property of the priesthood. It was found that his precept was not very practical for the *ali‘i* and their people simply because so many land names contained *wai* that very few good land areas were actually available to the royalty and their people. The precept was modified. (cited in Shideler 2007:167)

2.3 Place Names and Wahi Pana

Hawaiian place names convey a wide variety of information about the relationships among people, landscapes and other natural and cultural resources. Place names may also express cultural, historical and/or spiritual values and concepts important to Hawaiian world views. It is common for places and landscape features to have multiple names, some of which may only be known to certain ‘ohana (families) or even certain individuals within ‘ohana, and many of which have been lost, forgotten or kept secret through time. Place names may also convey kaona (hidden meanings) and huna (secret) information that may even have political or subversive undertones. Before the introduction of writing to the islands, when cultural information was exclusively preserved and perpetuated orally, Hawaiians gave names to literally everything in their environment, including individual garden plots and ‘auwai, house sites, intangible phenomena such as meteorological and atmospheric effects, pōhaku, pūnāwai, and many others.

A Hawaiian wahi pana, also referred to as a place name, “physically and poetically describes an area while revealing its historical or legendary significance” (Landgraf 1994:v). Wahi pana can refer to natural geographic locations, such as streams, peaks, rock formations, ridges, and offshore islands and reefs, or they can refer to Hawaiian divisions, such as ahupua‘a and ‘ili (land section, next in importance to an ahupua‘a and usually a subdivision of an ahupua‘a), and man-made structures, such as fishponds. Wahi pana may also express cultural, historical and/or spiritual values and concepts important to Hawaiian world views. All wahi pana meanings are cited from Pukui et al. (1974) unless otherwise noted.



Figure 6. Waikāne, Courtesy of Hawai‘i State Archives

Table 1. Place Names of Waikāne

Place Name	Meaning (Pukui and Elbert 1986 [PE] or Pukui et al. 1974 [PEM]) unless otherwise noted)	Description	Source
Haleula	Hale-‘ula. PE: red house	Place. Laka was the chief that was born at Alae in Kipahulu (Maui). He ruled at Ko‘olaupoko, O‘ahu. His house site was at Haleula in Waikāne	Sorhren 2010; Sterling and Summers 1978:188
Kaaumakua	Ka-‘aumakua. PE: family or personal gods, deified ancestors	Place. Point where mountain ridge Kanehoalani, juts east, perpendicular to the main Koolau ridge. Personal reference by Thelma Parish.	Shideler and Hammatt 2007: 149-161.
Kaawakoa	ka-‘awa-koa	Heiau (pre-Christian place of worship, shrine). Site 318: Ka‘awakoa Heiau, on an elevation a few hundred feet south of Kukuianiani (Site 317), which Thrum said was a companion structure. The stones have been removed and only a pig-pen and hau grove mark the site.” Coordinates approximate	Soehren 2010; McAllister 1933:170
Kamohailio	(no data)	Pu‘u (hill, peak). Claim no. 5716:4 by Kū “is breadfruit land in Kanuehu...bounded: Kailua by hill Kamohailio...” Not awarded	Soehren 2010; FT 11:63
Kamuliwai	ka-muliwai. PE: the estuary	Lo‘i. Claim no. 5615:2 by Kamai is 2 lo‘i in the ‘ili of Kokowaleole. It is bounded: Ko‘olauloa by Hipo‘o's lo‘i called Kamuliwai	Soehren 2010; FT 11:23

Place Name	Meaning (Pukui and Elbert 1986 [PE] or Pukui et al. 1974 [PEM]) unless otherwise noted)	Description	Source
Kapahu	ka-pahu. PEM: the box, drum, coffin, or push. PE: stake, stick, pole	Place. “(Site 3) Where Lincoln McCandless’ house now stands was the resting place for the hōlua sledders. It was called Kapahu. The hōlua started on the hill back of the Catholic Church (TMK [1] 4-8-001:001]”	Soehren 2010; Sterling and Summers 1978:188
Kookai	ko‘o-kai	Lo‘i. Claim no. 5711 by Koma: “No. 2 is one lo‘i in the mo‘o of Makanui in the ‘ili o Kokowaleole. It is bounded: Kailua by Kookai, a lo‘i...” LCA 5711:1, TMK [1] 4-8-003:por.014	Soehren 2010; FT 11:39
Kuaikahala	(no data)	Lo‘i. Claim no. 5727:1 by Kauhoe for “4 lo‘i in Kaihuna...is bounded: Mauka by Kuaikahala, a lo‘i...”	Soehren 2010; FT 11:41
Kukuianiani	kukui-aniani. PEM: flickering light	Heiau. “Site 317. Kukuianiani heiau, at the foot of Pu‘u Pueo, Waikāne. A small two-terraced structure.” Coordinates approximate	Soehren 2010; McAllister 1933:170
Makaohala	(no data)	Pu‘u. Claim no. 5716:3 by Ku “is an ape patch in Kanuehu...bounded: Ko‘olauloa by the hill called Makaohala...Kailua by hill of Makaohala...” Not awarded	Soehren 2010; FT 11:63
Mookahi	mo‘o-kahi	Lo‘i. Claim no. 8997 by Kaholoaanui for “a moo...known by the name of Kuehuhulumoa	Soehren 2010; FT

Place Name	Meaning (Pukui and Elbert 1986 [PE] or Pukui et al. 1974 [PEM]) unless otherwise noted)	Description	Source
		in the ili of Kahalaa...[which] is bounded: Makai by Kaiwi's lo‘i Mo‘okahi...” was not awarded	11:31
Napuukoiele	nā-pu‘u-koiele. PEM: hills moving to and fro	Pu‘u. “Hills, Wai-kāne qd., O‘ahu.” Same as Puu Koiele (q.v.)	Soehren 2010; PEM 163
Nuapuaa	nu‘a-pua‘a. PE: many pigs	Pu‘u. Claim no. 5716:5 by Ku “is a banana garden in Kanuehu...bounded: Mauka by the hill Nuapua‘a...Kailua by the hill Nuapua‘a...” This is a variant spelling of Luapua‘a (q.v.)	Soehren 2010; FT 11:63
Palalauhala	pala lau hala. PE: yellow as a pandanus leaf, said of the very old	Pu‘u. Claim no. 5716:4 by Ku “is breadfruit land in Kanuehu...bounded: Ko‘olauloa by hill Palalauhala...” Not awarded	Soehren 2010; FT 11:63
Paliuli	pali-uli. PEM: green cliff	Place. “...a land section at Wai-Kāne...O‘ahu...” Quad uncertain	Soehren 2010; PEM 178
Puu Kaaumakua	pu‘u ka-‘aumakua. PEM: the family deity hill	Boundary point. Elevation 2681 ft. at the mauka corner of Waikāne on the Ko‘olaupoko/Ko‘olauloa boundary	Soehren 2010; USGS 1953
Puu Koiele	pu‘u koiele. PE: moving to and fro restlessly, as the sea	Boundary point. Elevation 1683 ft. on the Ko‘olauloa/Ko‘olaupoko boundary and the Waikāne/Kahana boundary	Soehren 2010; USGS 1954

Place Name	Meaning (Pukui and Elbert 1986 [PE] or Pukui et al. 1974 [PEM]) unless otherwise noted)	Description	Source
Puu Ohulehule	pu‘u ‘ōhulehule. PEM: joining-of-waves hill	Boundary point. Elevation 2265 ft. on the Ko‘olauloa/Ko‘olaupoko boundary; the mauka corner of Waikāne and Hakipu‘u on the Kahana boundary	Soehren 2010; USGS 1954
Puu Pueo	pu‘u pueo. PEM: owl hill	Boundary point. Elev. 880+ ft. on the Hakipu‘u/Waikāne boundary	Soehren 2010; USGS 1954
Puu Puhi	pu‘u puhi	‘Ili ‘āina. LCAw 5954 to Moku: “‘āpana 1. 22 lo‘i me ke kahuahale, Pu‘upuhi, Waikāne, O‘ahu.” TMK [1] 4-8-006:003x	Soehren 2010; IN 831; AB 2:959
Uaua	(no data)	‘Ili ‘āina. Claim no. 10880B by Makanui: “No. 3 is a house lot in the ‘ili of Uaua...it is bounded: Makai by the pali of Uaua...” TMK [1] 4-8-003:019,054. [This parcel is placed in the ‘ili of Ka‘āpoko in AB 2:957.] Claim no. 5711:1 by Koma for “3 lo‘i in the mo‘o of Haunakiha...bounded: Mauka by the auwai of Uaua.” TMK [1] 4-8-003:por.007,008	Soehren 2010; FT 11:33,39
Ulawini	(no data)	Spring. No data. Coordinates approximate. North 121,700. East 545,200	Soehren 2010; TM 4806
Ulunui	Perhaps ‘ulu-nui. PE: large breadfruit tree	Lo‘i. Claim no. 5954 by Moku: “No. 2 is one large lo‘i in the mo‘o of Kauponihoawa. It is	Soehren 2010; FT 11:24

Place Name	Meaning (Pukui and Elbert 1986 [PE] or Pukui et al. 1974 [PEM]) unless otherwise noted)	Description	Source
		bounded: Makai by ‘Ulunui' a lo‘i”	
Waikane	Wai-kāne. PEM: Kāne's water (old name was Wai-a-Kāne)	Ahupua‘a. Returned by Konia at the Māhele, retained by the Gov.	Soehren 2010; MB 20,225; USGS 1954
Waikane Camp	Wai-kāne. PEM: Kāne's water (old name was Wai-a-Kāne)	Place. Elevation about 750 ft.	Soehren 2010; USGS 1954
Waikeekee Stream	Wai-ke‘eke‘e. PEM: crooked water	Stream. Rises at about 1500 ft. elevation, joins Waikāne Stream at 200 ft. elevation.	Soehren 2010; USGS 1954

2.3.1 Heiau

Sites of religious and/or political significance include Kukuianiani Heiau (Site 317), located near the coast of Waikāne, Ka'awakoa Heiau which at one time stood in close proximity, and several upland sites interpreted as agricultural shrines. McAllister lists two heiau in the Waikāne, Waiāhole area (1933:170-171):

> Site 317. Kukuianiani *heiau*, at the foot of Puu Pueo,Waikane. A small two-terrace structure covered with *haole-koa* and lantana. The slope on the mountain-side is steep and was probably cut into, in locating the upper terrace, and the dirt removed used in building the face of this terrace. The most interesting feature is the large stone at the base of the lower terrace. The two artificial cavities in the surface of the stone appear to have been used as mortars for the pounding or grinding of some substance.
>
> Site 318. Kaawakoa *heiau*, on an elevation a few hundred feet south of Kukuianiani (Site 317), which Thrum said was a companion structure. The stones have been removed and only a pigpen and *hau* grove marks the site.

2.3.2 Kapahu Hōlua

Hōlua sledding was a sport greatly admired by the chiefs and the people of Hawai‘i. The courses were usually started on a steep incline, such as a hill then extended into a lower plain area. (Malo 1951:294) The resting site for the Kapahu Hōlua is said to be where Lincoln McCandless' house now stands. The hōlua started on the hill behind the Catholic Church. This hōlua sled was very famous, for here, the prominent people as well as the ordinary folk came to sled (*Ke Aloha ‘Āina* 1919).

In "*Na Pana Kaulana o Nā Inoa o ka Mokupuni O‘ahu*," (*Ke Aloha ‘Āina* 1919) George Po‘oloa relates:

> *Hō‘ea kaua i Waikāne e kū mai ana ka hale pule o ke aupuni lani, makai o ke alanui. He nui no na hale nani e kil mai ana iluna o ka ‘āina. He nui no ka u‘i o ka waiho ana o ka ‘āina ke nana aku.*
>
> *Aia ma Kēia wahi ka home ho‘omaha o ka ‘Elele Linekona Eliwai, ka hale kipa ho‘i o na loea kāl'aiana o ka ao‘ao Demokalaka, he nui na kanaka Hawai‘i ma ke ia wahi, o kekahi olahou aia malalo o Linekona Eliwai.*
>
> *E huli aku ‘oe iuka o ia kuahiwi e ‘ike ana oe i ka mō‘ali ma nā awa ‘awa a me nā mauna; ‘oia ka wai o Waiāhole i ‘eli ia iho nei maloko o nā kuahiwi a puka ma Waipi‘o, no ka ho‘olawa ana i ka wai no nā hui mahi-ko o Waipahu mā.*
>
> *Aia ma ke kahua o ka hale e kū nei o ka ‘Elele Linekona Eliwai ‘oia ka palena ho ‘omaha o ke kahua he‘eholua kaulana "Kapahu." E ho‘omaka ana keia kahua he ‘eholua, ma ka pu 'u mahope aku o ka hale pule Kakolika.*

> *He mo‘olelo kaulana ko keia kahua, ma‘anei e ho‘ohala ai nā kānaka ko‘iko‘i o ka ‘āina, i na wā i hala, a me nā maka‘āinana pū no keia hana he he‘eholua, a no kēia le‘ale‘a, pelā i kapa ia ai ka inoa o kēia wahi o Waikāne ...*
>
> Arriving at Waikāne there stands the church of the heavenly kingdom seaward of the road. There are many beautiful houses and the land lying before your gaze is lovely. In this place is the vacation home of Lincoln McCandless (called "Elele Linekona Eliwai" "Lincoln Water-Digger Envoy" in reference to his fame as an advocate of artesian well digging) the very hospitable friend of those skilled in politics of the Democratic Party. There are many Hawaiians at that place, some supported by Lincoln McCandless. Turning to the uplands one sees the furrows of the valleys in the mountain. There is the watercourse of Waiāhole excavated into the mountain emerging at Waipi‘o to supply water to the sugar growing consortiums of Waipahu. Where Lincoln McCandless' house now stands was the resting place for the *hōlua* sledders. It was called Kapahu. The *hōlua* started on the hill back of the Catholic Church. The *hōlua* sled was very famous for at this place the prominent people as well as the ordinary folk came here to sled. That is why the place was called Waikāne.

According to Kamakau, the building of the hōlua course required that it "was covered with stalks of *pili* grass stripped of the blade and laid evenly. Midday was the favorite time for the sport when the heat of the sun made the grass slippery and the sled could then attain terrific speed." (Kamakau 1992:243) The Kapahu Hōlua site was also indicated in Sterling and Summers (1978) which state that the hōlua slide was close to the mauka side of Kamehameha Highway between Waikāne Stream on the south and Pu‘u Pueo Ridge on the north.

2.3.3 Pu‘uhonua

Pu‘uhonua are places of refuge where kapu-breakers or non-combatants during times of war could find culturally sanctioned asylum and safety from which they might be allowed to leave at a later time and reintegrate within society. According to Kamakau, ruling chiefs were regarded as pu‘uhonua incarnate. Their lands (‘āina pu‘uhonua), as well as their consorts and deities, were also regarded as sacrosanct. Ten places on O‘ahu were regarded as pu‘uhonua, six of which were in the Ko‘olau districts (Kamakau 1992:17–18).

S. M. Kamakau (1964:18) lists Waikāne as one of three pu‘uhonua (place of refuge) lands of Ko‘olaupoko, O‘ahu, "*O ka pu‘uhonua o ka poe kahiko, he ahupua‘a ‘okana, o Kailua, o Waikāne, ko Ko‘olaupoko, a o Kualoa he ‘āina la‘a kapu maoli ia e he pu‘uhonua maoli no ka po‘e make a komo ilaila ola, a pelā a puni o O‘ahu ....*"

2.3.4 Adze Quarry

Adze quarries have been identified on the ridges between the valleys, and evidence of the manufacture of stone tools has been found throughout the valley floors. The quarry sites that comprise the Waiāhole Quarry Complex have been recommended for inclusion in the National and State Registers. In a 1964 report, Kikuchi found considerable evidence of the manufacture of stone tools within the valley, including a lithic scatter in a bulldozed field later designated as

SIHP #50-80-10-2476, two adze quarries on one of the ridges along the edge of the valley (SIHP #50-80-10-2472 and -2475).

2.4 Gathering and Cultivation

2.4.1 ‘Āina Resources

Waikāne was rich in many of the resources utilized by traditional Hawaiians. Inland from the coast, rich alluvial soils, an equable climate, and abundant water supply allowed the extensive cultivation of traditional crops, especially wetland taro. Handy and Handy characterized the ahupua‘a in the region as each having:

> ...a broad coastal plain which was converted by Hawaiians into an almost continuous expanse of lo‘i irrigated with water from large streams flowing out of the deep valleys that cut back into the Ko‘olau range. The hinterland must have produced great quantities of sweet potato, yam, banana, upland taro, wauke, olonā, and ‘awa. Undoubtedly the population was large... (1972:452)

A portion of Handy’s (1940) description of Waikāne in the 1930s mentions the current Project Area:

> Terraces were built on the level land up the valley along the stream. About half a mile inland, where broad flats flank a wide curve in the stream, is a beautiful plantation of about 40 terraces, all planted in taro grown from milling. Following the road toward Na Puu Koiele, small abandoned terraces are to be seen here and there along the stream. Just beyond the juncture of the two streams forming Waikane several small terrace sections were being cleared by Hawaiians in 1935. About 2 miles inland on the north side of the stream below Na Puu Koiele, is a *kuleana* with half a dozen terraces planted with young taro. Above this point are other small abandoned kuleana. (Handy 1940:94)

Handy and Handy (1972) continued to research the traditional agricultural use of the land:

> ….Waikane was a major source of Ko‘olau taro, especially in the broad area between the highway and the sea, and as much as half a mile inland there was extensive *lo‘i* cultivation. (Handy and Handy 1972:442)

Waikāne Taro Flats represent a portion of the field system within Waikāne and has been entered on the National Register of Historic Places. T. Stell Newman (1972), an archaeologist with the Division of State Parks, conducted a survey along Waikāne Stream in 1970 as part of the state-wide site inventory. Two historic properties were identified: SIHP #50-80-06-1057, a partial rectangular enclosure along the north bank of Waikāne Stream approximately 1 kilometer inland from Waikāne Town; and SIHP #50-80-06-1078, a series of taro terraces in the upper reaches of Waikāne Stream including flat beds and two beds with remnants of interior mounds and numerous ‘auwai. Newman recommended preserving the area as a nature park. SIHP #50-80-06-1078, Waikāne Taro Flats with boundaries defined to include a large area beyond the known features, was nominated by Newman to the National Register of Historic Places and listed in the Register on April 11, 1973. A map by S.P. Kalama from 1850 confirms the

extensive kalo fields in the upper parts of Waikāne Valley as well as grounds in the lower coastal areas. (Figure 7)

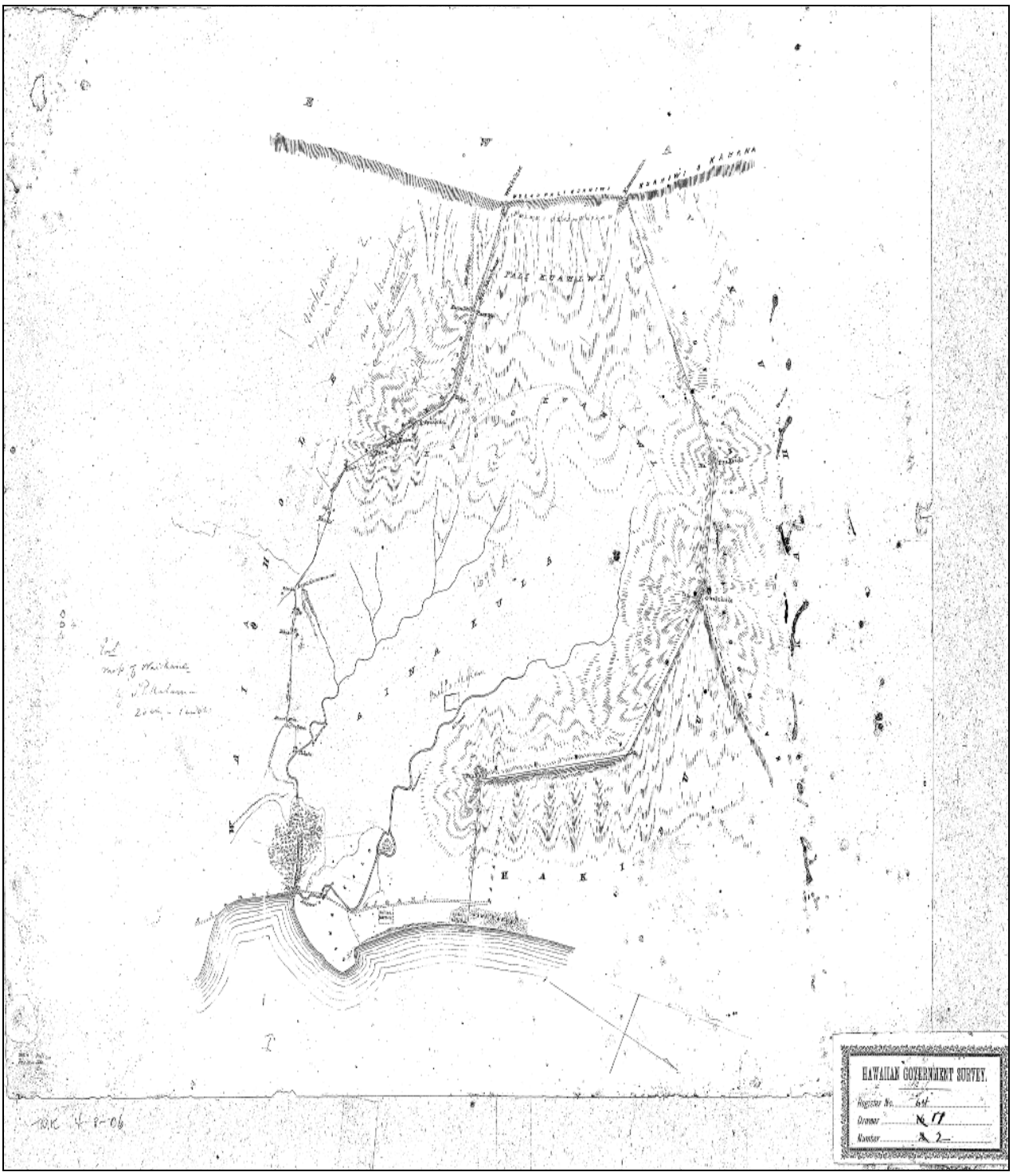


Figure 7. 1850 Waikāne, Ko‘olaupoko, O‘ahu. Surveyed by S.P. Kalama (RM 64), showing extent of kalo field in the upper portions and coastal areas of Waikāne. S.C. Wiltse, Surveyor.

2.5 Ala Hele (Trails)

Throughout history there have been chiefs that have built roads in which to provide a better life for the common people. Fifteen generations prior to the time of Kamakau, Kiha the son of Pi‘ilani paved “paved with rocks and straightened the roads of Molokai and Maui and these roads are still preserved today.” (Kamakau 1992: 429) There is documentation of ancient chiefs who constructed roads as far back as twenty centuries ago. Samuel M. Kamakau relates that:

> *Ua ‘ōlelo ia o Maui a Kalana kekāhi ali‘i kahiko loa i hana i nā alanui i ka wā he iwakalua a keu keneturia mamua, akā, ma kona ano mo‘olelo, ua hanaia nā alanui a pololei loa. Ua ma‘a nā kānaka i ka hele ma ka pololei o ke alanui, akā i ke alualu ana o kekāhi po‘e e pepehi ia Maui, ua hele kike‘eke‘e ‘oia i ke alanui, a ua kapaia o “ke alanui kike‘eke‘e a Maui,” aia ma Waikāne me Waiāhole ma Ko‘olaupoko i O‘ahu...* (Kamakau 1869)
>
> Maui, son of Kalana, was one of the ancient chiefs of Maui who made roads twenty centuries ago. The roads in his day were straight, and the people were accustomed to running along straight roads; so when certain persons ran after Maui to kill him he made the road go zigzag and it was called “the zigzag road of Maui.” (ka alanui kike‘eke‘e a Maui). One is at Waikāne and Waiāhole in Ko‘olaupoko on O‘ahu...

The road documented here that relates to Waikāne is a called the zig-zag road of Māui and was built for defensive purposes. This trail is also referred to by Puku‘i and relates a poetical saying referring to the demi-god Maui at Waiāhole, “*Ke ala kike‘eke‘e a Maui,*” which translates as the “winding trails of Maui.”

> Trails made by Maui when he was pursued by those who wished to destroy him. One trail was at Waiāhole, O‘ahu, one at Keka‘a between Lahaina and Ka‘anapali, and the third at Kealakahakaha, Kahakuloa, Maui.” (Puku’i 1983:180)

This myth may account for some of the winding roads in Waiāhole. It might be the explanation as to why the path is in a certain location or has a certain configuration such as switch-backs. Alternatively this may be a traditional explanation associated with the stream named Wai-ke‘eke‘e (literally crooked water) in Waikāne. Raphaelson (1929:24) relates “There is a beautiful tale about Waiāhole and Waikāne, a place beyond. These two were man and wife, it is said. They loved each other for many years, and even today their mists embrace in the upper clouds.”

2.6 Early Historic Period

Many researchers believe that the Hawaiian population reached its maximum at around the time of Western Contact, although by the 1830s, the native Hawaiian population had already been severely diminished by contact with western diseases. Diseases including influenza, measles, whooping cough and small pox devastated the population. Also, many of the native inhabitants from these outlying districts had begun moving to the newly burgeoning population centers, such as Honolulu. The 1831 to 1832 census, the first to be conducted on O‘ahu, reports a

total of 419 people in Waikāne/Waiāhole Ahupua‘a, consisting of 352 adults and 67 children. By the 1835-1836 census, the totals are given individually for Waikāne and Waiāhole Ahupua‘a. At that time, Waikāne had an adult population of 164 and 29 children for a total of 193. These numbers decreased in the 1849 census to 99 adults and 18 children for a total of 117 (Schmitt1973:19, 33). The rate of population decline slowed after 1849 and the population began to increase in parts of O‘ahu in 1853, but the population of Ko‘olaupoko continued to decline until 1872 (Kittelson 1972, cited in Devaney et al. 1982: 13).

With the steady decline in the native population, an increasing amount of land was left fallow or was converted to pasture for cattle grazing. (Devaney et al. 1982: 12) Despite the population decline, a number of individuals still resided on the lands for many years with their families. During Queen Emma’s O‘ahu Island tour in 1875, she and her entourage visited Waikāne (Girvin 1910:78). The group was feted by Kamealoha, who had “two large thatch houses and a large school house at his command for sleeping quarters, and had erected an immense lanai for the luau. He was a well-to-do citizen” (Girvin 1910:78) “Leis of hala fruit and others” were provided for the event, along with “fish prepared in many styles, both raw, dried and cooked, the hogs, poultry and delicious comestibles.”

2.7 The Māhele: Hawaiian Land Tenure System

The Māhele was a division of rights to lands that was established by Kamehameha III in 1848. Although this was a new system of land tenure in Hawai‘i the foundation for these concepts are rooted in Hawaiian understandings and traditions of reciprocal relationships with ‘āina, including kalai‘āina (redistribution of land), and mālama ‘āina (caring for the land).

The impetus for these “land law[s] and subsequent division (māhele) of rights in land for the people of Hawai‘i” began with the Declaration of Rights of 1839 and the subsequent Laws of 1839. (Preza, 2010: 77) The first written constitution in 1840 expounded on the principles of the land laws in Article 14 which states that; “Kamehameha I, was the founder of the kingdom and to him belonged all the land from one end of the Islands to the other, though it was not his own private property. It belonged to the chiefs and people in common, of whom Kamehameha I was the head, and had the management of the landed property.” (Preza, 2010: 80) Although the ruler did not have sole ownership of the land, land was conveyed only by the consent of the ruler of the Kingdom.

In order for this new system to function the Organic Acts of 1845 created the Board of Commissioners to Quiet Land Titles otherwise known as the Land Commission. This board was created “for the investigations and final ascertainment or rejection of all claims of private individuals, whether native or foreigners, to any landed property acquired anterior to the passage of this act.” (Principles of the Land Commission, 1846) Through the methodical process established by this board they were able to determine the rights held by people within the existing structure in order for the Māhele to take form. In 1848, the Crown and the ali‘i (chief) received their land titles as Konohiki (land manager) Awards. Kuleana (Native land rights) awards to commoners for individual parcels within the ahupua‘a were subsequently granted in 1850, and thereafter.

In 1850, the Privy Council passed resolutions that would affirm the rights of the commoners or native tenants. To apply for fee simple title to their lands, native tenants were required to file their claim with the Land Commission. Surveyor C.J. Lyons stated:

> Small tenants were permitted to acquire a full title to the lands which they had been improving for their own use…for it was the labor of these people and their ancestors that had made the land what it was. (Lyons 1875:127, cited in Devaney et al. 1982:22)

Claims had to be made within the specified time period of February 1846 and February 14, 1848. The Kuleana Act of 1850 confirmed and protected the rights of native tenants. Under this act, the claimant was required to have two witnesses who could testify they knew the claimant and the boundaries of the land, knew that the claimant had lived on the land for a minimum of two years, and knew that no one had challenged the claim; the land also had to be surveyed (Chinen 1958:31).

2.7.1 Konohiki (Ali‘i) and Kuleana Awards in Waikāne

The ahupua‘a of Waikāne was relinquished by L. Konia and the ‘ili of Kahala‘a and Kaiiki were relinquished by Kaihiwa and N. Namau‘u respectively to Kamehameha III at the time of the Māhele. The ahupua‘a and the two aforementioned ‘ili were retained by the Government. (Kingdom of Hawaii 1848) The testimonies recorded during the 1840s in documents associated with Land Commission Awards (LCA) are among the first descriptions of Waikāne by the Hawaiians themselves. According to Waihona ‘Āina land database there were 42 claims made in Waikāne. The current Project area contains one LCA and was also part of a large land grant both described below. The LCAs within and adjacent to the Project area are depicted on a 1933 map (Figure 8) and the TMK map (previously shown in Figure 2), and are listed in Table 2.

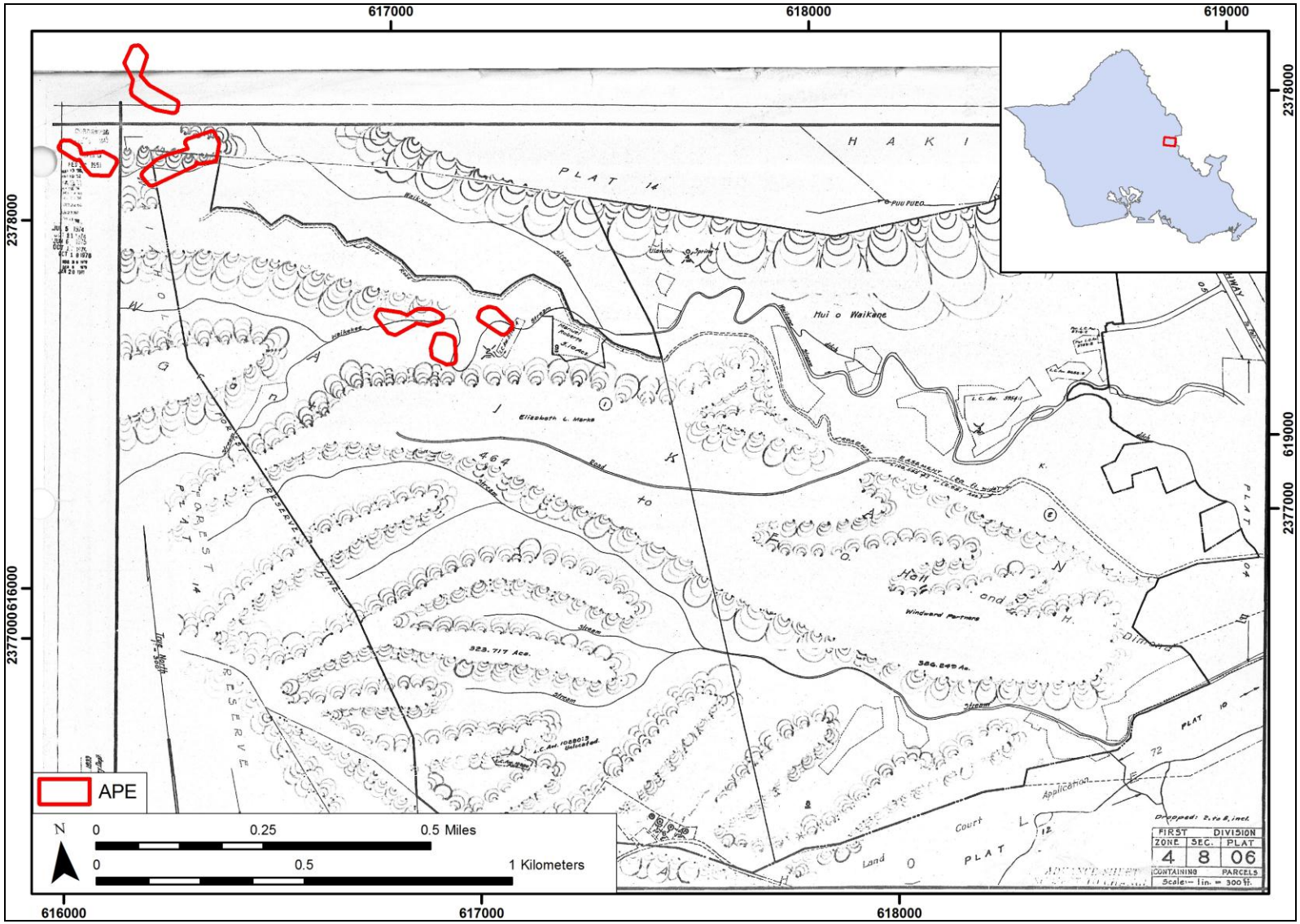


Figure 8. August 29, 1933 Waikāne, Koʻolau Poko, Oʻahu. Dwq No 1660, Surveyed by J.A.K., Tax Maps Bureau Survey Dept.

Table 2. LCA and land grant within the Lo‘i Restoration Project Area

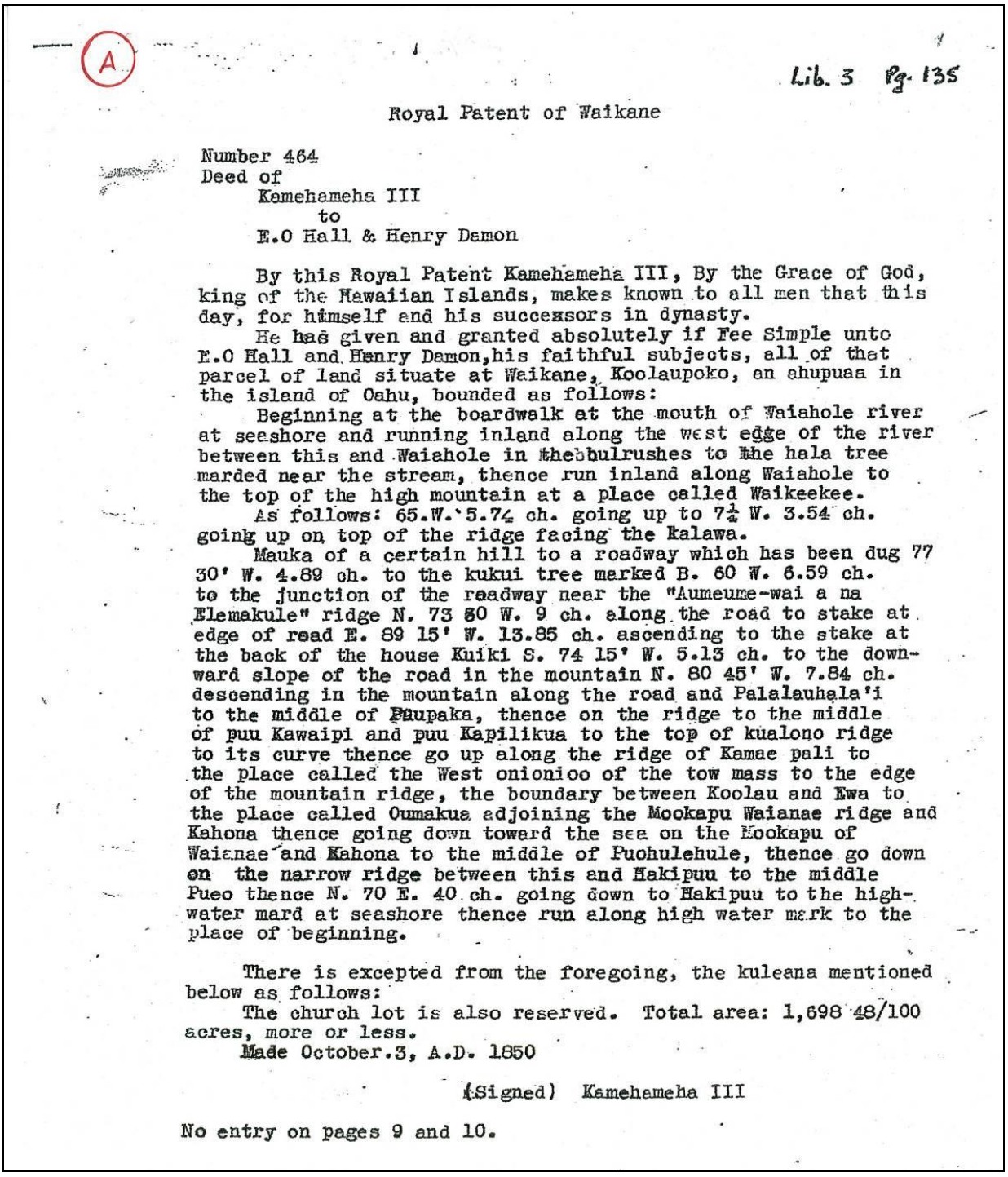
LCA or Grant #	Claimant	Land Use
5716:4 (RP 201)	Ku	Banana garden
464	E. O. Hall and H. Dimond	Various

LCA 5716 to Ku consisted of 4 *‘Āpana*, or land segments, and the 4th of these was partially within the current project area. The boundary description for *‘Āpana* 4 states:

> Beginning at the right seaward corner, at the candlenut (kukui) tree marked “H” near the stream, the boundary line runs 21°3o’ southwest, 2.3o chain lengths, dissecting the ravine until reaching a candlenut tree that was previously cut down. There, the boundary line continues to run 19° southwest, 2.9o chain lengths, until reaching the ohi‘a tree that is marked “X”. The boundary line continues 57°3o’ northwest, 1.46 chain lengths until reaching another candlenut tree that was previously cut down. From there, the boundary line runs 28°3o’ northeast, 1.46 chain lengths, dissecting the river until reaching the place of commencement. This land segment is 47/100 acres = 568 fathoms.

Edwin O. Hall and Henry Dimond received a major grant of land (Grant No. 464, 1,698.48 acres) at Waikāne in 1850 from Kamehameha III (Figure 9). Hall and Dimond sold the deed to this land on April 30, 1862 for the amount of $1,800 to Elani and others, as is recorded at the Bureau of Conveyances in Honolulu (Figure 10; Deed: Liber 17 – Page 162). The 35 recipients named on this grant formed the Hui-o-Waikāne and had rights to “all those parcels of lands better known as the Ahupuaa of Waikane, Koolaupoko, Oahu aforesaid, together with the water and the fishing rights thereon and there in the Ahupuaa of Waikane”.

Over the years the lands and water rights of Waikāne have passed through many hands, including the Waiāhole Water Company, LL McCandless and his heirs, the military (first the Army and then the Marines) and finally the ‘Ōhulehule Forest Conservancy. Some members of the Hui-o-Waikāne still dispute the current ownership of the Waikāne lands.



A

Lib. 3 Pg. 135

Royal Patent of Waikane

Number 464
Deed of
Kamehameha III
to
E.O Hall & Henry Damon

By this Royal Patent Kamehameha III, By the Grace of God, king of the Hawaiian Islands, makes known to all men that this day, for himself and his succexsors in dynasty.

He has given and granted absolutely if Fee Simple unto E.O Hall and Henry Damon, his faithful subjects, all of that parcel of land situate at Waikane, Koolaupoko, an ahupuaa in the island of Oahu, bounded as follows:

Beginning at the boardwalk at the mouth of Waiahole river at seashore and running inland along the west edge of the river between this and Waiahole in the bulrushes to the hala tree marded near the stream, thence run inland along Waiahole to the top of the high mountain at a place called Waikeekee.

As follows: 65.W. 5.74 ch. going up to 7¼ W. 3.54 ch. going up on top of the ridge facing the Kalawa.

Mauka of a certain hill to a roadway which has been dug 77 30' W. 4.89 ch. to the kukui tree marked B. 60 W. 6.59 ch. to the junction of the roadway near the "Aumeume-wai a na Elemakule" ridge N. 73 30 W. 9 ch. along the road to stake at edge of road E. 89 15' W. 13.85 ch. ascending to the stake at the back of the house Kuiki S. 74 15' W. 5.13 ch. to the downward slope of the road in the mountain N. 80 45' W. 7.84 ch. descending in the mountain along the road and Palalauhala'i to the middle of Paupaka, thence on the ridge to the middle of puu Kawaipi and puu Kapilikua to the top of kualono ridge to its curve thence go up along the ridge of Kamae pali to the place called the West onionioo of the tow mass to the edge of the mountain ridge, the boundary between Koolau and Ewa to the place called Oumakua adjoining the Mookapu Waianae ridge and Kahona thence going down toward the sea on the Mookapu of Waianae and Kahona to the middle of Puohulehule, thence go down on the narrow ridge between this and Hakipuu to the middle Pueo thence N. 70 E. 40 ch. going down to Hakipuu to the high-water mard at seashore thence run along high water mark to the place of beginning.

There is excepted from the foregoing, the kuleana mentioned below as follows:

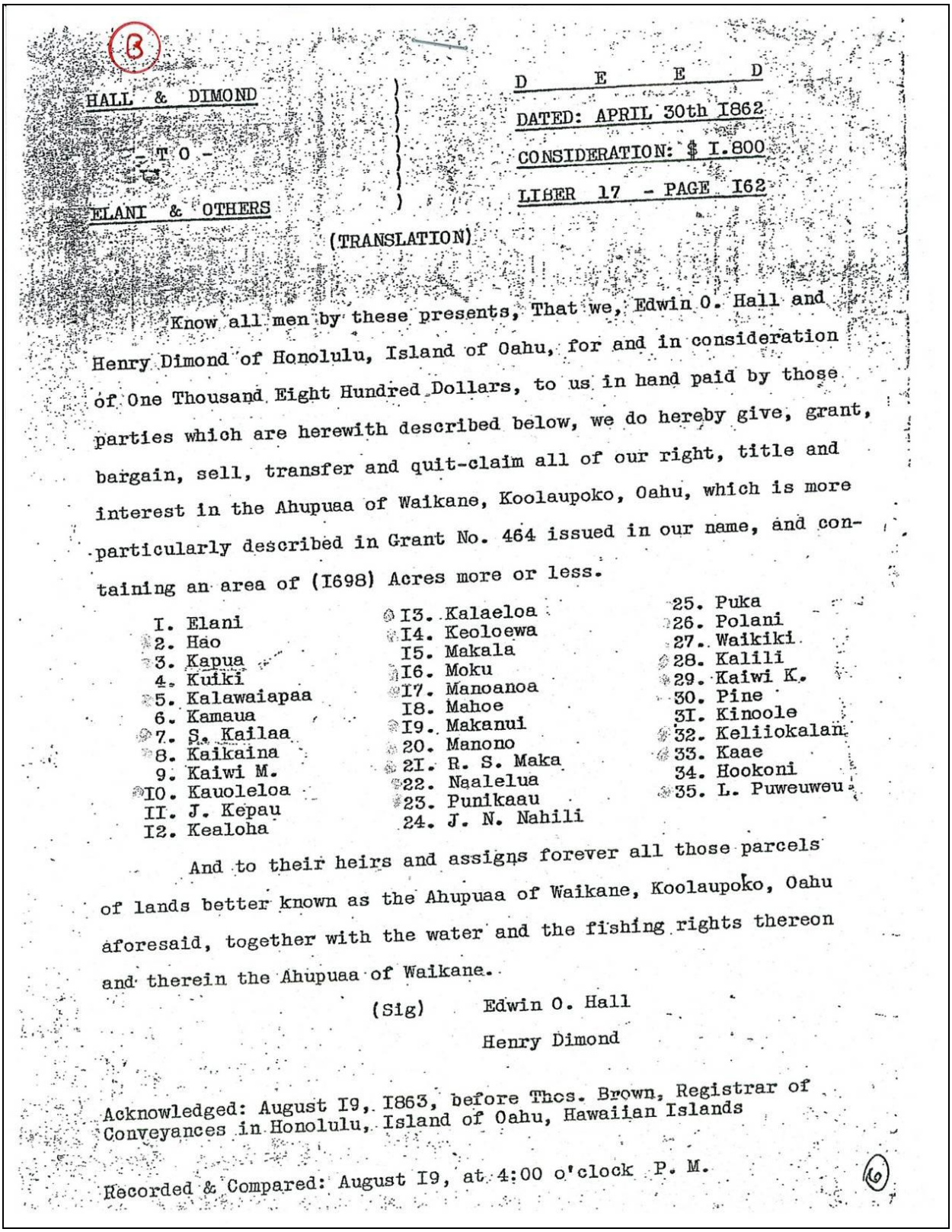
The church lot is also reserved. Total area: 1,698 48/100 acres, more or less.

Made October.3, A.D. 1850

(Signed) Kamehameha III

No entry on pages 9 and 10.

Figure 9. Royal Patent of Waikane Number 464, Deed from Kamehameha III to E.O. Hall and Henry Damon, 1850



(B)

HALL & DIMOND

- TO -

ELANI & OTHERS

D E E D

DATED: APRIL 30th I862

CONSIDERATION: $ I.800

LIBER 17 - PAGE I62

(TRANSLATION)

Know all men by these presents, That we, Edwin O. Hall and Henry Dimond of Honolulu, Island of Oahu, for and in consideration of One Thousand Eight Hundred Dollars, to us in hand paid by those parties which are herewith described below, we do hereby give, grant, bargain, sell, transfer and quit-claim all of our right, title and interest in the Ahupuaa of Waikane, Koolaupoko, Oahu, which is more particularly described in Grant No. 464 issued in our name, and containing an area of (I698) Acres more or less.

I. Elani
2. Hao
3. Kapua
4. Kuiki
5. Kalawaiapaa
6. Kamaua
7. S. Kailaa
8. Kaikaina
9. Kaiwi M.
I0. Kauoleloa
II. J. Kepau
I2. Kealoha
I3. Kalaeloa
I4. Keoloewa
I5. Makala
I6. Moku
I7. Manoanoa
I8. Mahoe
I9. Makanui
20. Manono
2I. R. S. Maka
22. Naalelua
23. Punikaau
24. J. N. Nahili
25. Puka
26. Polani
27. Waikiki
28. Kalili
29. Kaiwi K.
30. Pine
3I. Kinoole
32. Keliiokalani
33. Kaae
34. Hookoni
35. L. Puweuweu

And to their heirs and assigns forever all those parcels of lands better known as the Ahupuaa of Waikane, Koolaupoko, Oahu aforesaid, together with the water and the fishing rights thereon and therein the Ahupuaa of Waikane.

(Sig) Edwin O. Hall

Henry Dimond

Acknowledged: August I9, I863, before Thos. Brown, Registrar of Conveyances in Honolulu, Island of Oahu, Hawaiian Islands

Recorded & Compared: August I9, at 4:00 o'clock P. M.

(6)

Figure 10. Deed from Hall and Dimond to Elani and Others 1862

2.8 Rice Cultivation in Waikāne and Waiāhole

Population increase in Ko‘olaupoko began in the 1870s, and seems to have been directly related to the development of a rice growing industry in the region which began in the late 1860s or early 1870s. Rice production throughout the islands was attributed primarily to the Chinese:

> Having first been brought to the islands to serve as sugar plantation laborers, many remained in the Islands following the completion of their contracts. Their accumulation of capital enabled them to rent land and turn to rice cultivation utilizing their traditional knowledge of methods of production which they had brought from China. (Miyagi 1963:106)

There were three rice plantations in Waikāne in 1880 (Bowser 1880:484 cited in Devaney 1982:51), and 200 acres of land were under rice cultivation in 1892 (Coulter and Chun 1937:72 in Miyagi 1963: 108). An 1897 map of Waikāne shows the extent of rice cultivation at that time (Figure 11).

The Rice Mill shown on Figure 11 in the ‘ili of Kamoa is identified as the Waikane Rice Mill in an 1897 directory (Bureau of American Republics 1897:980). The buildings shown adjacent to the rice mill correspond with locations described by Young (1975) as a Chinese School that began instructions in 1912 and another as a gathering place or hang out. Lum Pui Young (1975) was born in Waikāne in 1900 and produced a memoir of his early memories of the Chinese community in Waiāhole, Waikāne, and Hakipu‘u circa 1906- 1926. Young (1975:4) refers to the rice mill as Wing Wo Tai rice mill; a Honolulu company with the same name owned the mill in Waikāne (Young 1975:3-4). Waikāne Store was also established in the late nineteenth century by Hyung Thom as Wah Chan Store. The store is at 48-377 Kamehameha Highway, just south of Waikāne Valley Road.

Waikāne continued to be rural and primarily dependent on agriculture through the twentieth century. Rice cultivation eventually subsided in importance when a variety of crops were grown in Ko‘olaupoko. Mr. Lum Pui Young’s memoirs (1975) of his childhood in Waikāne relate that rice cultivation in the period of ca. 1906-1926 amounted to some 250 acres with approximately 150 of those acres grown by Sing Tai Wai. Sing Tai Wai employed 20-25 year-round workers and another 15 to 25 itinerant laborers during planting and harvesting time. Young notes that the major transportation link to Honolulu during this time was a daily round-trip by stagecoach owned by Chinese living in Ka‘alaea with a terminus at the Wing Wo Tai Mill in Waikāne, likely since most of the activities in the region were centered in Waikāne. Later transportation was served by a passenger truck owned by Hung Yew Yuen of Waikāne.

Young (1975) relates that during the period from 1913 to 1917 a contingent of 50 to 60 Chinese males were recruited to work on the Waiāhole Tunnel Project. The men were hired to construct the railroad bed and trails from the seashore mauka to the tunnel site. All of the tunneling work was conducted by Japanese. Young (1975) notes there were as many Chinese as native Hawaiians living in the region during this period.

Following the rice industry’s peak in Hawai‘i about 1910, it rapidly declined. By 1925, most rice fields were abandoned when the former Chinese residents moved to Honolulu or back to China (Young 1975:5). While rice cultivation came to dominate the landscape at Waikāne and

Waiāhole, taro cultivation remained common although rice appears to have been the preferred crop. Other crops such as introduced vegetables and fruits were grown. These included cabbage, radishes, onions, turnips, beans, lotus root, litchi, mango, lungan, pomelo, and banana (Devaney et al. 1982:53). Miyagi (1963:108) notes that "the farmers of the valley sent their taro and other products to Honolulu by way of the Pali Road as late as 1910."

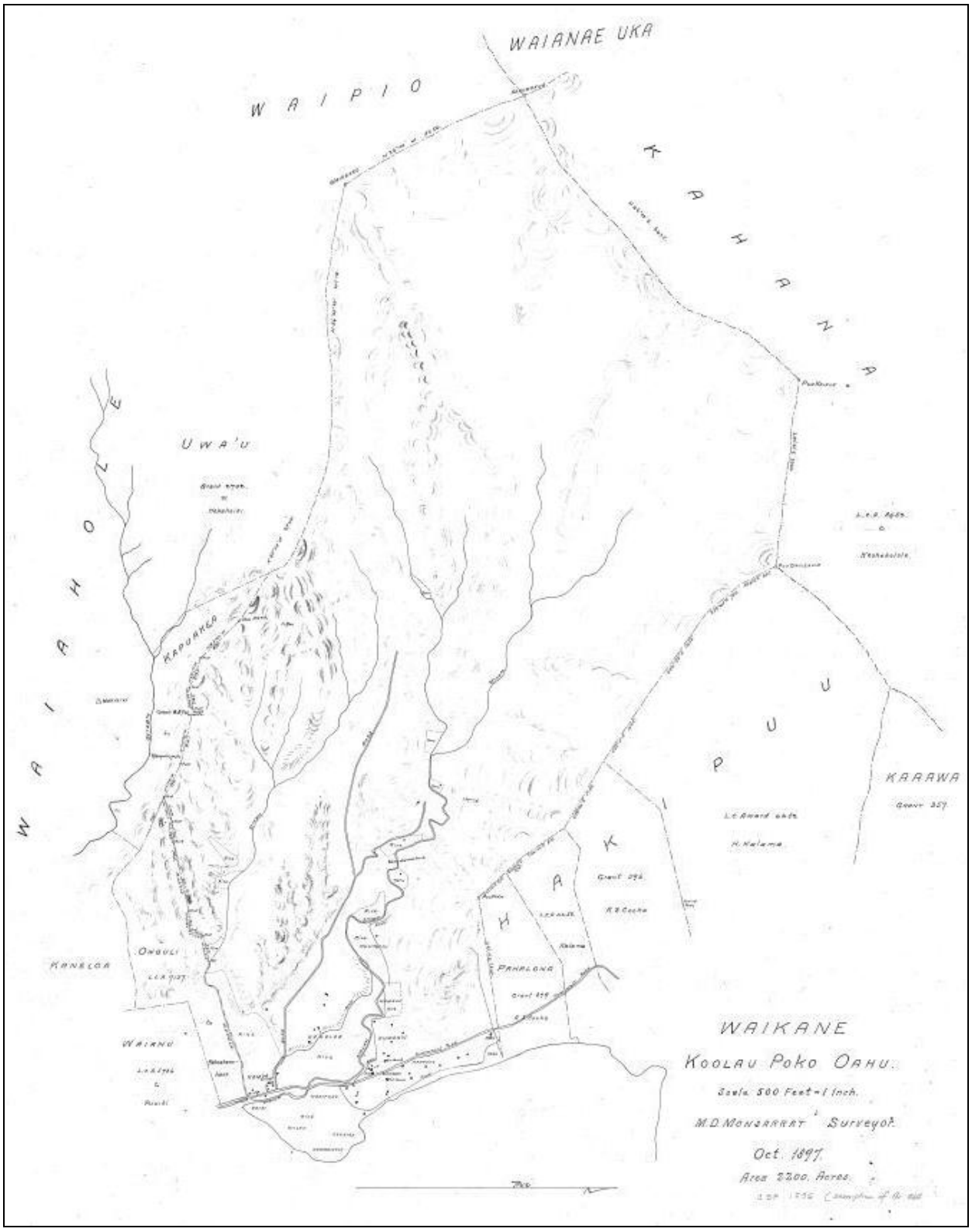


Figure 11. Map of Waikāne, Ko‘olau Poko Oahu, Surveyed by Monsarrat, Oct. 1897.

2.9 Pineapple Cultivation

Pineapple cultivation also occurred for a brief time “by individual Chinese and Japanese farmers on moderately sloped hill land where rice and taro could not be grown” (Miyagi 1963:115).

> The pineapples were hauled from Waiahole to the Waikane landing by train, and from Waikane were sent by boat to the Libby Cannery at Wailau ... there are still railroad tracks under the heavy brush at Waiahole. (Ferreira 1940:9, cited in Miyagi 1963: 115)

The train track used to transport pineapples is likely the same that was constructed by the Waiāhole Water Company in 1913. Condé and Best wrote that “ten miles of railroad were built, including an ocean pier. One portion of the railroad was laid at the landing at Waikane ...” (1973:337). The railroad was built to transport supplies during the construction of “an engineering feat of epic proportions,” the Waiāhole Tunnel Project through the Koʻolau Mountains that supplied water to the Oʻahu Sugar plantations on the leeward side of the island. Once the tunnel system was complete and operational in 1916, the railroad was removed (Condé and Best 1973:337).

2.10 Waiāhole/Waikāne Tunnel Project and Stream Water Issues

Between 1913-1916 the Waiāhole ditch and tunnel system was constructed. The system began at Kahana Valley and a series of tunnels were dug through the Koʻolau Mountains. The Waiāhole Ditch system consists of “dike-water development tunnels, surface water intakes, open ditches, gates, flumes, siphons, roads, trails, camps” and other facilities and was designed to channel water from the Waiāhole Waikāne watershed to irrigate Central and Leeward O`ahu sugar cane fields. (State of Hawai‘i 1997:6)

The Oahu Sugar Company was founded in 1897 and flourished because of the use of large ground water aquifers in the Puʻuloa area, water from the Waiawa and Waikele stream were also used. However as the Company continued to expand, these sources were becoming too costly to be pumped to the plateau (Hood 2004). Lincoln McCandless and his brother had financial interests in the Oahu Sugar Company in Waipahu and expansion of the plantation required additional sources of water that could be provided with the construction of the Waiāhole Tunnel. The civil engineer H.K. Bishop started to design and construct the tunnel and Jorgen Jorgensen was brought in to replace him and saw the job to its completion. According to a study conducted of the Waiāhole, Waikāne, Kahana and Punaluʻu areas by G.K. Lassison in 1916, these streams produced at least three million gallons daily during dry weather season (at elevations of 500 feet or more above sea level) which no other streams on Oʻahu produced. (Hood 2004:31) McCandless sub-leased water rights above the 600 feet elevation for the Waiāhole Tunnel Project but maintained water rights within the lower elevations of Waikāne and Waiāhole (Griffin and Pyle 1974:12)

On May 27, 1916 the tunnel was fully operational and the waters were diverted from Waiāhole (Figure 12), Waikāne and Kahana Valleys to the Ewa plains. “From the mid-1916 to 1994, it is estimated that Oahu Sugar Company used an average flow of about 35-40 mgd to

irrigate their fields and that most of this water came from the dyke compartments within the mountains." (Hood: 50.) The tunnel ran for 2.7 miles and was the longest transmountain tunnel in Hawai‘i until the completion of the Molokai tunnel. (Hood, 2004:7) There are two development tunnels at Waikāne. Waikāne One produces approximately 4.2 MGD and Waikāne Two, 1.1 MGD. The total system however produced 24.8 MDG. (State of Hawai‘i: 1997, 7) In regards to water rights in Waikāne, one share of the waters owned by the Hui Aina of Waikane through Royal Patent Grant 464, was leased to Waiahole Water Company on 3 May 1922 for a term of twenty years, expiring in 1942.

"In May of 1992 the Commission designated the five aquifer systems of windward Oahu as ground-water management areas." (State of Hawai‘i: 1997, 3) As the Oahu Sugar Company began shutting down in the mid-1990s, three Windward O`ahu community organizations -the Waiāhole-Waikāne Community Association, the Hakipu‘u Ohana, and the Kahalu‘u Neighborhood Board -as well as OHA, KSBE and DHHL petitioned the Water Commission to restore flows to Ko‘olaupoko streams, including Waikāne and Waiāhole Stream and its tributaries. However, these organizations were up against some major economic powerhouses including: the Campbell Estate, the Robinson Trusts, Dole Foods, Del Monte, and the state Departments of Land and Natural Resources and Agriculture, which wanted to continue water diversion to the Ewa plains. Then in December of 1994, the Water Commission directed that 8 million gallons per day would flow through the tunnels to Leeward O‘ahu and the rest would flow to the windward streams. (State of Hawai‘i: 1997, 4)

Since that 1995 Water Commission decision, further commission actions and court cases have focused on the allocation of water between the windward and leeward sides of the island. However, at present, significantly more water flows daily in Waiāhole Stream than had been the case until the mid-1990s. While studies on the effects of the restored flow on stream life are ongoing, the likely benefits were summarized by an expert witness in testimony before the Commission on Water Resource Management: "In general, it is my opinion that restoration, partial or whole, will have beneficial effects on (1) the stream ecosystem...(2) the vegetation of the basins and sub-basins (watersheds)...(3) the estuary and marine waters...and (4) specifically, the stream ecosystems, vegetation, estuary and marine waters affected by the restoration" (Robert J. Livingston cited in *Environment Hawai`i,* vol. 7 no. 3 September 1996).

A survey was done after the water had been returned to the Waiāhole stream for approximately six months and the Waianu stream about one month and both habitats had shown a promising re-establishment of native populations of ‘o‘opu, ‘opae and hihiwai. Both adult and juvenile species of two types of ‘o‘opu were observed, which is "an indication that these species are recruiting or returning from the ocean to the stream." (State of Hawai‘i: 1997, 19)



Figure 12. Waiāhole Water Tunnels, Courtesy of Hawai‘i State Archives

2.11 Modern Land Use

2.11.1 Military Land Use

The Waikāne Training Area (WTA) consisted of 874 acres and together with the 187 acre Waikāne Valley Impact Area comprised the Waikāne Valley Training Area (WVTA) totaling 1,061 acres. This site is a Formerly Used Defense Site (FUDS) and has undergone the process of demilitarization. This entire training area was “used by the Army and marine Corps for training from 1942 to 1976” (US Army Corps of Engineers 2011).

The Department of the Army entered into a lease with Lincoln L. McCandless heirs and Waiāhole Water Company in 1942 for 1,061 acres, establishing the WVTA. The Army used this training area until 1953 when the Marine Corps was substituted as the lessee. The land was “utilized for advanced training in offensive warfare and air-to-ground practice bombing” during World War II and the Marine Corps continued this type of training after assuming the lease in 1953. The weapons used in this training area were kept under certain restrictions due to hazardous fire conditions and certain weapons use were restricted to designated impact zones within the training area.

Training in this area has been a threat to the local community and in May of 1944 “a 60 millimeter mortar… which killed two and injured others” (US Army Corps of Engineers 2011). The munitions were found in the valley by several boys. Three children were also injured some years later in 1963 when a rifle grenade was reportedly found in Waikāne Valley and thrown against a wall. (Cole 2011) No other incidents have been reported since then. However, when ordnance sweeps were conducted in 1976 and 1984 tens of thousands of pounds of ordnance and fragments were removed. “The 1976 clearance effort resulted in the removal of over 24,000 pounds of practice ordnance and fragments, including 42 items of unexploded ordnance (UXO). In June 1984, an intensive ordnance clearance resulted in the removal of 16,000 pounds of demilitarized practice ordnance and 190 items of UXO from the parcel.” (US Army Corps of Engineers 2011)

The U.S. Army Corps of Engineers is undergoing investigations to determine the extent of the damage to this valley and has committed to clean up and removal at two sites within the WTA. The US Marines are also currently undergoing a separate investigation for the WVIA. An inventory project report conducted in 1996 determined that this former training site met the requirements to be eligible for the Defense Environmental Restoration Program. “Congress established the FUDS Program in the mid-1980’s to restore properties formerly owned, leased to, or otherwise processed by the United States and under the jurisdiction of the Secretary of Defense” (US Army Corps of Engineers 2011).

The US Marines abandoned a plan to use this training area in 2003 because the unexploded ordinance on site was too dense, making the planned blank-fire jungle training in the valley too dangerous. (Cole 2011) Kyle Kajihiro, a current member of the restoration advisory board for the Waikāne Valley stated that, “it [Waikāne] should be cleaned up to the highest level possible to allow the broadest number of uses,” Kajihiro said. He added that those uses “need to be mindful of, and consistent with, Uncle Raymond Kamaka and his family's vision and uses of the land -- which were agricultural and cultural uses” (Cole 2011). The access to clean water is a concern

for this vision due to the results of a site investigation study was completed in 2008 focusing on the WTA, testing the stream water and sediment from the Waikāne stream for list metals and explosives. The results of the test resulted in contaminants of potential concern, including “chromium, iron, vanadium, cobalt, mercury and RDX” (US Army Corps of Engineers 2011).

However, as late as 1984 there has been documentation of the use of the valley for religious purposes. In 1984, Welch and Streck prepared an archaeological survey report for the Commanding Officer Marine Corps Air Station, Kāne‘ohe Bay describing a Hawaiian shrine in Waikāne Valley (SIHP #50-80-06-2889) and evaluating the impact of an ordinance removal project. The shrine consisted of an ahu or stone cairn, a terrace, two basalt retaining walls, and a circular petroglyph located on a ridge, known as Mortar Hill, above the valley at about 90 m above mean sea level. This study also assigned SIHP #50-80-06-2890 to another adjacent complex of abandoned taro lo‘i, which were evidently in production as late as 1928 when aerial photographs of the valley were taken. “Al and Ray Kamaka say that the shrine is currently used as a family heiau to make offerings of crops and to chant to Lono, the god of rain and agriculture” (Welch and Streck 1984:14).

2.11.2 State Purchase of Lands to Develop Waiāhole Agricultural Park

In 1977 the State of Hawai‘i purchased 600 acres of land from the heir to the McCandless Estate, Elizabeth Marks. The community was fighting for this purchase in order to avoid evictions from their lands (Figure 13). “The purchase was contested by Windward Partners, a hui that had been put together by developer Joe Pao, and which had itself acquired an option to purchase the land.” (Environment Hawaii 1994) The State paid $6 million to acquire this land in the hopes of developing what was to be called the Waiāhole Agricultural Park. The initial funding for the purchase came from Hawai‘i Housing Authority (HHA) later known as Housing Financial and Development Corporation (HFDC) who took the lead in the planning. They began “negotiating long term leases with the Waiāhole-Waikāne Community Association, which represents most of the farmers in the valley” and were looking at ways to develop the necessary infrastructure to support the farm and house lots. Of the 600 acres, “365 are to be teased for agricultural use, 52 acres leased for residential, and almost all the remainder (including steep sloped land) will be open space” (Environment Hawaii 1994).



Figure 13. “Stop All Evictions Now” March to the Governor's Mansion. Waiāhole/Waikāne residents march and chant in the lead of a major anti-eviction demonstration. The protest event included residents fighting evictions from many communities (photograph courtesy of Ed Greevy 1976)

2.11.3 State Purchase of Lands, Waikāne Nature Preserve

In 1998 the City and County of Honolulu purchased 500 acres from the AZABU USA Corporation for $3.5 million. The Waikāne Nature Preserve included TMK parcels [1] 4-8-004:004 (45.6 acres), [1] 4-8-006:008 (375.965 acres), [1] 4-8-006:010 (10.284 acres) and [1] 4-8-014:004 (72+ acres) all situated in Waikāne ahupua‘a. TMK parcel [1] 4-8-004:004 (45.6 acres) is a part of Grant 464 (Kamehameha III to Dimond and Hall). Portions of Grant 464 are shown as being a part of the lands granted by Elizabeth Loy Marks to Windward Partners on 30 July 1975. Portions of Grant 464 were also granted to Pan-Pacific Development Inc. by Phoenix Limited Partnership in July 1987. This royal patent was conveyed in a deed made between E.O. Hall and Henry Dimond to Elani and others whose names are listed in the deed dated 30 April 1862.

2.11.4 Current and Future Land Uses

The land on which the current project area rests was part of the Former Waikāne Valley Training Area (FWVTA). This site is a Formerly Used Defense Site (FUDS) and has undergone the process of demilitarization. This entire training area was used by the Army and Marine Corps for training from 1942 to 1976; there is also evidence that the land is currently being used by hunters, hikers and moto-cross/ATV enthusiasts. After the ordnance clearance was completed, large portions of the FWVTA were purchased by ‘Ōhulehule Forest Conservancy, LLC and a number of revitalization projects were planned: planting of native species in three separate forest restoration areas; an organic cacao farm in the lowlands; protecting the only known ‘elepaio (*Chasiempis ibidis*--listed as endangered) nesting grounds on the windward side of O‘ahu; and the restoration and reuse of historic taro lo‘i along Waikāne and Waike‘eke‘e Streams, addressed here. There are also plans to improve/realign the existing road and build a single family residence.

2.12 Previous Archaeological Research

An overview of archaeological studies conducted in the vicinity of the current project area is summarized in Table 3 and shown on Figure 14. A discussion of these archaeological findings relevant to the current project follows.

Table 3. Previous Archaeological Investigations in Waikāne and the Vicinity of the Project Area

Reference	Type of Investigation	Findings
Newman 1972	Survey	Described numerous taro terraces in the upper Waikāne Valley, nominated the Waikāne Taro Flats to the National Historic Register
Napoka 1977	Field Inspection	Local informant identified seven traditional sites and place names in and around the Waikāne Taro Flats
Welch and Streck 1984	Archaeological Survey	Surveyed along Waikāne Stream, documented SIHP -2889 complex (a cairn, terrace, retaining walls, and a petroglyph) within the Waikāne Taro Flats (SIHP -1078), and SIHP -2890 (abandoned taro fields) complex outside of the Waikāne Taro Flats
Shapiro et al. 1988	Archaeological Reconnaissance Survey and Limited Subsurface Testing	Identified 29 sites, features included terraces, mounds, ditches, walls, alignments, sunken fields, burials, coral scatters, midden and lithic scatters
Walker and Rosendahl 1990	Intensive Archaeological Survey	Identified 5 new features associated with the Waikāne Taro flats (SIHP -1078), and 2 new sites; SIHP -4116 (a historic ditch) and SIHP -4117 (a boulder alignment)
Dunn et al 1992	Archaeological Inventory Survey	Identified SIHP -1078 and 12 new sites, features included mounds, terraces, alignments, excavated depressions, enclosures, ditches, rubble concentrations, and an underground chamber

Reference	Type of Investigation	Findings
Magnuson, Peterson and Carson 2004	Cultural Resource Assessment	Previously undocumented features within the boundaries of NRHP Site 1078 and along Waikāne Stream, which were included in Site 2890, were discovered. A newly recorded traditional cultural property (TCP) 50-80-06-6551. It was recommended that the boundaries of NRHP eligible Site 2890 be expanded to include previously undocumented archaeological features along Waikāne Stream. Sites 4116 and 4117 were determined not eligible for the NRHP and recommended they be de-listed.
Rasmussen 2008	Archaeological Survey and Monitoring	10 historic properties were documented and included archaeological sites associated with pre-Contact traditional Hawaiian taro cultivation and post-Contact charcoal manufacturing
Hammatt 2012	Literature Review and Field Inspection	No new sites recorded, and an effect determination of “no historic properties affected” within the area of the ‘Ōhulehule Forest Conservancy’s Proposed Cacao Farm Project
Altizer, Rivera and Monahan 2012	Archaeological Monitoring for UXO Clearance	Documentation of 37 cultural resources recorded as part of that project. Eleven of these were found to be unrecorded features of previously identified sites, including SIHP 4356.

T. Stell Newman (1972), archaeologist with the Division of State Parks, conducted a survey along Waikāne Stream in 1970 as part of the state-wide site inventory. Two historic properties were identified: SIHP 50-80-06-1057, a partial rectangular enclosure along the north bank of Waikāne Stream approximately 1 kilometer inland from Waikāne Town; and SIHP 50-80-06-1078, a series of taro terraces in the upper reaches of Waikāne Stream including flat beds and two beds with remnants of interior mounds and numerous ‘*auwai*. Newman recommended preserving the area as a nature park. SIHP -1078, Waikāne Taro Flats with boundaries defined to include a large area beyond the known features, was nominated by Newman to the National Register of Historic Places and listed in the Register on April 11, 1973.

On October 20, 1977, a field visit was made by Nathan Napoka and the Kamaka family (local informants) to the Waikāne Valley to examine the historic taro lo‘i. The Kamakas identified seven sites; taro fields and “Wai o kane” spring, “Manu kolea” (a guardian stone and a lower male and female rock), a house site and ditches, “Puu Menehune” (a circular hill constructed of cinder built by the menehune), “Pohaku wela” (a stony cliff known to emit smoke), “Puu Pueo”

(a famous mountain peak on the Kahana side of Waikāne Valley), and Kukuianiani Heiau. (Napoka 1977)

In 1984 Welch and Streck prepared an archaeological survey report for the Commanding Officer Marine Corps Air Station, Kāne‘ohe Bay describing a Hawaiian shrine in Waikāne Valley (SIHP 50-80-06-2889) and evaluating the impact of an ordnance removal project. The shrine consisted of an *ahu* or stone cairn, a terrace, two basalt retaining walls, and a circular petroglyph located on a ridge, known as Mortar Hill, above the valley at about 90 m above mean sea level. This study also assigned SIHP 50-80-06-2890 to another adjacent complex of abandoned taro *lo‘i*, which were evidently in production as late as 1928 when aerial photographs of the valley were taken. “Al and Ray Kamaka say that the shrine is currently used as a family heiau to make offerings of crops and to chant to Lono, the god of rain and agriculture” (Welch and Streck 1984:14).

PHRI (Walker and Rosendahl 1990) carried out an intensive archaeological survey of a 50-foot wide fence corridor project bounding TMK: 4-8-14:6 in central Waikāne Valley. This study identified three historic properties (SIHP 50-80-06-1078, -4116 and -4117 with a total of seven component features) including four agricultural terraces, an agricultural mound and *‘auwai* and a boulder alignment foundation remnant of a road.

In 1992, Paul H. Rosendahl, Ph.D., Inc. (PHRI) carried out an archaeological inventory survey of an approximately 407 acre proposed SMF/HDI Golf Course study area in central Waikāne Valley identifying thirteen historic properties with 100 component features all within stream basins (Dunn et al. 1992). Most of the features (68) were pre-contact agricultural features; nine features were related to historic charcoal production, three to temporary habitation, and one to a ceremonial function. SIHP 50-80-06-4356 appeared to have been a major pre-contact/post-contact agricultural complex with forty-six designated features. Eight ^{14}C dates were reported, the oldest of which was AD 1400-1640.

International Archaeological Research Institute, Inc., (IARII) conducted a Cultural Resource Assessment in 2004 which detailed previously undocumented features within the boundaries of NRHP listed Site 1078 and along Waikāne Stream, which were included in Site 2890 (Magnuson, Peterson and Carson 2004). It also described a newly recorded traditional cultural property (TCP) 50-80-06-6551. Ethnographic interviews of Waikāne residents were conducted to consider the cultural significance of Sites 2889 and 6551, and other elements of Waikāne Valley, including a rock birthing stone (*hanau*) at Site 2890. It was recommended that the boundaries of NRHP eligible Site 2890 be expanded to include previously undocumented archaeological features along Waikāne Stream. Sites 4116 and 4117 were determined not eligible for the NRHP and recommended they be de-listed.

In 2008, International Archaeological Research Institute, Inc., (IARII) conducted an archaeological survey and monitoring at the Former Waikāne Valley Training Area (FWVTA) in anticipation of ordnance assessment and removal operations (Rasmussen 2008). The IARII study area (approximately 900-acres) completely encompasses the current project area. Rasmussen (2008) identified two new sites during the survey portion of the project: SIHP #50-80-06-6861, a set of four associated terraces defining four agricultural fields in the far northwestern portion of the FWVTA, and SIHP #50-80-10-6862, a set of six foxholes in the Southeastern Region. In addition to these new sites, Rasmussen (2008) also revisited and documented new features at the

National Register site “Waikane Taro Flats” (SIHP 1078) and several others including SIHP 4117, 4352, 4356, 4359, 4360, 4361, and 4362. Based on her investigation, Rasmussen (2008:iii) concluded the documented cultural resources in the valley represent “. . . part of a landscape of traditional Hawaiian taro production and later historic period charcoal manufacturing that likely occurred alongside the taro production.” These planting sites were located along the alluvial flats near streams, and probable habitation sites were present on higher ground near these fields. Rasmussen also noted that metal tools found in association with some cultivated fields indicate these were being farmed into the early 20th century, an observation that is consistent with oral-historical information from local families who report such activities into the 1920s.

Between May and August 2011, Cultural Surveys Hawai‘i (CSH) provided archaeological monitoring for UXO clearance activities within the Former Waikāne Valley Training Area (FWVTA). The resulting report (Altizer, Rivera and Monahan 2012) details the documentation of 37 cultural resources recorded as part of that project (given temporary CSH site numbers). Eleven of these were found to be features of previously identified sites, including SIHP 4356. The documentation of these features is very brief owing to the limited time and access granted by the transect methodology and safety requirements of UXO personnel.

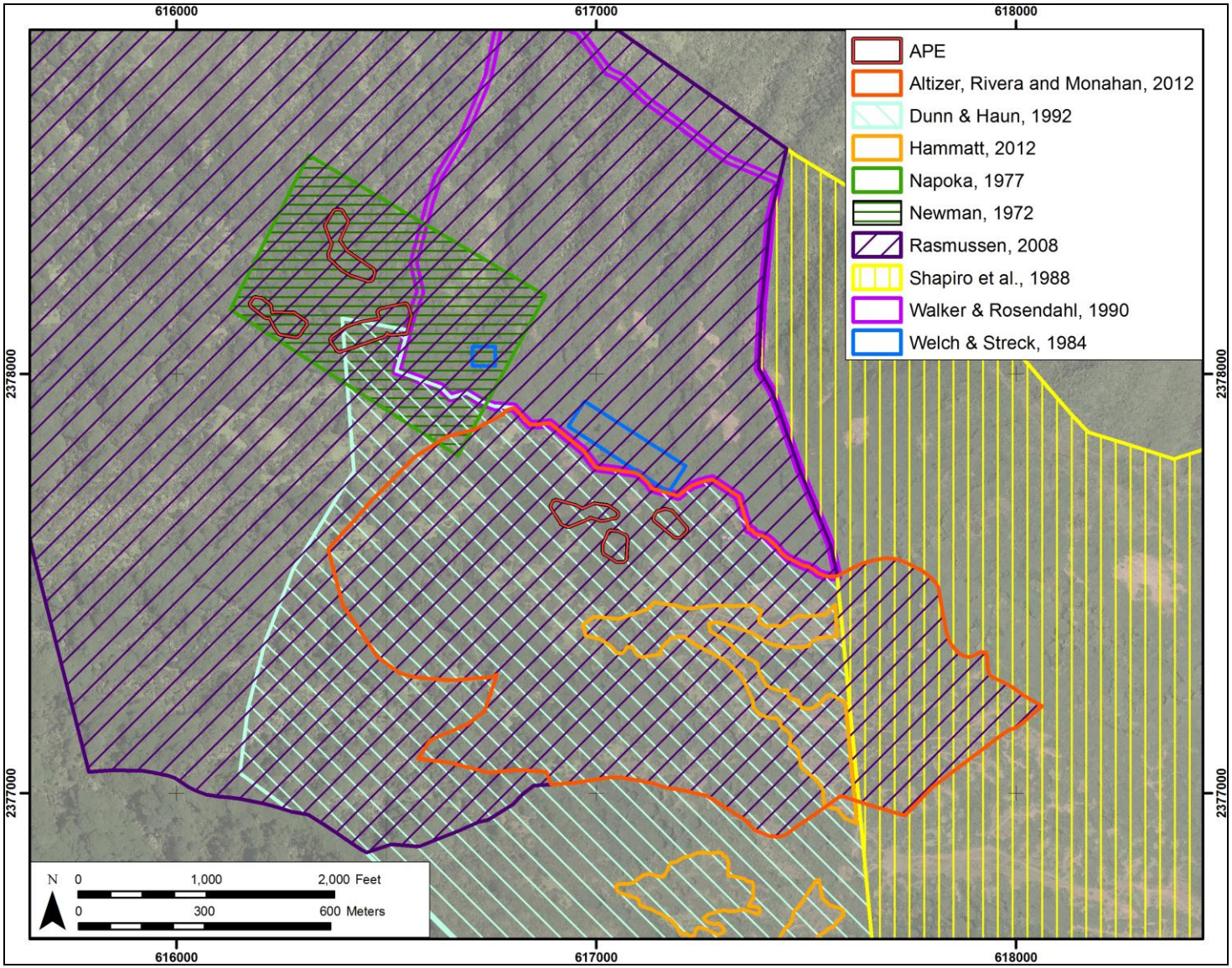


Figure 14. Map of previous archaeological research within and in the vicinity of the project area (APE)

Section 3 Historic Properties

3.1 Within Project Area

3.1.1 SIHP # : 50-80-10-1078 (Waikāne Taro Flats)

SITE TYPE: Complex

TOPOGRAPHY: Features are located on the flat stream bottom along the banks of Waikāne Stream.

VEGETATION: Predominately *hau* and strawberry guava

CONDITION: Fair-Good

INTEGRITY: Possibly altered (by historic rice cultivation).

PROBABLE AGE: Prehistoric

FUNCTIONAL INTERPRETATION: Wetland/irrigated agriculture

DIMENSIONS: Overall complex area measures 9 acres or 36571 m^2 (approx.)

DESCRIPTION: The site was listed on the National Register of Historic Places in 1972. According to NRHP (1972):

> The upper reaches of Waikane Valley contains [sic] an area where numerous old Hawaiian taro terraces are found. These terraces are flat bottomed areas near the stream bed, each with a low stone retaining wall about .5 meter high on the downstream side. The average size of the taro flats is about 6 by 12 meters ... [a]ssociated with the wet taro beds (lo‘i) are several enclosures, habitation areas, and one large pit. Scattered throughout the area are a few rock alignments of unknown function. In one area, remains of the old auwai, or irrigation ditch, could be seen, which fed water from the nearby stream in the lo‘i in succession ... [t]hese taro flats at Waikane are of significance for they are excellently preserved examples of old Hawaiian wet taro lo‘i. They contain the only known examples of taro lo‘i with interior mounds, used in a specialized taro growing technique. Associated habitation areas, and some indication of agriculture on the talus valley slopes, lend additional importance to this complex, particularly in the breadth of possible interpretation ... [o]f all the known taro lo‘i on Oahu, this is the second most important, exceeded only by the great taro lo‘i at Kahaluu, some miles to the south. This complex certainly is worth of preserving this important aspect of ancient Hawaiian agricultural proficiency (NRHP 1972:2-3).

Since the site was placed on the register, numerous archaeological studies have re-visited the area and added features, expanding the site to its current extent. Today the site consists of 7 ‘terrace sets’ and numerous other associated features. The following descriptions are from Rasmussen 2008.

> **Terrace Set 1** is located within the U.S. Marine controlled property on the south side of Waikāne Stream. It was described by Magnuson et al. 2004:51-57. It consists of five terraced fields with eight embankment walls. They were constructed by Mr. Alfred Morita in the 1960s using a bulldozer.

Terrace Set 2 is located northeast of the juncture between the north and south branch of Waikāne Stream. The set is about 53 m square and consists of 11 terraced fields with 11 embankment walls. Most of the embankment walls range in height from 70 to 110 cm. One wall, extending from north to south near the northern end of the terrace set adjacent to a possible *‘auwai,* was 20 cm.

An **Agricultural Shrine** is located between Terrace Set 2 and Terrace Set 3. It was identified by Mr. Morita a member of the Kamaka family, during a site tour in 2003. The shrine is located on the north side of the northern branch of the Waikāne Stream, about 90 m from the junction of the northern and southern branches. The shrine consists of large boulders resting against one another to form a crevice or cupboard. There are about five terrace walls extending in a direction parallel to the stream near the shrine; two west of the shrine two east of the shrine, and one that extends out from the shrine. There may have been additional walls, however, the area has been disturbed by pig wallows and erosion. Mr. Morita said his grandparents used to farm in this portion of the valley and used the shrine. He continued to farm until the 1960s in the portion of Site 1078 located within the U.S. Marine controlled area (Mr. Alfred Morita pers. comm. 2003). Across the stream from Mr. Morita's family shrine is a large upright stone. It appears to have been purposefully placed in this position. Although Mr. Morita did not discuss this feature, it may be part of a cairn or *ahu.* No cultural material was observed around this feature.

A **birthing stone** was also pointed out by Mr. Morita. It is located within Waikāne Stream at the junction between the northern and southern branch.

Terrace Set 3 is located about 62 m north of Terrace Set 1 along the north branch of Waikāne Stream. It is located on the east side of the stream and is 140 by 35 111. The southern section is eroded, apparently from runoff from a side gulch. The terrace set consists of 12 terraced fields with 19 embankment walls. They range in height between 15 and 70 cm. A separate terraced area with three embankment walls is located on high ground in the southern section. Although it is eroded and the rocks scattered, apparently from runoff from a side gulch, the terrace walls are 40 cm high. It is possible the side gulch was used to water this field or this area may have been used for habitation or storage since it is above the stream.

Terrace Set 4 is located on the opposite (west) side of Waikāne Stream from Terrace Set 3, about 7 m northwest. The terrace set is 103 by 34 m. A functioning *‘auwai* or small ditch with running water is located in the middle of the site and is fed from a spring. Most of the area to the west of the *‘auwai* is very wet and muddy with thick *hau.* It appears that terrace walls may have once been present, however, they were not visible during the survey and may be buried below the ground surface. Two walls were present in this area along the edge of the stream, which were about 80 cm high. The area east of the *‘auwai* is in excellent condition. Five fields with ten terraced walls are present. They range in height from 25 to 70 cm. A rusted shovel fragment was observed near a mango tree in the northern portion of the site, suggesting this area was farmed during the post-Contact period.

Terrace Set 5 is located on the northwest side of the juncture between the north and south branches of Waikāne Stream, about 15 m west of Terrace Set 1. It extends about 135 m along the north side of the south branch of Waikāne Stream and is about 35 m wide. The terrace set consists of 27 fields with approximately 18 terraced walls perpendicular to the south branch of Waikāne Stream and 17 parallel. The walls may meander and some are partially eroded, making counting problematical. The southern portion of the site nearest the stream is eroded. Remnants of terraced walls are present, some of which may extend below the existing, upper walls; this suggest the terraces have been rebuilt and reconfigured over time. A rusted hoe and metal bit, possibly from a digging stick, were observed. […] These tools suggest the terrace set was in production during the post-Contact period.

Terrace Set 5 was originally recorded by Dunn et al. (1992:A-30 - A-37), who assigned 30 features to the terrace set. It included a ceremonial mound (Feature A1), 28 terraces (Features B1 through C2), and an alignment (Feature 02). A sketch of the eastern portion of the terrace set is shown in the report (Dunn et al. 1992:A-31), which includes the ceremonial mound, a habitation terrace, and 13 agricultural fields. No indication is presented within the report to indicate why Feature A1 is classified as a ceremonial mound. This portion of the site currently appears to be a naturally raised basalt outcrop on which rocks have been moved aside to provide a somewhat level area above the north branch of Waikāne Stream. No evidence of upright stones, religious artifacts, or offerings is present. It is adjacent to Feature B1, described as a habitation terrace, and is more likely to be related to habitation activities. Further research and excavation would be necessary to determine the purpose of the cleared outcrop (Feature A1) before a designation such as "ceremonial" should be attributed. Although it is possible a non-wetland crop was grown in Terrace Feature B1, it was more likely used for storage or shelter, as suggested by subsurface excavations conducted by Dunn et al. (1992:A-30 - A-32). A 50 by 50 cm test unit excavated at this feature uncovered two sedimentary layers, each containing cultural materials. Layer I extended from 0 to 54 cm below surface. Basalt and volcanic glass flakes and a hammerstone were uncovered. A calibrated date of A.D. 1400-1640 was obtained from charcoal recovered from the base of this layer. Layer II is 54 to 64 cm below surface. Volcanic glass was recovered from this layer, which appeared to extend below the structural components of the feature.

Two other raised, level areas are present near this terrace set: one is about 5 m northwest of Feature A1. It was covered with vegetation until cleared by Zapata Engineering (Grid 10). Excavations conducted by Zapata Engineering exposed a plastic spoon, a can, and a clear glass soda bottle. MEC personnel said the spoon and can were consistent with material from C-Rations; however there were no markings on the spoon or can to indicate their origin or manufacturing date. The second level area is located on the lower, southeastern side of a finger ridge that divides Terrace Set 5 from Terrace Set 6. There was no surface indication of features. Excavations in Grid 90 by MEC personnel exposed a thin cultural deposit with one volcanic glass flake, one basalt flake, and burnt *kukui.*

A tear-shaped charcoal kiln excavated into the hillside […] is located on the west side of Terrace Set 5. It is 4.0 by 3.6m and rises from 50 cm at the entrance to 180 cm at the rear. The interior is rock-lined, about three to four courses (60 cm). A level area, 3 to 4 m wide, is located in front (south) of the kiln.

An overgrown dirt road was observed on the finger ridge north of Terrace 5. Portions of the road were cut into the side of the hill and reinforced with rocks on the down slope side. Sections of the road have been washed out. It terminates at about 600 ft in elevation. The dirt road is shown on the USGS map, but not the early maps for the valley. It may have been built to access the watershed in the early 1900s and then reused or constructed by the military in the 1940s. It does not appear to have been recently used or maintained, since it was very over grown and washed out.

Terrace Set 6 is located about 50 m northwest of Terrace Set 5, on the northern side of the southern branch of Waikāne Stream. It is I10m long and parallels the stream and 50 m wide. There are about 21 fields with 13 terraced walls perpendicular to the stream and about 9 walls parallel to the stream. The walls range in height from 30 to 80 cm. The southern portion of the terrace set is highly eroded and the terrace walls terminate in alluvial gravel deposited by the stream.

A probable *‘auwai* is located at the western, upstream, side of the terrace set. It appears to have once flowed along the back, hillside portion of the site. Gaps in the terrace walls may have been gates to help regulate the water flow.

The eastern side of the terrace set contains fragments of terrace walls and historic artifacts such as Asian pottery sherds and bottle fragments. Although there may have been rectangular fields in this location, they have been washed away. A horseshoe and unidentified rusted metal object were uncovered within Grid 220 by Zapata Engineering.

An isolated, small rectangular area was recorded about 15 m above the northern portion or the terrace set. It is 2.1 by 1.8 m and has been excavated into the side of the hill. Stacked cobbles and small boulders, two to three courses high, are present at the entrance; there is a break in the stacking to form an opening 75 cm wide. Two boulders are present above the level area. The purpose of this feature is not apparent. Although it resembles a charcoal kiln in the fact that it is excavated into the side of a hill, it is not shaped like other kilns in Waikāne Valley. It seems likely the feature is a charcoal kiln; however, it may be a storage area or temporary habitation area.

Terrace Set 7 is located 16 m northwest of Terrace Set 6, on an alluvial bend in the southern branch or Waikāne Stream. The western side of the terrace set is a highly eroded gulch. The terrace set is 36 by 7.3 m. Two terrace walls are located west of the eroded gulch, suggesting that they once were connected to the terrace set on the east side. It appears that heavy stream flow may have rushed through the center of the terrace site, eroding the upper 2 m of sediment. Seven or possibly eight terrace wall remnants are present perpendicular to the stream on the east side, whereas only two remain on the west side. They range in height from 50 to 60 cm. None of the walls are parallel to the stream.

