CONSERVATION DISTRICT USE APPLICATION (CDUA)

PROJECT NAME: Zweng Single-Family Residence

Conservation District Subzone: Resource

Identified Land Use: D-1 Single Family Residence

Project Address: 48-479 Waiāhole Valley North Branch Road, Kāneʻohe Hawaiʻi 96744

Tax Map Key(s): 4-8-006:001

Ahupua’a: Waiāhole & Waikāne

County: Honolulu

District: Koʻolaupoko

Island: Oʻahu

Proposed Commencement Date: TBD

Proposed Completion Date: TBD

Estimated Project Cost: TBD

TYPE OF PERMIT SOUGHT: ☒ Board Permit ☐ Departmental Permit

Note: The four items on the left do not require that a full CDUA be filled out; please complete the first three pages of this application, and refer to the relevant HAR sections for the required documentation.

ATTACHMENTS (where applicable)

$2,500 Application Fee (ref §13-2-33 through 34)

$250 Public Hearing Fee ($250 plus publication costs; ref §13-5-40)

20 copies of CDUA for Board and Departmental Permits (5 hard + 15 hard or digital copies)

Management Plan or Comprehensive Management Plan (ref §13-5-39 and §13-5 Exhibit 3)

Draft / Final Environmental Assessment or Draft / Final Environmental Impact Statement

Special Management Area Determination (ref Hawaiʻi Revised Statutes (HRS) 205A)
Zweng Single-Family Residence

☐ Shoreline Certification (ref §13-5-31(a)(8)) if land use is subject to coastal hazards.
☐ Kuleana documentation (ref §13-5-31(f)) if applying for a non-conforming kuleana use.
☐ Boundary Determination (ref §13-5-17) if land use lies within 50 feet of a subzone boundary.
Zweng Single-Family Residence

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REQUIRED SIGNATURES

Applicant
Name / Agency: ‘Ōhulehule Forest Conservancy
Street Address: 1236 Aalapapa Drive
Kailua, HI 96734
Contact Person & Title: Mr. Paul Zweng, Executive Director
Phone: (808) 377-1947
Email: pzweng@gmail.com
Interest in Property: Fee simple owner
Signature: ___________________________ Date: 2/28/2022
Signed by an authorized officer if for a Corporation, Partnership, Agency or Organization

Landowner (if different than the applicant)
Name:
Title; Agency:
Mailing Address:
Phone:
Fax:
Email:
Signature: ___________________________ Date:
For State and public lands, the State of Hawai‘i or government entity with management control over the parcel shall sign as landowner.

Agent
Agency: Townscape, Inc.
Contact Person & Title: Bruce Tsuchida, President
Mailing Address: 900 Fort Street Mall, Suite 1160,
Honolulu, HI 96813
Phone: (808) 536-6999 x3
Email: bruce@townscapeinc.com
Signature: ___________________________ Date: 2/28/2022

For DLNR Managed Lands

State of Hawai‘i
Chairperson, Board of Land and Natural Resources
State of Hawaii
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809-0621
Signature ___________________________ Date:
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Proposed Use

Please provide an executive summary of the proposed land use. Attach any site plans, landscaping plans, photographs, maps, and construction plans as needed.

PROJECT INTRODUCTION

The ‘Ōhulehule Forest Conservancy, LLC was established to preserve and restore native flora and fauna within the upper Waikāne Valley in the Ko‘o‘olaupoko district of windward O‘ahu. The ‘Ōhulehule Forest Conservancy acquired lands in Waiāhole and Waikāne Valleys totaling approximately 1,444 acres. The entire 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. These lands are located in the State Conservation District, Resource subzone. Paul Zweng is the managing member of the ‘Ōhulehule Forest Conservancy, LLC and is responsible for the management of the lands, as well as the programs taking place on the property.

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 Ko‘o‘olaupoko district on the eastern side of the island of O‘ahu. 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, and the only vehicular access to this area is via Waiāhole Valley Road. Vehicular access via Waikāne Valley Road only provides access to the northern portion of the property, the mauka parcel (TMK: [1] 4-8-014:005) where forest restoration activities are taking place. The proposed residence is within the mesic climate zone on land that is currently largely overgrown with non-native plant species.