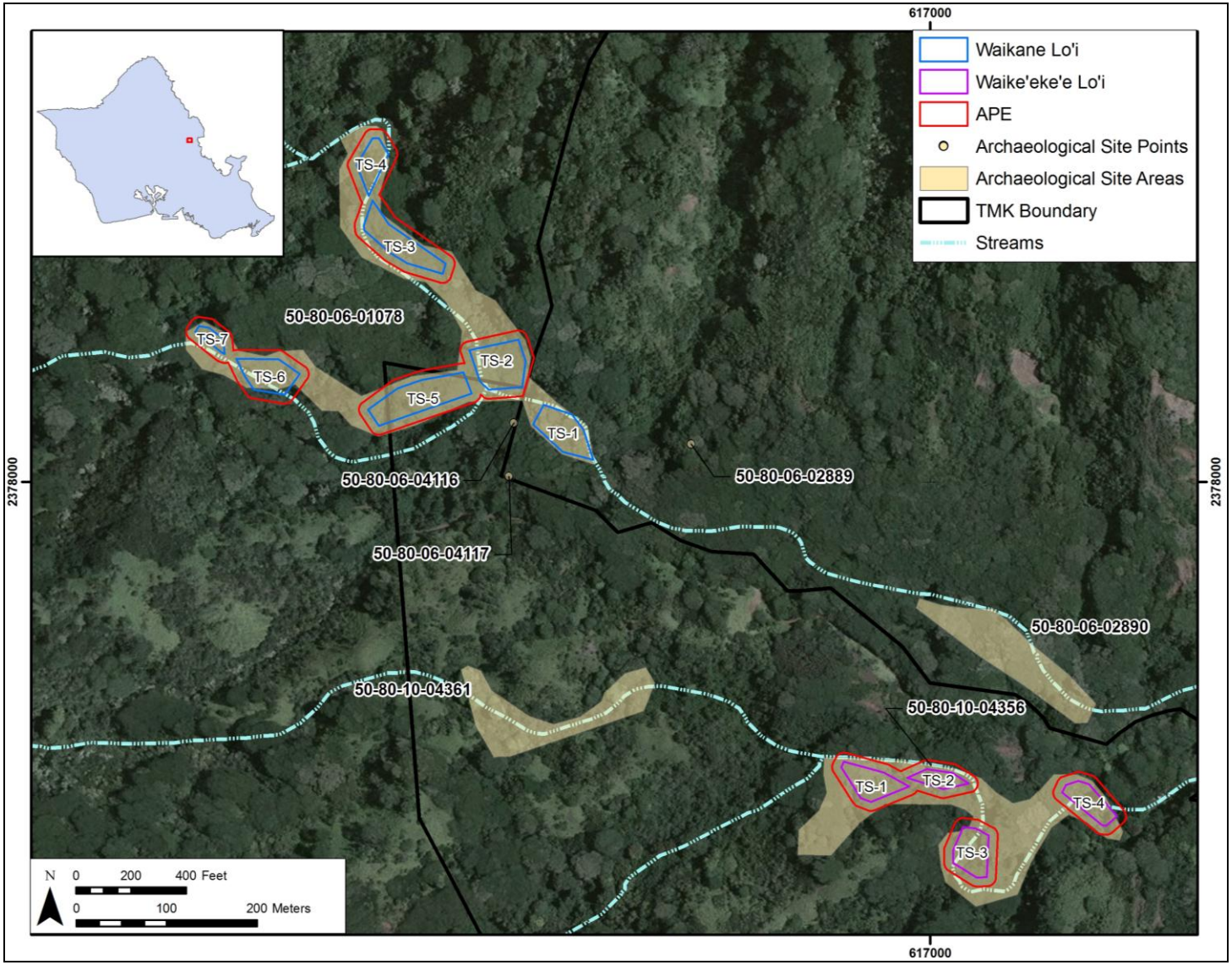


Figure 15. Aerial photo map showing previously documented historic properties within the project area

Table 4. Summary of Historic Properties identified within and adjacent to the project area (shown in Figure 15)

SIHP # (50-80-06-)	**Structure**	**Function**	**Source**	**Significance**	**Previous Recommendations**
1078 (Waikāne Taro Flats)	Taro lo‘i, Habitation features, shrine and birthing stone	Agriculture, Habitation and Religion	Rasmussen 2008	A, B, D	Preservation. Subsurface testing should be conducted to determine chronological age as well as differential use of features
4356	Taro lo‘i and charcoal kilns	Agriculture and Charcoal Manufacturing, with possible Habitation and Religion	Rasmussen 2008	D	Preservation. Subsurface testing should be conducted to determine chronological age as well as differential use of features
Outside Project Area					
2889	Shrine	Religion	Welch and Streck 1984	N/A	Preservation and treatment as a religious site associated with Waikāne Taro Flats (1078)
2890	Taro lo‘i	Agriculture	Welch and Streck 1984	N/A	N/A
4116	Irrigation Ditch	Agriculture, Irrigation	Walker and Rosendahl 1990	N/A	No further work
4117	Boulder Alignment	Transportation	Walker and Rosendahl 1990; and Rasmussen 2008	none	No further work; The site designation should be removed from the record.
4361	Charcoal kilns and modified slope	Charcoal Manufacturing	Rasmussen 2008	D	Preservation. Subsurface testing should be conducted to determine chronological age as well as confirm morphology

3.1.2 SIHP # : 50-80-10-4356

Site 4356 is located approximately 250 m west of the confluence of Waikāne and Waike‘eke‘e Streams and extends west beyond the junction of the north and south branches of Waike‘eke‘e Stream. The site consists of four *lo‘i* sets (Terrace Sets 1 to 4), a level area above the terraces containing charcoal and firepit features, remnant alignments, three charcoal kilns, and a remnant of a historic road.

This site was originally recorded by Dunn et al. (1992:A-5 - A-18), who identified 30 terraces, six charcoal kilns, six alignments, two ditches, a rubble concentration, and a mound. During the field work for Rasmussen 2008, a detailed site map was drawn to scale and matched to the Feature designations assigned by Dunn et al. (1992) based on labeled fragments of blue flagging tape.

Terrace Set 1 consists of the westernmost *lo‘i* located along Waike‘eke‘e Stream. It is about 76 by 32 m in size and extends along the south bank of the stream. A sketch map of Terrace Set 1, showing 10 of the fields (Features A through H, L, and RR), was included in the original report (Dunn et al. 1992:A-7). A test unit excavated within one of the long retaining walls, located between fields designated Features F and H, uncovered remnant portions of a buried retaining wall at 50 cm below surface. No cultural material was observed.

A trail was recorded at the west end of the *lo‘i*. It zigzags up the side of the finger ridge. The trail is about a meter wide and appears to have stone berms supporting the down slope edges. The trail leads to a relatively flat area at the base of a finger ridge above the fields. No surface features were apparent, however, excavations by Zapata Engineering within the grids located in this area uncovered two possible fire pits with charcoal and a piece of volcanic glass, The ordnance excavations are small ranging in size from 10 to 20 cm wide and generally 15 to 40 cm deep, During examination of these excavations, the archaeologist cleaned and straightened the sidewalls, Since charcoal was observed at the base of the excavation, an additional 5to 10 cm of soil was excavated at the base, revealing the presence of red earth that appears to have been fire-affected, thus suggesting a fire pit.

Terrace Set 2 is located on the north side of Waike‘eke‘e Stream about 7m from the east end of Terrace Set 1. Although this area was recorded by Dunn et al. (1992), no site maps were included within the report and it is difficult to ascertain which features were assigned which designation. Therefore, the features designations shown on the site map for Terrace Set 2 are based on feature descriptions, some of which appear to have confused the orientation and do not contain information about the location or nearby features.

Terrace Set 2 extends along Waike‘eke‘e Stream for 64 m. It is 17 m wide. Three level *lo‘i* fields are present, however, it appears that an additional field was present in the west end of the side due to the presence of a terrace wall (designated as Feature I). This area is now partially eroded and no longer level. Dunn et al. (1992:A-12) describe another feature, designated as Feature J, which is located across from Terrace Set 1 and west of Feature I, that “consists of a buried or eroded retaining wall with remnants of basalt facing ... in association with Feature J is a broad area ... [that] is possibly a buried terrace system, due to the nature and appearance of the area and the presence of scattered basalt cobbles.” During the current survey, no identifiable

terraces were present on the north side of Terrace Set 1. This area was highly eroded by the stream and only scattered cobbles and small boulders were present. The area contained standing water and loam, making the area very muddy. It is highly possible this area was at one time a lo‘i.

Two perpendicular terrace walls are present at Terrace Set 2, which range in length from 7 to 13 m. They appear to be composed of rock with an overlay of loam. Additional research is necessary to determine if this is actually how these features were constructed and not an erosional component. Two parallel terrace walls extend along the streamside of the terrace; one located at the western end of the terrace and the other at the eastern end. Although they may have been joined at one time, the stream has eroded the area (29 m) between them. The western wall is 14 m long and the eastern wall is 17 m.

An *‘auwai,* which appears to be designated as Feature SS, is located at the back (north) portion of Terrace Set 2. The original feature description notes that it is on the north side of the stream and that it terminates at Feature A, which is on the south side of the stream at Terrace Set I. A small piece of blue flagging tape with SS written on it was found sticking up from the mud at the *‘auwai* in Terrace Set 2, suggesting that it is actually located at the latter terrace.

The takeoff point for the *‘auwai* is located at the western end of the site, just east of Feature I. It extends about 34 m and is 1.5 m wide. About 20 to 22 m east from the takeoff point the *‘auwai* appears to be rock lined.

One charcoal kiln is located in the western side of Terrace Set 2, north of the *‘auwai*. It is excavated into the hill, 4 m long and 3.5 m wide. The kiln may be Feature K, however, it appears to be smaller (2.34 by 3.10 m) than the one recorded during the current project. The feature description mentions a small drainage in the front of the kiln, but does not mention if it is an *‘auwai* or if it is Feature SS. A 50 by 50 cm test unit was excavated into the base of Feature K by Dunn et al. (1992:A-12). A layer of charcoal was found at 20 to 25 cm below surface. The sediment above the charcoal is described as an erosional deposit.

A partially buried roll of communication wire and an ammunition box was observed at the east end of the terrace set, indicating use of the area during training purposes by the U.S. military.

Terrace Set 3 is located 48 m downstream (southwest) of Terrace Set 2. It appears to include Features U through X (Dunn et al. 1992:A-14 – A 15). An old bend in the stream is located on the west side of the terrace set. A new, less sharp bend, is 9.5 to 13 m east of the old bend. Since the terrace walls (Features U and an unnamed terrace wall south of Feature V) line up on both sides of the new bend, it appears to indicate the new bend in the stream occurred after the terrace set was constructed. It may have been partially caused by diversion of water through an *‘auwai* or by rutting caused during removal of charcoal along a possible dirt road that roughly parallels the stream and appears to overlay the terrace walls.

The upper, northern portion, of Terrace Set 3 is divided into six fields. The terrace walls (Features S, T, and W) are between 9 and 17 m in length and range in height from 40 to 60 cm. Portions of the terrace are eroded both along the stream and the old bend in the stream. The mid-northern and southeastern terrace walls are earthen berms. The other terrace walls are

constructed of rocks. This northern portion of the terrace set contains numerous mango trees, which were hazardous during fruiting season.

A small knoll is located on the east side of the sharp bend in the stream, roughly in the middle of Terrace Set 3. Two small alignments with a level area in between are located on top of the knoll. It is designated as Feature V, a possible habitation area (Dunn et al. 1992:A-14). During the initial survey by Dunn et al. (1992:A-14), four traditional Hawaiian artifacts were collected: a basalt whetstone, a basalt core, and two basalt flakes. A 50 by 50 cm test unit was excavated to a depth of 50 cm below surface at this location; however, no cultural materials were observed.

Feature U, on the west side of the stream (19 m long and 85 cm high) and the terrace wall on the east side of the stream (15 m long and 70 cm high) form the southernmost fields in Terrace Set 3. These two terrace walls extend parallel to the stream. A 4.5 m long and 10 cm high wall extends away from it in a perpendicular direction. As mentioned above, these fields appear to have been created before the stream channel divided this area. It appears there may have been two or three small fields, although only one level area remains.

A charcoal kiln, designated as Feature X, is located at the southern end of Terrace Set 3. It is 4.4 by 2.5 m is size. The front of the kiln is partially eroded by Waikeʻekeʻe Stream. Only the northeast side of the entrance appears intact with stacked basalt rock about 40 cm high. The rear of the kiln is excavated into the hill, about 190 cm. A 50 by 50 cm test unit was excavated into the base of the kiln by Dunn et al. (1992:A-15). One layer was encountered, which consisted of 35 cm of decomposing bedrock. No cultural material was observed.

Terrace Set 4 is the southernmost set of terraces in Site 4356. It is about 125 m downstream from Terrace Set 3, in a northeast direction. The terrace set is about 82 by 22 m, and located at the bend in Waikeʻekeʻe Stream, along the south and east side. The junction between Waikeʻekeʻe and Waikāne Stream is about 250 m downstream.

The terrace set consists of 10 fields divided by live to six terrace walls (Features HH to possibly MM). Six of the terrace walls extend in a north to south direction, perpendicular to the stream. They are about 13 m long and 30 to 40 cm high. They appear to be constructed of both rock and a combination of rock with a soil overlay. Two short (4 m long) remnants of terrace walls in the west side of the terrace set are parallel to the stream; there appears to be no terrace wall parallel to the stream in the east side. An *ʻauwai* with PVC pipe within it is located in the middle of the terrace set, which extends in a west to east direction. Another *ʻauwai* or small ditch is located 3.5 to 9 m north, towards the stream. It is about 75 m long and follows the curve in Waikeʻekeʻe Stream. These two *ʻauwai* do not appear to have been recorded by Dunn et al. (1992).

A small, raised terrace (4.7 by 6 m and 40 cm high) is located in the southeast side of the terrace set near the hillside, on the south side of Feature II. Although it may be an agricultural terrace, it appears to be a habitation or storage area located above the *loʻi*.

An alignment of rocks is present on the west side of Waikeʻekeʻe Stream across from the terraces. Dunn et al. designated it as Feature FF and noted that although it is “heavily eroded, it does appear to have the remnants of terracing to it” (1992:A 16). This feature was examined

during the current project and appears to be a remnant of a road that extends along Waike‘eke‘e Stream. The rock alignment appears to be the remnants of a retaining wall or berm for the road.

A charcoal kiln, designated as Feature EE by Dunn et al. (1992:A-16), is also located on the west side of Waike‘eke‘e Stream, across from the terraces. Communication wire was observed inside the kiln during the original survey. It was not observed during the current survey. The kiln is 5.3 by 3.6 m in size and rises from 60 cm at the front to 240 cm at the rear. The entrance is about 0.7 m wide, and constructed of stacked basalt cobbles and boulders about three to four courses high. The interior of the kiln does not appear to be rock lined.

A boulder with historic petroglyphs was observed between Terrace Sets 3 and 4, along the west side of Waike‘eke‘e Stream. Zapata Engineering Stake TS-E-5 is located just east of the boulder. The charcoal kiln (Feature EE) is about 66 m northeast. The boulder is subrounded saprolite and easily marked, as indicated by the new machete gouges near the petroglyphs. Two older petroglyphs were observed on the east side of the boulder: the initials “J” and possibly “T” on the south end and a five-pointed star on the north end. These petroglyphs are post-Contact and may relate the use of the road and charcoal kilns during the late 19th and early 20th centuries. They may also be from soldiers using the area for training practice during WWII, or others using the valley.

In addition to the features recorded by Dunn et al. 1992 and Rasmussen 2008, a number of temporary sites were recorded in the immediate vicinity by Altizer, Rivera and Monahan 2012 which were later designated as features of the existing SIHP. The locations of these sites were mapped using a GARMIN GPSMAP60Cx unit (accuracy ± 2–5 m), and not mapped relative to previously documented features; in some cases these may be extensions of previously documented features.

3.1.2.1 Temporary Site CSH 21 (SIHP #50-80-10-4356)

FORMAL SITE TYPE:	Terrace
NO. OF FEATURES:	1
DIMENSIONS:	2.0 m long by 0.2–0.3 m high
CONDITION AT GROUND SURFACE:	Poor
FUNCTIONAL INTERPRETATION:	Traditional Agriculture
AGE INTERPRETATION:	Either or both Pre-Contact/Post-Contact

DESCRIPTION: CSH 21 is a terrace located in the eastern portion of the Southern Impact Region. It is in relatively poor physical condition, consisting of a one-course boulder alignment measuring 2.0 m long by 0.2–0.3 m high. CSH 21 is within the site complex previously-identified as SIHP #50-80-10-4356 by Dunn et al. (1992). Site 4356 was originally described as having 46 component features including terraces, alignments, depressions and mounds (Dunn et al. 1992). Later, Rasmussen (2008) also noted the presence of *‘auwai*, a trail, *lo‘i* fields and charcoal kilns. The terrace designated CSH 21 appears to be part of Site 4356, an extensive traditional Hawaiian agricultural complex dating from either or both pre-Contact/post-Contact times.

3.1.2.2 Temporary Site CSH 22 (SIHP #50-80-10-4356)

FORMAL SITE TYPE:	Terrace Complex

NO. OF FEATURES:	Numerous
DIMENSIONS:	Indeterminate
CONDITION AT GROUND SURFACE:	Indeterminate
FUNCTIONAL INTERPRETATION:	Traditional Agriculture
AGE INTERPRETATION:	Either or both Pre-Contact/Post-Contact

DESCRIPTION: CSH 22 is a terrace complex in the northern portion of the Southern Impact Region. CSH archaeologists observed five agricultural terraces, a trail with stone curbing, and a possible charcoal kiln. CSH 22 is part of a terrace complex (SIHP #50-80-10-4356) previously documented by Dunn et al. (1992) and Rasmussen (2008). Site 4356 is a particularly large and extensive set of agricultural terraces, rock alignments, possible *lo‘i* field, charcoal kilns and *‘auwai*. The terrace complex designated CSH 22 appears to be part of Site 4356, an extensive traditional Hawaiian agricultural complex dating from either or both Pre-Contact/post-Contact times.

3.1.2.3 Temporary Site CSH 23 (Portion in Western Limits of SIHP #50-80-10-4356)

FORMAL SITE TYPE:	Trail
NO. OF FEATURES:	2 (uncertain)
DIMENSIONS:	Indeterminate
CONDITION AT GROUND SURFACE:	Indeterminate
FUNCTIONAL INTERPRETATION:	Pedestrian Transportation
AGE INTERPRETATION:	Indeterminate

DESCRIPTION: CSH 23 is a trail in the northern portion of the Southern Impact Region. The trail is present on both sides of Waike‘eke‘e Stream. The trail, which is oriented roughly *mauka* to *makai* (east-to-west), does not exhibit any formal features; it is still in use today given its current state of wear. Further investigation is required to determine its full extent. The eastern portion of CSH 23 documented by CSH during the current project is within the depicted (geo-referenced) location (western limits) of SIHP #50-80-10-4356, which Dunn et al. (1992) described as having 46 features including terraces, alignments, depressions and mounds. Rasmussen (2008) noted the presence of *‘auwai*, a trail, *lo‘i* fields and charcoal kilns. CSH 23 may be the trail identified by Rasmussen (2008) at this site complex. It seems unlikely the trail can be dated with any specificity.

3.1.2.4 Temporary Site CSH 32 (SIHP #50-80-10-4356)

FORMAL SITE TYPE:	Modified Boulder (with Petroglyphs)
NO. OF FEATURES:	Indeterminate
DIMENSIONS:	1.7 m long by 1.2 m wide by 1.4 m high (boulder dimensions)
CONDITION AT GROUND SURFACE:	Indeterminate
FUNCTIONAL INTERPRETATION:	Petroglyphs
AGE INTERPRETATION:	Post-Contact and Possibly Pre-Contact

DESCRIPTION: CSH 32 is in the northeastern portion of the Southern Impact Region. The site contains a large boulder measuring 1.7 m long by 1.2 m wide by 1.4 m high. Three faces of the boulder are exposed above the ground surface and come to a point. The boulder is marked with

petroglyphs dating from early to modern post-Contact times, and possibly pre-Contact times. A variety of techniques have been used to mark this boulder including abrading, pecking and incising. Images include (a) an animal resembling a cat or dog produced by pecking; and (b) an animal resembling a sheep- or goat-like creature produced by abrading. Other motifs may possibly represent the form of waves. Clearly modern petroglyphs can also be deciphered: the word “ARIZONA” has been pecked and “MISSISSIPPI 1961” has been incised into the boulder. Both modern U.S. state names were inscribed over the sheep-like figure. The boulder also exhibits random scarring, likely incised by a metal blade.

CSH 32 appears to be within SIHP #50-80-10-4356, the extensive traditional Hawaiian site complex documented by Dunn et al. (1992) and Rasmussen (2008). It is important to state that the modified boulder with petroglyphs described here as CSH 32 is *not* the same feature as one identified by Rasmussen at this site (see photograph, Rasmussen 2008:98, of a distinctly different boulder).

3.2 Near Project Area

Located near SIHP # -1078, the following two sites were originally recorded by Walker and Rosendahl (1990), but have since been reevaluated by Magnuson, Peterson and Carson (2004) and Rasmussen (2008), who recommended the sites be removed from the State Inventory of Historic Properties.

3.2.1 SIHP # : 50-80-10-4116

SITE TYPE: Historic ditch (1 Feature)
TOPOGRAPHY: Located within and against the south bank of Waikāne Stream
VEGETATION: Predominately *hau* and strawberry guava
CONDITION: Poor
INTEGRITY: Unaltered
PROBABLE AGE: Historic
FUNCTIONAL INTERPRETATION: Wetland/irrigated agriculture
DIMENSIONS: 18.0 m by 0.75.0 m by 0.15-0.3 m
DESCRIPTION: The ditch is constructed of concrete, waterworn basalt boulders, and wooden planks. The ditch generally contains a somewhat smooth interior surface of concrete reinforced with re-bar. The waterworn boulders are set into the concrete and line the exterior side of the ditch. The ditch follows the curves in the stream bank and appears to have functioned to divert water from the stream into adjacent flat soil areas. There are two remaining wooden planks lining the interior base and side of the ditch. Portions of the ditch have eroded away. (Walker and Rosendahl 1990)

3.2.2 SIHP # : 50-80-10-4117

SITE TYPE: Boulder alignment (1 Feature)
TOPOGRAPHY: Located on the south side of the primary jeep road in Waikāne Valley
VEGETATION: Predominately false staghorn fern
CONDITION: Poor
INTEGRITY: Unaltered

PROBABLE AGE: Historic
FUNCTIONAL INTERPRETATION: Transportation
DIMENSIONS: 5.8 m by 0.3-0.5 m by 0.30-0.35 m
DESCRIPTION: This structure is constructed of waterworn basalt boulders which are aligned along the south edge of a jeep road. The boulders are stacked one to two courses high and appear crudely faced on the south side. An erosion channel and high steep soil bank are present immediately south of the boulder alignment. The site is probably a foundation remnant for the road leading to the back of Waikāne Valley. (Walker and Rosendahl 1990)

3.2.1 Other SIHP #s near the project area

2.1.1.1 SIHP #s -06-02889, -06-02890, and -10-04631are near the project area but distant enough that it is unlikely they would be impacted by the proposed work. Sites -06-02889 (a shrine) and -06-02890 (an agricultural terrace complex) are both on TMK 4-80-14-006, which is not owned by OFC and Site -10-04361 (charcoal kilns and modified slope) is approximately 200 m further up Waike‘eke‘e Stream from the end of -04356.

Section 4 Consultation

4.1 Requirement for Consultation

Hawai‘i Administrative Rules 13-277-3 (4) governing Preservation Plans specifies:

> The agency or person shall consult with ethnic organizations and individuals for whom the historic properties are of significance. The comments on preservation treatment expressed by these individuals or organizations shall be considered when preparing the preservation plan. The plan shall include a list of individuals and organizations consulted and shall summarize their input.

4.2 Community Consultation

Throughout the course of this plan preparation, an effort was made to contact and consult with Hawaiian cultural organizations, government agencies, and individuals who might have knowledge of and/or concerns about traditional cultural practices specifically related to the Project area. This effort was made by letter, email, telephone and in person contact. The initial outreach effort was started in September 2012, and is still underway. In the majority of cases, a letter (along with a map and an aerial photograph of the Project area), were mailed with the following text:

> Aloha mai e kāua,
>
> At the request of ‘Ōhulehule Forest Conservancy, LLC, Cultural Surveys Hawai‘i, Inc. (CSH) is preparing a preservation plan for ten (10) lo‘i terraces and associated features identified along Waikāne and Waike‘eke‘e streams on the property of the ‘Ōhulehule Forest Conservancy. These sites are identified as the Waikāne Taro Flats (SIHP #: 50-80-10-1078), and the Waike‘eke‘e lo‘i (SIHP #: 50-80-10-4356). The project area is within the boundaries of TMKs [1] 4-8-014:005 and 4-8-006:001along the Waikāne and Waike‘eke‘e Streams. This area is depicted on the U.S. Geological Survey 7.5-minute series topographic map, Kahana (1992) and Kaneohe (1998) Quadrangles, tax map and aerial photograph (Figure 1 to Figure 3).
>
> The project area is located on land privately owned by ‘Ōhulehule Forest Conservancy, LLC (OFC). The proposed project consists of the restoration and reuse of ancient and historic lo‘i along the Waikāne and Waike‘eke‘e Streams for kalo farming. The land on which the current project area rests was part of the Former Waikane Valley Training Area (FWVTA). This site is a Formerly Used Defense Site (FUDS) and has undergone the process of demilitarization. This entire training area was used by the Army and Marine Corps for training from 1942 to 1976.

After the ordnance clearance was completed, large portions of the FWVTA were purchased by ‘Ōhulehule Forest Conservancy, LLC and a number of revitalization projects were planned: planting of native species in three separate forest restoration areas; an organic cacao farm in the lowlands; and the restoration and reuse of historic taro lo‘i along Waikāne and Waike‘eke‘e Streams, addressed here.

The preservation plan will discuss the methods and procedures that will be used to restore and reuse the lo‘i of two historic properties and also protect certain features of those sites which have been identified as having traditional cultural significance.

SIHP #: 50-80-10-1078 (Waikāne Taro Flats) was placed on the National Register of Historic Places in 1973. The site consists of seven terrace sets; associated agricultural features such as ‘auwai; possible habitation features; a charcoal kiln; and religious features including an agricultural shrine and a birthing stone.

SIHP #: 50-80-10-4356 (Waike‘eke‘e Lo‘i) consists of five terrace sets and other agricultural features; a number of charcoal kilns, possible habitation areas and a boulder with historic petroglyphs.

All of the planned work, including: removal of invasive plants such as large albizia trees; restoration of lo‘i walls and ‘auwai channels; and the preparation and planting of kalo in the lo‘i will be done by hand or with hand-held tools. No heavy equipment/wheeled vehicles will be used off of the existing jeep road. PVC piping will be run through the ‘auwai channels and up to the streams for irrigation, as opposed to altering the stream in any way. OFC is looking to secure permits to allow taro farming in the historic lo‘i and then have community groups become stewards of the taro lo‘i with a long term commitment.

The purpose of this outreach is to gather information specific to the sites within the Project area and their component features, through contact with individuals that are knowledgeable about this area in order to assess potential impacts to the cultural resources, cultural practices and beliefs identified as a result of the planned Project. We are seeking your kōkua (assistance) and guidance regarding the following aspects of our study:

- **Knowledge of cultural sites which may be impacted by the restoration and reuse of lo‘i within the Project area - for example, historic sites and / or archaeological sites.**
- **Recommendations for the treatment of known religious features within the sites, such as the agricultural shrine and birthing stone.**
- **Referrals of kūpuna or elders and kama‘āina who might be willing to share their cultural knowledge of the Project area.**
- **Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the Project area.**

I invite you to contact me at (808) 262-9972 or send an e-mail to akay@culturalsurveys.com if you have any information you would like to share.

Mahalo nui loa,

Andrea Kay, M.Sc.

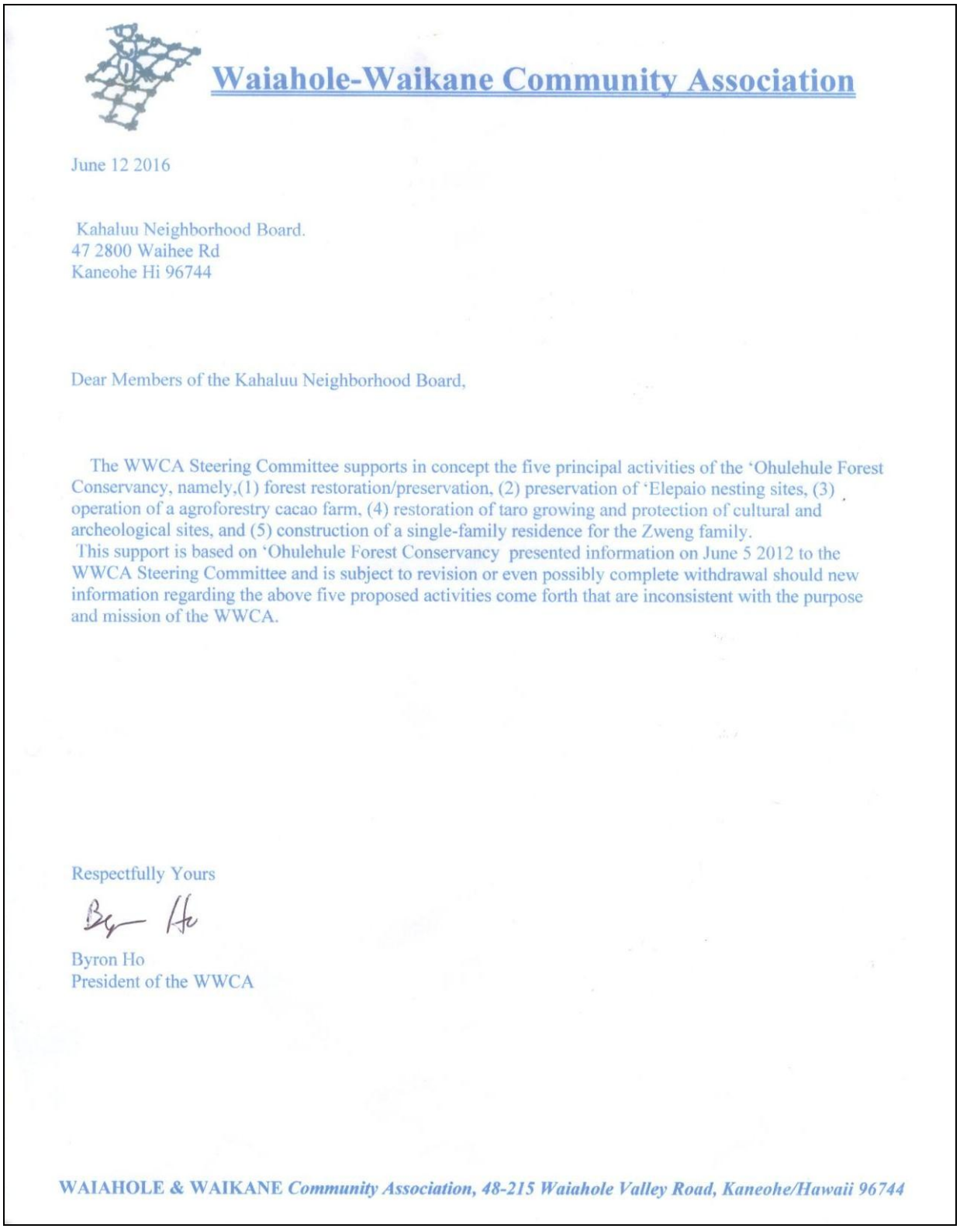
CSH Archaeologist

4.3 Community Consultation Effort

This portion of the Preservation Plan is still in progress and not included in this interim report.

4.4 Letters of support

Prior to the preparation of this plan, ‘Ōhulehule Forest Conservancy consulted both the Waiāhole-Waikāne Community Association and then the Kahalu‘u Neighborhood Board, regarding all of the projects planned for the property. Both community groups provided letters of support (Figure 16 and Figure 17).



Waiahole-Waikane Community Association

June 12 2016

Kahaluu Neighborhood Board.
47 2800 Waihee Rd
Kaneohe Hi 96744

Dear Members of the Kahaluu Neighborhood Board,

The WWCA Steering Committee supports in concept the five principal activities of the ‘Ohulehule Forest Conservancy, namely,(1) forest restoration/preservation, (2) preservation of ‘Elepaio nesting sites, (3) operation of a agroforestry cacao farm, (4) restoration of taro growing and protection of cultural and archeological sites, and (5) construction of a single-family residence for the Zweng family.
This support is based on ‘Ohulehule Forest Conservancy presented information on June 5 2012 to the WWCA Steering Committee and is subject to revision or even possibly complete withdrawal should new information regarding the above five proposed activities come forth that are inconsistent with the purpose and mission of the WWCA.

Respectfully Yours

Byron Ho
President of the WWCA

WAIAHOLE & WAIKANE *Community Association, 48-215 Waiahole Valley Road, Kaneohe/Hawaii 96744*

Figure 16. Letter of support from Waiāhole-Waikāne Community Association

KAHALU'U NEIGHBORHOOD BOARD NO. 29
(Heeia Kea, Ahuimanu, Kahalu`u, Waihee, Kaalaea, Waiahole, Waikane, Hakipuu, Kualoa
HONOLULU HALE, ROOM 406 ↑530 SOUTH KING STREET ↑HONOLULU, HAWAII, 96813
L808) 768-3710 ↑FAX (808) 768-3711↑E-MAIL nco@honolulu.gov↑INTERNET: http://www1.honolulu.gov/nco

"LET US NOT EVER HAVE AN UNHAPPY MINORITY; RATHER, LET US BUILD A COMMUNITY CONSENSUS."

RESOLUTION
REGARDING OHULEHULE FOREST CONSERVANCY

At its Wednesday, June 13, 2012 regular meeting, the Kahalu`u Neighborhood Board No. 29 unanimously adopted the following resolution:

The Kahalu'u Neighborhood Board supports in concept the five principal activities of the 'Ōhulehule Forest Conservancy, namely, (1) forest restoration/preservation, (2) preservation of 'Elepaio nesting sites, (3) operation of an agroforestry cacao farm, (4) restoration of taro growing and the protection of cultural and historical sites, and (5) construction of a single-family residence to be used by the Zweng family. This support is based on the information presented at the Kahalu'u Neighborhood Board's June 13, 2012 meeting and is subject to revision or even possibly complete withdrawl should new information regarding the above five proposed activities come forth that are inconsistent with the purpose and mission of the Kahalu'u Neighborhood Board.

David Henkin
Chair, Kahalu'u Neighborhood Board No. 29

O`ahu's Neighborhood Board system -- Established 1973

Figure 17. Letter of support from Kahalu‘u Neighborhood Board

Section 5 Proposed Preservation Measures

This section details the preservation and restoration measures that will be undertaken for the two historic properties addressed in this plan. It discusses buffer zones, short-term protection measures, and long-term preservation measures for each of the historic properties. Preservation measures for these historic properties will only be carried out on the portions of the historic properties within the ‘Ōhulehule Forest Conservancy, LLC property. The portions of the historic properties located on lands that are not owned by ‘Ōhulehule Forest Conservancy are not under the jurisdiction of this preservation plan.

Hawaii Administrative Rules Title 13, Department of Land and Natural Resources Subtitle 13, State Historic Preservation Division Rules Chapter 277, states that a preservation plan prepared pursuant to chapters 13-275 or 13-284, shall:

(1) Identify for each significant historic property which forms of preservation will be implemented: avoidance and protection (conservation), stabilization, rehabilitation, restoration, reconstruction, interpretation, or appropriate cultural use;

(2) Specify the buffer zones around each significant historic property and depict them on a map of sufficient scale;

(3) Specify short-term protection measures for each significant historic property that will be within or near a construction area;

(4) Discuss the agency or person’s consultation process for historic properties deemed significant under paragraphs 13-275-6(b)(5) or 13-284-6(b)(5). The agency or person shall consult with ethnic organizations and individuals for whom the historic properties are of significance. The comments on preservation treatment expressed by these individuals or organizations shall be considered when preparing the preservation plan. The plan shall include a list of individuals and organizations consulted, and shall summarize their input. (see section 4.1 above)

(5) Specify the long term preservation measures to be undertaken at each significant historic property.

5.1 Short-term Protection Measures

Preservation will take three forms, (1) avoidance and protection (conservation), (2) restoration, and (3) appropriate cultural use.

5.1.1 Identification of Historic Properties and Demarcation of Short-Term Buffer Zone

Prior to any land disturbing activities or vegetation clearance in the vicinity of any historic properties designated for restoration, archaeologists will identify and clearly mark with bright colored flagging tape all archaeological features to be avoided; this includes any features interpreted as having a non-agricultural purpose (Figure 18 and Figure 19). After the establishment of a 5 meter buffer zone around the features, all flagging tape marking the features

themselves will be removed. After land disturbing activities are completed, the buffer zone flagging around the features will be removed.

5.1.2 Albizia removal

Large albizia (*Falcataria moluccana* or Moluccan albizia) trees are present within the project area which will need to be removed in order to reuse the *lo‘i*. Albizia trees are native to Indonesia and were introduce to Hawaii by Joseph Rock in 1917 (Little and Skolmen 2003:1) and have become extremely invasive. Because they “fix nitrogen in the soil, they alter Hawaiian forests to favor non-native plants.” (Wianecki 2010-2011:1)

The albizia trees cannot be taken down using machinery or heavy equipment for fear of disturbing the *lo‘i* sites. Instead, they will be poisoned using an approved herbicide called Garlon 4 Ultra; the active ingredient is Triclopyr, which is unrestricted and selective against dicots (Motooka et al. 1999:4).

This will be accomplished through cut-surface stem treatment which has “virtually no hazard of nontarget plant injury” (Motooka et al. 1999:2): first, the drilling 1/4-inch diameter holes, approximately 1-inch deep and 8-inches apart along the circumference of the tree, near the base of the tree trunks (approximately 1 to 3 ft above ground level); second, each hole will be injected with 0.5 ml of Garlon 4 Ultra. The trees should drop their leaves within a month and small branches in 6-9 months. It is expected that it will take 4-6 years before the trees have degraded to the point whereby only the trunks remain standing. For safety reasons, workers will be kept out of the *lo‘i*, and other areas that are directly below the branches of each albizia tree, until the branches have fallen and have been removed.

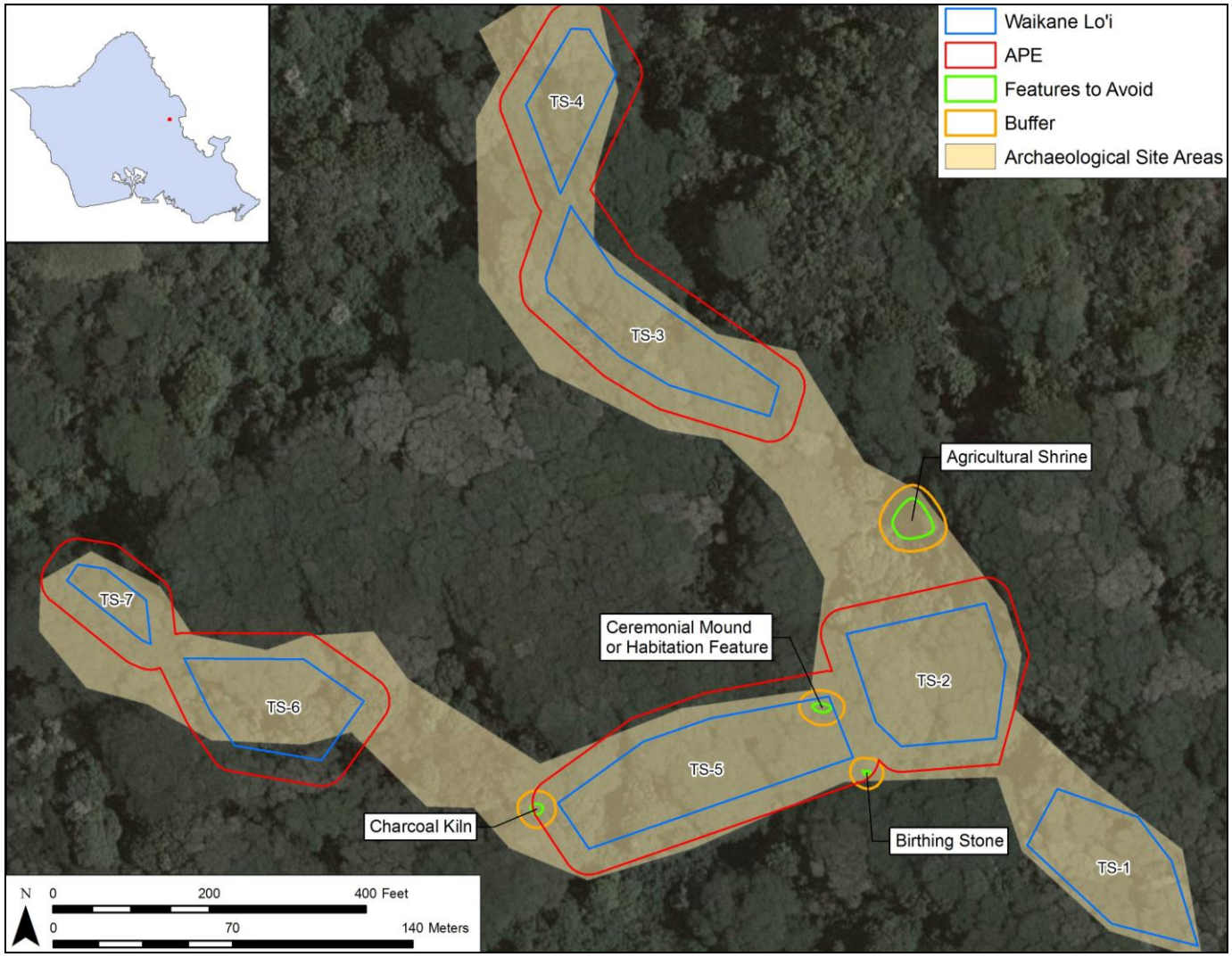


Figure 18. Aerial photograph, showing Waikāne (SIHP -1078) lo‘i terrace sets (blue) within Project Area (red) and features recommended for avoidance (green) with corresponding buffers (orange)

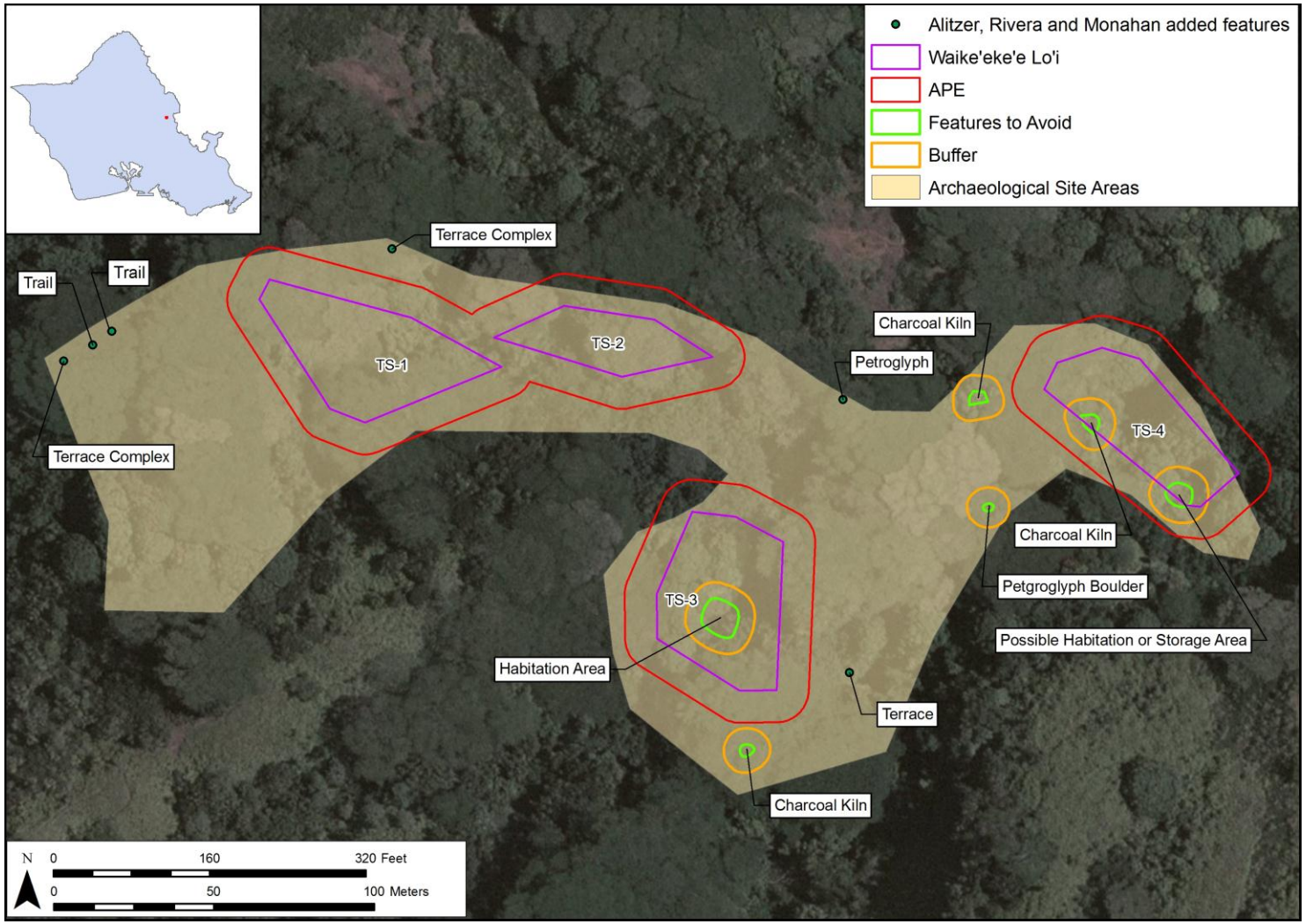


Figure 19. Aerial photograph, showing Waikeʻekeʻe (SIHP -4356) loʻi terrace sets (purple) within Project Area (red) and features recommended for avoidance (green*) with corresponding buffers (orange). *Alitzer, Rivera and Monahan 2012 locations (dark green) are approximate

5.2 Long-Term Preservation Measures

5.2.1 Demarcation of Long-Term Buffer Zone

As previously mentioned, passive preservation in the form of avoidance is recommended for the sensitive features of SIHP# 50-80-06-1078 and -4356 shown in Figure 18 and Figure 19, therefore, the long-term preservation measures are to essentially maintain the present condition of each historic property.

The location of SIHP# 50-80-06-1078 and -4356, in low traffic or remote areas on private property, serves to adequately restrict unwanted access. Each historic property recommended for preservation, and corresponding buffer zones will be accurately located by a licensed land surveyor and this information will be documented on appropriate land records and maps.

5.2.2 Vegetation Clearing Methods

All vegetation clearing on and around the individual archaeological features will be done by hand or with hand-held tools. Periodic checks will be made at the sites to check that vegetation such as weeds, shrubs, or trees are damaging the integrity or stability of the sites. If vegetation is damaging the sites, all vegetation clearance will be monitored by an archaeologist. Allowable hand tools include, but are not restricted to: chain saws, machetes, weed-eaters, and clippers. Herbicides may be used prior to manual clearing in order to minimize the volume of vegetation to be removed, but environmental impacts should be considered. It should be emphasized that during vegetation clearing, care should be exercised to avoid any disturbance to the historic properties. No on-site or adjacent burning will be allowed. Wheeled vehicles will not be used within the buffer zone boundaries of the archaeological avoidance areas or off-road in the project areas.

5.2.3 Restoration and planting of *lo‘i*

Starting with Waikāne Terrace Set 2 (due to ease of access), and continuing one set at a time, the *lo‘i* will gradually be brought back into working order. The work of restoring, planting and farming the *lo‘i* will be carried out by hand or using hand tools and in a traditional manner as detailed in Native Planters in Old Hawaii (Handy and Handy 1972). Relevant excerpts from that text follow:

> The Hawaiians recognized the value of green manure in enriching their taro soil. In preparing ground for planting, after it had lain fallow, they flooded the soil, softened it with the digging pole, then pulled up the grass and weeds and stamped them deep into the mud. The same thing was done at each weeding and when old leaves were stripped off the taro plants. When a piece of ground was exhausted *(pahulu)*, quantities of *hau* and *kukui* branches and leaves were pressed into the mud and allowed to rot before final digging and leveling for planting. Animal or human manure, seaweed, or fish were never used as fertilizer. (89)
>
> The preferred method of wet-taro cultivation, wherever terrain and running water permitted, was in terraces *(lo‘i)* irrigated from streams by means of carefully

engineered ditch systems. In small *lo‘i* the water flows from one terrace into the next below […] the lower *lo‘i* must depend entirely on overflow and percolation from the higher. The area of the several terraces is small, however, so that the freshness and coolness of the water is not exhausted as it is in the broad patches of the lowlands. (92)

The new piece of land selected for making a terrace was flooded for several days, until the earth was thoroughly water-soaked. The dimensions, shape, and required degree of terracing were determined by the contour of the land. As described by Kamakau (n.d., Barrère, ed.) the men with their *‘o‘o* (digging sticks) lined up inside the limits of the banks of the projected terrace. Throwing up the earth along the line of the proposed embankment, they dug down until they struck firm subsoil. Sometimes little stakes *(la‘ola‘o)* were put down to hold the bank. After the soil had thus been piled on the banks to the required level, the sides of the embankment facing the water were stamped down with the feet, and edges and lines were straightened. Sugar-cane leaves were then beaten into the surface of these inner faces of the banks with logs *(la‘au)* or the butts of coconut leaves *(ku‘au).* Coconut leaves were then laid on the surface and pounded in with large flat stones. On this, moist earth was laid and pounded until the surface was smooth; finally the bank was covered with fine soil, on top of which were put trash and leaves to prevent the new bank from drying and cracking in the sun. This completed the making of the earth bank for low terraces in valley bottoms. Some earth banks were reinforced inside by veneering with stones. (92-93)

When a high terrace was built to offset a steep slope, […] a stone retaining wall had to be constructed. This required digging away top soil at the base line of the wall until the bottom stones could be laid in firm subsoil. This top soil was thrown up on the slope above the excavation to serve as fill for the terrace. For the foundation, the largest stones that could be handled, available on the hillside, in a stream bed, or on the beach, were pried, rolled, and slid into place. Some stones so used weighed tons. The wall sloped slightly inward toward the top so as to increase stability. […] In these terraces, after the retaining wall had been completed, the hillside at the back of the enclosed area was dug away to complete the fill. (93)

As the first step in building up a new terrace, it was necessary to make a hard floor so that there might be a minimum of seepage of the precious irrigating water. It is said that anciently the bottom of a terrace was pounded with logs and heavy stones. This work was termed *paluku* or *pakui.* But the usual method, followed until recent times, was "treading" *(hehi).* (93)

Kamakau (n.d., Barrère, ed.) described a “day of treading *(la hehi lo‘i),*” which we summarize here. The patch was filled with water. Men, women, and children, bedecked with greenery, waded in and vigorously tramped the bottom soil of the patch to make it firm and watertight, "dancing, rejoicing, shouting, panting and making sport." The owner of the patch had meanwhile prepared for all the folk taking part a feast of fish, pork, and *poi,* in which they indulged after the treading. The *huli* were planted the next day. The banks *(ku‘auna, ika, kaika,* or *kuaio)* of the

> old terraces were not the mere grass- covered retaining walls and footpaths that they are today. On the banks the wet-taro farmers planted important subsidiary crops: bananas, sugar cane, arrowroot, and *ti* plants, the leaves of which had many uses and the roots of which appeased hunger in famine times. Kamakau says that the old planters took great pride in the planting of their banks. (93-94)
>
> The natives used to fertilize their terraces by burying in the ground the foliage and branches of *hau* or *kukui* and allowing these to rot thoroughly before planting the cuttings. Present-day planters also throw back into the patch all the stalks and leaves from the cuttings. While the taro is growing they throw out grass and most weeds, but stamp into the mud certain weeds that are regarded as desirable fertilizers, particularly the *kohekohe* which grows abundantly in wet patches. (95)
>
> For taro to thrive, the water should be both fresh and cool, one reason why *lo‘i* in the upper reaches of cool, deep valleys are especially good for taro culture. (95)
>
> Not only did the flooded terraces raise the staple of life for the old planter, while its banks supported his secondary crops, but in the semiliquid slime of the patch itself fish were raised. Fish may still be seen in some *lo‘i* today. Kamakau writes that the varieties of fish bred in the *lo‘i* were the *‘awa*, mullet, *o‘opu* and *aholehole.* (94)
>
> In areas of wet-taro cultivation, young mullet were placed in the liquid mud of taro patches and there thrived. It is not unlikely that this latter custom came about as a result of placing the smaller fish in the *lo‘i* when a netful was caught, in order to keep them fresh. It was discovered that they not only kept fresh, but thrived and grew. The mullet *(‘ama‘ama)* is a grazing fish, and when the fingerlings *(pua ‘ama)* were put into *lo‘i* their stirring about and grazing helped keep the water fresh. (262)

OFC is currently seeking a community organization of some kind to take on the long term care and harvest of *kalo* in the *lo‘i.*

5.2.4 Stabilization Measures

Other than the restoration of *lo‘i* walls and *‘auwai* channels, no stabilization measures are anticipated in the immediate future for any of the historic properties addressed in this preservation plan. No structures were observed to be in danger of collapse or other disturbance by human or natural causes. Any future stabilization of these sites would be restricted to repairing walls and facings in areas where rocks have been displaced, with repair work limited to returning sites to their condition as documented during recent archaeological studies. The work would be performed by persons experienced in traditional Hawaiian dry-stack rock wall building, and in consultation with SHPD/DLNR.

5.2.5 Landscaping Plan

Other than the planting of *kalo* in the *lo‘i*, no landscaping is planned for any of the archaeological preserve areas addressed in this preservation plan. However, if landscaping outside the *lo‘i* areas is to occur in the future, the following landscaping provisions are recommended:

a. Use of *ti (Cordyline fruticosa)*, bananas (*Musa sp.*), sugar cane (*Saccharum officinarum*) or Polynesian arrowroot (*Tacca leontopetaloides*); all of which are mentioned by Handy and Handy 1972 as important subsidiary crops which were planted on *lo‘i* banks or nearby.

b. Minimal ground alteration during landscaping activities outside of the *lo‘i*, in order to maintain the integrity of the historic properties.

c. Vegetation adjacent to historic properties should not include varieties that contain large and ground disturbing root systems, large overhanging branches, or which are so overbearing as to destroy or overrun structural elements of the historic properties.

5.2.6 Pathways, Lighting, and Other Hardscape Structures

At present there is no plan for specific hardscape construction, pathways, or lighting within any of the archaeological preserve or restoration areas. No benches or lighting, drawing particular attention to the areas, is indicated. Future pathways, benches, and/or lighting would be allowed within the restoration areas as long as they do not involve adverse impact to the integrity of the historic properties. Any future plans for hardscape construction within the archaeological preserve areas should be made in consultation with SHPD/DLNR.

5.2.7 Access to Historic Properties

There are currently no plans to allow public access to the sites. The ‘Ōhulehule Forest Conservancy (OFC) ground can only be accessed by crossing private lands held by the City and County of Honolulu (CCH; managed by the Windward Dept. of Park and Recreation). The OFC has an easement to travel over the Waikāne Valley Road which crosses the CCH parcel to reach the *lo‘i* areas. Therefore, only a limited number of people involved in the project and cleared by OFC will have the ability to use the Waikāne Valley Road. Access to the historic properties will also be allowed for SHPD/DLNR staff to inspect the archaeological preserve and restoration areas to assure compliance with the provisions of this preservation plan. Access will be allowed only with prior written consent of the landowner or representatives. Access to the archaeological preserve areas prior to and during implementation of this preservation plan can be obtained by contacting the current landowner ‘Ōhulehule Forest Conservancy, via the following contact information:

‘Ōhulehule Forest Conservancy
1236 A‘alapapa Drive
Kailua, HI 96734
ATTN: Paul Zweng

5.2.8 Future Archaeological Research

There are currently no plans for further archaeological work on the historic properties covered by this preservation plan. If any future archaeological research is expected, no work should be allowed without prior written approval of a research plan by the SHPD/DLNR and only in coordination with the current landowner.

5.2.9 Penalty

Non-compliance with the provisions and procedures of this plan once accepted by the SHPD/DLNR shall result in a directive to the person or party involved not to proceed with construction adjacent to the historic properties and may result in a denial or revocation of SHPD/DLNR’s written concurrence or agreement. Non-compliance shall also result in penalties as provided in Section 6E-11, HRS and applicable laws.

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APPENDIX F: Cultural Impact Consultation & Interview Summaries

(Townscape, Inc. 2012 & 2021)

Interview with Mr. Keoki Fukumitsu (2012)
Interview with Ms. Pat Royos (2012)
Interview with Mr. Ted Saizon (2012)
Interview with Mr. Ted Saizon (2021)
Interview with Mr. Laurence Uyemura (2020)
Interview with Mr. Māhoelehua Collins

Cultural Impact Interview Summaries

1. Keoki Fukumitsu Interview Summary

Interviewee: **Mr. Keoki Fukumitsu** (Community leader, Hakipu'u/Waikāne *kama'aina*)

Interviewed by: Lauren Armstrong (Townscape, Inc.) by phone

Date: December 6, 2012

Mr. Keoki Fukumitsu is a resident of Hakipu'u, an *ahupua'a* next to Waikāne. His family is a *kuleana* landowner, receiving title to the land during the Great *Māhele*. The family migrated from Waikāne to Hakipu'u in the time of Kamehameha I. Mr. Fukumitsu has been active in the community with a focus on agriculture and Native Hawaiian subjects for many years. He was a founder of the Native Hawaiian legal corporation, and used to be very active in the area's Neighborhood Boards. He currently serves on the Governor's "Taro Purity and Security Task Force" that has been monitoring taro lands, harvests and where taro is going for the past three years. The Task Force introduces bills to the legislature that call for more support of taro growing through loans, land, etc. He has been busy with the Task Force, which is currently preparing for the opening of the next legislative session.

Regarding the proposed cacao farm, Mr. Fukumitsu commented that removal of vegetation may cause runoff that would impact water quality in the streams, shore areas and ocean. Sediment running off the land can smother *limu, o'opu,* and other native aquatic species as well as coral reefs. The *ho'iwai* (river mouth area) is important because many species conceive there. Species like *hi'iwai* and *opae* lay eggs in the sand. Ocean species like mullet, *moi* and *awa* come to the *muliwai*, where their hormones are activated by sweet (brackish) water and they reproduce. Land clearing can also result in the loss of topsoil. There needs to be a good vegetated buffer zone between the cleared land and the stream, which can be accomplished by planting from the bottom up. This practice was followed in traditional taro planting. He agreed that the 'Ōhulehule Forest Conservancy's plans to plant cover crops, use mulch and avoid land clearing during the rainy season would help to mitigate the impacts of soil runoff.

Mr. Fukumitsu has done extensive research on the history of the area, and has documents from the Great *Māhele*, population counts, Land Commission awards and court awards from the approximate time period of 1850-1920. He is interested in preserving the *ahupua'a*, with particular emphasis on native crops. He believes that cacao is compatible with native crops, since

it is environmentally sound and has good economic potential. Taro is culturally and educationally important, but labor-intensive. There is economic possibility there, but it needs to be an

agricultural operation, a business. In the olden days taro was a dietary staple and an industrial crop with significance throughout Hawai'i and the Pacific. We need to prove to future generations that taro can be grown again.

Other good crops that could be grown in Waikāne are *ulu*, tapioca, banana and *ʻuala*. These crops provide good, healthy sustenance. *Awa*, which is drunk as a religious and spiritual practice, has good potential pharmaceutically and its consumption is popular. Native and non-native plants could be grown together, as part of an educational and cultural program.

Mr. Fukumitsu used to volunteer cultivating taro 25-30 years ago on the Kamaka family *kuleana* parcel up in the valley. They would clean the land, propagate native species, and also hike on trails to hunt and gather mountain apples. Those lands were condemned by the Federal government to serve as military training grounds until 9/11. The government hasn't made an attempt to clean up that part of the valley, only the lower areas.

Hakipuʻu and Waikāne valley were very sacred places that the king gave to the kahuna. This area is where the first voyagers from the Pacific landed, so it holds the significance of what they brought on the voyage in their canoes. *Laʻau lapaʻau* (medicinal plants) and trees were some of the plants they brought from across the Pacific. Each site signified an individual and his trade, with trades going from mountain to ocean. For example, Kaʻai brought *ulu* to Kualoa. Mauiloa is buried between Waikāne and Hakipuʻu. The history here goes back 25,000 years. In the modern day, as we put these pieces together, it becomes a more significant reality, a real history. History represents a way of life that is being modernized and Westernized. They started using animals like buffalo and oxen to pull carts. It was sophisticated living, even in grass shacks, pounding *poi*. Then came cars. Now we're trying to integrate tradition with modern life.

Mr. Fukumitsu wants to plant taro in a *makai* part of Waikāne, and has been working with the City and WWCA to move forward. He could use support to make it happen and sustain it. He is also interested in being part of Mr. Zweng's project, and welcomes future contact from the ʻŌhulehule Forest Conservancy. He helped create the *loʻi* at University of Hawaiʻi and a number of other places. He identified Mr. Francis Sinenci as a good contact regarding the process and permits required for building a traditional *hale*. Also, Cultural Surveys Hawaii did a nice report on Hakipuʻu.

Mr. Fukumitsu consented to allow Townscape Inc. to include the contents of this interview in the ʻŌhulehule Forest Conservancy planning documents, including the Cacao Farm Environmental Assessment.

2. Pat Royos Interview Summary

Interviewee: **Mrs. Pat Royos** (Waikāne Valley resident and member of Waiāhole-Waikāne Community Association)

Interviewed by: Lauren Armstrong (Townscape, Inc.) by phone

Date: December 6, 2012

Mrs. Pat Royos was born in Waiāhole Valley in 1945, was raised there and continues to live in the valley today. She has served as president of the Waiāhole-Waikāne Community Association (WWCA) and is currently an active member. Her parents came to Waiāhole Valley in 1932, after her father lost his leg while working at the quarry in Waimānalo. Their family farmed banana and papaya on a seven-acre lot. There were many taro *lo'i* in those days.

Mrs. Royos is very interested in preserving the Waikāne pier because it has a legacy and historic significance of more than 100 years. Ships used to pick up crops grown in Waiāhole and Waikāne valleys, such as coffee, sugarcane, rice, and pineapple. There was a train track that carried food from up in the valley down to the pier. She would like the valley to go back to that, but we need serious farmers who want to farm. Nowadays young people are more interested in working indoors on computers.

The number of cultivated taro patches began to decline in the 1960's. Now there are people like the Reppuns and a lady named Dolores on Homestead Road who still grow taro. Dolores and her husband used to grow 12 acres of taro, but since her husband passed away, she and a worker from Bishop are growing less. There are many people who want to grow taro, but it's hard to get in because the City and State own most of the land. The State wants to get rid of this place, because they're all about development and have lost interest in agriculture. The agricultural park could have been successful, but all the old-timers who knew how to farm are fading away.

Under the long-term lease, people's land goes back to the State if no one wants to take care of it. The HHFDC requires lessees to generate a good income from farming, not from what they do outside. Before, people didn't know it would come to this. They thought they could do what they wanted with the land. Now the State tells them what to grow, and doesn't allow them to raise animals. Farmers must grow things like vegetables, flowers and taro—the focus is on production. If we want more taro, we need more water. That's the only way to bring the water back, because the *lo'i* need water. It used to be 50-50 leeward and windward, now looking at our stagnant

streams, it seems that 75% is going to the leeward side. It's not fair. Since sugar plantations are done, they should return the water to us. Once you give them something, they won't give it back. Now they want the water for development.

Other crops aside from taro would also help get the water back. We need serious farming, otherwise the land goes back to the State. Mrs. Royos and the WWCA support Mr. Zweng's plans to start a cacao farm, because they would rather see farming than development. The last guy who

owned that property (Mr. Enomoto) wanted to develop it, and put in an eight-inch water line. The HHFDC wanted it, but someone in the valley found out and the community protested. She believes Mr. Zweng is different from the previous landowner. He is involved in the community, and they see him every weekend. He is going through the process, showed them (the WWCA) the proposal, and they trust him. Seeing what he's doing, they support it.

Mrs. Royos would like to see farming come back. The community won't let HHFCD sell the land, and will keep fighting. The BWS is not wanted in the valley, since the existing contractor has done fine. BWS wants our water, not to take care of people. This residential community is different from outside. It's agriculture and residential, with different water pricing for farmers. The people who live here and work the land stick together.

She is glad her son-in-law (Elijah Kane, a house builder) is getting involved in cultural practices in the valley, since the next generation needs to be involved. They want to save Waikāne pier for its historic value and the *mauka-makai* connections it could foster. The pier is collapsing, but the DLNR doesn't have money to rebuild or restore it. Also, many people in the community would like to have an open market in the Waiāhole-Waikāne Park that is currently cleaned by the WWVCA. This would encourage more farming since farmers would have a place to sell on Wednesdays and Fridays. Restrooms and parking facilities are needed to have an open market. The City has money to do this, and Donovan Dela Cruz tried really hard to make it happen. The steering committee decided not to due to concerns about homeless people living in the park. Mrs. Royos thinks that people living nearby could take care of the park so that doesn't happen, and thinks it could be a beautiful park.

Another cultural project she and others would like to make happen in Waikāne is to make a canoe for the kids. They could use albizia trees from the valley, just like the olden days. The kids could learn how to make the canoe, and this would be a linkage to the pier. The kids could paddle canoe. Also, Mrs. Royos' son-in-law wants to save the fish by making them an area to lay eggs. They would need netting and more freshwater from the streams to create the right habitat for *aholehole* fish (mullet), crabs and *limu*. They also want to clean the area near the *poi* factory, and to see beautiful scenery with plenty of *lo'i*. Anything can happen with willpower, then people want to get involved. Some people are interested in farming taro with buffalo. Mr. Keoki Fukumitsu of Hakipu'u/ Waikāne is interested in growing taro in Waikāne.

Mrs. Royos consented to allow Townscape Inc. to include all contents of this interview in the 'Ōhulehule Forest Conservancy planning documents, including the Cacao Farm Environmental Assessment.

3. Ted Saizon Interview Summary

Interviewee: **Mr. Ted Saizon** (Waikāne Valley resident)

Interviewed by: Lauren Armstrong (Townscape, Inc.) by phone

Date: December 12, 2012

Mr. Ted Saizon has lived on Waiāhole Valley Rd. near the entrance to the proposed cacao farm for 20 years. Before Waikāne Valley his family lived in nearby Kahalu'u. His family has been in Kahalu'u since the 1800's, and many of Mr. Saizon's relatives still live on the peninsula behind the fishpond. He attended school in Waiāhole Valley, and remembers the valley was mostly in farming then as it is now. Now, more people live in the valley. Way back, there used to be cattle in the valley.

The proposed cacao farm would be good because it's all farming in the area. Mr. Zweng is involved in the community, and lets people know about his plans. He loves nature, and goes hiking all over the property. Not many people hike up in the valley. Most of it is protected watershed area. Some people go pig hunting and bike riding. Old families sometimes go into the forest to get bamboo for decoration and garden trellises. Some people also gather edible fern shoots from the forest.

There is a Tongan family up Waiāhole Valley Road that runs a farming and cultural learning center. Aside from that, the valley is peaceful. The government closed off the backside of the valley where the Kamakas used to be because it was a former military training area. Before that, the Kamakas used that land for a long time. They used to have *lo'i* way up in the valley. Most of the Kamaka family now lives near Kam Highway.

Mr. Saizon takes care of his five grandchildren who live with him. He is thankful that they have a place to stay for a while, but is unsure what will happen in the future.

ZWENG SINGLE FAMILY RESIDENCE IN WAIĀHOLE, KOʻOLAUPOKO, OʻAHU
KAMAʻĀINA INFORMANT MEMORANDUM NO. 01

Date: Tuesday, December 29, 2020
To: Project Files
From: Townscape, Inc.
RE: Proposed Zweng Single Family Residence
Participants: Mr. Laurence Uyemura and Lillie Makaila, Townscape, Inc.

INTERVIEW:

The interview took place in-person at Mr. Laurence Uyemura's home in Waiāhole Valley. Lillie provided a brief introduction to Townscape, Inc. (TSI) and its work on planning projects for the ʻŌhulehule Forest Conservancy and specifically the current Conservation District Use Application and Environmental Assessment report for the Proposed Zweng Single Family Residence in Waiāhole, Koʻolaupoko, Oʻahu. The discussion included both broad concepts and considerations for planning within the ahpuaʻa of Waiāhole and Waikāne, and specific issues and suggestions for the potential for cultural and/or historic impacts from the construction of the Proposed residence in the project area.

When asked if he was familiar with the project site, Mr. Uyemura shared the following:

- Mr. Uyemura has visited the parcel and walked the project site with Paul Zweng. In his youth, he spent time in the area, and he remembers the parcel from when the Saizon family lived there and had a house, chicken farm and plant nursery.

When asked to share any cultural or historical knowledge that he has about the area, Mr. Uyemura shared the following:

- Hakipuʻu and Waikāne were known more for their religious history.
- There is a spiritual place in Waikāne near where the Kamaka family property was, which is along Waikāne Ridge in the back of the valley.
- On the backside of Waikāne Mountain, near the two red hills there is a rock face on the ridge and just below that there was a stream that came out of the ground there. This spring had a pipeline that was connected to it to provide water to the people in Waikāne.
- There are some Hawaiian sites near Māhoe Collins property in Waiāhole Valley.
- There is a heiau in Hakipuʻu, called Puakea, that was used for human sacrifices.
- The Cano family house used to be a plantation house. In the early 1900's, there were a lot of Asian people who were brought in to work in the plantations, mostly Okinawans and Japanese. There were other plantation houses throughout the valley too.

- The military came into the area after the attack on Pearl Harbor and used the area as a military base and kept ammunition there.
- Mr. Uyemura isn't familiar with any Hawaiians that did worshipping in Waiāhole Valley.

When asked to share his personal connection to the area, including the project site,shared the following:

- Mr. Uyemura's family is from Hakipuʻu, which is north of Waiāhole and Waikāne. His mother's family is descended from Inoino, a kuleana landowner from the time of the Māhele that had kuleana lands in Hakipuʻu near what is now called Johnson Road.
- Mr. Uyemura's Grandfather, Mitsutani Uyemura, was Japanese and lived in Hakipuʻu. His father Stanley Uyemura and grandfather later ran a fishing company with a fish house that was based in Waikāne. They kept their boats at the shoreline and had Filipino workers that were employed in their fishing business. Fish were caught by lay net fishing between Kualoa and Kāneʻohe Bay and then sold locally. Mr. Uyemura remembers helping with the fishing business when he was young.
- His family moved out of Hakipuʻu to Waikāne around the time of WWII. The military built a runway and air base at Kualoa, and that kind of moved out the people from there and moved out the Hawaiians in the area.
- Mr. Uyemura's father later worked as a carpenter at the military base. He later got into working as a mechanic and was very akamai. He later worked as a driver for a gas company delivering gas. Mr. Uyemura's mother was the first bus driver in the area, during the 1950's-1960's. She drove a route from Waiāhole to Kāneʻohe and dropped off kids from Waiāhole Elementary to Ben Parker Elementary, servicing multiple schools along the windward side.
- When Mr. Uyemura was younger, he would go into the military areas on Fridays after the military personnel left for the week. He would go around the military area, and would sometimes get the canned rations that were left around. One day, in the 1960's, Mr. Uyemura heard a loud noise and there was a huge landslide that came down from Waikāne Ridge and filled in the aquaponds that were at the base of the hill over there that was operated by the Robert's family. Maybe it was the spring that eroded the side of the mountain and caused the landslide.

When asked to describe any traditional or customary practices that he is aware of in the area, Mr. Uyemura shared the following:

- He knows that taro and rice was grown on the makai side of the Kamehameha Highway in Waiāhole, across from the Poi Factory.
- There were many farmers in the valley that grew kalo.
- The area where the Reppun family lives is where there was mostly kalo along the streams.

  There were a lot of loʻi in the area, most of them were smaller kine, not big kine. Plenty were located in the mauka areas of the valleys, like mauka of the Kupau and Wilkinson properties on Waiāhole Valley North Bend Road, passed Paul Zweng's property and at

the end of the road. There were also a lot of loʻi in Waikāne as well, along the streams there.

When asked if there are any long-time residents of the valley who may be familiar with traditional and customary practices, Mr. Uyemura shared the following:

- Māhoe Collins family has been in the valley for a long time.
- Toni Cano's family has been in the valley for a long time.
- The Fukumitsu's and the Hoe's, relatives of Mr. Uyemura's, have also been in the valley for a long time.
- The Kupau family is a newer family to the valley.
- McCandless quiet titled and stole land from the people in the area. He put his name on a lot of the land papers, and that is how he got a lot of Hawaiians out of the area. The military also got Hawaiians out of the area too. That's part of why there aren't as many Hawaiian families that are still here.

When asked if there are any persons that he knows of who may need access to the property for traditional or customary practices, Mr. Uyemura shared the following:

- Before, there used to be Pig Hunters that would go up into the mountain to hunt. Before, they could go up there and hunt. When Oʻahu Sugar Company took over the land, then it was harder for hunters to have access up there to hunt so now there aren't as many.
- When it comes to gathering rights, the only trees that he is aware of from the area that would be good for gathering is sandalwood, but most of that is gone. The trees that are there now, Albizia, Red Guava, Octopus Tree, Fiddlewood, and Gunpowder Tree, these are trees that no one is going to gather from. There isn't a lot of need to gather from these trees in the area.
- There used to be more surface water resources in the area of Paul Zweng's property. Once the McCandless water line and the Water System (Waiāhole Valley Water System) were put in, there is much less surface water. Something happened back when they put in the McCandless line, and it drained the surface water. In the 1960's there was only the McCandless line and there was more water back then. Today, there is barely a trickle of water.
- There isn't anyone in particular that Mr. Uyemura knows of that would need access to the property for farming or gathering or other traditional practices.

ZWENG SINGLE FAMILY RESIDENCE IN WAIĀHOLE, KOʻOLAUPOKO, OʻAHU
KAMAʻĀINA INFORMANT MEMORANDUM NO. 03

Date: Monday, January 18, 2021
To: Project Files
From: Townscape, Inc.
RE: Proposed Zweng Single Family Residence
Participants: Māhoelehua Collins and Lillie Makaila, Townscape, Inc. via telephone

INTERVIEW:

The interview took place over the phone with Mr. Māhoelehua Collins, long-time resident and kuleana landowner in Waiāhole Valley and Lillie Makaila of Townscape, Inc., consultant to ʻŌhulehule Forest Conservancy. Lillie provided a brief introduction to Townscape, Inc. (TSI) and its work on planning projects for the ʻŌhulehule Forest Conservancy and specifically the current Conservation District Use Application and Environmental Assessment report for the Proposed Zweng Single Family Residence in Waiāhole, Koʻolaupoko, Oʻahu. The discussion included both broad concepts and considerations for planning within the ahupuaʻa of Waiāhole and Waikāne, and specific issues and suggestions for the potential for cultural and/or historic impacts from the construction of the proposed residence in the project area.

When asked to share his connection to Waiāhole and Waikāne, Mr. Collins shared the following:

- Mr. Collins shared that the land that he lives on, a property off of Waiāhole Valley Road, is a kuleana land award that was originally awarded to Kaʻao during the time of the māhele. In that LCA the land was described as a pā hale, or a house site.
- This parcel was passed down through his family to his father, Joseph Leilehua in 1921. From his father, the land was passed down to him, and he currently lives on the property and raised his family there.
- Mr. Collins shared that his father's aunt (on his mother's side) held the property, and passed it down to his father. Her name was Paikikei.
- His father moved to the property in Waiāhole when Mr. Collins was 2 years old. Mr. Collins and all of his siblings attended Waiāhole Elementary School, a school established during the time of King Kalākaua.
- Mr. Collins attended Waiāhole School from kindergarten until 7th grade. He then attended ʻIolani School in Honolulu from 8th grade on. He said that he would meet up at the Hygienic Store, a well-known market in Kahaluʻu, and wait for one of the teachers to pick him up. He would ride with her, Mrs. Kim, to school every day.

When asked if he was familiar with the project site, Mr. Collins shared the following:

- Mr. Collins said that growing up he spent a lot of time hiking in the valley. He would access what is now the Zweng property by trails located at the end of the North Branch Road. He would hike up into the forest reserve from there, or hike over into Waikāne Valley.
- Mr. Collins used to play near the property as a child. He can recall his childhood friends, Billy Gagney and Albert Badeo lived nearby and would there was a large group of valley kids who would play nearby. They didn't play in the vicinity of the former or proposed residence, but they played close to it.

When asked to describe any traditional or customary practices that he is aware of in the area, Mr. Collins shared the following:

- Mr. Collins shared that there extensive loʻi mauka and makai of the Waiāhole Poi Factory building. He mentioned that there were employee quarters on the site of the Poi Factory, and there was loʻi surrounding those buildings.
- Regarding Waikeʻekeʻe Stream, Mr. Collins said that he never saw or heard of anyone who was growing kalo or had loʻi in the stream.
- He mentioned that kalo farming was abundant in the valley, but that there are not loʻi in the vicinity of the proposed residence since that is high ground and not close to the streams.

When asked if there are any persons that he knows of who may need access to the property for traditional or customary practices, Mr. Collins shared the following:

- Mr. Collins stated that there are a lot of kuleana landowners still in the valley. He and his family are kuleana landowners and lineal descendants in Waiāhole. He also mentioned that the Kupau family, Fernandez family, and the RIchardsons are all on kuleana lands.
- Mr. Collins mentioned that he has heard of family names who might have a connection to the lands that are now owned by the ʻŌhulehule Forest Conservancy, but he has never seen them living there or known them to access the property.
- He mentioned that the Penikunu family may have cultural or lineal connection to lands near the vicinity of the proposed residence. He is not sure if they had a house lot or a garden lot nearby.
- Mr. Collins mentioned that he is an employee of the Department of Land and Natural Resources, and he works in the land division. He is very familiar with researching land tenure history, and looking over land commission awards and other historical documents. He mentioned that it is important to take note of any ʻauwai or historic trails that are demarcated in land commission award documents, as those spaces are critical and need to be protected and preserved today.

When asked if there are any long-time residents of the valley who may be familiar with traditional and customary practices, Mr. Collins shared the following:

- Scuba Kupau
- Bobby Fernandez

ZWENG SINGLE FAMILY RESIDENCE IN WAIĀHOLE, KOʻOLAUPOKO, OʻAHU
KAMAʻĀINA INFORMANT MEMORANDUM NO. 02

Date: Monday, January 4, 2021
To: Project Files
From: Townscape, Inc.
RE: Proposed Zweng Single Family Residence
Participants: Ted Saizon and Lillie Makaila, Townscape, Inc. via telephone

INTERVIEW:

The interview took place over the phone with Mr. Ted Saizon, former resident of the Zweng property and Lillie Makaila of Townscape, Inc., consultant to ʻŌhulehule Forest Conservancy. Lillie provided a brief introduction to Townscape, Inc. (TSI) and its work on planning projects for the ʻŌhulehule Forest Conservancy and specifically the current Conservation District Use Application and Environmental Assessment report for the Proposed Zweng Single Family Residence in Waiāhole, Koʻolaupoko, Oʻahu. The discussion included both broad concepts and considerations for planning within the ahupuaʻa of Waiāhole and Waikāne, and specific issues and suggestions for the potential for cultural and/or historic impacts from the construction of the proposed residence in the project area.

When asked if he was familiar with the project site, Mr. Saizon shared the following:

- Mr. Saizon first became familiar with the property because he was looking for a place to keep his horses. He had recently come into ownership of two quarter horses and was looking for a suitable place to keep them. He was aware of old horse stables built on the property, then owned by Tom Enomoto. Mr. Saizon reached out to Mr. Enomoto, and they reached an agreement for him to be able to keep his horses on the property.
- At this time Mr. Saizon was living with his family in Kahaluʻu. Over time, he and his wife considered moving into the home that was on the property as well. He reached an agreement with Mr. Enomoto and moved into the residence that was on the property around 1991 (this structure was later removed in 2017).
- The previous owner, before Mr. Enomoto used to keep horses on the property, and also used to have a farming operation growing tropical plants like ginger and heliconia.
- When Mr. Saizon and his family moved onto the property they grew some tropical plants, they raised chickens, and kept horses.

When asked to share any cultural or historical knowledge that he has about the area, Mr. Saizon shared the following:

- Mr. Saizon used to ride his horses throughout Waiāhole and Waikāne Valleys. He is very familiar with the trails and the land in those valleys. He mentioned that the back part of

the valley was used by the military and was fenced off because of the unexploded ordinance. Mr. Saizon was able to access parts of this area while riding.

- Mr. Saizon said that he would sometimes come across areas with rock walls and terraces. None of these areas were located in the vicinity of the proposed residence. All of these places were some distance from the property that he was a tenant of.
- Mr. Saizon said that he is not aware of any historical or cultural sites near the proposed residence. He mentioned that there were some flat areas at the back of the horse stables that could have been used for kalo at one time. But there was never any kalo grown there that he had ever seen. There was not much water available on the property, only a small trickle of water in the area behind the old horse stables. Mr. Saizon mentioned that by looking at the land it appears that there may have been more water before, but all of that had dried up by the time that he resided on the property.

When asked to describe any traditional or customary practices that he is aware of in the area, Mr. Saizon shared the following:

- Mr. Saizon mentioned that there is a water source nearby, the stream (Waianu Stream) that is located closer to Waiāhole Valley Road. He mentioned that there were kalo farmers along that stream, and in the valley in general, located further upstream by the Reppuns, and further down closer to the ocean too.
- He also mentioned that there was a Tongan family that lived on the property adjacent to the Zweng property, and that family grew ‘ulu or breadfruit.
- Mr. Saizon said that he is not aware of any cultural uses like kalo farming or gathering of specific plants or items on the property. In the 20+ years that he resided on the property he never had anyone ask for permission to access any parts of the property for cultural uses.

When asked if there are any long-time residents of the valley who may be familiar with traditional and customary practices, Mr. Saizon shared the following:

- Norman Sadoyama is a long-time resident in the Valley and would be familiar with the property.
- Laurence Uyemura is a long-time resident in the Valley and would be familiar with the property and maybe cultural practices in the Valley.

When asked if there are any persons that he knows of who may need access to the property for traditional or customary practices, Mr. Saizon shared the following:

- Mr. Saizon said that there are a lot of pig hunters in the Valley. People who wanted to access the property in order to hunt in the Valley needed to ask his permission. The hunters that went on the property were mostly friends of his that became aware of the property through their relationship with him. He would allow his friends to hunt on the property. He is not familiar with any persons or families who every needed access to the property for hunting. Mr. Saizon said most of the hunters that he allowed on the property had not hunted on the property prior to him allowing them on the site.

- Mr. Saizon stated that no persons or families ever asked for permission to access the property for traditional or customary practices such as gathering or caring for grave sites, etc.

APPENDIX G: Ka Wai Ola April 2021 Issue

(OHA 2021)

Apelila (April) 2021 | Vol. 38, No. 04

Ka Wai Ola

NEWS FOR THE LĀHUI

kawaiola news

A PLACE OF CHIEFS



The evening sun sets behind the Waiʻanae mountains streaming golden light to Kūkaniloko. OHA's plans to manage this sacred wahi kūpuna and the surrounding 511 acres of land, were developed in collaboration with the Wahiawā community and other cultural experts.
- Photo: Jason Matias / www.JasonMatias.com / IG @realjasonmatias

Special Insert Inside

Mana i Mauli Ola

OHA's 15-YEAR STRATEGIC PLAN FOR 2020-2035

PAPAKILO
DATABASE

Celebrates 10 years!

The Office of Hawaiian Affairs' Papakilo Database is a comprehensive resource of varied collections pertaining to significant places, events, and documents in Hawai'i's history. This online repository helps to perpetuate cultural and historical information, preserve practices, and provide an invaluable resource to educate the general public.

The Papakilo Database launched on April 4, 2007 and has been in development ever since. It collates over 1.1 million unique records from dissimilar databases and continues to grow on a daily basis.

Take a deep dive into each collection and learn more about Papakilo Database during our webinars. We will be hosting two webinars every Month until December 2021.

Empowering Hawaiians, Strengthening Hawaiians

OHA
OFFICE OF HAWAIIAN AFFAIRS

Mark your calendars...

Kipuka Collection – OHA's GIS Database
• May 14 •
12:00 pm - 1:00 pm
• May 17 •
6:30 pm - 7:30 pm

'Ulu'ulu Digital Moving Archive Collections
• June 25 •
12:00 pm - 1:00 pm
• June 28 •
6:30 pm - 7:30 pm

Awaiaulu – Hawaiian Language Newspaper Collection
• July 16 •
12:00 pm - 1:00 pm
• July 19 •
6:30 pm - 7:30 pm

Awaiaulu – Ali'i Letter Collection and Hawaiian National Bibliographies
• August 6 •
12:00 pm - 1:00 pm
• August 9 •
6:30 pm - 7:30 pm

Papakilo Database – Genealogy Research
• September 10 •
12:00 pm - 1:00 pm
• September 13 •
6:30 pm - 7:30 pm

Hula Preservation Society Collections
• October 18 •
6:30 PM - 7:30 PM
• October 22 •
12:00 PM - 1:00 PM

Stay tuned for the dates of November and December webinar dates!

Join us this month

Papakilo Database – General Introduction and Training

Friday, April 16
12:00 PM - 1:00 PM
&
Monday, April 19
6:30 PM - 7:30 PM

For more information please visit
www.papakilodatabase.com

PRESENTATIONS, A CELEBRATION AND LAMENTATION

Kumu (n. 4. Reason, cause, goal, justification, motive, grounds, purpose.)

Aloha mai kākou,

My mother was a lauhala weaver and, growing up, I would often watch her work. As I reflect now upon that process – from collecting and preparing the leaves, to designing and weaving each piece – what stands out in my mind was her intentionality.

Mom was intentional about every piece she made. She thought about its purpose, and considered its user. She crafted each item envisioning the finished product being used by the person for whom it was intended and, in doing so, endowed each piece with her aloha and her mana.

OHA's new strategic plan, Mana i Mauli Ola (Strength to Wellbeing), presented for the first time in this issue of *Ka Wai Ola*, was created with that same kind of intentionality and purpose with the needs of our lāhui as our greatest consideration.

A summary of the 15-year plan, enlivened with artwork by Nelson Makua, is included here as a special insert. OHA's three foundations - ʻOhana, Moʻomeheu and ʻĀina - and our four directions - Educational Pathways, Quality Housing, Health Outcomes and Economic Stability - represent the intentionality of our work for the betterment of our lāhui. Implementation of OHA's new strategic plan has begun and additional details will be shared in future issues of *Ka Wai Ola*, and on our website.

Also noteworthy, our cover story this month provides a preview of OHA's Conceptual Master Plan (CMP) for OHA's 511 acres in Wahiawā that surround Kūkaniloko. Read about the history of the area and our planning process to learn more about OHA's approach to land management and stewardship. OHA's plans for these Wahiawā lands are intentional, purposeful and designed with our lāhui at the forefront.

In keeping with this theme of intentionality, this month OHA celebrates the 10-year anniversary of the Papakilo Database. With a vision to be "the database of databases," Papakilo has more than 65 unique collections and over a million records, and houses an extensive array of kūpuna ʻike including Māhele records, Hawaiian language newspapers and other high-value resources to meet the research needs of our lāhui and to consolidate, store and protect this irreplaceable ʻike. Be on the lookout for future webinars that will introduce new users to this hidden gem and provide site navigation tips.

Finally, on the subject of intentions, I am reminded that not all intentions are good.

Last month OHA was excited about a bill in the state Senate that would remove residential prohibitions on OHA's land at Kakaʻako Makai, allowing OHA to help address Oʻahu's housing shortage while generating millions of dollars to expand our programs to benefit Hawaiians.

The bill passed in the Senate by an overwhelming majority, only to die six days later in the House without a hearing.

My disappointment that the bill did not even get a fair hearing is overshadowed by my disappointment in the politicization of our self-determination.

Regardless, we must draw upon the resilience of our kūpuna and resolve to ourselves to be pono with our kumu – our intentions and purposes - even if others are not. ■



Sylvia M. Hussey, Ed.D.
Ka Pouhana/Chief Executive Officer



Ka Wai Ola

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O‘ahu Neighborhood Board Elections Kick Off on April 23

By Aliantha Lim,
OHA Community Outreach Advocate

ALOHA RISING

Get ready to vote for your 2021-2023 O‘ahu Neighborhood Board members!

The island-wide, completely online election begins on April 26 and ends on May 21. If you are a registered voter, you will receive a passcode in the mail which will allow you to vote online.

Online voting is simple and easy to do and will take just a few minutes to complete. To learn about your candidates, visit the Candidate Profiles page at https://www2.honolulu.gov/nbe/candidateprofiles.php and select your district.

There are 33 Neighborhood Boards on O‘ahu that meet monthly and serve as the first line of support and information for residents with community concerns. It is also a mechanism to empower everyday people to make an impact on important issues facing our community: land use, public safety, infrastructure and development, public health, and water and natural resources planning, to name a few.

Native Hawaiian representation is needed at every level and in every aspect of government and decision-making in Hawai‘i. We need to advocate for our ‘āina, culture, and Kānaka, and electing the best representatives for each neighborhood can support that.

Go to http://www2.honolulu.gov/nbe to select your next neighborhood board representatives.

Be sure to vote early but before you do, use the online “candidate profile” tool to learn more about the people who will be making decisions in your neighborhood for the next two years. ■

ONLINE VOTING LOCATIONS

If you require computer access to vote in the Neighborhood Board elections, the following voting sites with computer access will be open during the period of April 23 through May 21 from 8:30 a.m. to 4:30 p.m.:

- Kapolei Hale Conference Room
  1000 Ulu‘ohi‘a Street (Monday through Friday)
- Kapālama Hale
  925 Dillingham Boulevard Suite 160 (Monday through Friday)
- The KEY Project in Kahalu‘u
  47-2000 Waihe‘e Road from 8:30 a.m. and 4:30 p.m. (Monday through Friday)
- Any public library on O‘ahu within the Hawai‘i State Public Library System (see library hours)

If you need further assistance, or to request a ballot, please call the Neighborhood Board Commission office at 808-768-3763.

OHA Announces Two Additional Grant Solicitations

By Office of Hawaiian Affairs Staff

In late March, the Office of Hawaiian Affairs announced the release of two additional grant solicitations totaling $750,000 to provide needed support and assistance to the Native Hawaiian community.

OHA has committed $250,000 to a Native Hawaiian Teacher Education and Professional Development grant designed to increase teacher recruitment and retention in Hawaiian immersion and Hawaiian-focused public charter schools, and $500,000 to its Kūlia grant program designed to improve the lives of Native Hawaiian individuals, families and communities in alignment with OHA’s strategic plan priorities.

Applications are being solicited from nonprofit organizations that administer community-based projects designed to strengthen Hawaiian beneficiaries, families, and communities. The deadline to apply is April 16, 2021.

Earlier in March, OHA committed $1.67 million to a COVID-19 Response Grant to mitigate the impact of the COVID-19 pandemic on Native Hawaiian ‘ohana and communities and $1.25 million to an ‘Ohana and Community Based Program Grant to support programs specifically designed to bolster the family unit.

Regarding these two grants, OHA Board Chair Carmen “Hulu” Lindsey said, “The COVID-19 pandemic has heavily impacted our Hawaiian community from the loss of employment to our families’ ability to provide the necessities of life like food and shelter. These grants will assist with finances in a variety of areas in this time of great need. OHA is enacting a new grants structure that ensures every island will have a share of both of these grants so that there’s fairness in the distribution of these assets.”

According to the Native Hawaiian COVID-19 Research Hui survey of Hawai‘i residents in the summer of 2020, 60% of Native Hawaiians reported a negative or very negative impact of COVID-19 on their ‘ohana mental or spiritual health; 51% reported a negative or very negative impact of COVID-19 on their ‘ohana physical health and finances: and 38% reported a negative or very negative impact on their ‘ohana access to affordable healthy foods.

Earlier this year, OHA announced three other grant solicitions: the Iwi Kūpuna Repatriation and Reinterment Grant, the ‘Ahahui Grant, and the Homestead Community Grant. Together with these two latest grant offerings, OHA has thus far committed more than $4.25 million in grants in 2021.

For more information about OHA’s grants program, please visit www.oha.org/grants. ■



Lindsey Testifies Before U.S. Senate Committee on Indian Affairs

By Ed Kalama

OHA Board Chair Carmen "Hulu" Lindsey testified on Feb. 24, 2021, at the first hearing of the Senate Committee on Indian Affairs chaired by U.S. Sen. Brian Schatz (D-Hawai'i), urging senators to help address the needs of Native Hawaiians.

"This committee has a long history of bipartisanship and collegiality among its members," Chair Lindsey said in her testimony today. "That spirit is critical to elevating the voices of Native leaders and fulfilling the federal government's trust responsibility owed to all Native people of the United States. Your work here empowers the Native community to continue exercising true self-determination – our right to chart our own course and maintain our distinct traditions, cultures, and Native ways."

Chair Lindsey further testified that the federal government must honor its trust responsibility to the Native Hawaiian people; support federal programs for Native Hawaiians in the areas of health care, housing, economic development and education; and ensure parity in the treatment of all Native Americans, including American Indians, Alaska Natives and Native Hawaiians.

Entitled "A call to action: Native communities' priorities in focus for the 117th Congress," the oversight hearing marked the start of a new era for the Senate Committee on Indian Affairs. Schatz was named chair of the committee in early February. He became the third Hawai'i senator to chair the committee, and the first to do so in nearly a decade.

Schatz opened the hearing by stating that one of his goals as chairman is to bring Native Hawaiian issues and priorities to the forefront.

"I want to be clear that today's hearing isn't a check the box exercise," he said, "It's a real opportunity for members of the Committee to chart a path forward by listening to and learning from Native leaders for the next two years and beyond.

"Now more than ever, Congress must be tuned in and listening. Native communities are experiencing disproportionate impacts from multiple crises - COVID-19, economic insecurity, racial injustice, and climate change. So as the strongest voice for Native priorities in the Congress, this Committee will act to address these challenges by working together in its bipartisan tradition and to uphold the federal treaty and trust responsibilities to tribes and Native communities across the country - from Hawai'i to Alaska and to the continental United States."

Chair Lindsey was one of four witnesses invited to testify before the Senate Committee on Indian Affairs on the priorities facing their respective Native communities. The other witnesses testifying were Fawn Sharp, president of the National Congress of American Indians, Leonard Forsman, president of the Affiliated Tribes of Northwest Indians, and Julie Kitka, president of the Alaska Federation of Natives.

After the hearing, Chair Lindsey said she was honored by the opportunity to testify.

"I extend my aloha and congratulations to Chairman Brian Schatz and Vice Chairman Lisa Murkowski on their new leadership positions on the U.S. Senate Committee on Indian Affairs," she said. "Mahalo for [this] opportunity to elevate the issues of our Native communities, and we look forward to continuing this dialogue with your committee on how Congress can continue to support the needs of Hawai'i's Indigenous people." ■





New Strategic Plan Will Guide OHA's Work for the Next 15 Years

By Ed Kalama

Momoe aku i mua. Pono no kākou e kūlia i ka kākou hana poʻokela.
Move ahead with determination. We must strive to do our best work. -ʻŌlelo Noʻeau

With an overall goal of bringing vision and execution together through effective strategy, the Office of Hawaiian Affairs invites readers to review "Mana i Mauli Ola (Strength to Wellbeing)," the organization's new strategic plan through 2035.

Based on community input and approved by trustees in September 2020, the plan features three foundational areas of focus: ʻOhana (family), Moʻomeheu (culture), and ʻĀina (land and water). These foundations represent traditional strengths, or mana, of Native Hawaiian communities. OHA aims to build upon these community strengths to move the lāhui toward positive change in areas where Native Hawaiians face barriers and disparities.

Beyond that overall lens, OHA is responding to community manaʻo by establishing four strategic directions that are key to impacting lāhui wellbeing: Educational Pathways, Economic Stability, Quality Housing and Health Outcomes.

By using ʻohana, moʻomeheu, and ʻāina-based approaches within these areas where Native Hawaiians face challenges, OHA will support the movement of the lāhui toward mauli ola, or total wellbeing, in education, economic stability, housing, and health.

Other plan highlights include an increased focus on addressing system level change by advancing policies, programs and practices in targeted areas of need, and a greater emphasis on specific community partnerships.

Another key aspect to the plan is that OHA will be implementing three-year, data-driven check-ins to monitor plan progress, something that the organization has not done before.

"As we have heard from our community, and learned from experiencing COVID-19, OHA needs to be more responsive to rapidly change contexts. Therefore, this plan builds in reflection and pivot points every three years," said Carla Hostetter, director of OHA's Systems Office.

OHA Ka Pou Nui/Chief Operating Officer Casey Brown agrees.

"Monitoring of progress has happened at OHA before, but what I'm excited about with this new plan is that we will be incorporating more data to drive decisions. This will allow OHA to be more adaptive and strengthen our ability to course correct," Brown said.

"This is something we all believe in, and we know that organizations that don't refocus themselves regularly to become more adaptive are going to fall behind."

OHA's vision statement, which was reaffirmed by trustees as part of the strategic planning process, is "Hoʻulu Lāhui Aloha – To Raise a Beloved Lāhui." The statement blends the thoughts and leadership of both King Kalākaua and his sister, Queen Liliʻuokalani.

Both faced tumultuous times - as we do today - and met their challenges head on. "Hoʻoulu Lāhui" was King Kalākaua's motto. "Aloha" expresses the high values of Queen Liliʻuokalani.

OHA Ka Pouhana/Chief Executive Officer Dr. Sylvia Hussey said she is ready to build upon the organizational accomplishments of the past and achieve the vision that has been set forth for the future.

"We want this organization to be the best that it can possibly be, because that's the kind of agency our beneficiaries and lāhui deserve," she said.

"Raising an abundant and thriving lāhui is at the heart of what we do. We carry with us the wisdom of our ancestors, the potential of our youth and the willingness of our community collaborators to unite and serve our people. By uplifting Hawaiians, we can make Hawaiʻi a better place for all who live here."

Look for a series of articles in *Ka Wai Ola* over the next several months which will detail the specific goals and objectives of Mana i Mauli Ola. ■

See special insert
to explore Mana i Mauli Ola

OHA's Plans for Kakaʻako Makai Suffer a Setback

By Puanani Fernandez-Akamine

In late January, OHA executives learned that a group of legislators were introducing a bill during the 2021 legislative session that would affect OHA's commercial properties in Kakaʻako Makai by raising the building height limit for two of OHA's 10 parcels and lifting the current restriction against residential development on six of OHA's parcels.

The introduction of Senate Bill 1334 generated hope that OHA might finally be able to realize its vision of using its land at Kakaʻako Makai to create a distinctly Hawaiian multi-use residential and business development adjacent to the City and County of Honolulu's beautiful Gateway and Waterfront parks.

OHA acquired its Kakaʻako Makai land during the 2012 legislative session, when the State of Hawaiʻi offered to settle its 32-year past-due debt to OHA – a debt of approximately $200 million – by conveying 30 acres of land in Kakaʻako Makai to the agency.

Ironically, the state's appraiser valued the land at approximately $198 million, assuming a 400-foot height limit for two of the parcels on Ala Moana Blvd.

The only catch was that six years earlier, in 2006, this same legislative body had voted to prohibit residential development in Kakaʻako Makai and to impose a 200-foot height limit. Thus, the state's generous "settlement" came with restrictions that prevent OHA from actually realizing the promised value of the land.

It's like paying half the debt with cash, and the other half with Monopoly money.

Because of these restrictions, some reasonably questioned OHA's wisdom in accepting the Kakaʻako Makai parcels as settlement of the state's debt which was accrued over three decades as a result of the state's failure to provide OHA with its fair share of Public Land Trust revenues. However, it was a "take it or leave it" situation because after more than three decades of begging at the legislature, this was the state's only offer to Native Hawaiians.

It should be noted that, by Hawaiʻi State law, 20% of Public Land Trust revenues go to OHA; and in the 40 years since the law was codified in 1980, it has never been honored by the state.

Testifying in support of SB 1334 before a joint hearing of the Senate Ways and Means, Water and Land, and Judiciary committees on March 3, former Gov. John Waiheʻe said, "When Hawaiʻi joined the Union in 1959, we did so with a promise to Native Hawaiians that their ancestral lands, which were stolen at gunpoint, would be administered in such a way that specifically benefited them. Unfortunately, the history of the state implementing this legal obligation to Native Hawaiians is a long series of broken promises - despite numerous efforts over the years to rectify the issue."

On March 9, an overwhelming majority of the Senate voted to pass the bill, with 19 yes votes, six no votes, and one reservation, enabling it to cross over to the House.

In a passionate speech on the floor of the Senate, one of the bill's sponsors, Sen. Jarrett Keohokalole, made it a point to mention that the Hawaiʻi State Attorney General has clarified that OHA's Kakaʻako Makai lands are Native Hawaiian trust assets, not public lands as opponents have claimed.

Sen. Keohokalole said he was supporting the bill because Honolulu needs housing for its residents near jobs, infrastructure and the rail line. He went on to say that while the residential prohibition on development at Kakaʻako Makai may have made sense in 2006, it no longer does; there is a projected housing shortage in Hawaiʻi of about 65,000 units, and the state's failure to address the housing crisis adversely affects the credibility of the legislature.

"We have no credibility to the young families, who constantly check Craigslist for rentals in my district, and can't see any whole home rental offerings on the Windward side for under $3,500 a month," said Sen. Keohokalole. "Or the young families who are trying to figure out a way to put together a down pay-

SEE **KAKAʻAKO MAKAI** ON **PAGE 7**

Kaka'ako Makai LANDOWNERS



This map shows who owns the land on the Kaka'ako Makai peninsula and where their parcels are located. Despite misinformation spread by opponents, development on OHA's parcels (pictured here in purple) will not eliminate existing green space at Kaka'ako Makai, block ocean access for surfers or reduce parking for park users.

KAKA'AKO MAKAI

Continued from page 6

ment on a $900,000 offering, of which at any given point there are less than 200 for sale on the island of O'ahu."

But OHA's jubilance over the senate vote was short-lived. Six days later, on March 15, leaders in the House of Representatives decided unilaterally that they would not hear the bill at all.

In remarks to opponents of SB 1334 who gathered for a "Save Our Kaka'ako Makai Rally" held at the State Capitol on March 16, House Speaker Rep. Scott Saiki said that he had advised OHA Board of Trustees Chairperson Carmen "Hulu" Lindsey that the House would not advance SB 1334.

"There is not a compelling reason for the legislature to reverse this prohibition," said Rep. Saiki. "Some will say that I oppose S.B. 1334 because Kaka'ako Makai is a part of my House district. This is not accurate. The issue here is larger than one person's House district."

"Kaka'ako Makai is the last remaining parcel of viable open space between Waikīkī and the airport," continued Rep. Saiki. "Preventing residential development will prevent uncontrolled development and preserve this open space for the next generation and the next-next generation."

He concluded his remarks noting that he and Sen. Sharon Moriwaki (who also represents Kaka'ako) will "attempt to work with OHA to explore alternatives to developing Kaka'ako Makai."

It should be noted that Sen. Moriwaki was one of the six senators who opposed SB 1334.

In response, Lindsey offered the following public statement:

"OHA is deeply disappointed that a bill that would allow Native Hawaiians to develop housing in Kaka'ako Makai appears to be dead. We are saddened that Native Hawaiians were robbed of an opportunity to have their voices heard in a single hearing in the House of Representatives.

"Nevertheless, we remain steadfast. We understand that the pursuit of justice and self-determination for Native Hawaiians continues to be a challenge. We will now turn our attention to finishing our planning efforts. We hope that our progress over the next year will demonstrate that a Native Hawaiian vision for Kaka'ako Makai is something that the entire state will support. We look forward to coming back to the Legislature again next year to continue the discussion of allowing Native Hawaiians to build housing on our lands.

"OHA thanks our friends in the Senate for providing Native Hawaiians with a fair chance to make our case. In addition, we thank our growing number of supporters within the Native Hawaiian community and the broader public."

For more information on OHA's plans to develop its commercial properties at Kaka'ako Makai please visit www.oha.org/kakaakomakai2021.■

Collaborating to Combat COVID-19



(L-R) Dr. Nalani Blaisdell-Brennan, Dr. Marcus Iwane, Brian Keaulana, Dr. Gerard Akaka and Ku'ulei Birnie teamed together to create two public service announcements targeting Native Hawaiian and Pacific Islander communities to help educate them about COVID-19 and the importance of ongoing vigilance to protect against this potentially deadly disease.- *Photo: Renea Veneri Stewart*

By Cheryl Chee Tsutsumi

In October 2020, Wai'anae, home to more Native Hawaiians than any other zip code in Hawai'i, experienced a dramatic peak in COVID-19 positivity: 18.5 percent. The Hawai'i State Department of Health declared the area a hotspot. By November, Wai'anae's positivity rate was 12 percent - better, but far from ideal.

Dr. Nalani Blaisdell-Brennan, who has been with the Wai'anae Coast Comprehensive Health Center (WCCHC) for 14 years, sent out a kāhea to Dr. Gerard Akaka, vice president of Native Hawaiian Affairs and Clinical Support for The Queen's Health Systems and former medical director of WCCHC, and Dr. Marcus Iwane, an internal medicine physician at Kaiser Permanente's Nanaikeola Clinic in Nānākuli. They began meeting weekly with Ku'ulei Birnie, communications coordinator for Papa Ola Lōkahi, a nonprofit that focuses on Native Hawaiian health and wellbeing, to strategize ways to improve the statistics.

The CDC had been widely broadcasting the importance of wearing masks, washing hands and social distancing to stop the spread of COVID-19. The Hawaiian kauka realized to have an impact with a Native Hawaiian Pacific Islander (NHPI) audience, however, the message needed to be shared in a culturally meaningful way. They landed upon the idea of creating a Public Service Announcement (PSA) featuring a beloved member of the community.

According to Blaisdell-Brennan, few people are more trusted and respected in Wai'anae than famed waterman Buffalo Keaulana and his loving wife of 60 years, Momi. Through his job as a lifeguard at Mākaha Beach, Buffalo has been credited with saving thousands of lives.

"We wanted a warm approach where family members could speak from the heart about the importance of legacy, kuleana and 'ohana as they relate to the pandemic," Blaisdell-Brennan said. "It took many phone calls and personal visits to convince Uncle Buff and Aunty Momi to participate; they do not seek the limelight. However, the message of saving lives resonated with the family's ethos. Brian is their eldest child. As busy as he is with his work as a stunt coordinator and second-unit action director for movies and TV shows, he said, 'This is what we do; we help people.'"

The weather was perfect on the day of the shoot. First, the crew planned to film Brian's segment at Mākaha Beach; after that, they would meet Uncle Buffalo and Aunty Momi at their home.

"We were going to do just one 30-second PSA," Blaisdell-Brennan said. "Then came the unexpected: Unscripted, Aunty Momi delivered her own personal PSA in one take! She ended it with a heartfelt plea: 'Please, everyone. The life you save may be your own. Mahalo, Ke Akua.'"

Brian's PSA includes photos of his large, close-knit family. "Why should I care?" he asks in the spot. "Because I love my 'ohana. [Staying safe from the virus] takes all of us together."

His father-in-law passed away in February after contracting COVID-19, so he fully understands the grief and anguish so many people are going through from losing a loved one to the disease. It's easy to worry, to be afraid, but the antidote, he believes, is following the facts and science rather than listening to rumors and conspiracy theories.

SEE **COMBAT COVID-19** ON **PAGE 9**



Buffalo and Momi Keaulana with their son, Brian.- *Photo: Renea Veneri Stewart*

COMBAT COVID-19

Continued from page 8



Dr. Nalani Blaisdell-Brennan and Brian Keaulana.- *Photo: Courtesy*

"The ocean has been the lifeblood of my family for decades, but we know it can also be dangerous," Brian said. "My dad taught us kids to understand danger and to face our fears. If you have knowledge, you're not going to have fear."

Like his father, Brian is a veteran surfer, lifeguard and all-around waterman; he has also developed water safety training programs for military special operations forces and prestigious surfing events around the world. He sees the pandemic as the biggest wave he's ever had to conquer.

"I feel like it's holding me underwater, but I know I have to relax, hold my breath and hope all the risk mitigation procedures I've learned will take me to a safe place," he said. "Education is the best tool we have when we need to make decisions that could mean life or death."

To that end, OHA is one of 40-plus agencies, organizations and state departments in the Native Hawaiian and Pacific Islander Hawai'i COVID-19 Response, Recovery and Resilience Team (NHPI 3R), which was formed last May to address the impact of the pandemic on NHPI communities. As the "backbone" of that coalition, Papa Ola Lōkahi paid for the production of the two Keaulana PSAs and the airing of them during 569 prime morning and evening slots on KGMB, KHNL and KFVE from February through May.

"We've established partnerships to produce other PSAs, manage a website [www.NHPI-COVIDHawaii.net] and create a repository of in-language resources for the purpose of providing accurate and timely information to the Native Hawaiian and Pacific Islander communities that we serve," Birnie said. "These projects are part of the NHPI 3R Team's mission to improve the collection and reporting of accurate COVID-19 data, support statewide initiatives that address NHPI concerns and maintain a strong voice in the decision-making processes that affect our communities."

Along with mandated mask use and greater availability of vaccines, these efforts are yielding promising results. As this issue went to press in late March, Wai'anae's positivity rate was down to one percent, with no more than 10 known active COVID-19 cases. ■

Cheryl Chee Tsutsumi has written 12 books and countless newspaper, magazine and website articles about Hawai'i's history, culture, food and lifestyle.

NHPI vaccination stats: just 8.8%

Since mid-December, when Hawai'i started implementing its vaccination program, only 8.8% of Native Hawaiians and Pacific Islanders (NHPI) have received at least one dose despite the fact that they account for 41% of COVID-19 cases in the state. That was a major finding of a report released on March 16 by the Hawai'i State Department of Health (DOH) and its academic and community partners, including the Native Hawaiian and Pacific Islander COVID-19 Response, Recovery and Resilience Team, of which OHA is a member.

The seemingly low NHPI percentage should be taken in context, however. For example, following federal guidelines, health-care workers in Hawai'i were the first to get vaccinated, but NHPI representation in that industry is relatively low. Next, seniors aged 75 years and older were allowed to be vaccinated, but NHPI life expectancy falls below other racial groups in the state. That also limited NHPI numbers for this vaccine prioritization category.

Other reasons for the disparity include language barriers, lack of computer expertise and transportation issues (e.g., people can't get to a vaccination site because it's not on a bus line, they don't drive, they don't have a car, or they don't know anyone who can take them).

The DOH is considering ways to address these challenges, and education is key. Native Hawaiian physicians, cultural practitioners and other community leaders will discuss the importance of getting vaccinated in upcoming issues of *Ka Wai Ola*.



2019 Kali'uokapa'akai Collective Think Tank Participants. - *Photo: Courtesy*

The Kali'uokapa'akai Collective Report

Re-envisioning wahi kūpuna stewardship in Hawai'i

By Kelley Lehuakeaopuna Uyeoka

Wahi Kūpuna Stewardship

The term wahi kūpuna refers to a physical site, area, or landscape that is significant to Kānaka 'Ōiwi, past and present.

While every place in Hawai'i could be considered special or significant, this term can broadly encompass ancestral landscapes where kūpuna repeatedly and purposefully interacted, but also places of purposeful non-use. Often, these places provide evidence of kūpuna interactions via physical manipulation of the space such as burials, heiau, lo'i kalo, loko i'a, ala loa, kuahiwi and ahu. Just as significantly, some wahi kūpuna contain no tangible evidence of human modification, but are still places of our ancestors through mo'okū'auhau, inoa 'āina, mo'olelo and mele.

Wahi kūpuna hold special prominence for Kānaka 'Ōiwi because of the longstanding relationships and interconnections Native Hawaiians have with these places. Wahi kūpuna are the tangible links to the past through which we maintain connections to previous generations, and perpetuate these connections for future generations. They shape our identity, and inform and inspire our living values, traditions, and practices.

KALI'UOKAPA'AKAI COLLECTIVE OBJECTIVES:

- Provide opportunities and spaces to strengthen and foster relationships in our community of practice
- Compile, develop, and share wahi kūpuna stewardship knowledge, practices, & initiatives
- Identify, support, and grow initiatives in wahi kūpuna stewardship, management, education and research
- Seed actions to increase collective impact to mālama wahi kūpuna
- Expand the realm of CRM beyond archaeology, and disperse the authority to engaged communities, kia'i, and other allies

These spaces are imbued with mana and meaning from generations of Native Hawaiians living in particular places and developing inseverable relationships with the land. Thus, an integral tenet of Wahi Kūpuna Stewardship (WKS) is recognizing the relationship between Native Hawaiians and place, because the people that have evolved with their environments are just as important as the places themselves.

Kali'uokapa'akai Collective

The Kali'uokapa'akai Collective (KC) was created in 2017 to address the pressing need to organize our shared ideas, resources, and strategies to build capacity and take collective action in safeguarding Hawai'i's wahi kūpuna. We are made up of advocates, leaders, and change agents who represent many different fields and disciplines, but who all care about Hawai'i's wahi kūpuna.

2019 Think Tank

In April 2019, the KC convened the first Kali'uokapa'akai Collective Think Tank. Over 100 participants from 15 different sectors and 80 organizations participated in the two-day working conference to discuss a range of challenges, opportunities, and solutions for Wahi Kūpuna Stewardship in Hawai'i. The Think Tank focused on the current priority areas identified by the Collective including - building community capacity, knowledge generation and stewardship, restoring wahi kūpuna, and mālama iwi

SEE **THE KALI'UOKAPA'AKAI COLLECTIVE** ON **PAGE 11**



'Anakala Fred Cachola at Kokoiki, Kohala - Photo: Huliauapa'a

"For me to be who I am, I've got to maintain identity as a Hawaiian who has a connection to this place. There are places here that are not just places, they are special sites, that's why we call them wahi kūpuna."

-UNCLE FRED CACHOLA
(KC THINK TANK PRESENTATION 2019)

REPORT PURPOSE:

- Narrate the current situation and expand the public's understanding of Cultural Resource Management (CRM) and Wahi Kūpuna Stewardship (WKS)
- Create a baseline of data and metrics to measure impact and growth
- Serve as an advocacy document to influence decision making by government entities involved in CRM
- Present a future vision of what an ideal WKS landscape in Hawai'i would look like, and how we can get there
- Activate involvement from all stakeholders

THE KALI'UKAPA'AKAI COLLECTIVE

Continued from page 10

kūpuna. During this gathering, real-time data was compiled through ignite talks, topic area panels, facilitated breakout discussions, and live surveys. Participants shared, documented, evaluated, and prioritized existing and new information, knowledge, and practices regarding Wahi Kūpuna Stewardship.

From here, the KC created working groups to carry on the Think Tank discussions and brainstorm how to implement the proposed action items. The KC hopes to hold these types of "conferences with kuleana" every two to three years to continue to tackle systems change in Cultural Resource Management (CRM).

Kali'uokapa'akai Collective Report

Early on, the KC realized that a more complete understanding of the current state of CRM in Hawai'i was needed in order to address how to improve the system. It was decided that a critical first initiative of the KC would be to compile foundational CRM/WKS data in a holistic document from a Kanaka 'Ōiwi perspective. This report will serve as a guiding document to steer the KC along this new ala loa (path) over the next few years. This report aims to bring awareness to specific WKS issues and highlight ways that individuals, organizations, professionals, and others can take action towards greater stewardship of our wahi kūpuna.

To promote future collaborations, increase awareness on issues surrounding CRM and WKS, and in efforts to grow capacity and resources for wahi kūpuna stewards, Collective members prioritized our efforts around the following four Focus Areas that are highlighted in the report:



We also propose "16 Calls to Action" in the report that will help our Collective and supporting partners further carry out our kuleana of stewarding wahi kūpuna. And while much needs to be done to truly reshape the historic preservation and CRM systems in Hawai'i, we recognize that many of these calls to action are just the initial steps in long term processes. The kuleana of Wahi Kūpuna Stewardship is a kākou effort, where each of us has a contribution to make.

To learn more about the Kali'uokapa'akai Collective and view the entire report, visit our new website at www.kaliuokapaakai.org, and if you would like to support any of the Collective's initiatives, please contact us at info@kaliuokapaakai.org. ■

Kelley L. Uyeoka currently serves on the Kali'uokapa'akai Collective steering hui and is the executive director of Huliauapa'a, the backbone organization of the Collective.

In commemoration of OHA's 40th anniversary, throughout 2021 Ka Wai Ola will feature select articles from the newspaper's archives. This piece, about residents of Kahana Valley on O'ahu pursuing a "Living Park" concept, is reprinted from March 1984.

Kahana Living Park Concept Long Overdue Says OHA Report

By OHA Staff, 1984

"It is way past time for action," is the way Charles Hopkins, OHA land researcher, sums up his comprehensive status report on Kahana Valley State Park to OHA Trustees at their February board meeting.

"OHA believes that the record is clear that the living park concept has been stated, restated and firmly entrenched in the minds of the Legislature, State administration and the Board of Land Natural Resources. No further mandate or consideration is necessary," Hopkins reports.

He also urged the 12th State Legislature currently in session to adopt a concurrent resolution placing a moratorium on the development of fresh water and ocean resources in Kahana until such time as the park is fully developed.

Hopkins recommended that:

- The Department of Land and Natural Resources proceed within utmost haste to expedite its plan for a living park in Kahana by immediately implementing the provisions of the 1978 revised Environmental Impact Statement (EIS) for Kahana Valley State Park.
- The first order of business of DLNR should be the constitution and activation of the Kahana Valley Advisory Board "as the major policy initiating body for Kahana Valley State Park," and be afforded the responsibilities as spelled out on page 15 of the revised EIS for the park. (Some action has already taken place on this matter.)
- DLNR, with the advice of the Advisory Board, strive to resolve the residents' housing problems in terms of location, renovations and/or reconstruction and develop the means of granting residents long term leases in the valley.

"It is 18 years too long. And two and one-half years to verify the status of 20 permittees is an uncalled for delay," Hopkins said.

Hopkins researched the entire project, working in concert with DLNR Chairman Susumu Ono, staff of the State Parks Division, Land Management Division and residents of Kahana Valley and community and agency representatives who shared their experiences and knowledge of the valley in response to OHA's concern and support.



Tranquil Kahawai Nui (big river) and Kahana Valley in background.

In this thorough research of Kahana Valley, Hopkins chronicled events from 1800 to the present when legislation on development of the area as a park was adopted in 1970.

Since the state's acquisition of Kahana Valley, residents have been living there on month-to-month revocable permits.

Their tenure remains uncertain.

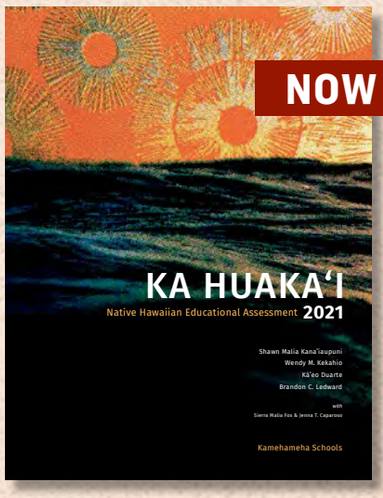
Legislators and the Governor's Task Force, however, declared their tenure as an integral part of a living park and at the Governor's urging, BLNR adopted the living park concept. All this took place in the early 1970s.

The years dragged on and still written and spoken words about the residents' role were not translated into action. These delays sapped the strength and vitality of the residents. A number of kupunas in the valley have died and their knowledge and lifestyle are lost forever. Homes have deteriorated and are being held together as best as can be expected under the tenuous conditions of a permit. Children have grown and have had to expand their energies in directions other than the perpetuation of the invaluable

human resources of the valley.

Hopkins feels a lot of the problems of working with residents could have been avoided had the State seen the wisdom of using persons knowledgeable of the community lifestyle and sensitive to the rural environment to serve as a communication link between DLNR and Kahana residents.

It may not be too late to utilize this kind of resource, Hopkins suggests. ■



"The onset of the COVID-19 pandemic has had a devastating effect on our islands and beyond. But... **Native Hawaiians are in a position to actively catalyze and lead in the rebuilding and directing of Hawai'i's future."**

Read about it in the new
"**Ka Huaka'i: Native Hawaiian Educational Assessment 2021**"

Our lāhui's journey towards a brighter future

In support of Ke Ali'i Pauahi Bishop's vision, we are proud to continue serving the lāhui through research in this latest edition of "**Ka Huaka'i**". This foundational resource guides the way for our lāhui to learn, understand and champion Native Hawaiian well-being in the twenty-first century.

View it online or download for **FREE** at
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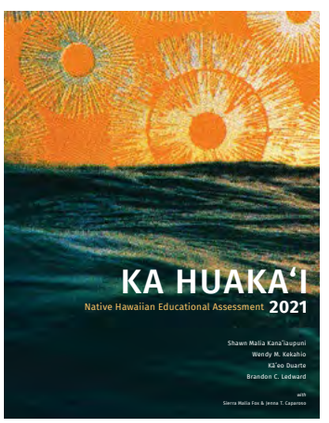
Continuing the Journey, Ka Huaka'i 2021 Now Available Online

By Catherine Lee Brockway, senior research associate, Kamehameha Schools

One of the many lessons of the COVID-19 pandemic is just how crucial it is for the public to have access to trustworthy data about local communities, and how difficult it can be to actually make that happen.

It can be especially hard to find reliable data on Native Hawaiians, specifically, rather than data that groups Native Hawaiians with other Pacific ethnicities.



Recognizing the need for reliable data from a Native Hawaiian perspective, Kamehameha Schools has published a Native Hawaiian Educational Assessment periodically since 1983, providing data specific to Hawai'i and Native Hawaiians; it was renamed *Ka Huaka'i* in 2005.

With over 600 pages devoted to data, research, and community insight into Native Hawaiian wellbeing, *Ka Huaka'i 2021* is a free community resource published by Kamehameha Publishing and available as a downloadable PDF at https://www.ksbe.edu/ka_huakai/. This book treats education as one part of a larger system of wellbeing, and includes data on a variety of educational, social, physical, material/economic, and spiritual/emotional trends and outcomes.

Data from a range of sources such as the Hawai'i Department of Health, the Hawai'i Department of Education, and the US Census are visualized in over 200 easy-to-read charts. These charts are contextualized within the latest research on wellbeing and community perspectives, with more than 700 references cited.

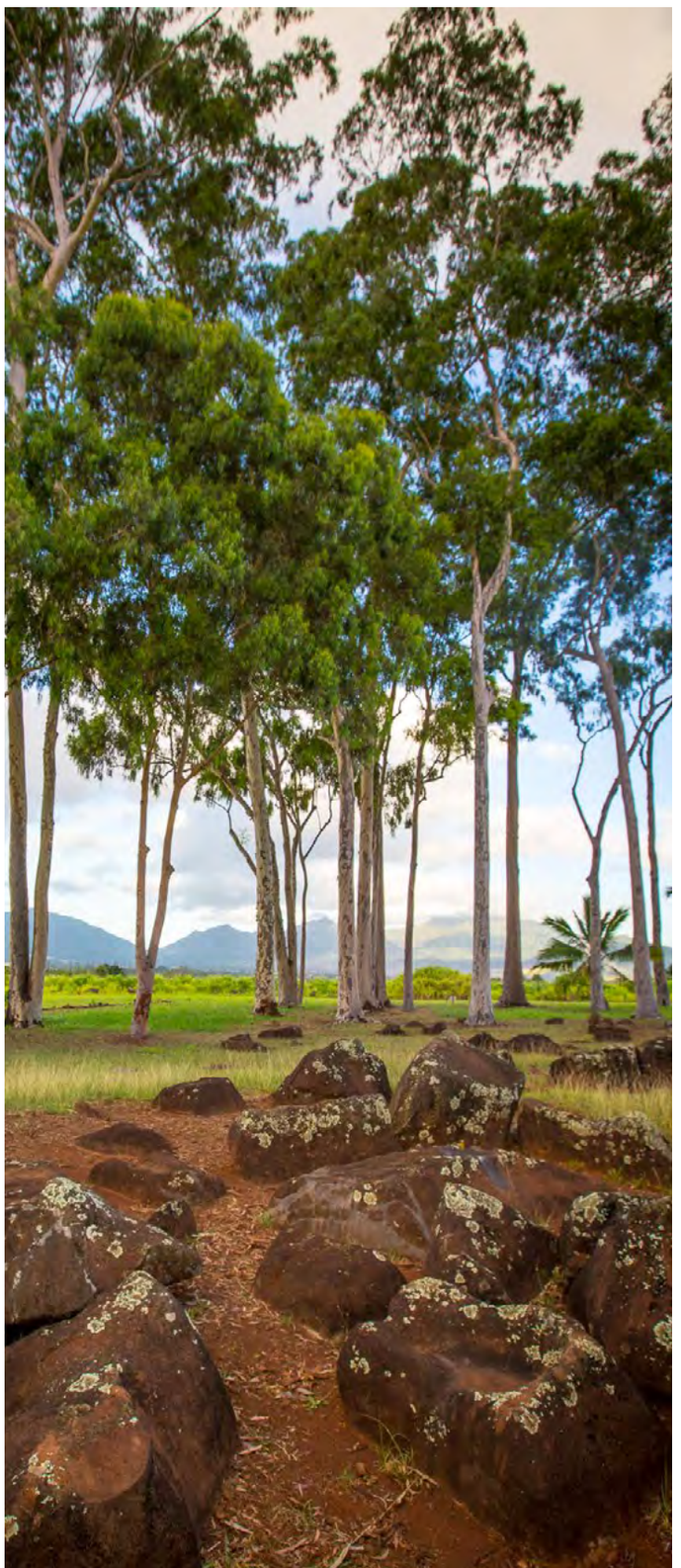
Ka Huaka'i 2021 co-author Brandon Ledward says the authors "celebrate the fact that we can draw upon research from Native Hawaiians across a wide list of academic fields. When combined with community perspectives and examples, these data comprise a deep and vast knowledge base that supports and extends our 'ike kūpuna."

A new feature of the 2021 publication is the addition of regional and county data for a number of topics. The data and analysis provides baseline information from before the COVID-19 pandemic, and Wendy Kekahio, co-author, adds that "*Ka Huaka'i* represents an evolving, albeit incomplete, story of Native Hawaiian wellbeing at a time when the world has the opportunity to be rebuilt."

Findings in *Ka Huaka'i 2021* include bright spots of positive momentum as well as areas of persistent challenges for Native Hawaiian wellbeing.

In the realm of education, for example, of all the bachelor's degrees conferred by the UH system in 2009, 14 percent were conferred to Native Hawaiians; by 2018, the proportion had risen to 27 percent. At the same time, however, a disproportionate number of Native Hawaiian students in public schools are still struggling to graduate on time. ■

Ka Huaka'i 2021 calls for the increased adoption and development of Hawaiian Culture-Based Education as a foundational strategy to remove systemic barriers to Native Hawaiian wellbeing, and the authors hope that readers will use this free digital book as a resource to learn about their communities and to advocate for positive change.



Kūkaniloko was constructed approximately 1,000 years ago. The first ali'i born there was Kapawa, whose parents are credited with having overseen the site's construction specifically for his birth; Kākuhihewa, who reigned during the 17th century, was the last ali'i to be born at Kūkaniloko. - *Photo: Kaipo Kī'aha*

RESTORING THIS SACRED PLACE

OHA pursues its community-informed plans for managing Kūkaniloko and its surrounding Wahiawā lands

By Puanani Fernandez-Akamine

"Kahi i makemake nui 'ia e nā ali'i o O'ahu nei;
A place greatly desired by the chiefs of O'ahu."
- Kalanikuihonoinamoku, 1865

A PLACE OF CHIEFS

The Wahiawā Plateau is the vast central plain between the Ko'olau and Wai'anae mountain ranges on O'ahu. There, where the cooling Waikōloa and Wai'ōpua winds carry the fragrance of the forests from the Wai'anae mountains, are many sacred sites, and most notable among them are the birthing stones of Kūkaniloko.

Kūkaniloko is believed to have been constructed almost a thousand years ago by Nanakaoko and his chiefess, Kahihikalani, in anticipation of the birth of their son, Kapawa. Imbued with the mana of generations of ali'i, this most sacred of wahi kūpuna is considered the spiritual piko of O'ahu. Kākuhihewa, who reigned in the 17th century and was of O'ahu's most celebrated chiefs, is the last ali'i known to have been born at Kūkaniloko.

Of the ali'i born at Kūkaniloko over half a millennium, Mā'ilikūkahi is especially notable for his wisdom and leadership. Centuries after his passing, he is still remembered as an astute ruler whose revolutionary ideas and skillful land management ultimately impacted the entire pae 'āina and subsequent generations of 'Ōiwi.

At just 29-years-old, Mā'ilikūkahi was chosen to reign as ali'i nui of O'ahu at a time of great tumult and chaos. His notorious predecessor, Haka, had been deposed, leaving a legacy of disarray, mostly stemming from land disputes.

Mā'ilikūkahi is credited for establishing Hawai'i's system of land division. He divided O'ahu into moku, ahupua'a, 'ili kūpono, and so forth, and developed a tiered structure of ali'i, based on rank, to manage each land division. This geo-political system clearly defined kuleana for the land across all members of society, and was critical to maintaining order and settling long-standing land disputes. He is also thought to have created Hawai'i's first code of laws, ensured freedom to maka'āinana wishing to leave the service of unjust chiefs, and forbade human sacrifice.

Today, Mā'ilikūkahi remains a role model for effective leadership and prudent land management for modern Kānaka Maoli.

CHANGING LANDS CHANGING HANDS

In the 1800s, the forests which blanketed the slopes of the Wai'anae mountains were decimated by the sandalwood trade and by the whaling industry, enabled by avaricious and unscrupulous chiefs seeking foreign wealth. This devastated the ecosystem and landscape of the Wahiawā Plateau.

But the most destructive impact to the environment resulted from the establishment of ranching and monocrop agriculture in central O'ahu.

Ranching activities began in the mid-19th century, made possible by the Māhele of 1848. The 1893 overthrow of the Hawaiian Kingdom precipitated the conversion of Hawaiian Crown Lands into private landholdings, which, in turn, allowed for the establishment of massive sugar and pineapple plantations, and construction of a 14,400-acre military reservation by the U.S. Government on Hawaiian lands at Wahiawā.

Ranching and intensive monocrop agriculture on the Wahiawā Plateau necessitated the construction of irrigation systems and a dam near the north and south forks of Kaukonahua Stream. This formed the Wahiawā Reservoir, known today as Lake Wilson.

Due to rising labor costs, the last sugar plantation in Hawai'i shut down in 1980, while pineapple production slowed and eventually stopped in 2008. However, decades of monocrop agriculture had severely degraded the quality of the soil.

In 1882, George Galbraith, a rancher from Ireland, purchased 2,000 acres of land in Wahiawā, which included Kūkaniloko. To his credit, Galbraith was respectful of the site, fencing in the area to protect it from cattle and ranching activities.

Galbraith leased the lands encompassing Kūkaniloko to the Waialua Agriculture Company in 1900 for pineapple production. The plantation manager for the company continued to care for Kūkaniloko through 1918. Kuleana for the site then passed to the Daughters of Hawai'i, the Waialua Hawaiian Civic Club, and then in 1960, to the Hawaiian Civic Club of Wahiawā (HCCW), which

continues to play a critical role in caring for and maintaining this wahi kūpuna.

In 1973, Kūkaniloko was placed on the National Register of Historic Places, and in 1988 the Department of Land and Natural Resources (DLNR) acquired the approximately half-acre of land where the birthing stones rest by an executive order of then-Gov. John Waihe'e, although HCCW continued to steward the site. In 1992, Kūkaniloko and a 4.5-acre buffer of surrounding land were designated a state park, expanding the parcel to its current size of 5 acres.

By the end of the 20th century, the remaining 1,732 acres of Galbraith's estate represented one of the largest undeveloped plots of land on O'ahu. For years, real estate spectulators fancied the land for luxury homes; in 1992 a trustee of Galbraith's estate proposed the development of an 18-hole golf course and 3,100 homes. However, that and other attempts at the sale and development of these lands were, providentially, unsuccessful.

OHA ACQUIRES 511 ACRES SURROUNDING KŪKANILOKO

After Galbraith's trustees began dissolving his estate in 2007, the Hawai'i State Legislature set aside $13 million to purchase the land, partnering with the nonprofit conservation organization Trust for Public Land, who worked with various other collaborators, including the Office of Hawaiian Affairs (OHA), to raise an additional $12 million. The Galbraith estate was purchased by the state in 2012 for $25 million.

The land was transferred to two public agencies: 1,200 acres went to the Hawai'i State Agribusiness Development Corporation, while 511 acres surrounding the 5-acre Kūkaniloko Birthstones State Monument were transferred to OHA.

OHA reached an agreement with DLNR to assume the kuleana for management of Kūkaniloko, and three years later entered into a formal stewardship agreement with HCCW to continue their decades-long kulcana as the caretakers of Kūkaniloko.

With the protection and management of Kūkaniloko secured, in 2016, OHA began a conceptual master planning process for the surrounding 511-acre parcel led by the agency's land department.

Kūkaniloko is an extremely sacred place of great historical significance; it is a cultural kīpuka (oasis) and resource to Native Hawaiians and the larger community for current and future generations. But the lands surrounding Kūkaniloko are overgrown with invasive species, and the soil is degraded by decades of pineapple monoculture.

From the outset, OHA's goal has been to manage the land in a culturally appropriate and pono manner by honoring and protecting the birthing stones, restoring the forest and watershed, exploring options for compatible agriculture, and contributing to Hawai'i's food security.

The planning process began with OHA initiating a comprehensive community engagement effort which included interviewing thought leaders from within the Native Hawaiian community, engaging neighboring landowners, conducting extensive historical and cultural research, creating case studies, hosting multiple community meetings, and forming a 10-member Cultural Working Group (CWG) to help with the actual planning.

The CWG was comprised of individuals with expertise in cultural and natural resource management, agriculture, archaeology, business and marketing, education, Hawaiian culture, and environmental and property law.

Building on the initial round of community feedback, a kumupa'a (foundation) for the planning work was established which reads, in part, "This place is a wahi kapu with mana that has existed since time immemorial and will exist for time eternal. It is an ecosystem of connectivity between 'āina and kānaka."

From this kumupa'a, three conceptual values emerged: Ho'omana (protection/sanctification); Ho'ona'auao (education/connection); and Ho'oulu 'Āina (agricultural/ecological rehabilitation/soil remediation). These values served as a filter for the entire planning process and continue to serve as the foundation for further development and implementation of the Conceptual Master Plan (CMP).

In all, the planning process took two and a half years.

OHA'S CONCEPTUAL MASTER PLAN AND VISION FOR KŪKANILOKO

In September 2018, the CMP was presented to OHA trustees who supported the long-term direction of the CMP and authorized ongoing efforts towards its implementation. The CMP focuses on "embracing the history and culture of Wahiawā by bringing community together through regeneration of the land, food security, cultural education and the design of desirable spaces" in a way that will "create a place of intimacy between 'āina and kānaka."

As a result of the planning effort, four programmatic outcomes emerged: Integrated Programming; Education Continuum; Hub & Spoke; and Vegetation Continuum (see sidebar).

A key component of the vision for OHA's 511 acres at Wahiawā is reforestation. This includes re-establishment of the native forest, as well as planting a native food (semi-managed) forest, and agro-forestry.

Planting native trees to recreate the native forest that was destroyed as a result of ranching and monocrop agriculture allows for the holistic restoration of the ecosystem, watershed and soil health. Tree species identified for the reforestation effort include 'iliahi (sandalwood), koa, 'ōhi'a lehua, lama and 'ohe (bamboo). It will take decades to transform the land from its current state (overgrown grasslands) back into a forest, so planting efforts have already started, but the availability of water remains an obstacle.

The plan also calls for establishment of a semi-managed native food forest that integrates native forest trees with trees/plants cultivated for specific medicinal or cultural uses, as well as food crops. The semi-managed native food forest will include 'ulu (breadfruit), 'awa, mai'a (banana), uhi (yam) and 'ōlena (turmeric). Pu'u

SEE **RESTORING THIS SACRED PLACE** ON **PAGE 16**

KŪKANILOKO CONCEPTUAL MASTER PLAN CULTURAL WORKING GROUP

- Leilani Basham, Ph.D., UH Mānoa Hawai'inuiākea School of Hawaiian Knowledge
- Jesse Cooke, CPA, Ulu Pono Initiative
- Susan Crow, Ph.D., UH Mānoa, College of Tropical Agriculture and Human Resources
- Jo-lin Lenchanko Kalimapau, Hawaiian Civic Club of Wahiawā
- Ku'uipo Laumatia, Mana'olana International
- Jonah La'akapu Lenchanko, Hawaiian Civic Club of Wahiawā
- Thomas Joseph Lenchanko, Hawaiian Civic Club of Wahiawā
- Noa Kekuewa Lincoln, Ph.D., UH Mānoa, College of Tropical Agriculture and Human Resources
- Kukui Maunakea-Forth, MA'O Organic Farms
- Manulani Aluli Meyer, Ph.D., UH West O'ahu

KŪKANILOKO ADVISORY HUI

- Kahealani Acosta, MA'O Organic Farms
- Maka Casson-Fisher, Hawaiian Civic Club of Wahiawā
- Jesse Cooke, CPA, Ulu Pono Initiative
- TJ Cuaresma, Office of Representative Amy Perusso
- Noelani Devincent, Hawaiian Civic Club of Wahiawā
- Jo-lin Lenchanko Kalimapau, Hawaiian Civic Club of Wahiawā
- Kukui Maunakea-Forth, MA'O Organic Farms
- Kawika McKeague, Group 70 International, Inc.
- Keola Ryan, UH Mānoa Hawai'inuiākea School of Hawaiian Knowledge
- Vi Verawudh, Group 70 International, Inc.



Several members of the Kūkaniloko Advisory Hui on a site visit. As a landowner/land manager, OHA is committed to engaging the community to participate in the management of its lands. After completing the Conceptual Master Plan, OHA formed the Advisory Hui to guide in the plan's refinement and implementation. - *Photo: Courtesy*

RESTORING THIS SACRED PLACE

Continued from page 15

o Hōkū Ranch on Moloka‘i is an example of this type of forestry. Like the native forest, the semi-managed forest is a high priority as it will take years to establish.

The planned agro-forest will be designated for food and medicinal crops, and for plants that are culturally important. This will help to ensure rapid growth for the fast revival of carbon, and provide plants that can be utilized to generate income, as well as plants for medicinal and educational purposes.

A significant portion of the land is also being designated for high-tech agriculture that incorporates cutting-edge agricultural methodologies and technologies such as hydroponics, aquaponics and greenhouse cultivation.

None of this will affect the 5 acres that protect the sacred stones of Kūkaniloko; the 5-acre parcel will be further buffered from other activities on the land by landscaping and native forests.

OHA also plans to establish a community space to be used as a gathering place for events and for on-site cultural programming where Hawaiian art and culture can be practiced, shared and taught. And, building on the legacy of leadership inspired by Mā‘ilikūkahi, as a center for ‘Ōiwi leadership training.

“This is about creating leaders,” said CWG member Kukui Maunakea-Forth. “This is the place to strengthen our lāhui [with] leaders who are going to go back home, not going to the mainland.”

Added CWG member Tom Lenchanko, “Kūkaniloko can serve as an example of what could happen in your respective places. Experts in every field will be waiting here to train the future leaders of our nation.”

In addition to some initial planting of native trees by OHA staff members, and monthly meetings with the Kūkaniloko Advisory Hui, work on the plan to date has also included ongoing research in collaboration with an ‘Ōiwi-led team of researchers from the University of Hawai‘i on soil remediation and vegetation typography. Nearly 80 acres have already been cleared of invasive trees and grasses, and professional designers, along with members of the Wahiawā community, are helping to conceptualize spaces that will facilitate the re-vegetation and educational objectives of the CMP, as well as the protection of Kūkaniloko. OHA has also engaged a security contractor to protect the entire site from tresspassing and vandalism.

Inspired by the culture and history of this sacred wahi kūpuna, OHA is collaborating with the community to create a place where Kānaka Maoli from keiki to kūpuna, can come together to learn and live our culture, where the legacy of the ali‘i born and trained at Kūkaniloko for leadership can be carried on by future generations of ‘Ōiwi leaders, and where the natural environment and ecology of the Wahiawā Plateau is restored and can continue to flourish and enrich our lāhui in perpetuity.

For more information visit www.oha.org/aina/wahiawalands or email the Legacy Lands team at wahiawalands@oha.org ■



OHA's 511 acres surrounding Kūkaniloko will include native and managed forests and agriculture, as well as a gathering space for the community.

CONCEPTUAL MASTER PLAN PROGRAMMATIC OUTCOMES

Integrated Programming ensures that the various activities planned for the land, from restoration of the land, to cultural activities, to agricultural initiatives to general management and access will work seamlessly together, fortifying the connection between our people and this place.

The Education Continuum promotes generationally integrated learning to provide our current and future generations access to the lessons learned by our kūpuna. This concept will be perptuated through education and engagement programs that support a traditional model of reciprocal learning.

Hub & Spoke refers to the vision for Kūkaniloko to become a “hub” to connect other similar efforts on O‘ahu and across the pae ‘āina. It will bridge movements and leverage resources and iniatives so that people will gain knowledge at Kūkaniloko and take that ‘ike back to their moku, ahupua‘a and ‘ili.

The Vegetation Continuum incorporates the full spectrum of vegetation planning strategies, from native forests to high-tech agriculture. By creating a diverse ecosystem, native trees will help to restore the watershed, which will feed the understory and, ultimately, feed the lāhui.

Nā Pōhaku Kaulana o Wahiawā



Na Kalani Akana, Ph.D.

Kaulana ʻo Wahiawā i nā pōhaku - ma Kūkaniloko, ka pōhaku ʻo Oʻahunui, ka pā ʻai pōhaku a ʻAikanaka, a me nā pōhaku hoʻōla ʻo Keaniani'ulaokalani.

ʻO Wahiawā kekahi "wahi o ke kani wawā" a he ahupuaʻa ia ma ka moku ʻo Waialua ma ka wā o Māʻilikūkahi. Ua hoʻohui ʻo ia me kekahi mahele o Waiʻanaeuka ma ka makahiki 1913. Ma 1925, ua hoʻohui ʻia ka ʻili ʻo Waikakalua mai Waikele o ka moku o ʻEwa me ua Wahiawā hou nei. A laila, ma ka makahiki 1932, ua hoʻohui ʻia kekahi ʻāpana ʻāina mai ka moku o Waialua me ia, ʻo ia ke kahua pūʻali koa ʻo Schofield.

No laila, he kalana ʻōʻā ʻo Wahiawā. Aia nā pōhaku kaulana o Wahiawā i loko o kēia kalana hou. Ua hēkau ʻia nō naʻe ʻo ia e nā pōhaku.

Kūkaniloko: Aia nā pōhaku hānau keiki aliʻi ma Kūkaniloko, he mau pōhaku i hoʻokapu ʻia na Nanakaoko lāua o Kahikiokalani no ka hānau ʻana a kā lāua pua aliʻi ʻo Kapawa. Ua hānau ʻia nā aliʻi kilakila ʻo Kūkaniloko, Kalaʻimanuia, Māʻilikūkahi, a me Kākuhihewa ma ia wahi ʻihiʻihi. Wahi a kekahi, ua ʻiʻini ʻo Kamehameha e hānau ʻo Keōpūolani iā Liholiho ma ia wahi kapu aliʻi nui. Hoihoi nō kēia, wahi a Apelahama Piʻianaiʻa, Polopeka o ka Hōʻike Honua ma ke Kula Nui ma Mānoa, he mau wēlau o nā kuahiwi mauna ia mau "pōhaku," a ʻaʻole lākou he mau pōhaku ʻiʻo nō. ʻO ia paha ke kumu o ka mana nui o Kūkaniloko.

Nā Pōhaku Hoʻōla o Wahiawā: ʻO Keaniani'ulaokalani ka inoa o ia mau pōhaku kupaianaha ʻelua. Na kekahi mahikō i ʻike iā lāua ma ke kahawai ʻo Kaukonahua a ua lawe ʻia i ka ʻāina hānai pipi a George Galbraith kokoke iā Kūkaniloko. Ma laila i mālama ʻia ai no ka poʻe Hawaiʻi nāna i hele no ka hoʻōla ʻana i nā maʻi like ʻole. He nui nā kānaka o na lāhui like ʻole i kipa pū i ua wahi la e ʻalana lei a e waiho i makana e like me ke kalo, paka, a me ke kālā. Ma hope o ke kūʻai ʻana i ka wahi nona ua mau pōhaku la, ua hoʻoneʻe ʻia lāua i ke alanui Kaleponi ma ke kaona akā ua hāʻule ka pōhaku ʻeono kapuaʻi a nahā. Ma ke kaona i hoʻomalu ʻia ai nā pōhaku a ua kipa pinepine ʻole ʻia ā hiki i ka makahiki 1988 i ka hoʻolale ʻana i ka poʻe Hindū e hoʻomana i ua mau pōhaku hoʻōla. Manaʻoʻiʻo lākou ʻo Shiva ke akua i loko o lāua. Ma muli o ka huhū o kekahi mau kānaka i nā loina hoʻomana a ka poʻe Hindū, ua pōʻalo a unuhi ʻia aʻe nā pōhaku mai ke kīmeki a ua hūnā malū ʻia e kēlā mau kānaka.

Pā ʻai pōhaku a ʻAikanaka: ʻAʻole kēia ʻAikanaka ke kupuna o Kalākaua akā he aliʻi ʻē ia i hele mai i Wahiawā mai ka ʻāina ʻē mai i o Kauaʻi me kāna lāhui. ʻO Kalōʻaikanaka ka inoa piha o ko lākou aliʻi. ʻOkoʻa ko lākou ʻōlelo, a he ʻili pāʻele ko lākou. ʻO kā lākou hana weliweli loa ka ʻai ʻana i ka ʻiʻo kanaka no ka ʻahaʻaina hoʻomana akua. ʻO ka pā ʻai he pā pōhaku. Ma hope o ke kīpaku ʻana mai Kauaʻi ua neʻepapa a noho lākou i Helemano ma Wahiawā.

Pōhaku Oʻahunui: ʻO Oʻahunui ke aliʻi nāna i hoʻokipa i ua ʻAikanaka nei i Halemano. Ma muli o ka launa ʻana me ia mau poʻe ʻaikanaka, ua lilo ʻo ia i ʻaikanaka a ua pepehi a ʻai ʻo ia i kāna poʻe ʻohana keikikāne, nā kama a kāna kaikuahine ʻo Kilikiliʻula. A laila, ua hiki mai ka makuakāne o nā keiki, ke kaikōʻeke o Oʻahunui, a ua luku ʻia ʻo Oʻahunui mā. Ua lilo ā pōhaku ko Oʻahunui kino. Wahi a ke kupuna ʻo Tom Lenchanko, aia ʻo Oʻahunui ma ke kahawai ʻo Waikakalaua. ʻŌlelo ʻia e nā kahiko, "Inā ʻaʻole ʻoe i ʻike iā Oʻahunui ʻaʻole ʻoe i ʻike iā Oʻahu." Akā naʻe, inā ʻaʻole ʻoe i ʻike iā Kūkaniloko, ʻaʻole hoʻi ʻoe i ʻike iā Oʻahu!" Ua ʻikea nā pōhaku kaulana o Wahiawā.

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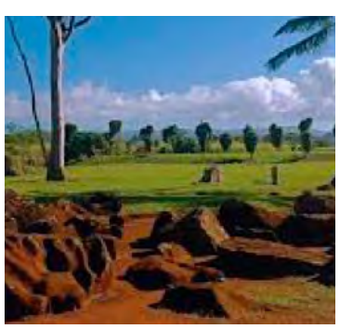
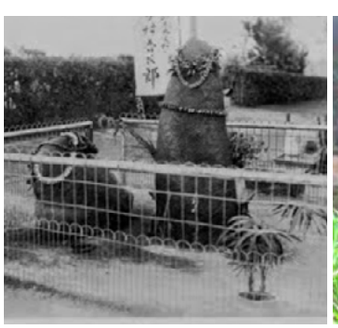
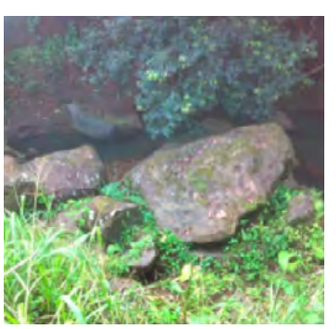






L-R Kūkaniloko | Keaniani'ulaokalani, the healing stones of Wahiawā on Galbraith property | Oʻahunui stone in Waikakalaua Stream.- *Photos: Courtesy*

Fulfilling our Kuleana



By Laʻi Bertelmann, Grade 12, Kanu o ka ʻĀina New Century Public School

Being raised in Hawaiʻi and being of Hawaiian ancestry you are given a kuleana. It is to do all you can for our lāhui, to mālama the place that provides for us, and to perpetuate our language, culture and traditions.

It's hard to understand the depth of that kuleana as a young child, but as I got older, I realized how great a kuleana it is, and how important it is for me to fulfil it.

Throughout my childhood I was taught from two different viewpoints: through a paniolo/ranching lens, as well as a Hawaiian perspective.

I come from generations of paniolo as well as Kānaka on various aliʻi lines, predominantly the Keakealani and Keawe lines. I have a deep connection to both my paniolo heritage and my Hawaiian culture. Being a senior and trying to figure out how to make an impact in my community while balancing what I am passionate about is very difficult. Like most who are raised in Hawaiʻi it is very hard for me to consider leaving home and pursuing higher education on the mainland; to consider leaving my family.

And yet I realize that such a move will not be permanent, and so that is the very reason I have decided to leave home and give it a try for a few years.

There are many different outlooks when it comes to pursuing a higher education. Some feel it is better to stay home and go to college, while others believe leaving is the only way to succeed. Personally I believe that ʻaʻole ʻike i ka hālau hoʻokahi - not all knowledge is learned in one place.

I plan to go to the mainland for two years, learn all I can, pursue my dreams of doing college rodeo, and come home to fulfill my kuleana once the two years are finished. I feel that we have a kuleana to our ʻāina and our kūpuna, but we also have one to ourselves: to live, make memories and make the best you can with the life you are given. This is my way of fulfilling both kuleana to myself and to my kūpuna.



ʻEwa Beach Parcel Selected for HHLRA Transfer



By Cedric Duarte

After receiving input last month, the Department of Hawaiian Home Lands has agreed on a land transfer of approximately 80 acres from the federal government as provided by the Hawaiian Home Lands Recovery Act (HHLRA) of 1995, Public Law 104-42.

The property is the site of the former Pacific Tsunami Warning Center near the end of Fort Weaver Road in ʻEwa Beach, Oʻahu.

Congress authorized the transfer of government surplus land to the Hawaiian Home Lands Trust in 1995 with the enactment of the HHLRA.

The HHLRA intended to provide, in part, for the settlement of claims against the United States through the exchange and transfer of federal lands for the United States' continued retention of lands initially designated as available lands under the Hawaiian Homes Commission Act, 1920, as amended, and for the lost use of such lands.

It is anticipated that this conveyance would utilize $10 million of a $16.9 million land credit that the Hawaiian Home Lands trust has with the federal government stemming from an expected transfer of a 47-acre Waipahū FCC Monitoring Station that was not provided to DHHL by an Aug. 31, 2000 deadline.

Since the enactment of the HHLRA, nearly 900 acres of federal lands have been transferred to DHHL.

The ʻEwa Beach parcel would represent the first transfer of lands that are suitable for homesteading. The property is near water, sewage, and electrical infrastructure with paved roads and an existing residential community. All previous HHLRA land transfers have been in commercial or industrial areas that DHHL and its beneficiaries have designated for revenue-generating purposes through the Department's island planning process.

From late February through mid-March, DHHL and the Department of the Interior Office of Native Hawaiian Relations sought input from Hawaiian Homes Commission Act beneficiaries and Native Hawaiian organizations through a digital presentation and follow-up survey.

Once the land transfer has been completed, DHHL will request funding from the Legislature for master planning purposes and begin beneficiary consultation to determine the appropriate land use. ■

Cedric R. Duarte is the Information & Community Relations Officer for the Department of Hawaiian Home Lands. He has worked in communications and marketing since 1999 and is a longtime event organizer. A product of the Kamehameha Schools and the University of Hawai'i at Mānoa, he resides in 'Aiea with his wife and two daughters.

An Act of Congress

Requiring the repatriation of iwi kūpuna



By Edward Halealoha Ayau

In 1995 and 1996, there were 18 repatriation cases involving 14 museums pursuant to the authority of the Native American Graves Protection and Repatriation Act, and the voluntary return of a single skull from a private individual.



Support to Lāna'i families extended to helping them weave the hāna'i for reburial.- *Photo: Courtesy*

In January 1995, one iwi kūpuna was repatriated from the University of Alaska Museum in Fairbanks. The museum director agreed to follow protocol and hand-carry the iwi to Honolulu. A month later, another iwi was repatriated by a retired doctor, also from Fairbanks, who explained that the University of Alaska Medical School used the iwi for teaching. He, too, hand-carried the iwi home. Both iwi were reburied on Oʻahu.

Then in June, we traveled to Hanover, N.H., to repatriate three iwi kūpuna from the Dartmouth College Hood Museum of Art. The registrar of the museum wrote us saying, "I am honored that, in some small way, I was able to assist in the return of your ancestors and their mana. Although it saddens me to think that it required an Act of Congress to precipitate such a simple act of respect, I am heartened by these long overdue first steps."

On that same trip, we also traveled to Richmond, Ind., and took possession of two iwi held by the Earlham College Moore Museum. Following their return, all five iwi kūpuna were reburied on Oʻahu.

The following month, we traveled to California to repatriate two large sets of human teeth donated by Dr. William Bryan to the Natural History Museum of Los Angeles County. The niho (teeth) were collected from Moʻomomi, Molokaʻi, and were returned there for reburial.

In July, we also repatriated and reintered 25 iwi held by the Bernice Pauahi Bishop Museum that had been removed from Fort DeRussy on Oʻahu.

We supported the efforts of Hui Mālama o Lānaʻi in October 1995 to repatriate another 212 iwi kūpuna from Lānaʻi also held by the Bishop Museum. This was a troubling case given the circumstances around Dr. Kenneth Emory's collection of these iwi. Our support to the Lānaʻi families extended to helping them weave the hānaʻi for reburial, as Hurricane ʻIniki had destroyed the lauhala trees on their island three years earlier.

A total of 113 iwi kūpuna, along with moepū, were successfully repatriated in November 1996 from nine museums and universities: University of Pennsylvania Museum of Archaeology (62), Reading Public Museum (2), University of Arkansas Museum (2), University of Kansas Museum of Anthropology (3), UCLA Fowler Museum (7), Los Angeles County Museum of Natural History (17), Cal State Fullerton Department of Anthropology (16), California Academy of Natural Science (1) and the Santa Cruz Museum Natural of History (3).

We conducted most of the reburials and coordinated with various Hawaiian organizations to reinter the remainder on the islands of Hawaiʻi, Maui, Lānaʻi, Oʻahu and Kauaʻi. The following month, we supported the repatriation of three iwi kūpuna from Waimea, Kauaʻi, held by the Bishop Museum, and ceremonially reburied the remains. ■

Edward Halealoha Ayau is the former executive director of Hui Mālama I Nā Kūpuna O Hawai'i Nei, a group that has repatriated and reinterred thousands of ancestral Native Hawaiian remains and funerary objects.

To read this article in ʻōlelo Hawaiʻi, go to kawaiola.news.

Keeping Hawai‘i Home



By Logan Freitas

In the Hawaiian community and beyond, April has always been known for the Merrie Monarch Festival honoring our nation's Merrie Monarch, King David Kalākaua.

As I reflect on who he was and all he stood for, I think of his motto "Ho‘oulu Lāhui," which means "to increase the nation." In today's world, Kānaka across the globe are doing their part to learn and perpetuate our culture in so many ways. It's so inspiring to see our culture being revived when it so easily could have been lost many years ago.

When I think about how I can be an advocate for our people, I think about my capacity as a realtor. One of the toughest issues I come across often is that more and more Hawaiians cannot afford Hawai‘i. Our people are being priced out of our own home and moving to the continent just to be able to live comfortably. As a millennial Kānaka realtor, I want to do all I can to "Ho‘oulu Lāhui" - to increase the Hawaiian nation in Hawai‘i.

It's difficult to afford Hawai‘i, but not impossible - and being educated is key! So, here are some tips you need to know right now...

You do not need a 20% down payment to purchase a home! The USDA loan is a 0% down loan that can be used in many areas on all islands. For active or retired service members, the VA loan is another 0% down loan – it is an earned benefit - do not let it go to waste. A standard conventional loan can be had with as little as 5% down.

Credit matters! Credit card debt and a low credit score is the silent killer for want-to-be homeowners. If your credit is low, it may take time to fix, but it is easier than you think. And, of course, living within your means is really important. The smallest sacrifices can make all the difference.

If you can fit into the income brackets for "affordable" housing through one of the major developments (Ho‘opili, Koa Ridge or Gentry Home) do it! Of course there are restrictions, but the rewards outweigh them. Moreover, the homes are brand new, beautiful, and after the live-in requirement, can be sold at market price. Sacrifice some time, and in return you could get a huge equity reward to be used for your dream home.

Start small! Many people want their first home to be their dream home, which is an often unrealistic goal especially in Hawai‘i. Start small and build up to your dream home. Equity is gained by owning a home and living there over a period of time.

Unless you have a crystal ball, you will never truly be able to time the market. Who knows when it will go up or down? All I know is the longer you wait, the more expensive it gets. Purchasing real estate is not just for you. It is for your keiki and the generations after. ■

Logan Freitas is a Native Hawaiian Chamber of Commerce board member and a realtor with Century 21 iProperties Hawai‘i. He has extensive real estate knowledge in all markets, as well as in the development sector. For real estate advice or information about this article, please call (808) 284-5585 or email loganfreitas1@gmail.com, or follow him on instagram @KeepingHawaiiHome.

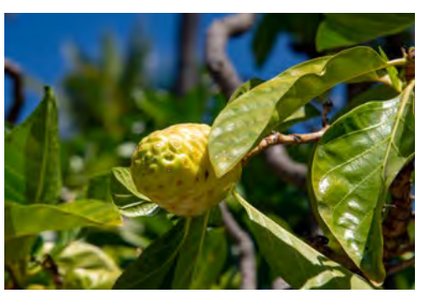
The Power of Noni



By Jodi Leslie Matsuo, DrPH

Written records from early historians documented the excellent health observed among Native Hawaiians.

Although the variety of food they enjoyed was not nearly as extensive as today, they had what they needed to maintain their health for generations. When our early Polynesian ancestors planned their migration to Hawai‘i, they had to carefully decide what plants were deemed most essential for their survival. With people, animals, and supplies occupying most of the space, they needed to be thoughtful in their decision-making.



Noni plant - *Photo: © norinori303/Adobe Stock*

The noni plant was among the plants selected, which is of little surprise given its important medicinal qualities. The entire plant – leaves, fruit, bark, and roots – were used for healing. Its fruit may also have been eaten during famines as well.

Noni fruit contains vitamins A and C, niacin, potassium, and a number of phytonutrients (naturally-occurring plant chemicals), each with unique benefits. Among two phytonutrients worth highlighting are flavonoids and polyphenols.

Flavonoids have been shown to help detox your body and decrease blood pressure and blood sugars. Polyphenols, specifically gallic acid, helps decrease arthritis, ulcers and irritable bowel disease, and improves memory. These and other phytonutrients in noni have also been shown to stimulate the immune system and fight viral and bacterial infections.

Noni may also help with weight loss. Besides decreasing body fat, it can also decrease total cholesterol and triglyceride levels.

The leaves of the noni plant can be heated and applied to bruises, wounds, and burns. The bark was used for cuts, roots for skin disorders, and immature fruit was used in various concoctions to treat a range of ailments including fractures, concussions, menstrual cramps and more. Amazing to consider that all these benefits were packaged in one plant!

Noni juice is simple to make at home. Pick ripe noni fruit, wash, and air-dry (do not peel it). Fill a glass jar to the top with the fruit. Place the sealed jar in an area of your house that has fairly stable temperature and light exposure. As the noni ferments, juice will naturally accumulate at the bottom of the jar. As the fruit shrinks, add more noni to the jar. Once you have enough juice it's ready to drink.

Including noni in one's daily routine must be done cautiously, as incorrect use, or too much noni, can be harmful. Consume only fresh noni fruit or juice – do not take noni in the form of a pill or supplement. According to research, a safe daily amount for adults is 2-3 fluid ounces a day.

It is also recommended you talk with your doctor before taking noni, as it shouldn't be combined with certain medications (including some blood pressure medications, blood thinners, and diuretics), or if you have chronic kidney disease or liver disease.

Add a noni plant to your backyard and start your own homegrown "farmacy." ■

Born and raised in Kona, Hawai‘i, Dr. Jodi Leslie Matsuo is a Native Hawaiian Registered Dietician and certified diabetes educator, with training in Integrative and Functional Nutrition. Follow her on Facebook (@DrJodiLeslieMatsuo), Instagram (@drlesliematsuo) and on Twitter (@DrLeslieMatsuo).

Promoting the Practices of Hānai and Luhi



Invoking abundance in contemporary times

By Chris Molina

Today, a disproportionate number of Native Hawaiian kamali‘i are in foster care. Recent data (2014-2018) reveal Native Hawaiian kamali‘i comprise almost half of all children in care. Sadly, the experience of foster care may cause further damage to kamali‘i, mākua, and their relationships with each other.

When looking for helpful responses to support families under stress, we can heed the advice of our ancestors: “ka wā ma mua, ka wā ma hope,” and look to traditional practices for solutions to today’s problems. Our ancestors knew the importance of permanency, support, and family unity and developed practices that promote resilience, abundance, and shared kuleana. This includes the practices of hānai and luhi.

Nānā I Ke Kumu Volume I, defines hānai as a permanent arrangement between birth parents and extended ‘ohana and may be used for a variety of reasons. The kamali‘i would be given by the birth parents in the company of others. The parents would declare, “Nāu, ke keiki kūkae a na‘au” or “I give this child, intestines, contents and all.” This declaration made hānai a permanent and binding agreement. Often birth parents remained involved in the life of their kamali‘i and mākua would confer with each other concerning the wellbeing of the kamali‘i.

A related traditional practice is luhi, a temporary arrangement that allows birth parents to reclaim the child at any time. A key feature of both hānai and luhi is recognition of familial relationships while ensuring the wellbeing of kamali‘i.



Queen Lili‘uokalani (seated on the right) was born to Analea Keohokālole and Caesar Kapa‘akea, and was hānai at birth by High Chief Abner Pākī and High Chiefess Laura Kōnia. Standing (left) is her hānai sister, Princess Bernice Pauahi Bishop. - *Photo: Courtesy*

As Native Hawaiians, we face the effects of systemic disruptions such as forced assimilation and institutional racism. The traditional structures that supported vibrant, nurturing ‘ohana became invisible within the structures of this new and often hostile reality. This has worked to estrange us from healthy, culturally resonant ways of being, doing and knowing. While some still practice hānai and luhi, it remains outside the child welfare system and without formal recognition.

Ka Pili ‘Ohana (*Ka Wai Ola* 2021-January), is a collaboration between Lili‘uokalani Trust, CWS, and other community partners. The collaboration integrates traditional values and historical practices like ‘ohana roles, hānai, and luhi to expand a supportive network of both biological mākua and resource caregivers to provide safe, stable, and loving care for our kamali‘i.

In addition to addressing the needs of the kamali‘i in care today, we collectively work to transform the foster care system to recognize and honor the importance of our traditional practices and values. ■

Chris Molina is a strategic initiatives liaison – Neighbor Islands at Lili‘uokalani Trust. He has a degree in psychology with a social work minor from Pepperdine University. He was raised in Mā‘ili, O‘ahu.

Beloved Pololū



By Leiana Carvalho, Grade 11, Kohala High School

Mai ka makani maika‘i o Kohala welina me ke aloha kākou. ‘O wau ‘o Leiana Ku‘uwehiwaim apumekekaluhcaona‘al iiwahine Carvalho. ‘O Honomaka‘u, Kohala, Hawai‘i ku‘u ‘āina hānau. ‘O Pololū au. ‘O Pololū kākou.

From the winds of Kohala greetings to you all. I am Leiana, born and raised in Honomaka‘u. I am Pololū. We are all, Pololū.

Pololū Valley is a sacred place to Kohala. This valley holds an extraordinary amount of mana to the past and our ancestors. The Kohala community possesses a unique history and relationship to this special place, a world hidden from malihini footsteps and parked cars. Our pilina to ‘āina is on many levels, through our genealogy as Kānaka, our kuleana to care for the land, and through our mo‘olelo.

Our mo‘okū‘auhau connects Pololū to the first kalo and Kānaka from whom we are all descended. Our kūpuna taught us that Pololū, Kohala, Hawai‘i was first home to Wākea and Papa. Through their union we have ko Hawai‘i Pae ‘Āina, kalo, and Kānaka. Pololū is also a beloved kalo variety to our people. It is from this place, and with this understanding, that it nourished our kūpuna. It allowed them to thrive in the valleys of Kohala through Hāmākua for centuries.

The Pololū stream is a treasured feature that supplies the brackish water pond found at the bed of the valley. The rich nutrients from this water would allow protein sources such as i‘a and ‘ōpae to supplement the ancient diet. This allowed ka po‘e o Kohala to produce food and supply a prospering community.

This abundance of food sources made possible through ke kahawai nui o Pololū is a metaphor for the mixing of ethnicities that took place there too. When Chinese families migrated to Hawai‘i, the production of rice began. They worked alongside each other to grow rice and kalo. I am both Hawaiian and Chinese. This valley was a meeting point where these two cultures came together resulting in a multicultural structure. Pololū valley holds a deep connection to my ‘ohana where my two ancestors entwined. Mahalo e Pololū for raising me.

My grandfather, Galo Fernandez, was born and raised in Kohala ‘Ākau. “Back then, we got around this town on horseback,” he recalls. “Some of my greatest memories are going down in the valley. My friend Buzzy Sproat and I would ride horses down in the valley and stay at the cabin in ‘Āwini. We would hunt and bring home food to give [to] our families and friends.”

This tale is common to ‘ohana of Kohala who call Pololū their home. To share in the bounty with loved ones on the journey home connects each person to Pololū. My grandfather was saddened to hear the news about plans to develop a parking lot and proposed subdivision on this sacred land. He proclaims, “I was in the valley so often, I was practically raised there, and it should not be used for money making.”

Let us all remember our aloha to this wahi pana, Pololū, Kohala. ■

Vendors Sought as CNHA Brings its Virtual Marketplace to Amazon

The Council for Native Hawaiian Advancement's (CNHA) successful online marketplace, Pop-Up Mākeke, created to support small businesses during the pandemic, is now accepting vendor applications for its highly anticipated third season that will include a partnership with Amazon and Shopify. Vendor selections begin this month.

"Our economic recovery is underway, but it is a long, tenuous process. We are excited to be able to continue Pop-Up Mākeke as a means to help Hawai'i's struggling small businesses continue to find success," said CNHA President & CEO Kūhio Lewis. "These changes are designed to empower vendors and deliver a better customer experience."

CNHA created the mākeke in April 2020, when the COVID-19 pandemic forced the cancellation of the Merrie Monarch Festival, which many local vendors rely upon for financial stability throughout the year. In its first two runs, Pop-Up Mākeke injected over $2 million into Hawai'i's economy, selling more than 100,000 products from hundreds of local small and micro businesses. Its customer base now spans the globe.

CNHA is looking for vendors whose products represent Hawai'i's diversity and align with the Pop-Up Mākeke mission and brand.

Vendors wishing to apply can begin the process online at: https://popupmakeke.com/pages/vendor-application.

ADC Accepting Ag and Pastureland Applications

The State of Hawai'i Agribusiness Development Corporation (ADC) is accepting applications from interested farmers and cattle ranchers who are seeking land on O'ahu for agricultural production and pastural use. The application deadline is April 9.

Multi-year licenses to farm these lands or to occupy for pastural use will be issued based on merit. Cattle ranchers may apply for the available parcels; however, preference will be given to crop farmers.

Farmers and ranchers must have a minimum five years of experience, or be current owner-operators of an established farm or ranching operation. Applicants already trained and certified in food safety and Good Agricultural Practices are preferred.

Interested persons should go the ADC website at http://hdoa.hawaii.gov/adc/land-application/ to obtain an application form, or they can contact the ADC office at (808) 586-0186. The application deadline is 2:00 pm, Friday, April 9, 2021.

GoFarm Hawai'i Recruiting on Kaua'i



Miles Dawson, a GoFarm Hawai'i graduate, harvests lettuce at the Waimānalo Research Station site. - *Photo: GoFarm Hawai'i*

GoFarm Hawai'i is currently recruiting for a new Kaua'i cohort. Kaua'i residents interested in improving their farming production and agribusiness skills are encouraged to apply.

The first step is to learn more about the program by attending the AgCurious online webinar on April 6 at 6:00 p.m. The free webinar is a prerequisite for applying to the cohort. Register at https://us02web.zoom.us/webinar/register/WN_gJf7-gUUTheTto3EFTJFGA

The farmer training program begins with "AgXposure" (May 26 - June 24, 2021). Participants will learn from local farms and get exposure to farm work Thursday evenings (online) and Saturdays (in person).

It will be followed by "AgXcel" (July 8 - December 23) where participants will learn farm production and business skills from GoFarms's coaching team during online Thursday evening classes and Saturday field classes. Participants will be able to plant, manage and market their own 7-week CSA vegetable production at GoFarm's site in Līhu'e.

For more information go to: https://gofarmhawaii.org/agcurious-faqs/

Apply Now for Royal Order of Kamehameha Nā Koa Ali'i Scholarship

The Royal Order of Kamehameha I Hawai'i Chapter 1 is now accepting applications for the 2021-2022 Nā Koa Ali'i Scholarship. This is a merit-based scholarship for full-time students of Hawaiian ancestry pursuing a degree at an accredited vocational school, or at a two- or four-year college/university.

Two $2,000 scholarships will be awarded, with preference given to Royal Order of Kamehameha I members and their immediate families.

Scholarship applications are available online at https://www.kamehameha.org/scholarship/ and a personal essay is required. The application deadline is 11:59 p.m. on June 1, 2021. Awardees will be notified by the end of June. For more information contact Bronson Silva at kuauhau1@gmail.com.

Hawaiian Civic Club of Honolulu Scholarship Applications Due April 30

Visit www.hcchonolulu.org for information on post-high scholarships available to haumāna 'Ōiwi Hawai'i for 2021-22. Please review requirements, submit documents on time, and thoughtfully complete the required essays.

The Hawaiian Civic Club of Honolulu (HCCH) was founded by Prince Jonah Kūhiō Kalaniana'ole in 1918. More than a century later, HCCH's Scholarship Fund continues to support the founding objectives of Prince Kalaniana'ole: to restore the social and economic status of Hawaiians and to increase pride in Hawaiian heritage and 'Ōiwi identity.

2021 marks the 150th anniversary of the birth of Prince Kalaniana'ole, and the 100th anniversary of the Hawaiian Homes Commision Act of 1921, a noble legacy left to us by our ali'i.

Scholarship awards are competitive and based on application excellence, timeliness and attention to requirements outlined in the online application.

April 30, 2021, is the due date for application submission. 'Eleu mai 'oukou!

Mortgage Loan Deferral Extended for DHHL Borrowers

The Department of Hawaiian Home Lands' (DHHL) postponement of mortgage loan payments for DHHL direct loans and loans assigned to the department has been extended for an additional three-month period, through June 30, 2021. This is the fourth such extension approved by the Hawaiian Homes Commission since March 2020.

The deferment is an auto-enrolled postponement. If a borrower decides to continue making payments during the deferral period, DHHL will process the payment as in the normal course of business. As with the initial and subsequent deferment, interest will continue to accrue during the postponement period, however, no late fees will be added.

All DHHL borrowers will receive notice of the extension on their April 2021 mortgage loan statement.

For information about DHHL loan deferrals, call (808) 620-9500. If you have a loan with an outside lender and are facing financial hardship due to COVID-19, contact your provider as soon as possible

HTA Publishes Action Plan for Maui Nui

The Hawaii Tourism Authority (HTA) has published the 2021-2023 Maui Nui Destination Management Action Plan (DMAP) as part of its strategic vision and continuing efforts to manage tourism in a responsible and regenerative manner.

The plan was developed by the residents of Maui, Moloka'i and Lāna'i, and in partnership with the County of Maui and Maui Visitors and Convention Bureau (MVCB). The DMAP is a guide to rebuild, redefine and reset the direction of tourism on the three islands that make up Maui Nui.

"All credit goes to the people of Lāna'i, Moloka'i and Maui who committed themselves to the DMAP process and were willing to face tough issues, embrace diverse viewpoints, explore new ideas and identify actionable priorities. The DMAP process provides a collaborative framework within which participants are inspired to mālama the places and traditions they cherish most," said John De Fries, HTA's president and CEO.

The community-based plan focuses on key actions deemed necessary over a three-year period. The foundation of the Maui DMAP is based on HTA's 2020-2025 Strategic Plan. The actions are based on the four interacting pillars of HTA's Strategic Plan – Natural Resources, Hawaiian Culture, Community, and Brand Marketing, and were developed by Maui, Moloka'i, and Lāna'i steering committees, comprised of residents representing their own communities, as well as the visitor industry, different business sectors, and nonprofit organizations. Representatives from the County of Maui, HTA, and MVCB also provided input.

To view the plan go to: https://www.hawaiitourismauthority.org/media/6860/hta-maui-action-plan.pdf

2018 Kilauea Eruption Fissure Named

The Hawai'i Board on Geographic Names (HBGN) has approved an official title for Fissure 8, which appeared in the Puna District of Hawai'i Island during the 2018 Kīlauea eruption.

Ahu'ailā'au, which refers to the altar of the volcano deity 'Ailā'au, was selected from dozens of community-submitted proposals.

SEE **NEWS BRIEFS** ON **PAGE 26**

CONSERVATION DISTRICT USE APPLICATION: PUNA DISTRICT, ISLAND OF HAWAIʻI

ASM Affiliates is conducting consultation for a Conservation District Use Application (CDUA) being prepared for the proposed development of a single-family dwelling on a 0.459-acre parcel in Waʻawaʻa Ahupuaʻa, Puna District, Island of Hawaiʻi. We are seeking consultation with any community members who may have knowledge of traditional cultural uses of the proposed project area; or who are involved in any ongoing cultural practices in the general vicinity of the subject property that may be impacted by the proposed project. If you have and can share any such information, please contact Lokelani Brandt lbrandt@asmaffiliates.com, phone (808) 969-6066, mailing address ASM Affiliates 507A E. Lanikaula Street, Hilo, HI 96720.

CULTURAL IMPACT ASSESSMENT: KAILUA-KONA, NORTH KONA DISTRICT, ISLAND OF HAWAIʻI

Information requested by Scientific Consultant Services, Inc. of cultural resources or ongoing cultural practices within Kahalui 1st and 2nd Ahupuaʻa, Kailua-Kona, North Kona District, Island of Hawaiʻi, TMK: (3) 7-5-019:020. Please respond within 30 days to Glenn Escott at (808) 938-0968.

CULTURAL IMPACT ASSESSMENT: PORT ALLEN, KAUAʻI

Scientific Consultant Services, Inc. (SCS) is seeking information about cultural resources and traditional, previously or on-going, cultural activities within or near the proposed Port Allen Kauaʻi (PAK) Security Fence Replacement Project. The Port Allen Airport is located on the south shore of Kauaʻi approximately one mile southwest of Hanapēpē town. The Hanapēpē Salt Ponds (State Inventory of Historic Properties Site # 50-30-09-00049) and Salt Pond Beach Park are approximately 200 feet northwest of the Airport. Immediately west of the Airport is a small beach extension of Salt Pond Beach Park. Puʻolo Point is approximately one quarter of a mile south of the Airport. The project area is located in Hanapēpē Ahupuaʻa, Waimea (Kona) District, Island of Kauaʻi [TMK: (4) 1-8-008:004 por.]. The project is proposed by the Department of Transportation, Airport Division. The proposed action consists of the replacement of the existing chain-link security fence at Port Allen Airport with a fence of similar size, height (approximately 4 feet), and in the same footprint. The existing security fence has deteriorated and must be replaced to comply with security requirements set forth by the Federal Aviation Administration. The project is seeking a Special Management Area Permit from the County. If you have information to share, please respond within 30 days to Cathleen Dagher, Senior Archaeologist, at (808) 597-1182, or via email (cathy@scshawaii.com).

ENVIROMENTAL IMPACT ASSESSMENT: WAHIAWĀ. OʻAHU

The State of Hawaiʻi Department of Accounting and General Services (DAGS) is in the beginning stages of the preparation of an Environmental Impact Statement (EIS) for the Wahiawā Civic Center. The EIS is being prepared in accordance with Hawaiʻi Revised Statutes Chapter 343, and Hawaiʻi Administrative Rules Chapter 11-200.1. The project area is comprised of Tax Map Keys [1] 7-4-006:012; [1] 7-4-004:001 and [1] 7-4-004:071 in Wahiawā on the Island of Oʻahu. A Cultural Impact Assessment (CIA) will be prepared as part of the EIS. The CIA team is seeking consultation with practitioners, Native Hawaiian Organizations, stakeholders, and other individuals. Specifically, consultation is sought on historic or existing cultural resources that may be impacted by the proposed project, historic or existing traditional practices and/or beliefs that may be impacted by the proposed project, and/or identification of individuals or organizations that should be sought out for consultation on the CIA. Individuals or organizations may contact the CIA team at community@honuaconsulting.com or (808) 392-1617. Additional information about the project is available on the project website at www.wahiawaciviccenter.com.

ENVIROMENTAL IMPACT ASSESSMENT: WAIĀHOLE VALLEY IN KOʻOLAUPOKO, OʻAHU

Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed single-family residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property, which is in the State Conservation District, Resource subzone. The proposed residence includes a single-family dwelling, a driveway for vehicular access from Waiāhole Valley North Bend Road, and some general site improvements in vicinity of the house site. A Cultural Impact Assessment (CIA) will be prepared as a part of the EA. Townscape, Inc. is seeking consultation with practitioners, Native Hawaiian organizations, stakeholders and other individuals willing to provide information or comment on cultural resources in the vicinity of the proposed project area. Please respond within 30 days to Lillie Makaila, Planner, at (808) 550-3893 or via email at lillie@townscapeinc.com.





OFFICE OF HAWAIIAN AFFAIRS
BOARD OF TRUSTEES

Note: Trustee columns represent the views of individual trustees and may not reflect the official positions adopted by the Office of Hawaiian Affairs Board of Trustees.

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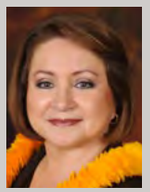
E Hoʻoulu i ka Lāhui



Carmen "Hulu" Lindsey
Chair, Trustee, Maui

One of the great goals of King Kalākaua was to Hoʻoulu Lāhui, or to increase the Hawaiians and the Nation.

After working for two and a half months on SB 1334, OHA's Kakaʻako Makai bill, I had an epiphany upon recalling the words of our last Mōʻī Kāne, King David Laʻamea Kalākaua, to "Hoʻoulu Lāhui" which literally means "to increase the Nation."

His words called upon Hawaiians to seek greater involvement in their government in response to changing political winds which sought to diminish Hawaiians' power to control their political and economic destinies.

Kalākaua's words ring true for me today as I reflect upon how we all must now engage with our state legislature to do what is best for all of Hawaiʻi, especially as it relates to OHA's plans to steward and develop its Kakaʻako lands, and to thereby be able to better steward and care for its Native Hawaiian beneficiaries.

State legislators were told of our vision, our hopes, and our dreams for Kakaʻako Makai to create a Hawaiian cultural gathering spot, a Hawaiian sense of place, a place where Hawaiʻi's people could work, live, and play in an area accessible to jobs, commerce, shopping, mass transit, parks, and the ocean.

Those conversations were invigorating and exciting, in part because of the assumptions by some that the Office of Hawaiian Affairs was just another developer with no stake and no connection to the land, the ocean, and the people, and that we were out to make as much money as possible with little concern for the ʻāina, our lāhui, or the people of Hawaiʻi.

As the Indigenous and Native people of Hawaiʻi, nothing could be further from the truth.

On Tuesday, March 9, the Senate passed SB1334 SD1, allowing for residential housing on some of OHA's Kakaʻako parcels, and raising the allowable height for two of OHA's lots on busy Ala Moana Boulevard from 200 to 400 feet.

Senators overwhelmingly understood that it made sense to allow for the development of residential housing away from the shoreline and in the business corridor, and that such a development would be in the best interest of not only OHA's Native Hawaiian beneficiaries, but for all of Hawaiʻi as a means to address Hawaiʻi's perennial housing shortage.

On March 15, OHA learned that the House will not be scheduling hearings on our bill meaning that unless something drastic happens, OHA's Kakaʻako bill will not pass this year.

The OHA trustees' obligation to their Native Hawaiian beneficiaries is to protect their rights and to challenge laws which unconstitutionally prevent them from developing their makai properties as private developers mauka of Ala Moana are now allowed to do.

One strategy is to legally challenge HRS 206E-31.5(2) as "special legislation" which preserves view planes for residential towers mauka of Ala Moana Boulevard by prohibiting Hawaiians from building housing on any of its 30 plus acres of its Kakaʻako makai lands. Another strategy is to pass SB1334 SD1.

This isn't about OHA but is instead about "special interest" politics. OHA is entitled to parity with the same zoning allowances that other mauka developers have already received.

HRS 206E-31.5(2) discriminates against Hawaiians and favors special interests over the public interest. It must either be overturned by a court or repealed by passage of SB1334 SD1.

I call upon Hawaiians to hoʻoulu lāhui, to increase your knowledge and understanding of how Hawaiians' rights to self-determination in the use of their trust lands will benefit Hawaiians in perpetuity.

Mahalo a nui loa! ■

Hoʻonaʻauao: Education, Our Most Important Strategic Priority…



Leinaʻala Ahu Isa, Ph.D.
Vice Chair, Trustee, At-large

Welina! Aloha mai kākou! This month I am featuring Dr. Glenn Medeiros, our very own homegrown boy from Lāwaʻi, Kauaʻi whose education took him from singer/musician to President of Saint Louis High School! He wanted to share his journey. Mahalo nui, Dr. Medeiros!



I am excited to announce that I am writing a book about the lessons that I have learned both in the music industry and in education, and I wanted to share these with you! My intention in writing this book has always been, and will always be, to help our keiki as they maneuver through their educational journeys. By sharing what I have learned and experienced after 35 years as a professional musician and over 20 years as an educator, I challenge them to look at education from a different perspective:

1. GET YOUR EDUCATION FIRST

a. Talent takes time to develop, from mimicking others at a young age, to creating your own sound. Open your mind to a world of new knowledge and skills. I say, "follow your DREAMS and don't let anyone stop you." Why just have one dream? Most people love many things. Why not be a musician and an educator, an accountant, or a lawyer? Remember, success takes hard work, but it also takes a lot of luck too. By either going to school or having a day job, you are more likely to make decisions in the music business that are best for you.

2. MAKE YOUR OWN CHOICES

a. Everyone will tell you what is wrong with you and your music, but you must remember that most opinions are coming from people who stand to benefit from the choices you make. You know what is best for yourself. Listen to what others say, reflect upon their words, and then make your own decisions.

b. Remember that you are the only person that will have to live with the legacy you leave behind.

c. Stay away from drugs, alcohol, etc. With the harsh environment faced when working long hours and traveling on the road for weeks or months at a time. The truth is that it ruins not only your life, but often the lives of your family members and friends who love you the most.

3. IT IS IMPORTANT TO BUILD COURAGE AND CONFIDENCE IN OUR STUDENTS

a. Everyone is intelligent in their own way. We know through research on multiple intelligences by Howard Gardner of Harvard University that the traditional measures of intelligence are logical and mathematical intelligence which makes for good lawyers, scientists, mathematicians and engineers, but there are so many other skills needed in the world we live in and that our students are naturally wired for. It is important for schools to expose students to these learning styles and provide them with opportunities to grow their respective "intelligences."

b. If students believe in themselves and value education, very little can stop them from experiencing success in school – regardless of their socio-economic status.

4. MASTERY OF CRITICAL THINKING SKILLS

Expose students to diverse facts and opinions. With a world of information at the fingertips of students today, it is vital that they learn the skills needed to be able to distinguish between what is fact and simply opinion, and and to teach them to develop new and original thoughts while cementing what they've learned in their mind. By providing our students with real-world problems to solve, we better prepare them for a future where, regardless of what kind of occupations are available, they will be greatly needed.

A hui hou kākou until May, Trustee Leinaʻala Ahu Isa ■

Aloha ʻĀina Kākou!