The proposed single-family residence is one of four long-term projects that the ‘Ōhulehule 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 lo‘i along the Waikāne and Waike‘eke‘e 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 ‘Ōhulehule Forest Conservancy and planning firm Townscape, Inc. met with Department of Land and Natural Resources (“DLNR”) officials on October 6, 2011, October 13, 2011 and January 25, 2012 to discuss the proposed project. On August 20, 2012 ‘Ōhulehule Forest Conservancy hosted DLNR staff for a site visit of the property. Per a letter that Townscape, Inc. received from the Office of Conservation and Coastal Lands (OCCL) dated May 2, 2012, we understand that the taro lo‘i restoration is considered an existing non-conforming use not subject to Conservation District Use permitting. A Conservation District Use Permit (CDUP OA-3645) for the forest restoration at three locations within Waiāhole and Waikāne Valleys (the “Forest Restoration Project”) was originally approved by the DLNR on January 29, 2013. Per a letter that Townscape received from OCCL dated August 22, 2012, a CDUA for the proposed residence could not be submitted until the existing non-conforming residence inhabited by the Saizon family was demolished.

CDUP OA-3645 for the ‘Ōhulehule Forest Restoration Project allowed for restoration activities on a portion of mauka parcel (TMK: [1] 4-8-014:005) of the property and the construction of a 2450 square-foot shade house facility on the makai parcel (TMK: [1] 4-8-006:001) of the property. The permit allowed for additional
activities on the property. This application disclosed future plans including the restoration of the loʻi kalo, the building of a single-family residence, and the creation of a 45-acre cacao farm.

In October 2012, the ʻŌhulehule Forest Conservancy prepared a Comprehensive Management Plan to guide the development of the forest restoration and then proposed cacao farm projects on the property. The plan described important cultural and natural resources of Waikāne Valley and the proposed actions to protect those resources while developing a proposed commercial cacao farm.

CDUP OA-3677 for a cacao farm operated by ʻŌhulehule Forest Conservancy (the “Cacao Farm Project”) was approved by the BLNR on November 11, 2013. This permitted the establishment of a five-acre cacao farm, a two-story 3200 square foot base yard and office building, a 300 square-foot fermentation and drying facility, a 955 square-foot pavilion, and a 2500 square-foot plant nursery. The permit also allowed for the conversion of an unspecified number of trails and unpaved access roads to accommodate farm equipment. In an in-person meeting on July 11, 2019, OCCL staff stated that this permit was considered null and void because construction of the project had not commenced within the allowed time frame included in the permit, which is summarized below in comment #3. ʻŌhulehule Forest Conservancy did not begin construction of the Cacao Farm Project for security/theft concerns stemming from the lack of a physical presence (e.g., Zweng residence) on the property.

A Conservation District Use Application (CDUA) and Draft Environmental Assessment (DEA) for the Zweng Single-Family Residence were submitted on May 31, 2019. The Draft CDUA and DEA contained plans for a 4,952 square-foot single-family residence, as well as two accessory structures: a 4446 square-foot two-story operations facility and a 1025 square-foot utility structure.

A response from OCCL was received dated June 24, 2019 stating that the application was incomplete and could not be processed at that time. The letter included the following comments:

1. County records, as well as prior conservation district use applications, discuss the existence of residential structures on the parcel. Conservation district rules only allow for one single-family residence per parcel.
2. The application included two accessory structures that would be used to support the activities of the Forest Restoration Project which appeared to be a significant expansion of the project as permitted by CDUP OA-3677.
3. OCCL received no records of any work associated with the above permits being initiated as was required in Condition 4 of CDUP OA-3645 and Condition 5 of CDUP OA-3677.
   - Condition 4 of CDUP OA-3645: “Unless otherwise authorized, any work or construction to be done on the land shall be initiated within one year of the approval of such use, in accordance with construction plans that have been signed by the chairperson, and shall be completed within three years of the approval of such use. The permittee shall notify the department in writing when construction activity is initiated and when it is completed.”
   - Condition 5 of CDUP OA-3677: “Before proceeding with any work authorized by the department or the board, the permittee shall submit four copies of the construction plans and specifications for the various farm facility buildings to the chairperson or an authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three of the copies will be returned to the permittee. Plan approval by the chairperson does not constitute approval required from other agencies.”
Townscape, Inc. met with OCCL officials on June 11, 2019 and later on August 20, 2019 to discuss the proposed projects. On August 14, 2019 ʻŌhulehule Forest Conservancy hosted OCCL staff for a site visit on the property, including the areas of the Forest Restoration Project, and the proposed site of the single-family residence. Recommendations from OCCL staff regarding how to proceed with the CDUA and the DEA were received on August 26, 2019 and February 21, 2020. Based on these recommendations, ʻŌhulehule Forest Conservancy decided to proceed with the following actions:

1. The submittal of an application for the Zweng single-family residence (the “Zweng Residence Project”) with the removal of the proposed accessory structures.
2. At a later date the submittal of an application that would include both the Forest Restoration Project and Farm Project. This comprehensive application will include the necessary accessory structures to support the forest restoration work and farming activities.