Dan Ahuna

Trustee, Kauaʻi and Niʻihau

It's been a full year of living in this global pandemic. As I reflect upon all that has happened, I recognize a common denominator in all that has carried us through. Though our lāhui has faced many new challenges along with the rest of the world, we have surely met them with great resiliency and have taken the time, collectively, to stay grounded in what matters so much to us…ʻāina.

When all we have to rely on is ourselves, ʻāina always has been, and always will be, our saving grace and balance. ʻŌlelo noʻeau 466 speaks to this and tells us, *Hānau ka ʻāina, hānau ke aliʻi, hānau ke kanaka. Born was the land, born were the chiefs, born were the common people.*

Our kūpuna recognized that our Kānaka and ʻāina belong together. The impacts of COVID-19 over this last year have magnified the importance of our traditions and ways of life, our communities, our economics, and government systems that we live in today, echoing the words of many ʻōlelo noʻeau which speak to our relationship to ʻāina and this coexistence.

We've seen individuals and entire communities step up and ʻauamo the kuleana to care for and help each other.

With all the barriers of "social distancing" and "limited contact," we are sharing information and engaging whenever and however we can to support each other on many levels. I've observed and worked alongside more hui coming together and organizing. I've witnessed and heard so many heartwarming stories during this time. More importantly, we are finding ways to feed each other. With food, with knowledge, with skills, through education and with ʻāina at the core.

We have up-and-coming leaders using their platforms for pono and sharing our stories in great capacities in communities, on the continent, and globally. Congressman Kai Kahele recently spoke and brought further attention to ʻōlelo Hawaiʻi, openly sharing his kuleana with the many hats he wears daily, never straying far from his roots and his aloha to his ʻāina… our ʻāina. What a great example and real testament of a modern, engaged, and progressive Kanaka.

Here at home on Kauaʻi, I am so blessed to see this ʻāina aloha up close and personal, working and living alongside our fearless island people. Within this aloha for ʻāina also come the tasks to maintain, operate, and protect our ʻāina. Living wahi pana like our Hanapēpē Salt Ponds, Waiʻoli, Hulēʻia, Kipu Kai, Hāʻena, and many more are in need of the same fierce aloha we put into our people and practices.

In other parts of the pac ʻāina it is the same.

In county and state arenas, plans for Wahiawā and Kūkaniloko are a main focus, along with Kakaʻako Makai sparking big conversation, the stoicism of Waimea Valley operations during this time, the management of Maunakea, all our Hawaiian Homelands, Public Land Trust lands, the list goes on. The value of our ʻāina includes, but goes far beyond, monetary means - it is in who we are as Kānaka. I hope to see an increase in efforts to further mālama our ʻāina.

Let's keep our conversations going, raise our community engagement, and maintain our relationships on all levels. What's good for ʻāina is good for kānaka, and what's good for kānaka is good for everyone. ʻĀina is the reason.

Mālama pono! ■

Help for Native Hawaiian Businesses Facing the COVID Storm



Keliʻi Akina, Ph.D.

Trustee, At-large

For the past year, the global COVID-19 pandemic has slowed most sectors of the world economy to a crawl.

In Hawaiʻi, countless businesses have reached out for external help, such as government assistance, simply to survive. However, recent survey data reveals that Native Hawaiian-owned businesses have largely weathered the storm of the last year on their own, without assistance from state or local government programs.

Citing U.S. Census data from 2012, a Department of Business, Economic Development, and Tourism (DBEDT) report shared that Native Hawaiians own 3,147 firms in Hawaiʻi, constituting 11.1% of all businesses in the state.

In June 2020, OHA collaborated with Kamehameha Schools, Liliʻuokalani Trust, the Hawaiʻi Leadership Forum, Kupu, and the Native Hawaiian Chamber of Commerce to survey over 2,000 residents, businessowners and nonprofit executives about COVID-19's impact on local businesses. Astonishingly, survey findings indicated that 46% of Native Hawaiian-owned businesses reported not requesting any financial assistance such as from the Paycheck Protection Program, Economic Injury Disaster Loans and other state or local government programs.

Yet, many Hawaiian-owned businesses reported a decline in customer/client demand (53%), depletion in cash reserves (49%), event cancellations (34%) and temporary closures (48%).

So what is the reason for the low utilization of financial assistance among Hawaiian business owners? Was it a lack of awareness, limited access to resource centers, or other barriers? Even the survey conductors are puzzled.

In any case, the economic impact of COVID-19 remains with us, so it is essential that Native Hawaiian-owned businesses utilize all available resources to survive and thrive at a new level.

For example, CNHA and several local financial institutions are currently accepting applications for loans under the popular and well-known Paycheck Protection Program (PPP), created by the CARES Act. The federal government and many banking institutions rose to the challenge presented by the pandemic by offering zero-fee loans of up to $10 million to cover payroll and other operating expenses for cash-strapped small businesses. Eligible borrowers can seek to have PPP loan funds forgiven if spent on eligible overhead and payroll costs.

Another tool available to small businesses is the Employee Retention tax credit (ERC) that was extended by the American Rescue Plan when it was signed into law on March 11, 2021. The refundable Employee Retention tax credit (ERC) is now extended to cover wages paid out through June 30, 2021. The ERC is available to employers whose business operations were fully or partially suspended due to government-imposed restrictions on commerce, travel or group meetings, or employers whose businesses experienced significant losses in revenue compared with pre-pandemic periods. Through the ERC, qualifying employers can claim any wages paid to employees in excess of amounts used for the PPP program.

Native Hawaiian business owners should also be aware of OHA's Mālama Business and Hua Kanu Business Loan programs, providing "established small businesses access to credit and capital that allows them to grow." (https://loans.oha.org/business/) And all business owners will want to familiarize themselves with the resources highlighted by the Small Business Administration (www.sba.gov).

Now, more than ever, it is vital to raise awareness of assistance that may be available to small businesses. All of us who are fortunate enough to call Hawaiʻi home must walk together on the path to recovery, and that includes finding ways to support our local businesses. E Hana Kākou! ■

Trustee Akina welcomes your comments and feedback at TrusteeAkina@oha.org

Federal Native Funding



Brendon Kaleiʻāina Lee
Trustee, At-large

The week of April 4 is National Library Week. This makes me think of the fact that the Kingdom of Hawaiʻi had close to a 95% literacy rate with over 70 Hawaiian language newspapers in publication.

The Hawaiian Kingdom was the most literate country in the world. This was accomplished in less than 50 years by a native population with no Indigenous written language. Native Hawaiians' use of oli and mele helped to propel their learning curve in the written word and it was this fact that the missionaries used to help get the population literate. It was also this fact that the provisional government of Hawaiʻi used to destabilize the native population after the overthrow.

There is instance after instance of political leaders during this time period stating the way to "Americanize" the native population was to eliminate the Hawaiian language. Even former trustees from Bishop Estate had been known to agree with the sentiment that the way to keep Native Hawaiians compliant was to deny them their language. For nearly the first 80 years of Kamehameha Schools' existence, Hawaiian language was not even taught.

With the Hawaiian renaissance of the 1970s came a resurgence of the Hawaiian language. The birth of Pūnana Leo, followed by the Hawaiian immersion programs and eventually Native Hawaiian Public Charter Schools, have all helped to normalize the once nearly extinct language.

When I graduated from Kamehameha in 1987 few students took Hawaiian as their language requirement. Today you can hear our ʻōlelo makuahine throughout the halls on campus.

While the Office of Hawaiian Affairs provides substantial funding for Native Hawaiian Public Charter Schools, it is the United States Congress that provides the majority of funding through the Native Hawaiian Education Act. This act needs to be reauthorized by Congress regularly as, unlike Native Americans or Alaskan Natives whose funding is guaranteed through the Indian Education Act, Native Hawaiians are not recognized as an Indigenous people of the United States. This is where the term that has so much friction behind it comes from: "federal recognition."

The irony of this is those Indigenous peoples whose educational funding is protected by their recognized status by the federal government are looking to Native Hawaiians and how we have not only brought our language back but that it is now thriving. The other irony behind "federal recognition" is that many Native Hawaiians are against it because they believe that the Kingdom of Hawaiʻi is being illegally occupied by the United States of America. This is ironic because they believe this is a "fake state."

If the United States left Hawaiian shores tomorrow, why would recognition as an Indigenous people matter? It would not. How would being recognized by the United States prevent Native Hawaiians from continuing to seek its independence? It would not. What does the Native Hawaiian people being recognized as an Indigenous people have to do with the Kingdom of Hawaiʻi? Nothing. Did you have to be Native Hawaiian to be a citizen in the Kingdom of Hawaiʻi? No, you did not.

While we continue to have these conversations about whether to be federally recognized or not, I am grateful for our congressional team in Washington, D.C., that continues to fight for the reauthorization of the Native Hawaiian Education Act, Health Act, and other federal programs, and the continued appropriation of funds for these programs to help Native Hawaiians. Mahalo senators Hirono and Schatz and congressmen Case and Kahele. ■



In an effort to create a place for our lāhui to share their manaʻo on issues affecting our pae ʻāina and Kānaka Maoli, *Ka Wai Ola* offers two ways to do that:

a letter to the editor
or
an "OpEd" (opinion piece)

Here are the guidelines:

- Letters and OpEds must be submitted by the 15th of the month (for publication in the following month's issue). Email letters and OpEds to kwo@oha.org.
- Letters must be 200 words or less; OpEds must be 500 words or less.
- Please email your submission as a Word document or include it in the body of your email using standard upper/lower case formatting.
- Letters and OpEds should be submitted with the writer's name, phone number and email.
- *Ka Wai Ola* will not print letters or OpEds that attack, slander, defame or demean an individual or organization.
- *Ka Wai Ola* reserves the right to edit letters and OpEds.
- *Ka Wai Ola* will not print letters or OpEds that do not meet these criteria.

For more information and detailed guidelines go to:
https://kawaiola.news/about/submissions/

NEWS BRIEFS

Continued from page 21

Hawai‘i County Council Resolution 640-18 requested that HBGN consult with the communities impacted by the eruption to ensure that traditional, cultural, and family ties were considered in order to establish appropriate names for the Fissure 8 vent and any other features of the 2018 eruption.

Mayor Mitch Roth said, “We are excited to have a name that provides a sense of place, history, and cultural identity to the fissure that took with it so many memories. Ahu‘ailā‘au is an embodiment of how Hawaiians have explained the natural phenomenon for generations, and it is integral to our understanding of this place.”

HBGN’s membership includes OHA, DHHL, BLNR and others. The Board is responsible for designating the official names and spellings of geographic features in Hawai‘i. In its deliberations, HBGN, solicits and considers the advice and recommendations of the appropriate County government officials and, as appropriate, other knowledgeable persons.

Actions of Aloha Donates $10,000 to Bishop Museum

Actions of Aloha, a charitable business founded in March 2020, recently donated $10,000 to Bishop Museum after partnering with them in November 2020 to create a deck of cards featuring 53 ‘ōlelo no‘eau.

“‘Ōlelo no‘eau are timeless. They allow us to connect with the way our ancestors thought and viewed the world,” said Actions of Aloha ambassador Kaiani Kīʻaha. “We are incredibly grateful for the opportunity to work with Bishop Museum to create such a valuable resource, and are so pleased to see the community join us in supporting one of Hawai‘i’s treasures with these cards.”

“*‘Ōlelo No‘eau: Hawaiian Proverbs and Poetrical Sayings* is a perennial best-seller for Bishop Museum Press,” said Bishop Museum Press operations manager Teora Morris. “It is inspiring to see the ‘ōlelo no‘eau come to life through a new medium and reach new generations and audiences.”

This is Actions of Aloha’s third $10,000 donation to a Hawai‘i nonprofit. Previous recipients of Actions of Aloha cards and donations were Waimea Valley and The Friends of ‘Iolani Palace.

Actions of Aloha recently announced another partnership with E Hoʻopili Mai, a successful social media initiative by Kumu Kahanuola Solatorio, to celebrate ‘ōlelo Hawai‘i. The new deck of 52 cards features everyday conversational phrases in Hawaiian and English. A portion of the profits from these cards will be donated to ‘Aha Pūnana Leo.

Community Voices Call for Bold Policy Leadership

The ‘Āina Aloha Economic Futures (AAEF) initiative is launching a policy playbook, *Growing a Stronger Hawai‘i*, that outlines key approaches to transforming Hawai‘i’s economy.

The playbook makes 26 specific proposals which collectively establish a framework for a resilient and diverse economy. The policy proposals are grounded in shared values and prioritize the wellbeing of communities and our natural environment in a post-pandemic future.

AAEF co-author, Dr. Noe Noe Wong-Wilson said, “When the pandemic hit, we quickly realized that our grassroots communities were not represented in discussions of economic recovery. We saw that the pre-pandemic economy was not working for a large portion of our community. And we knew it was urgent to amplify the voices of the many individuals and organizations that could bring invaluable expertise to these discussions.”

The playbook was developed through a series of engagements that involved over 2,750 individuals, organizations and businessess and produced over 180 specific proposals.

“At the midpoint of the legislative session, we are very concerned that decision-makers are going to revert to what they know - the pre-pandemic status quo - and that is a huge problem. The status quo has failed to provide social and environmental justice and equity in our community. It’s time for our policymakers to make these changes now,” said Wong-Wilson.

Visit https://www.ainaalohafutures.com/ to review the playbook and sign-on to the effort.

Two OHA Mālama Loan Commercials Air During Grammys

Two commercials featuring OHA Mālama Loan recipients aired on KGMB during the 63rd Grammy Awards on March 14. The 30-second spots featured Hawaiian businesses Fitted Hawai‘i and Native Intelligence.

Fitted Hawai‘i produces t-shirts, accessories and outerwear, but is best known for their custom New Era caps. Founded by Rene Matthyssen and Keola Naka‘ahiki, Fitted Hawai‘i does a brisk online business and also has a storefront in downtown Honolulu.

Owned by Kumu Kapono‘ai Molitau and his wife, Jenny, Native Intelligence’s elegant retail storefront in Wailuku, Maui, features high-end Hawaiian and Polynesian arts and crafts, books, music, apparel, featherwork, jewelry and hula supplies.

If you missed the Grammys, no worries - you can watch the commercials on OHA’s Vimeo channel.

Fitted Hawai‘i https://vimeo.com/282064471

Native Intelligence: https://vimeo.com/392295685

Anguay Named DOE Principal of the Year


Mahina Anguay

Waimea High School Principal Mahina Anguay was recently named the 2020 Hawai‘i Association of Secondary School Administrators Hawai‘i State Principal of the Year.

The award is part of the Hawai‘i State Legislature’s annual celebration of Education Week every March to honor public school students, educators, and staff who have been recognized for their contributions to excellence in education. Education Week honorees have also previously received state or national recognition for their exemplary achievements and commitment to their schools and broader community.

Anguay, a veteran educator, has been principal at Waimea High School on Kaua‘i for the past seven years. ■

HOʻOHUI ʻOHANA
FAMILY REUNIONS

E nā ‘ohana Hawai‘i: If you are planning a reunion or looking for genealogical information, Ka Wai Ola will print your listing at no charge on a space-available basis. Listings should not exceed 200 words. OHA reserves the right to edit all submissions for length. Send your information by mail, or e-mail kwo@OHA.org. ***E ola nā mamo a Hāloa!***

SEARCH

CHANG – Looking for descendants or related ohana members of Deborah Chang, Deborah Kauka, Deborah Ka'aihue (DOB: about 1885). Please contact Glenn Ventura at gdventura44@gmail.com. Mainly trying to locate sisters of my mother Irene Chang (DOB: 1914). Married John E. Ventura of Kihei, Maui. Sisters: Lillian, Saddie (Sadie), Warma (Velma) and Agnes Kauka. Mahalo!

CHARTRAND – Aloha John Francis Carson Chartrand is my Grandfather on my mother’s side. He came to Hawai‘i in the 20s with the Calvary. He married four Hawaiian women in his life and had many children. Mary Keahi Kaohu, Edith Kapule Kalawaia, Margaret Keanalani Claesene and Helen Brown. My mother Isabelle Leina‘ala Chartrand Kainoa and brother Harold Kalawaia Chartrand had eleven half siblings. In honor of all the Chartrand ‘Ohana that have passed on, to meet Grandpa Chartrand. We want to plan a reunion. We need everyone to kokua with your current contact info to cousin Cami Chartrand 446-5098 email Chartrandreunion2020@gmail.com or John Kainoa 244-8428, johnkainoa61@gmail.com. We look forward to hearing from you. Mahalo John.

GRAMBERG – Searching for the descendants or any related ‘ohana of Herman Gramberg and Rose Anakalea. Children of Herman and Rose are Herman “Waha”, Theresa, George, Vivian, Henry “Heine”, Darilynn, and Rosebud. Looking to update genealogical information. Please email gramberg ohana1@gmail.com. Any information shared is greatly appreciated. Mahalo!

HARBOTTLE – I am looking for information on my great-great grandmother. Her name is Talaimanomateata or Kua‘analewa, she was Tahitian and married to or had a child with George Nahalelaau Harbottle. Born in 1815 on O‘ahu and son of John Harbottle of England and Papapaunauapu daughter of Haninimakaohilani and Kauhiaimokuakama. I know from Edward Hulihee Harbottle’s (my great grandfather) Guardianship court case that when his father George died his mother was on Maui and the case was stopped until she could be in court. When she appeared in court she said it was fine if Edward H. Boyd became his guardian. There are family stories that she had come from an ali‘i family of Tahiti and was in Hawai‘i as a ward of the court. I have not been able to substantiate this information. If anyone in the family knows where I might look it would be wonderful to know. Please contact me at waiakaphillips@yahoo.com or call 808-936-3946. Mahalo, Noelani Willing Phillips.

HOʻOPIʻI – I am looking for ‘ohana and information on the wahine Hoopii who married James Love after 1860 in Hawai‘i. Hoopii died in 1954 in Honolulu and James died 1913 on Maui. James and Hoopii Love had three children, all born in Honolulu: Annie Kaniniu b.1870, James R.K. b.1871, and William Kaliko b.1874. I am looking for any information especially on Hoopii. Please contact U'ilani Tacgere, phone/text 808-696-6843 or email uipua@aol.com. All information is welcomed! Working to update my genealogy info. & make connections to ‘ohana!

HUSSEY – The Hussey family (Alexander & Kaaikaula Makanoe) is updating its genealogy book. Please go to husseyohana.org for more information.

KAIWA – Looking for descendants or related ‘Ohana Members of ‘BILL KAIWA’, aka ‘SOLOMAN ANI. Please contact ROBERTA BOLLIG 320-248-3656 or flh63kb@yahoo.com MAHALO!

KAMILA/CAZIMERO – We are updating our Kamila and Manuel Family Tree and planning our next Family Reunion. Please check out our Facebook page; Hui ‘o Manuel a me Kamila Reunion or email Kamila.ManuelCazimeroFR2021@gmail.com. You can also contact Stacy Hanohano at (808) 520-4212 for more information.

MAKUA – Looking for descendants or related ‘ohana members of Henry K. Makua (year of birth: 1907, Honolulu) Father: Joseph K. Makua, Mother: Mary Aukai, Sisters: Malia and Mele, Sons: Henery and Donald Makua. Joseph and Mary may have orginated from Kaua‘i. Looking for genealogical information. Please contact – emakua.makua@gmail.com. Mahalo!

MCCORRISTON – We are updating the McCorriston family tree! Descendants of Daniel McCorriston and Annie Nelson/Anna McColgan, Hugh McCorriston and Margaret Louise Gorman, Edward McCorriston and Mauoni, and Daniel McCorriston and Jane Johnson, please forward your family information to Lynn Kanani Daue at editor@themccorristonsofmolokai.org. We also welcome updates from the descendants of McCorriston cousin John McColgan and his wife Kala‘iolele Kamanoulu and Samuel Hudson Foster and Margaret Louise Gorman.

STEWARD – Looking for descendants or ‘ohana of James and Mea-alani Steward of Kahalu‘u, O‘ahu. Please contact William Steward: wsteward52@yahoo.com if you are interested in a family reunion.

TITCOMB – For all descendants of Charles Titcomb and Kanikele – it's time to update the family information for another family reunion. Anyone that would be interested to be on the planning committee, contact: K. Nani Kawaa at titcombfamilyreunion@gmail.com.

YONG/KUKAHIKO – Kalei Keahi / Ah Foon Yong and John Mahele Kukahiko / Daisy Nahaku Up dating genealogy information on these 2 ohana. Please send to Janelle Kanekoa (granddaughter of Samuel Apo Young/Yong and Daisybelle Kukahiko) email me @ nehaukanekoa@gmail.com. Please list on top right which ohana you belong to. Yong or Kukahiko. ■

OFFICE OF HAWAIIAN AFFAIRS

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Fax: 808.873.3361

WASHINGTON, D.C.
211 K Street NE
Washington D.C., 20002
Phone: 202.506.7238
Fax: 202-629-4446

Classified ads only $12.50 - Type or clearly write your ad of no more than 175 characters (including spaces and punctuation) and mail, along with a check for $12.50, to: ***Ka Wai Ola* Classifieds**, **Office of Hawaiian Affairs**, **560 N. Nimitz Hwy., Suite 200, Honolulu, HI 96817**. Make check payable to **OHA**. (We cannot accept credit cards.) Ads and payment must be received by the 15th for the next month's edition of *Ka Wai Ola*. Send your information by mail, or e-mail **kwo@oha.org** with the subject "Makeke/Classified." OHA reserves the right to refuse any advertisement, for any reason, at our discretion.

GOT MEDICARE? With Medicare you have options. We compare those options for you! No Cost! No Obligations! Call Kamaka Jingao 808.286.0022, or visit www.kamakajingao.com. Hi Lic #433187

HAWAIIAN MEMORIAL PARK CEMETERY. Garden of Memories Lot 296 Section B Site 3 with2nd right of internment. (2) caskets, or (1) casket and (1) urn, or (2) urns. Worth $14,000, selling at $7,000. Mountain and ocean view at curbside. Call 808-282-5763.

HAWAIIAN MEMORIAL PARK CEMETARY Kaneohe, Oahu. Mount Calvary, Lot 864 Section D, Sites 2,3,4 (3 side-by-side). Selling all for $14,000. Text cellular 808-779-5241.

HAWAIIAN MEMORIAL PARK CEMETERY. Kaneohe, Garden-Devotion. Lot #106, Section-D. Price $6,000 or B/O. Great Feng Shui plot located on a hill facing ocean. Contact #808-885-4501 landline or 808-345-7154 cell

HOMES WITH ALOHA-Hot Hot Market! Thinking of making a move? Relocating or life changes, Hawaiian Homes Lands, Fee Simple, Neighbor islands properties, we can help you through the process from beginning to end and into your replacement property. Contact the expert,Charmaine I. Quilit Poki(R) (RB-15998) Keller Williams Honolulu (RB-21303) (808) 295-4474.

HOMES WITH ALOHA-Kula/Maui 43,429 sq.ft. res lot with a 600 sq.ft. structure $390,000. This is a Leasehold property-Charmaine I. Quilit Poki(R) (RB-15998) Keller Williams Honolulu (RB-21303) (808) 295-4474.

HOMES WITH ALOHA-Waianae 3 bedroom, 2 bath, Great potential! $219,000 This is a Leasehold property-Charmaine I. Quilit Poki(R) (RB-15998) Keller Williams Honolulu (RB-21303) (808) 295-4474.

HOMES WITH ALOHA-Waimanalo Fixer upper, 3 bdrm, 1 bath on 7,846 sq.ft lot $400,000/offer. This is a Leasehold property- Charmaine I. Quilit Poki(R) (RB-15998) Keller Williams Honolulu (RB-21303) (808) 295-4474.

HOMESMART ISLAND HOMES - Hilo/Keaukaha HMSTD 3bdrm, 2full bath on 24,332 sq. ft. lot $299,000 Leasehold near Hilo airport! Chansonette F. Koa (R) RB-22929 | RB-22805 (808) 685-0070

KEOKEA-KULA, MAUI/DHHL HOME OWNERS! Are you looking to sell your 1,2,3 or more bedroom home in the near future? **LET'S TALK!** I'm approved for AG & Pastoral with DHHL on Maui. Please call Marcus Ku-760-310-5645, Mahalo!

NEED TO BUY OR SELL A HOME? Are you relocating, moving, or downsizing? I'm here to assist your real estate needs! Chansonette F. Koa (R) (808) 685-0070 w/HomeSmart Island Homes LIC: #RB-22929 | LIC: #RB-22805 call, email, or checkout my online info at: www.chansonettekoa.com

THINKING OF BUYING OR SELLING A HOME? Call Charmaine I. Quilit Poki (R) 295- 4474 RB-15998. Keller Williams Honolulu RB-21303. To view current listings, go to my website (changed to) HomeswithAloha.kw.com. Call or email me at Charmaine.QuilitPoki@kw.com to learn more about homeownership. Mahalo nui! Specialize in Fee Simple & Homestead Properties for over 30 years.■





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OFFICE of HAWAIIAN AFFAIRS
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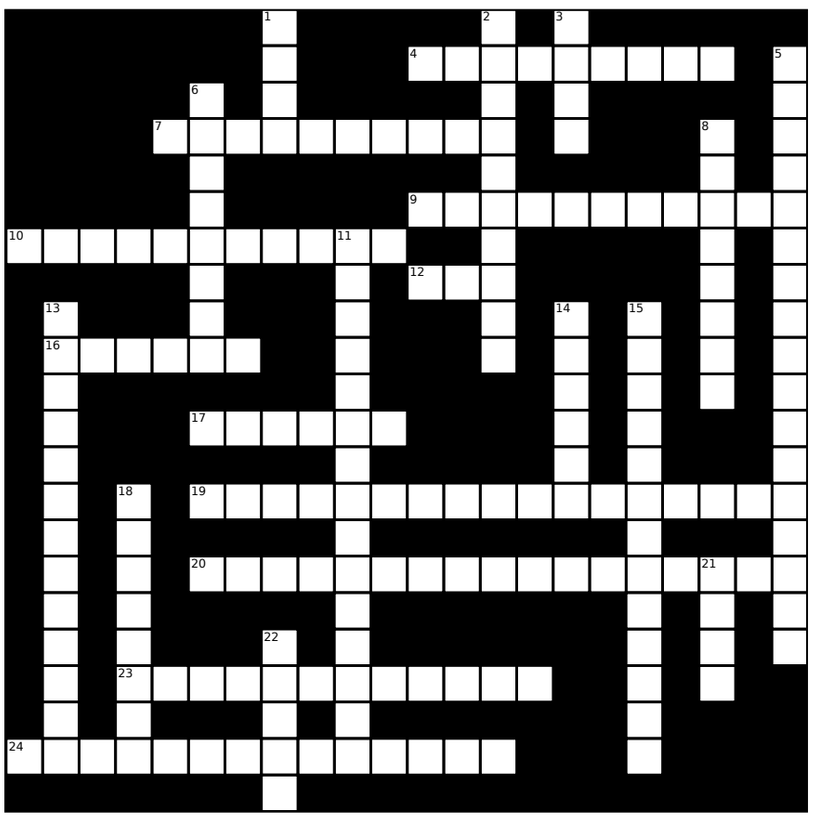
Honolulu, Hawai'i 96817

KA WAI OLA CROSSWORD PUZZLE

By Ku'ualohapau'ole Lau

Ua maka'ala? Have you been paying attention?
Answers for this crossword puzzle can be found throughout the pages of this issue of *Ka Wai Ola*. Please do not include any spaces, special characters, or diacriticals ('okina and kahakō) in your answers.



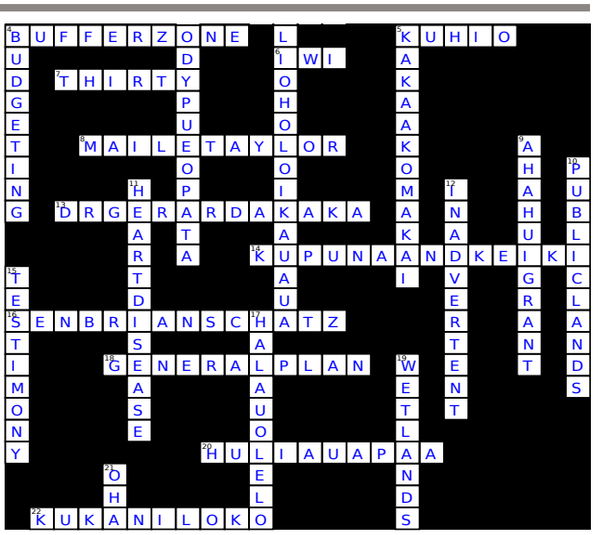
ACROSS

4 Refers to the altar of the volcano deity 'Ailā'au.
7 _____ _____ hold special prominence for Kānaka 'Ōiwi because of the longstanding relationships and interconnections Native Hawaiians have with these places.
9 There are _____ ____ Neighborhood Boards on O'ahu that meet monthly and serve as the first line of support and information for residents with community concerns.
10 Credited for establishing Hawai'i's system of land division.
12 In early March OHA announced the release of ___ additional grant solicitations to provide support to the Native Hawaiian community.
16 CNHA's Pop-Up Mākeke will begin partnering with _____ and Shopify.
17 Our kūpuna taught us that _____, Kohala, Hawai'i was first home to Wākea and Papa.
19 OHA acquired ___ ____ ____ acres of land surrounding Kūkaniloko.
20 Congress authorized the transfer of government surplus land to the _____ ____ ____ Trust in 1995 with the enactment of the HHLRA.
23 OHA acquired its _____ _____ land during the 2012 legislative session, when the State of Hawai'i offered to settle its 32-year past-due debt to OHA.
24 The _____ Collective was created in 2017 to address the pressing need to organize shared ideas, resources, and strategies to build capacity and take collective action in safeguarding Hawai'i's wahi kūpuna.

DOWN

1 A temporary arrangement that allows birth parents to reclaim their child at any time (hint: related to the traditional practice of hānai).
2 One of the most sacred of wahi kūpuna and considered to be the spiritual piko of O'ahu (hint: Birthing Stones).
3 Hawaiian word for "teeth."
5 Chair _____ ___ _____ testified before the U.S. Senate Committee on Indian Affairs that the federal government must honor its responsibility to the Native Hawaiian People.
6 _____ Database consists of varied collections pertaining to significant places, events, and documents in Hawai'i's history.
8 Native Hawaiians and Pacific Islanders account for ____ percent of COVID-19 cases in the state.
11 OHA's vision statement (hint: To Raise a Beloved Lāhui).
13 Name of OHA's new strategic plan (hint: Strength to Wellbeing).
14 Our people are being _____ out of our own home and moving to the continent just to be able to live comfortably.
15 A nonprofit that focuses on Native Hawaiian health and wellbeing.
18 __ ___ 2021 is a free community resource published by Kamehameha Publishing and available as a downloadable PDF.
21 Fruit that contains vitamins A and C, niacin, potassium, and a number of phytonutrients.
22 *Nānā I Ke Kumu Volume I*, defines ____ as a permanent arrangement between birth parents and extended 'ohana and may be used for a variety of reasons.

MALAKI CROSSWORD PUZZLE ANSWERS



Mana i Mauli Ola

OHA's 15-YEAR STRATEGIC PLAN FOR 2020-2035

OHA's Strategic Plan "Mana i Mauli Ola" (Strength to Wellbeing) includes three foundations: ʻOhana (family), Moʻomeheu (culture), and ʻĀina (land and water). OHA recognizes these foundations have the power to affect the wellbeing of Native Hawaiians. Therefore, they are woven into OHA's plans to affect change in the areas of education, health, housing, and economics. These four directions will be used to guide OHA's work to better the conditions of Native Hawaiians. Over the next 15 years, OHA will be implementing strategies aligned with our foundations and directions to achieve our envisioned outcomes for a thriving and abundant lāhui.

OUR 3 FOUNDATIONS



ʻOhana | *ʻUlu*

ʻOhana is represented here with ʻulu (breadfruit). According to moʻolelo, the god Kū fell in love with a human woman. He married her and together they raised a family until a time of terrible famine. Driven by love for his ʻohana, Kū transformed himself into an ʻulu tree so they would not starve. That was the first ʻulu tree; all ʻulu trees are descended from Kū.



Moʻomeheu | *Palapalai*

In the time before, our kūpuna had no written language. The ʻike and moʻolelo of our people were passed from one generation to the next through oli and hula. Palapalai was one of the plants kapu to Laka, the goddess of hula. Palapalai is often worn by dancers or used to adorn the hula kuahu (altar). Because of this connection, it has been chosen to represent culture.



ʻĀina | *Kalo*

According to tradition, Wākea and Hoʻohōkūkalani had a stillborn son they named Hāloa. The grieving parents buried their child and from that spot the first kalo plant began to grow. They later had another, healthy boy, who they also named Hāloa. He became the first Hawaiian, and thus, kalo is considered the older brother of the Hawaiian people. Today, Kalo has become a modern symbol of mālama ʻāina.

OUR 4 DIRECTIONS



Educational Pathways | *Kukui*

In traditional times, the oily kernal of the kukui nut was used for lamps. Indeed, "kukui" also means lamp, light or torch, and because of this, the kukui tree has long been a symbol of enlightenment. Education is a path towards enlightenment; acquiring ʻike (knowledge) and noʻeau (wisdom), learning to think critically and to apply what is learned – these skills are critical to moving our lāhui forward.



Health Outcomes | *Noni*

Noni is a "canoe plant" brought to Hawaiʻi from the South Pacific by the earliest Hawaiian voyagers specifically for its numerous medicinal properties. While its taste and smell are rather unpleasant, noni was known to boost the immune system and to purify the blood. It was used to treat diabetes, heart disease, high blood pressure, and as a poultice to treat various skin diseases.



Quality Housing | *ʻŌhia*

As beautiful as they are strong, ʻōhia lehua are the first trees able to grow on barren lava fields and reclaim the land. It is a dominant tree of the Hawaiian rainforest, and considered a manifestation of the god, Kū. While the tree's delicate blossoms and liko (leaf buds) are used to fashion lei, ʻōhia wood is exceptionally hard and was used traditionally for many purposes, such as framing houses.



Economic Stability | *Wai*

Pure, fresh water (wai) is the essence and source of all life. The word "wai" also means to retain, leave or earn, while "waiwai" means wealth, emphasizing the value of water. Our kūpuna understood that this precious resource was a gift to be carefully managed and shared. Wai flowed down from upland rainforests, nourishing the lands below which led to abudance and prosperity that enriched the entire community.

E ala! E alu! E kuilima! Up! Together! Join Hands!

A call to come together to tackle a given task.
- ʻŌlelo Noʻeau

Mana i Mauli Ola, the Office of Hawaiian Affairs' strategic plan for 2020-2035, sets the organization's focus for the next 15 years.

OHA believes that Native Hawaiians should determine the work that is needed in their own communities, and how their resources should be applied to advance that work. Trustees, staff members and community stakeholders were engaged in the strategic planning process and the collective feedback was essential in the development of the plan.

In May and June of 2019, OHA held eight community focus groups across the islands to share about the strategic planning process and gather community input on areas of greatest need.

An extensive statewide media campaign utilized radio, tv, print and social media advertising and interviews to encourage beneficiaries and collaborators to attend the community focus groups in person, or provide manaʻo via an online survey.

All community feedback was compiled and presented to the Board of Trustees, helping to inform the design and integration of the strategic foundations and directions of the new strategic plan.

Despite the continuing impacts of COVID-19, in September 2020, the Board of Trustees affirmed the strategic foundations and directions and approved reworded strategies and outcomes.

OHA would like to extend a sincere mahalo nui loa to the hundreds of individuals who took the time to participate and share their manaʻo in setting the future direction of the organization.

It is OHA's hope that the collaborative process that informed Mana i Mauli Ola honors the voices of our beneficiaries and communities, and moves us toward an abundant and thriving lāhui.

Mana i Mauli Ola

OHA's 15-YEAR STRATEGIC PLAN FOR 2020-2035

Our Mission

To mālama Hawaiʻi's people and environmental resources, and OHA's assets, toward ensuring the perpetuation of the culture, the enhancement of lifestyle and the protection of entitlements of Native Hawaiians, while enabling the building of a strong and healthy Hawaiian people and lāhui, recognized nationally and internationally.

Our Vision

Hoʻoulu Lāhui Aloha

OHA's vision statement (To Raise a Beloved Lāhui) blends the thoughts and leadership of both King Kalākaua and his sister, Queen Liliʻuokalani. Both faced tumultuous times as we do today, and met their challenges head on.

"Hoʻoulu Lāhui" was King Kalākaua's motto. Aloha expresses the high values of Queen Liliʻuokalani.

Our Roles

ADVOCATE

As an advocate, OHA speaks, writes and acts in favor of effective policy development, including changing of laws and strengthening implementation of policies and practices that impact the foundations and directions outlined in the organization's strategic plan. Advocates also monitor and evaluate policies and garner public support for causes through community outreach efforts, identifying potentially harmful or ineffective policies and laws, and supporting initiatives that enable communities to advocate to improve the conditions for Native Hawaiians.

RESEARCHER

As a researcher, OHA serves by gathering, compiling and analyzing data that identifies issues important to the Native Hawaiian community including policies and practices, making observations and recommendations, informing the organization and communities' advocacy efforts, evaluating policies, programs and practices, providing and ensuring that the actions and initiatives undertaken inform actions by OHA, beneficiaries and communities as a whole.

COMMUNITY ENGAGER

As a community engager, OHA works collaboratively with the Native Hawaiian community and general public by sharing information through multiple communication channels that connect the organization with beneficiaries, communities and networks.

ASSET MANAGER

As an asset manager, OHA makes mindful investment decisions that help maximize the value of the organization's portfolio. These fiduciary duties and responsibilities include managing financial, land, and community property assets prudently, and preserving and perpetuating legacy land holdings.

E ala! E alu! E kuilima!

He kāhea ia e laulima no ka hoʻokō ʻana i ka hana. - ʻŌlelo Noʻeau

Hoʻokahua ʻia ma Mana i Mauli Ola, kā Ke Keʻena Kuleana Hawaiʻi palapala hikiāloa 2020-2035, ka hana a ke keʻena no nā makahiki 15 e hiki mai ana.

Piliwi ke Keʻena Kuleana Hawaiʻi na nā Kānaka Maoli e hoʻoholo i nā hana e pono ai ko lākou mau kaiāulu ponoʻī, a pehea e hoʻolilo ʻia ai kā lākou mea waiwai e hoʻoholo ai pēlā. Ua komo like nā Kahu Waiwai, nā limahana, a me nā hoa kuleana kaiāulu i ka hoʻolālā ʻana i nā makakoho hikiāloa a he mea nui ko lākou manaʻo no ka hana ʻana i ka palapala.

Ma Mei a me Iune o 2019, ua mālama ke Keʻena Kuleana Hawaiʻi i ʻewalu mau pūʻulu kaiāulu mai kahi kihi a kahi kihi o ka paeʻāina i mea e kaʻana aku ai i ka hana hoʻolālā hikiāloa a e ʻohi i nā manaʻo o ke kaiāulu ma kahi a lākou e pono ai ke kōkua.

Ua hoʻohana ʻia ma kekahi papahana pāpaho paeʻāina ka lēkio, ke kīwī, ka palapala a me nā hoʻolaha ma ka pāpaho laulauna a me ke kūkā kamaʻilio ʻana e paipai i nā mea hoʻokahu ʻia a me nā hoa hana e hele kino i ka hālāwai kaiāulu, a i ʻole e hōʻike manaʻo ma ke ana-manaʻo paʻeʻe paha.

Ua hoʻohui ʻia nā manaʻo kaiāulu a pau a ua hōʻike ʻia i Nā Kahu Waiwai a he mea kōkua ia i ka hoʻoholo ʻana i nā mea hāiki, nā kahua a me nā makakoho hikiāloa hoʻi o ka palapala hikiāloa hou.

I loko nō o ia wā pilikia e mau nei ma muli o COVID-19, ma Kepakemapa 2020, ua ʻāpono ʻia nā kahua a me nā makakoho hikiāloa e ka Papa Kahu Waiwai a ua ʻāpono pū ʻia nā kaʻakālai a me nā hopena kaʻakālai i hoʻololi iki ʻia ihola.

Eia kā ke Keʻena Kuleana Hawaiʻi leo mahalo i nā kānaka he mau haneli i komo pū ma ke kaʻana ʻana a me ka hōʻike ʻana i ko lākou manaʻo e hoʻokahua aku ai i ke ala o mua o ke keʻena.

ʻO ko ke Keʻena Kuleana Hawaiʻi manaʻolana ʻo ia nō ke kō o nā manaʻo o kā makou mau mea hoʻokahu ʻia a me nā kaiāulu mai loko o ka hana laulima ʻana a i hua mai ai ʻo Mana i Mauli Ola i holomua aku ai kākou i mua i ō ai a ohaoha ka lāhui.

Mana i Mauli Ola

KĀ KE KEʻENA KULEANA HAWAIʻI PALAPALA HIKIĀLOA 15-MAKAHIKI 2020-2035

Ke Ala Nuʻukia

E hoʻomalu i ko Hawaiʻi kānaka me ona mau waiwai honua a pau - a me ko ke Keʻena Kuleana Hawaiʻi mau waiwai lewa me nā waiwai paʻa iho nō - e ō aku ai ka nohona moʻomeheu, e ʻoi aku ai ka nohona kū i ka wā, a e malu iho ai ka nohona welo ʻoilina ma ka mea e hoʻolaupaʻi mau aʻe ai he lāhui lamalama i ʻike ʻia kona kanaka mai ʻō a ʻō a ka poepoe honua nei he kanaka ehuehu, he kanaka hoʻohuliāmahi, he kanaka Hawaiʻi.

Ka Nuʻukia

Hoʻoulu Lāhui Aloha

Hoʻohui ʻia kā ke Keʻena Kuleana Hawaiʻi ʻōlelo nuʻukia me ka manaʻo a me ke alakaʻina o ka Mōʻī ʻo Kalākaua lāua ʻo kona kaikuahine, ka Mōʻī Wahine ʻo Liliʻuokalani. Ua ʻaʻa nō lāua ʻelua i ke au pōpilikia e like me kā kākou hana i kēia wā.

ʻO "Hoʻoulu Lāhui" ka mākia a ka Mōʻī ʻo Kalākaua. ʻO ke aloha ka lawena kūlana hiehie a ka Mōʻī Wahine ʻo Liliʻuokalani.

Nā Kuleana

KE KAULEO

Ma ke ʻano he kauleo, ʻōlelo, kākau, a hoʻopai ke Keʻena Kuleana Hawaiʻi i ka hoʻomohala ʻana i nā kulekele i kūleʻa, e laʻa me ka hoʻololi ʻana i nā kānāwai a me ka hoʻoikaika ʻana i ke kō ʻana o nā kulekele a me nā kaʻina hana e ālai nei i nā kahua a me nā makakoho i hāpai ʻia ma kā ke Keʻena palapala hikiāloa. Nānā pono a ana pū nā kauleo i nā kulekele a hoʻoulu mai i ke kākoʻo o ka lehulehu ma o nā hana komo ma ke kaiāulu, ka hōʻike ʻana i nā kulekele a me nā kānāwai hoʻopōpilikia a i ʻole holo leʻa ʻole, a me ke kākoʻo ʻana i nā pahuhopu e ʻae ana i nā kaiāulu e hoʻopai aʻe i ke kūlana o nā Kānaka Maoli.

MEA ʻIMI NOIʻI

Ma ke ʻano he mea ʻimi noiʻi, hōʻiliʻili, hōʻuluʻulu, a kālailai ke Keʻena Kuleana Hawaiʻi i nā ʻikepili i pili i nā nīnūnē koʻikoʻi o ke kaiāulu Kānaka Maoli e laʻa me nā kulekele a me nā kaʻina hana, ka nānā pono a me ke kākoʻo ʻana, ke alakaʻi ʻana i nā hana kauleo a ke Keʻena a me nā kaiāulu, ke ana ʻana i nā kulekele, nā polokalamu a me nā kaʻina hana, ka hoʻolako a me ka hōʻoia ʻana i ke kūpono o nā hana e hoʻoholo ʻia nei e ke Keʻena, nā mea hoʻokahu ʻia, a me nā kaiāulu.

MEA PAIPAI KAIĀULU

Ma ke ʻano he mea paipai kaiāulu, hana pū ke Keʻena Kuleana Hawaiʻi me nā kaiāulu Kānaka Maoli a me ka lehulehu ma o ka hoʻolaha ʻana i nā ʻikepili ma nā ala holo like ʻole e hoʻopili ana i ke Keʻena i nā mea hoʻokahu ʻia, nā kaiāulu a me nā pilina kānaka.

KAHU WAIWAI

Ma ke ʻano he kahu waiwai, hoʻoholo pono ke Keʻena Kuleana Hawaiʻi i nā waiwai kūʻai nui e kōkua i ka hoʻonui ʻana i ka waiwai a ke Keʻena. ʻO kēia mau kuleana mālama waiwai, ʻo ia nō ka hoʻokele ʻana i ke kālā, ka ʻāina, a me nā waiwai kaiāulu me ke akahele, a me ka mālama a hoʻomau ʻana i ka hoʻoilina o nā ʻāina waiwai hoʻoilina.



Direction:

Educational Pathways

Directional Outcome:

STRENGTHENED AND INTEGRATED COMMUNITY, CULTURE-BASED LEARNING SYSTEMS

STRATEGY 1: Support development and use of educational resources for all Hawaiian lifelong learners in schools, communities and ʻohana.

STRATEGIC OUTCOMES:

1.1. Increase number or percent of Native Hawaiian students who enter educational systems ready to learn;

1.2. Increase number or percent of Native Hawaiian students graduating high school who are college, career, and community ready; and

1.3. Increase number of Native Hawaiians engaged in traditional learning systems (e.g., hale, hālau, mua, hale peʻa) that re-establish/maintain strong cultural foundations and identity.

STRATEGY 2: Support education through Hawaiian language medium and focused Charter Schools.

STRATEGIC OUTCOMES:

2.1. Adequately resource Hawaiian Focused Charter Schools and Hawaiian-medium schools, including funding of transportation, special education, facilities, meals, and availability of qualified teachers;

2.2. Increase availability of Hawaiian Focused Charter Schools and Hawaiian-medium schools; and

2.3. Establish a Native Hawaiian Charter School and Hawaiian-medium learning system.



Direction:

Health Outcomes

Directional Outcome:

STRENGTHENED ʻŌIWI (CULTURAL IDENTITY), EA (SELF-GOVERNANCE), ʻĀINA MOMONA (HEALTHY LANDS AND PEOPLE), PILINA (RELATIONSHIPS), WAIWAI (SHARED WEALTH), KE AKUA MANA (SPIRITUALITY)

STRATEGY 3: Advance policies, programs, and practices that strengthen Hawaiian wellbeing, including physical, spiritual, mental and emotional health.

STRATEGIC OUTCOMES:

3.1. Increase availability of and access to quality, culturally based, and culturally adapted prevention and treatment interventions in ʻohana, schools, and communities; (E Ola Mau a Mau)

3.2. Establish a fully functional, high-quality, culturally adapted, primary Native Hawaiian Health System which coordinates effective wellness activities/ programs; (E Ola Mau a Mau)

3.3. Decrease the number / percent of Native Hawaiians in jails and prison; and

3.4. Empower communities to take care of iwi kūpuna.

STRATEGY 4: Advance policies, programs and practices that strengthen the health of the ʻāina and moʻomeheu.

STRATEGIC OUTCOMES:

4.1. Preservation and perpetuation of Hawaiian language, culture, traditions, identity and sense of lāhui;

4.2. Increase community stewardship of Hawaiʻi's natural and cultural resources that foster connection to ʻāina, ʻohana, and communities; and

4.3. Increase restoration of Native Hawaiian cultural sites, landscapes, kulāiwi and traditional food systems.

Direction:

Quality Housing

Directional Outcome:

STRENGTHENED CAPABILITY FOR ʻOHANA TO MEET LIVING NEEDS, INCLUDING HOUSING; STRENGTHENED EFFECTIVE IMPLEMENTATION OF THE HAWAIIAN HOMES COMMISSION ACT

STRATEGY 5: Advance policies, programs and practices that strengthen Hawaiian resource management knowledge and skills to meet the housing needs of their ʻohana.

STRATEGIC OUTCOMES:

5.1. Increase numbers/percent of Native Hawaiians who rent housing that meets their ʻohana's financial and wellbeing needs;

5.2. Increase numbers/percent of Native Hawaiians who own housing that meets their ʻohana's financial and wellbeing needs; and

5.3. Increase safety, stability, social support networks, and cultural connection in Native Hawaiian communities.

STRATEGY 6: Support implementation of the Hawaiian Homes Commission Act and other efforts to meet the housing needs of ʻohana.

STRATEGIC OUTCOMES:

6.1. Increase affordable non-traditional housing options (e.g., accessory dwelling units/ tiny houses, large multi-generational lots or homes) in communities of ʻohana's choice;

6.2. Increase housing unit supply on Hawaiian Home Lands; and

6.3. Decrease rate of Native Hawaiian ʻohana out of state migration.

Direction:

Economic Stability

Directional Outcome:

STRENGTHENED CAPABILITY FOR ʻOHANA TO MEET LIVING NEEDS, INCLUDING HOUSING; STRENGTHENED EFFECTIVE IMPLEMENTATION OF THE HAWAIIAN HOMES COMMISSION ACT

STRATEGY 7: Advance policies, programs and practices that strengthen ʻohana's ability to pursue multiple pathways toward economic stability.

STRATEGIC OUTCOMES:

7.1. Increase number/percent of Native Hawaiian ʻohana who are able to provide high-quality keiki and kūpuna care;

7.2. Increase access to capital and credit for community strengthening Native Hawaiian businesses and individuals;

7.3. Increase number of Native Hawaiian ʻohana who are resource stable (e.g., financial, subsistence, other); and

7.4. Increase Native Hawaiian employment rate.

STRATEGY 8: Cultivate economic development in and for Hawaiian communities.

STRATEGIC OUTCOMES:

8.1. Increase the number of successful, community strengthening Native Hawaiian-owned businesses;

8.2. Establish new markets for Native Hawaiian products (e.g., kalo, loko iʻa grown fish) that can provide Native Hawaiian producers a livable wage; and

8.3. Establish and operationalize an Indigenous economic system consistent with Native Hawaiian knowledge, culture, values, and practices.

Makakoho Hikiāloa: :

ʻIke Naʻauao

Hopena Makakoho:

HOʻOIKAKA ʻIA NĀ PAPAHANA KAIĀULU NONIAKAHI A MAULI OLA HAWAIʻI

KAʻAKĀLAI 1: E kākoʻo i ka hoʻomōhala a hoʻohana ʻia ʻana o nā kumuwaiwai aʻoaʻo no nā Kānaka Maoli a pau e ʻimi ʻike hikiāpuaaneane nei ma nā kula, nā kaiāulu, a me ka ʻohana.

HOPENA KAʻAKĀLAI HIKIĀLOA:

1.1. Hoʻonui ʻia ka heluna a i ʻole ka pākēneka o nā haumāna Kānaka Maoli komo ma nā papahana hoʻonaʻauao me ka mākaukau e aʻo;

1.2. Hoʻonui ʻia ka heluna a i ʻole ka pākēneka o nā haumāna Kānaka Maoli puka kula mai ke kula kiʻekiʻe i mākaukau no ke komo ʻana i ke kula nui, i nā ʻoihana, a me nā hana kōkua kaiāulu; a

1.3. Hoʻonui ʻia ka heluna o nā Kānaka Maoli komo ma nā papahana ʻike kuʻuna (e.g., hale, hālau, mua, hale peʻa) i mea e paʻa hou/mau ai nā kahua moʻomeheu/ka mauli lāhui.

KAʻAKĀLAI 2: E kākoʻo i ka hoʻonaʻauao ma o nā Kula Kaiaʻōlelo-Kaiapuni Hawaiʻi a me nā Kula Hoʻāmana Hawaiʻi.

HOPENA KAʻAKĀLAI HIKIĀLOA:

2.1. Lako pono ʻia nā Kula Kaiaʻōlelo-Kaiapuni Hawaiʻi a me nā Kula Hoʻāmana Hawaiʻi, i ke kālā alakau, ka hoʻonaʻauʻao haumāna kīnānā, nā pono lako, nā ʻaina, a me ka loaʻa o nā kumu laikini ʻia;

2.2. Hoʻonui ʻia ka loaʻa o nā Kula Kaiaʻōlelo-Kaiapuni Hawaiʻi a me nā Kula Hoʻāmana Hawaiʻi; a

2.3. Hoʻokahua ʻia kekahi ʻōnaehana Papahana Hoʻonaʻauao Kaiaʻōlelo-Kaiapuni Hawaiʻi a me nā Kula Hoʻāmana Hawaiʻi.

Makakoho Hikiāloa:

Nā Hopena Olakino

Hopena Makakoho:

HOʻOIKAIKA ʻIA KA MAULI HAWAIʻI, KE EA HOME LULA, KA ʻĀINA MOMONA A ME KE OLA PONO O KĀNAKA, KA PILINA, KA WAIWAI, A ME KA PILI ʻUHANE.

KAʻAKĀLAI 3: E hoʻoneʻemua i nā kulekele, nā polokalamu, a me nā kaʻina hana hoʻoikaika mauli ola kānaka Hawaiʻi, e laʻa me ke ola kino, ka pili ʻuhane, ke ola pono o ka noʻonoʻo, a me ke ola pono o ka naʻau.

HOPENA KAʻAKĀLAI HIKIĀLOA:

3.1. Hoʻonui ʻia ma nā ʻohana, nā kula, a me nā kaiāulu, ka loaʻa a me ke komo ʻana o nā papahana kahapale kāohi a lapaʻau kūlana kiʻekiʻe, i hakuloli ʻia a kumu mai nō ma loko o ka moʻomeheu Hawaiʻi, ma nā ʻohana, nā kula, a me nā kaiāulu; (E Ola Mau a Mau)

3.2. Hoʻokumu ʻia he ʻŌnaehana Olakino Kānaka Maoli holopono, kūlana kiʻekiʻe, i hakuloli ʻia a kū i ka moʻomeheu Hawaiʻi e hoʻolaukaʻi ai i nā hana a me nā polokalamu mauli ola i kūleʻa; (E Ola Mau a Mau)

3.3. Hōʻemi ʻia ka heluna / pākēneka o nā Kānaka Maoli ma nā hale paʻahao; a

3.4. Hoʻāmana ʻia nā kaiāulu e mālama i nā iwi kūpuna.

KAʻAKĀLAI 4: E hoʻoneʻemua i nā kulekele, nā polokalamu, a me nā kaʻina hana hoʻoikaika i ke ea o ka ʻāina a me ke ola o ka moʻomeheu Hawaiʻi.

HOPENA KAʻAKĀLAI HIKIĀLOA:

4.1. Ka mālama a hoʻomau ʻia o ka ʻōlelo Hawaiʻi, ka moʻomeheu, nā ʻike kuʻuna, ka pikoʻu a me ka mauli lāhui;

4.2. Hoʻonui ʻia ko ke kaiāulu mālama ʻana i ka ʻāina a me nā wahi kūpuna e kahukahu ana i ka pilina ʻāina, ʻohana, a me ke kaiāulu; a

4.3. Hoʻonui ʻia ka hoʻihoʻi hou ʻana i nā wahi pana, nā wahi kūpuna, nā kulāiwi, a me nā ʻōnaehana meaʻai kahiko a i ke kūlana mua.

Makakoho Hikiāloa:

Hale Kūlana Maikaʻi

Hopena Makakoho:

HOʻOIKAIKA ʻIA KA HIKI I NĀ ʻOHANA KE NOHO ULAKOLAKO, ME KA LOAʻA O KA HALE; HOʻOIKAIKA ʻIA KA HOLOPONO ʻANA O KA HHCA

KAʻAKĀLAI 5: E hoʻoneʻemua i nā kulekele, nā polokalamu, a me nā kaʻina hana hoʻoikaika i ka ʻike hoʻokele kumuwaiwai a nā Kānaka Maoli, a me nā mākau e lako ai ka hale a me nā pono no kā lākou ʻohana.

HOPENA KAʻAKĀLAI HIKIĀLOA:

5.1. Hoʻonui ʻia ka heluna/ pākēneka o nā Kānaka Maoli e hoʻolimalima nei i nā hale i kūpono no ko lākou nohona;

5.2. Hoʻonui ʻia ka heluna/pākēneka o nā Kānaka Maoli ʻona i ka hale i kūpono no ko lākou nohona; a

5.3. Hoʻonui ʻia ka palekana, ke kūpaʻa, ka pilina kānaka, a me ka pilina moʻomeheu i loko o nā kaiāulu Kānaka Maoli.

KAʻAKĀLAI 6: E kākoʻo i ke kō o ke Kānāwai Komisina ʻĀina Hoʻopulapula a me nā papahana ʻē aʻe e noke nei i ka hoʻolako pono i nā ʻohana.

HOPENA KAʻAKĀLAI HIKIĀLOA:

6.1. Hoʻonui ʻia nā koho hale maʻamau ʻole (e.g., ADUs/hale liʻiliʻi, nā kauhale a i ʻole nā hale nui) ma nā kaiāulu i koho ʻia e ka ʻohana;

6.2. Hoʻonui ʻia ka heluna o nā hale ma nā ʻĀina Hoʻopulapula; a

6.3. Hōʻemi ʻia ka heluna o nā ʻohana Kānaka Maoli pukaneʻe aku ma waho o ka mokuʻāina.

Makakoho Hikiāloa:

Kālaihoʻokele Waiwai Paʻa Loa

Hopena Makakoho:

HOʻOIKAIKA ʻIA KA HIKI I NĀ ʻOHANA KE NOHO ULAKOLAKO, ME KA LOAʻA O KA HALE; HOʻOIKAIKA ʻIA KA HOLOPONO ʻANA O KA HHCA

KAʻAKĀLAI 7: E hoʻoneʻemua i nā kulekele, nā polokalamu, a me nā kaʻina hana e hoʻoikaika ana i ka hiki i nā ʻohana Kānaka Maoli ke koho i nā ala kūpono e paʻa loa ai ke kālaihoʻokele waiwai.

HOPENA KAʻAKĀLAI HIKIĀLOA:

7.1. Hoʻonui ʻia ka heluna / pākēneka o nā ʻohana Kānaka Maoli i hiki ke hai i kahu mālama (keiki a kūpuna) kūlana kiʻekiʻe;

7.2. Hoʻonui i ka loaʻa maʻalahi mai i nā ʻoihana a Kānaka Maoli hoʻoikaika kaiāulu ke ahu kāloaʻa a kumu hōʻaiʻē;

7.3. Hoʻonui i ka heluna o nā ʻohana Kānaka Maoli i paʻa loa kā lākou mau kumuwaiwai (e.g., ke kālā, ka meaʻai, a pēlā aku); a

7.4. Hoʻonui ʻia ka heluna hana o nā Kānaka Maoli.

KAʻAKĀLAI 8: Hoʻoulu ʻia ka hoʻomohala waiwai no/ma loko o nā kaiāulu Kānaka Maoli.

HOPENA KAʻAKĀLAI HIKIĀLOA:

8.1. Hoʻonui ʻia ka heluna o nā ʻoihana ʻona ʻia e nā Kānaka Maoli e hoʻoikaika ana i ke kaiāulu i kūleʻa;

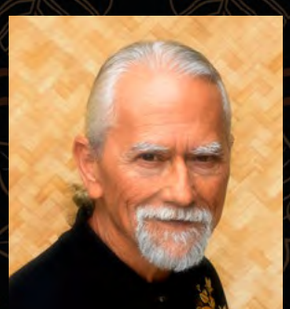
8.2. Hoʻokumu ʻia nā hokona hou no nā huahana Hawaiʻi (e.g., e laʻa me ke kalo, iʻa i hānai ʻia ma ka loko iʻa, a pēlā aku) i lako pono ai nā kānaka i hana i ke kālā no ka nohona; a

8.3. Hoʻokumu ʻia a holo pono ʻia he ʻōnaehana hoʻokele waiwai i kūlike i ka ʻike, ka moʻomeheu, ka loina, a me nā hana a ka poʻe Kānaka Maoli.

ABOUT THE ARTWORK

Upland rain provides life-giving water that sustains the ʻāina, mauka to makai. Captured in the watershed of mauka rainforests, the wai flows down into lush valleys and onto vast agricultural plains, touching and nourishing all within the ahupuaʻa as it journeys to the sea. The artwork for OHA's new strategic plan reflects this journey, with each element representing a foundational or directional aspect of the plan as we move collectively toward a more vibrant future.

NELSON MAKUA



Nelson Makua has been an artist for nearly 40 years. Although classically trained, he has focused on digital art for over 20 years. Nelson specializes in image development and logo design and has clients in Hawaiʻi, on the continent and in Japan. Nelson's accolades include a Pele Award for best illustration from the Hawaiʻi Advertising Federation for his 2008 Merrie Monarch Festival poster design, and two Nā Hōkū Hanohano awards for best graphic design. He co-owns Nā Mākua Original Hawaiian Designs with his son, Kainoa. Nelson lives with his ʻohana in Puna on Hawaiʻi Island.

APPENDIX H: Early Consultation Correspondence

Letters to Agencies & Organizations (2019) pages 186-219
Letters to Agencies & Organizations (2020) pages 220-265
Agency & Organization Response Letters (2019-2021) pages 266-283

March 14, 2019

USDA Natural Resources Conservation Service
Pacific Islands Area State Office
P.O. Box 50004
Honolulu, HI 96850-0050

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ´Ōhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ‘Ōhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ´Ōhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Ko‘olaupoko district on the windward side of O’ahu.

The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located within the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion. The residential & accessory structures for the Zweng Residence will consist of three detached structures. (1) Single Family Dwelling, (2) Accessory structure one & (3) Accessory structure two. Please refer to Figure 1 for the proposed location of the residence.

We are requesting your comments on any important issues that should be addressed in the EA relating to the proposed action. Please submit your comments to us by April 20, 2019. If we do not receive a response by this date, we will assume your agency has no comments. Please contact the undersigned with any questions you may have at (808) 550-3893 or via email at lillie@townscapeinc.com.

Me ke aloha,



Lillie Makaila
Project Coordinator

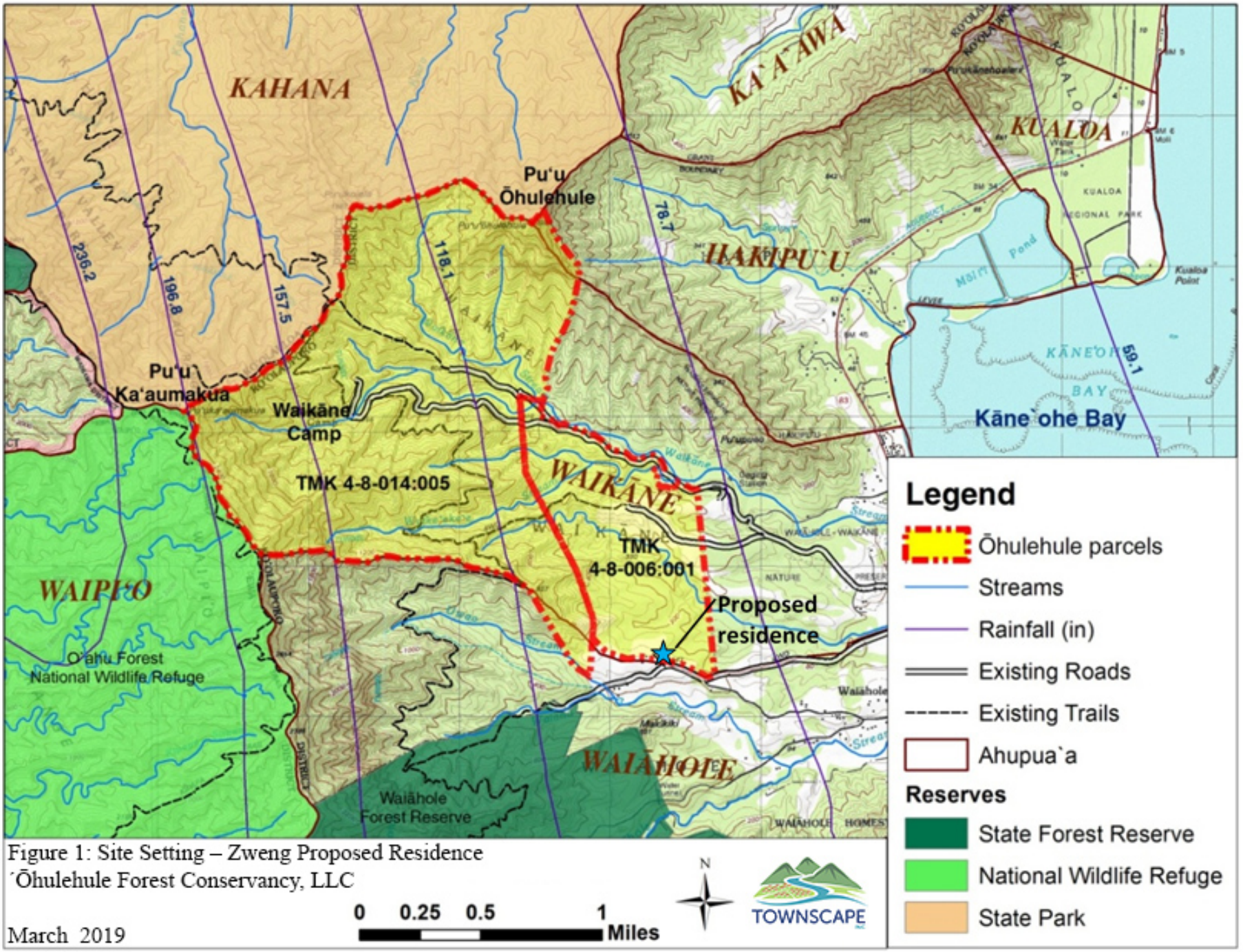


Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

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

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
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Me ke aloha,



Lillie Makaila
Project Coordinator

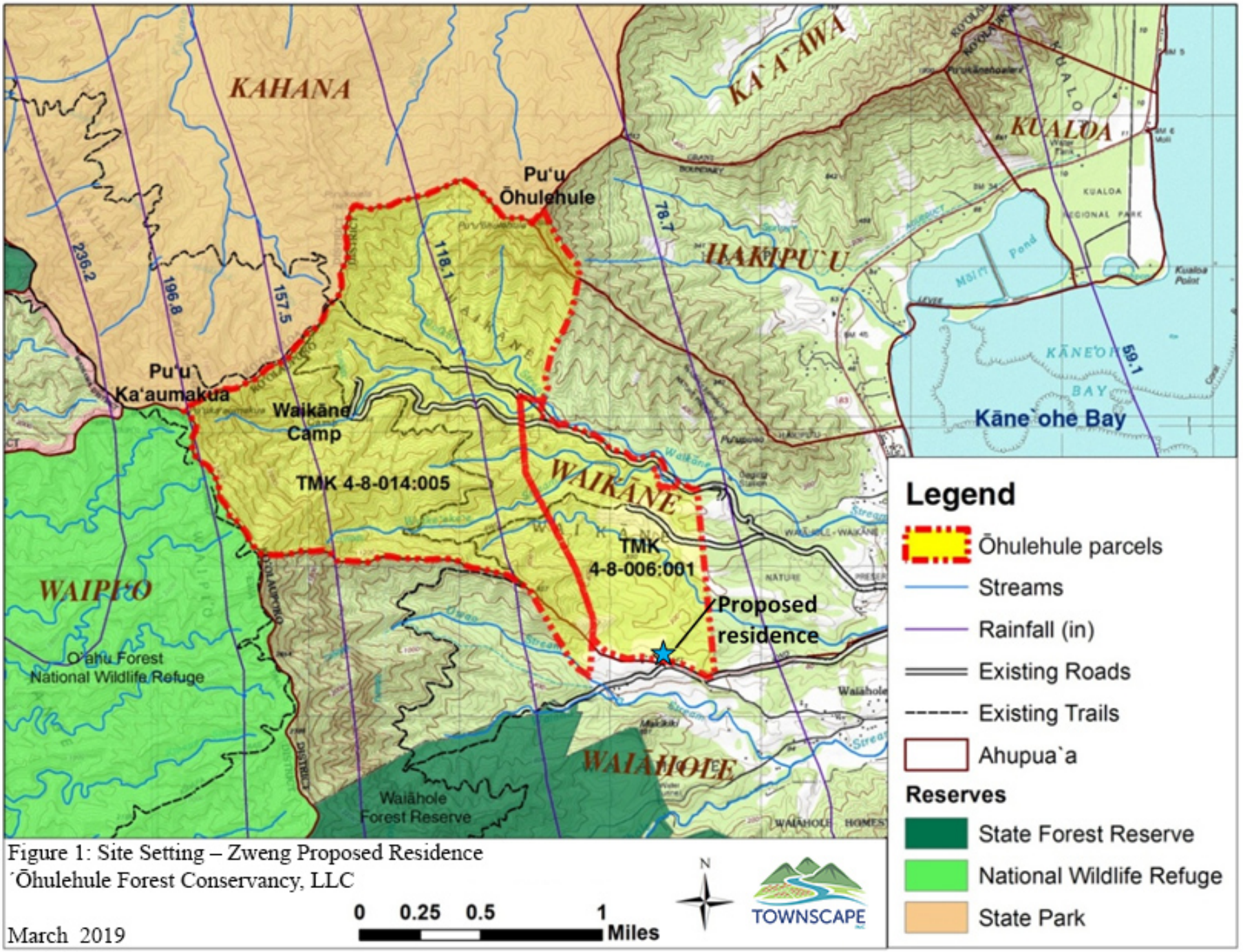

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, HI 96809

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ´Ōhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ‘Ōhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ´Ōhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Ko‘olaupoko district on the windward side of O’ahu.

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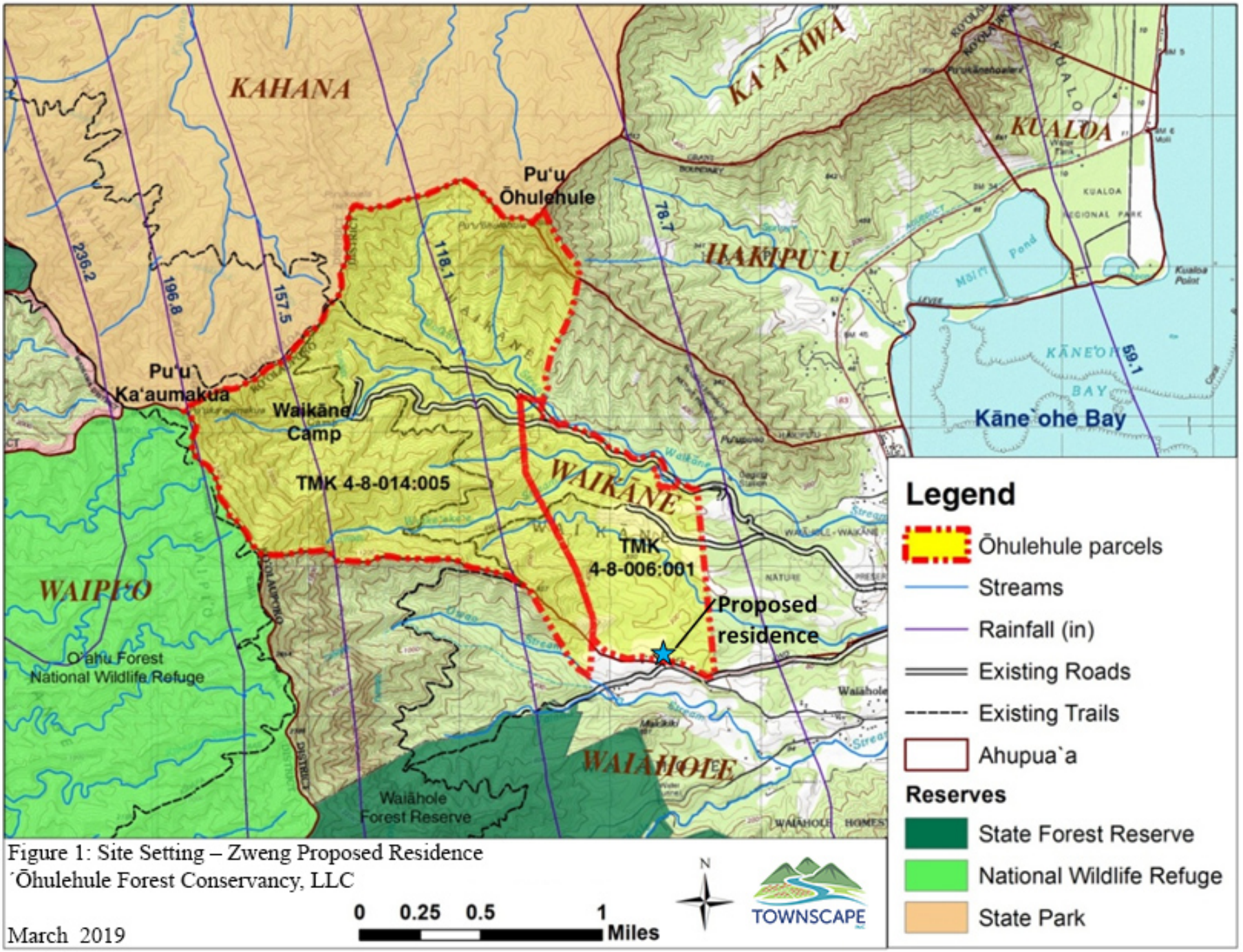

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Commission on Water Resource Management
1151 Punchbowl Street #227
Honolulu, HI 96813

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ´Ōhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ‘Ōhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ´Ōhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Ko‘olaupoko district on the windward side of O’ahu.

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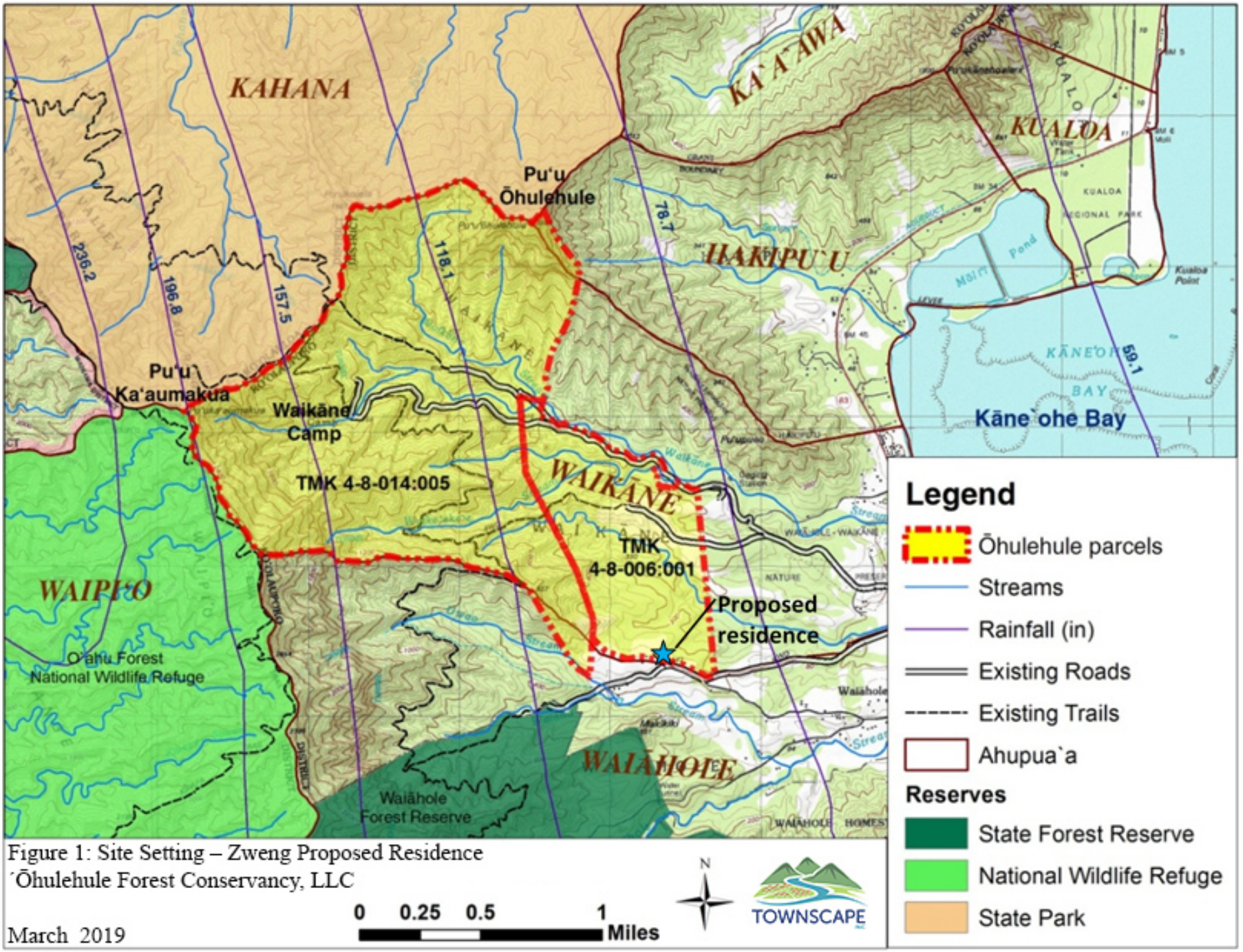

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Division of Forestry and Wildlife
1151 Punchbowl Street #325
Honolulu, HI 96813

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ´Ōhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ‘Ōhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ´Ōhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Ko‘olaupoko district on the windward side of O’ahu.

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Me ke aloha,



Lillie Makaila
Project Coordinator

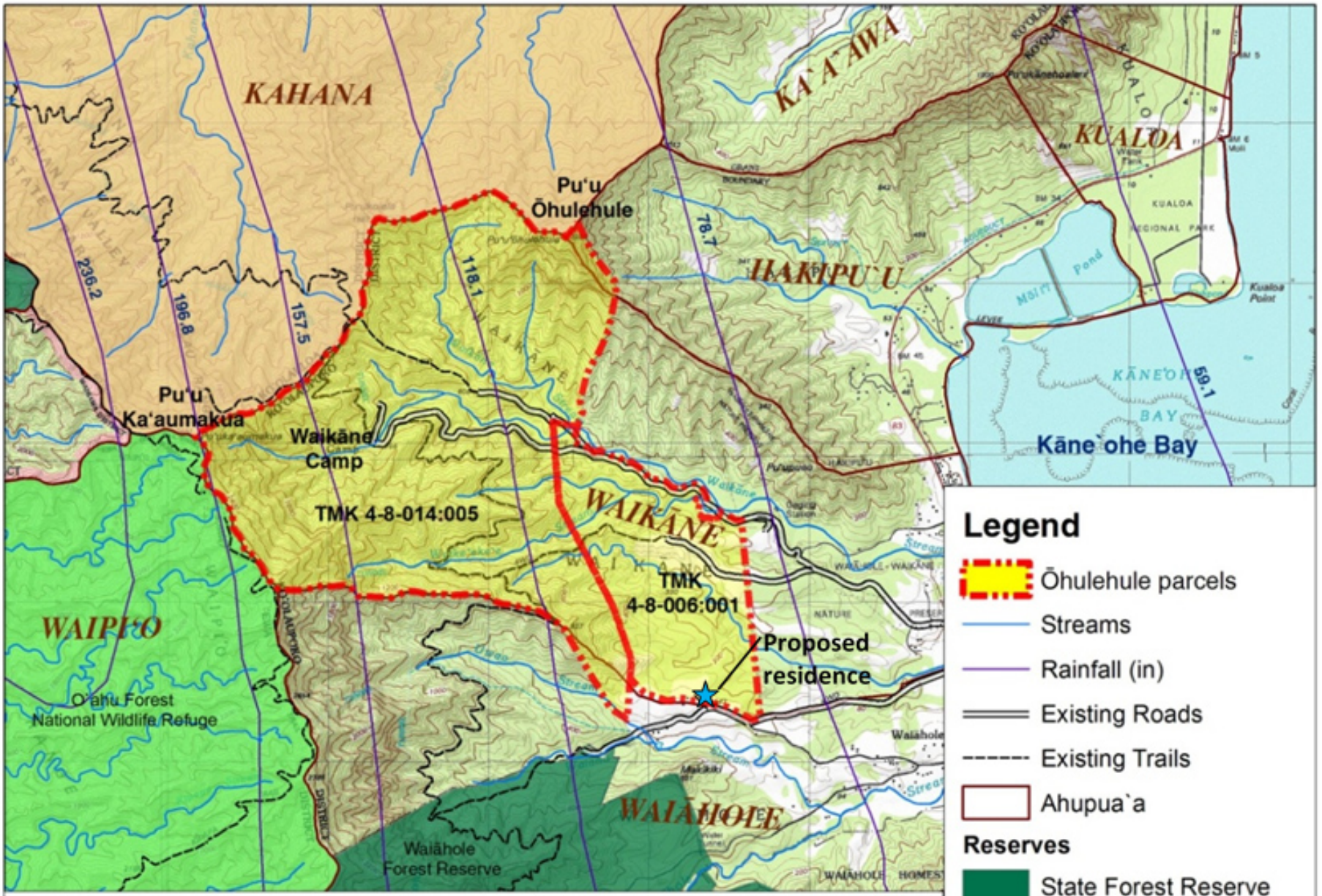

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

State of Hawaii Historic Preservation Division
601 Kamokila Boulevard #555
Kapolei, HI 96707

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ´Ōhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ‘Ōhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ´Ōhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Ko‘olaupoko district on the windward side of O’ahu.