A draft Conservation District Use Application and Draft Environmental Assessment were submitted to OCCL on July 13, 2020 via email. This submittal included a proposed single-family residence of 4,955 square feet, a loop driveway, and a landscaped and terraced area in the center area of the loop driveway. This CDUA application was revised to address the comments from OCCL dated June 24, 2019, as well as the recommendations received from DLNR staff between June 2019 and February 2020.

A letter from OCCL was received on September 8, 2020 in response to the CDUA submittal of July 13, 2020. This letter stated that the application could not be processed as the proposed Zweng Residence Project did not appear to be compliant with Hawaiʻi Administrative Rules (HAR), Chapter 13-5 Single-Family Residential Standards found in Exhibit 4. The OCCL letter stated that the square footage of the proposed residence exceeded the 5,000 square foot Maximum Developable Area (MDA) limit for lots that are larger than one (1) acre. OCCL stated that the calculation of the square footage of the developed area, 4,955 square feet, did not include the wrap-around deck/lānai, which appeared to push the proposed Single-Family Residence to over the 5,000 square foot limit. Additional comments on the CDUA and DEA submittal were included in this letter from OCCL.

A response email message was sent to OCCL staff from Townscape, Inc. on September 16, 2020. This message confirmed the receipt of the letter from OCCL dated September 8, 2020 and stated that a more detailed response to the comments in that letter would be prepared and sent to OCCL for review. A detailed response letter was sent to OCCL dated September 28, 2020. This letter addressed each of the comments included in the letter received from OCCL dated September 8, 2020. A meeting was scheduled to discuss these letters with OCCL staff, Townscape, Inc., GLIA Architecture, Inc., and ʻŌhulehule Forest Conservancy (the “Project Team”). A Zoom meeting took place on Thursday, October 15, 2020. In this meeting the OCCL staff and Project Team members discussed each comment in the letter from OCCL dated September 8, 2020 regarding the CDUA and DEA submittal from July 13, 2020. A resubmittal strategy was discussed which included revisions to the CDUA, DEA and graphic design of the residence in order to meet the Single-Family Residential Standards found in Exhibit 4 of HAR Chapter 13-5. A copy of the correspondence between OCCL and Townscape, Inc. from 2020 can be found in Appendix A of this document.

A preliminary draft was prepared for OCCL review and was submitted via postal mail on August 23, 2021. A response letter from OCCL dated September 16, 2021 with comments on the preliminary draft documents was sent to Townscape, Inc. A response letter to the comments received in the September 16, 2021 letter from OCCL was prepared by Townscape, Inc. and sent via email to OCCL staff dated October 26, 2021 which included suggested revisions to the preliminary draft documents in order to address the comments provided by OCCL. A virtual meeting to discuss the OCCL comments and suggested revisions was held on Thursday, October 28, 2021.
This CDUA and DEA have been revised based on the most recent correspondence between Townscape, Inc. and OCCL staff as detailed in the previous paragraph.

**RESIDENTIAL STRUCTURE HISTORY**

The purchase of the property (TMK: [1] 4-8-014:005 and TMK: [1] 4-8-006:001) by the ‘Ōhulehule Forest Conservancy included an existing single-family residence and tenants located on the makai parcel near Waiāhole Valley North Branch Road. As noted in the letter from OCCL dated August 22, 2012, zoning for this property allows for one single-family residence. The establishment of a permanent residence for the Zweng family on this TMK was delayed until this zoning restriction could be resolved.

The Saizon family had been tenants on the property for 20 years. The patriarch of the family, Mr. Ted Saizon, was responsible for the care of his five grandchildren who lived with him full time. Paul Zweng, Managing Member of ‘Ōhulehule Forest Conservancy, came to an agreement with Mr. Saizon to allow him to remain at the existing residence as a tenant until the youngest of his grandchildren had finished high school. This agreement allowed the Saizon family an extended period of time to make other arrangements for housing without disrupting the lives of the young grandchildren who were living in the home. This agreement also further delayed the Zweng family from being able to move on-site, and thereby delayed the plans for forest restoration, cacao farm agriculture and the construction of a new, permanent single-family residence. In 2017 the Saizon family moved to their new residence on Waiāhole Homestead Road, Waiāhole, and some months later the former Saizon residence was removed from the property, allowing Mr. Zweng to move forward with the proposed projects.