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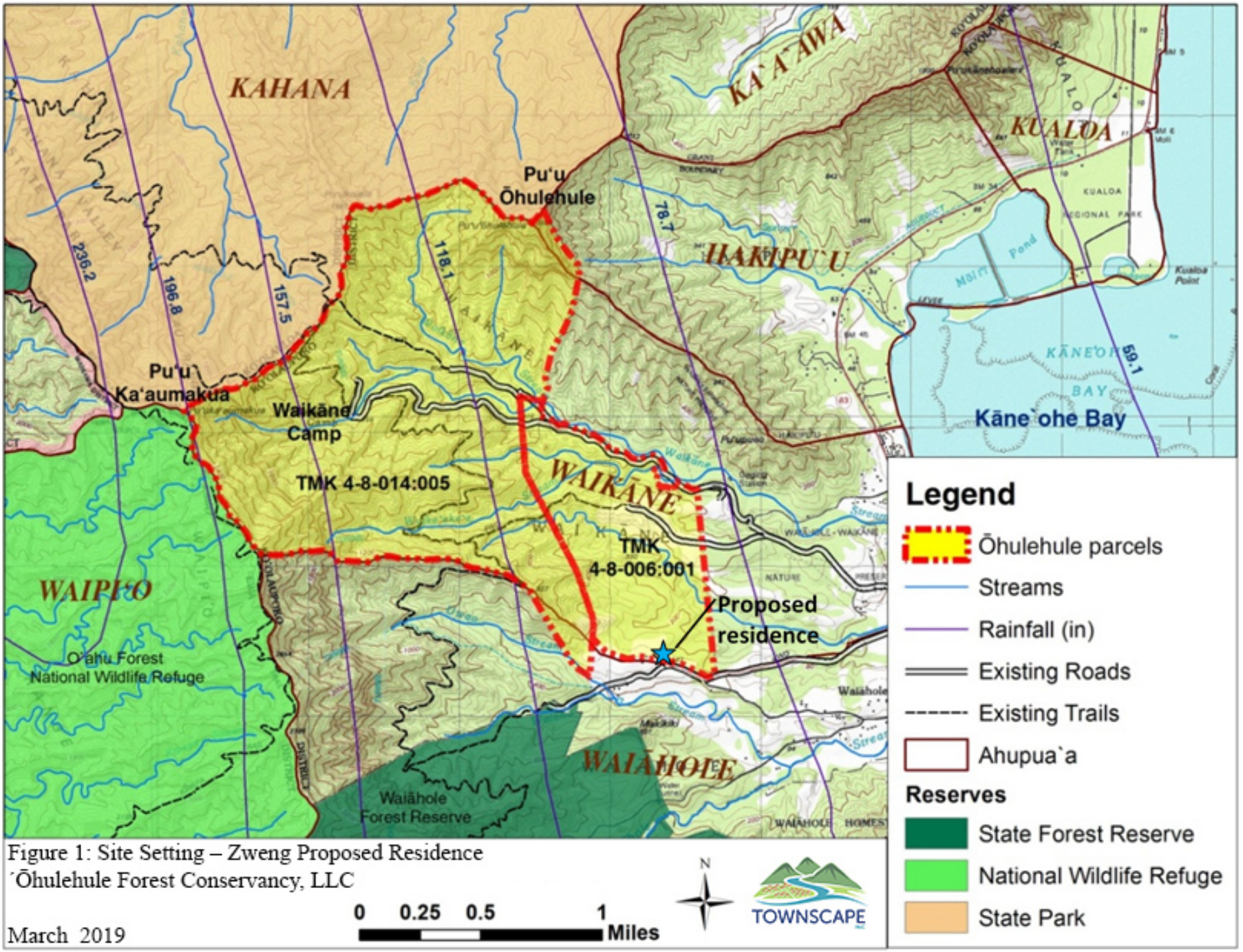

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Agribusiness Development Corporation
235 South Beretania Street #205
Honolulu, HI 96813

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
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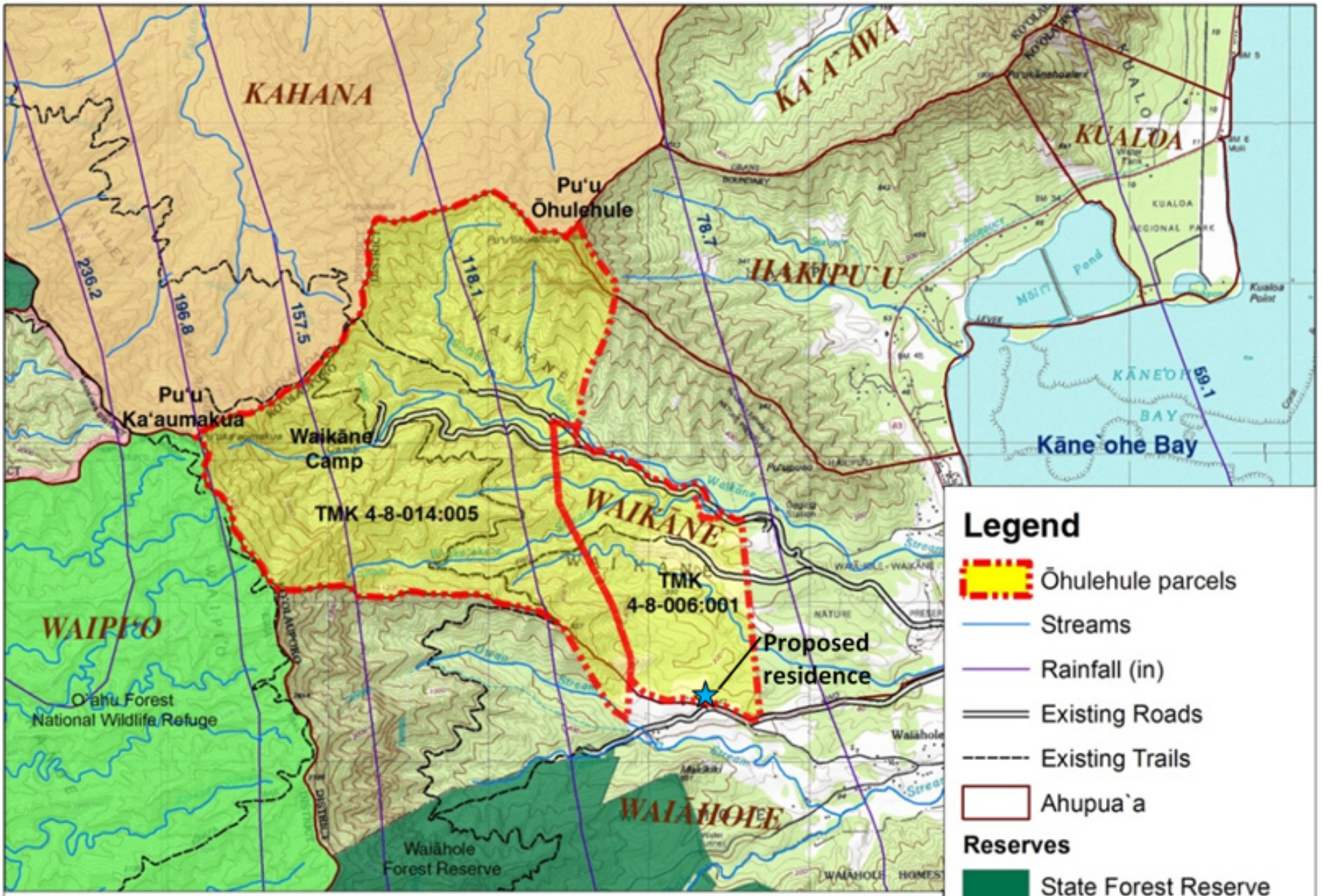

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Hawaii Housing Finance and Development Corporation
677 Queen Street
Honolulu, HI 96813

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
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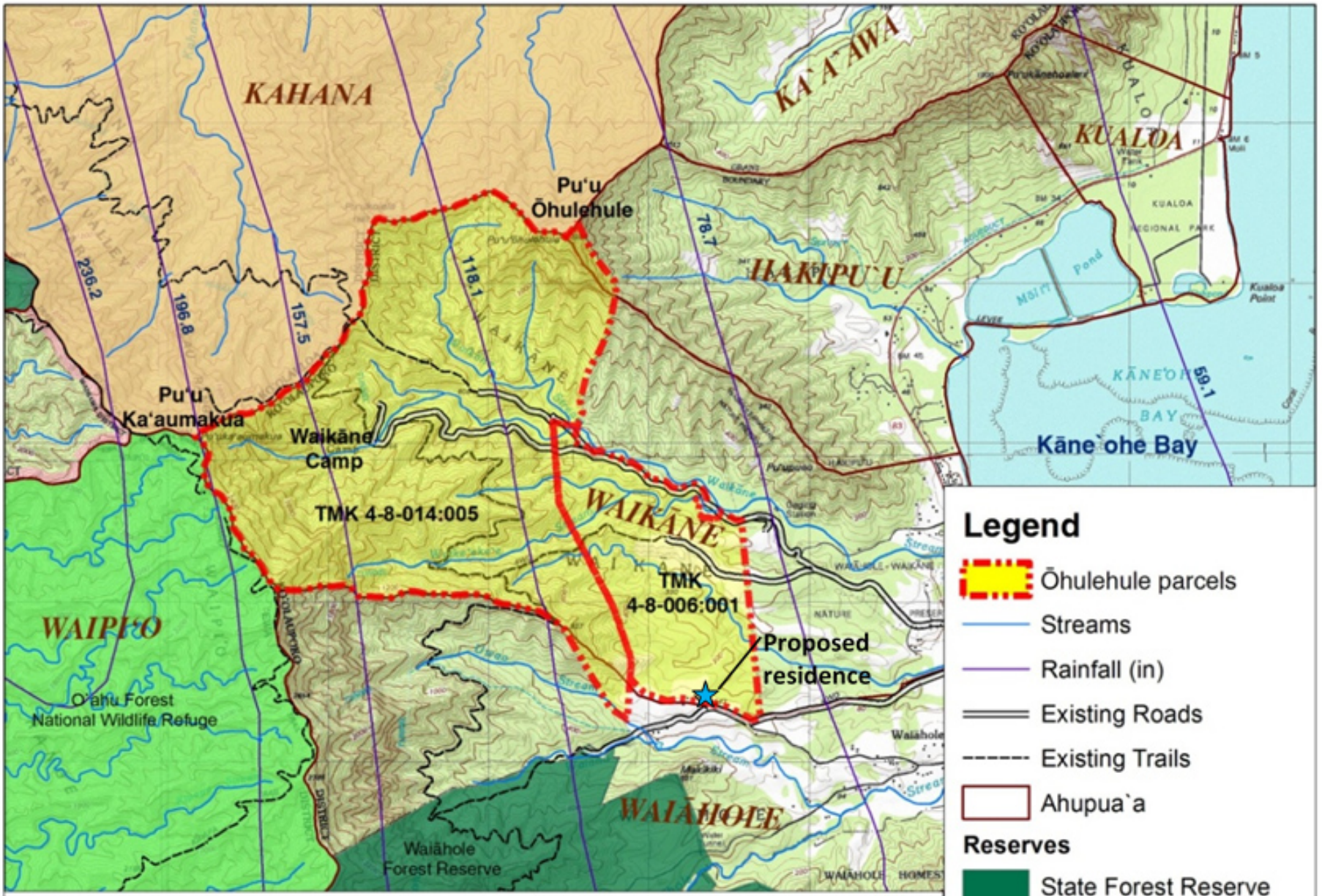

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Department of Planning and Permitting
650 South King Street 7th Floor
Honolulu, HI 96813

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

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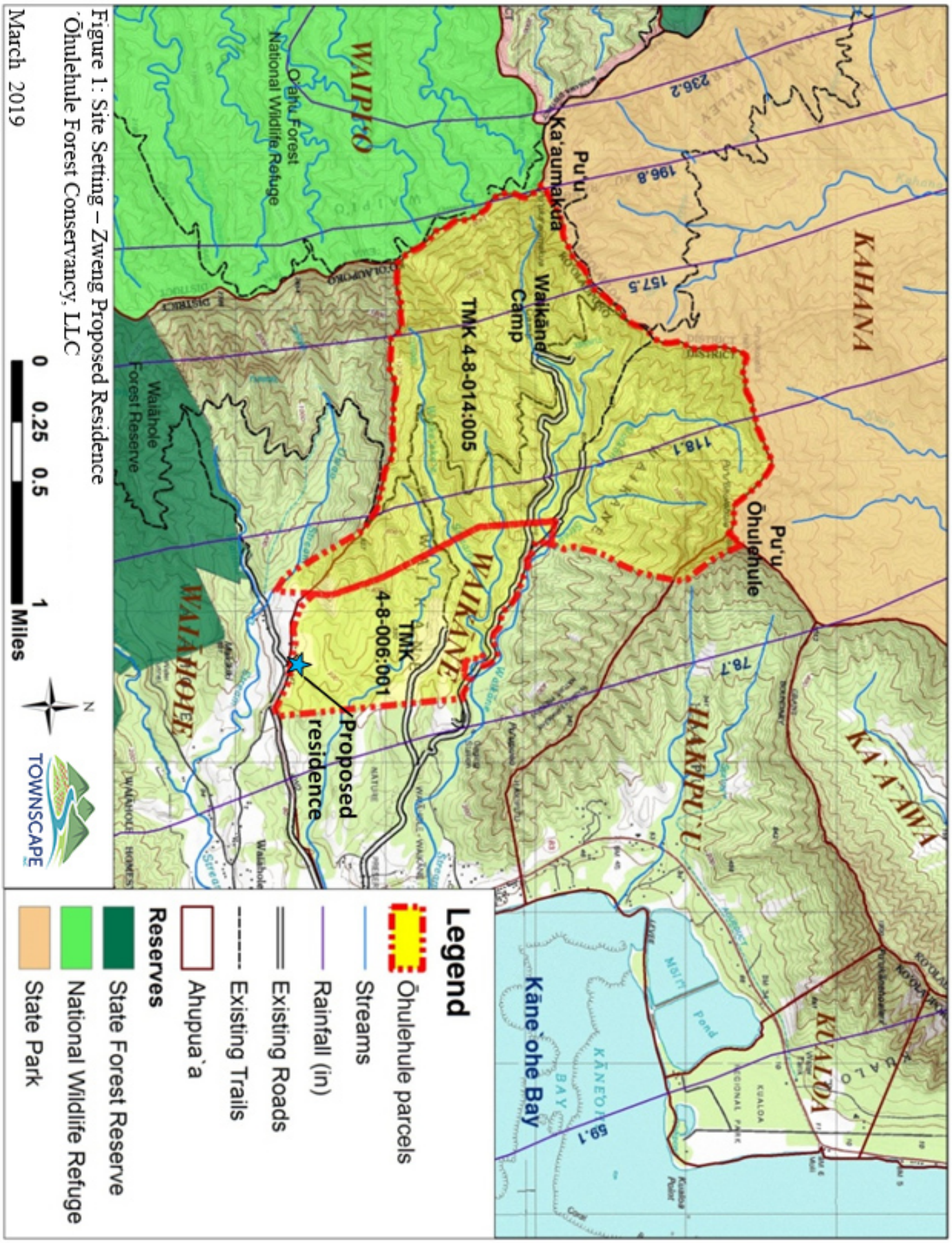

Figure 1: Site Setting – Zweng Proposed Residence
'Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Ko´olaupoko Hawaiian Civic Club
46-005 Kawa Street #104
Kaneohe, HI 96744

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
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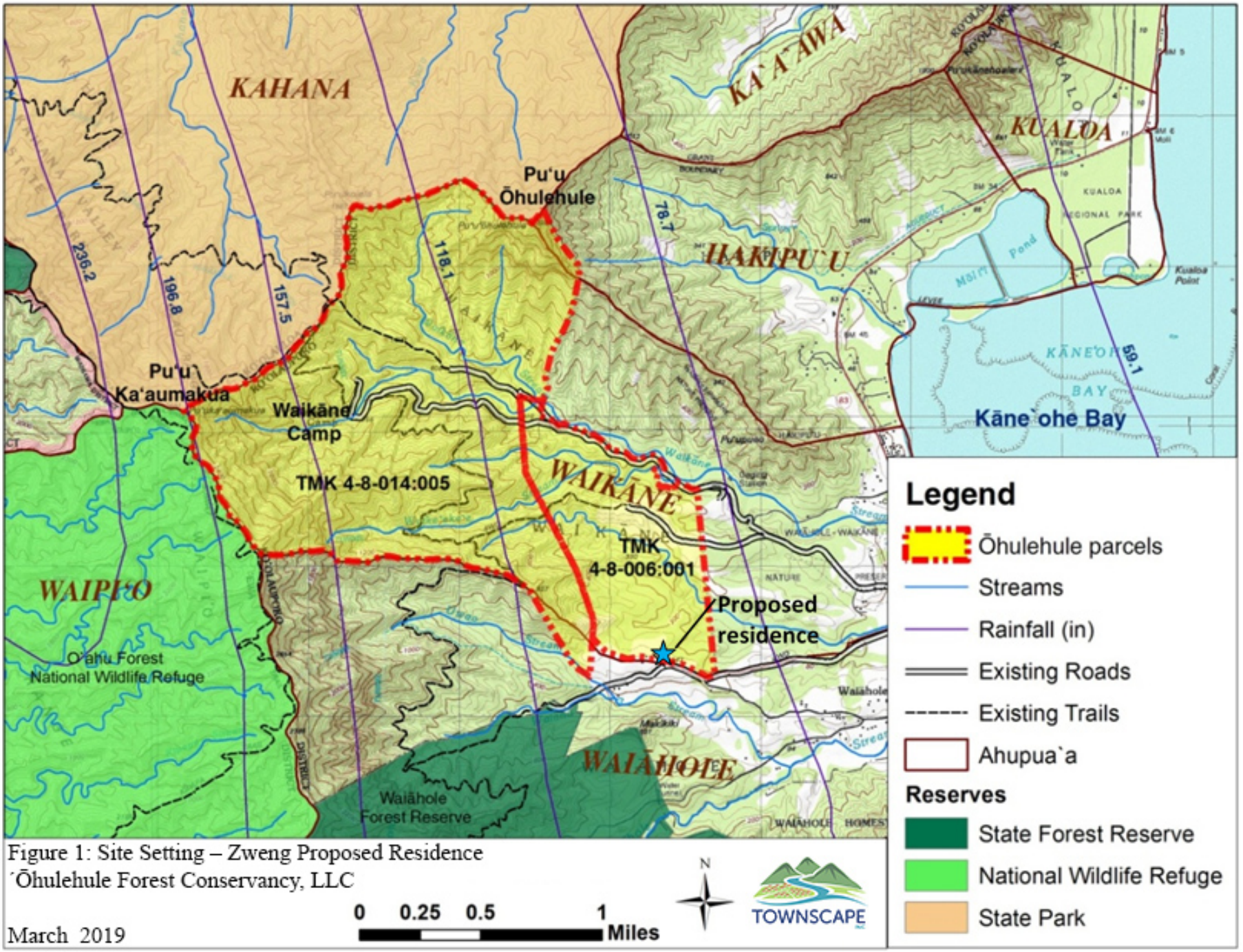

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

KEY Project
47-200 Waihee Road
Kaneohe, HI 96744

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
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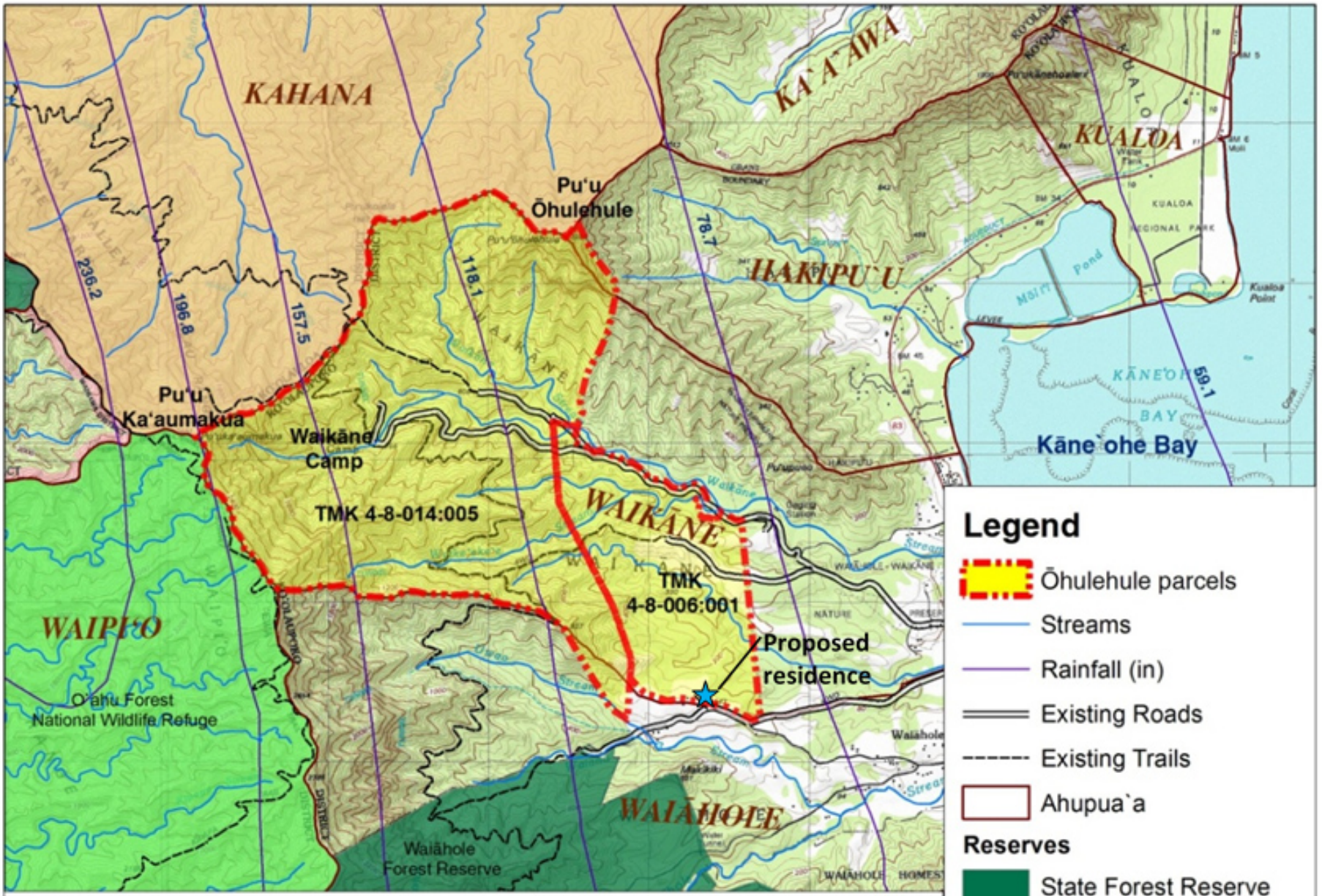

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Ko´olau Mountains Watershed Partnership
2551 Waimano Home Road #202
Pearl City, HI 96782

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ´Ōhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ‘Ōhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ´Ōhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Ko‘olaupoko district on the windward side of O’ahu.

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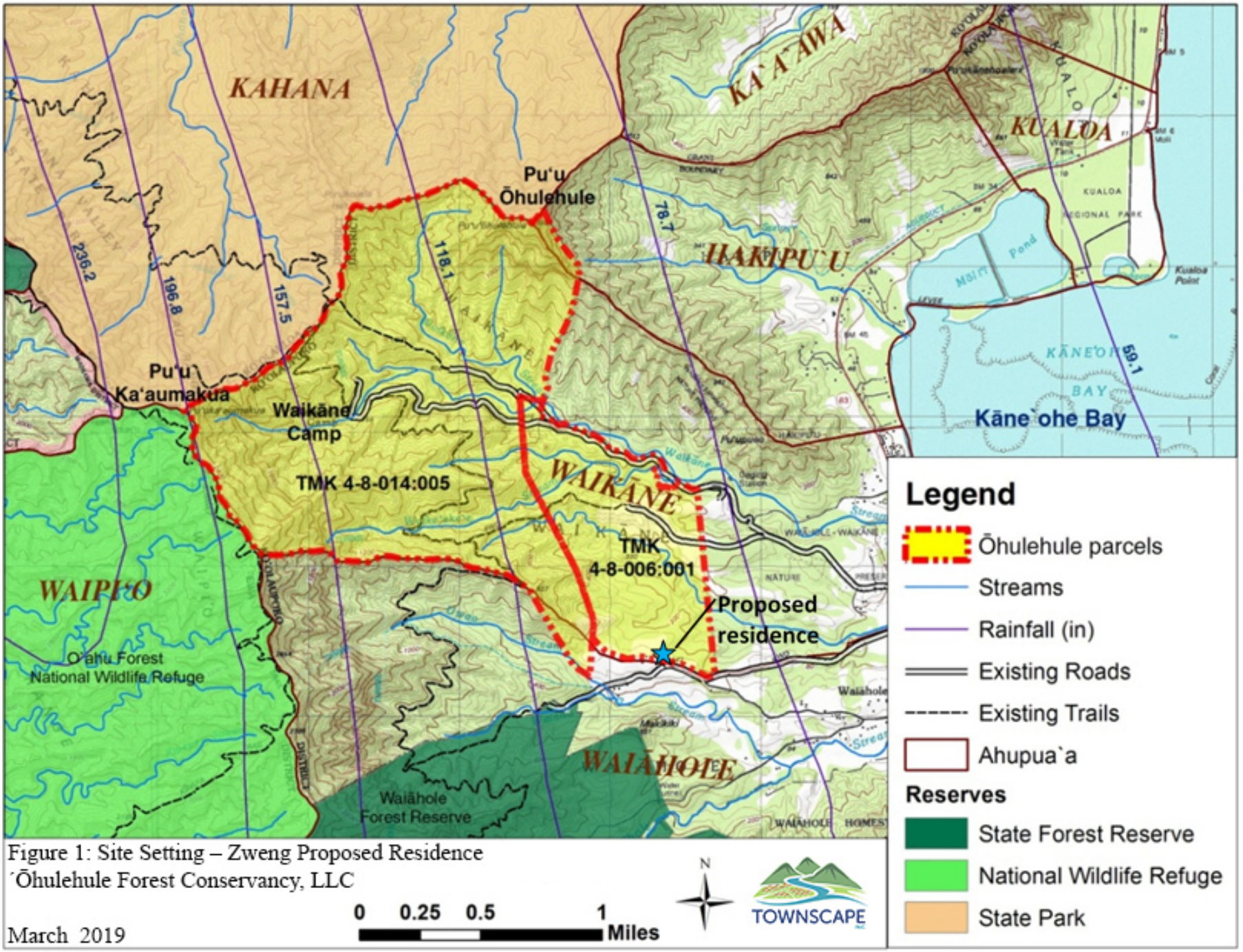

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

The Nature Conservancy
923 Nuuanu Avenue
Honolulu, HI 96817

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

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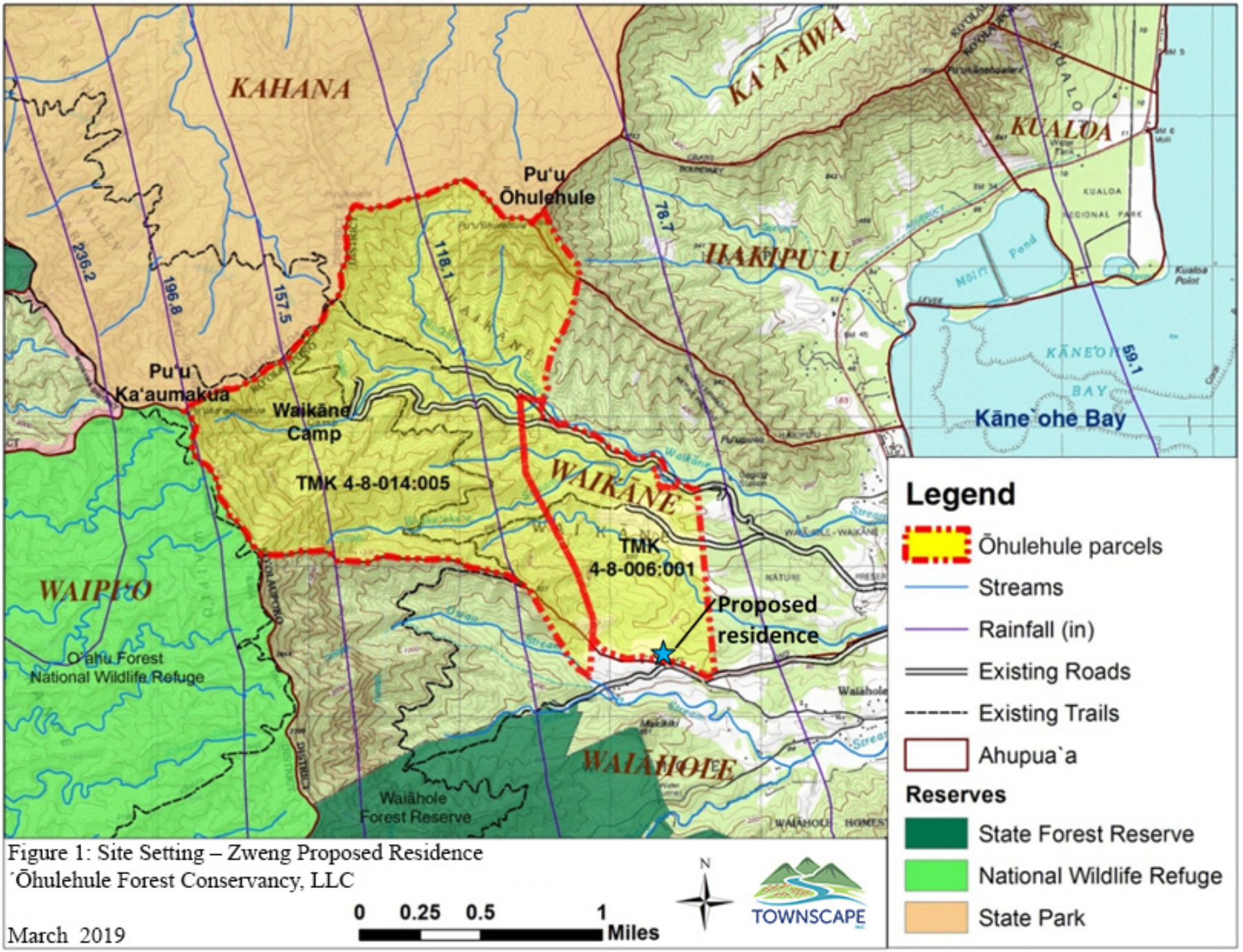

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Hawai´i Plant Extinction Prevention Program
19 East Kawili Street
Hilo, HI 96720

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ´Ōhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ‘Ōhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ´Ōhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Ko‘olaupoko district on the windward side of O’ahu.

The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located within the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion. The residential & accessory structures for the Zweng Residence will consist of three detached structures. (1) Single Family Dwelling, (2) Accessory structure one & (3) Accessory structure two. Please refer to Figure 1 for the proposed location of the residence.

We are requesting your comments on any important issues that should be addressed in the EA relating to the proposed action. Please submit your comments to us by April 20, 2019. If we do not receive a response by this date, we will assume your agency has no comments. Please contact the undersigned with any questions you may have at (808) 550-3893 or via email at lillie@townscapeinc.com.

Me ke aloha,

Lillie Makaila
Project Coordinator

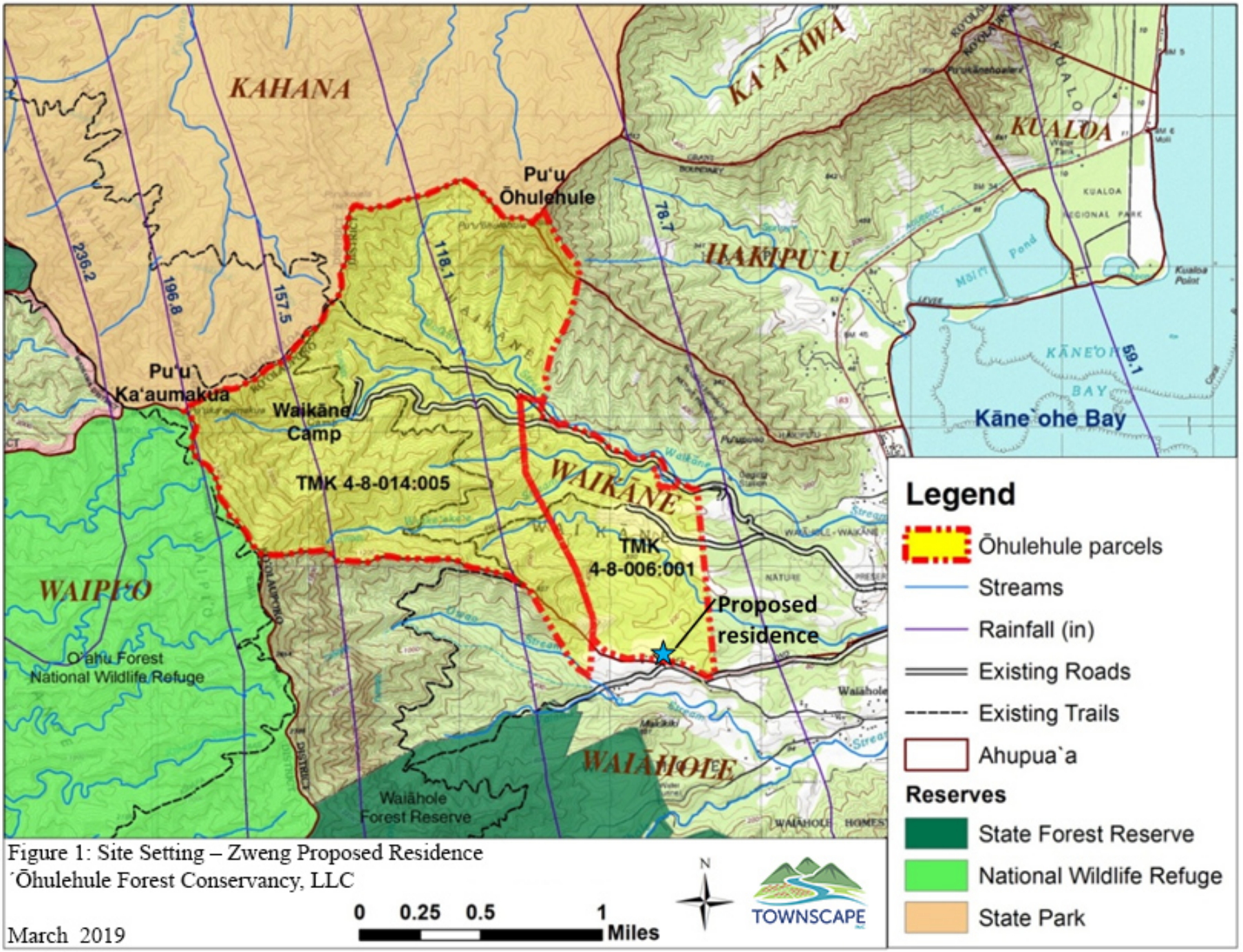

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

US Army
Environmental Programs Branch
Building 252
Fort Shafter, HI 96858-5440

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ´Ōhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ‘Ōhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ´Ōhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Ko‘olaupoko district on the windward side of O’ahu.

The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located within the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion. The residential & accessory structures for the Zweng Residence will consist of three detached structures. (1) Single Family Dwelling, (2) Accessory structure one & (3) Accessory structure two. Please refer to Figure 1 for the proposed location of the residence.

We are requesting your comments on any important issues that should be addressed in the EA relating to the proposed action. Please submit your comments to us by April 20, 2019. If we do not receive a response by this date, we will assume your agency has no comments. Please contact the undersigned with any questions you may have at (808) 550-3893 or via email at lillie@townscapeinc.com.

Me ke aloha,



Lillie Makaila
Project Coordinator

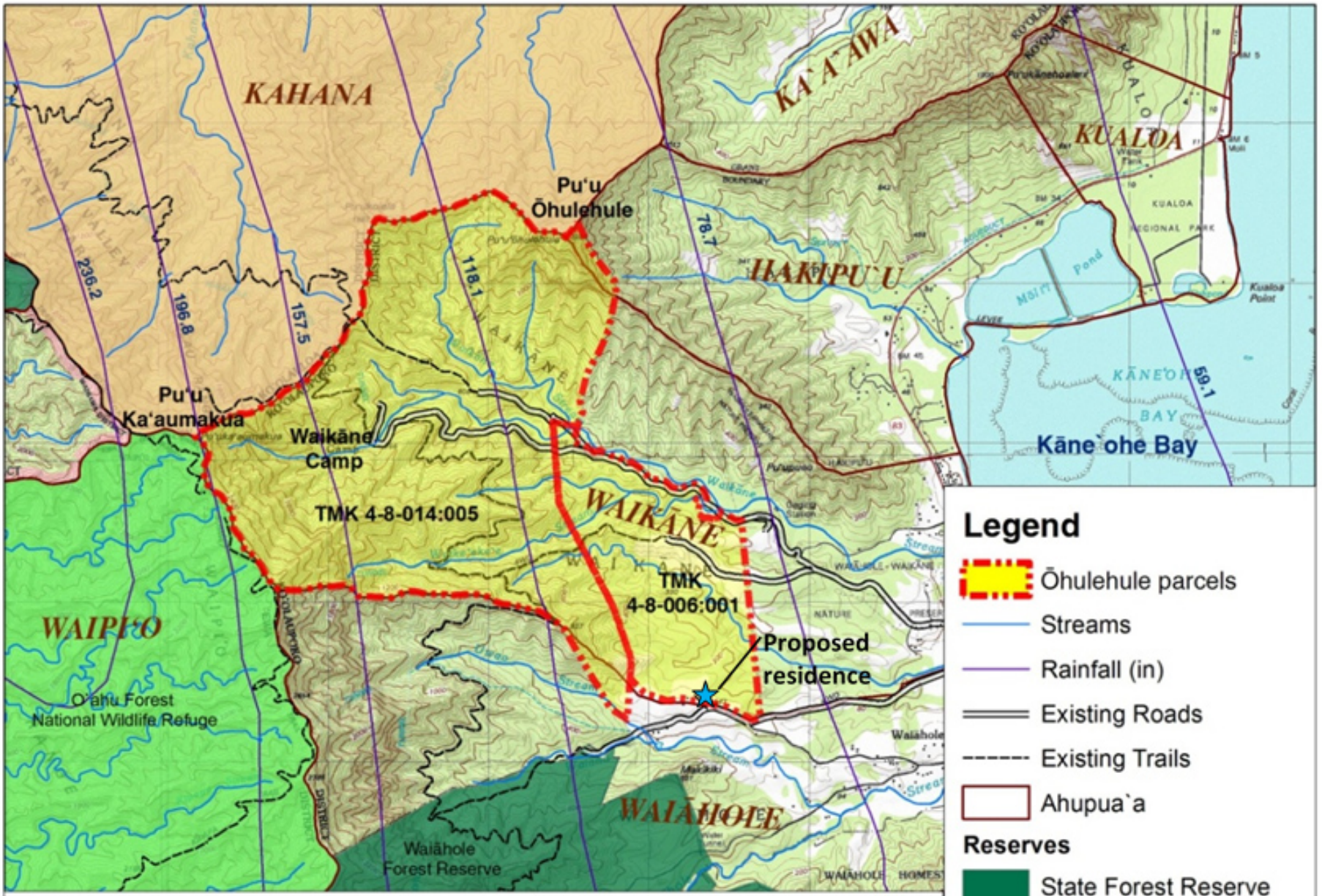

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Waiāhole-Waikāne Community Association
48-215 Waiahole Valley Road
Kaneohe, HI 96744

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Ko´olaupoko, O´ahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ´Ōhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ʻŌhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ´Ōhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Koʻolaupoko district on the windward side of O'ahu.

The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located within the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion. The residential & accessory structures for the Zweng Residence will consist of three detached structures. (1) Single Family Dwelling, (2) Accessory structure one & (3) Accessory structure two. Please refer to Figure 1 for the proposed location of the residence.

The WWCA Steering Committee submitted a letter of endorsement to the Kahaluʻu Neighborhood Board regarding the ´Ōhulehule Forest Conservancy supporting the construction of a single-family residence to be used by the Zweng family. Please see the attached endorsement letter.

We are requesting your comments on any important issues that should be addressed in the EA relating to the proposed action. Please submit your comments to us by April 20, 2019. If we do not receive a response by this date, we will assume your agency has no comments. Please contact the undersigned with any questions you may have at (808) 550-3893 or via email at lillie@townscapeinc.com.

Me ke aloha,

Lillie Makaila
Project Coordinator

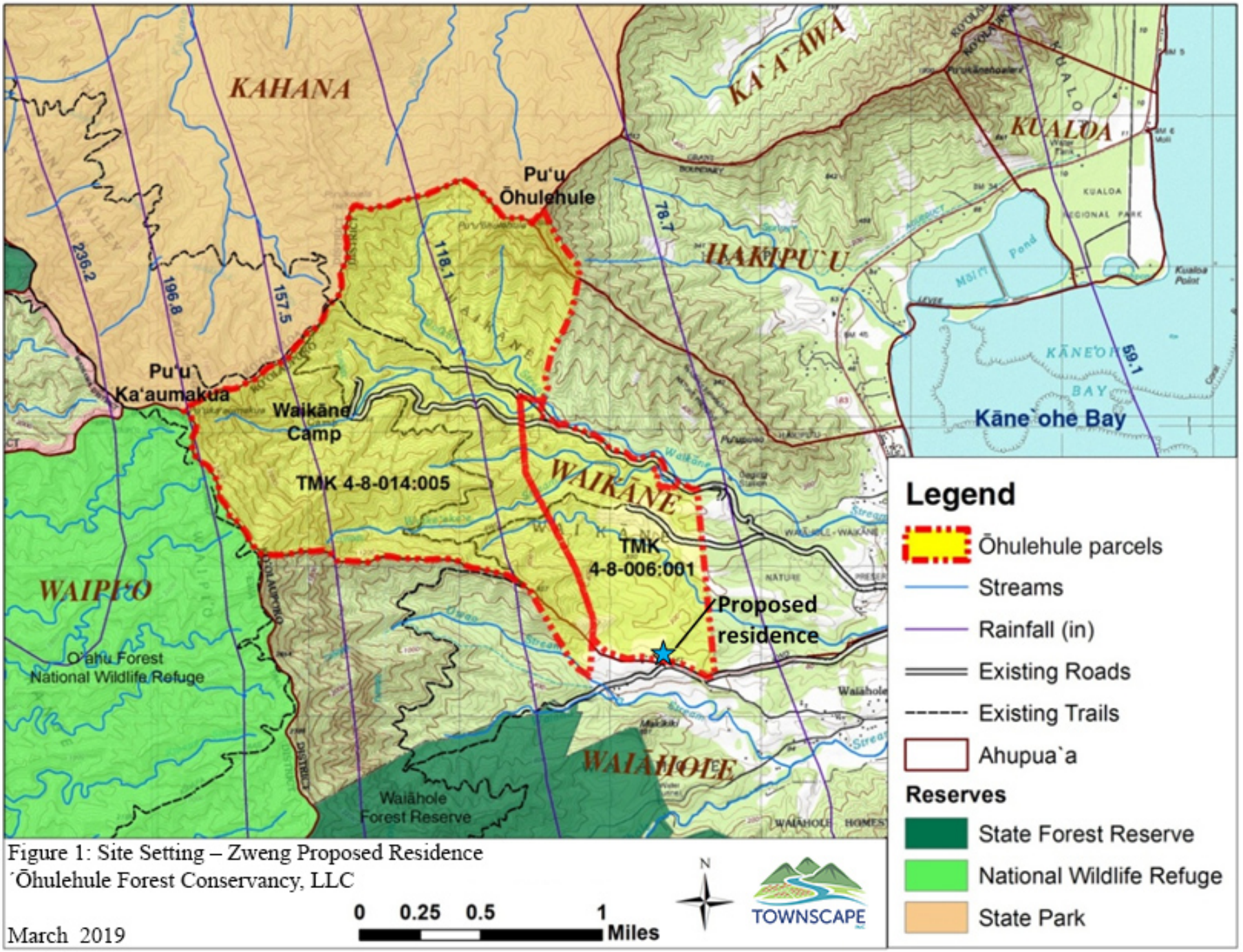

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

March 14, 2019

Kahaluʻu Neighborhood Board No. 29
925 Dillingham Boulevard Suite 160
Honolulu, HI 96817

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Koʻolaupoko, Oʻahu.

Aloha,
Townscape, Inc. is preparing an Environmental Assessment (EA) for the proposed Residence by Paul Zweng, Executive Director of the ʻŌhulehule Forest Conservancy, LLC. The proposed project is to build a single-family residence and related improvements on the property owned by the ʻŌhulehule Forest Conservancy, LLC in Waikāne Valley. The residence is intended for Paul and Carrie Zweng, as well as for use on behalf of ʻŌhulehule Forest Conservancy, LLC. Waikāne Valley is located in the northern portion of the Koʻolaupoko district on the windward side of O'ahu.

The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located within the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion. The residential & accessory structures for the Zweng Residence will consist of three detached structures. (1) Single Family Dwelling, (2) Accessory structure one & (3) Accessory structure two. Please refer to Figure 1 for the proposed location of the residence.

On June 13, 2012 the Kahaluʻu Neighborhood Board No. 29 unanimously adopted a resolution regarding the ʻŌhulehule Forest Conservancy supporting in the construction of a single-family residence to be used by the Zweng family. Please see the attached endorsement letter.

We are requesting your comments on any important issues that should be addressed in the EA relating to the proposed action. Please submit your comments to us by April 20, 2019. If we do not receive a response by this date, we will assume your agency has no comments. Please contact the undersigned with any questions you may have at (808) 550-3893 or via email at lillie@townscapeinc.com.

Me ke aloha,



Lillie Makaila
Project Coordinator

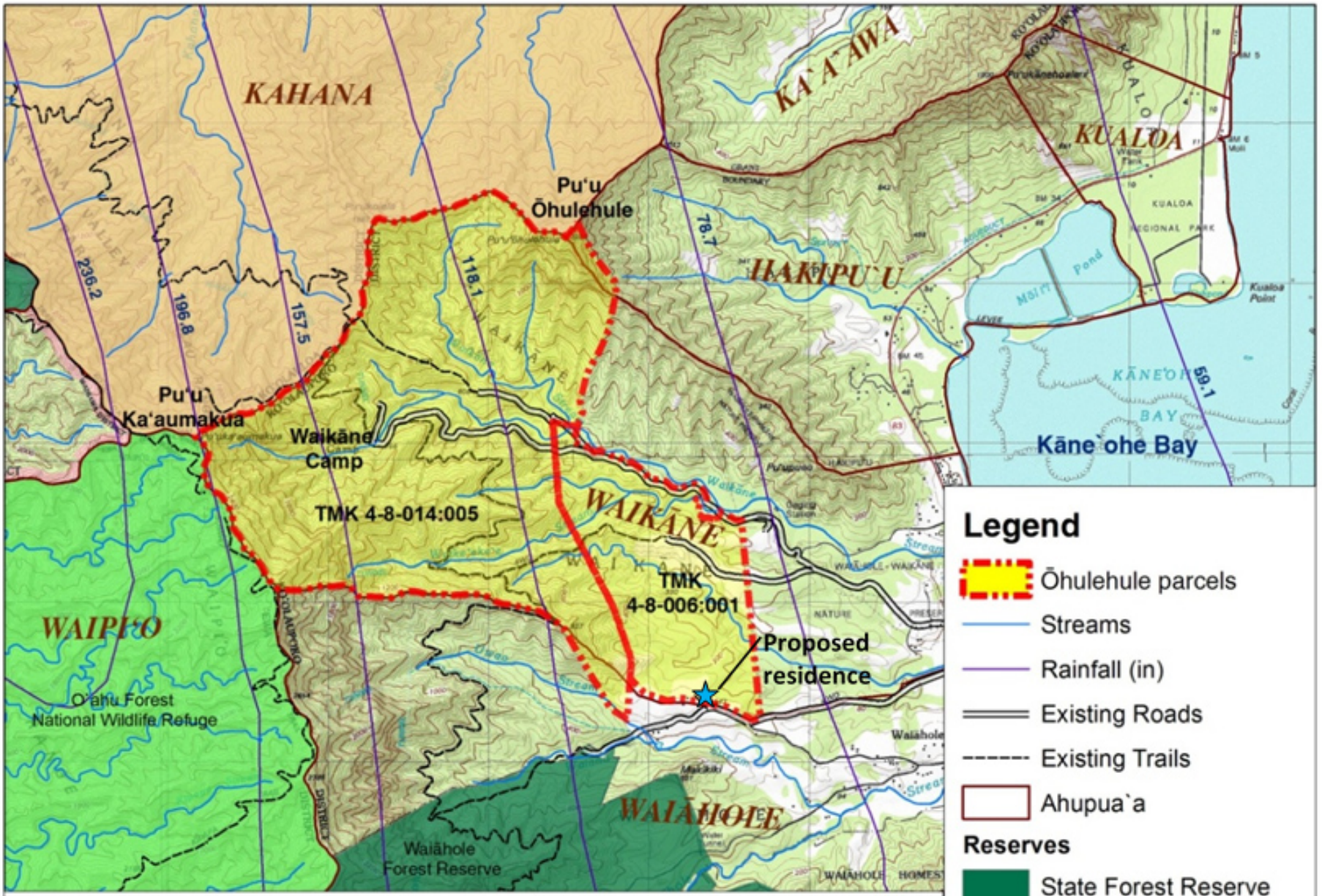

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Division of Aquatic Resources
1151 Punchbowl Street #330
Honolulu, Hawai'i 96813

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Koʻolaupoko, Oʻahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

The proposed residence includes a single-family dwelling, a driveway for vehicular access from Waiāhole Valley North Branch Road, and some general site improvements in vicinity of the house site.

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,

Lillie Makaila
Project Coordinator

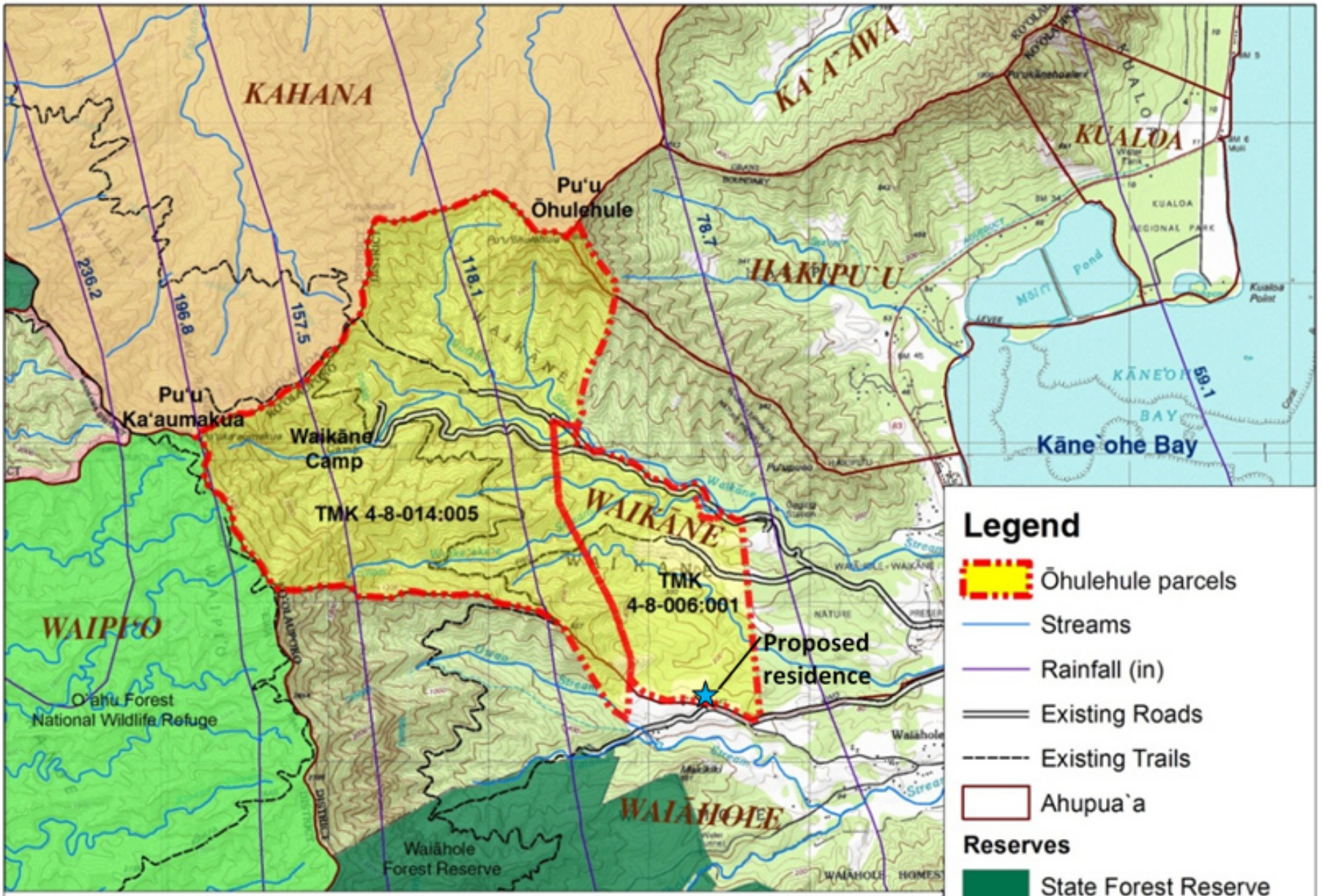

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Division of Engineering
1151 Punchbowl Street #221
Honolulu, Hawai'i 96813

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

The proposed residence includes a single-family dwelling, a driveway for vehicular access from Waiāhole Valley North Branch Road, and some general site improvements in vicinity of the house site.

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,

Lillie Makaila
Project Coordinator

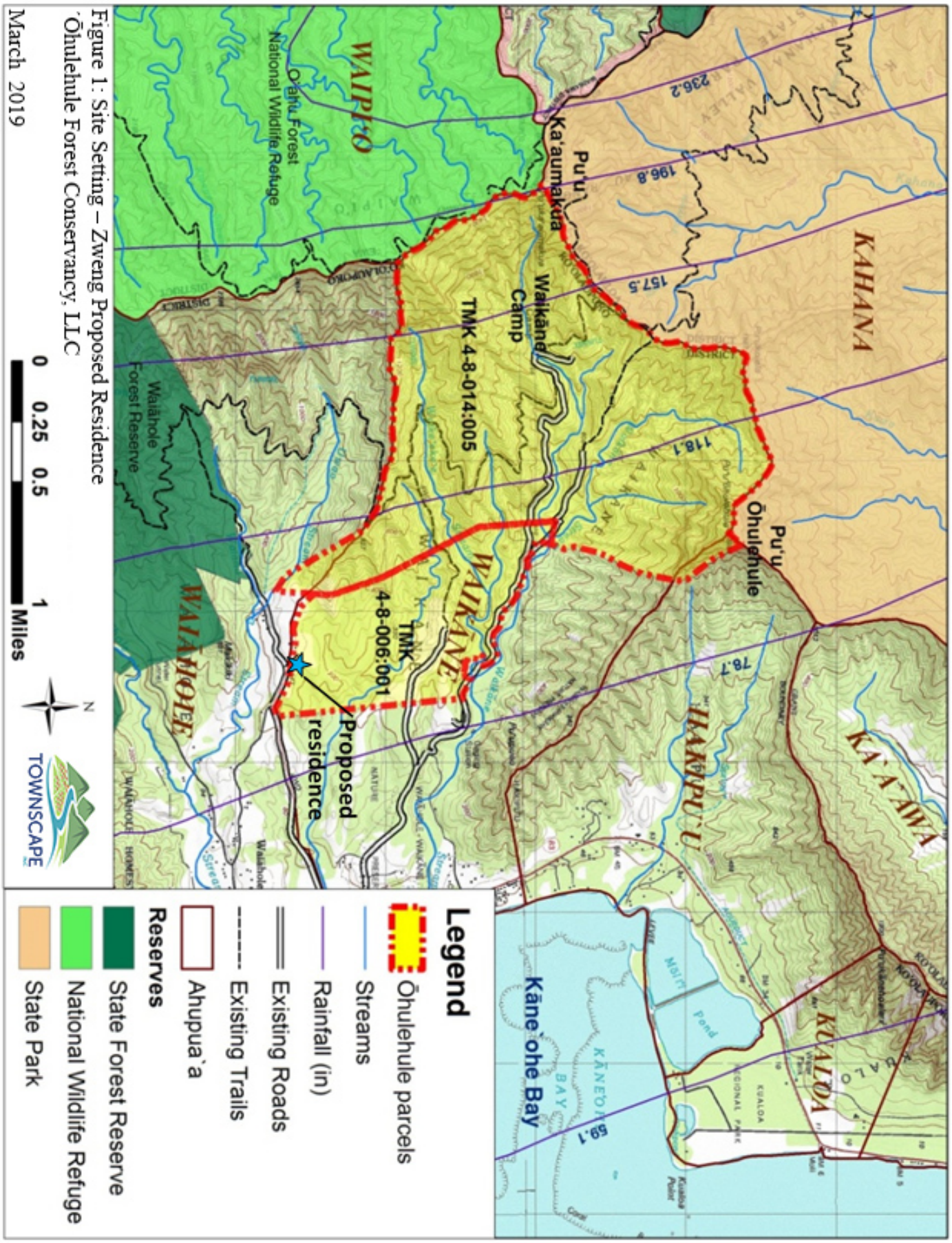

Figure 1: Site Setting – Zweng Proposed Residence
'Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

State Historic Preservation Division
601 Kamokila Boulevard #555
Kapolei, Hawai'i 96707

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Koʻolaupoko, Oʻahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

The proposed residence includes a single-family dwelling, a driveway for vehicular access from Waiāhole Valley North Branch Road, and some general site improvements in vicinity of the house site.

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,

Lillie Makaila
Project Coordinator

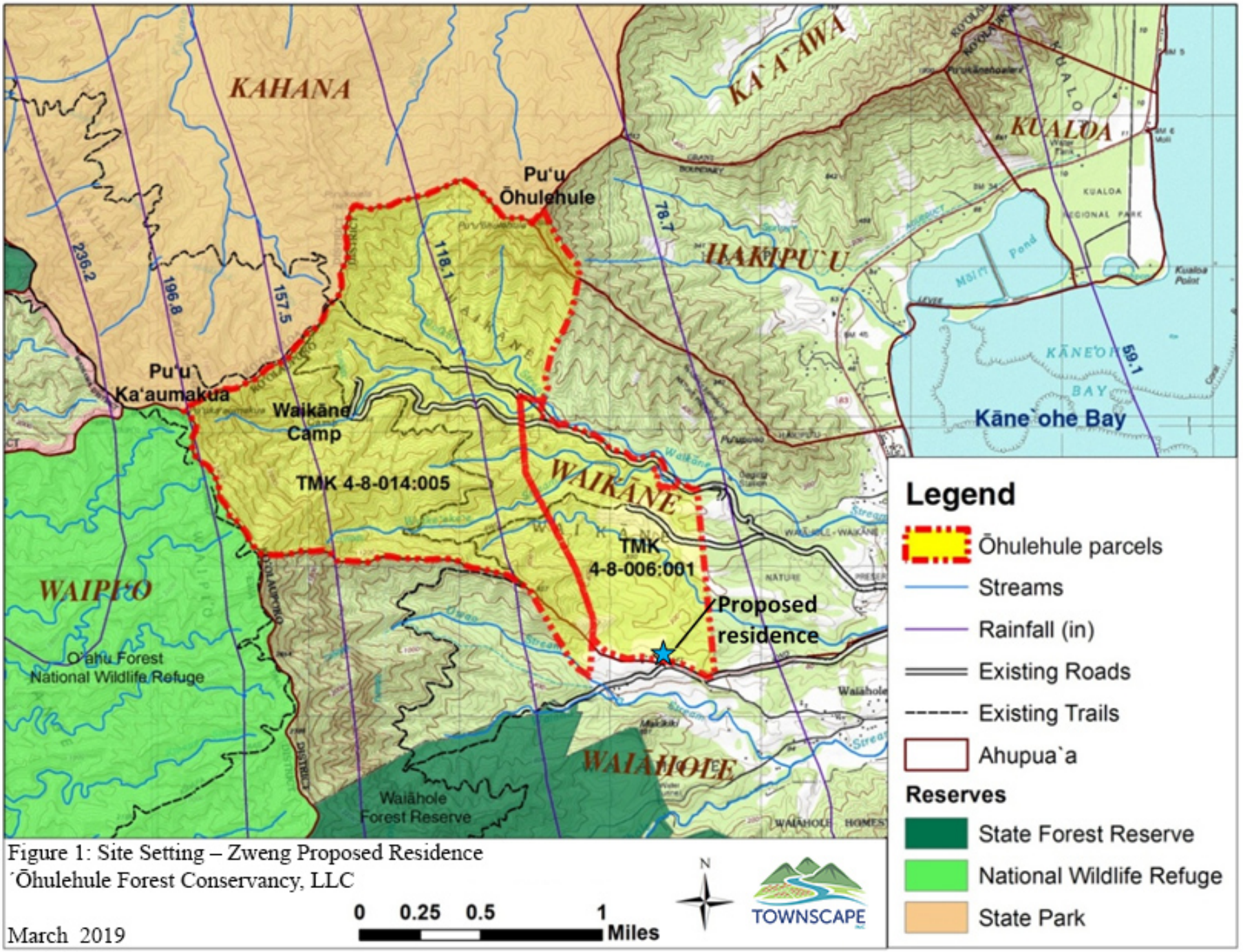

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Department of Agriculture
1428 South King Street
Honolulu, Hawai'i 96814

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Koʻolaupoko, Oʻahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

The proposed residence includes a single-family dwelling, a driveway for vehicular access from Waiāhole Valley North Branch Road, and some general site improvements in vicinity of the house site.

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,

Lillie Makaila
Project Coordinator

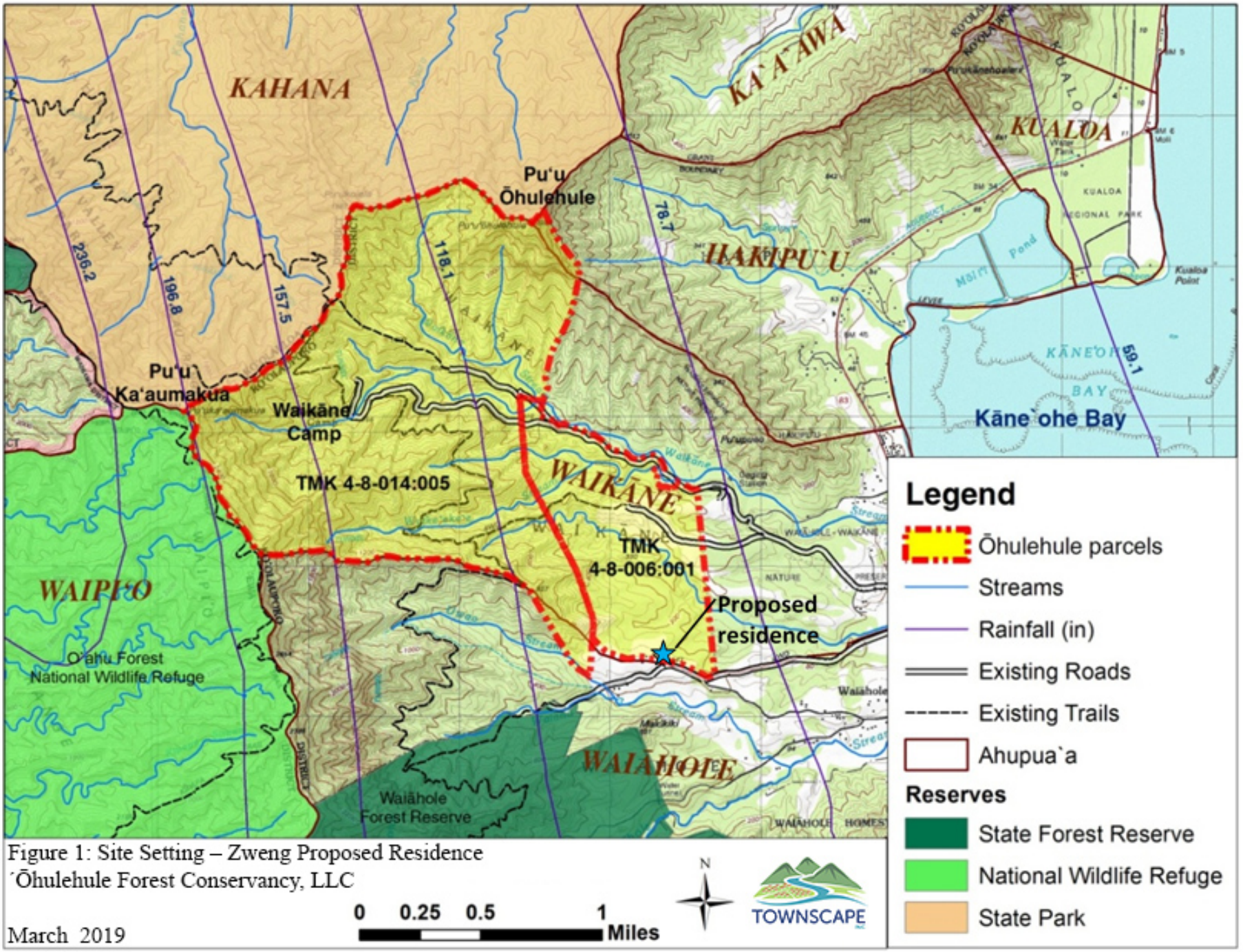

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Office of Hawaiian Affairs
560 North Nimitz Highway Suite #200
Honolulu, Hawai'i 96817

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

The proposed residence includes a single-family dwelling, a driveway for vehicular access from Waiāhole Valley North Branch Road, and some general site improvements in vicinity of the house site.

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I ola nō ke kino,



Lillie Makaila
Project Coordinator

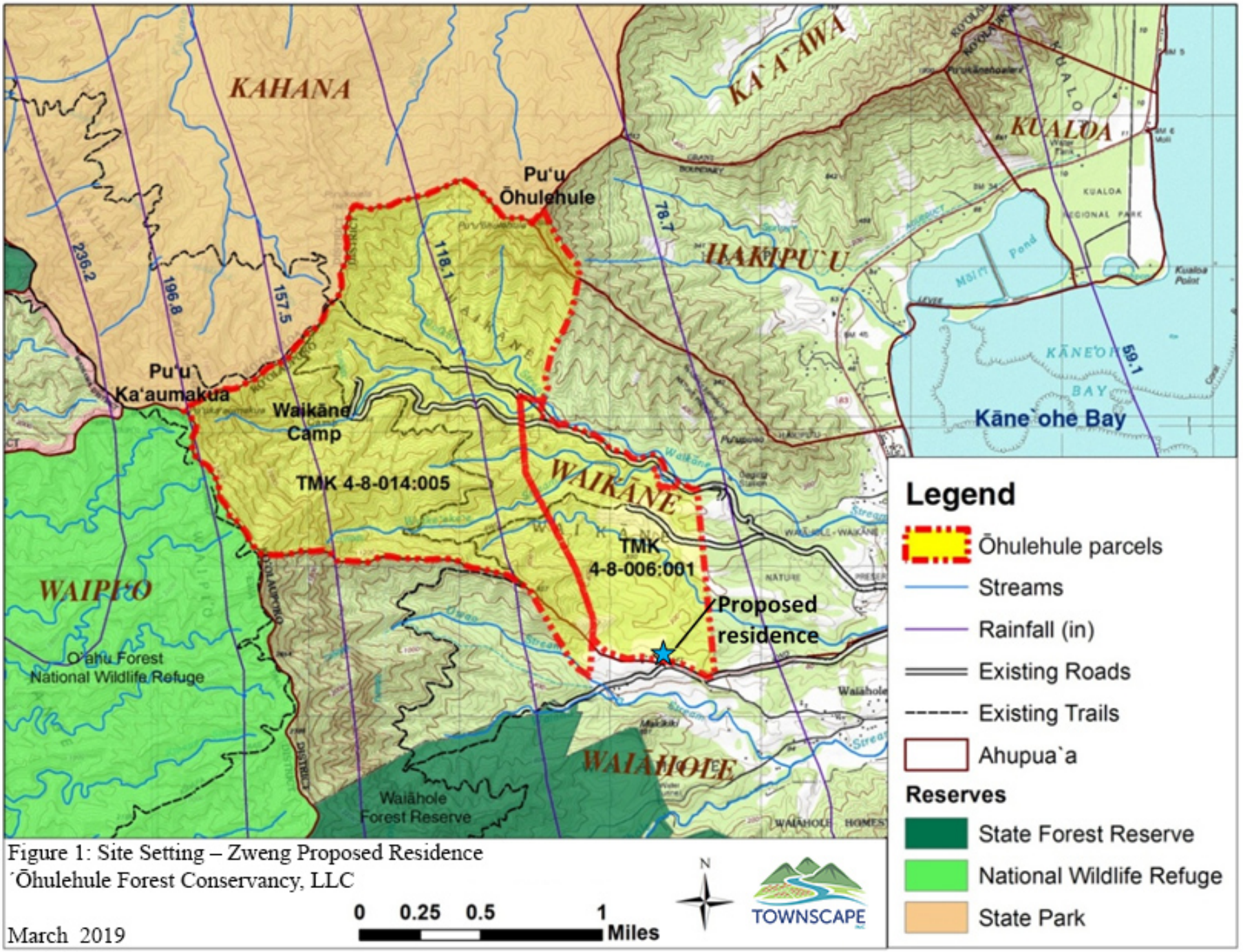

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Honolulu Fire Department
636 South Street
Honolulu, Hawai'i 96813

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Koʻolaupoko, Oʻahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

The proposed residence includes a single-family dwelling, a driveway for vehicular access from Waiāhole Valley North Branch Road, and some general site improvements in vicinity of the house site.

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I ola nō ke kino,

Lillie Makaila
Project Coordinator

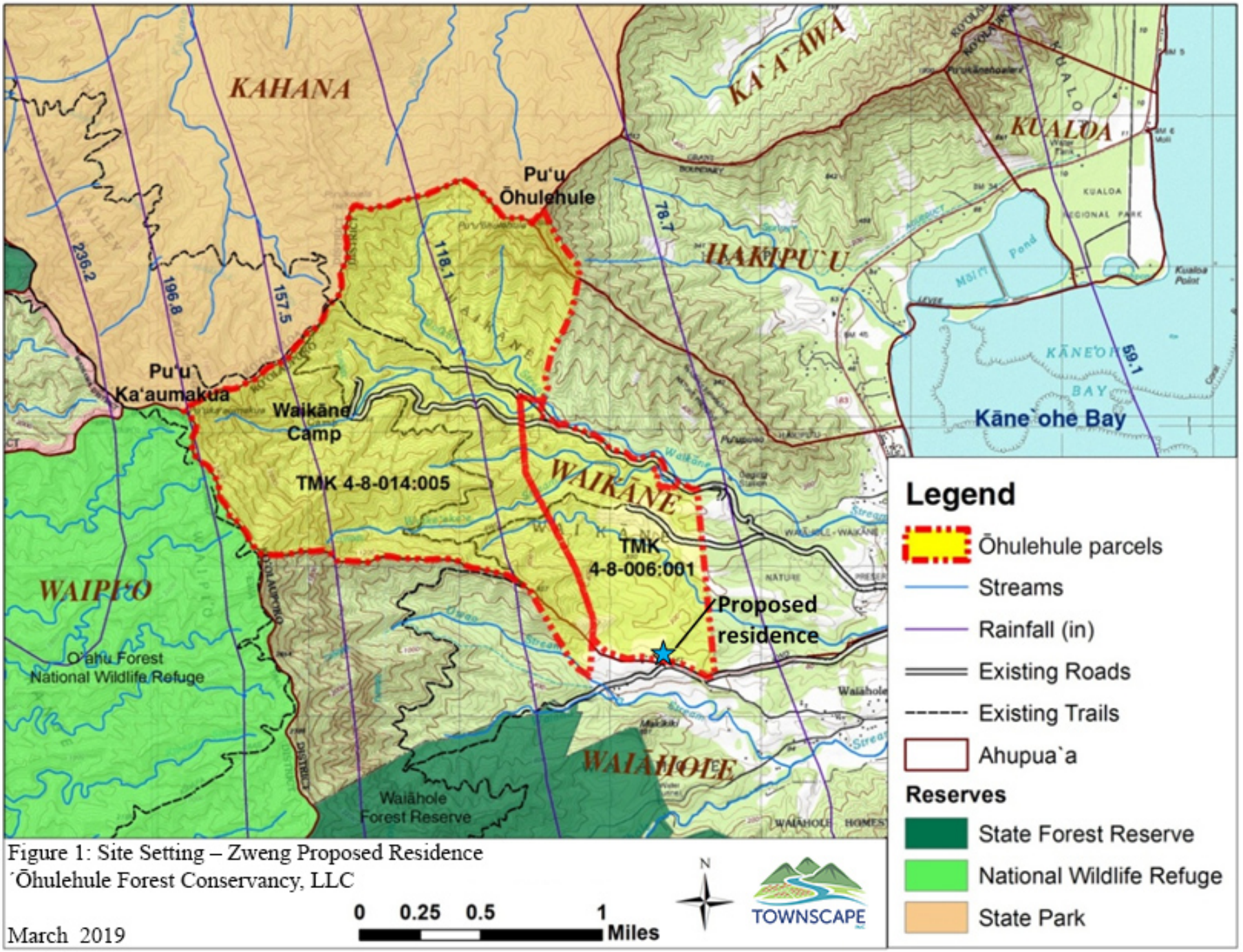

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

USDA Natural Resources Conservation Service
Pacific Islands Area State Office
P.O. Box 50004
Honolulu, HI 96850-0050

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.**

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

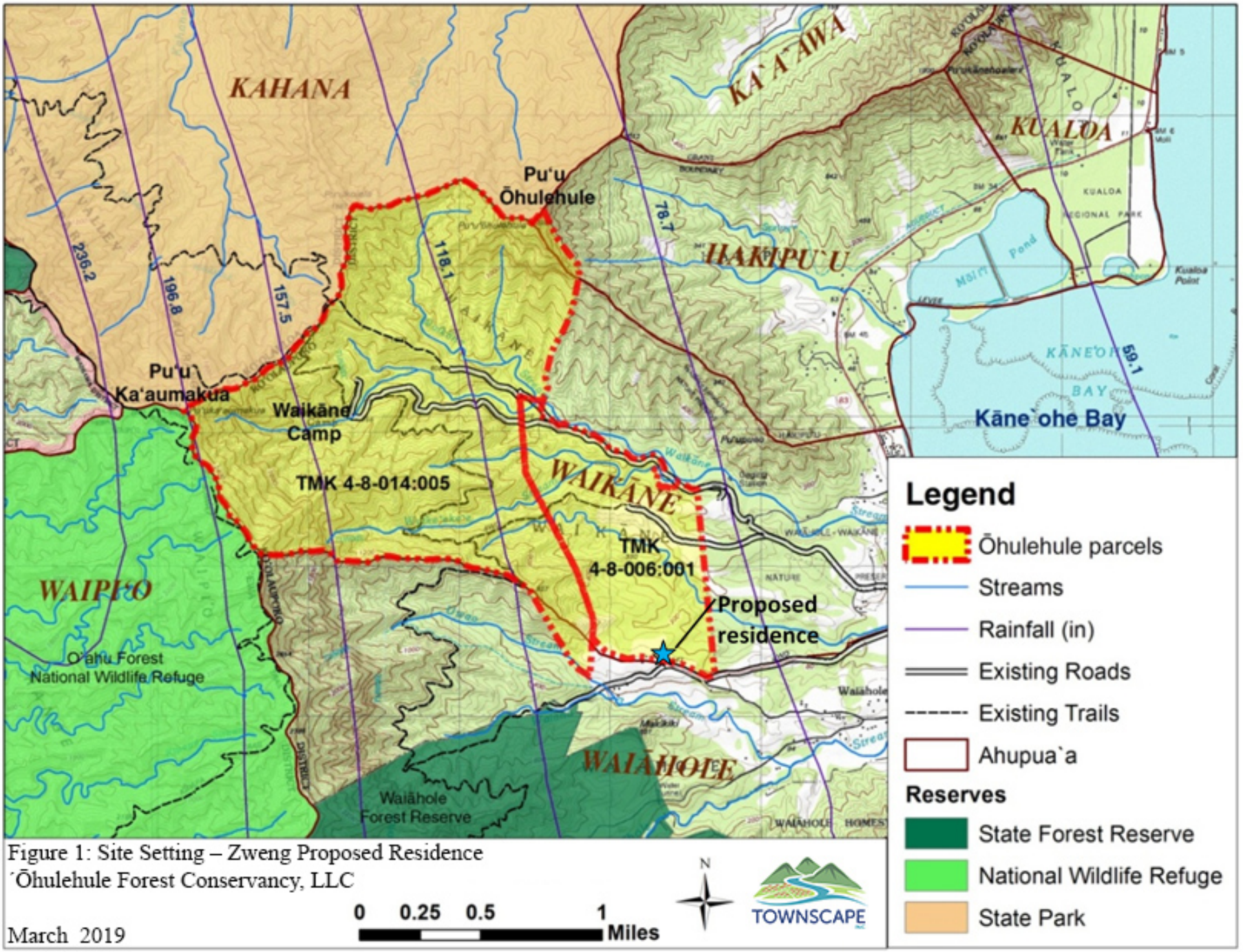

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

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

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Ko'olaupoko, O'ahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.** Your agency previous provided comments on April 2, 2019. Attached is a copy of the letter we received.

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

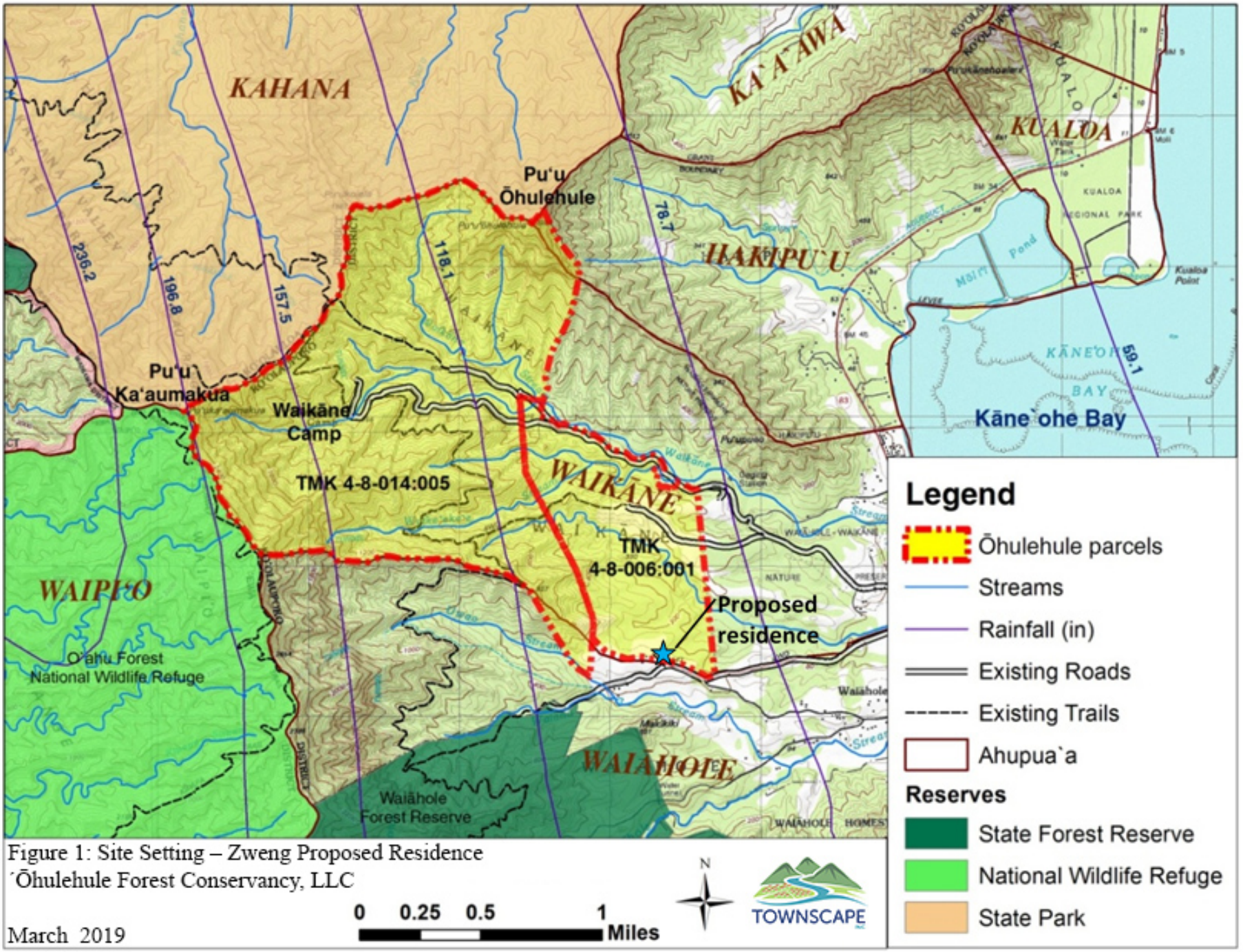

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, HI 96809

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.**

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

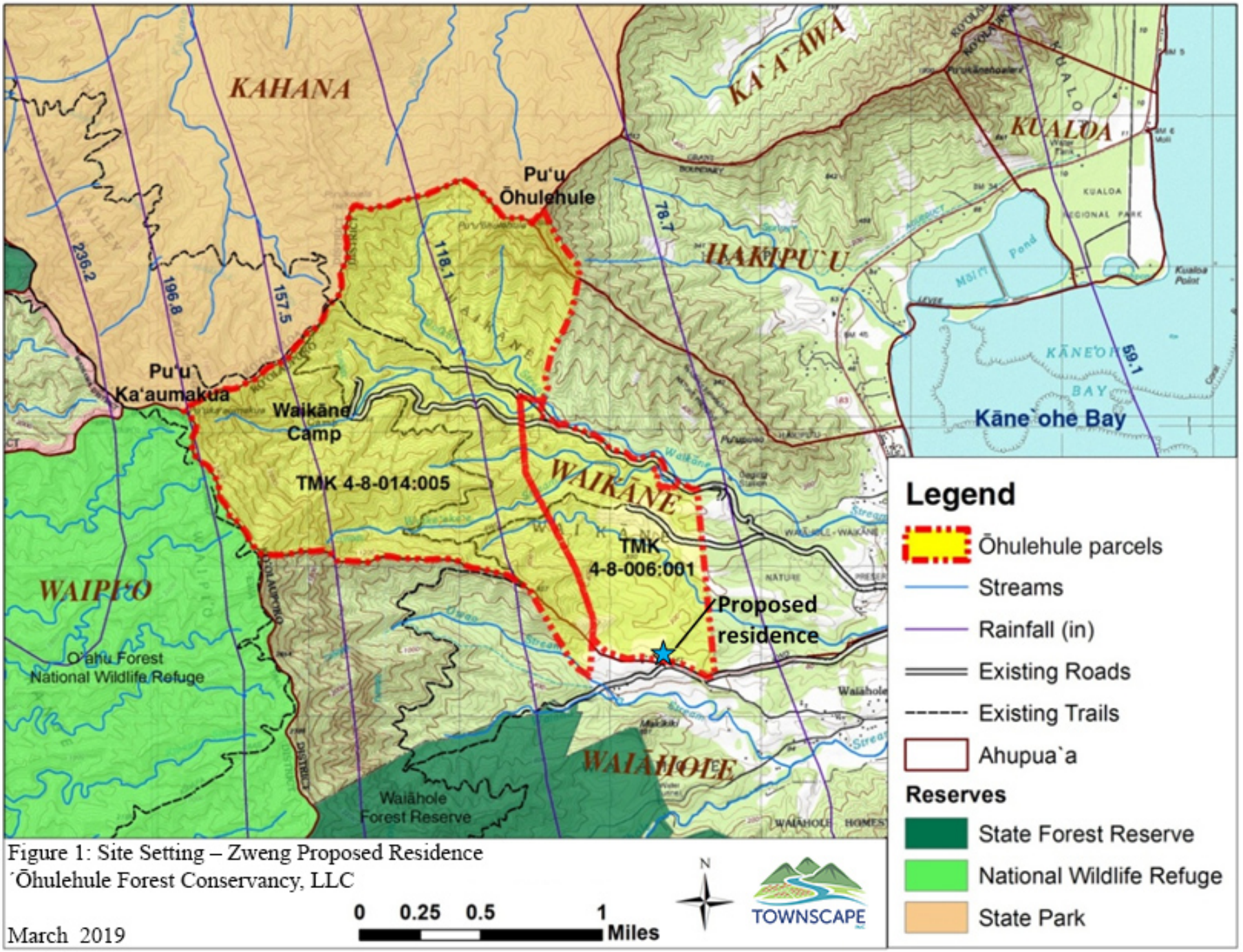

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Commission on Water Resource Management
1151 Punchbowl Street #227
Honolulu, HI 96813

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.**

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

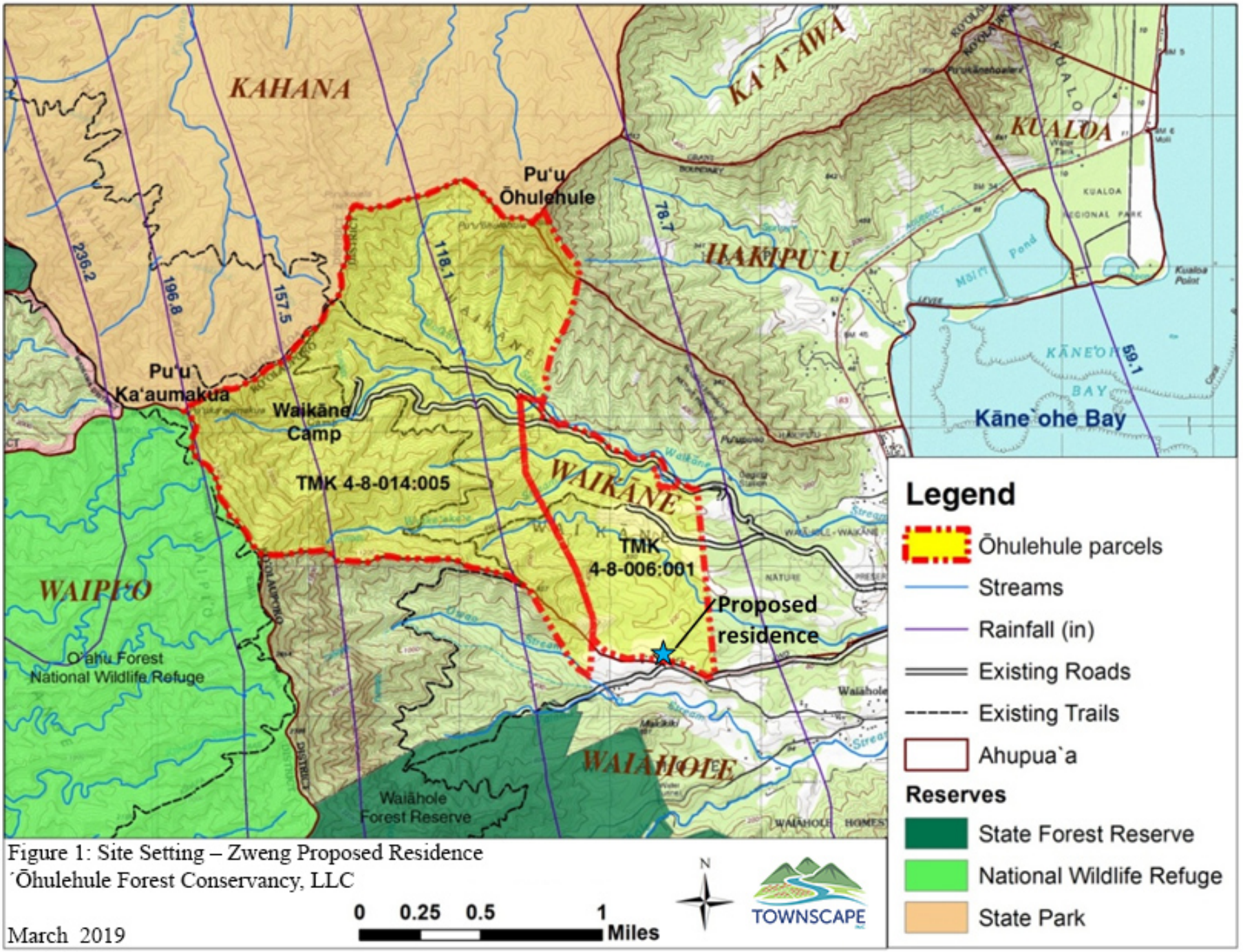

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Division of Forestry and Wildlife
1151 Punchbowl Street #325
Honolulu, HI 96813

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.**

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

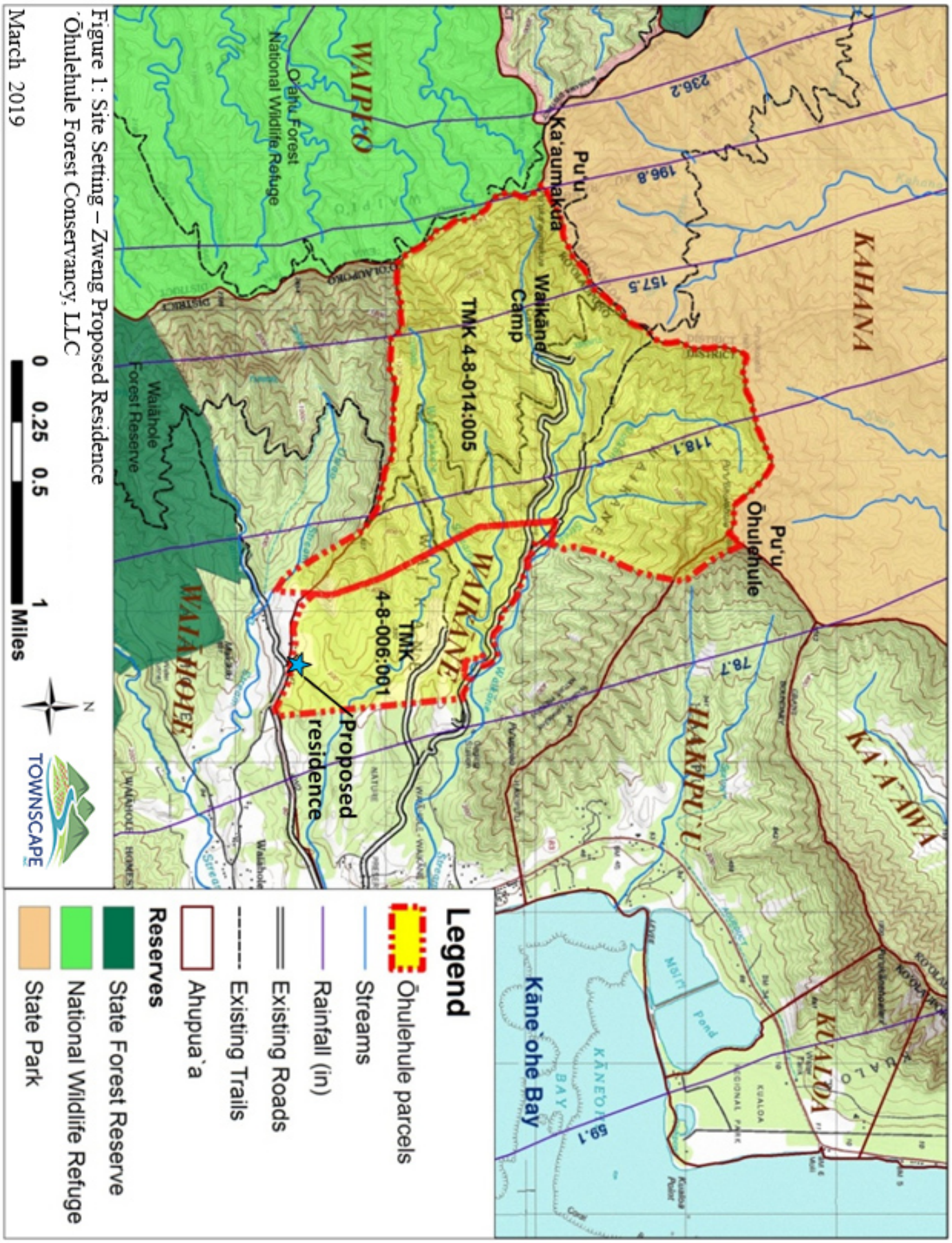

Figure 1: Site Setting – Zweng Proposed Residence
'Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

State of Hawaii Historic Preservation Division
601 Kamokila Boulevard #555
Kapolei, HI 96707

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.**

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

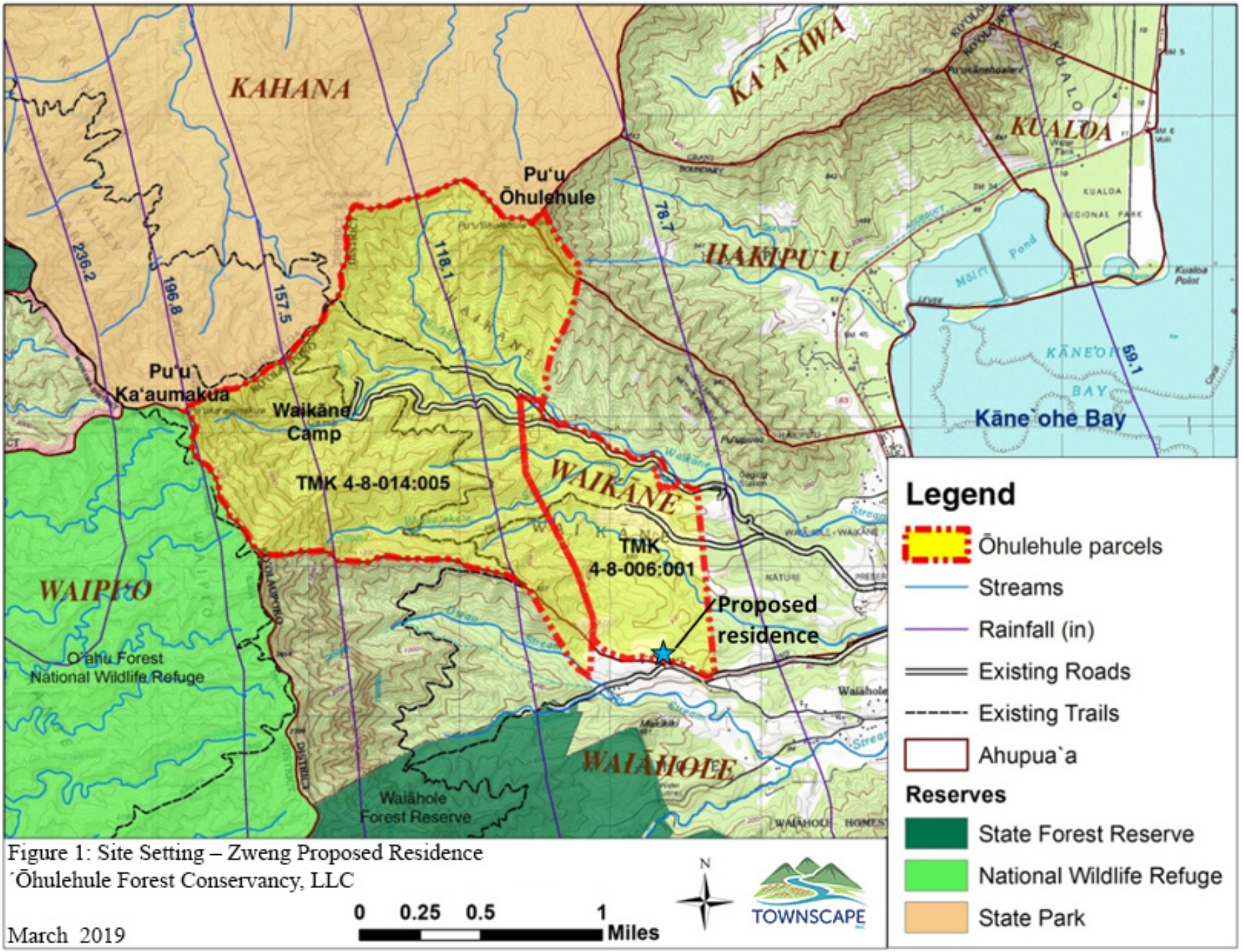

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Agribusiness Development Corporation
235 South Beretania Street #205
Honolulu, HI 96813

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.** Your agency previous provided comments on April 10, 2019. Attached is a copy of the letter we received.

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

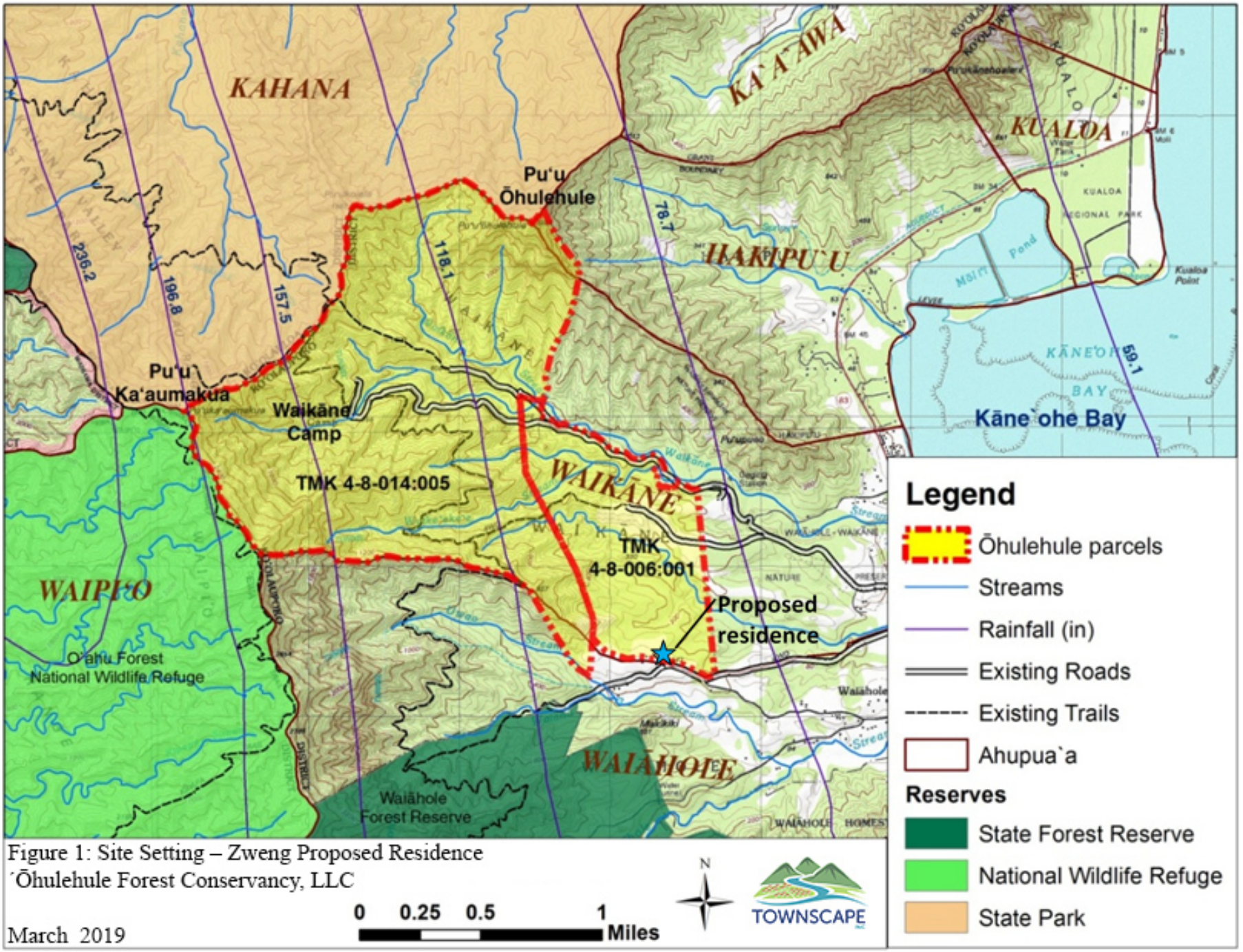

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Hawaii Housing Finance and Development Corporation
677 Queen Street
Honolulu, HI 96813

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.** Your agency previous provided comments on April 16, 2019. Attached is a copy of the letter we received.

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

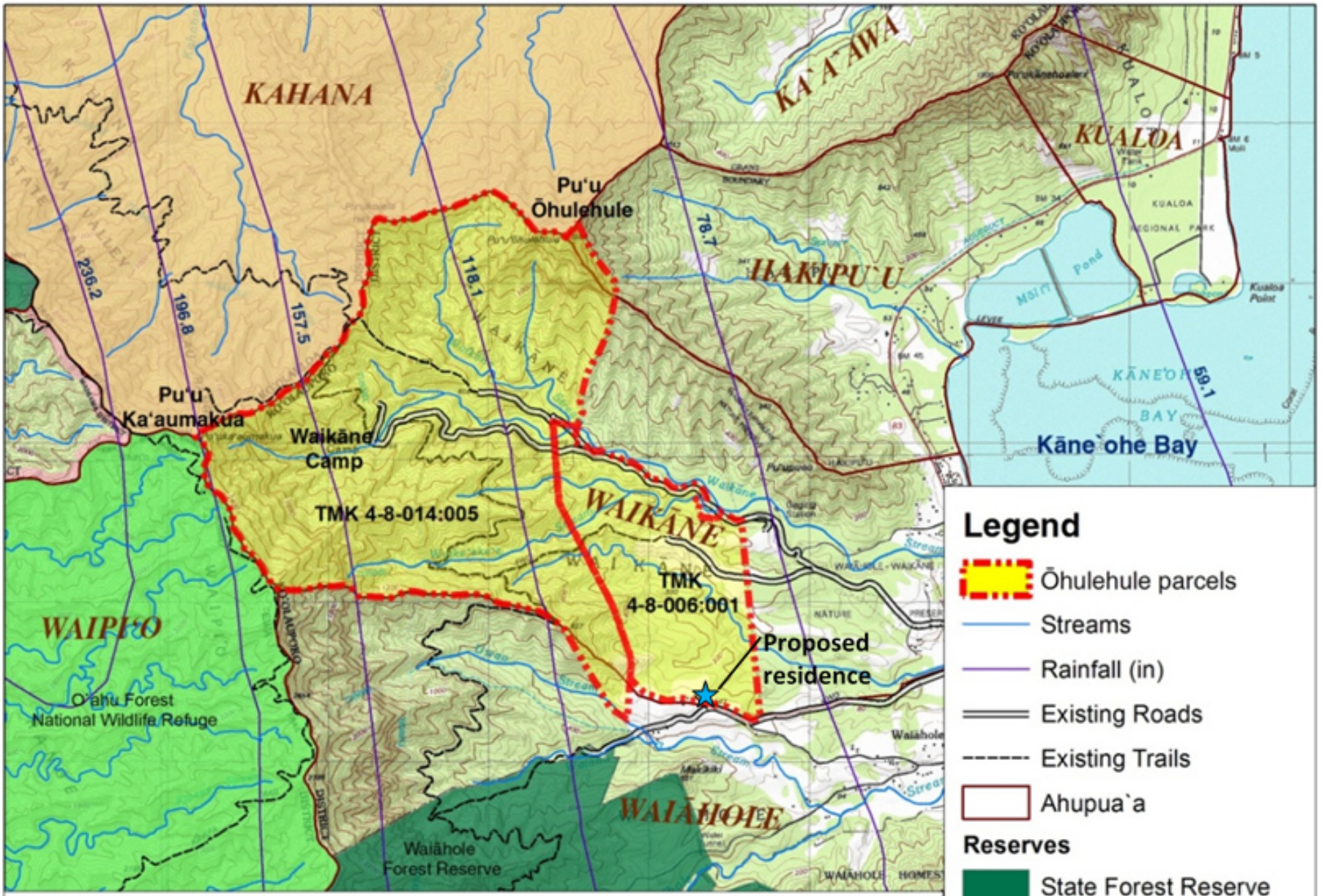

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Department of Planning and Permitting
650 South King Street 7th Floor
Honolulu, HI 96813

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.** Your agency previous provided comments on March 27, 2019. Attached is a copy of the letter we received.

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your agency has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

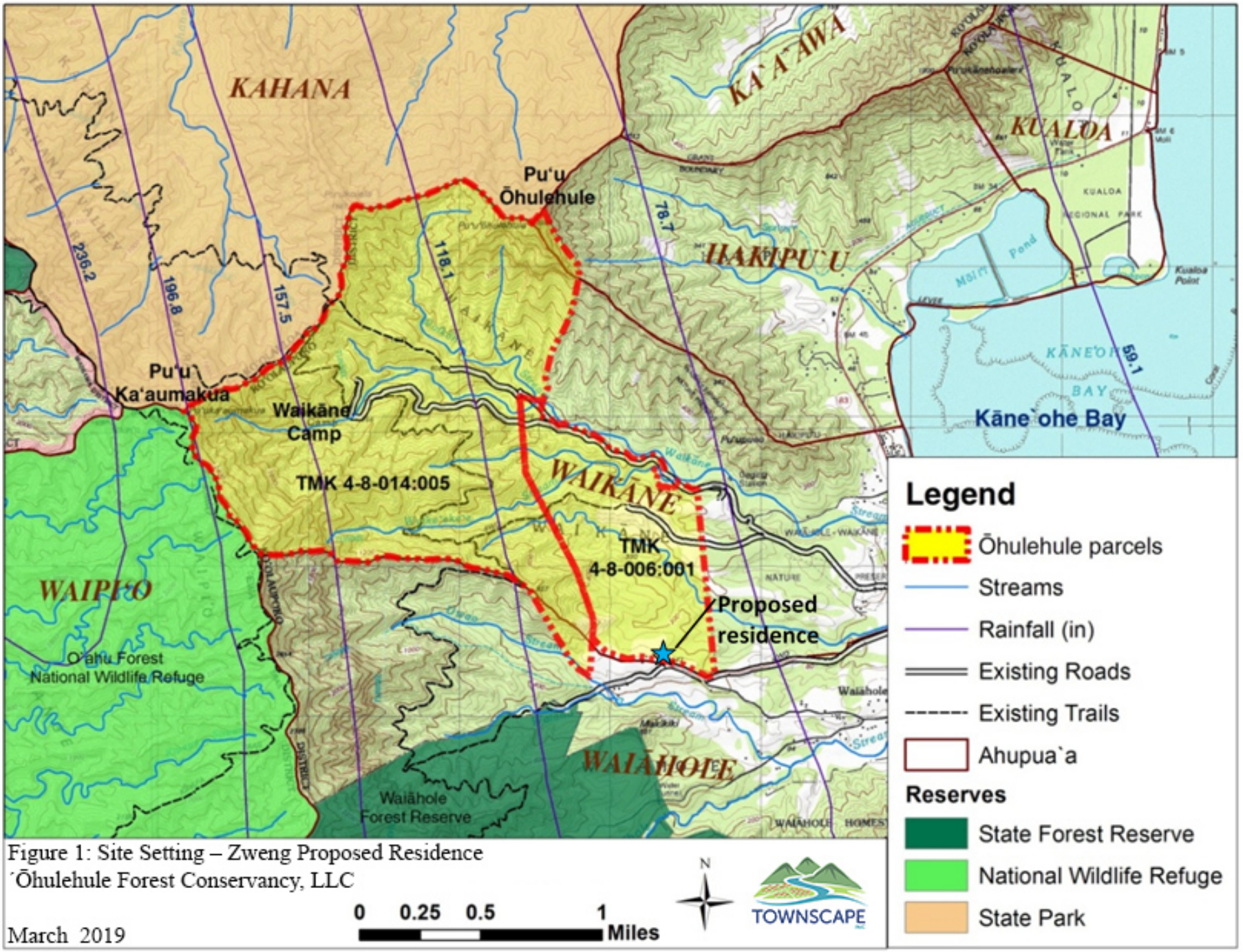

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Ko´olaupoko Hawaiian Civic Club
46-005 Kawa Street #104
Kaneohe, HI 96744

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

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I ola nō ke kino,



Lillie Makaila
Project Coordinator

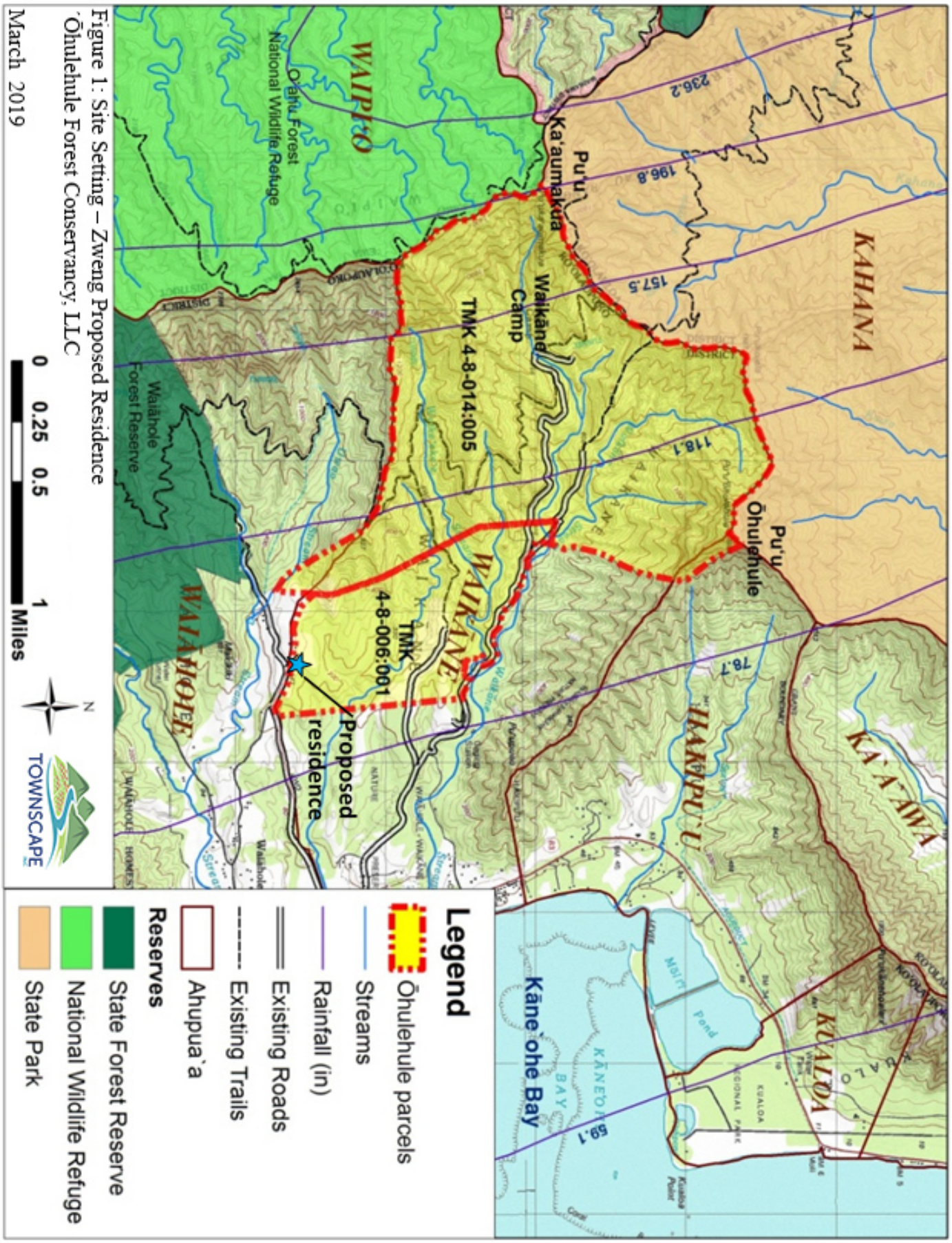

Figure 1: Site Setting – Zweng Proposed Residence
'Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

KEY Project
47-200 Waihee Road
Kaneohe, HI 96744

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

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I ola nō ke kino,



Lillie Makaila
Project Coordinator

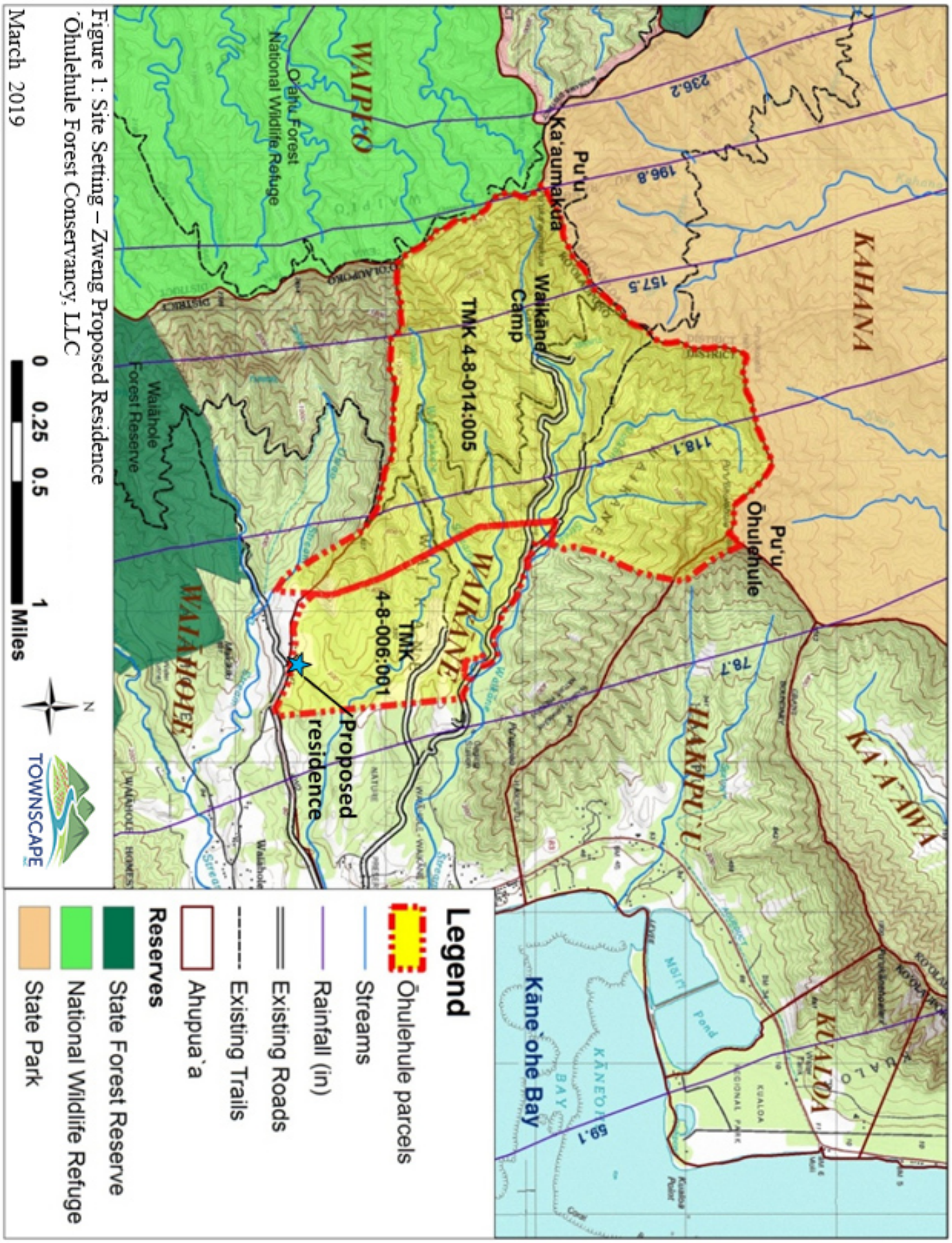

Figure 1: Site Setting – Zweng Proposed Residence
ʻŌhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Ko´olau Mountains Watershed Partnership
2551 Waimano Home Road #202
Pearl City, HI 96782

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

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I ola nō ke kino,



Lillie Makaila
Project Coordinator

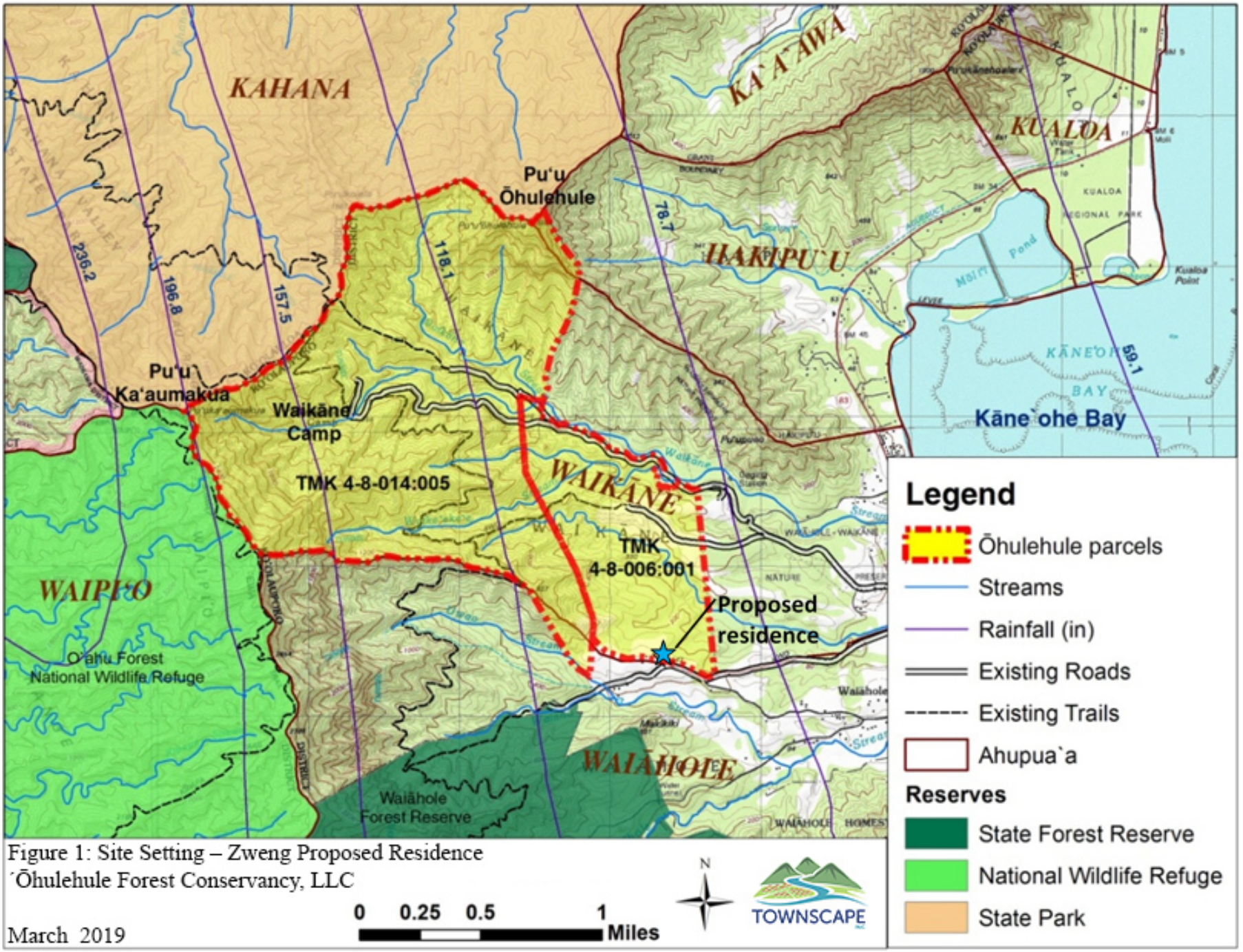

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

The Nature Conservancy
923 Nuuanu Avenue
Honolulu, HI 96817

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Koʻolaupoko, Oʻahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

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I ola nō ke kino,



Lillie Makaila
Project Coordinator

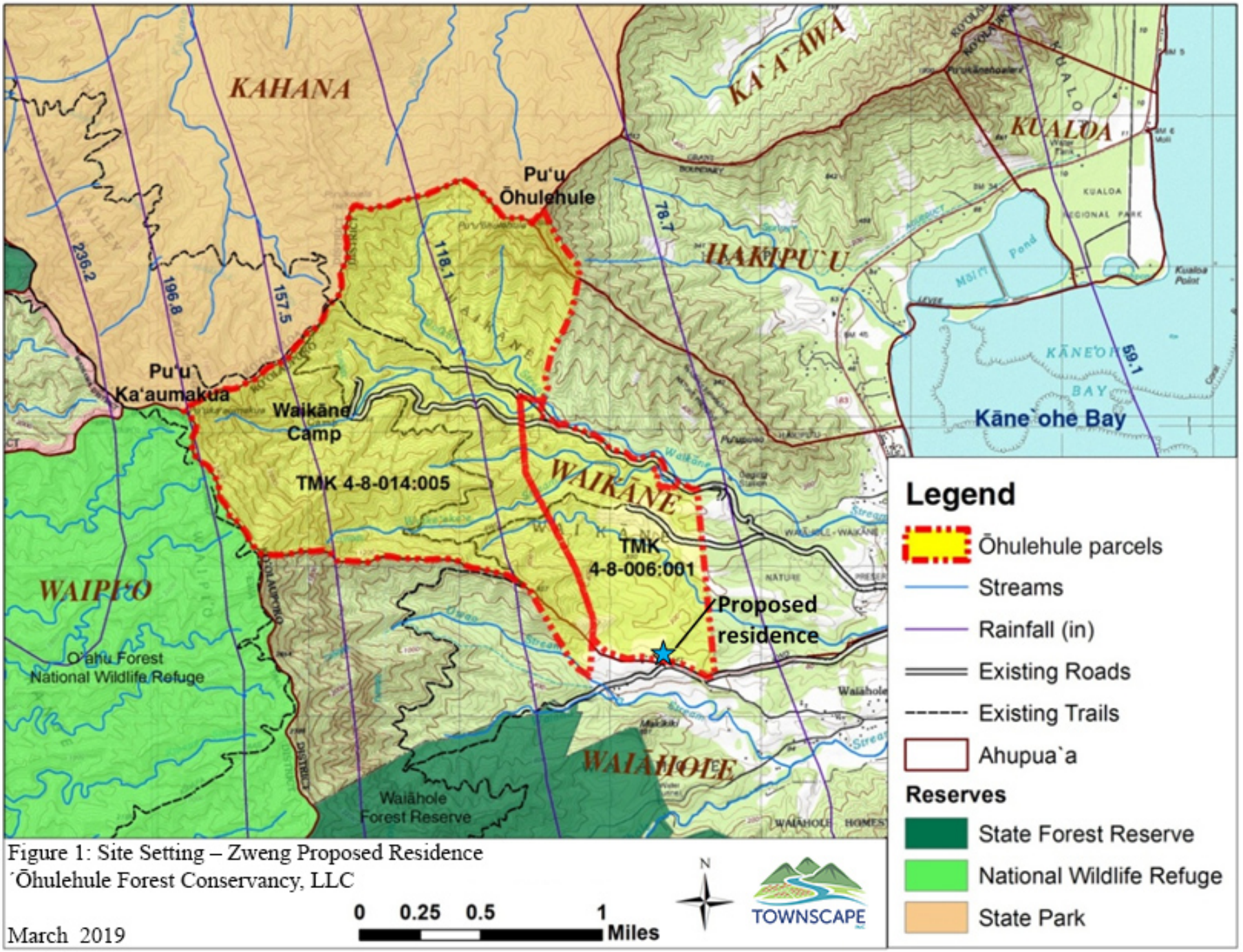

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC

March 2019

December 1, 2020

Hawai´i Plant Extinction Prevention Program
19 East Kawili Street
Hilo, HI 96720

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your program regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.** Your program previous provided comments on April 2, 2019. Attached is a copy of the letter we received.

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your program has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila
Project Coordinator

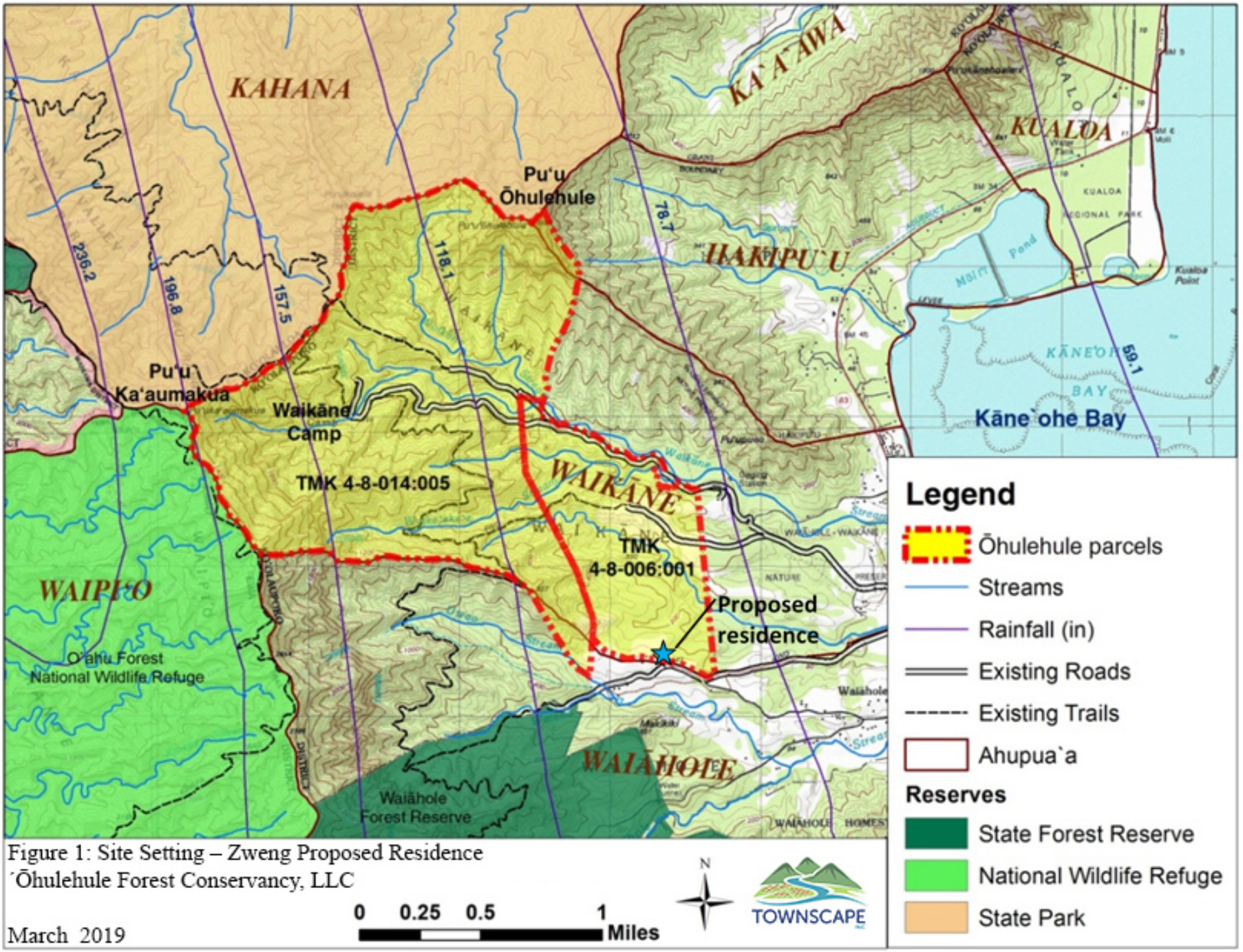

Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

US Army
Environmental Programs Branch
Building 252
Fort Shafter, HI 96858-5440

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Ko´olaupoko, O´ahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your agency regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.**

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I ola nō ke kino,

Lillie Makaila
Project Coordinator

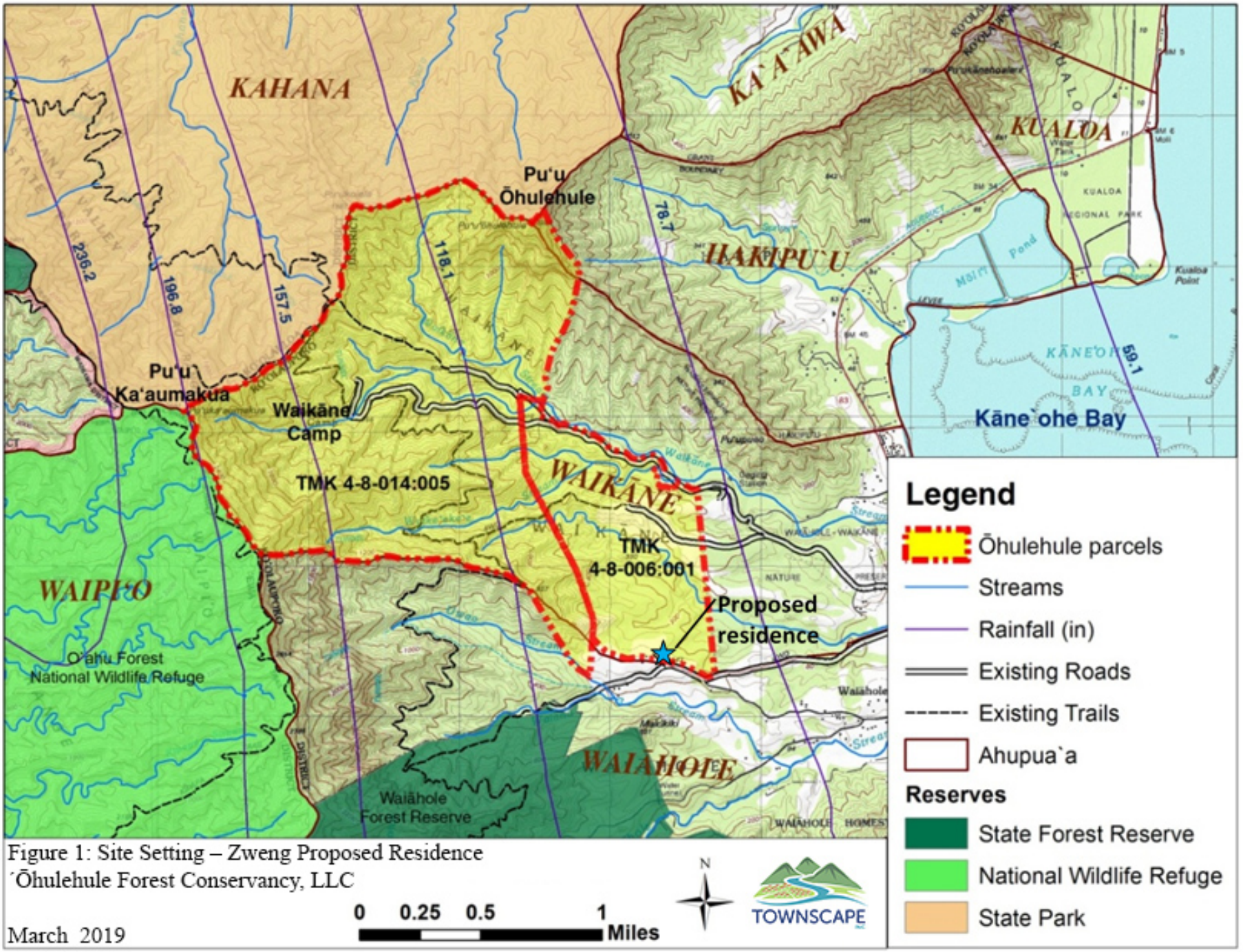


Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Waiāhole-Waikāne Community Association
c/o Laurence Uyemura, WWCA President
48-385 Waiāhole Valley Road
Kāneʻohe, HI 96744

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Koʻolaupoko, Oʻahu.

Aloha!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your association regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.**

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your association has no comments for inclusion in the EA. Also, should your association be willing to provide a letter of support for the project, this would be greatly appreciated. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,

Lillie Makaila
Project Coordinator

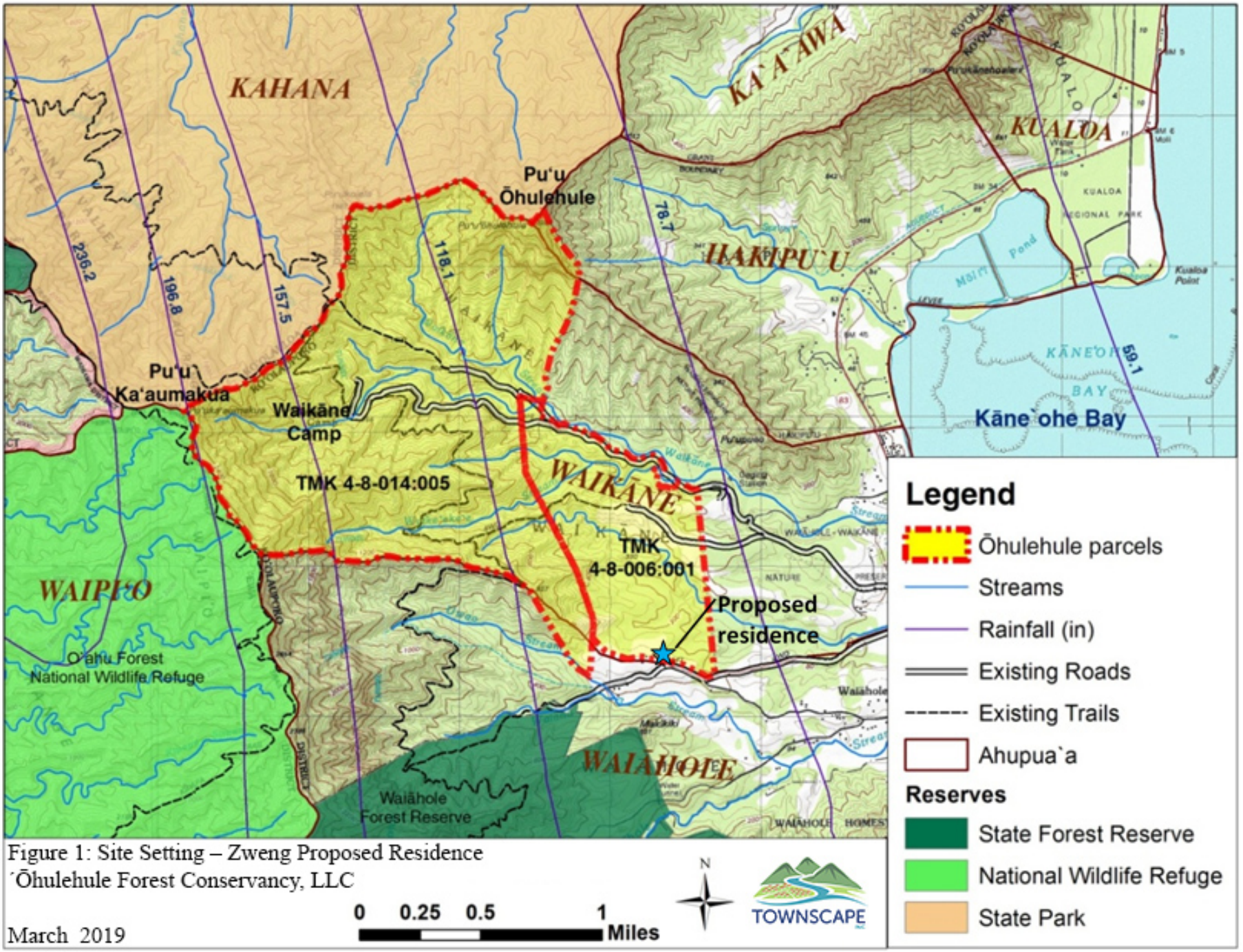


Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

December 1, 2020

Kahaluʻu Neighborhood Board No. 29
925 Dillingham Boulevard Suite 160
Honolulu, HI 96817

Subject: Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiāhole, Koʻolaupoko, Oʻahu.

Aloha mai!
Townscape, Inc. is preparing an Environmental Assessment (EA) for a proposed residence in Waiāhole Valley in Koʻolaupoko, Oʻahu. The property consists of two parcels: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres. The proposed residence is located on the makai parcel of the property. There are two access roads to the makai parcel: the paved Waiāhole Valley North Branch Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion.

We previously reached out to your organization regarding this project in March 2019. The proposed residence project has since been significantly reduced. Our previous letter requested consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a driveway for vehicular access, and general site improvements. **Currently, this project proposes one single-family dwelling, a driveway for vehicular access and some general site improvements for landscaping and drainage.**

We are requesting your comments on any important issues that you feel should be addressed in the EA relating to the proposed actions. **Please submit your comments to us by December 31, 2020.** If we do not receive a response by this date, we will assume your organization has no comments. If you have any questions, please contact Lillie Makaila at (808) 550-3893 or via email at lillie@townscapeinc.com.

I ola nō ke kino,



Lillie Makaila

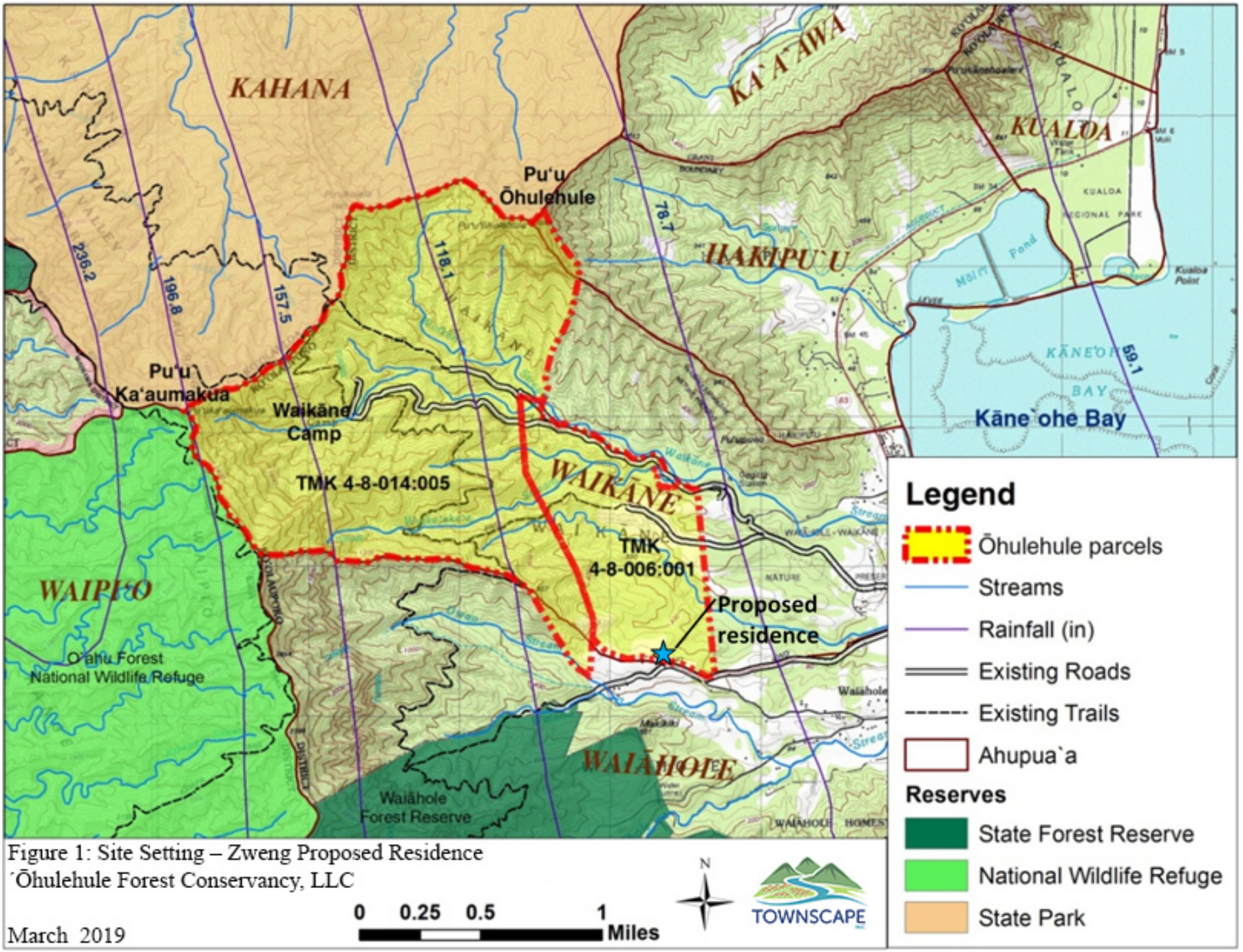


Figure 1: Site Setting – Zweng Proposed Residence
´Ōhulehule Forest Conservancy, LLC
March 2019

DAVID Y. IGE
GOVERNOR OF HAWAI'I

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAI'I 96809

REF:OCCL:MC

Correspondence OA-19-145

APR 26 2019

Lillie Makaila
Townscape, Inc.
900 Fort Street Mall Suite 1160
Honolulu, HI 96813

SUBJECT: Environmental Assessment for Single Family Residence
Waikāne, Ko`olaupoko, O`ahu
TMK (1) 4-8-006:001

Dear Ms. Makaila,

The Office of Conservation and Coastal Lands (OCCL) has received your request for comments for the preparation of an environmental assessment for a single-family residence on the above subject parcel.

According to our information, the parcel is in the Resource Subzone of the State Land Use Conservation District. The designation was made on March 24, 1994. Single Family Residences are identified land uses in this subzone pursuant to Hawai'i Administrative Rules (HAR) §13-5-24 Identified Land Uses in the Resource Subzone, (R-7) SINGLE FAMILY RESIDENCE, (D-1) *A single family residence that conforms to design standards as outlined in this chapter*. This use requires a permit from the Board of Land and Natural Resources, who have the final authority to grant, modify, or deny any permit.

The design standards can be found in HAR Chapter 13-5 Exhibit 4, Single Family Residential Standards.

We are unsure what "accessory structure one" and "accessory structure two" are, and are unable to determine whether these are identified land uses or consistent with the rules governing the Conservation District.

Should you have any questions please contact Michael Cain at 808-587-0048.

Sincerely,

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

DAVID Y. IGE
Governor

JOSH GREEN
Lt. Governor

JAMES J. NAKATANI
Executive Director

STATE OF HAWAII
AGRIBUSINESS DEVELOPMENT CORPORATION
235 S. Beretania Street, Room 205
Honolulu, HI 96813
Phone: (808) 586-0186 Fax: (808) 586-0189

December 7, 2020

Ms. Lillie Makaila
Project Coordinator
Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, Hawaii 96813

Dear Ms. Makaila:

Subject: Consultation for the Proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiahole, Koolaupoko, Oahu

We are writing in response to your letter of December 1, 2020, regarding the above noted subject. The Agribusiness Development Corporation has no comments regarding the project.

Thank you for the opportunity to provide comments.

Sincerely,

James J. Nakatani
Executive Director

DAVID Y. IGE
GOVERNOR

DENISE ISERI-MATSUBARA
EXECUTIVE DIRECTOR

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

IN REPLY PLEASE REFER TO:
21:DEV/054

April 16, 2021

TOWNSCAPE, INC.
Attn: Lillie Makaila
900 Fort Street Mall, Suite 1160
Honolulu, HI 96813

Re: **Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiahole, Ko'olaupoko, O'ahu.**

Dear Ms. Makaila:

This is in response to your letter dated December 1, 2020 seeking comments on important issues to be addressed in the EA relating to the proposed residence. As previously stated in Hawaii Housing Finance and Development Corporation's (HHFDC) April 16, 2019 response letter, we noted that the development is located outside of the Waiahole Valley Agricultural and Residential Subdivision which is HHFDC jurisdiction. We also noted that Waiahole Valley Road is owned by the HHFDC and access to the subject property from that road will need approval from HHFDC. In addition, HHFDC suggested that the EA should address the source of potable as well as irrigation water for the development.

Until the administrative rules and regulations for the HHFDC potable water system are adopted, HHFDC is not considering any new water connection applications for lots outside of the Waiahole Valley Agricultural Park and Residential Lots subdivision.

Thank you for the opportunity to provide additional comments for the consultation of this project.

If you have any questions, please contact Jason Takata, Property Management Coordinator, at 587-0585 or by email at Jason.t.takata@hawaii.gov

Sincerely,

Francis Paul Keeno

Francis Paul Keeno
Executive Assistant

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

KATHY K. SOKUGAWA
ACTING DIRECTOR

EUGENE H. TAKAHASHI
DEPUTY DIRECTOR

December 8, 2020 2020/ELOG-2403(MK)

Ms. Lillie Makaila
Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, Hawaii 96813

Dear Ms. Makaila:

SUBJECT: Environmental Assessment (EA) Pre-Consultation
Proposed Single-Family Dwelling and
General Site Improvement
Waikane Valley Road - Waikane Valley
Tax Map Key ((TMK) 4-8-006: 001

This in response to your request for comments, received December 4, 2020, for the preparation of an EA. We understand that the proposal is to construct a single-family dwelling and general site improvements on the subject site, identified as TMK 4-8-006: 001 ("Project"). Our previous comments remain applicable based on the information in your letter, and are listed below.

1. The site is located within the P-1 Restricted Preservation District, which is under the State's Jurisdiction.

2. The site is within the State Land Use Conservation District and a Conservation District Use application may be necessary for the proposed Project.

3. The site is considered a historic site.

4. The EA should explain how the proposal is consistent with County plans, such as the General Plan and the Koolaupoko Sustainable Communities Plan.

Should you have any questions, please contact Michael Kat, of our Zoning Regulations and Permits Branch, at 768-8013 or by email at michael.kat@honolulu.gov.

Very truly yours,

Kathy K. Sokugawa
Acting Director

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

December 16, 2020

Ms. Lillie Makaila
Project Coordinator
Townscape, Inc.
Environmental & Community Planning
900 Fort Street Mall, Suite 1160
Honolulu, Hawaii 96813

Dear Ms. Makaila:

Subject: Preconsultation for an Environmental Assessment
Proposed Zweng Single Family Dwelling
Waiahole Valley North Branch Road
Honolulu, Hawaii 96744
Tax Map Key: 4-8-006: 001 and 4-8-014: 005

In response to your letter dated December 1, 2020, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that the following be complied with:

1. 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 feet (46 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2012 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1.)

   A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; 2012 Edition, Section 18.2.3.2.1.)

2. 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 millimeters) 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 [Authority Having Jurisdiction]. (NFPA 1; 2012 Edition, Section 18.3.1, as amended.)

3. The unobstructed width and unobstructed vertical clearance of a fire apparatus access road shall meet county requirements. (NFPA 1; 2012 Edition, Sections 18.2.3.4.1.1 and 18.2.3.4.1.2, as amended.)

4. Submit civil drawings to the HFD and to the City and County of Honolulu's Department of Planning and Permitting for review and approval.

Should you have questions, please contact Acting Battalion Chief Timothy Caires of our Fire Prevention Bureau at 723-7194 or tcaires@honolulu.gov.

Sincerely,

JASON SAMALA
Assistant Chief

JS/EO:gl

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY GARRISON, HAWAII
DIRECTORATE OF PUBLIC WORKS
947 WRIGHT AVENUE, WHEELER ARMY AIRFIELD
SCHOFIELD BARRACKS, HAWAII 96857-5013

Directorate of Public Works

Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, Hawaii 96813
Attention: Ms. Lillie Makaila, Project Coordinator

Dear Ms. Makaila,

Thank you for the opportunity to review Townscape Inc.'s project described in your letter dated March 14, 2019, which initiates consultation for the development of an Environmental Assessment (EA) for the proposed residence located within the State Conservation District Resource Subzone, in Waikāne Valley, Koʻolaupoko, Oʻahu. While your letter requested comments by April 20, 2019, I understand that you have coordinated with my staff to allow us to comment after your requested date.

The U.S. Army Garrison, Hawaii (USAG-HI) has training areas west-northwest of the parcels described in your letter. The easternmost boundary of the training area is situated approximately 4 kilometers from the proposed residence. Please be aware that helicopter operations may take place in the airspace above the training land. It is not anticipated that the project will impact military operations, based on the description you provided in your letter.

In regards to natural resources, we are aware that Waikāne may contain an elepaio habitat. The USAG-HI does not have any management responsibilities for that species in Waikāne, but since we currently manage that species elsewhere, I feel it is important that you are aware of this.

Again, thank you for the opportunity to review and comment on Township Inc.'s proposed residence in Waikāne. Should you require additional information, please contact Ms. Rhonda Suzuki, USAG-HI Environmental Division Chief, at (808) 656-5790 or by email at rhonda.l.suzuki.civ@mail.mil.

Sincerely,

Kent K. Watase, PE
Director of Public Works

DAVID Y. IGE
GOVERNOR

CRAIG K. HIRAI
EXECUTIVE DIRECTOR

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

IN REPLY PLEASE REFER TO:
19:DEV/044

April 16, 2019

TOWNSCAPE, INC.
Attn: Lillie Makaila
900 Fort Street Mall, Suite 1160
Honolulu, HI 96813

Re: **Initial consultation for the development of the proposed residence located within the State Conservation District Resource Subzone, in Waikane Valley, Ko'olaupoko, O'ahu**

Dear Ms. Makaila:

This is in response to your letter dated March 14, 2019 seeking initial consultation on preparation of an Environmental Assessment (EA) for the construction of a proposed residence for Paul Zweng, located in Waikane Valley, Koolaupoko, Oahu, TMK 1-4-8-014:005, and 1-4-8-006:001.

We note that the development lots are located outside of the Waiahole Valley Agricultural and Residential Subdivision which is under the jurisdiction of the Hawaii Housing Finance & Development Corporation (HHFDC). We also note that Waiahole Valley Road is owned by the HHFDC and access to the subject property from that road will need approval from the HHFDC.

We suggest that the EA should address the source of potable as well as irrigation for the development.

Thank you for the opportunity to provide initial consultation on this project.

If you have any questions, please contact Jason Takata, Property Management Coordinator, at 587-0585 or by email at jason.t.takata@hawaii.gov.

Sincerely,

Craig K. Hirai
Executive Director

DAVID Y. IGE
GOVERNOR

DENISE ISERI-MATSUBARA
EXECUTIVE DIRECTOR

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

IN REPLY PLEASE REFER TO:
21:DEV/054

April 16, 2021

TOWNSCAPE, INC.
Attn: Lillie Makaila
900 Fort Street Mall, Suite 1160
Honolulu, HI 96813

Re: **Consultation for the proposed Zweng Single-Family Residence project located in the State Conservation District Resource Subzone, in Waiahole, Ko'olaupoko, O'ahu.**

Dear Ms. Makaila:

This is in response to your letter dated December 1, 2020 seeking comments on important issues to be addressed in the EA relating to the proposed residence. As previously stated in Hawaii Housing Finance and Development Corporation's (HHFDC) April 16, 2019 response letter, we noted that the development is located outside of the Waiahole Valley Agricultural and Residential Subdivision which is HHFDC jurisdiction. We also noted that Waiahole Valley Road is owned by the HHFDC and access to the subject property from that road will need approval from HHFDC. In addition, HHFDC suggested that the EA should address the source of potable as well as irrigation water for the development.

Until the administrative rules and regulations for the HHFDC potable water system are adopted, HHFDC is not considering any new water connection applications for lots outside of the Waiahole Valley Agricultural Park and Residential Lots subdivision.

Thank you for the opportunity to provide additional comments for the consultation of this project.

If you have any questions, please contact Jason Takata, Property Management Coordinator, at 587-0585 or by email at Jason.t.takata@hawaii.gov

Sincerely,

Francis Paul Keeno

Francis Paul Keeno
Executive Assistant

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

KATHY K. SOKUGAWA
ACTING DIRECTOR

TIMOTHY F. T. HIU
DEPUTY DIRECTOR

EUGENE H. TAKAHASHI
DEPUTY DIRECTOR

March 27, 2019 2019/ELOG-516(JD)

Ms. Lillie Makaila
Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, Hawaii 96813

Dear Ms. Makaila:

SUBJECT: Environmental Assessment (EA) Pre-Consultation
Proposed Single-Family Dwelling and
Accessory Structures
Waikane Valley Road - Waikane Valley
Tax Map Key 4-8-006: 001

This in response to your request for comments, received March 18, 2019, for the preparation of an EA. We understand that the proposal is to construct a single-family dwelling and two other accessory structures on the subject site, identified as Tax Map Key 4-8-006: 001 ("Project"). We have provided some general information and comments based on the information in your letter.

1. The site is located within the P-1 Restricted Preservation District, which is under the State's Jurisdiction.

2. The site is within the State Land Use Conservation District and a Conservation District Use application may be necessary for the proposed Project.

3. The site is considered a historic site.

4. The EA should explain how the proposal is consistent with County plans, such as the General Plan and the Koolaupoko Sustainable Communities Plan.

Should you have any questions, please contact Jordan Dildy, of our Zoning Regulations and Permits Branch, at 768-8027 or by email at jdildy@honolulu.gov.

Very truly yours,

FOR Kathy K. Sokugawa
Acting Director

DAVID Y. IGE
Governor

JOSH GREEN
Lt. Governor

JAMES J. NAKATANI
Executive Director

STATE OF HAWAII
AGRIBUSINESS DEVELOPMENT CORPORATION
235 S. Beretania Street, Room 205
Honolulu, HI 96813
Phone: (808) 586-0186 Fax: (808) 586-0189

April 10, 2019

Ms. Lille Makaila
Project Coordinator
Townscape, Inc.
900 fort Street Mall, Suite 1160
Honolulu, Hawaii 96813

Dear Ms. Makaila:

Subject: Initial consultation for the development of the proposed residence located within the State Conservation District Resource subzone, in Waikane Valley, Ko'olaupoko, Oahu

The Agribusiness Development Corporation has no comments regarding the subject above.

Thank you for the opportunity to comment.

Sincerely,

James J. Nakatani
Executive Director

Plant Extinction Prevention Program
19 E. Kawili St.
Hilo, HI 96720
(808) 974-4388, Fax: (808) 974-4226
http://pepphi.org

April 2, 2019

Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, Hawai`i 96813

Subject: Comments to the initial consultation for the development of the proposed residence located with the State Conservation District Resource Subzone, in Waikāne Valley, Ko`olaupoko, O`ahu.

Dear Lillie Makaila,

Thank you for the opportunity to respond to Townscape's preparation of an Environmental Assessment for Paul Zweng's request to build three detached structures within the Ohulehule Forest Conservancy lands, TMK 4-8-014:005 and 4-8-006:001.

The Plant Extinction Prevention Program (PEPP) is a statewide program with a mission to prevent the extinction of the state's critically rare plant species, focusing on species with fewer than 50 remaining individuals. Our main activities involve protecting the wild plants in their natural habitats, collecting plant propagules (e.g., fruit, cuttings) for safe-keeping at an off-site facility, and reintroducing the species into native habitats through outplanting.

There is one population of a rare Endangered plant species, *Cyrtandra kaulantha*, that occurs on Paul Zweng's property, which falls under the purview of PEPP. This population contains a single wild individual in the upper reaches of the valley and will likely not be impacted by the facilities construction that is proposed. We are also aware that Mr. Zweng has outplantings of this species in his restoration sites. Since this species is an Endangered species, the Environmental Assessment should address Mr. Zweng's efforts to perpetuate the species in his restoration sites and if there is impact that may be caused by construction.

We appreciate the restoration work that Mr. Zweng is conducting within Waikane and feel the work is an overall benefit to the landscape and native plant species he is protecting. If you have further questions, please do not hesitate contacting me at 808-937-2604.

Sincerely,

Joan M. Yoshioka, Statewide PEPP Manager

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

In Reply Refer To:
01EPIF00-2019-TA-0226

April 2, 2019

Ms. Lillie Makaila
Project Coordinator
Townscape Inc. Environmental & Community Planning
900 Fort Street Mall, Suite 1160
Honolulu, Hawai'i 96813

Subject: Response to your Request for Technical Assistance

Dear Ms. Makaila:

Thank you for your recent correspondence requesting technical assistance on species biology, habitat, or life requisite requirements. The Pacific Islands Fish and Wildlife Office (PIFWO) of the U.S. Fish and Wildlife Service (Service) appreciates your efforts to avoid or minimize effects to protected species associated with your proposed actions. We provide the following information for your consideration under the authorities of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 *et seq.*), as amended.

Due to significant workload constraints, PIFWO is currently unable to specifically address your information request. The table below lists the protected species most likely to be encountered by projects implemented within the Hawaiian Islands. Based on your project location and description, we have noted the species most likely to occur within the vicinity of the project area, in the '**Occurs In or Near Project Area**' column. Please note this list is not comprehensive and should only be used for general guidance. We have added to the PIFWO website, located at https://www.fws.gov/pacificislands/promo.cfm?id=177175840 recommended conservation measures intended to avoid or minimize adverse effects to these federally protected species and best management practices to minimize and avoid sedimentation and erosion impacts to water quality.

If you are representing a federal action agency, please use the official species list on our web-site for your section 7 consultation. You can find out if your project occurs in or near designated critical habitat here: https://ecos.fws.gov/ipac/.

Under section 7 of the ESA, it is the Federal agency's (or their non-Federal designee) responsibility to make the determination of whether or not the proposed project "may affect" federally listed species or designated critical habitat. A "may affect, not likely to adversely affect" determination is appropriate when effects to federally listed species are expected to be discountable (*i.e.*, unlikely to occur), insignificant (minimal in size), or completely beneficial.

This conclusion requires written concurrence from the Service. If a "may affect, likely to adversely affect" determination is made, then the Federal agency must initiate formal consultation with the Service. Projects that are determined to have "no effect" on federally listed species and/or critical habitat do not require additional coordination or consultation.

Implementing the avoidance, minimization, or conservation measures for the species that may occur in your project area will normally enable you to make a "may affect, not likely to adversely affect" determination for your project. If it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may assist you with the ESA compliance. If the proposed project is funded, authorized, or permitted by a Federal agency, then that agency should consult with us pursuant to section 7(a)(2) of the ESA. If no Federal agency is involved with the proposed project, the applicant should apply for an incidental take permit under section 10(a)(1)(B) of the ESA. A section 10 permit application must include a habitat conservation plan that identifies the effects of the action on listed species and their habitats, and defines measures to minimize and mitigate those adverse effects.

We appreciate your efforts to conserve endangered species. We regret that we cannot provide you with more specific protected species information for your project site. If you have questions that are not answered by the information on our website, you can contact PIFWO at (808) 792-9400 and ask to speak to the lead biologist for the island where your project is located.

Sincerely,

Aaron Nadig

Digitally signed by Aaron Nadig
Date: 2019.04.02 07:43:04 -10'00'

Island Team Manager
Pacific Islands Fish and Wildlife Office

The table below lists the protected species most likely to be encountered by projects implemented within the Hawaiian Islands. For your guidance, we've marked species that may occur in the vicinity of your project, this list is not comprehensive and should only be used for general guidance.

Scientific Name	Common Name / Hawaiian Name	Federal Status	May Occur In Project Area
Mammals			
Lasiurus cinereus semotus	Hawaiian hoary bat/ ʻōpeʻapeʻa	E	☒
Reptiles			
Chelonia mydas	Green sea turtle/honu - Central North Pacific DPS	T	☐
Erectmochelys imbricata	Hawksbill sea turtle/ Honu ʻea	E	☐
Birds			
Anas wyvilliana	Hawaiian duck/ koloa	E	☐
Branta sandvicensis	Hawaiian goose/ nēnē	E	☐
Fulica alai	Hawaiian coot/ ʻalae kea	E	☒
Gallinula galeata sandvicensis	Hawaiian gallinule/ ʻalae ʻula	E	☒
Himantopus mexicanus knudseni	Hawaiian stilt/ Aeʻo	E	☒
Oceanodroma castro	Band-rumped storm-petrel/ ʻakēʻakē	E	☒
Pterodroma sandwichensis	Hawaiian petrel/ ʻuaʻu	E	☒
Puffinus auricularis newelli	Newell's shearwater/ ʻaʻo	T	☒
Ardenna pacificus	Wedge-tailed Shearwater/ ʻuaʻu kani	MBTA	☒
Gygis alba	White Tern/ manu-o-kū	MBTA	☐
Buteo solitarius	Hawaiian hawk/ ʻio	E	☐
Insects			
Manduca blackburni	Blackburn's sphinx moth	E	☐
Megalagrion pacificum	Pacific Hawaiian Damselfly	E	☐
M. xanthomelas	Orangeblack Hawaiian Damselfly	E	☐
M. nigrohamatum nigrolineatum	Blackline Hawaiian Damselfly	E	☒

Plants				
Scientific Name	**Common Name or Hawaiian Name**	**Federal Status**	**Locations**	**May Occur In Project Area**
Abutilon menziesii	Ko'oloa'ula	E	O, L, M, H	☐
Achyranthes splendens var. *rotundata*	'Ewa hinahina	E	O	☐
Bonamia menziesii	No common name	E	K, O, L, M, H	☐
Canavalia pubescens	'Āwikiwiki	E	Ni, K, L, M	☐
Colubrina oppositifolia	Kauila	E	O, M, H	☐
Cyperus trachysanthos	Pu'uka'a	E	K, O	☐
Gouania hillebrandii	No common name	E	Mo, M	☐
Hibiscus brackenridgei	Ma'o hau hele	E	O, Mo, L, M, H	☐
Ischaemum byrone	Hilo ischaemum	E	K, O, Mo, M, H	☐
Isodendrion pyrifolium	Wahine noho kula	E	O, H	☐
Marsilea villosa	'Ihi'ihi	E	Ni, O, Mo	☐
Mezoneuron kavaiense	Uhiuhi	E	O, H	☐
Nothocestrum breviflorum	'Aiea	E	H	☐
Panicum fauriei var. *carteri*	Carter's panicgrass	E	Molokini Islet (O), Mo	☐
Panicum niihauense	Lau'ehu	E	K	☐
Peucedanum sandwicense	Makou	E	K, O, Mo, M	☐
Pleomele (Chrysodracon) hawaiiensis	Halapepe	E	H	☐
Portulaca sclerocarpa	'Ihi	E	L, H	☐
Portulaca villosa	'Ihi	E	Le, Ka, Ni, O, Mo, M, L, H, Nihoa	☐
Pritchardia affinis (maideniana)	Loulu	E	H	☐
Pseudognaphalium sandwicensium var. *molokaiense*	'Ena'ena	E	Mo, M	☐
Scaevola coriacea	Dwarf naupaka	E	Mo, M	☐
Schenkia (Centaurium) sebaeoides	'Āwiwi	E	K, O, Mo, L, M	☐
Sesbania tomentosa	'Ōhai	E	Ni, Ka, K, O, Mo, M, L, H, Necker, Nihoa	☐
Tetramolopium rockii	No common name	T	Mo	☐
Vigna o-wahuensis	No common name	E	Mo, M, L, H, Ka	☐

Location key: O=O'ahu, K=Kaua'i, M=Maui, H=Hawai'i Island, L=Lāna'i, Mo=Moloka'i, Ka=Kaho'olawe, Ni=Ni'ihau, Le=Lehua

DAVID Y. IGE
GOVERNOR

DENISE ISERI-MATSUBARA
EXECUTIVE DIRECTOR

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

IN REPLY PLEASE REFER TO:
21:DEV/173

November 4, 2021

Mr. Paul Zweng
1236 A'alapapa Drive
Kailua, HI 96734

Re: **Request for Access to Waiahole Valley Road and for connection to Waiahole Valley Water System for the property located at 48-400 Waiahole Valley Road, Kaneohe, HI 96744 TMK (1) 4-8-006:001**

Dear Mr. Zweng:

This is in response to your email dated October 13, 2021. Your email requested use of Waiahole Valley Road to access your property located at 48-400 Waiahole Valley Road, TMK No. (1) 4-8-006:001. Your email also requested permission to connect the subject property to the HHFDC-owned Waiahole Valley Potable Water System.

We previously responded to your request in our letters to Townscape Inc., dated April 16, 2019 and April 16, 2021 (enclosed). We explained, and we iterate here, that the development is located outside of the Waiahole Valley Agricultural Park and Residential Lots Subdivision. Therefore, the development is outside of HHFDC's jurisdiction. Until the administrative rules and regulations for the HHFDC potable water system are adopted, HHFDC is not considering any new water connection applications for lots outside of the Waiahole Valley Agricultural Park and Residential Lots Subdivision.

HHFDC will allow you to access your property via Waiahole Valley Road. However, should any damage to the Road occur during construction, you will be responsible for repairing the Road to its current condition.

If you have any questions, please contact Jason Takata, Property Management Coordinator, at 587-0585 or by email at Jason.t.takata@hawaii.gov

Sincerely,

Francis Paul Keeno

Francis Paul Keeno
Executive Assistant

enclosures

Takata, Jason T

From: Paul Zweng <pzweng@gmail.com>
Sent: Wednesday, October 13, 2021 2:13 PM
To: Takata, Jason T
Cc: Abara, Carianne; Paul Zweng
Subject: [EXTERNAL] Request for letter to supplement permit application for Zweng residence

Aloha e Jason,

A week or so ago the Office of Conservation and Coastal Lands (OCCL; a division of DLNR) issued comments regarding my single-residence permit application. The permit application is to build a house next to where the Saizon home used to be located on my property at 48-400 Waiahole Valley Road (located on TMK (1) 4-8-006-001 and adjacent to TMK (1) 4-8-006-005). The OCCL made two points that are pertinent to HHFDC. The first point was a formality asking me to verify that HHFDC will allow me to continue using the Waiāhole Valley Road to access my property. As you know, the Saizon family and I have been using the road to access the property since I purchased the property in 2010 (and the Saizon family has been using the road for many years before 2010). The second item was another formality regarding potable water. As you know, the Saizon family used HHFDC potable water for years for their home and yard. The water meter remains, but currently is not being used since the Saizon family moved to Homestead Valley Road. OCCL wants me to verify that HHFDC has no issue with me activating the water meter after a hiatus of a few years.

So if I may, I would like to request a one page letter from HHFDC stating in substance that (1) HHFDC is ok with me using Waiāhole Valley Rd to access my property and (2) HHFDC has no issue with me activating the existing water meter located at the entrance to the property.

Sorry to bother you and HHFDC with these formalities. Once I have the letter, I will include it in my response to the OCCL comments. If you would like to call or meet to discuss this further, please let me know. Thanks for your help on these two points, Jason.

Mālama pono,

Paul Zweng
ʻŌhulehule Forest Conservancy

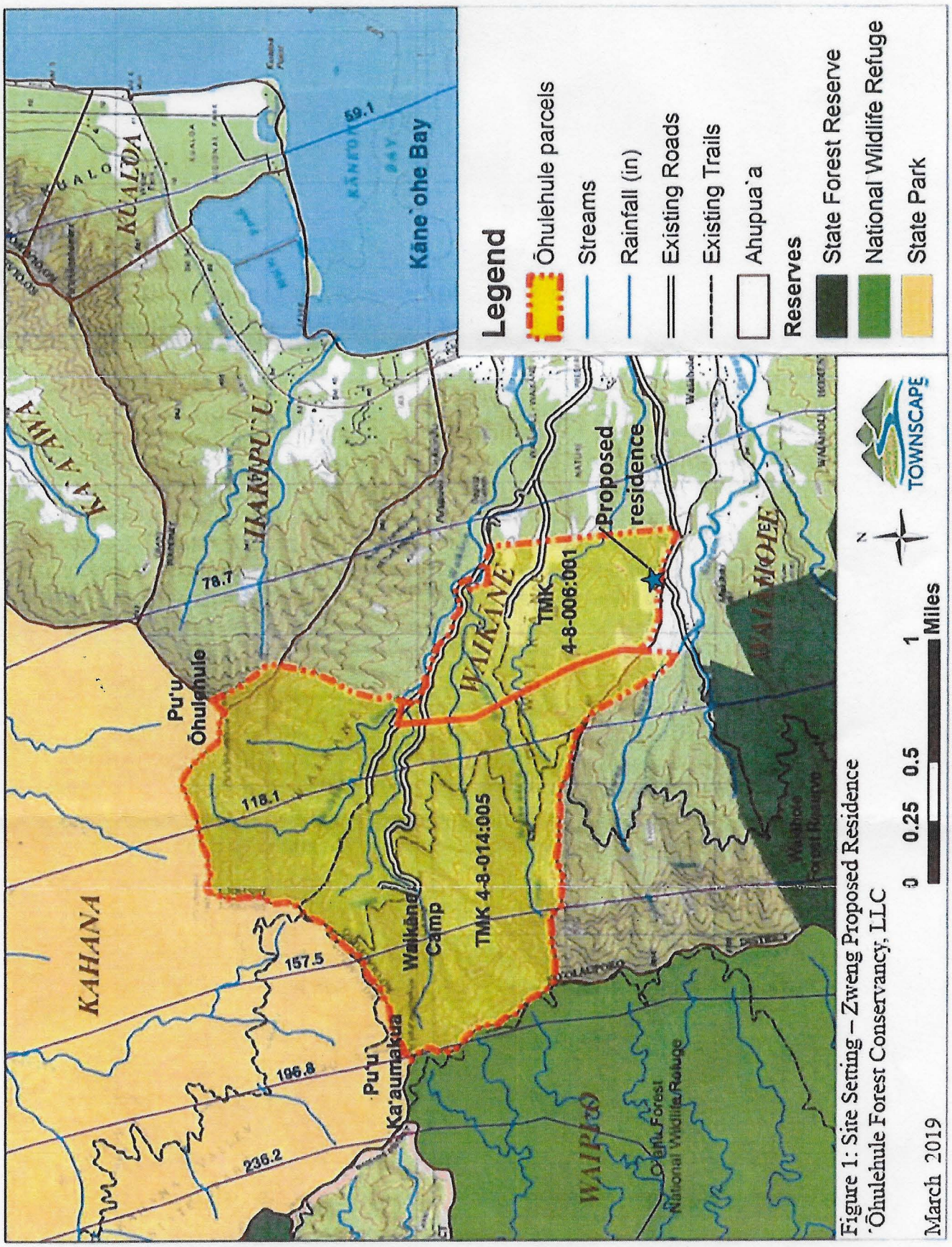


Figure 1: Site Seting – Zweng Proposed Residence
'Õhulehule Forest Conservancy, LLC

March 2019

APPENDIX I: Letters of Support

WAIĀHOLE WAIKĀNE COMMUNITY ASSOCIATION

Date: June 11, 2021

To: Bruce Tsuchida, Principal Planner
TOWNSCAPE, Inc
900 Fort Street Mall, Suite 1160
Honolulu, Hawaii 96813

Subject: Permit Request for CDUA in Waiahole-Waikane - Landowner/Proponent Paul Zweng Consultant Townscape, Inc. Relating to TMK 4-8-014:005 and TMK 4-8-006:001)

Aloha Bruce,

The Waiāhole-Waikāne Community Association Steering Committee offers this official letter in response to the proposed CDUA for the construction of a single-family residence for the Zweng Family located off of Waiāhole Valley North Branch Road in Waiāhole, Koʻolaupoko, Oʻahu.

Based on representations by the landowner Paul Zweng and consultants Townscape, Inc, it is our understanding that this particular CDUA is strictly to allow for a single family residence to house the landowner's and his family and that the potential for applying for said residence encompasses both TMKs described. As stated by the applicant, the combined TMKs are considered as a single property by the State Department of Land & Natural Resources and only one residence can be considered.

The property, including both TMKs, has a State Land Use Designation of Conservation and, within that designation, is under the "Resource Subzone" which allows for agro forestry such as the Cacao farm that Mr. Zweng envisions, along with forest preservation under the ʻŌhulehule Forest Conservancy.

In addition to community-based discussion(s) that have taken place in consideration of this request, both with the proponent and Townscape as well as separately - among community participants in association meetings, the Steering Committee would also like to acknowledge receipt of recent communication provided by Lilie Makaila of Townscape to the Kahalu'u Neighborhood Board (the NB includes representation of Sub-Area 1, the Waiahole-Kualoa area). That letter, dated June 3, 2021, has been shared among Steering Committee members.

In general, the Committee stands on past support - in concept - of this application for a single family residence. Paul Zweng has been an active, participating member of the Waiahole-Waikane community at large, while pursuing forest conservancy for this special area for over ten years; at the same time, he has also actively participated in community meetings as a member of the Steering Committee, an associate WWCA Community Association member and participant in community events and projects.

(Continue)

Zweng's acquisition of the ~1400 acres in Waikanae, in many ways, was welcomed with hopes that the area's traditional, cultural and natural resource values might finally gain some support and protection - values long ignored and/or desecrated by private property "ownership" and inappropriate development schemes, mis-use by the military during war years (and failure to address promised restoration) and battles over precious water and watershed resources therein.

The work of the 'Ōhulehule Forest Conservancy has been commendable. Its stated "long-term vision" for controlled access (and, hopefully, re-building of essential roads and trails), "restoration of the historic taro flats", together with removal of invasive plants and replacement with native are very much in keeping with our valleys' dreams of long-term stewardship.

The above said, our continuing concern(s) relate, primarily, to the very long struggle of protecting the above-mentioned values for our "two green valleys" of Waiahole & Waikane in perpetuity!. Our support for this CDUA, in concept, does not negate our larger concern for the protection and development of the means to accomplish this. We are well aware that the Conservation designation and/or County-level zoning can help to hold off development attempts such as this community has faced in the past - developments that have taxed our residents and farmers as major distractions and stresses to our daily interests.

We are equally aware of that and have witnessed past efforts to change such designations and zoning. **To this end, our "support" for this CDUA is predicated on the desire to see this major land-holding and its current landowner/consultants explore real methods of conservation, in perpetuity, analyzing - for the community's benefit - the feasibility of utilizing tools such as Conservation or Agricultural "easements" and funding sources for same.** In this way, together, our respective hopes and dreams will be honored and realized. No one resident, farmer, land owner or lessee gets to live "forever", but a dream can. Our association, largely comprised of "tenants' ', has no intention of allowing the community to be a temporary occupant. We have always planned to be here in perpetuity and will continue to push for a commitment to be the same with all who pass through as fellow stewards.

Mahalo Ke Akua,

Laurence Uyemura

Laurence Uyemura

President of the WWCA

KAHALU`U NEIGHBORHOOD BOARD NO. 29
(Heeia Kea, Ahuimanu, Kahalu`u, Waihee, Kaalaea, Waiahole, Waikane, Hakipuu, Kualoa
HONOLULU HALE, ROOM 406 ↑530 SOUTH KING STREET ↑HONOLULU, HAWAII, 96813
L808) 768-3710 ↑FAX (808) 768-3711↑E-MAIL nco@honolulu.gov↑INTERNET: http://www1.honolulu.gov/nco

"LET US NOT EVER HAVE AN UNHAPPY MINORITY; RATHER, LET US BUILD A COMMUNITY CONSENSUS."

RESOLUTION
REGARDING OHULEHULE FOREST CONSERVANCY

At its Wednesday, June 13, 2012 regular meeting, the Kahalu`u Neighborhood Board No. 29 unanimously adopted the following resolution:

The Kahalu'u Neighborhood Board supports in concept the five principal activities of the 'Ōhulehule Forest Conservancy, namely, (1) forest restoration/preservation, (2) preservation of 'Elepaio nesting sites, (3) operation of an agroforestry cacao farm, (4) restoration of taro growing and the protection of cultural and historical sites, and (5) construction of a single-family residence to be used by the Zweng family. This support is based on the information presented at the Kahalu'u Neighborhood Board's June 13, 2012 meeting and is subject to revision or even possibly complete withdrawl should new information regarding the above five proposed activities come forth that are inconsistent with the purpose and mission of the Kahalu'u Neighborhood Board.

David Henkin
Chair, Kahalu'u Neighborhood Board No. 29

Waiahole-Waikane Community Association

June 12 2016

Kahaluu Neighborhood Board.
47 2800 Waihee Rd
Kaneohe Hi 96744

Dear Members of the Kahaluu Neighborhood Board,

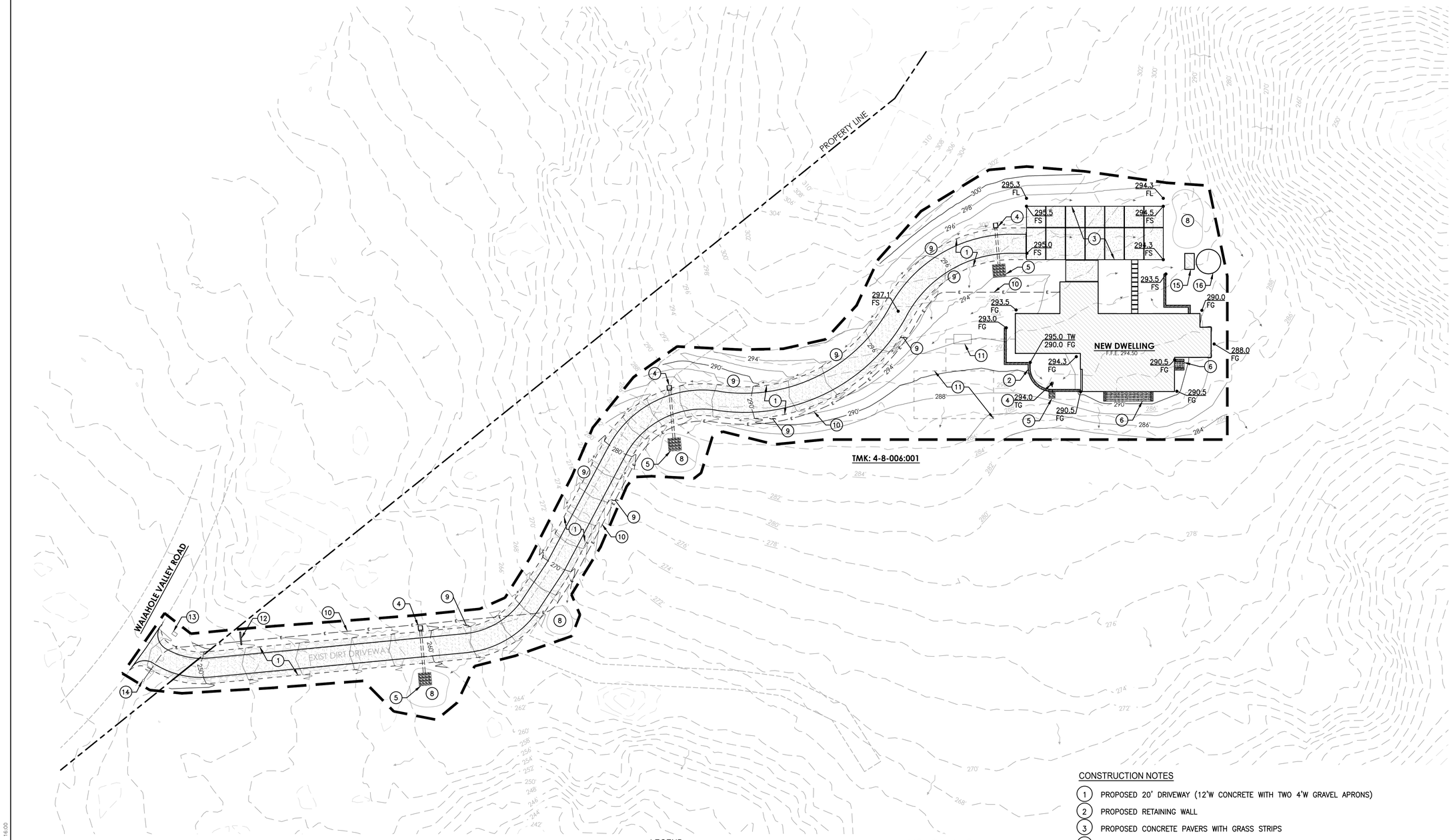
The WWCA Steering Committee supports in concept the five principal activities of the 'Ohulehule Forest Conservancy, namely,(1) forest restoration/preservation, (2) preservation of 'Elepaio nesting sites, (3) operation of a agroforestry cacao farm, (4) restoration of taro growing and protection of cultural and archeological sites, and (5) construction of a single-family residence for the Zweng family.
This support is based on 'Ohulehule Forest Conservancy presented information on June 5 2012 to the WWCA Steering Committee and is subject to revision or even possibly complete withdrawal should new information regarding the above five proposed activities come forth that are inconsistent with the purpose and mission of the WWCA.

Respectfully Yours

Byron Ho
President of the WWCA

APPENDIX J: Graphics Package for Proposed Zweng Single-Family Residence

Sheet No. C100	Preliminary Grading & Drainage Plan	page 290
Sheet No. C200	Preliminary Construction Erosion & Sediment Control Plan	page 291
Sheet No. A001	Partial Site Plan & Landscape Plan	page 292
Sheet No. A100	Floor Plan	page 293
Sheet No. A101	Roof Plan	page 294
Sheet No. A200	Exterior Elevations	page 295
Sheet No. A300	Building Sections	page 296



POST-CONSTRUCTION WATER QUALITY

LID SITE DESIGN STRATEGIES:
CONSERVE NATURAL AREAS, SOILS AND VEGETATION; DIRECT RUNOFF TO LANDSCAPED AREAS; REDUCE DIRECTLY CONNECTED IMPERVIOUS AREAS;

LID SOURCE CONTROL BMPS:
LIMIT RUNOFF FROM LANDSCAPED AREAS TO IMPERVIOUS AREAS; STORM DRAIN STENCILING OR MARKERS

LID TREATMENT CONTROL BMPS:
BIORETENTION BASIN, INFILTRATION, VEGETATED SWALE, VEGETATED BUFFER STRIP

LEGEND

- PROPERTY LINE
- LIMITS OF WORK
- PROPOSED WALL
- PROPOSED WATER LINE
- PROPOSED POWER LINE
- 300' PROPOSED CONTOUR
- 300' EXISTING CONTOUR
- 300.0 PROPOSED ELEVATION
- PROPOSED STORM DRAIN INLET
- PROPOSED STORM DRAIN PIPE
- PROPOSED STORM DRAIN OUTFALL

PROJECT AREAS

HOUSE PAD:	4,955 SF (0.11 ACRES)
HARDSCAPE:	16,995 SF (0.39 ACRES)
LANDSCAPE:	39,345 SF (0.90 ACRES)
TOTAL:	61,300 SF (1.4 ACRES)

EARTHWORK ESTIMATE

CUT: 1,500 CY
FILL: 900 CY
FILL FOR DWELLING: 600 CY
NET: 0 CY IMPORT/EXPORT

ABBREVIATIONS

BMP	BEST MANAGEMENT PRACTICES
FF	FINISHED FLOOR
FG	FINISHED GRADE
FL	FLOW LINE
FS	FINISHED SURFACE
GB	GRADE BREAK
LID	LOW IMPACT DEVELOPMENT
TG	TOP OF GRATE
TW	TOP OF WALL

CONSTRUCTION NOTES

1. PROPOSED 20' DRIVEWAY (12'W CONCRETE WITH TWO 4'W GRAVEL APRONS)
2. PROPOSED RETAINING WALL
3. PROPOSED CONCRETE PAVERS WITH GRASS STRIPS
4. PROPOSED STORM DRAIN INLET AND PIPING
5. PROPOSED STORM DRAIN OUTLET AND ENERGY DISSIPATION
6. PROPOSED STAIRS
7. NOT USED
8. PROPOSED BIORETENTION BASIN
9. PROPOSED DRAINAGE SWALE (VEGETATED AND/OR ROCK)
10. PROPOSED UTILITIES (ELEC, CABLE, TEL)
11. PROPOSED SEPTIC SYSTEM
12. PROPOSED MONUMENT FOR UTILITY METERS
13. EXISTING HHFDC WATER METER (NOT USED)
14. EXISTING POWER POLE
15. PROPOSED UTILITY STRUCTURE FOR WATER CATCHMENT SYSTEM
16. PROPOSED WATER CATCHMENT TANK

30 15 0 30
SCALE: 1"=30'

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CIVIL CONSULTING

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STAMP

AMBER TAKENOUCHI
LICENSED PROFESSIONAL ENGINEER
No. 15695-C
HAWAII, U.S.A.

EXP. 4/30/2022

CONSULTANT

PREPARED FOR

PAUL ZWENG
48-479 WAIAHOLE VALLEY N BR RD
KANEOHE, HI 96744

PROJECT

ZWENG RESIDENCE

'OHULEHULE FOREST CONSERVANCY

48-479 WAIAHOLE VALLEY N BR RD
KANEOHE, HI 96744
TMK: 4-8-006:001

△	DATE	DESCRIPTION

DRAWN BY: AT CHECKED BY: -
DATE: 2022.01.21
SCALE: AS SHOWN
PROJECT NO: 5037.001

SHEET TITLE

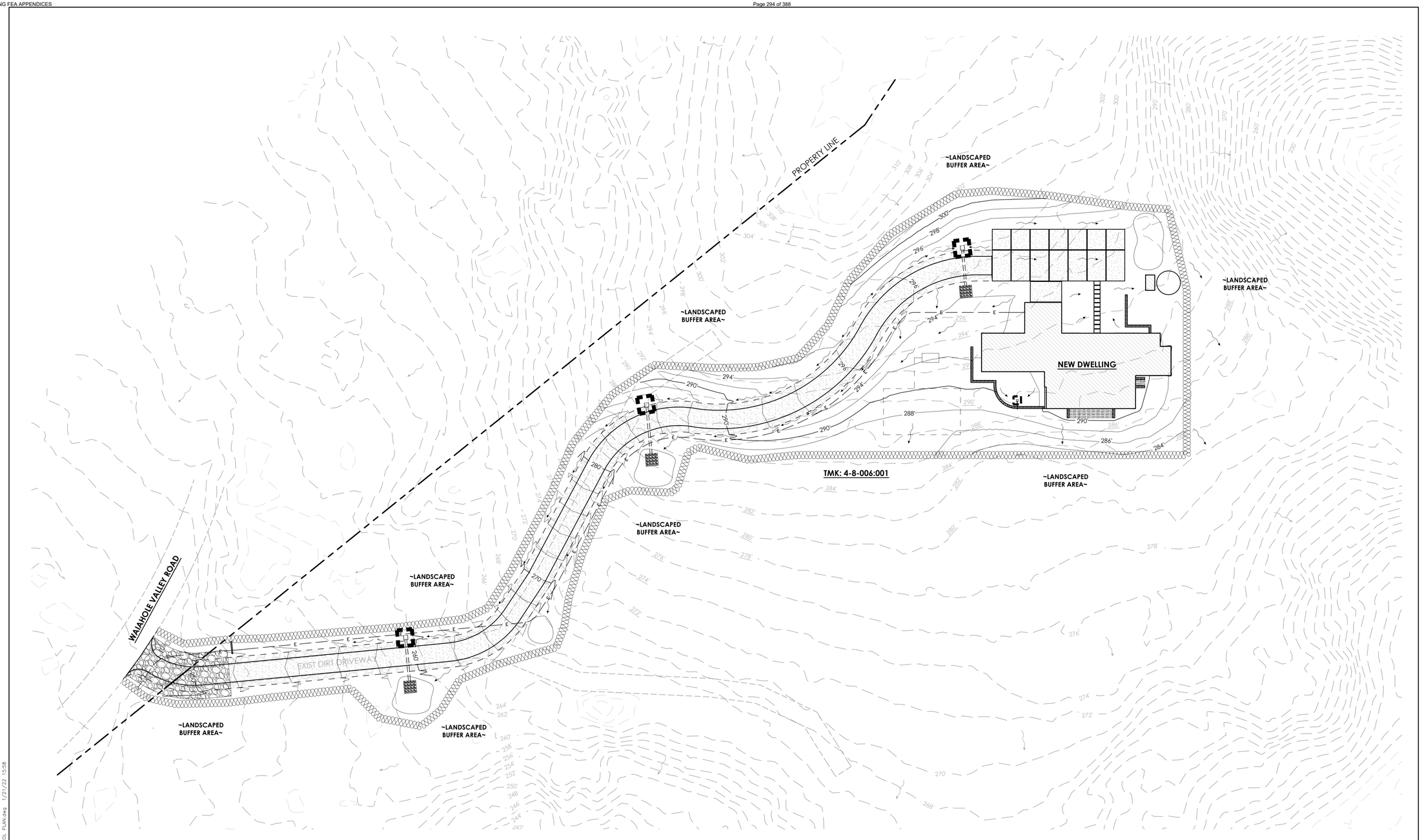
PRELIMINARY GRADING AND DRAINAGE PLAN

SHEET NO

C100

SHEET 1 OF 2 SHEETS

D:\A\5037.001 GIA ZWENG RESIDENCE\CAD\SHEETS\C100 GRADING PLAN.dwg 1/21/22 16:00



TEMPORARY EROSION & SEDIMENT CONTROL

EROSION CONTROL BMPS:
- TEMPORARY STABILIZATION
- PERMANENT STABILIZATION
- PRESERVE EXISTING VEGETATION
- MINIMIZE SOIL COMPACTION

SEDIMENT CONTROL BMPS:
- STORM DRAIN INLET PROTECTION
- PERIMETER CONTROLS (SILT FENCE, FILTER SOCK)
- BUFFER ZONES
- STABILIZED CONSTRUCTION ENTRANCE/EXIT

WIND EROSION CONTROL BMPS:
- DUST CONTROL

TRACKING CONTROL BMPS:
- STABILIZED CONSTRUCTION ENTRANCE/EXIT

GOOD HOUSEKEEPING BMPS:
- NON-STORMWATER
- WASTE MANAGEMENT AND MATERIALS

LEGEND

- PROPERTY LINE
- PROPOSED WALL
- 300' PROPOSED CONTOUR
- 300' EXISTING CONTOUR
- STABILIZED CONSTRUCTION ENTRANCE/EXIT
- PERIMETER CONTROL FIBER ROLL/SILT FENCE
- STORM DRAIN INLET PROTECTION

30 15 0 30
SCALE: 1"=30'

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AMBER TAKENOUCHI
LICENSED PROFESSIONAL ENGINEER
No. 15695-C
HAWAII, U.S.A.

EXP. 4/30/2022

CONSULTANT

PREPARED FOR

PAUL ZWENG
48-479 WAIAHOLE VALLEY N BR RD
KANEOHE, HI 96744

PROJECT

ZWENG RESIDENCE

'OHULEHULE FOREST CONSERVANCY

48-479 WAIAHOLE VALLEY N BR RD
KANEOHE, HI 96744
TMK: 4-8-006:001

△	DATE	DESCRIPTION

DRAWN BY: AT CHECKED BY: -
DATE: 2022.01.21
SCALE: AS SHOWN
PROJECT NO: 5037.001

SHEET TITLE

PRELIMINARY CONSTRUCTION EROSION & SEDIMENT CONTROL PLAN

SHEET NO

C200

SHEET 2 OF 2 SHEETS

D:\V1\5037.001 GIA\ ZWENG RESIDENCE\CAD\SHEETS\C200 EROSION AND SEDIMENT CONTROL PLAN.dwg 1/21/22 15:58

PLANTING SCHEDULE

Type Mark	Description
T.2	Medium Deciduous Tree - 30'
T.3	Medium Deciduous Tree - 25'

PROPERTY LI...

25' 0" SETBACK

128' 0"

EXISTING TERRAIN

LANDSCAPED BUFFER AREA

CONCRETE PAVERS W/ GRASS STRIPS

6' x 10' UTILITY STRUCTURE FOR WATER CATCHMENT SYSTEM

15'-5" DIA. WATER CATCHMENT TANK (10,000G)

294.5

BUILDING ENVELOPE CUT LINE

LAWN

BUILDING ENVELOPE CUT LINE

286'

PROPOSED SEPTIC SYSTEM LOCATION

NEW 20' DRIVEWAY EASEMENT (12'W CONCRETE W/ TWO 4'W GRAVEL APRONS)

EXISTING DIRT ROAD

NORTH

1 PARTIAL SITE PLAN / CONCEPTUAL LANDSCAPE PLAN

1/16" = 1'-0"

ʻŌHULEHULE FOREST CONSERVANCY

ACCESSORY STRUCTURE
48-479 WAIAHOLE VALLEY N BR RD
TMK: 4-8-006:001

Revision	By	Date

SITE PLAN / LANDSCAPE PLAN

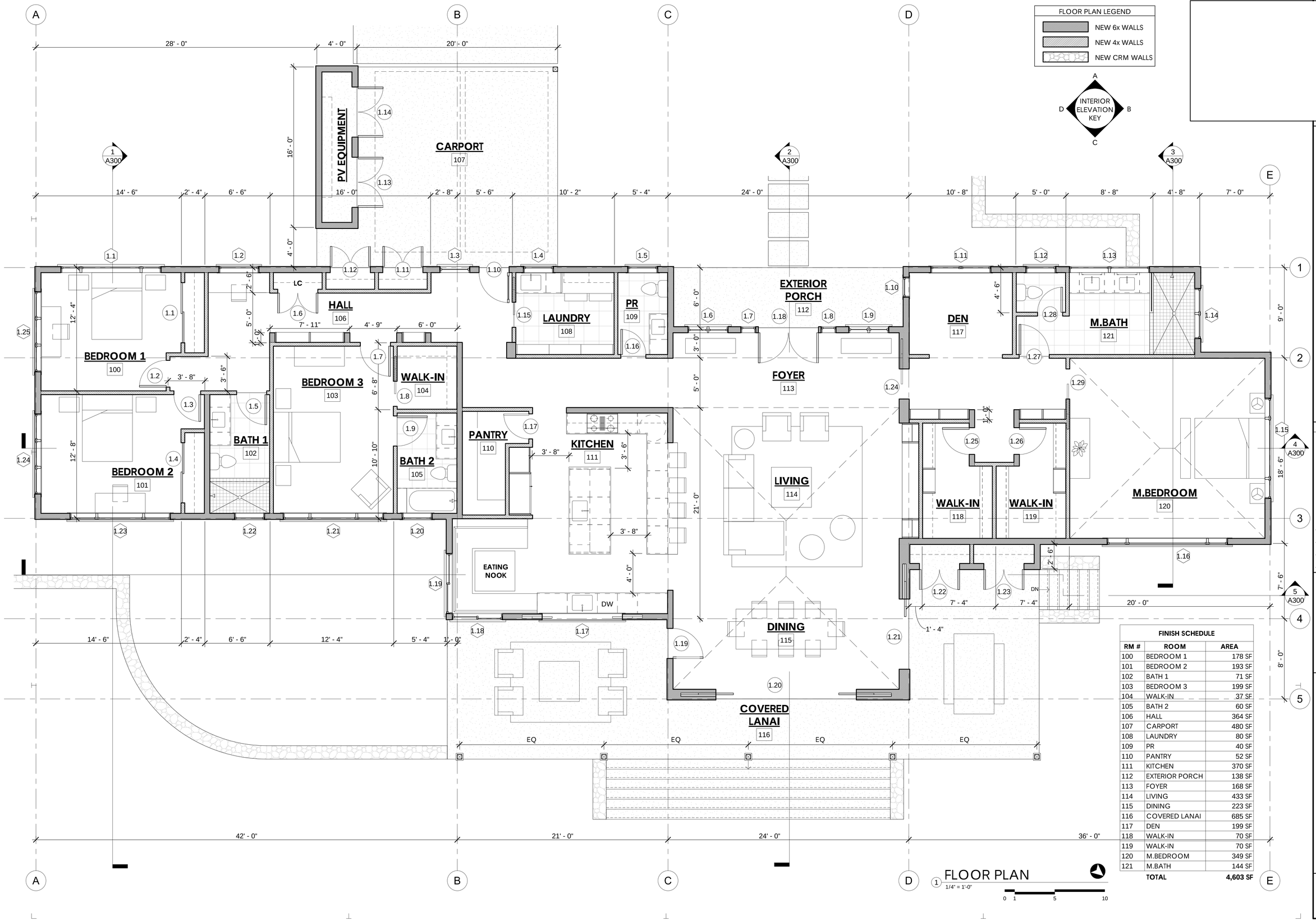
Title	
Project No.	2012-2
Date	3/1/21
Drawn	CH

NOT FOR CONSTRUCTION

GLA
GEOFFREY LEWIS ARCHITECT, INC.
3927 OLD PALI ROAD
HONOLULU, HI 96817
P(808) 595-6046
F(808) 595-2061

Drawing No.