This application is exclusively for the construction of a permanent single-family residence on the property. Based on input from the community and surrounding landowners regarding the risk of theft of agricultural products and equipment, Paul Zweng delayed action on the construction of a shade house permitted under the Forest Restoration project and delayed action on the entire Cacao Farm Project until a residence could be established on site in order to provide for security and protection from illegal activity. ‘Ōhulehule Forest Conservancy is proposing first to establish the proposed single-family residence, followed by applications to allow for the other proposed uses (e.g., shade house and Cacao Farm Project). As the two permits previously submitted have expired (CDUA OA-3645 and CDUA OA-3677), new applications will be submitted at a later date for the ‘Ōhulehule Forest Restoration Project and Farm Project.

**PROPOSED ACTIONS FOR SINGLE-FAMILY RESIDENCE PROJECT**

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 can be viewed in Figures 7 and 8 and are described in the following table:

<table>
<thead>
<tr>
<th>Components of the Residence Structure</th>
<th>Square Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Living Area</td>
<td>3,652</td>
</tr>
<tr>
<td>Covered Lānai</td>
<td>823</td>
</tr>
<tr>
<td>Carport</td>
<td>480</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>4,955</strong></td>
</tr>
</tbody>
</table>
The proposed home is located roughly 150 feet from the southern boundary of the property, and 500 feet from Waiāhole Valley Road (see Figure 1 below). 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 (See Figure 2).

Figure 1 - Site Setting

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 attached Draft Environmental Assessment. The applicants will ensure that their contractor performs all earthwork and grading in conformance with applicable laws, regulations and standards.
Figure 2 - Southwest facing view of proposed overall building pad location.

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 survey (Lau, 2012). One native bird, the kōlea (*Pluvialis fulva*) was observed on the makai parcel. See Appendices A through C of the attached draft Environmental Assessment for further information regarding flora and fauna on the ‘Ōhulehule Forest Conservancy property. Unlike the mauka forest restoration areas with critical habitat designated for the endangered O‘ahu ‘elepaio, no critical habitat for endangered fauna has been designated on the makai parcel of the property. Potential impacts to the ʻōpeʻapeʻa 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 portions of both the mauka and makai parcels of the property conducted by Cultural Surveys Hawai‘i, Inc. in 2012 confirmed that no historic sites are present in the proposed residence area (See Appendix D of the attached draft Environmental Assessment.) The identified historic sites on the parcel are located approximately one-half mile from the proposed residence area. Land in the area of the proposed residence, identified in the field survey letter report as “Southern Project Area 2”, was previously modified by residential structures and mass grading associated with road construction, agriculture and chicken farming. Based on these findings, it is not anticipated that any cultural or historic sites will be impacted by construction of the 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 the Waiāhole-Waikāne Valley area.
Ahuluhule Forest Conservancy Long-term Vision (20+ years)

April 2019

State of Hawai‘i, Department of Land and Natural Resources, Conservation District Use Application, Revised 02/10/2016
Single Family Dwelling Design

Single-family residence
Proposed Single Family Dwelling: (Labeled ‘New Dwelling’ in the drawing package)

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 Figures 4-10, 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 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 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.

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 11-12 for views of the existing driveway. The grading plan in Figure 4 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.
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 2 - Proposed Landscaping Plants**

<table>
<thead>
<tr>
<th>Hawaiian or Common Name</th>
<th>Botanical Name</th>
<th>Status/(Risk Score)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trees</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breadfruit</td>
<td>Artocarpus altitlis</td>
<td>Polynesian Introduction (-12)</td>
</tr>
<tr>
<td>Colville’s Glory Tree</td>
<td>Colvillea racemosa</td>
<td>Non-invasive alien (-8)</td>
</tr>
<tr>
<td>Firewheel</td>
<td>Stenocarpus sinuat</td>
<td>Non-invasive alien (-4)</td>
</tr>
<tr>
<td>Floss-silk tree</td>
<td>Chorisia speciosa</td>
<td>Non-invasive alien (-7)</td>
</tr>
<tr>
<td>Gold Tree</td>
<td>Tabebuia donnell-smithii</td>
<td>Non-invasive alien (-4)</td>
</tr>
<tr>
<td>Hōʻawā</td>
<td>Pittosporum glabrum</td>
<td>Native</td>
</tr>
<tr>
<td>Illwara Flame Tree</td>
<td>Brachychiton acerifolius</td>
<td>Non-invasive alien (-5)</td>
</tr>
<tr>
<td>Jacaranda</td>
<td>Jacaranda mimosifolia</td>
<td>Non-invasive alien</td>
</tr>
<tr>
<td>Koa</td>
<td>Acacia koa</td>
<td>Native</td>
</tr>
<tr>
<td>Kokiʻo keʻokeʻo</td>
<td>Hibiscus punaluensis</td>
<td>Native</td>
</tr>
<tr>
<td>Köpiko</td>
<td>Psychotria marianiana</td>
<td>Native</td>
</tr>
<tr>
<td>Lama</td>
<td>Diospyros sandwicensis</td>
<td>Native</td>
</tr>
<tr>
<td>Lemon tree</td>
<td>Citrus limon</td>
<td>Non-invasive alien (-3)</td>
</tr>
<tr>
<td>Loulu</td>
<td>Pritchardia martii</td>
<td>Native</td>
</tr>
<tr>
<td>Lunalilo Yellow</td>
<td>Cassia x nealae</td>
<td>Non-invasive alien (-8)</td>
</tr>
<tr>
<td>Māmaki</td>
<td>Pipturus albidus</td>
<td>Native</td>
</tr>
<tr>
<td>Mauve tabebuia</td>
<td>Tabebuia impetiginosa</td>
<td>Non-invasive alien (-2)</td>
</tr>
<tr>
<td>Neleau</td>
<td>Rhus sandwicensis</td>
<td>Native</td>
</tr>
<tr>
<td>‘Ohe makai</td>
<td>Polyscias sandwicensis</td>
<td>Native</td>
</tr>
<tr>
<td>‘Ōhi’a lehua</td>
<td>Metrosideros polymorpha</td>
<td>Native</td>
</tr>
<tr>
<td>Orange tree</td>
<td>Citrus sinensis</td>
<td>Non-invasive alien (-2)</td>
</tr>
<tr>
<td>Panama Flame Tree</td>
<td>Brownea macrophylla</td>
<td>Non-invasive alien (-8)</td>
</tr>
<tr>
<td>Pāpala kēpau</td>
<td>Pisonia umbellifera</td>
<td>Native</td>
</tr>
<tr>
<td><strong>Shrubs &amp; Tree Ferns</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Aʻaliʻi</td>
<td>Dodonaea viscosa</td>
<td>Native</td>
</tr>
<tr>
<td>‘Ākolea</td>
<td>Bohermia grandis</td>
<td>Native</td>
</tr>
<tr>
<td>Bird of Paradise</td>
<td>Strellitzia reginae</td>
<td>Non-invasive alien (-3)</td>
</tr>
<tr>
<td>Golden Shrimp Plant</td>
<td>Pachystachys lutea</td>
<td>Non-invasive alien (-4)</td>
</tr>
<tr>
<td>Gordon’s Bay pincushion</td>
<td>Leucospermum bolusii</td>
<td>Non-invasive alien (-4)</td>
</tr>
<tr>
<td>Hāhā</td>
<td>Cyanea angustifolia</td>
<td>Native</td>
</tr>
<tr>
<td>Hāpuʻu (tree fern)</td>
<td>Cibiotium chamisson</td>
<td>Native</td>
</tr>
<tr>
<td>‘Ilima</td>
<td>Sida fallax</td>
<td>Native</td>
</tr>
<tr>
<td>Kokio ula</td>
<td>Hibiscus kokio subsp. kokio</td>
<td>Native</td>
</tr>
<tr>
<td>Naupaka kuahiwi</td>
<td>Scaevola gaudichaudiana</td>
<td>Native</td>
</tr>
<tr>
<td><strong>Groundcover Plants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Ahanu</td>
<td>Machaerina mariscoides subsp. meyenii</td>
<td>Native</td>
</tr>
<tr>
<td>‘Ekaha</td>
<td>Asplenium nidus</td>
<td>Native</td>
</tr>
<tr>
<td>Hōʻiʻo (fern)</td>
<td>Diplazium sandwichianum</td>
<td>Native</td>
</tr>
<tr>
<td>‘Okupukupu</td>
<td>Nephrolepis exaltata subsp. hawaiensis</td>
<td>Native</td>
</tr>
<tr>
<td>Palaʻa (fern)</td>
<td>Odontosoria chinensis</td>
<td>Native</td>
</tr>
<tr>
<td>Palapalai (fern)</td>
<td>Microlepia strigosa var. strigosa</td>
<td>Native</td>
</tr>
<tr>
<td>Pōhinahina (aka pōlinalina)</td>
<td>Vitex rotundifolia</td>
<td>Native</td>
</tr>
<tr>
<td>‘Uki (?) Some say Hawaiian name has been lost.</td>
<td>Carex wahuensis subsp. wahuensis</td>
<td>Native</td>
</tr>
<tr>
<td>‘Ukiʻuki</td>
<td>Dianella sandwicensis</td>
<td>Native</td>
</tr>
</tbody>
</table>

Zweng Single-family Residence
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 Figure 4.