A001



FINISH SCHEDULE		
RM #	ROOM	AREA
100	BEDROOM 1	178 SF
101	BEDROOM 2	193 SF
102	BATH 1	71 SF
103	BEDROOM 3	199 SF
104	WALK-IN	37 SF
105	BATH 2	60 SF
106	HALL	364 SF
107	CARPORT	480 SF
108	LAUNDRY	80 SF
109	PR	40 SF
110	PANTRY	52 SF
111	KITCHEN	370 SF
112	EXTERIOR PORCH	138 SF
113	FOYER	168 SF
114	LIVING	433 SF
115	DINING	223 SF
116	COVERED LANAI	685 SF
117	DEN	199 SF
118	WALK-IN	70 SF
119	WALK-IN	70 SF
120	M.BEDROOM	349 SF
121	M.BATH	144 SF
	TOTAL	4,603 SF

ʻŌHULEHULE FOREST CONSERVANCY

ACCESSORY STRUCTURE
48-479 WAIAHOLE VALLEY N BR RD
TMK: 4-8-006:001

Revision	By	Date

Title: FLOOR PLAN - DWELLING
Project No.: 2012-2
Date: 3/1/21
Drawn: CH

GEOFFREY S. LEWIS LICENSED PROFESSIONAL ARCHITECT NO. 8015 HAWAII, U.S.A.

This work was prepared by me or under my supervision and construction of this project will be under my observation.

License Exp. Date 4/30/20

GLA
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3927 OLD PALI ROAD
HONOLULU, HI 96817
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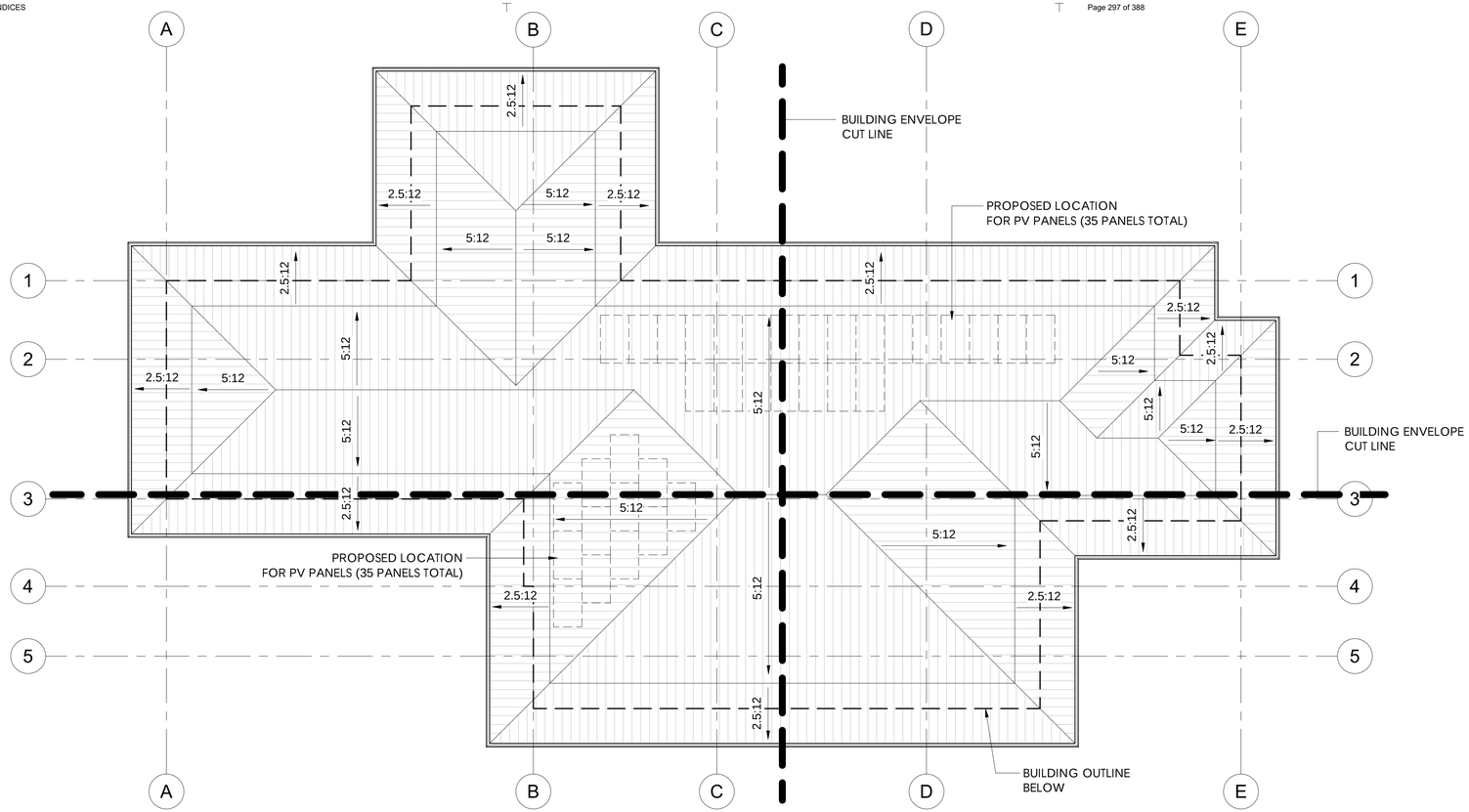
F:(808) 595-2061

Drawing No.
A100



1 ROOF PLAN
1/8" = 1'-0"

0 1 5 10 20



	INTERIOR SPACE	3,652 SF
	COVERED LANAI	823 SF
	CARPORT	480 SF
	TOTAL	**4,955 SF**

2 FLOOR PLAN -- SQUARE FOOTAGES
1/8" = 1'-0"

ʻŌHULEHULE FOREST CONSERVANCY

ACCESSORY STRUCTURE
48-479 WAIAHOLE VALLEY N BR RD
TMK: 4-8-006:001

Revision	By	Date

Title: ROOF PLAN & SQUARE FOOTAGES
Project No.: 2012-2
Date: 3/1/21
Drawn: CH

GEOFFREY S. LEWIS LICENSED PROFESSIONAL ARCHITECT NO. 8015 HAWAII, U.S.A.
CONSTRUCTION

This work was prepared by me or under my supervision and construction of this project will be under my observation.

License Exp. Date 4/30/20

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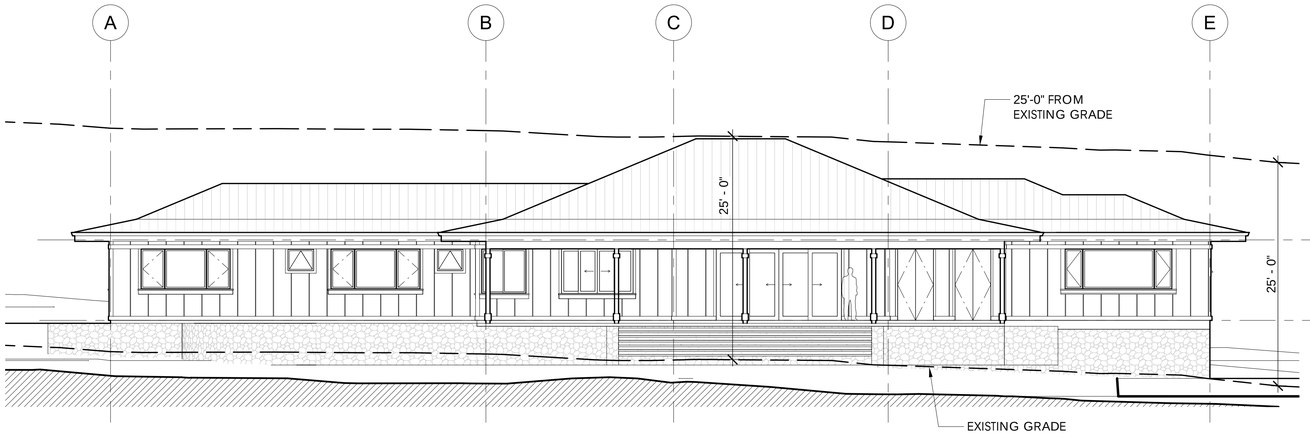
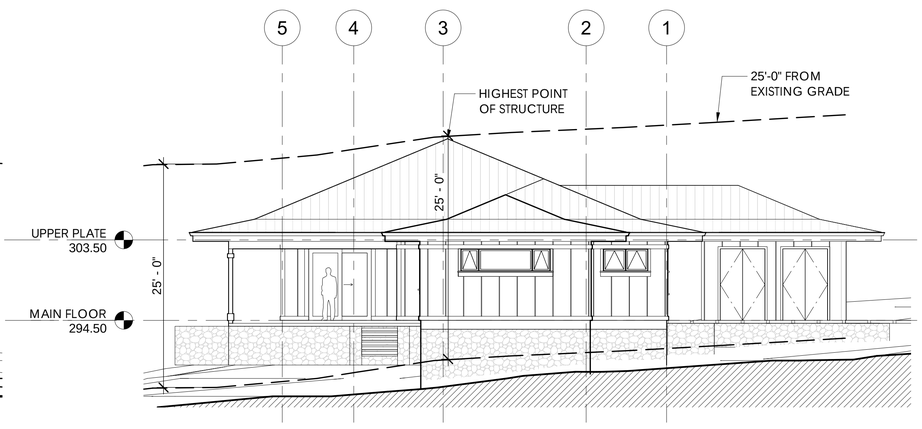
F:(808) 595-2061

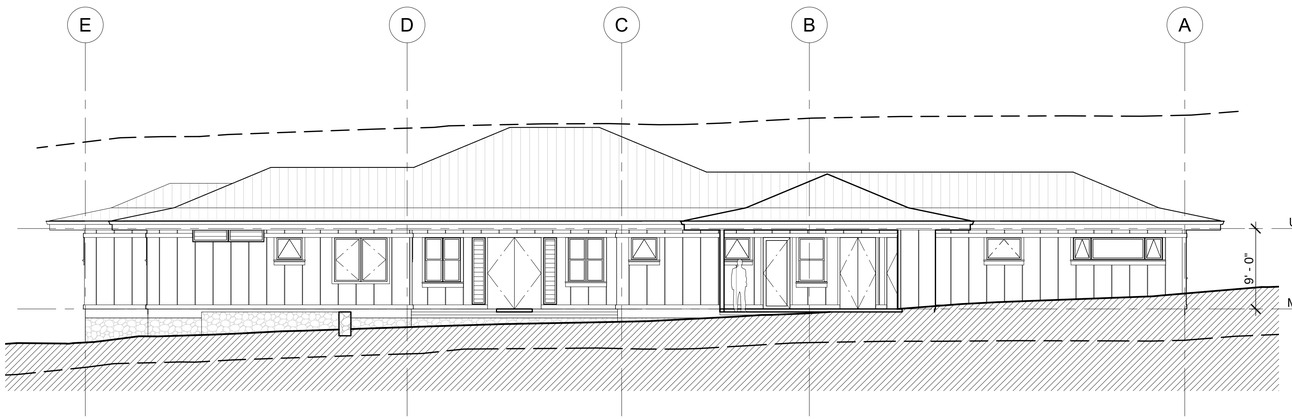
Drawing No.
A101



1 NORTHEAST ELEVATION
1/8" = 1'-0"



2 NORTHWEST ELEVATION
1/8" = 1'-0"



3 SOUTHWEST ELEVATION
1/8" = 1'-0"



4 SOUTHEAST ELEVATION
1/8" = 1'-0"

0 1 5 10 20

ʻŌHULEHULE FOREST CONSERVANCY

ACCESSORY STRUCTURE
48-479 WAIAHOLE VALLEY N BR RD
TMK: 4-8-006:001

Revision	By	Date

Title: EXTERIOR ELEVATIONS
Project No.: 2012-2
Date: 3/1/21
Drawn: .

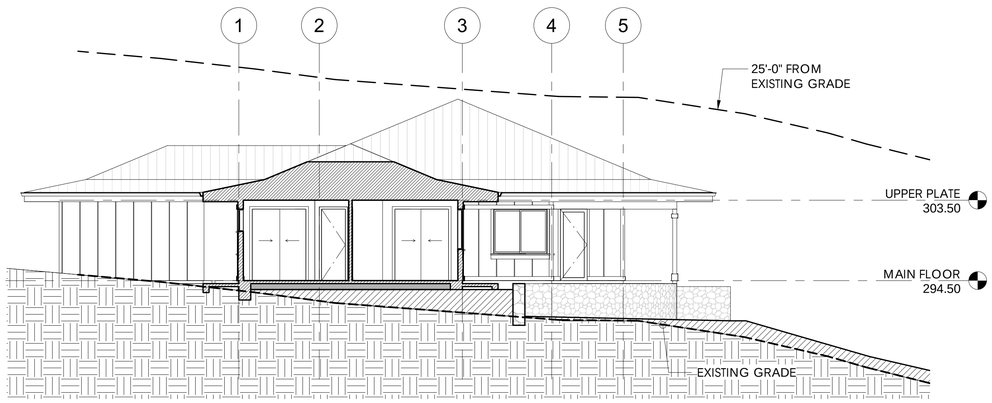
GEOFFREY S. LEWIS
LICENSED
PROFESSIONAL
ARCHITECT
NO. 8015
HAWAII, U.S.A.

This work was prepared by me or under my supervision and construction of this project will be under my observation.

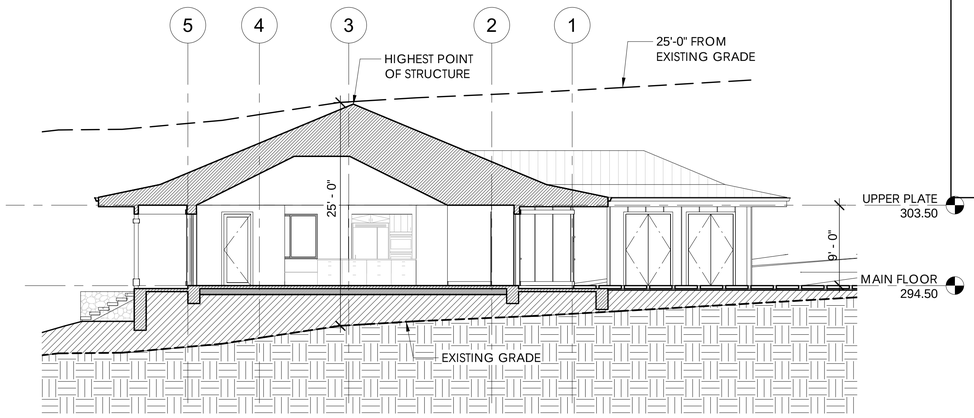
License Exp. Date 4/30/20

GLA
GEOFFREY LEWIS ARCHITECT, INC.
3927 OLD PALI ROAD
HONOLULU, HI 96817
P:(808) 595-6046
F:(808) 595-2061

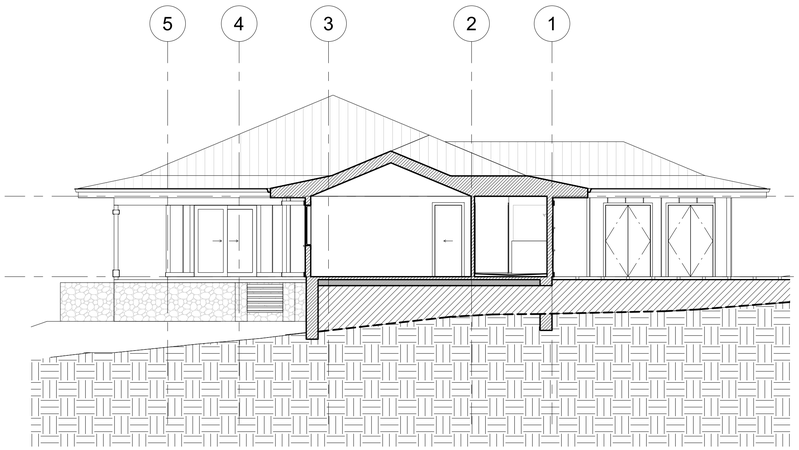
Drawing No.
A200



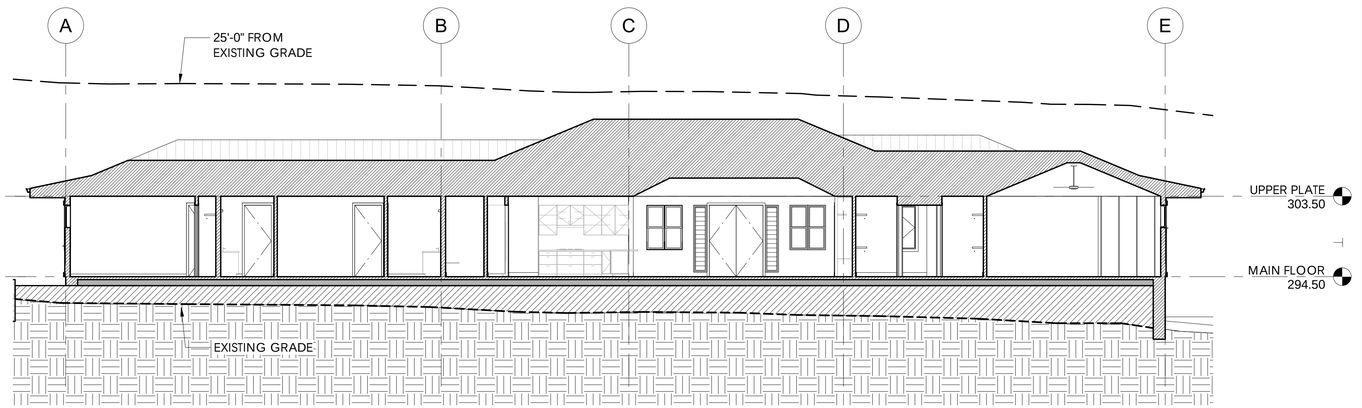
1 MAIN HOUSE - SECTION 1
1/8" = 1'-0"



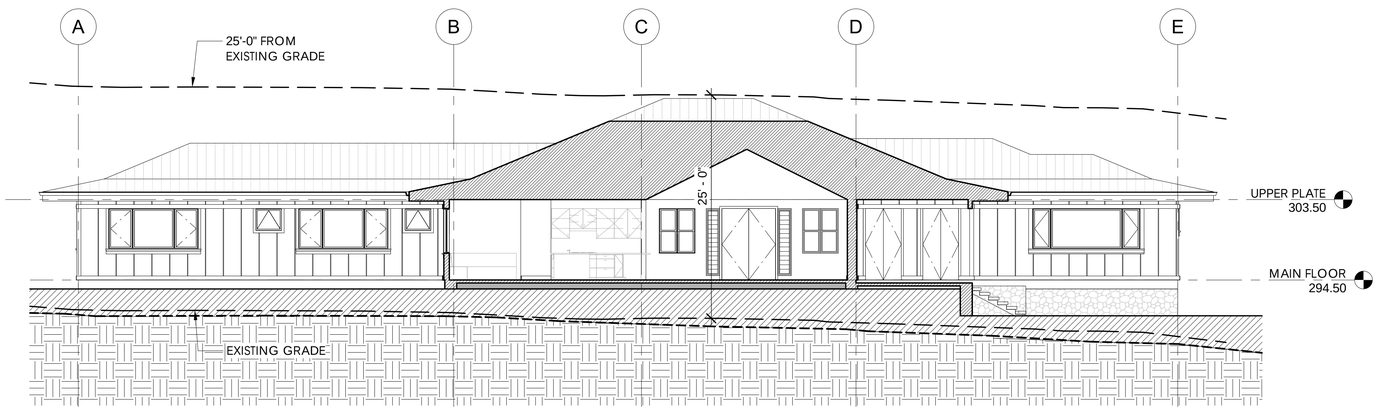
2 MAIN HOUSE - SECTION 2
1/8" = 1'-0"



3 MAIN HOUSE - SECTION 3
1/8" = 1'-0"



4 MAIN HOUSE - SECTION 4
1/8" = 1'-0"



5 MAIN HOUSE - SECTION 5
1/8" = 1'-0"

0 1 5 10 20

ʻŌHULEHULE FOREST CONSERVANCY

ACCESSORY STRUCTURE
48-479 WAIAHOLE VALLEY N BR RD
TMK: 4-8-006:001

Revision	By	Date

Title: BUILDING SECTIONS
Project No.: 2012-2
Date: 3/1/21
Drawn: CH

GEOFFREY S. LEWIS
LICENSED
PROFESSIONAL
ARCHITECT
NO. 8015
HAWAII, U.S.A.

NOT APPROVED FOR CONSTRUCTION

This work was prepared by me or under my supervision and construction of this project will be under my observation.

License Exp. Date 4/30/20

GLA
GEOFFREY LEWIS ARCHITECT, INC.
3927 OLD PALI ROAD
HONOLULU, HI 96817
P (808) 595-6046
F (808) 595-2061

Drawing No.
A300

APPENDIX K: Utilities

Proposed Photovoltaic System page 298-315
Rainwater Catchment System page 316-319

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The RevoluSun Edge

Residential PV System

PROPOSAL

Prepared for:
Paul Zweng
48-479 Waiahole Valley Rd
Kaneohe, HI 96744
pzweng@gmail.com

September 30th, 2020
Quote No. 20200930-69096
Valid For 30 Days

Prepared by:
Kevin Holder

Phone:
(808) 366-2216

Email
kevin.holder@revolusun.com

SMART HOME

Smart Home Innovation Center
660 Ala Moana Blvd., Suite 220A, Honolulu, HI 96813
Email: customercare@revolusun.com
Phone: 808.748.8888

www.revolusun.com

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The RevoluSun Edge

Locally owned and operated, RevoluSun has been trusted by over 7,000+ Hawaii homeowners for their solar energy, battery, air conditioning, roofing and Smart Home needs. We have earned that trust with our commitment to customer service, superior products and outstanding installation methods. As a result, our clients are saving over $25 million in utility expenses annually. With the the best product and workmanship warranties in the industry, our clients have peace of mind. Come see, touch and learn about the latest Smart Home technologies at our Innovation Center. We hope you'll choose us to do your next home project.

> "We contacted RevoluSun because of their great reputation and because they installed PV for one of our friends. We were not disappointed. Our sales person took the time to understand our needs and design a custom PV system with Tesla Powerwalls under Hawaiian Electric's self supply program. He helped us understand the benefits, tax incentives and how much money we could still save by going solar. We especially love the battery back-up capabilities and knowing we don't have to worry about power outages anymore. Our installation team was great and we are very happy. It's also nice to know they can help us with roofing work in the future, and we're already thinking about having them install AC for us now that we have PV to power it!"
>
> - Traci M., Hawaii Kai

We tested the products, so you don't have to

Your home is likely the largest investment you'll ever make, and how it performs affects both your family and your finances. RevoluSun created Smart Home as a result of the thousands of "kitchen table" conversations we had with our solar clients about other products they were interested in.

With so many options available on the market—often with crafty marketing campaigns—knowing where to start can be confusing. RevoluSun is known for carefully selecting the products we offer to you, based on performance, reliability and value. We make getting started easy and simple, so you can make your house a cleaner, smarter, more comfortable place to call HOME

VOTED HAWAII'S BEST Year after year.

Honolulu Magazine
Solar Company
2012 - 2018

Honolulu Star Advertiser
Solar Company
2010 - 2019 1st Place

Hawaii Home + Remodeling
Solar Energy / Eco / Cooling
2012 - 2019

The RevoluSun Edge
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Don't Just Go Solar. Join the Revolusun

Apples to Apples? It's hard to get a true comparison when evaluating proposals for PV and storage systems. Here are a few important details to keep in mind.

Design - RevoluSun Project Developers have been certified by the leading manufacturers for PV and Storage solutions. Project Managers have 'Advanced' and 'Master' Design and Installation certifications and various team members are North American Board of Certified Energy Practitioners (NABCEP) accredited (the solar industry's gold standard).

PV Panels - Not all PV panels are created equally and a "watt" in a laboratory is not necessarily the same "watt" in real life. Revolusun installs PV panels that perform better in real world conditions including high temperatures and low light. These panels also carry much better manufacturer's warranties, guaranteeing as much as 92% power production over 25 years. What's more, unlike other modules that only warranty the actual product for 10 years, these modules carry a 25-year power AND product warranty. When comparing PV panels, make sure you understand the difference between power production and product warranties and what's included (or NOT included).

Storage - The addition of battery storage technology to PV systems provides exciting new features for PV system owners. However, not all storage solutions provide the same functionality like whole home back-up in the event of a power outage. What's more, the strength and stability of the manufacturer will be important in the future. During the original PV boom, consolidation in panel manufacturers left many homeowners without the equipment warranties they were promised. Revolusun works with the leading manufacturers with superior technology that will be here for the long haul.

Respect Your Roof - During the PV installation process, holes are drilled through your roof and into rafters to attach PV equipment. The consequences of a poor installation can be severe. Revolusun uses hurricane rated stainless steel bolts and roof specific waterproofing techniques to protect roof penetrations for the life of your PV system. We also employ a 6000 series aluminum racking structure that won't rust and will limit the number of roof penetrations necessary, while also providing a more secure and structurally sound attachment for panels. Revolusun is a Certainteed certified installer and Certainteed 5-star roofing contractor. This means our installation techniques have the approval of one of the world's largest roofing manufacturers and our installations will not void their roofing material warranty.

Partner For the Future - RevoluSun has been a leading PV installer in Hawaii since 2009 and has helped more than 7,000 homeowners make the switch to clean, renewable energy. While the maturation of Hawaii's solar industry has, unfortunately, left many PV system owners without an installation warranty or support for their systems, RevoluSun customers can rest assured. RevoluSun expanded its capabilities to include HVAC, roofing, natural lighting, water heating and home security and automation. This holistic approach to home performance provides benefits to customers in two ways: one, they have a trusted partner able to complete many types of home improvement projects and two, diversification provides RevoluSun the business stability needed to be around for years to come.

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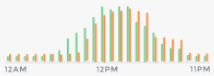
Select a tile below which best describes this household's energy usage

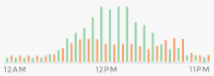
HEAVY DAYTIME USAGE



60% DAY 40% NIGHT

- I tend to use more energy during the day than at night and may require moderate storage capacity.
- My PV system may "curtail" itself if production exceeds usage and storage is full.
- I may need to buy power from the utility at night if my usage

ALL DAY USAGE



50% DAY 50% NIGHT

- My energy usage is fairly uniform between day/night.
- I know it is a good idea to use more electricity during the day (than at night), if possible (laundry, setting a timer on my water heater, AC, etc.)
- My PV system may "curtail" itself if production exceeds usage and storage is full.
- I may need to buy power from the utility at night if my usage exceeds storage capacity.

HEAVY NIGHT USAGE



30% DAY 70% NIGHT

- Most of our energy usage is in the evening and we have sized storage capacity appropriately.
- I know it is still a good idea to use more electricity during the day (than at night), if possible (laundry, setting a timer on my water heater, AC, etc.)
- My PV system may "curtail" itself if production exceeds usage and storage is full.
- I may need to buy power from the utility at night if my usage exceeds storage capacity.

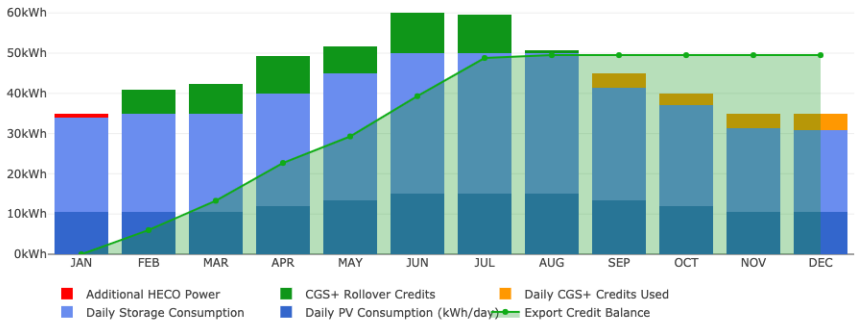
PV System Summary

14	kW DC
35	SunPower 400 White Watt modules
2	SE HD Wave 7,600 Watt inverter
35	SE P505 Optimizer Watt inverter
3	Tesla Powerwall 2

Production and Consumption Estimate

41.3	average kWh/day (consumption)
15,070	kWh/year (consumption)
44.1	average kWh/day (production)
16,096.23	kWh/year (production)

PV Production Estimate



The RevoluSun Edge
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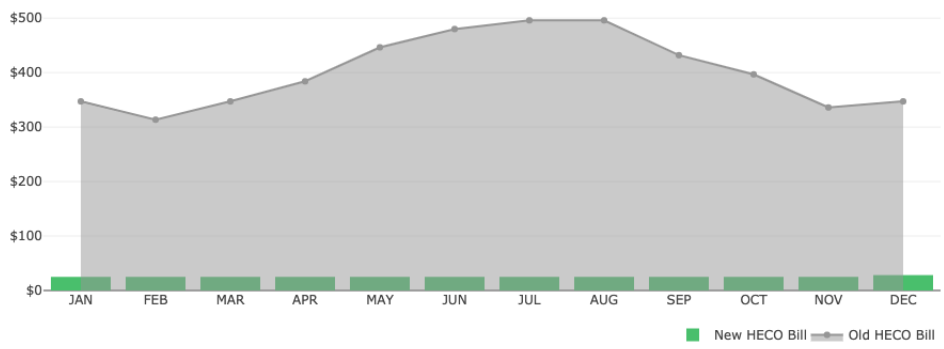
PV Project Investment Summary

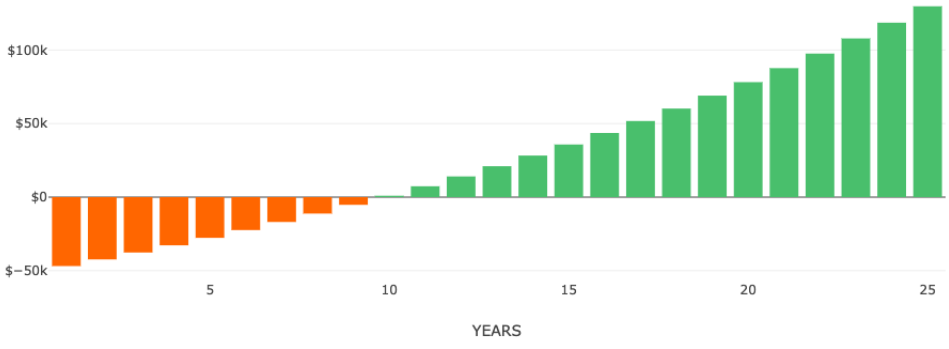
Subtotal $ 75,759.01
Default Hawaii GET $ 3,569.76
Gross System Cost $ 79,328.77
Federal ITC $ 17,452.33
State REITC $ 15,000.00
(or) State refundable REITC $ 10,500.00
Net System Cost $ 46,876.44

Method of Payment: Discount Pay By Check
First Year Savings Estimate
Average Old Monthly HECO: $ 401.87
Est. Avg New Monthly HECO: $ 25.27
Est. First Year Savings: $ 4,519.14

HECO Bill Comparison (Estimated)



25 Year Estimated Savings



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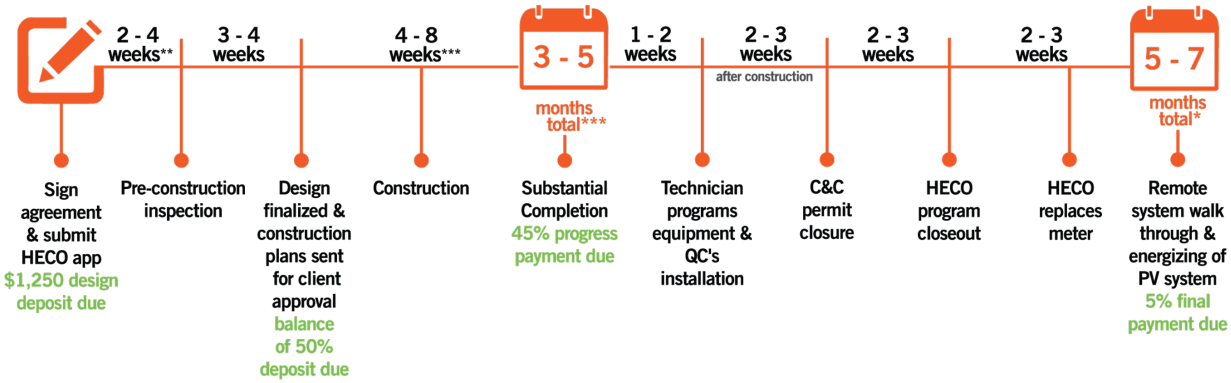
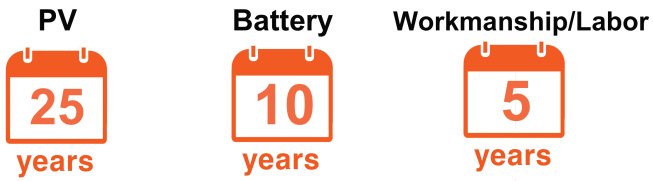
Timeline



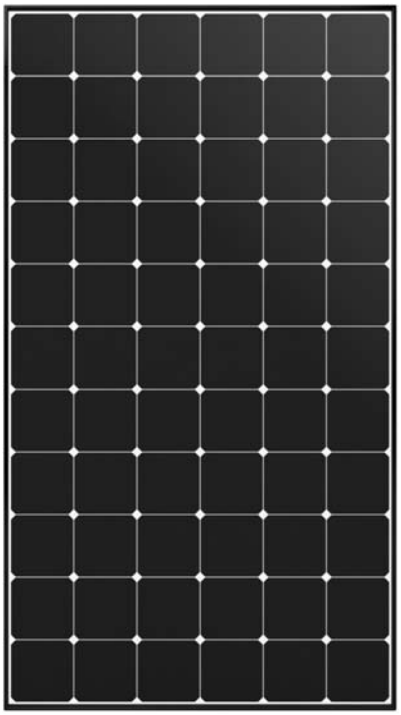
* HOA approval may add additional time.
** HECO application approval estimated based on current average Customer Self Supply applications, may vary by customer/HECO program.
*** Construction timelines vary based on project complexity and seasonality (wait times extend in the fourth quarter)

Product and Workmanship Warranties



A SERIES

SUNPOWER®



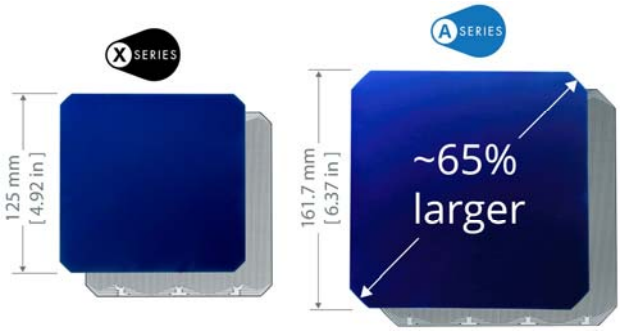
390–420 W Residential A-Series Panels

SunPower® Maxeon® Technology

SunPower® Maxeon® cell-based panels maximize energy production and savings by combining industry-leading power, efficiency, and durability with the most comprehensive power, product, and service warranty in the industry.[1,2]

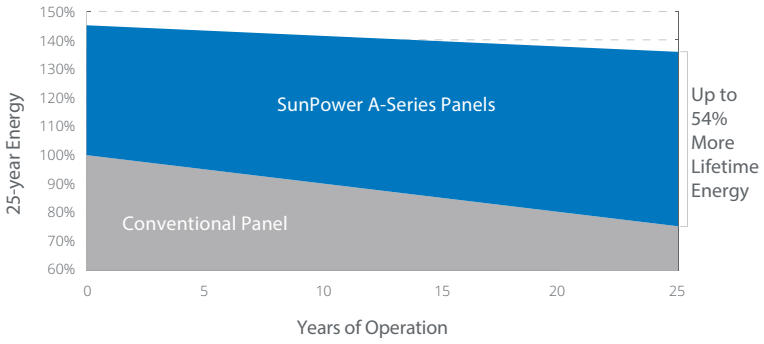
Highest Power Density Available

SunPower's new Maxeon Gen 5 cell is 65% larger than prior generations, delivering the most powerful cell and highest efficiency panel in residential solar.[2] The result is more power per square meter than any commercially available solar.[1]



Maximum Lifetime Energy and Savings

Designed to deliver up to 54% more energy from the same space over the first 25 years in real-world conditions like partial shade and high temperatures.[1]

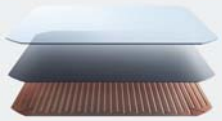


Best Reliability, Best Warranty

SunPower technology is proven to last and we stand behind our panels with the industry's most comprehensive 25-year Combined Power, Product and Service Warranty.



SunPower Maxeon Solar Cell Technology



Fundamentally Different. And Better.

- Cell efficiencies of over 25%
- Delivers leading reliability[3]
- Patented solid metal foundation prevents breakage and corrosion

As sustainable as the energy it produces.

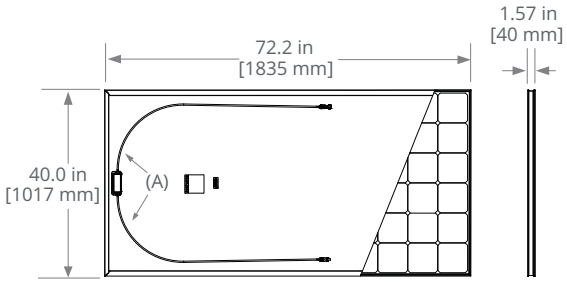
- Achieved the #1 ranking on the Silicon Valley Toxics Coalition's Solar Scorecard for 3 years running
- SunPower modules can contribute to your business's LEED certification[4]

390–420 W Residential A-Series Panels

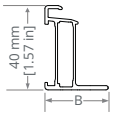
Electrical Data					
	SPR-A420	SPR-A415	SPR-A410	SPR-A400	SPR-A390
Nominal Power (Pnom)[5]	420 W	415 W	410 W	400 W	390 W
Power Tolerance	+5/0%	+5/0%	+5/0%	+5/0%	+5/0%
Panel Efficiency	22.5%	22.2%	22.0%	21.4%	20.9%
Rated Voltage (Vmpp)	40.5 V	40.3 V	40.0 V	39.5 V	39.0 V
Rated Current (Impp)	10.4 A	10.3 A	10.2 A	10.1 A	9.99 A
Open-Circuit Voltage (Voc)	48.2 V	48.2 V	48.2 V	48.1 V	48.0 V
Short-Circuit Current (Isc)	10.9 A	10.9 A	10.9 A	10.9 A	10.8 A
Max. System Voltage	1000 V UL				
Maximum Series Fuse	20 A				
Power Temp Coef.	−0.29% / ° C				
Voltage Temp Coef.	−136 mV / ° C				
Current Temp Coef.	4.1 mA / ° C				

Operating Condition And Mechanical Data	
Temperature	−40° F to +185° F (−40° C to +85° C)
Impact Resistance	1 inch (25 mm) diameter hail at 52 mph (23 m/s)
Appearance	Class A+
Solar Cells	66 Monocrystalline Maxeon Gen 5
Tempered Glass	High-transmission tempered anti-reflective
Junction Box	IP-68, TE (PV4S)
Weight	44 lbs (20 kg)
Max. Test Load[6]	Wind: 125 psf, 6000 Pa, 611 kg/m² back Snow: 187 psf, 9000 Pa, 917 kg/m² front
Design Load	Wind: 75 psf, 3600 Pa, 367 kg/m² back Snow: 125 psf, 6000 Pa, 611 kg/m² front
Frame	Class 1 black anodized (highest AAMA rating)

Tests And Certifications	
Standard Tests	UL1703
Quality Management Certs	ISO 9001:2015, ISO 14001:2015
EHS Compliance	RoHS, OHSAS 18001:2007, lead free, Recycle Scheme, REACH SVHC-163
Available Listings	UL



FRAME PROFILE



(A) Cable Length: 52 in +/-0.4 in [1320 mm +/-10 mm]
(B) Long Side: 1.3 in [32 mm]
Short Side: 0.9 in [24 mm]

1 SunPower 420 W, 22.5% efficient, compared to a Conventional Panel on same-sized arrays (280 W p-multi, 17% efficient, approx. 1.64 m²), 8% more energy per watt (based on PVSyst pan files for avg US climate), 0.5%/yr slower degradation rate (Jordan, et. al. "Robust PV Degradation Methodology and Application." PVSC 2018).
2 Based on search of datasheet values from websites of top 20 manufacturers per IHS, as of December 2019.
3 Jordan, et. al. Robust PV Degradation Methodology and Application. PVSC 2018.
4 Maxeon panels can contribute to LEED Materials and Resources credit categories.
5 Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25° C). NREL calibration Standard: SOMS current, LACCS FF and Voltage.
6 Please read the safety and installation guide for more information regarding load ratings and mounting configurations.

See www.sunpower.com/company for more reference information.
For more details, see extended datasheet: www.sunpower.com/solar-resources.
Specifications included in this datasheet are subject to change without notice.

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SUNPOWER®

c UL US LISTED
PHOTOVOLTAIC MODULE
OVER 600 VOLTS
E331841
Module Fire Performance: Type 2
1500 V max. system voltage

533065 Rev C / LTR_US
Publication Date: May 2020

1-800-SUNPOWER


TESLA
CUSTOMER GENERATOR
SYSTEM DISCONNECT
E·T·N
ON
OFF
CAUTION
TESLA
TESLA


TESLA



INVERTERS

Single Phase Inverter
with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US



Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- High reliability without any electrolytic capacitors
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

Single Phase Inverter
with HD-Wave Technology for North America
SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/ SE7600H-US / SE10000H-US / SE11400H-US

	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400	VA
Max. AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400	VA
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	-	Vac
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5[1]							Hz
Maximum Continuous Output Current 208V	-	16	-	24	-	-	-	A
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	-	
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current 208V	-	9	-	13.5	-	-	-	
Maximum Input Current @240V	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99							%
Nighttime Power Consumption	< 2.5							W
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Data, ANSI C12.20	Optional[2]							
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect							
STANDARD COMPLIANCE								
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07							
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)							
Emissions	FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
AC Output Conduit Size / AWG Range	3/4" minimum / 14-6 AWG					3/4" minimum /14-4 AWG		
DC Input Conduit Size / # of Strings / AWG Range	3/4" minimum / 1-2 strings / 14-6 AWG					3/4" minimum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174					21.3 x 14.6 x 7.3 / 540 x 370 x 185		in / mm
Weight with Safety Switch	22 / 10	25.1 / 11.4		26.2 / 11.9		38.8 / 17.6		lb / kg
Noise	< 25				<50			dBA
Cooling	Natural Convection				Natural convection			
Operating Temperature Range	-13 to +140 / -25 to +60[3] (-40˚F / -40˚C option)[4]							˚F / ˚C
Protection Rating	NEMA 3R (Inverter with Safety Switch)							

[1] For other regional settings please contact SolarEdge support
[2] Revenue grade inverter P/N: SExxxxH-US000NNC2
[3] For power de-rating information refer to: https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf
[4] -40 version P/N: SExxxxH-US000NNU4

RoHS

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Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / P505

POWER OPTIMIZER



PV power optimization at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety

solaredge

Power Optimizer
For North America
P320 / P340 / P370 / P400 / P405 / P505

Optimizer model (typical module compatibility)	P320 (for 60-cell modules)	P340 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for thin film modules)	P505 (for higher current modules)	
INPUT							
Rated Input DC Power[1]	320	340	370	400	405	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48		60	80	125[2]	87[2]	Vdc
MPPT Operating Range	8 - 48		8 - 60	8 - 80	12.5 - 105	12.5 - 87	Vdc
Maximum Short Circuit Current (Isc)	11			10.1		14	Adc
Maximum DC Input Current	13.75			12.5		17.5	Adc
Maximum Efficiency	99.5						%
Weighted Efficiency	98.8					98.6	%
Overvoltage Category	II						
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)							
Maximum Output Current	15						Adc
Maximum Output Voltage	60				85		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)							
Safety Output Voltage per Power Optimizer	1 ± 0.1						Vdc
STANDARD COMPLIANCE							
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3						
Safety	IEC62109-1 (class II safety), UL1741						
Material	UL94 V-0 , UV Resistant						
RoHS	Yes						
INSTALLATION SPECIFICATIONS							
Maximum Allowed System Voltage	1000						Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters						
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1			129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 159 x 49.5 / 5.1 x 6.3 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	630 / 1.4			750 / 1.7	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	MC4[3]				Single or dual MC4[3][4]	MC4[3]	
Input Wire Length	0.16 / 0.52						m / ft
Output Wire Type / Connector	Double Insulated / MC4						
Output Wire Length	0.9 / 2.95		1.2 / 3.9				m / ft
Operating Temperature Range[5]	-40 - +85 / -40 - +185						°C / °F
Protection Rating	IP68 / NEMA6P						
Relative Humidity	0 - 100						%

[1] Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed
[2] NEC 2017 requires max input voltage be not more than 80V
[3] For other connector types please contact SolarEdge
[4] For dual version for parallel connection of two modules use the P405. In the case of an odd number of PV modules in one string, installing one P405 dual version power optimizer
[5] For ambient temperature above +85°C / +185°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details.

PV System Design Using a SolarEdge Inverter[6][7]		Single Phase HD-Wave	Single phase	Three Phase 208V	Three Phase 480V	
Minimum String Length (Power Optimizers)	P320, P340, P370, P400	8		10	18	
	P405 / P505	6		8	14	
Maximum String Length (Power Optimizers)		25		25	50[8]	
Maximum Power per String		5700 (6000 with SE7600-US - SE11400-US)	5250	6000[9]	12750[10]	W
Parallel Strings of Different Lengths or Orientations		Yes				

[6] For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf
[7] It is not allowed to mix P405/P505 with P320/P340/P370/P400 in one string
[8] A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement
[9] For SE14.4KUS/SE43.2KUS: It is allowed to install up to 6,500W per string when 3 strings are connected to the inverter (3 strings per unit for SE43.2KUS) and when the maximum power difference between the strings is up to 1,000W
[10] For SE30KUS/SE33.3KUS/SE66.6KUS/SE100KUS: It is allowed to install up to 15,000W per string when 3 strings are connected to the inverter (3 strings per unit for SE66.6KUS/SE100KUS) and when the maximum power difference between the strings is up to 2,000W

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Intertek RoHS

POWERWALL

Tesla Powerwall is a fully-integrated AC battery system for residential or light commercial use. Its rechargeable lithium-ion battery pack provides energy storage for solar self-consumption, load shifting, and backup.

Powerwall's electrical interface provides a simple connection to any home or building. Its revolutionary compact design achieves market-leading energy density and is easy to install, enabling owners to quickly realize the benefits of reliable, clean power.



PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	120/240 V
Feed-In Type	Split Phase
Grid Frequency	60 Hz
Total Energy[1]	14 kWh
Usable Energy[1]	13.5 kWh
Real Power, max continuous	5 kW (charge and discharge)
Real Power, peak (10 s)	7 kW (discharge only)
Apparent Power, max continuous	5.8 kVA (charge and discharge)
Apparent Power, peak (10 s)	7.2 kVA (discharge only)
Maximum Supply Fault Current	10 kA
Maximum Output Fault Current	32 A
Overcurrent Protection Device	30 A
Imbalance for Split-Phase Loads	100%
Power Factor Output Range	+/– 1.0 adjustable
Power Factor Range (full-rated power)	+/– 0.85
Internal Battery DC Voltage	50 V
Round Trip Efficiency[1,2]	90%
Warranty	10 years

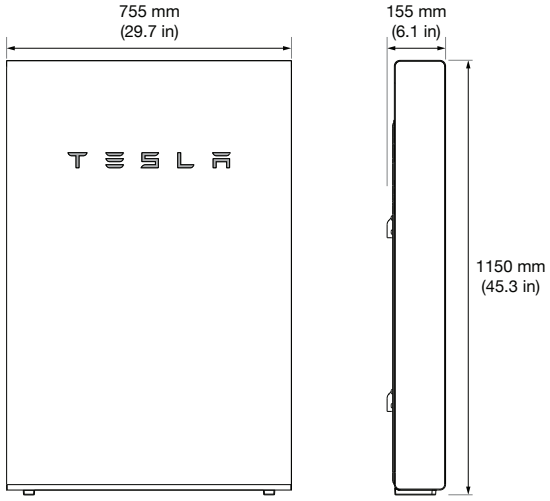
[1]Values provided for 25°C (77°F), 3.3 kW charge/discharge power.
[2]AC to battery to AC, at beginning of life.

COMPLIANCE INFORMATION

Certifications	UL 1642, UL 1741, UL 1973, UL 9540, UN 38.3
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15 Class B, ICES 003
Environmental	RoHS Directive 2011/65/EU
Seismic	AC156, IEEE 693-2005 (high)

MECHANICAL SPECIFICATIONS

Dimensions	1150 mm x 755 mm x 155 mm (45.3 in x 29.7 in x 6.1 in)
Weight	125 kg (276 lbs)
Mounting options	Floor or wall mount

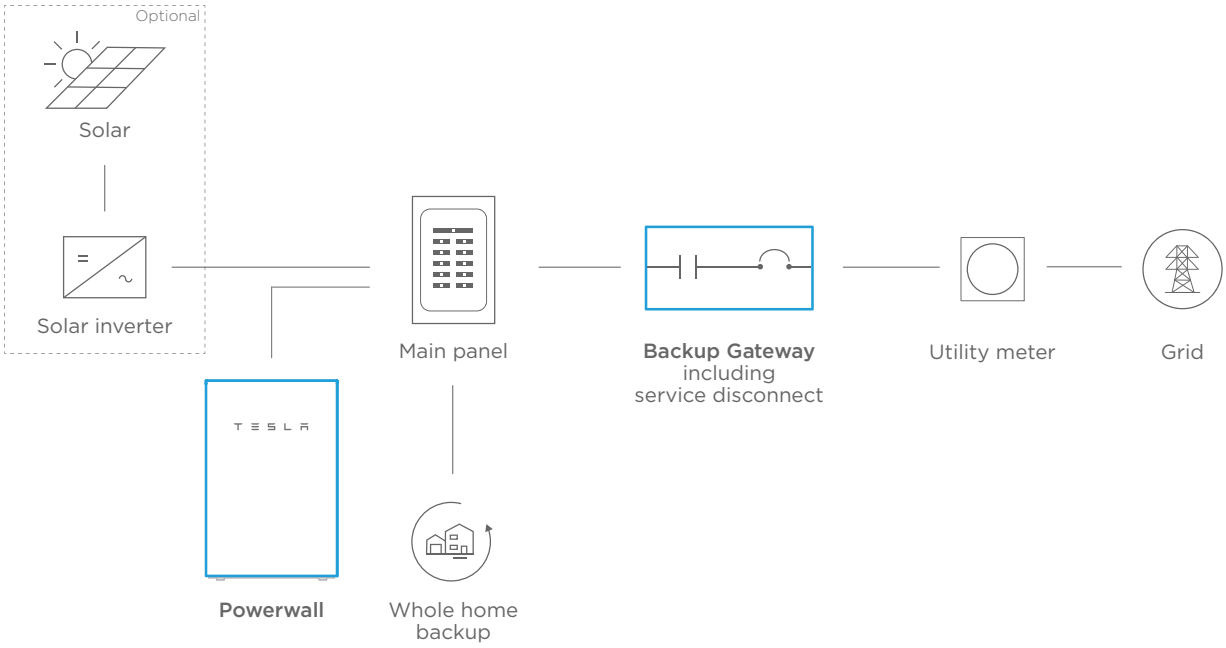


ENVIRONMENTAL SPECIFICATIONS

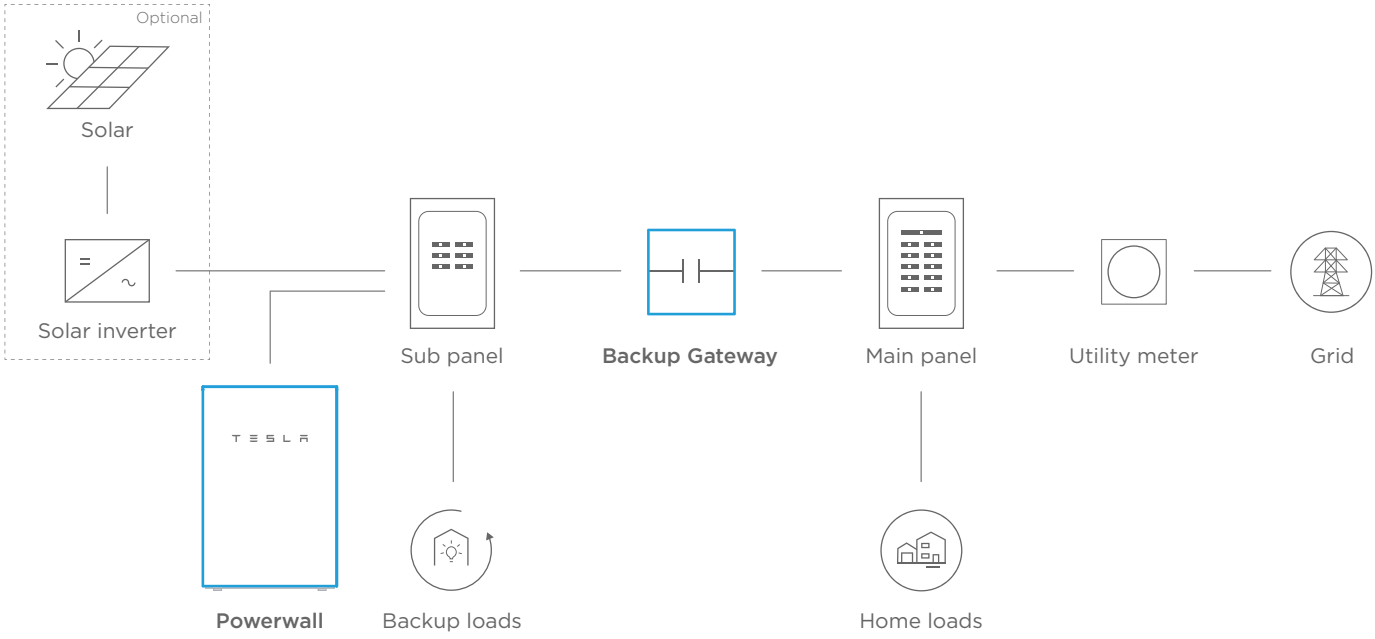
Operating Temperature	–20°C to 50°C (–4°F to 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Storage Conditions	–20°C to 30°C (–4°F to 86°F) Up to 95% RH, non-condensing State of Energy (SoE): 25% initial
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R
Ingress Rating	IP67 (Battery & Power Electronics) IP56 (Wiring Compartment)
Wet Location Rating	Yes
Noise Level @ 1m	< 40 dBA at 30°C (86°F)

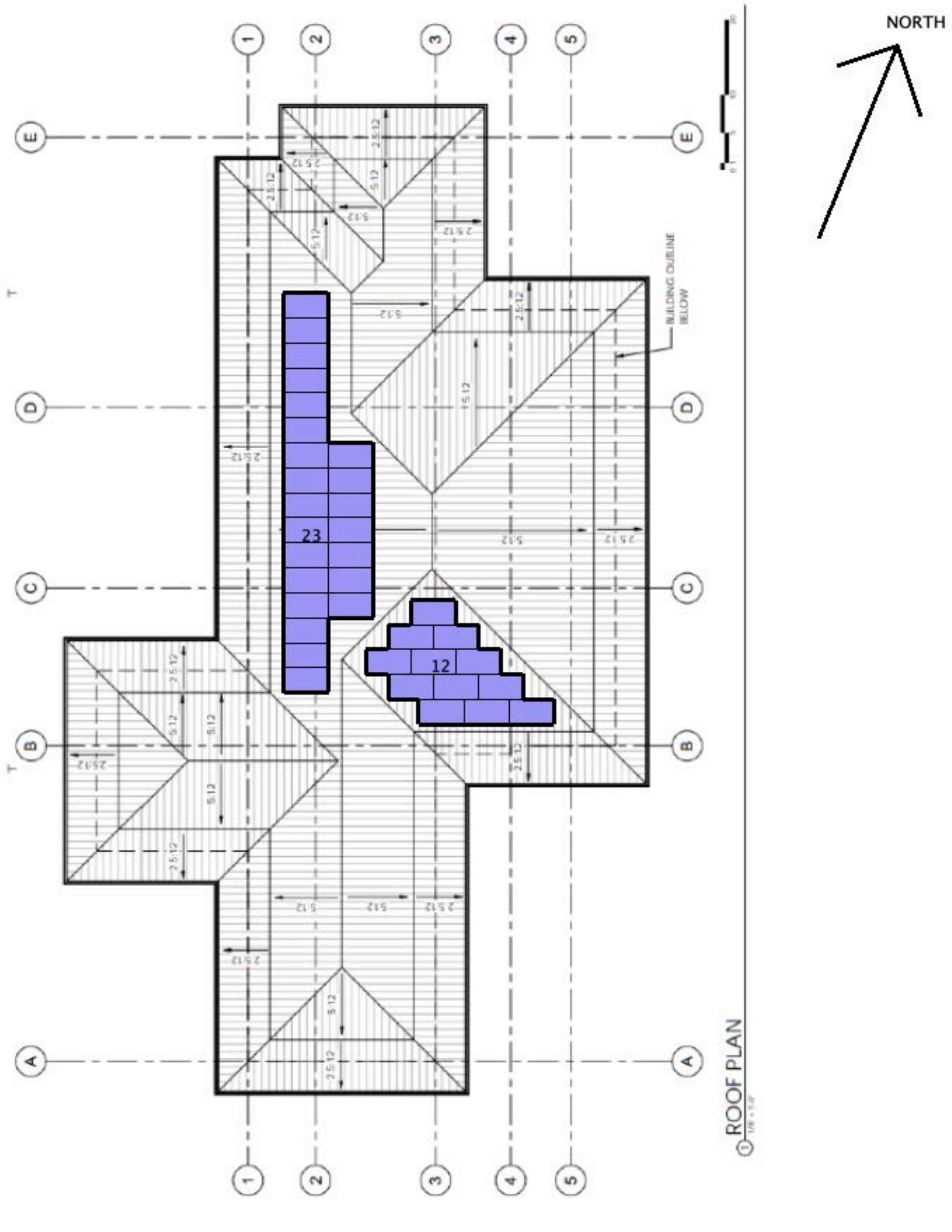
TYPICAL SYSTEM LAYOUTS

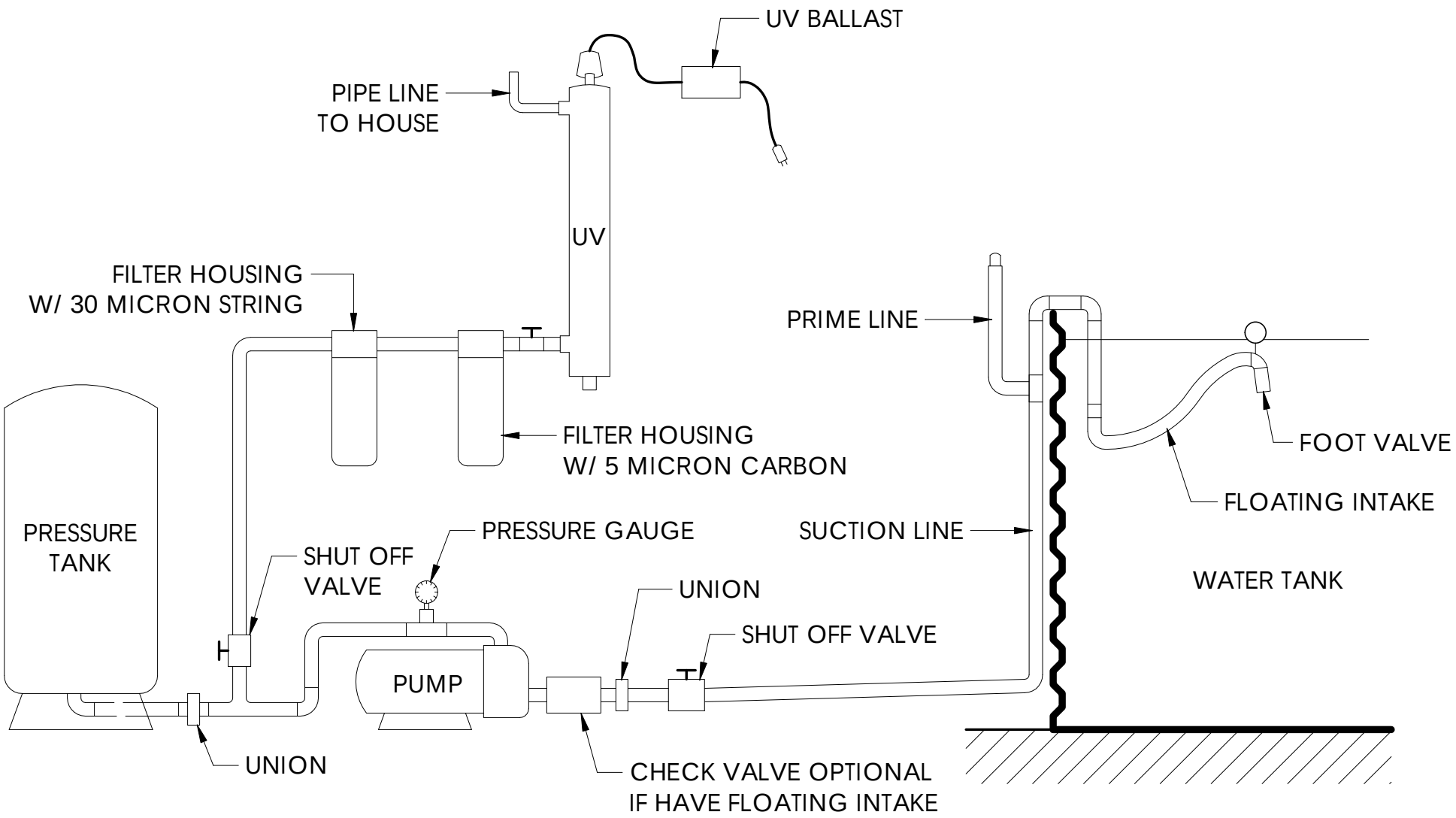
WHOLE HOME BACKUP



PARTIAL HOME BACKUP




NORTH
BUILDING OUTLINE BELOW
23
12
ROOF PLAN



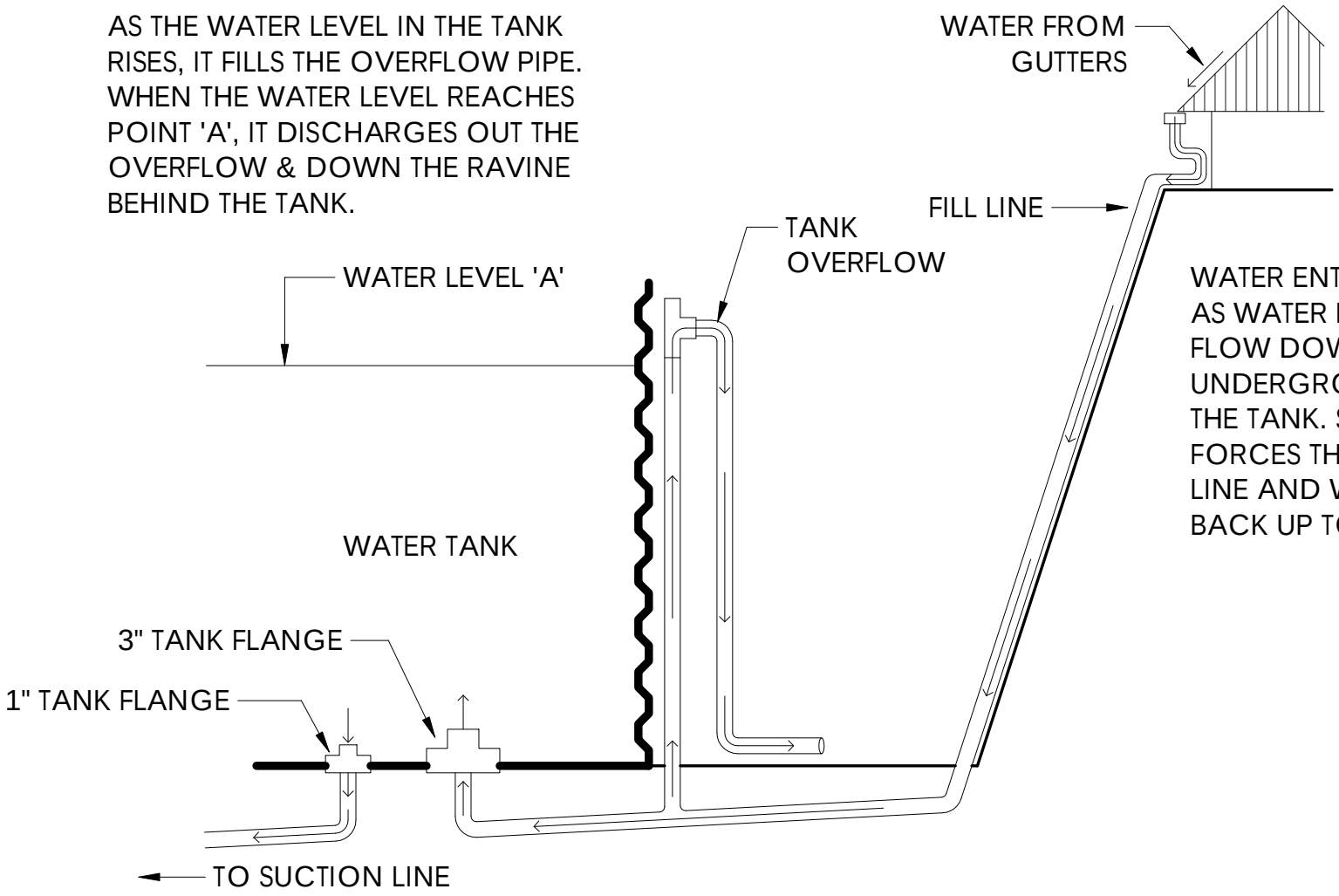
GLAI
GEOFFREY LEWIS ARCHITECT, INC.
3927 OLD PALI ROAD P (808) 595-6046
HONOLULU, HI 96817 F (808) 595-2061

ʻŌHULEHULE FOREST CONSERVANCY

ACCESSORY STRUCTURE
48-479 WAIAHOLE VALLEY N BR RD
TMK: 4-8-006:001

SK-1
Date 12/01/21

AS THE WATER LEVEL IN THE TANK RISES, IT FILLS THE OVERFLOW PIPE. WHEN THE WATER LEVEL REACHES POINT 'A', IT DISCHARGES OUT THE OVERFLOW & DOWN THE RAVINE BEHIND THE TANK.



WATER ENTERS THE FILL LINE HERE. AS WATER ENTERS THE LINE IT WILL FLOW DOWN HILL, UNDERGROUND, THEN UP INTO THE TANK. STATIC WATER PRESSURE FORCES THE WATER DOWN THE LINE AND WILL NOT ALLOW IT TO BACK UP TO THE HOUSE.

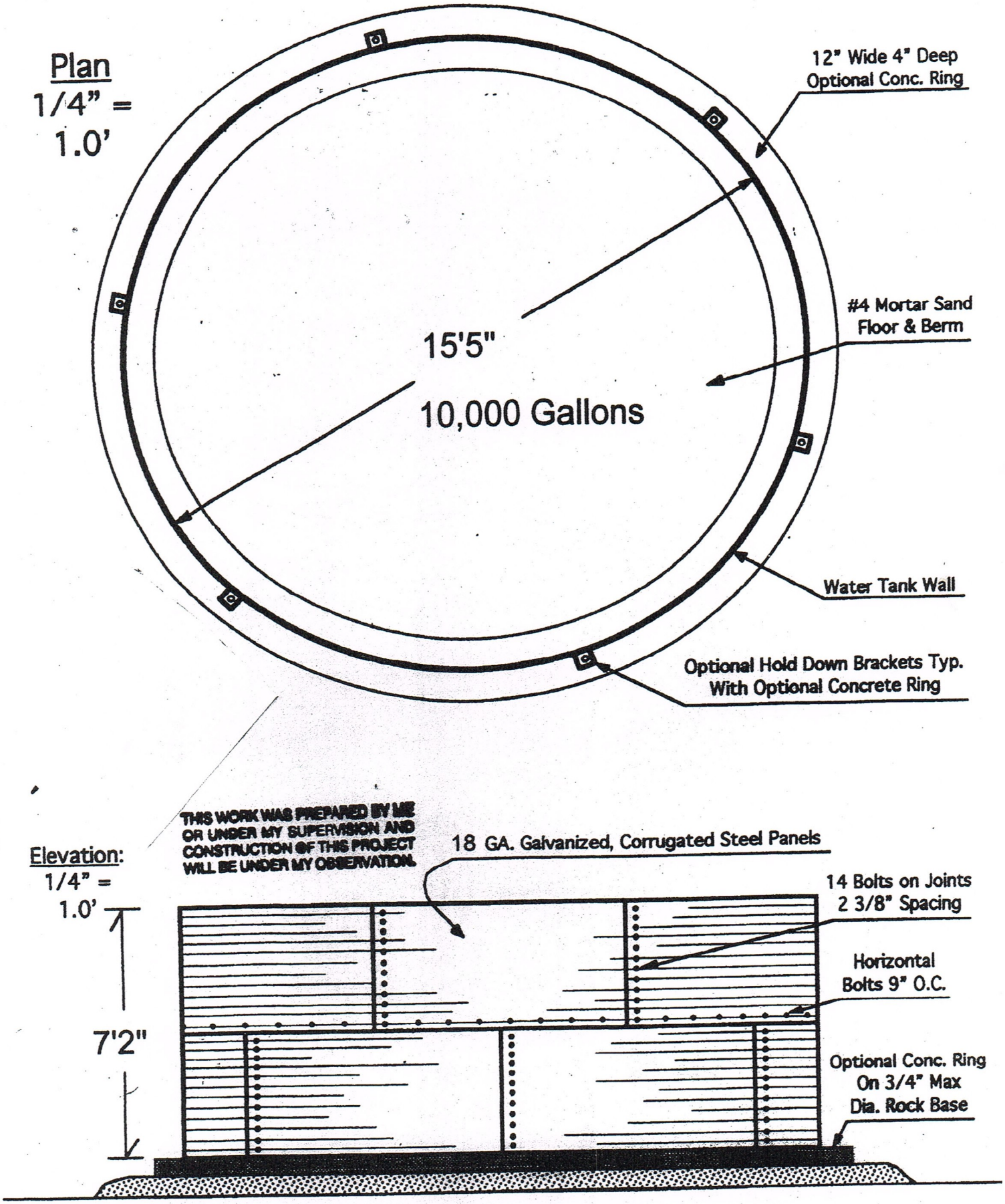
GLAI
GEOFFREY LEWIS ARCHITECT, INC.
3927 OLD PALI ROAD P (808) 595-6046
HONOLULU, HI 96817 F (808) 595-2061

ʻŌHULEHULE FOREST CONSERVANCY

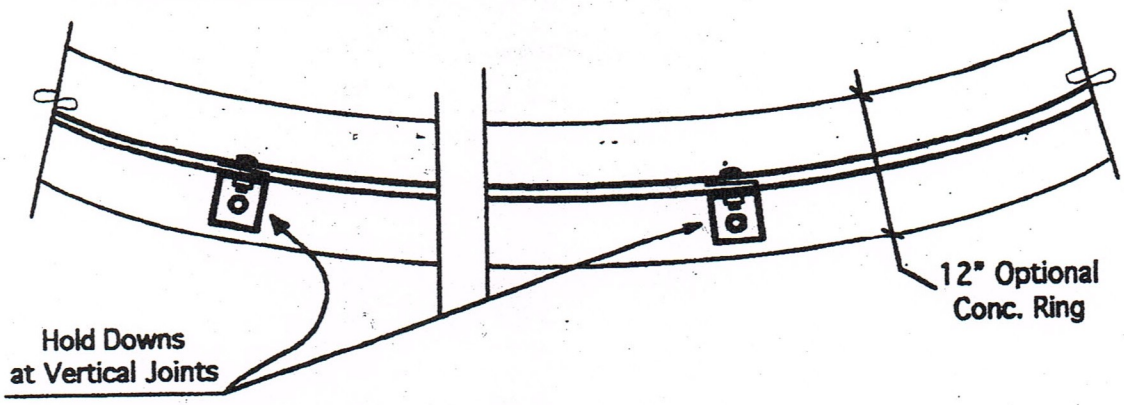
ACCESSORY STRUCTURE
48-479 WAIAHOLE VALLEY N BR RD
TMK: 4-8-006:001

SK-2
Date 12/01/21

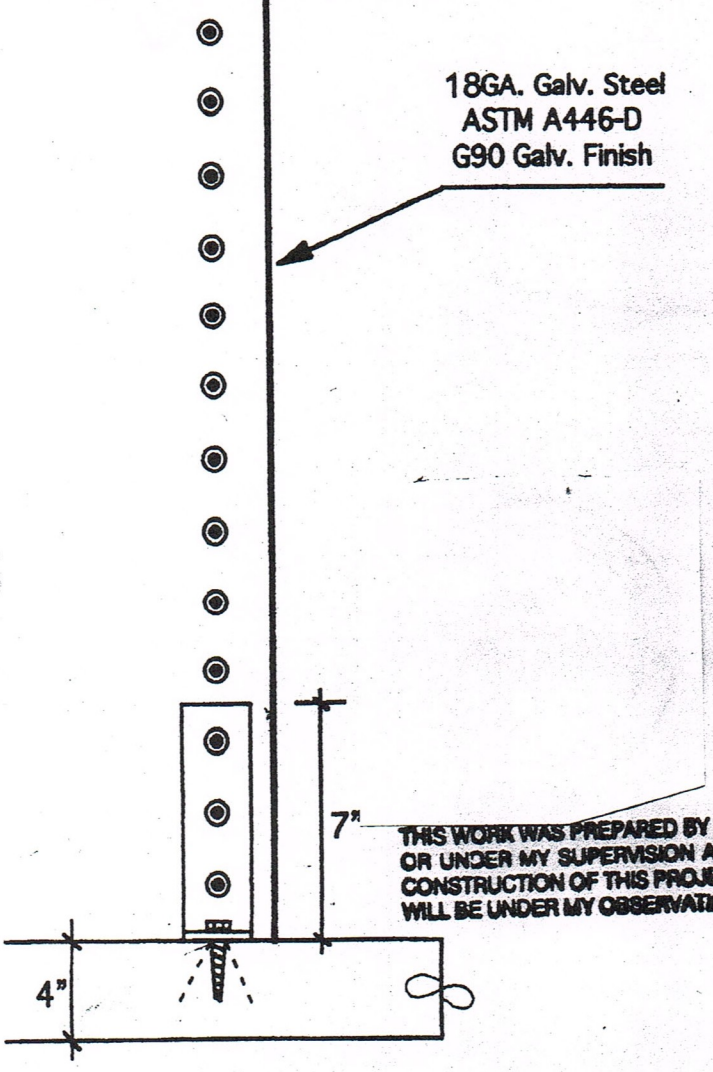
WATER TANK PLANS



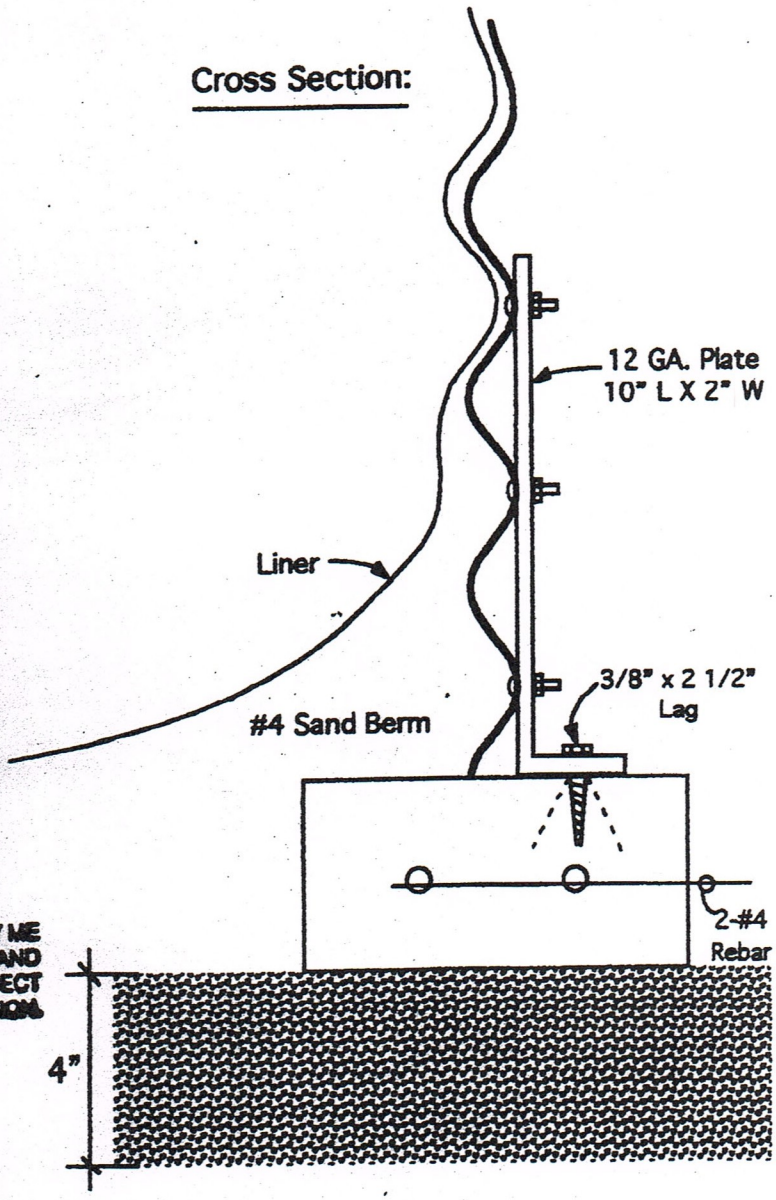
WaterWorks Hilo (808) 933-9111 Kona (808) 322-2222



Elevation:
1 1/2" = 1.0'



Cross Section:



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

APPENDIX L
Draft EA Comment Period: Comment Letters & Responses

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

CDUA: OA-3893
Acceptance Date: April 3, 2022
180-Day Exp. Date: September 30, 2022

Bruce Tsuchida, Principal Planner
Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, HI 96813

May 27, 2022

SUBJECT: Conservation District Use Application (CDUA) OA-3893 Single Family Residence; Landscaping; and Related Improvements.
Located at 48-479 Waiahole Valley North Branch Road
Waikane, Koolaupoko, Oahu
Tax Map Key (TMK): (1) 4-8-006:001

Dear Mr. Tsuchida:

This letter is regarding the processing of CDUA OA-3893 and the associated Environmental Assessment (EA). The public and agency comment period on the EA has closed as of May 23, 2022. Attached to this letter are copies of the comments received by the Office of Conservation and Coastal Lands (OCCL) regarding your client's CDUA/EA.

Please send copies of your responses to the questions raised in these letters directly to the authoring agency. The final copy of this project's Environmental Assessment (EA) needs to include your responses to the queries raised in these letters pursuant to Hawai'i Administrative Rules (HAR) 11-200.1-20 (c). These responses can be attached to the end of the Final EA document.

Further, the OCCL offers the following comments on the Draft EA and CDUA:

Sheet A100 (page 17 in the CDUA) appears to state that the SFR will total 4,603 sq. ft. Table 1 – Components of the Residence (page 10 of the CDUA) & Sheet A101 (page 18 of the CDUA) state that the SFR will total 4,955 sq. ft.

- Please clarify the discrepancy between these two calculations for the proposed developable area of the single-family residence.

Bruce Tsuchida
Townscape, Inc.

CDUA: OA-3893

On page 21 of the CDUA, it states: The sidewalks and other flat work unrelated to the house structure will be 4" concrete slabs on grade. The motor court construction will be 4" concrete slab on grade.

- It appears that the sidewalks and motor court are not labeled or included in any of the drawings.
- Please identify and label these features or clarify if they have been removed.

On page 29 of the CDUA, it states: The Ohulehule Forest Conservancy received a letter from HHFDC in November 2021 allowing vehicular access to the makai parcel of the property from Waiahole Valley Road.

- Please provide a copy of HHFDC's November 2021 letter authorizing access from Waiahole Valley Road and include it in the Final EA.

On page 29 of the CDUA, it refers to Figure 4 and Figure 7 for the approximate location of the components of the proposed solar electric system.

- Figure 4 appears to refer to the PRELIMINARY GRADING AND DRAINAGE PLAN and Figure 7 appears to be the FLOOR PLAN – DWELLING.
- Please clarify and ensure that all figures or tables being referenced are labeled appropriately.

On page 52 of the CDUA under Chapter 205A, Coastal Zone Requirements, it states: "NOT APPLICABLE: THE PROJECT SITE IS NOT WITHIN THE COASTAL ZONE"

- This is an incorrect statement as the Coastal Management Area encompasses the entire state as there is no point of land more than 30 miles from the ocean implying that that there is a definite land-sea connection throughout the state.

The Draft EA appears to be lacking a technical description of the proposed action.

- You may want to consider including the "Single Family Dwelling Design" on page 21 of the CDUA in the EA to address this.

In Section 2.4.1 *SOLAR ELECTRICTY* of the Draft EA, it references Figure 4 and Figure 7 for the approximate location of the components of the proposed solar electric system. Figures 4 and 7 appear to be "Figure 4 - View of Existing Driveway" and "Figure 7 – Water Tank Plan II" in the Draft EA.

- Please ensure that all figures and tables are appropriately labeled and referenced.
- Please clarify if the solar panels will be flush mounted on the roof.

In Section 4.1.7. *NATURAL AND ENVIRONMENTAL HAZARDS* **Impacts and Mitigation** of the Draft EA, it states: Signage will inform people of this potential risk and the Ohulehule Forest Conservancy will maintain contact with the USACE for updates on the status of military-related hazards.

- Please note that signs/signage is an identified land use that may be applied for pursuant to HAR, §13-5-22 P-7 SIGNS (B-1) *Signs, including safety signs, danger signs, no trespassing signs, and other informational signs. No signs shall*

Bruce Tsuchida
Townscape, Inc.

CDUA: OA-3893

exceed twelve square feet in area and shall be non-illuminated. All signs shall be erected to be self-supporting and be less than or equal to eight feet above finished grade.

- Please clarify if the signs/signage will be part of your client's current CDUA or come under future applications for proposed land uses.

In Section 4.2.4. *SOCIO-ECONOMIC ENVIRONMENT* of the Draft EA, it states: It is understood that though the parcels have two independent TMK's, the OCCL will treat the property as one legal lot of record and will only allow one single-family residence to be constructed.

- Please provide maps and official correspondence letters that demonstrate TMKs: (1) 4-8-006:001 and 4-8-014:005 are one (1) legal lot of record.

In Section 4.5. REQUIRED PERMITS AND APPROVALS of the Draft EA, please include the relevant agencies that may issue these potential authorizations.

In APPENDIX H: Early Consultation Correspondence of the Draft EA, it appears that the OCCL did respond to Townscape, Inc.'s March 14, 2019 request for early consultation comments via Correspondence OA 19-145.

- Correspondence OA 19-145 will need to be included in the EA.
- According to OCCL files, it does not appear that we received Townscape, Inc.'s December 1, 2020 letter.
- Please ensure that the EA includes all comments received and responses as part of the early consultation process and public review periods.

Please send two (2) hard copies of the Final EA and one (1) CD or flash drive containing the Final EA **in searchable pdf. format** to the OCCL by **July 10, 2022**. The OCCL will send you notice of determination regarding the EA and actions to be taken by you as the applicant or on behalf of your client.

Should you have any questions, please contact Trevor Fitzpatrick of our Office of Conservation and Coastal Lands at (808) 798-6660 or trevor.j.fitzpatrick@hawaii.gov .

Sincerely,

S Michael Cain

Michael Cain, Acting Administrator
Office of Conservation and Coastal Lands

June 27, 2022

Michael S. Cain
DLNR Office of Conservation and Coastal Lands
1151 Punchbowl Street Room 131
Honolulu, Hawai'i 96813

Subject: **COMMENT ON THE CONSERVATION DISTRICT USE APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ZWENG SINGLE-FAMILY RESIDENCE, LANDSCAPING AND RELATED IMPROVEMENTS PROJECT IN WAIĀHOLE/WAIKĀNE, KO'OLAUPOKO, O'AHU.**

Aloha Michael S. Cain:

Thank you for your comments included in the acceptance letter dated April 3, 2022 on the Conservation District Use Application and Draft Environmental Assessment (EA) for the Zweng Single-Family Residence, Landscaping and Related Improvements Project in Waiāhole/Waikāne, Ko'olaupoko, O'ahu. We offer the following responses to your comments:

Sheet A100 (page 17 in the CDUA) appears to state that the SFR will total 4,603 sq. ft. Table 1 – Components of the Residence (page 10) & Sheet A101 (page 18) state that the SFR will total 4,955 sq. ft. Please clarify the discrepancy between these two calculations for the proposed developable area of the single-family residence.

The table on sheet A100 includes the total room area in square footage of each of the interior room spaces. Elsewhere we present the total square footage of 4,955 sf, based on HAR 13-5 Exhibit 4 regarding maximum developable area. The discrepancy is because an exterior space measurement (4,955 sf) is always greater than an interior space measurement (4,603 sf) as the room area for the interior room spaces does not include exterior walls, interior walls, doorways, etc.

On page 21 of the CDUA, it states: The sidewalks and other flat work unrelated to the house structure will be 4" concrete slabs on grade. The motor court construction will be 4" concrete slab on grade. It appears that the sidewalks and motor court are not labeled or included in any of the drawings. Please identify and label these features or clarify if they have been removed.

The concrete sidewalks described on Page 21 will be removed from the document and from the proposed Single-Family residence. Construction will not include sidewalks around the house, and instead these areas are planned to be level yard space with no impermeable surfaces such as concrete slab. The motor court described in the narrative appears in the graphics package and is labelled on Sheet C100 under the Construction Notes table as #3 "Concrete Pavers with grass strips." The document will be revised to say "The motor court construction will be 4" concrete pavers on grade with open strips of

permeable material such as grass or gravel." These revisions will appear in the Final Environmental Assessment document.

On page 29 of the CDUA, it states: The Ohulehule Forest Conservancy received a letter from HHFDC in November 2021 allowing vehicular access to the makai parcel of the property from Waiāhole Valley Road. Please provide a copy of HHFDC's November 2021 letter authorizing access from Waiāhole Valley Road and include it in the Final EA.

The November 2021 letter from HHFDC authorizing access from Waiāhole Valley Road will be included in the Final Environmental Assessment document.

On page 29 of the CDUA, it refers to Figure 4 and Figure 7 for the approximate location of the components of the proposed solar electric system. Figure 4 appears to refer to the PRELIMINARY GRADING AND DRAINAGE PLAN and Figure 7 appears to be the FLOOR PLAN – DWELLING. Please clarify and ensure that all figures or tables being referenced are labeled appropriately.

These references will be corrected in the Final Environmental Assessment document and all figures and tables being reference will be labeled appropriately.

On page 52 of the CDUA under Chapter 205A, Coastal Zone Requirements, it states: "NOT APPLICABLE: THE PROJECT SITE IS NOT WITHIN THE COASTAL ZONE." This is an incorrect statement as the Coastal Management Area encompasses the entire state as there is no point of land more than 30 miles from the ocean implying that that there is a definite land-sea connection throughout the state.

Page 52 of the CDUA under Chapter 205A, Coastal Zone Requirements will be revised to reflect the definite land-sea connection.

The Draft EA appears to be lacking a technical description of the proposed action. You may want to consider including the "Single Family Dwelling Design" on page 21 of the CDUA in the EA to address this.

A more complete technical description of the proposed action will be included in the Final Environmental Assessment and will be based on the "Single Family Dwelling Design" description on Page 21 of the CDUA.

In Section 2.4.1 *SOLAR ELECTRICTY* of the Draft EA, it references Figure 4 and Figure 7 for the approximate location of the components of the proposed solar electric system. Figures 4 and 7 appear to be "Figure 4 - View of Existing Driveway" and "Figure 7 – Water Tank Plan II" in the Draft EA. Please ensure that all figures and tables are appropriately labeled and referenced. Please clarify if the solar panels will be flush mounted on the roof.

Section 2.4.1 Solar Electricity will be revised in the Final Environmental Assessment to properly reference the approximate location of the components of the proposed solar

electric system. This section will also include description of the mounting of the solar panels onto the roof, which will in fact be a flush mount to the roof.

In Section 4.1.7. *NATURAL AND ENVIRONMENTAL HAZARDS* Impacts and Mitigation of the Draft EA, it states: Signage will inform people of this potential risk and the Ohulehule Forest Conservancy will maintain contact with the USACE for updates on the status of military-related hazards. Please note that signs/signage is an identified land use that may be applied for pursuant to HAR, §13-5-22 P-7 SIGNS (B-1) *Signs, including safety signs, danger signs, no trespassing signs, and other informational signs. No signs shall exceed twelve square feet in area and shall be non-illuminated. All signs shall be erected to be self-supporting and be less than or equal to eight feet above finished grade*. Please clarify if the signs/signage will be part of your client's current CDUA or come under future applications for proposed land uses.

The proposed signs/signage will be included in a future application for proposed land uses. As it is not relevant to the proposed Single-family residence, this section will be revised/removed from the Final Environmental Assessment.

In Section 4.2.4. *SOCIO-ECONOMIC ENVIRONMENT* of the Draft EA, it states: It is understood that though the parcels have two independent TMK's, the OCCL will treat the property as one legal lot of record and will only allow one single-family residence to be constructed. Please provide maps and official correspondence letters that demonstrate TMKs: (1) 4-8-006:001 and 4-8-014:005 are one (1) legal lot of record.

A letter requesting clarification was sent to the City and County of Honolulu Department of Planning and Permitting regarding the legal lots of record for the property owned by the ʻŌhulehule Forest Conservancy. In a response letter dated June 20, 2012 from the City and County of Honolulu Department of Planning and Permitting to the ʻŌhulehule Forest Conservancy confirming that the parcel is considered to be one legal lot of record. A copy of these letters and associated maps will be included in the Final Environmental Assessment.