Due to the sheer size of ‘Ōhulehule 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.

<table>
<thead>
<tr>
<th>Plants</th>
<th>Scientific Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>No known Hawaiian name</td>
<td>Gahnia beecheyi</td>
<td>Native</td>
</tr>
<tr>
<td>Vines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue Jade Vine</td>
<td>Strongylodon macrobotrys</td>
<td>Non-invasive alien (-9)</td>
</tr>
<tr>
<td>Nuku ‘i‘iwi</td>
<td>Strongylodon ruber</td>
<td>Native</td>
</tr>
<tr>
<td>Maile</td>
<td>Alyxia stellata</td>
<td>Native</td>
</tr>
</tbody>
</table>

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

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 Hawai‘i 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. 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. 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.

**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 landscaping will be able to maintain 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 2 inch 18 gauge galvanized steel tank with 3/8 inch bolts and a food grade quality liner. See Figure 13 and Figure 14 for details of the proposed Water Tank Plans.

The water tank will be located approximately 25 feet from the proposed dwelling. See Figure 4 for the location of the water tank. 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 15 and 16 for schematics of the proposed rainwater catchment system.
Figure 13 - Proposed Water Tank Plans A
Figure 14 - Proposed Water Tank Plans B
Figure 15 - Rainwater Catchment Diagram SK-1
Wastewater disposal

An on-site septic system will serve the residence. It will be designed according to standards recommended by the State Department of Health, and generally as shown in Figure 17. 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 1250 gallon septic tank and a 30 foot by 50 foot or 1,500 square foot infiltrator seepage bed.

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 regular pumping and inspection guidelines to ensure that the system is in good condition.
working order. With a properly designed septic system, it is not anticipated that wastewater disposal will cause adverse impacts to the surrounding environment.

**Road Access**
Primary vehicular access to the proposed residence will be via a driveway connected to the Waiāhole Valley North Branch Road along the southern boundary of the makai parcel of the property. An existing unpaved driveway just off the Waiāhole Valley North Branch Road will be extended to access the proposed Residence (See Figure 18). This extension will be a new driveway on the makai parcel. Site disturbance and additional grading and drainage will be minimized by utilizing a portion of the existing unpaved road. The proposed driveway access will utilize the existing gravel driveway wherever possible. The Waiāhole Valley Road is owned by HHFDC. The ‘Ōhulehule Forest Conservancy received a letter from HHFDC in November 2021 allowing vehicular access to the makai parcel of the property from Waiāhole Valley Road.

![Figure 18 - Entry to makai parcel of the property from Waiāhole Valley Road](image)

**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 19 for the proposed roof plan which features 35 photovoltaic panels. See Figure 4 and Figure 7 for the approximate location of the components of the proposed solar electric system.
Figure 19 - Proposed PV system

**Utility Connections**
Utilities such as electrical, 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 Figure 4 for approximate location of the underground utility trench and existing utility pole at the entrance to the property.
Evaluation Criteria

The Department or Board will evaluate the merits of a proposed land use based upon the following eight criteria (ref §13-5-30 (c)):

1. The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. (ref §13-5-1) How is the proposed land use consistent with the purpose of the conservation district?

The construction of one single-family residence is allowed on lots in the State Conservation District, Resource subzone. The proposed residence follows Hawaii Administrative Rules Chapter 13-5, Single-Family Residential Standards found in Exhibit 4. The proposed residence is consistent with the purpose of the Conservation District as it will enable the managing member of the ‘Ōhulehule Forest Conservancy, LLC and his family to maintain a permanent residence on the property where the on-going forest restoration project and future farm are located. Establishing a permanent residence on site is important for the management of the property and for security of the farm and related facilities and equipment.

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 sediment and debris commonly run-off the driveway, at times onto Waiahole Valley Road, a public roadway. The proposed project will include drainage controls that will reduce stormwater run-off and will reduce erosion and sedimentation.

The proposed land uses and activities of the ‘Ōhulehule Forest Conservancy are expected to have an overall positive impact on the surrounding area. A farm is consistent with the desire of the local community to have more agriculture in Waiahole. The ‘Ōhulehule Forest Conservancy plans to provide controlled public access to the property, which will allow for continued recreation and enjoyment of scenic resources while improving safety and the environmental condition of the land.

2. How is the proposed use consistent with the objectives of the subzone of the land on which the land use will occur? (ref §13-5-11 through §13-5-15)

The objective of the Resource Subzone is "to ensure, with proper management, the sustainable use of the natural resources of those areas." This subzone encompasses lands that provide present or future park lands, lands suitable for harvesting timber or other forest products, lands suitable for recreational uses, offshore islands, and lands seaward of the shoreline.

The proposed single-family residence will enable the Zweng family to live on-site and allow Mr. Zweng to manage the on-going forest restoration project and future farm project. These activities will help sustain the native habitats of Waiahole and Waikane Valleys by controlling the spread of aggressive invasive species and establishing an agroforestry system that utilizes koa (Acacia koa) as the predominant in-field shade tree (although other trees may be required should koa wilt and other factors render koa impractical to serve as a practical canopy tree to shade crop trees). Additionally, the ‘Ōhulehule Forest Conservancy
will be seeking volunteers for farming, native forest restoration, and other activities, which will provide educational opportunities for interested individuals and community groups. The ‘Ōhulehule Forest Conservancy proposed in its Cacao Farm CDUA application a common fermentation facility for cacao that would benefit other cacao growers operating in Waiāhole and Waikāne.

3. Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled “Coastal Zone Management” (see 205A objectives on p. 9).

1) Recreational resources:

The ‘Ōhulehule Forest Conservancy plans to provide limited public access to the property on a case-by-case basis, so that Waiāhole-Waikāne residents as well as people from the surrounding community can enjoy the recreational and scenic resources of the site. Several community members have asked that no pig hunting using dogs be allowed.

2) Historic resources:

The proposed activities of the ‘Ōhulehule Forest Conservancy, including a single-family residence, are not expected to have any significant impacts to the historic resources of Waikāne Valley. In 2012, Cultural Surveys Hawai’i (CSH) conducted a review of previous archaeological investigations and a pedestrian inspection of the entire project area. Based on this review, CSH concluded that the proposed project would not affect any historic properties.

An archaeological inventory survey conducted in 1992 (Dunn et al.) identified 13 sites in a 407-acre area that included the proposed residence location. “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” (CSH, 2012).

The proposed use is not anticipated to impact customary Native Hawaiian rights as walking access into the valley will not be prohibited. Although ungulate fencing could limit access, gates will allow access through the fences at locations where they intersect trails. In addition, the ‘Ōhulehule Forest Conservancy will continue to seek partners from the local community interested in restoring the ”Waikāne Taro Flats” and “Waike’eke’e Taro Flats” historic lō‘i located outside of the boundaries of the proposed forest restoration areas along Waikāne and Waike’eke’e Streams. This will provide opportunities for local community members to reconnect with traditional cultural practices of the valley.

Three kuleana land commission awards have been identified on the makai parcel of the property. None of these kuleana lands are located in the vicinity of the proposed residence and project area. ‘Ōhulehule Forest Conservancy understands that there may be lineal and cultural descendants of these kuleana lands and there may be potentially unidentified burial sites and other traditional or customary spaces. Kuleana descendants retain access rights to these sensitive areas and the landowner is committed to allowing controlled access to cultural sites for any legitimate descendants and cultural practitioners to practice their traditional customs.
3) Scenic and open-space resources:

The makai portions of the property (TMK: [1] 4-8-006:001) have significant scenic resources including views towards the waters of Kāne‘ohe Bay and of Puʻu ‘Ōhulehule to the north. Parts of the makai parcel are dominated by strawberry guava (*Psidium cattleianum*), growing in thick, impenetrable stands. The areas not dominated by strawberry guava or other alien trees such as albizia (*Falcataria molucanna*) tend to be more open, with various invasive tree species growing amongst alien grasses, shrubs, and herbs. Consequently, we anticipate the proposed land use to have a positive effect on the valley's scenic resources from planned removal of invasive plant species as a part of the forest restoration work.

4) Coastal ecosystems:

Improved drainage and erosion controls near the proposed residence site are expected to improve the health of coastal ecosystems. The proposed actions are expected to reduce sediment runoff into Waikāne Stream and Waikeʻekeʻe Stream and will help improve the health of the near-shore waters of Kāneʻohe Bay, a Class AA embayment.