In Section 4.5. REQUIRED PERMITS AND APPROVALS of the Draft EA, please include the relevant agencies that may issue these potential authorizations.

A table in Section 4.5 REQUIRED PERMITS AND APPROVALS will be added to the Final Environmental Assessment which will indicate relevant agencies that may issue the potential authorizations mentioned.

In APPENDIX H: Early Consultation Correspondence of the Draft EA, it appears that the OCCL did respond to Townscape, Inc.'s March 14, 2019 request for early consultation comments via Correspondence OA 19-145. Correspondence OA 19-145 will need to be included in the EA. According to OCCL files, it does not appear that we received Townscape, Inc.'s December 1, 2020 letter. Please ensure that the EA includes all comments received and responses as part of the early consultation process and public review periods.

A copy of OCCL's response to Townscape's March 14, 2019 letter will be included in the Final Environmental Assessment, along with all comments received and responses as a part of the early consultation process and public review periods.

We appreciate your participation in the environmental review process. Your comment and this response will be included in the Final Environmental Assessment, which will be published on the State Office of Planning and Sustainable Development Environmental Review Program website at https://planning.hawaii.gov/erp/comments/ and on the DLNR Office of Conservation and Coastal Lands website at https://dlnr.hawaii.gov/occl/current-applications/. Please feel free to contact me at (808) 550-3893, or via email at lillie@townscapeinc.com, should you have any questions or require additional information.

Sincerely,

Lillie Makaila
Staff Planner

cc: DLNR Office of Conservation and Coastal Lands

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

CDUA: OA-3893
Acceptance Date: April 3, 2022
180-Day Exp. Date: September 30, 2022
SUSPENSE DATE: May 23, 2022

MEMORANDUM

Apr 11, 2022

TO:

State Agencies

___ DLNR-Engineering
___ DLNR-Water Resource Mgmt.
___ DLNR-Oahu District Land Office
___ DLNR-Resource Enforcement
✓ DLNR-Aquatic Resources
___ DLNR-Forestry & Wildlife
___ DLNR-Na Ala Hele
___ HHFDC

___ Office of Hawaiian Affairs
___ Department of Health

County Agencies:

___ CCH DPP
___ Honolulu Fire Department

FROM: Michael Cain, Acting Administrator *S Michael Cain*
Office of Conservation and Coastal Lands

SUBJECT: REQUEST FOR COMMENTS
Conservation District Use Application (CDUA) OA-3893
Zweng Single-Family Residence, Landscaping, and Related Improvements Project

APPLICANT: Ohulehule Forest Conservancy (Paul Zweng)
TMK: (1) 4-8-006:001
LOCATION: 48-479 Waiahole Valley North Branch Road
Waikane, Koolaupoko, Oahu

PUBLIC HEARING: No

Attached please find our Department's notice to the applicant. CDUA OA-3893 and the Draft Environmental Assessment may be found on our website at dlnr.hawaii.gov/occl under current applications (https://dlnr.hawaii.gov/occl/current-applications/ - Zweng Single-Family Residence). We would appreciate your agency's review and comment on this application. If no response is received by the suspense date, we will assume there are no comments. The suspense date is the close of the ERP 30-day Comment Deadline.

REF: OCCL: TF CDUA OA-3893

Contact Trevor Fitzpatrick at (808) 798-6660 or trevor.j.fitzpatrick@hawaii.gov should you have any questions on this matter.

(X) Comments Attached

( ) No Comments

/Brian Neilson, Administrator
Signature/ Print your Name and Title

May 24, 2022

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: May 23, 2022
DAR # AR6273

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Glenn Higashi GH, Aquatic Biologist

SUBJECT: Conservation District Use Application (CDUA) OA-3893
Zweng Single-Family Residence, Landscaping, and Related Improvements Project

Request Submitted by: Michael Cain, Acting Administrator - OCCL

Location of Project: 48-479 Waiahole Valley North Branch Road Waikane, Koolaupoko, Oahu

Brief Description of Project:
The proposed single-family residence project is located in Waiāhole Valley, along North Branch Road of Waiāhole Valley Road. Waiāhole Valley is in the northern portion of the Koʻolaupoko district on the eastern side of the island of Oʻahu. There are two access roads to the property: the paved Waiāhole Valley Road in the southern portion of the parcel and the unpaved Waikāne Valley Road in the northern portion. The proposed residence is located at the southwest corner of the makai parcel (TMK [1] 4-8-006:001) which contains 327 acres and the only vehicular access to this area is via Waiāhole Valley Road. The proposed residence is within the mesic climate zone on land that is currently largely overgrown with non-native plant species.

Comments:
☐ No Comments ☒ Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: BJN Date: May 24, 2022
Brian J. Neilson
DAR Administrator

DAR# AR6273

Brief Description of Project

The proposed single-family residence is one of four long-term projects that the ʻŌhulehule Forest Conservancy has proposed to conduct in Waiāhole and Waikāne Valleys. The other projects include: forest restoration in the mauka parcel (active), restoration of historic taro loʻi along the Waikāne and Waikeʻekeʻe Streams, and a farm on the makai parcel of the property (TMK: (1) 4-8-006:001) nearby the proposed residence. All of these projects will benefit by establishing a permanent residence on the makai parcel of the property. This CDUA is only for the single-family residence, and any other proposed activities will be included in future applications for use.

The proposed single-family residence will be approximately 4,955 square feet, including all floor
areas under a roof as well as carport and lānai areas. The components of the proposed single-family residence are described in the following table:

Table 1 - Components of the Residence

Components of the Residence Structure	Square Footage
Interior Living Area	3,652
Covered Lānai	823
Carport	480
Total:	4,955

The proposed home is located roughly 150 feet from the southern boundary of the property, and 500 feet from Waiāhole Valley Road. Elevation at the location of the proposed residence is 295 feet above sea level. The location of the overall building pad in a large level area in the vicinity of the location of former residence that was removed from the property in 2017

Construction activities for the proposed residence and driveway entail an area of approximately 1.4 acres, which would produce minor short-term impacts to noise, air and water quality, as well as scenery. These impacts will be mitigated by Best Management Practices (BMPs) to control erosion and sedimentation, as described in the Draft Environmental Assessment. The applicants will ensure that their contractor performs all earthwork and grading in conformance with applicable laws, regulations and standards.

The proposed single-family residence will be a one-story structure with a total floor area of 4,955 square feet. This total floor area includes all floor areas under a roof, including the carport
and covered lānai.

DAR# AR6273

Brief Description of Project

The building structure will consist of a slab on grade foundation or raised foundation for the main house interior living spaces. The carport and exterior living spaces will have a slab on grade foundation. The house construction will consist of wood frame construction for balance of the house, with metal roofing. The exterior siding will be a cementitious product, Hardie panel with Hardie battens. The paint and roofing color will be earth toned to blend in with the landscape. The sidewalks and other flat work unrelated to the house structure will be 4" concrete slabs on grade. The motor court construction will be 4" concrete slab on grade. The driveway will be 4" concrete slab on grade at 12' wide with 4' of 95% compaction graveled borders at each side in order to provide appropriate fire lane access of a 20' width. The motor court retaining walls will be 8" to 12" poured in place concrete walls with 7' maximum exposed height at its tallest. The site terraced retaining walls will be Concrete Rock Masonry (CRM) gravity retaining walls with 3' to 5' average exposed height and 8' maximum exposed height at the lower loop of the driveway. Footings for the CRM walls will be constructed with rocks that are wet set into a concrete footing.

In order to minimize the impact to the site the proposed residence and driveway are sited in the general vicinity of the previous residence and use much of the existing driveway. The extent of the entire project area is approximately 1.4 acres and focuses on the main components of the proposed residence: the new dwelling, a linear driveway from Waiāhole Valley Road to the new dwelling, and a small apron surrounding these components that will be landscaped. The vehicular access to the proposed residence will include the rehabilitation of the existing driveway including the implementation of proper drainage controls. Site disturbance and additional grading and drainage will be greatly reduced by utilizing the alignment of the existing unpaved road and grading. The newly proposed vehicular access will be constructed with a 12-foot-wide concrete driveway with an additional 4-foot wide apron on either side. This apron will consist of 95% compacted fill and will allow for a 20-foot wide access for fire trucks to the proposed residence in the event of an emergency.

The landscaping will consist of non-invasive plantings including trees and hedges as well as areas of grass lawn for easy maintenance and erosion control over an area of 0.90 acres, a narrow apron surrounding the proposed driveway and dwelling.

The design and construction in the proposed project area (including the driveway and new dwelling) includes appropriate improvements for drainage of the site. As this area receives a large amount of rainfall annually, issues with sheet run-off have adversely affected the site and surrounding areas. Currently, the existing driveway does not incorporate drainage controls and

DAR# AR6273

Brief Description of Project

sediment and debris commonly run-off the driveway, at times onto Waiāhole Valley Road, a public roadway. The proposed project will include drainage controls that will reduce stormwater run-off and will reduce erosion and sedimentation.

An irrigation system for the landscaping will not be necessary due to the high rainfall in the region. A wastewater management system for the proposed residence will include an anaerobic septic system. The treated wastewater will leach back into the ground through a leach field system.

DAR# AR6273

Comments

The proposed project is not expected to have adverse impacts on the aquatic environment, but
may have short-term impacts during the excavation, grading and construction of the single-family residence. There are no streams in close proximity to the project area however, DAR requests that the following Best Management Practices (BMPs) or mitigative measures should be implemented during the excavation, grading, and construction activities to minimize the potential for erosion, siltation, pollution, and degradation of the aquatic environment.

1) Disturbance and areas denuded of vegetation should be planted or covered as quickly as
possible to prevent erosion;

2) Scheduling work activities during periods of minimal rainfall and to minimize erosion and
run-off from the site; and,

3) Prevent construction materials, petroleum products, debris and landscaping products from
falling, blowing, leaching or flowing into the aquatic environment.

DAR also suggests that to minimize the potential runoff from impermeable surfaces such as concrete slabs for the sidewalks and other flat surfaces that grass block pavers or other alternate methods be explored or utilized.

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
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ROBERT K. MASUDA
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LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

CDUA: OA-3893
Acceptance Date: April 3, 2022
180-Day Exp. Date: September 30, 2022
SUSPENSE DATE: May 23, 2022

MEMORANDUM

Apr 11, 2022

TO:

State Agencies

____ DLNR-Engineering
____ DLNR-Water Resource Mgmt.
____ DLNR-Oahu District Land Office
____ DLNR-Resource Enforcement
__✓__ DLNR-Aquatic Resources
____ DLNR-Forestry & Wildlife
____ DLNR-Na Ala Hele
____ HHFDC

____ Office of Hawaiian Affairs
____ Department of Health

County Agencies:

____ CCH DPP
____ Honolulu Fire Department

FROM: Michael Cain, Acting Administrator S Michael Cain
Office of Conservation and Coastal Lands

SUBJECT: REQUEST FOR COMMENTS
Conservation District Use Application (CDUA) OA-3893
Zweng Single-Family Residence, Landscaping, and Related Improvements Project

APPLICANT: Ohulehule Forest Conservancy (Paul Zweng)
TMK: (1) 4-8-006:001
LOCATION: 48-479 Waiahole Valley North Branch Road
Waikane, Koolaupoko, Oahu

PUBLIC HEARING: No

Attached please find our Department's notice to the applicant. CDUA OA-3893 and the Draft Environmental Assessment may be found on our website at dlnr.hawaii.gov/occl under current applications (https://dlnr.hawaii.gov/occl/current-applications/ - Zweng Single-Family Residence). We would appreciate your agency's review and comment on this application. If no response is received by the suspense date, we will assume there are no comments. The suspense date is the close of the ERP 30-day Comment Deadline.

REF: OCCL: TF CDUA OA-3893

Contact Trevor Fitzpatrick at (808) 798-6660 or trevor.j.fitzpatrick@hawaii.gov should you have any questions on this matter.

(☑) Comments Attached

( ) No Comments

Brian J. Neilson- Administrator

Signature/ Print your Name and Title

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: 5/20/2022
DAR # 6273

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Bryan Ishida, Aquatic Biologist

SUBJECT: Comments on CDUA OA-3893 (Zweng Single-Family Residence, Landscaping, and Related Improvement Project)

Request Submitted by: Michael Cain, Office of Conservation and Coastal Lands

Location of Project: TMK: (1) 4-8-006:001
48-479 Waiahole Valley North Branch Road, Waikane, Koolaupoko, Oahu

Brief Description of Project:

The proposed project seeks to build a single family residence on Conservation District lands in the ahupua'a of Waiāhole, moku of Ko'olaupoko, on the Island of O'ahu. Paul Zweng, managing member of the 'Ōhulehule Forest Conservancy, and his family are the applicants. The property consists of two parcels located in the Conservation District: Tax Map Key (TMK) 4-8-014:005 is the mauka parcel containing 1,117 acres, and TMK 4-8-006:001 is the makai parcel containing 327 acres, totaling 1,444 acres.

The proposed dwelling will be approximately 4,955 sq.ft. including a covered lanai and carport. The

Comments:

☐ No Comments ☒ Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: _____ Date: May 23, 2022

Brian J. Neilson
DAR Administrator

DAR# 6273

Brief Description of Project

structure will be approximately 200 ft. from the southern property line, and approximately 500 ft. from Waiāhole Valley Road. Land clearing will occur over an area of approximately 1.4 acres. The construction area will overlap in general location of the previous residence and driveway. All previous structures were cleared from the area in 2017. The proposed building pad area today is an open flat area, previously cleared and graded for livestock and agriculture.

Potable water via the Waiāhole Valley Water System (WVWS) will not be immediately available as the Hawai'i Housing Finance & Development Corporation (HHFDC) is not considering new connections to the system until administrative rules and regulations regarding the use of the WVWS are adopted. The applicants intend to supply the dwelling with potable water via a water catchment system until connection to the WVWS is allowed. Wastewater will be handled via an on-site septic system designed according to standards recommended by the Hawai'i State Department of Health. The system will include a 1250 gallon septic tank and a 30 foot by 50 foot or 1,500 square foot infiltrator seepage bed. An Individual Wastewater System application will be obtained prior to construction.

Power to the dwelling will be supplied by both a rooftop photovoltaic system and connection to the HECO grid via utility pole. Telecommunications will also be supplied from the same existing utility pole located on Waiāhole Valley Road.

The Draft Environmental Assessment (DEA) states that proposed construction and land clearing would "produce minor short-term impacts to noise, air and water quality and scenery." To mitigate these impacts, the applicant state that they will use Best Management Practices (BMPs). The DEA further notes that a Site-Specific Construction Best Management Practice Plan ("SSBMPP") will be followed during construction activities.

DAR# 6273

Comments

The proposed project lies approximately 240 m North of Waianu Stream, which is part of the Waiāhole watershed. The Waiāhole watershed is home to a variety of native and endemic aquatic species including all five endemic goby species: ʻoʻopu ʻalamoʻo (Lentipes concolor), ʻoʻopu nōpili (Sicyopterus stimpsoni), ʻoʻopu nākea (Awaous stamineus), ʻoʻopu naniha (Stenogoblus hawaiiensis), and ʻoʻopu ʻakupa (Eleotris sandwicensis), as well as the endemic shrimp species ʻōpae kala'ole (Atyoida bisulcata) and ʻōpae ʻoehaʻa (Macrobrachium grandimanus). The Waiāhole watershed also provides a healthy flow of freshwater into the ocean creating an important coastal brackish water environment or muliwai. Though there appears to be no streams with documented aquatic resources running through the project area itself, the importance of the Waiāhole watershed to the surrounding terrestrial, freshwater, brackish, and marine environments warrants that care be take during all stages of construction.

Of high importance is the prevention or mitigation of the release of building waste or byproducts of construction (including but not limited to sediment, silt, litter, chemicals, and other waste) into the surrounding areas. The DEA does note that BMPs will be followed during construction, and that a Site-Specific Construction Best Management Practice Plan (SSBMPP) will be followed during construction activities. We recommend that the SSBMPP be created and distributed prior to commencement of any construction activity, and checks to ensure adherence to the be performed regularly. Should any event occur that poses a possible threat to nearby aquatic resources, we request that DAR be contacted immediately so that a staff member can assess the situation.

Mahalo for the opportunity to provide comment

June 27, 2022

Brian J. Neilson, Administrator
DLNR Aquatic Resources
1151 Punchbowl Street Room 330
Honolulu, Hawai‘i 96813

Subject: **COMMENT ON THE CONSERVATION DISTRICT USE APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ZWENG SINGLE-FAMILY RESIDENCE, LANDSCAPING AND RELATED IMPROVEMENTS PROJECT IN WAIĀHOLE/WAIKĀNE, KO‘OLAUPOKO, O‘AHU.**

Aloha Brian J. Neilson:

Thank you for your comment letter dated May 23, 2022 on the Conservation District Use Application and Draft Environmental Assessment (EA) for the Zweng Single-Family Residence, Landscaping and Related Improvements Project in Waiāhole/Waikāne, Ko‘olaupoko, O‘ahu. We offer the following responses to your comments:

Though there appears to be no streams with documented aquatic resources running through the project area itself, the importance of the Waiāhole watershed to the surrounding terrestrial, freshwater, brackish and marine environments warrant that care be taken during all stages of construction.

> The ‘Ōhulehule Forest Conservancy acknowledges the critical importance of the Waiāhole watershed and will ensure that care be taken during all stages of construction to protect the surrounding terrestrial, freshwater, brackish and marine environments.

We recommend that the Site-Specific Construction Best Management Practice Plan (SSBMPP) be created and distributed prior to the commencement of any construction activity and checks to ensure adherence be performed regularly. Should any event occur that poses a possible threat to nearby aquatic resources, we request that DAR be contacted immediately so that a staff member can assess the situation.

> The ‘Ōhulehule Forest Conservancy will ensure that a SSBMPP is created and distributed prior to the commencement of any construction activity, and that this plan include regularly scheduled checks to ensure adherence. Should any event occur that poses a possible threat to nearby aquatic resources, DAR staff will be contacted immediately.

Disturbance and areas denuded of vegetation should be planted or covered as quickly as possible to prevent erosion.

The ʻŌhulehule Forest Conservancy will include this best management practice in the Site Specific Control Best Management Practices Plan (SSBMPP) and will implement the covering of any exposed ground as quickly as possible in order to prevent erosion.

Scheduling work activities during periods of minimal rainfall to minimize erosion and run-off from the site.

The ʻŌhulehule Forest Conservancy will do its best to schedule work activities during periods of minimal rainfall for the area in addition to utilizing other best management practices to mitigate erosion and run-off from the site.

Prevent construction materials, petroleum products, debris and landscaping products from falling, blowing, leaching or flowing into the aquatic environment.

The ʻŌhulehule Forest Conservancy will ensure that any construction materials, petroleum products, debris and landscaping products are prevented from falling, blowing, leaching or flowing into the aquatic environment.

DAR also suggests that to minimize the potential of runoff from impermeable surfaces such as concrete slabs for the sidewalks and other flat surfaces that grass block pavers or other alternate methods be explored or utilized.

The ʻŌhulehule Forest Conservancy intends to utilize large concrete pavers with breaks for gravel or grass strips for all large impermeable surfaces which are not planned to have a roof covering such as the motor court area. Block pavers and alternate methods will be explored and considered for planned sidewalks and other flat impermeable surfaces.

We appreciate your participation in the environmental review process. Your comment and this response will be included in the Final Environmental Assessment, which will be published on the State Office of Planning and Sustainable Development Environmental Review Program website at https://planning.hawaii.gov/erp/comments/ and on the DLNR Office of Conservation and Coastal Lands website at https://dlnr.hawaii.gov/occl/current-applications/. Please feel free to contact me at (808) 550-3893, or via email at lillie@townscapeinc.com, should you have any questions or require additional information.

Sincerely,

Lillie Makaila
Staff Planner

cc: DLNR Office of Conservation and Coastal Lands

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
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STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

CDUA: OA-3893
Acceptance Date: April 3, 2022
180-Day Exp. Date: September 30, 2022
SUSPENSE DATE: May 23, 2022

MEMORANDUM

Apr 11, 2022

FROM: ~~TO:~~

State Agencies
- ✓ DLNR-Engineering
- ____ DLNR-Water Resource Mgmt.
- ____ DLNR-Oahu District Land Office
- ____ DLNR-Resource Enforcement
- ____ DLNR-Aquatic Resources
- ____ DLNR-Forestry & Wildlife
- ____ DLNR-Na Ala Hele
- ____ HHFDC
- ____ Office of Hawaiian Affairs
- ____ Department of Health

County Agencies:
- ____ CCH DPP
- ____ Honolulu Fire Department

TO: ~~FROM:~~ Michael Cain, Acting Administrator *S Michael Cain*
Office of Conservation and Coastal Lands

SUBJECT: REQUEST FOR COMMENTS
Conservation District Use Application (CDUA) OA-3893
Zweng Single-Family Residence, Landscaping, and Related Improvements Project

APPLICANT: Ohulehule Forest Conservancy (Paul Zweng)
TMK: (1) 4-8-006:001
LOCATION: 48-479 Waiahole Valley North Branch Road
Waikane, Koolaupoko, Oahu

PUBLIC HEARING: No

Attached please find our Department's notice to the applicant. CDUA OA-3893 and the Draft Environmental Assessment may be found on our website at dlnr.hawaii.gov/occl under current applications (https://dlnr.hawaii.gov/occl/current-applications/ - Zweng Single-Family Residence). We would appreciate your agency's review and comment on this application. If no response is received by the suspense date, we will assume there are no comments. The suspense date is the close of the ERP 30-day Comment Deadline.

REF: OCCL: TF CDUA OA-3893

Contact Trevor Fitzpatrick at (808) 798-6660 or trevor.j.fitzpatrick@hawaii.gov should you have any questions on this matter.

(✓) Comments Attached

( ) No Comments

Carty S. Chang, Chief Engineer
Signature/ Print your Name and Title

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

OCCL/Michael Cain
Ref: REQUEST FOR COMMENTS
Conservation District Use Application (CDUA) OA-3893
Zweng Single-Family Residence, Landscaping, and Related Improvements Project
Location: 48-479 Waiahole Valley North Branch Road
TMK(s): (1) 4-8-006:001
Applicant: Ohulehule Forest Conservancy (Paul Zweng)

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high-risk areas). Be advised that 44CFR, Chapter 1, Subchapter B, Part 60 reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood zones subject to NFIP requirements are identified on FEMA's Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA's Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT) could also be used to research flood hazard information.

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7139.
- Kauai: County of Kauai, Department of Public Works (808) 241-4849.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: May 23, 2022

June 27, 2022

Carty S. Chang, Chief Engineer
DLNR Engineering
1151 Punchbowl Street Room 221
Honolulu, Hawai‘i 97813

Subject: **COMMENT ON THE CONSERVATION DISTRICT USE APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ZWENG SINGLE-FAMILY RESIDENCE, LANDSCAPING AND RELATED IMPROVEMENTS PROJECT IN WAIĀHOLE/WAIKĀNE, KO‘OLAUPOKO, O‘AHU.**

Aloha Carty S. Chang:

Thank you for your comment letter dated May 23, 2022 on the Conservation District Use Application and Draft Environmental Assessment (EA) for the Zweng Single-Family Residence, Landscaping and Related Improvements Project in Waiāhole/Waikāne, Ko‘olaupoko, O‘ahu. We offer the following responses to your comments:

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood zones subject to the National Flood Insurance Program requirements are identified on FEMA’s Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA’s Map Service Center (msc.fema.gov). Our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfil.org/FHAT) could also be used to research flood hazard information.

> The ‘Ōhulehule Forest Conservancy and its representatives have utilized both of the resources stated above, and found that the project area is currently undesignated, as is much of the surrounding inland area. Based on this research, the proposed site does not appear to be located in a Special Flood Hazard Area with a high risk for flooding. The proposed residence site is located such that there is minimal risk for flooding from stormwater run-off as the site is elevated and relatively flat with slopes that guide water to the surrounding gulches and streams. Portions of the proposed driveway may have some risk for flooding from stormwater run-off, and therefore will use a co-plane design to guide stormwater into the aprons on either side of the driveway and into the proposed retention basins.

We appreciate your participation in the environmental review process. Your comment and this response will be included in the Final Environmental Assessment, which will be published on the State Office of Planning and Sustainable Development Environmental Review Program website at https://planning.hawaii.gov/erp/comments/ and on the DLNR Office of Conservation and Coastal Lands website at https://dlnr.hawaii.gov/occl/current-applications/. Please feel free to

contact me at (808) 550-3893, or via email at lillie@townscapeinc.com, should you have any questions or require additional information.

Sincerely,

Lillie Makaila
Staff Planner

cc: DLNR Office of Conservation and Coastal Lands

Fitzpatrick, Trevor J

From: Cab General
Sent: Tuesday, May 17, 2022 12:06 PM
To: Fitzpatrick, Trevor J; Bruce Tsuchida
Subject: Zweng Single-Family Residence--Draft EA (AFNSI)

Aloha,

Thank you for the opportunity to provide comments on the subject project. Based on review of the *Zweng Single-Family Residence Draft EA*, CAB recommends that preventative measures be taken during construction activities to minimize fugitive dust. Please see our standard comments for further recommendations on how to mitigate fugitive dust:

https://health.hawaii.gov/cab/files/2022/05/Standard-Comments-for-Land-Use-Reviews-Clean-Air-Branch-2022.pdf

Please let me know if you have any questions or concerns

Kristen Caskey, EHS
Kristen.caskey@doh.hawaii.gov
Clean Air Branch
Hawaii State Department of Health

June 27, 2022

Kristen Caskey
State of Hawai‘i Department of Health Clean Air Branch
2827 Waimano Home Rd #130
Pearl City, Hawai‘i 96782

Subject: **COMMENT ON THE CONSERVATION DISTRICT USE APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ZWENG SINGLE-FAMILY RESIDENCE, LANDSCAPING AND RELATED IMPROVEMENTS PROJECT IN WAIĀHOLE/WAIKĀNE, KO‘OLAUPOKO, O‘AHU.**

Aloha Kristen Caskey:

Thank you for your correspondance dated May 17, 2022 on the Conservation District Use Application and Draft Environmental Assessment (EA) for the Zweng Single-Family Residence, Landscaping and Related Improvements Project in Waiāhole/Waikāne, Ko‘olaupoko, O‘ahu. We offer the following responses to your comments:

CAB recommends that preventative measures be taken during construction activities to minimize fugitive dust. Please see our standard comment for further recommendations on how to mitigate fugitive dust: https://health.hawaii.gov/cab/files/2022/05/Standard-Comments-for-Land-Use-Reviews-Clean-Air-Branch-2022.pdf .

> The ‘Ōhulehule Forest Conservancy will review the aforementioned website for further recommendations on how to mitigate fugitive dust and will incorporate appropriate measures into our Site Specific Control Best Management Practices Plan (SSBMPP) to guide construction activities on the site.

We appreciate your participation in the environmental review process. Your comment and this response will be included in the Final Environmental Assessment, which will be published on the State Office of Planning and Sustainable Development Environmental Review Program website at https://planning.hawaii.gov/erp/comments/ and on the DLNR Office of Conservation and Coastal Lands website at https://dlnr.hawaii.gov/occl/current-applications/. Please feel free to contact me at (808) 550-3893, or via email at lillie@townscapeinc.com, should you have any questions or require additional information.

Sincerely,

Lillie Makaila
Staff Planner

cc: DLNR Office of Conservation and Coastal Lands

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulufire.com

RICK BLANGIARDI
MAYOR

SHELDON K. HAO
FIRE CHIEF

JASON SAMALA
DEPUTY FIRE CHIEF

RECEIVED
OFFICE OF CONSERVATION
AND COASTAL LANDS
2022 MAY 16 A 10:15
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

May 9, 2022

Mr. Michael Cain, Acting Administrator
Office of Conservation and Coastal Lands
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Cain:

Subject: Conservation District Use Application - OA-3893
Zweng Single-Family Residence and Associated Improvements
48-479 Waiahole Valley North Branch Road
Waikane, Hawaii 96744
Tax Map Key: 4-8-006: 001

In response to your memorandum received on April 19, 2022, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that the following be complied with:

1. 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 feet (46 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2018 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1, as amended.)

   A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; 2018 Edition, Section 18.2.3.2.1.)

2. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which

facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with Section 18.4. (NFPA 1; 2018 Edition, Section 18.3.1.)

3. The fire department access roads shall be in accordance with Section 18.2.3. (NFPA 1; 2018 Edition, Section 18.2.3.)

4. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Acting Battalion Chief Kendall Ching of our Fire Prevention Bureau at 808-723-7154 or kching3@honolulu.gov.

Sincerely,

CRAIG UCHIMURA
Acting Assistant Chief

CU/TC:bh

June 27, 2022

Craig Uchimura, Acting Assistant Chief
City & County of Honolulu
Honolulu Fire Department
636 South Street
Honolulu, Hawai‘i 96813

Subject: **COMMENT ON THE CONSERVATION DISTRICT USE APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ZWENG SINGLE-FAMILY RESIDENCE, LANDSCAPING AND RELATED IMPROVEMENTS PROJECT IN WAIĀHOLE/WAIKĀNE, KO‘OLAUPOKO, O‘AHU.**

Aloha Craig Uchimura:

Thank you for your comment letter dated May 9, 2022 on the Conservation District Use Application and Draft Environmental Assessment (EA) for the Zweng Single-Family Residence, Landscaping and Related Improvements Project in Waiāhole/Waikāne, Ko‘olaupoko, O‘ahu. We offer the following responses to your comments:

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 feet (46 meters) from the fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1;2018 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1, as amended.)

A fire department access road shall extend within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; 2018 Edition, Section 18.2.3.2.1)

The proposed dwelling will be construction such that no portion of any of the exterior walls are no more than 150 feet (46 meters) from the driveway, which will function as a fire department access road during emergencies. This driveway will extend within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and provides access to the interior of the building.

An approved water supply capable of supplying the required flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with Section 18.4. (NFPA 1; 2018 Edition, Section 18.3.1.)

According to Section 18.4.5.1, the minimum fire flow and flow duration requirements for the proposed structure (does not exceed 5,000 sf) is 1000 gallons per minute (gpm) for 1 hour. Section 18.4.5.1.4 states that a fire flow reduction of 40% is permitted for buildings

what are separated by at least 50 feet. As the proposed residence will not have any other buildings within 50 feet, this reduces the required fire flow to 600 gpm. The proposed water supply will meet these standards.

The fire department access roads shall be in accordance with Section 18.2.3. (NFPA 1; 2018 Edition, Section 18.2.3.)

According to Section 18.2.3.5.1 and 18.2.3.5.1.2, the fire department access roads for the proposed residence must provide an unobstructed minimum of 20 feet in width and 13.5 feet in vertical height. The proposed driveway will consist of a 12-foot-wide concrete driveway with an additional 4-foot-wide apron on either side. The apron will consist of 95% compacted fill and will allow for a 20-foot wide unobstructed access for emergency vehicles. The driveway will maintain a minimum unobstructed vertical height of 13.5 feet, in accordance with the dimensions described in Section 18.2.3.5.1.2.

Submit civil drawings to the HFD for review and approval.

Civil drawings will be submitted to HFD for review and approval as a part of the prequalification requirements for building and construction permits as outlined in the City & County of Honolulu Department of Planning and Permitting Express State Permit Checklist.

We appreciate your participation in the environmental review process. Your comment and this response will be included in the Final Environmental Assessment, which will be published on the State Office of Planning and Sustainable Development Environmental Review Program website at https://planning.hawaii.gov/erp/comments/ and on the DLNR Office of Conservation and Coastal Lands website at https://dlnr.hawaii.gov/occl/current-applications/. Please feel free to contact me at (808) 550-3893, or via email at lillie@townscapeinc.com, should you have any questions or require additional information.

Sincerely,

Lillie Makaila
Staff Planner

cc: DLNR Office of Conservation and Coastal Lands

7077/EL09-844

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

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

2022 APR 24 AM 9:08
DEPT OF LAND AND NATURAL RESOURCES
CITY & COUNTY OF HONOLULU

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

CDUA: OA-3893
Acceptance Date: April 3, 2022
180-Day Exp. Date: September 30, 2022
SUSPENSE DATE: May 23, 2022

MEMORANDUM

Apr 11, 2022

TO:

State Agencies
____ DLNR-Engineering
____ DLNR-Water Resource Mgmt.
____ DLNR-Oahu District Land Office
____ DLNR-Resource Enforcement
____ DLNR-Aquatic Resources
____ DLNR-Forestry & Wildlife
____ DLNR-Na Ala Hele
____ HHFDC

____ Office of Hawaiian Affairs
____ Department of Health
County Agencies:
✓ CCH DPP
____ Honolulu Fire Department

RECEIVED
OFFICE OF CONSERVATION AND COASTAL LANDS
2022 MAY -5 P 3:43
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM: Michael Cain, Acting Administrator *S Michael Cain*
Office of Conservation and Coastal Lands

SUBJECT: REQUEST FOR COMMENTS
Conservation District Use Application (CDUA) OA-3893
Zweng Single-Family Residence, Landscaping, and Related Improvements Project

APPLICANT: Ohulehule Forest Conservancy (Paul Zweng)
TMK: (1) 4-8-006:001
LOCATION: 48-479 Waiahole Valley North Branch Road
Waikane, Koolaupoko, Oahu

PUBLIC HEARING: No

Attached please find our Department's notice to the applicant. CDUA OA-3893 and the Draft Environmental Assessment may be found on our website at dlnr.hawaii.gov/occl under current applications (https://dlnr.hawaii.gov/occl/current-applications/ - Zweng Single-Family Residence). We would appreciate your agency's review and comment on this application. If no response is received by the suspense date, we will assume there are no comments. The suspense date is the close of the ERP 30-day Comment Deadline.

REF: OCCL: TF CDUA OA-3893

Contact Trevor Fitzpatrick at (808) 798-6660 or trevor.j.fitzpatrick@hawaii.gov should you have any questions on this matter.

( ) Comments Attached

(X) No Comments

Elizabeth KRUEGER, Chief of Zoning Regulations and Permits Branch, Department of Planning and Permitting

Signature/ Print your Name and Title

June 27, 2022

Elizabeth Krueger, Chief of Zoning Regulation and Permits Branch
City & County of Honolulu
Department of Planning and Permitting 650 S King Street
Honolulu, Hawai'i 96813

Subject: **COMMENT ON THE CONSERVATION DISTRICT USE APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ZWENG SINGLE-FAMILY RESIDENCE, LANDSCAPING AND RELATED IMPROVEMENTS PROJECT IN WAIĀHOLE/WAIKĀNE, KO'OLAUPOKO, O'AHU.**

Aloha Elizabeth Krueger:

Thank you for your comment letter on the Conservation District Use Application and Draft Environmental Assessment (EA) for the Zweng Single-Family Residence, Landscaping and Related Improvements Project in Waiāhole/Waikāne, Ko'olaupoko, O'ahu stating that the City & County of Honolulu Department of Planning and Permitting has no comments at this time.

We appreciate your participation in the environmental review process. Your comment and this response will be included in the Final Environmental Assessment, which will be published on the State Office of Planning and Sustainable Development Environmental Review Program website at https://planning.hawaii.gov/erp/comments/ and on the DLNR Office of Conservation and Coastal Lands website at https://dlnr.hawaii.gov/occl/current-applications/. Please feel free to contact me at (808) 550-3893, or via email at lillie@townscapeinc.com, should you have any questions or require additional information.

Sincerely,

Lillie Makaila
Staff Planner

cc: DLNR Office of Conservation and Coastal Lands

RECEIVED
LAND DIVISION
2022 APR 13 PM 1:02
DEPT OF LAND & NATURAL RESOURCES STATE OF HAWAII

RECEIVED
OFFICE OF CONSERVATION AND COASTAL LANDS
2022 APR 19 A 7:21
DEPT OF LAND & NATURAL RESOURCES STATE OF HAWAII

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
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M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF: OCCL: TF

CDUA: OA-3893
Acceptance Date: April 3, 2022
180-Day Exp. Date: September 30, 2022
SUSPENSE DATE: May 23, 2022

MEMORANDUM

Apr 11, 2022

TO:

State Agencies

___ DLNR-Engineering
___ DLNR-Water Resource Mgmt.
_✓_ DLNR-Oahu District Land Office
___ DLNR-Resource Enforcement
___ DLNR-Aquatic Resources
___ DLNR-Forestry & Wildlife
___ DLNR-Na Ala Hele
___ HHFDC
___ Office of Hawaiian Affairs
___ Department of Health

County Agencies:

___ CCH DPP
___ Honolulu Fire Department

FROM: Michael Cain, Acting Administrator *S Michael Cain*
Office of Conservation and Coastal Lands

SUBJECT: REQUEST FOR COMMENTS
Conservation District Use Application (CDUA) OA-3893
Zweng Single-Family Residence, Landscaping, and Related Improvements Project

APPLICANT: Ohulehule Forest Conservancy (Paul Zweng)
TMK: (1) 4-8-006:001
LOCATION: 48-479 Waiahole Valley North Branch Road
Waikane, Koolaupoko, Oahu

PUBLIC HEARING: No

Attached please find our Department's notice to the applicant. CDUA OA-3893 and the Draft Environmental Assessment may be found on our website at dlnr.hawaii.gov/occl under current applications (https://dlnr.hawaii.gov/occl/current-applications/ - Zweng Single-Family Residence). We would appreciate your agency's review and comment on this application. If no response is received by the suspense date, we will assume there are no comments. The suspense date is the close of the ERP 30-day Comment Deadline.

REF: OCCL: TF CDUA OA-3893

Contact Trevor Fitzpatrick at (808) 798-6660 or trevor.i.fitzpatrick@hawaii.gov should you have any questions on this matter.

( ) Comments Attached

(✓) No Comments ✓

Darlene Bryant-Takamatsu, Land Agent
Signature/ Print your Name and Title

June 27, 2022

Darlene Bryant-Takamoto, Land Agent
DLNR Oʻahu District Land Office
1151 Punchbowl Street Room 220
Honolulu, Hawaiʻi 96813

Subject: **COMMENT ON THE CONSERVATION DISTRICT USE APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ZWENG SINGLE-FAMILY RESIDENCE, LANDSCAPING AND RELATED IMPROVEMENTS PROJECT IN WAIĀHOLE/WAIKĀNE, KOʻOLAUPOKO, OʻAHU.**

Aloha Darlene Bryant-Takamoto:

Thank you for your comment letter on the Conservation District Use Application and Draft Environmental Assessment (EA) for the Zweng Single-Family Residence, Landscaping and Related Improvements Project in Waiāhole/Waikāne, Koʻolaupoko, Oʻahu stating that the DLNR O'ahu District Land Office has no comments at this time.

We appreciate your participation in the environmental review process. Your comment and this response will be included in the Final Environmental Assessment, which will be published on the State Office of Planning and Sustainable Development Environmental Review Program website at https://planning.hawaii.gov/erp/comments/ and on the DLNR Office of Conservation and Coastal Lands website at https://dlnr.hawaii.gov/occl/current-applications/. Please feel free to contact me at (808) 550-3893, or via email at lillie@townscapeinc.com, should you have any questions or require additional information.

Sincerely,

Lillie Makaila
Staff Planner

cc: DLNR Office of Conservation and Coastal Lands

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
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M. KALEO MANUEL
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COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

May 31, 2022

MEMORANDUM *Log no. 3623*

TO: MICHAEL CAIN, Acting Administrator
Office of Conservation and Coastal Lands

FROM: DAVID G. SMITH, Administrator
Division of Forestry and Wildlife

SUBJECT: **Division of Forestry and Wildlife Comments on the Conservation District Use Application (CDUA) OA-3893 for the Zweng Single-Family Residence, Landscaping and Related Improvements Project on O'ahu Island**

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your request for comments for the CDUA OA-3893 regarding the proposed Zweng single-family residence, landscaping, and related improvements project located at 48-479 Waiahole Valley North Branch Road in Waikane, Ko'olaupoko, on the island of O'ahu, TMK: (1) 4-8-006:001. The proposed project consists of developing an approximately 4, 955 square feet single-story slab-on-grade single-family residence with a photovoltaic electrical system, rainwater catchment system, and an independent septic system for wastewater disposal. Other related improvements include an extension of the existing driveway to the proposed residence as well as landscaping over an approximate area of 0.90-acres.

We appreciate the measures outlined in the CDUA to use native plant species. DOFAW provides the following additional comments on the potential of the proposed work to affect listed species in the vicinity of the project area.

We concur with the mitigation proposed in the CDUA for the Hawaiian Hoary Bat, which could potentially occur in the vicinity of the project area. We would also like to add that barbed wire should be avoided for any construction because bat mortalities have been documented as a result of becoming ensnared by this type of fencing during flight.

As per recognized in the CDUA and DEA, the State and Federally endangered O'ahu 'Elepaio (*Chasiempis ibidis*), a forest bird, is known to occur in habitat adjacent to the project site. The species is found in a variety of tall, closed canopy forest types with dense understory, most often in riparian forest in valleys, ranging from 100 m to 850 m (325 ft to 2,775 ft) in elevation. Prior to undertaking vegetation clearing, DOFAW recommends pre-construction surveys be conducted by a qualified biologist that follow the call-playback enhanced spot mapping methods described in VanderWerf et al. (2013). If an individual or pair are found, surveys should continue until the existence and extent of a territory can be reasonably determined. If an 'Elepaio nest is found, a buffer zone of 100 m (330 ft) should be established around it. In both instances, whether territory

or nest are determined or found, all disturbance in the vicinity should be ceased and DOFAW staff immediately notified.

Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in collision with manmade structures or grounding of birds. For nighttime work that might be required, DOFAW recommends that all lights used be fully shielded to minimize impacts. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season from September 15 through December 15. This is the period when young seabirds take their maiden voyage to the open sea. For illustrations and guidance related to seabird-friendly light styles that also protect the dark, starry skies of Hawai'i please visit: https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf

The State endangered Hawaiian Short-eared Owl or Pueo (*Asio flammeus sandwichensis*) could also potentially occur in the vicinity of the project site. The Pueo is a crepuscular species that most active during dawn and dusk twilights. DOFAW recommends twilight pre-construction surveys by a qualified biologist prior to clearing vegetation. If Pueo nests are present, a buffer zone should be established in which no clearing occurs until nesting ceases, and DOFAW staff should be notified.

DOFAW recommends minimizing the movement of plant or soil material between worksites, such as in fill. Soil and plant material may contain invasive fungal pathogens (e.g., Rapid 'Ōhi'a Death), vertebrate and invertebrate pests (e.g., Little Fire Ants, Coconut Rhinoceros Beetles), or invasive plant parts that could harm our native species and ecosystems. We recommend consulting the O'ahu Invasive Species Committee (OISC) at (808) 266-7994 in planning, design, and construction of the project to learn of any high-risk invasive species in the area and ways to mitigate spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species. Gear that may contain soil, such as work boots and vehicles, should be thoroughly cleaned with water and sprayed with 70% alcohol solution to prevent the spread of Rapid 'Ōhi'a Death and other harmful fungal pathogens.

To prevent the spread of Rapid 'Ōhi'a Death (ROD), if 'ōhi'a trees are present and will be removed, trimmed, or potentially injured DOFAW requests that the information and guidance at the following website be reviewed and followed: https://cms.ctahr.hawaii.edu/rod.

We appreciate your efforts to work with our office for the conservation of our native species. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Paul Radley, Protected Species Habitat Conservation Planning Coordinator at (808) 295-1123 or paul.m.radley@hawaii.gov.

Sincerely,

DAVID G. SMITH
Administrator

June 27, 2022

David G. Smith, Administrator
DLNR Division of Forestry and Wildlife
1151 Punchbowl Street Room 325
Honolulu Hawai‘i 96813

Subject: **COMMENT ON THE CONSERVATION DISTRICT USE APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ZWENG SINGLE-FAMILY RESIDENCE, LANDSCAPING AND RELATED IMPROVEMENTS PROJECT IN WAIĀHOLE/WAIKĀNE, KO‘OLAUPOKO, O‘AHU.**

Aloha David G. Smith:

Thank you for your comment letter dated May 31, 2022 on the Conservation District Use Application and Draft Environmental Assessment (EA) for the Zweng Single-Family Residence, Landscaping and Related Improvements Project in Waiāhole/Waikāne, Ko‘olaupoko, O‘ahu. We offer the following responses to your comments:

We concur with the mitigation proposed in the CDUA for the Hawaiian Hoary Bat, which could potentially occur in the vicinity of the project area. We would also like to add that barbed wire should be avoided for any construction because bat mortalities have been documented as a result of becoming ensnared by this type of fencing during flight.

The ‘Ōhulehule Forest Conservancy has no plans to utilize barbed wire fencing will ensure that it is not used during construction in order to mitigate any risk to the Hawaiian Hoary Bat.

As per recognized in the CDUA and DEA, the State and Federally endangered O‘ahu ‘Elepaio (*Chasiempis ibidis*), a forest bird, is known to occur in habitat adjacent to the project site. The species is found in a variety of tall, closed canopy forest types with dense understory, most often in riparian forest in valleys, ranging from 100 m to 850 m (325 ft to 2,775 ft) in elevation. Prior to undertaking vegetation clearing, DOFAW recommends pre-construction surveys be conducted by a qualified biologist that follow the call-playback enhanced spot mapping methods described in VanderWerf et al. (2013). If an individual or pair are found, surveys should continue until the existence and extent of a territory can be reasonably determined. If an ‘Elepaio nest is found, a buffer zone of 100 m (330 ft) should be established around it. In both instances, whether territory or nest are determined or found, all disturbance in the vicinity should be ceased and DOFAW staff immediately notified.

The ‘Ōhulehule Forest Conservancy has conducted multiple surveys of the proposed project area utilizing a qualified biologist and no ‘elepaio were observed in the vicinity of

the proposed project area. VanderWerf demonstrated that the ‘elepaio population in Waiāhole and Waikāne are located in areas at 800 feet above sea level and above. In recent correspondence with VanderWerf, he stated that in surveys that he has conducted in the area, no pueo were observed and seven ‘elepaio were observed, including two pairs and three individual males. All of the ‘elepaio were located between 800 and 1000 feet in elevation. He went on to state that ‘elepaio are sedentary animals and they are unlikely to disperse outside of established territories, therefore additional surveying is unnecessary, as it is highly unlikely that any ‘elepaio would be located near the proposed project area. If any individuals or nests are observed or found in the project area, all disturbance will be ceased and DOFAW staff will be immediately notified.

Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in collision with manmade structures or grounding of birds. For nighttime work that might be required, DOFAW recommends that all lights used be fully shielded to minimize impacts. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season from September 15 through December 15. This is the period when young seabirds take their maiden voyage to the open sea. For illustrations and guidance related to seabird-friendly light styles that also protect the dark, starry skies of Hawai‘i please visit: https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf

The ‘Ōhulehule Forest Conservancy does not anticipate any nighttime work in the construction of the proposed project. Should any nighttime work occur during the period of September 15 to December 15, the ‘Ōhulehule Forest Conservancy will ensure that any outdoor lighting used be fully shielded for the protection of young seabirds during fledgling season.

The State endangered Hawaiian Short-eared Owl or Pueo (*Asio flammeus sandwichensis*) could also potentially occur in the vicinity of the project site. The Pueo is a crepuscular species that most active during dawn and dusk twilights. DOFAW recommends twilight pre-construction surveys by a qualified biologist prior to clearing vegetation. If Pueo nests are present, a buffer zone should be established in which no clearing occurs until nesting ceases, and DOFAW staff should be notified.

The ‘Ōhulehule Forest Conservancy has conducted two previous surveys of the proposed project area, and no Pueo were observed, nor have they been seen anecdotally on the property. The only owls observed were non-native barn owls, and they were seen well outside of the project area at a location of 1,000 feet above sea level. If Pueo are observed in the vicinity of the proposed project area DOFAW staff will be notified immediately.

DOFAW recommends minimizing the movement of plant or soil material between worksites, such as in fill. Soil and plant material may contain invasive fungal pathogens

(e.g., Rapid ʻŌhiʻa Death), vertebrate and invertebrate pests (e.g., Little Fire Ants, Coconut Rhinoceros Beetles), or invasive plant parts that could harm our native species and ecosystems. We recommend consulting the Oʻahu Invasive Species Committee (OISC) at (808) 266-7994 in planning, design, and construction of the project to learn of any high-risk invasive species in the area and ways to mitigate spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species. Gear that may contain soil, such as work boots and vehicles, should be thoroughly cleaned with water and sprayed with 70% alcohol solution to prevent the spread of Rapid ʻŌhiʻa Death and other harmful fungal pathogens.

> The ʻŌhulehule Forest Conservancy will consult with the Oʻahu Invasive Species Committee to learn of any high-risk invasive species in the area and ways to mitigate the spread as well as additional processes to mitigate the risk of the spread of Rapid ʻŌhiʻa Death during construction activities.

To prevent the spread of Rapid ʻŌhiʻa Death (ROD), if ʻōhiʻa trees are present and will be removed, trimmed, or potentially injured DOFAW requests that the information and guidance at the following website be reviewed and followed: https://cms.ctahr.hawaii.edu/rod.

> During two biological surveys of the project area conducted in 2012 and in 2020, no ʻŌhiʻa trees were observed in or near the project area. Plans for the project do not include any removal, trimming or potential for injury to any ʻŌhiʻa trees. If any ʻŌhiʻa trees are discovered near the project area and are at risk for removal, trimming or potential injury, the ʻŌhulehule Forest Conservancy will follow guidance provided at the aforementioned website.

We appreciate your participation in the environmental review process. Your comment and this response will be included in the Final Environmental Assessment, which will be published on the State Office of Planning and Sustainable Development Environmental Review Program website at https://planning.hawaii.gov/erp/comments/ and on the DLNR Office of Conservation and Coastal Lands website at https://dlnr.hawaii.gov/occl/current-applications/. Please feel free to contact me at (808) 550-3893, or via email at lillie@townscapeinc.com, should you have any questions or require additional information.

Sincerely,

Lillie Makaila
Staff Planner

cc: DLNR Office of Conservation and Coastal Lands

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

May 5, 2022

IN REPLY REFER TO:

Project No.: 2022PR00519
Doc. No.: 2205LS06
Archaeology, Architecture

Mr. Michael Cain, Acting Administrator
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Cain:

SUBJECT: **Chapter 6E-42 Historic Preservation Review –**
Request Concurrence with Project Effect Determination
Conservation District Use Permit Application – OA-3893
48-479 Waiāhole Valley North Branch Rd., Kāneʻohe – New Single-Family Dwelling
Applicant's Name: Paul Zweng
Waiāhole and Waikāne Ahupuaʻa, Koʻolaupoko District, Island of Oʻahu
TMK: (1) 4-8-006:001, (1) 4-8-014:005

This letter provides the State Historic Preservation Division's (SHPD's) review of this private project requiring a Conservation District Use Permit (CDUA) OA-3893 from the Department of Land and Natural Resources (DLNR), Office of Conservation and Coastal Lands (OCCL). The submittal includes a letter from OCCL dated April 20, 2022, in which the OCCL requests the SHPD's concurrence with a HRS §6E-42 project effect determination based on an archaeological literature review and field inspection (LRFI) conducted by Cultural Surveys Hawai'i, Inc. (CSH) on behalf of the applicant. The SHPD received this submittal on April 22, 2022. The project area totals 5,000 sq. ft. The project submittal includes:

[X] OCCL letter dated April 20, 2022, initiating consultation, providing a project overview, and a request for the SHPD's concurrence with a project effect determination of "No historic properties affected;"
[X] A notice of acceptance and preliminary environmental determination from OCCL;
[X] A Conservation District Use Application;
[X] SHPD HRS 6E Submittal Form, construction plans, and photographs; and
[X] A draft environmental assessment report titled, *Draft Environmental Assessment Zweng Single-Family Residence, February 2022, TMK: (1) 4-8-006:001 [makai parcel] & (1) 4-8-014:005 [mauka parcel] Waiāhole & Waikāne, Koʻolaupoko, Oʻahu, Hawaiʻi.*

Project Description
The proposed scope of work includes construction of an approximately 4,955-sq.-ft single-story, slab-on-grade, single-family residence, installation of a new photovoltaic system, a rainwater catchment system, and an independent septic system for wastewater disposal, construction of a new driveway, and landscaping at 48-479 Waiahole Valley North Branch Road, Waikane. Subsurface disturbance will include grading for the dwelling and the driveway, and excavation for the building pads and retaining walls to a maximum of 3 ft. below grade. Additionally, ground disturbing work includes a total cut of approximately 1,500 cubic yards, fill of approximately 900 cubic yards, and 600 cubic yards of fill for the dwelling. The location of the overall building pad is within a large level area in the vicinity of a former residence that was removed from the property in 2017. Construction activities for the proposed residence and driveway entail an area of approximately 1.4 acres.

The subject parcels total 1,444 acres and is located within the State Conservation District, Resource subzone. The entire property consists of two parcels: TMK: (1) 4-8-014:005 is the *mauka* parcel containing 1,117 acres, and TMK (1) 4-8-006:001 is the *makai* parcel containing 327 acres. The proposed residence will be located at the southwest corner of the makai parcel in Waiāhole Valley, along North Branch Road of Waiāhole Valley Road. Mr. Paul Zweng is the managing member of the ʻŌhulehule Forest Conservancy, LLC and is responsible for the management of the lands, as well as the programs taking place on the property.

Findings
The OCCL letter indicates that CSH reported at least four previous archaeological studies have been conducted within the proposed project area or vicinity. They were carried out in 1988, 1992, and 2008 and approximately 52 historic sites or properties were identified. However, none are within the current project area. These previous archaeological studies identified approximately 52 historic sites or properties; however, the applicant and their agent notes that no historic sites or properties were observed within the proposed project area. The CSH field inspection consisted of a 100% ground survey of the project area, and that no historic properties were identified.

The two historic sites identified within the subject parcels includes portions of Waikāne Taro Flats (SIHP 50-80-10-1078) and Waikeʻekeʻe Loʻi (SIHP 50-80-10-4356). According to our site files, the Waikane Taro Flats is listed on both the National and Hawaiʻi Registers of Historic Places and is within TMK: (1) 4-8-006:001; (1) 4-8-014:0004, 006; and in the northwest portion of TMK: (1) 4-8-014:005. This historic property does not extend into the project area and will not be impacted by the current project.

Determination
Based on the information provided, the **SHPD concurs** with OCCL's determination of "No historic properties affected" for the proposed project. When the SHPD agrees that the action will not affect any significant historic properties, this is the SHPD's written concurrence and historic preservation review ends. The historic preservation review process is ended.

SHPD hereby notifies OCCL that the HRS 6E historic preservation review process is concluded. Project initiation may proceed.

Attach to appropriate permits: In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division, at (808) 692-8015.

Please contact Susan A. Lebo, Archaeology Branch Chief, at Susan.A.Lebo@hawaii.gov for any matters regarding this letter.

Aloha,
Alan Downer

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

cc: Paul Zweng, pzweng@gmail.com
Trevor Fitzpatrick, trevor.j.fitzpatrick@hawaii.gov
Bruce Tsuchida, bruce@townscapeinc.com
Lillie Makaila, lillie@townscapeinc.com
Hallett Hammatt, hhammatt@culturalsurveys.com

From: Ka‘ano‘i W
To: Cain, Michael
Cc: Fitzpatrick, Trevor J
Subject: [EXTERNAL] Kahalu‘u Neighborhood Board #29 Support of Fully Implemented Zweng Application
Date: Saturday, May 28, 2022 11:04:01 AM
Attachments: KNB #29 Support of Fully Implemented Zweng Application.pdf
KNB#29 Resolution.Zweng Property.5.11.22.pdf

May 18, 2022

Hawai‘i Department of Land and Natural Resources
Office of Conservation and Coastal Lands
Post Office Box 621
Honolulu, Hawai‘i 96809

RE: Kahalu‘u Neighborhood Board #29 Comments Via Board Resolution,
Regarding Zweng CDUP Draft EA to Construct One Single Family House

Aloha e Michael Cain,

We, the KNB #29, are very grateful to submit the following comments in support of the Conservation District Use Application (CDUA) OA-3893 Zweng Single Family Residence; Landscaping; and Related Improvements Project located at 48-479 Waiāhole Valley North Branch Road, Waikāne, Ko‘olaupoko, O‘ahu (TMK: (1) 4-8-006:001.

In our May 11, 2022 Kahalu‘u Neighborhood Board #29 (KNB #29) meeting, the board passed and approved through a majority vote the resolution attached titled, *“Regarding Zweng CDUP Draft EA to Construct One Single Family House.”* As stated in our resolution, the Kahalu‘u Neighborhood Board #29 (KNB#29) **SUPPORTS** awarding the CDUP, with all the proposed mitigation measures fully implemented, to allow one single family residence on this property.

Please do contact me (kaanoiwalk@gmail.com) if you have any questions or seek additional information.

Me ka ha‘aha‘a,

Ka‘ano‘i Walk, Chair
Kahalu‘u Neighborhood Board #29

CC: Trevor Fitzpatrick

KAHALUʻU NEIGHBORHOOD BOARD NO. 29
(Heʻeia Kea, ʻĀhuimanu, Kahaluʻu, Waiheʻe, Kaʻalaea, Waiāhole, Waikāne, Hakipuʻu, Kualoa)
C/o Neighborhood Commission Office ◇ 925 Dillingham Boulevard, Suite 160 ◇ Honolulu, Hawaii 96817
PHONE (808) 768-3710 ◆ FAX (808) 768-3711 ◆ INTERNET: http://www.honolulu.gov/nco

"LET US NOT EVER HAVE AN UNHAPPY MINORITY; RATHER, LET US BUILD A COMMUNITY CONSENSUS."

May 18, 2022

Hawaiʻi Department of Land and Natural Resources
Office of Conservation and Coastal Lands
Post Office Box 621
Honolulu, Hawaiʻi 96809

RE: Kahaluʻu Neighborhood Board #29 Comments Via Board Resolution, *Regarding Zweng CDUP Draft EA to Construct One Single Family House*

Aloha e Michael Cain,

We, the KNB #29, are very grateful to submit the following comments in support of the Conservation District Use Application (CDUA) OA-3893 Zweng Single Family Residence; Landscaping; and Related Improvements Project located at 48-479 Waiāhole Valley North Branch Road, Waikāne, Koʻolaupoko, Oʻahu (TMK: (1) 4-8-006:001.

In our May 11, 2022 Kahaluʻu Neighborhood Board #29 (KNB #29) meeting, the board passed and approved through a majority vote the resolution attached titled, *"Regarding Zweng CDUP Draft EA to Construct One Single Family House."* As stated in our resolution, the Kahaluʻu Neighborhood Board #29 (KNB#29) **SUPPORTS** awarding the CDUP, with all the proposed mitigation measures fully implemented, to allow one single family residence on this property.

Please do contact me (kaanoiwalk@gmail.com) if you have any questions or seek additional information.

Me ka haʻahaʻa,

Kaʻanoʻi Walk, Chair
Kahaluʻu Neighborhood Board #29

CC: Trevor Fitzpatrick

KAHALUʻU NEIGHBORHOOD BOARD NO. 29
(Heʻeia Kea, ʻĀhuimanu, Kahaluʻu, Waiheʻe, Kaʻalaea, Waiāhole, Waikāne, Hakipuʻu, Kualoa)
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"LET US NOT EVER HAVE AN UNHAPPY MINORITY; RATHER, LET US BUILD A COMMUNITY CONSENSUS."

Kahaluʻu Neighborhood Board #29 Resolution
Regarding Zweng CDUP Draft EA to Construct One Single Family House
May 11, 2022

Whereas, in 2012, after Paul Zweng, representing the ʻŌhulehule Forest Conservatory, presented his long-range vision, the Kahaluʻu Neighborhood Board #29 (KNB#29) conceptually supported that vision with the following resolution in its June 13, 2012 regular board meeting:

> "The Kahaluʻu Neighborhood Board supports in concept the five principal activities of the of the ʻŌhulehule Forest Conservancy, namely, (1) forest restoration/preservation, (2) preservation of ʻElepaio nesting sites, (3) operation of an agroforestry cacao farm, (4) restoration of taro growing and the protection of cultural and historical sites, and (5) construction of a single-family residence to be used by the Zweng family. This support is based on the information presented at the Kahaluʻu Neighborhood Board's June 13, 2012 meeting and is subject to revision or even possibly complete withdrawal should new information regarding the above five proposed activities come forth that are inconsistent with the purpose and mission of the Kahaluʻu Neighborhood Board."; and

Whereas, in May 2019, Paul Zweng and his consultants, Townscape, Inc., requested KNB#29 consultation on a proposed residence project consisting of one single family dwelling and two accessory structures totaling three detached structures, as well as a looping driveway for vehicular access, and general site improvements; and

Whereas, KNB #29 raised concerns and clarification about the use of the accessory structures as well as progress on the other elements of the vision; and

Whereas, after submittal to OCCL in August of 2020, the OCCL staff requested that the CDUA application be revised to be limited to only the single family residence, since the accessory structures are not permitted as part of the single family residence, and to minimize grading by changing the looping driveway, and applicant revised the project to reflect that these changes; and

Whereas, in April 2021, Paul Zweng and his consultants, Townscape, LLC briefed the KNB #29 on the revised application and assured the community that the property will not be used for tourism or commercial activity, such as vacation rentals, event venues or tours, outside of the agricultural operation; and

Whereas, after the April 2021 meeting, KNB #29 Chair Luersen requested clarification on the current CDUA application and the status of the entire ʻŌhulehule Forest Conservancy and a response letter was received in June 2021 outlining the permitting history and the long-term future goals and vision for the property; and

Whereas, the proposed location of the single-family residence is on a portion of the property previously used for a residence; and

Whereas, the application includes numerous mitigation measures intended to address potential impacts; and

Therefore, Be It Resolved that the Kahaluʻu Neighborhood Board #29 supports awarding the CDUP, with all the proposed mitigation measures fully implemented, to allow one single family residence on this property.

The Kahaluʻu Neighborhood Board #29 PASSED this resolution
by MAJORITY vote
at its Wednesday, May 11, 2022 Regular Meeting

Submitted by:
Kaʻanoʻi Walk, Chair

June 27, 2022

Kaʻanoʻi Walk, Chair
Kahaluʻu Neighborhood Board #29
925 Dillingham Boulevard, Suite 160
Honolulu, Hawaiʻi 96817

Subject: **COMMENT ON THE CONSERVATION DISTRICT USE APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ZWENG SINGLE-FAMILY RESIDENCE, LANDSCAPING AND RELATED IMPROVEMENTS PROJECT IN WAIĀHOLE/WAIKĀNE, KOʻOLAUPOKO, OʻAHU.**

Aloha Chair Walk & KNB #29 Board Members:

Thank you for your comment letter on the Conservation District Use Application and Draft Environmental Assessment (EA) for the Zweng Single-Family Residence, Landscaping and Related Improvements Project in Waiāhole/Waikāne, Koʻolaupoko, Oʻahu sharing your Board Resolution offering support for our application for a CDUP to allow one single family residence on the property. The Zweng family is looking forward to the opportunity to reside in this very special neighborhood and we will continue to work with you folks as the application process progresses.

We appreciate your participation in the environmental review process. Your comment and this response will be included in the Final Environmental Assessment, which will be published on the State Office of Planning and Sustainable Development Environmental Review Program website at https://planning.hawaii.gov/erp/comments/ and on the DLNR Office of Conservation and Coastal Lands website at https://dlnr.hawaii.gov/occl/current-applications/. Please feel free to contact me at (808) 550-3893, or via email at lillie@townscapeinc.com, should you have any questions or require additional information.

Sincerely,

Lillie Makaila
Staff Planner

cc: DLNR Office of Conservation and Coastal Lands

APPENDIX M
Correspondence and documents regarding lots/parcels of property

INTRODUCTION

The ʻŌhulehule Forest Conservancy, of which Paul Zweng is the managing member, owns a large property located in Waiāhole and Waikāne Valleys. This property is approximately 1,443.48 acres in size and is within the State Conservation District. According to the City and County of Honolulu, Department of Planning and Permitting, in a recent letter dated August 15, 2022, the property is one subdivided lot known as Lot 1. There are two Tax Map Key (TMK) parcels associated with this property: the mauka parcel with 1,116.72 acres is TMK 4-8-014:005, and the makai parcel with 326.76 acres is TMK 4-8-006:001, a total combined acreage of 1,443.48 acres.

The landowner has contracted with Townscape, Inc. as a consultant to assist with planning and permitting for the property, and Townscape, Inc. is currently assisting with an application for a Conservation District Use Permit for the construction of a single-family residence to be located on the makai parcel of the property. The Hawai‘i Administrative Rules Chapter 13-5-41 (b) states that “Not more than one single family residence shall be authorized within the conservation district on a legal lot of record.” In a letter from the Department of Land and Natural Resources Office of Conservation and Coastal Lands dated April 5, 2022, the following comment was provided:

> *“In Section 4.2.4. SOCIO-ECONOMIC ENVIRONMENT of the Draft EA, it states: It is understood that though the parcels have two independent TMK’s, the OCCL will treat the property as one legal lot of record and will only allow one single-family residence to be constructed.*
>
> - *Please provide maps and official correspondence letters that demonstrate TMKs: (1) 4-8-006:001 and 4-8-014:005 are one (1) legal lot of record.”*

This appendix is meant to provide the maps and official correspondence letters requested in the above comment from the OCCL.

Prior to the purchase of the property, a Fact Sheet/Title Guarantee document was provided to Mr. Paul Zweng. This document was prepared by Terry S. Hand. It states:

> *“Although there are two (2) tax map key numbers, there is only one (1) legal lot and the property is not subdivided.”*

This is the first instance where the landowner was informed that the property had two TMK numbers, and was only one legal lot. A copy of this document is included in this appendix for reference.

In a letter dated March 30, 2012, the landowner requested further information and confirmation from the City and County of Honolulu Department of Planning and Permitting regarding the status of the lots associated with the property. The City and County of Honolulu Department of Planning and Permitting responded with a letter dated June 20,

2012 which stated that the makai parcel with TMK 4-8-006:001 was a portion of Lot 1, a lot consolidated and resubdivided in July 1975.

In a letter to the City and County of Honolulu Department of Planning and Permitting dated July 19, 2022, Townscape, Inc. on behalf of the landowner requested further clarification regarding the status of the lots associated with the property, and included both TMK numbers 4-8-006:001 and 4-8-014:005 for the makai and mauka parcels respectively to be researched. The City and County of Honolulu Department of Planning and Permitting responded with a letter dated August 15, 2022 which confirmed that both parcels with the abovementioned TMKs constitute one single lot. The letter goes on to state:

> *"Although Lot 1 consists of two TMKs, it is a single lot for the administration of building permits and zoning regulations of the City and County of Honolulu."*

Copies of the letters described above are included in this appendix for reference.

The following documents are included in this appendix in order to clarify the status of the lots associated with this property.

1. Fact Sheet/Title Guarantee provided to the landowner prior to bidding for purchase of the property. Undated.
2. Letter to the City and County of Honolulu Department of Planning and Permitting requesting clarification on the lots associated with TMK 4-8-006:001 (makai parcel). Dated March 30, 2012.
3. Response Letter from the City and County of Honolulu Department of Planning and Permitting. Dated June 20, 2012.
4. Letter to the City and County of Honolulu Department of Planning and Permitting requesting further clarification on the lots associated with TMKs 4-8-006:001 and 4-8-014:005. Dated July 19, 2022.
5. Response Letter from the City and County of Honolulu Department of Planning and Permitting. Dated August 15, 2022.

FACT SHEET

This Fact Sheet describes the property located in Waiahole and Waikane Valleys, Waikane and Waiahole, District of Koolaupoko, Island of Oahu as described below ("Property"). The Property will be auctioned on the auction date stated below.

I. **PROPERTY**

A. **Address:**

(i) 48-400 Waiahole Valley Road (TMK No. (1) 4-8-006-001)
Kaneohe, Hawaii 96744

(ii) No Street Number - Waiahole Valley Road (TMK No. (1) 4-8-014-005)
Kaneohe, Hawaii 96744

(SEE "NOTES" BELOW FOR FURTHER INFORMATION)

B. **Tax Map Key:**

(1) 4-8-006-001
(1) 4-8-014-005

(SEE "NOTES" BELOW FOR FURTHER INFORMATION)

NOTES:

(1) Although There Are Two (2) Tax Map Key Numbers, there is Only One (1) Legal Lot and the Property is Not Subdivided;

(2) The City and County of Honolulu Real Property Tax Records Reflect an Address of 48-143 Waikane Valley Road for TMK No. (1) 4-8-006-001.

C. **Description of Property:**

(i) 326.760 acres of land with two (2) dwellings with a total living area of approximately 2,170 square feet. The first dwelling containing 3 bedrooms/1 bath (1,584 square feet); the second dwelling containing 2 bedrooms/1 bath (586 square feet);

(ii) 1,116.720 acres of vacant land located at Waikane and Waiahole, District of Koolaupoko, City and County of Honolulu, State of Hawaii;

(iii) a portion of the Property has been entered in the National Register of Historic Places due to the existence of taro flats on the Property;

(iv) the Property may contain the presence of archaeological or historical artifacts;

(v) The Property may be subject to the United States of America Army Predator Control Program in Waikane and Kahana Valleys, Northern Koolau Mountains, Oahu, Hawaii, regarding the protection of the O'ahu 'Elepaio bird in Waikane and Kahana Valleys; and

(vi) See Item No. V below.

D. **Land Tenure:**

Fee Simple

E. **Land Zoning/Use:**

Tax Map Key No. (1) 4-8-006-001:

County Zoning:
P-1, Restricted Preservation

State Land Use Commission Classification (SLUC):
Conservation 'Resource' Subzone

Tax Map Key No. (1) 4-8-014-005:

County Zoning:
P-1, Restricted Preservation

State Land Use Commission Classification (SLUC):
Conservation 'Protected' Subzone

F. **City and County of Honolulu Property Tax Assessed Valuation & Taxes for 2009 as of October 1, 2008 Re: Tax Map Key No. (1) 4-8-006-001:**

Land:	$ 980,300.00
Bldg.:	$ 253,900.00
Total:	$1,234,200.00

Taxes plus penalty and interest calculated to 11/30/09: $7,430.31

G. **City and County of Honolulu Property Tax Assessed Valuation & Taxes for 2009 as of October 1, 2008 Re: Tax Map Key No. (1) 4-8-014-005:**

Land:	$2,233,400.00
Total:	$2,233.400.00

Taxes plus penalty and interest calculated to 11/30/09: $13,445.82

III. **MORTGAGE:**

Principal balance	$2,182,014.52
Interest to 05/01/09 (7.75% per annum)	$ 28,165.79
Interest from 05/02/09 to 09/09/09 (24% per annum)	$ 185,220.95
Late Charges	$ 868.63
Total to September 9, 2009	$2,396,269.89

***Interest will continue to accrue through the date of closing at the per diem rate of $1,454.68**

V. **Due Diligence and Items of Record on the Property Title Report:**

On the assumption that any prospective bidder to the Property has done its due diligence and is now aware of any items of record referenced in said title report, let the following be known:

Any items of record with regard to any Deeds or the like which claim to have an interest in the Property, Title Guaranty of Hawaii, Inc. ("TG") does not believe that any of those items have any valid effect on the title of the Property and therefore if a policy of title insurance is issued by TG, then Schedule B to the policy will not contain any reference to said items. Accordingly, TG is willing to issue a title policy insuring over any claim that may be made with regard to those purported interests that are of record.

VI. **DA Right-of-Entry for Environmental Assessment and Response**

The properties are subject to the provisions of DA Right-of-Entry for Environmental Assessment and Response (DAC84-9-09-125) granted to the United States of America through the U.S. Army Corps of Engineers as a work area for environmental investigation and response in connection with the Formerly Used Defense Sites (FUDS) Program.

VII. **SALES INFORMATION**

Open House: No open house

Auction: November 1, 2010 at 12:00 p.m. (Noon)
Front Entrance of the First Circuit Court, State of Hawaii
777 Punchbowl Street
Honolulu, Hawaii 96813.

TERMS OF SALE: No upset price. The Property shall be sold without open house, and is being sold in its "AS IS" condition as one (1) legal lot at public auction with 10% down upon award to the highest bid, payable in cash, certified check or cashier's check at the close of the auction. The balance of the purchase price shall be paid concurrently with the delivery of the documents transferring title to the purchaser. Prior to participating in the public auction, potential bidders must show proof of ability to comply with 10% bid requirement. There are no warranties of title or any other warranty. The successful purchaser will be responsible for obtaining possession of the properties. The successful purchaser will be responsible for and bear all cost of closing, including escrow, conveyance and recordation fee, and conveyance tax. Although there are two (2) tax map key numbers, there is only one (1) legal lot and the property is not subdivided.

VIII. CONTACT:

TERRY S. HAND, Commissioner
1720 Ala Moana Blvd., Suite B3A
Honolulu, Hawaii 96815
Phone: (808) 949-0603
Mobile: (808) 223-9809
Email: terry@handproperties.com

THE FOREGOING INFORMATION HAS BEEN GATHERED FROM VARIOUS SOURCES. YOU SHOULD CONFIRM THE INFORMATION INDEPENDENTLY PRIOR TO BIDDING ON THE PROPERTY.

→ Title
→ Liability
→ Auction Rules apply.
→ Cancellation rules apply?

$ 43,500

$ 1518/acre

1442
550
892

$ 2500

March 30, 2012

Mr. David Tanoue
City and County of Honolulu
Department of Planning and Permitting
650 South King Street
Honolulu, Hawai'i 96813

Dear Mr. Tanoue:

I am writing you on behalf of the 'Ōhulehule Forest Conservancy (OFC) to request a determination regarding how many legal lots of record are located on Tax Map Key Parcel 4-8-006:001 owned by the OFC.

Tax Map Key (TMK) Parcel 4-8-006:001 covers an area of approximately 327 acres in Waikāne Valley. The Plat Map covering the property indicates that there were four small lots located in the southern part of the property, marked on the map with letters A (formerly TMK parcel 4-8-006:005), B (formerly TMK parcel 4-8-006:006), C (formerly TMK parcel 4-8-006:007), and D, that were "dropped" for tax purposes. I would like to confirm whether these lots are still present in your records as legal lots or whether they are no longer legal lots of record. I have attached a copy of the Plat Map covering the property for your information.

If you need any additional information regarding this request, please feel free to contact me at (808) 377-1947 or via email at pzweng@gmail.com.

Thank you very much for your assistance in this matter,

Sincerely,

Paul L. Zweng

Paul Zweng, Managing Member
'Ōhulehule Forest Conservancy, LLC.
1236 Aalapapa Drive
Kailua, HI 96734

Attachments:

1) Plat Map O48006

CORRESPND
DEC 6 1940
MAP
FEB 18 '49
FEB 28 1951
MAR 13 '52
MAR 19 '52
JUN 25 '56
OCT 24 '60
JAN 27 1961
JUL 5 1974
OCT 23 1974
JUN 6 1975
OCT 17 1975
OCT 1 81976
MAR 28 1979
SEP 6 1979
JAN 20 1981

HAKIPUU

PLAT 14

PUU PUEO

HAUPUU-WAIKANE BOUNDARY

WAIKANE STREAM

DITT ROAD

Ulawini "Spring"

WAIKEKEE STREAM

L.C.Aw. 5716:4

Manuel Roberts 3.10 Acs.

Waikane stream ditch

Hui o Waikane

TO KAHUKU

KAMEHAMEHA HIGHWAY

TO PAU

PLAT 03

PLAT 05

HAUPOA STREET

Por. L.C.Aw. 5716:2

Por. L.C.Aw. 3789:2

L.C. Aw. 5956:5

L.C. Aw. 5954:1

ditch

K.

WAIKANE VALLEY ROAD

E. O. Hall and H. Dimond

Pan-Pacific Development Inc.

PLAT 04

PLAT 10

WAIKANE FOREST RESERVE

FOREST PLAT 14

WAIKANE FOREST RESERVE

Stream

ROADWAY, UTILITIES & ACCESS ESMT "RUA-1" (2.05 Ac.)

ROADWAY, UTILITIES ACCESS ESMT "RUA-2" (4.55 Ac.)

326.76 Ac

STREAM

STREAM

L.C.Aw. 10880:3 Unlocated.

L.C.Aw. 10880

375.965 Ac.

Stream

Application

Court

PLAT 12

Land O

PLAT

True North

Dwg No. 1660

By: J.T.A.K. August 29, 1933

Source: Tax Maps Bureau of Survey Dept.

WAIKANE, KOOLAUPOKO, OAHU

Dropped: 2 to 8, incl.

FIRST		DIVISION
ZONE	SEC.	PLAT
4	8	06
CONTAINING		PARCELS
Scale:- 1 in. = 300 ft.		

ADVANCE SHEET SUBJECT TO CHANGE

PRINTED

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

PETER B. CARLISLE
MAYOR

DAVID K. TANOUE
DIRECTOR

JIRO A. SUMADA
DEPUTY DIRECTOR

June 20, 2012

2012/LD-10

Mr. Paul Zweng, Managing Director
Ohulehule Forest Conservancy, LLC
1236 Aalapapa Drive
Kailua, Hawaii 96734

Dear Mr. Zweng:

Status of Lots A, B, C & D of Waikane Valley
48-479 Waiahole Valley North Branch Road
Tax Map Key: 4-8-006:001

This is in response to your letter dated March 30, 2012, time-stamped received on June 7, 2012, which requested the status of four small lots located in the southern part of the above-referenced property along the Waikane-Waiahole boundary. Please accept our apologies for the delayed response.

According to the last subdivision map approved by the City for this area, the entire Parcel 4-8-006: 001 is part of Lot 1 of 1,443.48 acres as shown on the attached map approved on July 24, 1975 under Subdivision File No. 1975/SUB-202.

Lots A, B, C and D do not appear on Subdivision File No. 1975/SUB-202 which continues to be the basis for the administration of building permits and zoning regulations of the City and County of Honolulu.

Copies of the subdivision file may be obtained at our Data Access and Imaging Branch located on the ground floor of the Frank F. Fasi Municipal Building, 650 South King Street.

Should you have any questions, please contact Jane Asaoka of our staff at 768-8281.

Very truly yours,

for David K. Tanoue, Director
Department of Planning and Permitting

DKT:ja
(944824)
Attachment

July 19, 2022

Dean Uchida, Director
City & County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

Aloha Dean Uchida,

Townscape, Inc., on behalf of our client Paul Zweng of the ʻŌhulehule Forest Conservancy, requests your assistance with clarification regarding the legal lot(s) of record associated with the Tax Map Key (TMK) Parcels 4-8-006:001 and 4-8-014:005. We would greatly appreciate if your department could provide a determination letter regarding the property associated with the above stated TMKs that indicates clearly if the property is **one (1) legal lot of record** with two associated TMKs **or two (2) individual legal lots of record** with the respective TMK.

Townscape, Inc. is currently in the permitting process on behalf of Paul Zweng and the ʻŌhulehule Forest Conservancy for a Conservation District Use Permit for the construction of a single-family dwelling on TMK 4-8-006:001. This permitting process includes a Environmental Assessment (EA) and is overseen by the Department of Land and Natural Resources Office of Conservation and Coastal Lands. Under HRS Chapter 13-5-41 (b) "*Not more than one single family residence shall be authorized within the conservation district on a legal lot of record".* Though this permit is for only one single-family residence, the OCCL is requesting that the matter of how many legal lots of record are located on this property be clarified in order for the permitting process to continue.

The property in question was purchased in 2011 by Mr. Paul Zweng, managing member of the ʻŌhulehule Forest Conservancy. During the purchasing process, Mr. Zweng received a Fact Sheet prepared by Mr. Terry S. Hand of Terry Hand Properties. This document is enclosed for your reference, and it states in multiple places in the Fact Sheet that "although there are two (2) tax map key numbers, there is only one (1) legal lot and the property is not subdivided."

The City & County DPP website: http://gis.hicentral.com shows each TMK as separate parcels, with TMK 4-8-014:005 a parcel totaling 1117 acres and TMK 4-8-006:001 a parcel totaling 327 acres, a combined acreage of 1444 acres.

In a March 30, 2012 letter from Mr. Zweng to your department, a request for clarification on the number of legal lots of record located on TMK parcel 4-8-006:001 was made. The Plat map of the area showed that 4 small subdivision lots A, B, C & D were located within the bounds of TMK parcel 4-8-006:001. This letter and Plat map 048006 are also enclosed for your reference.

A response letter was received from the department dated June 20, 2012. This letter stated that "according to the last subdivision map approved by the City for this area, the entire Parcel 4-8-006:001 is a part of Lot 1 of 1,443.48 acres as shown on the attached map approved on July 24,

1975 under Subdivision File No. 1975/SUB-202." This letter was included in our application and OCCL stated that the letter does not sufficiently clarify whether the property is one (1) legal lot of record, and they requested more information. Our copy of the letter that we provided to OCCL did not include the map mentioned as an attachment to the letter, and OCCL requested to see the attached map. On July 18, 2022 I spoke to DPP staff regarding this attached subdivision map and I was directed to the Digital Access Imaging Branch (DAIB) to view the documents and maps in the aforementioned subdivision file. I was able to visit DAIB yesterday, on July 18, 2022 to view the microfilm in the file. I have enclosed the documents that I copied from the DAIB for your reference. These documents were provided to OCCL on July 18, 2021 and a response from OCCL staff on July 19, 2021 stated that the documents do not provide sufficient clarity regarding the legal lots of record for the two TMKs associated with this property.

Based on the information available thus far, we assume that TMK 4-8-006:001 (327 acres) and TMK 4-8-014:005 (1117 acres) were consolidated and resubdivided into Lot 1 with a net area of 1,443.48 acres, described in the letter dated July 29, 1975 from Deputy Director William E Wanket of the Department of Land Utilization. We would appreciate your research and confirmation of this if it is in fact a correct assumption.

Currently, we have completed the initial CDUA and Draft EA and both were accepted by OCCL as complete in April 2022. The Draft EA was published in the April 23, 2022 issue of the Environmental Notice, with the comment period ending on May 23, 2022. There are several next steps in the process in order to be able to go before the Board of Land and Natural Resources to be granted a permit including the publishing of the Final EA in the Environmental Notice for a 30-day challenge period. I was notified by OCCL staff today that if we do not provide clarification regarding the legal lots of record for the property **by August 1, 2022,** we may be asked to restart the entire permitting process over again or risk going before the Board of Land and Natural Resources with a negative recommendation from OCCL staff. Therefore, if you could provide a determination to us by **Wednesday, July 27, 2022** we would be thankful. Any assistance you can provide in this short timeframe is greatly appreciated.

Please let us know if you have any questions or need any additional information. You may contact Lillie Makaila at (808) 927-5742 or via email at lillie@townscapeinc.com.

Me ke aloha,

Lillie Makaila, Staff Planner
Townscape, Inc.

Enclosure:
- Fact Sheet
- Legal Lot of Record Correspondence
- USGS Topo Map with TMK parcels indicated

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
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RICK BLANGIARDI
MAYOR

DEAN UCHIDA
DIRECTOR

DAWN TAKEUCHI APUNA
DEPUTY DIRECTOR

August 15, 2022 2022/ELOG-1494

Ms. Lillie Makaila
Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, Hawaii 96813

Dear Ms. Makaila:

This is in response to your letter dated July 19, 2022, requesting confirmation from the Department of Planning and Permitting (DPP) that the current Tax Map Keys 4-8-006: 001 and 4-8-014: 005 constitute one single lot.

We confirm that on July 24, 1975, the Department of Land Utilization (now DPP) granted approval to Subdivision File No. 1975/SUB-202 for the consolidation and resubdivision of various parcels into Lot 1 of 1,443.48 acres and Lot 2 of 528.937 acres, and the cancellation and designation of various easements. The boundaries of the approved Lot 1 correspond to the combined boundaries of the abovementioned TMKs. Although Lot 1 consists of two TMKs, it is a single lot for the administration of building permits and zoning regulations of the City and County of Honolulu. Enclosed are copies of the approved subdivision map showing Lot 1 (highlighted in yellow) and the corresponding approval letter. No records of any subsequent consolidation and/or subdivision of Lot 1 were found.

Should you have any questions on this letter, please contact Sharon Nishiura at (808) 768-8101 or Mario Siu-Li at (808) 768-8098.

Very truly yours,

for Dean Uchida
Director

Enclosures
cc: State Department of Land and Natural Resources –
Office of Conservation and Coastal Lands (with enclosures)

JUL 29 1975

1975(202)(R

Community Planning, Inc.
700 Bishop Street
Suite 608
Honolulu, Hawaii 96813

Gentlemen:

Proposed Subdivision: Waikane-Waiahole--Kamehameha Highway
Tax Map Keys: 4-8-04: 1, 2, 4, 5 and 7 to 15
4-8-05: 4 to 7 and 10 to 12
4-8-06: 1 to 6 and 8 and 4-8-14: 2, 4 and 5
Owner : Pao Investment Corporation
Surveyor : Community Planning, Inc.

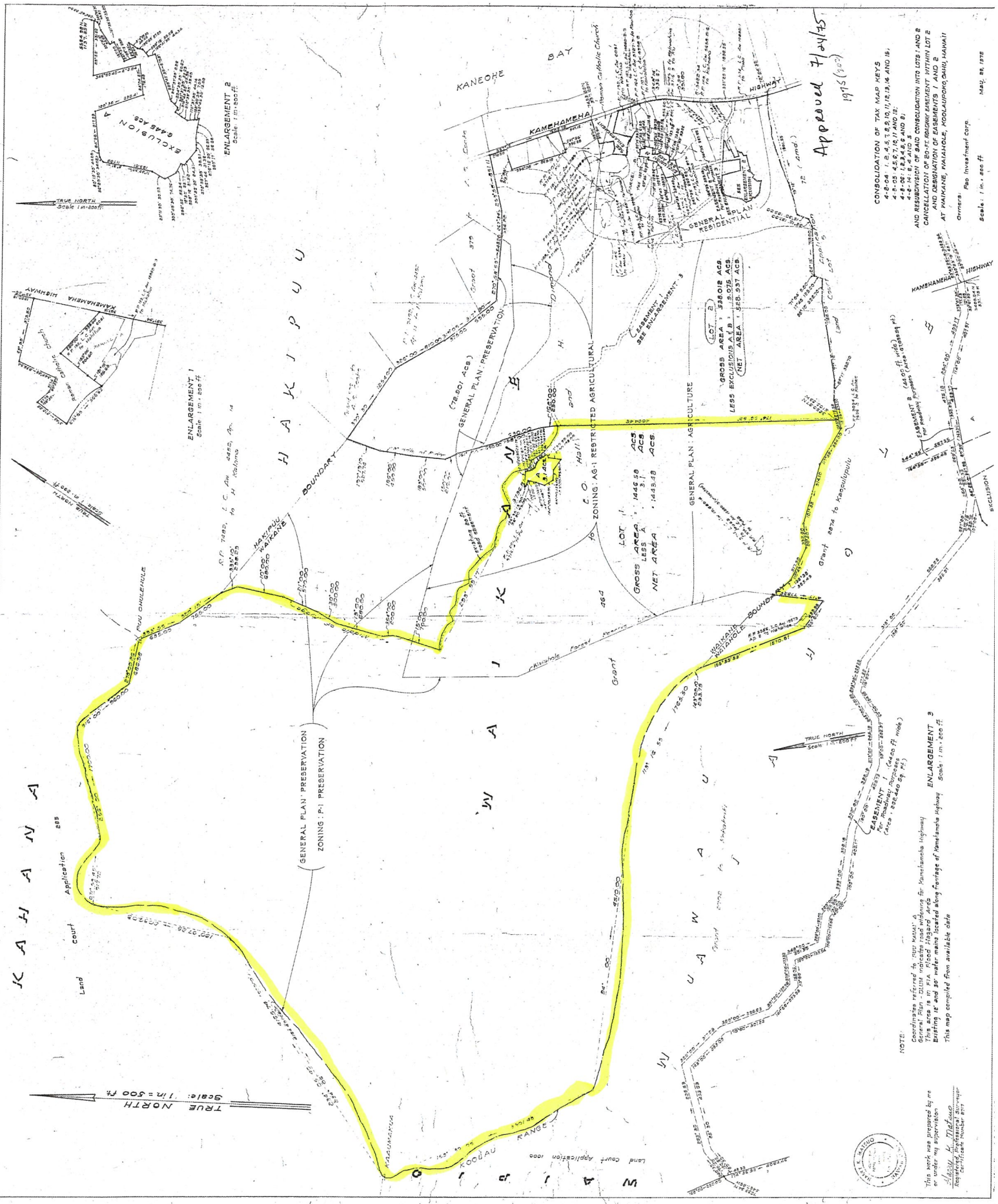
Approval was granted on July 24, 1975, to the proposed consolidation and resubdivision of various parcels of Tax Map Keys 4-8-04; 4-8-05; 4-8-06 and 4-8-14 into two lots: Lot 1 with a net area of 1,443.48 acres and Lot 2 with a net area of 528.937 acres; cancellation of a 20-foot roadway easement within Lot 2 and the designation of Easements 1 and 2 (44 feet wide) for roadway purposes. The proposed subdivision is for conveyance purposes.

A copy of the final survey map bearing the stamp of approval is enclosed.

Sincerely yours,

WILLIAM E. WANKET
Deputy Director

WEW:et
Encl.: Map
cc: Department of Transportation Services
Utility Companies
Department of Education
Federal Housing Administration


Approved 7/24/75
1975 (302)
CONSOLIDATION OF TAX MAP KEYS
4-8-04: 1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14 AND 15;
4-8-05: 4, 5, 6, 7, 10, 11 AND 12;
4-8-06: 1, 2, 3, 4, 5, 6 AND 8;
4-8-14: 8, 4 AND 5
AND RESUBDIVISION OF SAID CONSOLIDATION INTO LOTS 1 AND 2
CANCELLATION OF 20-FT. ROADWAY EASEMENT WITHIN LOT 2
AND DESIGNATION OF EASEMENTS 1 AND 2
AT WAIKANE, WAIAHOLE, KOOLAUPOKO, OAHU, HAWAII
Owners: Fao Investment Corp.
Scale: 1 in. = 200 ft.
May 28, 1975
KANEOHE BAY
KAMEHAMEHA HIGHWAY
EXCLUSION A
6.445 ACS.
ENLARGEMENT 2
Scale: 1 in. = 200 ft.
TRUE NORTH
Scale: 1 in. = 200 ft.
ENLARGEMENT 1
Scale: 1 in. = 200 ft.
HAKIPUU
WAIKANE
WAIAHOLE
KAHANA
WAIAHOLE BOUNDARY
HAKIPUU WAIKANE BOUNDARY
PUU OHULEHULE
GENERAL PLAN: PRESERVATION
(72.901 ACS.)
GENERAL PLAN: PRESERVATION
ZONING: P-1 PRESERVATION
ZONING: AG-1 RESTRICTED AGRICULTURAL
GENERAL PLAN: AGRICULTURE
GENERAL PLAN: RESIDENTIAL
LOT 1
GROSS AREA: 1446.58 ACS.
LESS A: 3.1 ACS.
NET AREA: 1443.48 ACS.
LOT 2
GROSS AREA: 538.012 ACS.
LESS EXCLUSIONS A & B: 9.075 ACS.
NET AREA: 528.937 ACS.
EASEMENT 1 SEE ENLARGEMENT 3
EASEMENT 2 (44.00 ft. wide)
EASEMENT 3
Grant 2874 to Kaopulupulu
Grant 464
Land Court Application 1000
KAAUMAKUA
KOOLAU RANGE
TRUE NORTH
Scale: 1 in. = 500 ft.
ENLARGEMENT 3
Scale: 1 in. = 200 ft.
NOTE:
Coordinates referred to PUU KAHAI Δ
General Plan - DLUM indicates road widening for Kamehameha Highway
This area is in FIA Flood Hazard Area
Existing 12" and 30" water mains located along frontage of Kamehameha Highway
This map compiled from available data
This work was prepared by me or under my supervision
Hazen K. Matsuo
Registered Professional Surveyor
Certificate Number 8717