5) Economic uses:

Most of Waiāhole-Waikāne remains relatively undeveloped, with a number of tenants leasing agricultural and residential land from the HHFDC. The proposed single-family residence on a farm is compatible with the desired economic uses in Waiahole Valley. The residence will not be used for any commercial tourism, short-term rentals or visitor industry activities, consistent with the community’s wishes. Construction of the residence, access road and landscaping are expected to provide temporary employment in the area.

6) Coastal hazards:

The proposed land use is not anticipated to have any significant effect on coastal hazards such as tsunami, storm waves, stream flooding, erosion, subsidence, and pollution. Soil-disturbing activities will be conducted in a manner that will minimize erosion and sedimentation of surface water resources. The proposed project area is not adjacent to a major stream or tributary that runs to the ocean. Drainage controls will be implemented in the project area to reduce erosion and sedimentation.

7) Managing Development:

A single-family residence connected to a future farm is consistent with the community’s desire to maintain Waiāhole-Waikāne as a rural agricultural community. Previous owners of this land proposed housing subdivisions and golf course development, which was strongly opposed by the community. In contrast, the projects proposed by the ‘Ōhulehule Forest Conservancy are consistent with the interests of the local community of Waiāhole and Waikāne. The managing member of the ‘Ōhulehule Forest Conservancy is currently serving on the Steering Committee of the Waiāhole-Waikāne Community Association (WWCA) and has kept the WWCA apprised of the proposed activities and planned uses.

8) Public participation:

The proposed Residence will be a private family residence and will not include public or commercial activity. The ‘Ōhulehule Forest Conservancy continues to engage with the community and seek volunteer
related to forest restoration activities, and providing educational opportunities for interested individuals and community groups. In the future it is hoped that a Farm project will allow additional volunteer activities to foster awareness of issues and opportunities associated with agroforestry systems utilizing native plants in Hawai‘i.

The planning process has included key meetings with community stakeholders to keep the surrounding community informed of the planned activities and uses on the property. These meetings included presentations and requests for comment from the Kahalu‘u Neighborhood Board, the WWCA (the local community association) and a public presentation of the proposed project to the extended Waiahole and Waikāne community. A public notice was posted in the April issue of OHA’s Ka Wai Ola newsletter sharing general information about the proposed project and requesting public comment. Two persons responded to this notice to inquire about more details of the project.

9) Beach protection:

The proposed use will not affect beaches as it is located in the mauka area of Waiahole Valley and does not include beach areas.

10) Marine resources:

Using Best Management Practices to minimize soil erosion into surface water resources, the proposed use is not anticipated to have significant impacts to marine resources.

4. Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

Construction activities for the proposed residence and driveway would occur over approximately 1.4 acres, which would produce minor short-term impacts to noise, air and water quality and traffic. Potential sources of water contamination by soil deposition include erosion from construction of roads, buildings and land clearing. These potential impacts will be mitigated by Best Management Practices that are further described in Tables 5-7 Best Management Practices.

No rare, threatened or endangered species were recorded on the makai parcel historically or during faunal and botanical surveys conducted in 2012. Therefore, the ‘Ōhulehule Forest Conservancy does not anticipate any adverse impacts to these species in the vicinity of the proposed residence. Critical habitat for the endangered O‘ahu ‘elepaio occurs at the upper portion of the mauka parcel but does not extend into the makai parcel.

Although it is possible that the ‘ōpe’a, or Hawaiian hoary bat (Lasiurus cinereus semotus) occurs in the Waikāne Valley area, it was not recorded during the April 2012 faunal survey. Threats to the bats include barbed-wire fences and pesticide use that may reduce or alter their prey populations. To help protect the ‘ōpe’a, the ‘Ōhulehule Forest Conservancy management plan follows USFWS and DOFAW recommendations not to cut trees greater than 15 feet in height during the bat’s breeding season from June 1 to September 30. A site reconnaissance will be conducted before the start of any land clearing activities, to identify the presence of any native plants or animals.
The proposed single-family residence is not anticipated to cause a significant increase in local traffic or impact to the valley infrastructure. Some community members have expressed concerns about increased traffic as a result of the volunteer workdays hosted by the ‘Ōhulehule Forest Conservancy. The ‘Ōhulehule Forest Conservancy has hosted volunteers for workdays for several years with no significant impact to the community. The average size of the groups is 2-5 people. Due to the small size of the groups, it is not anticipated that there will be any significant increase to the traffic on Waiahole Valley Road.

The intersection of Waiahole Valley Road and Kamehameha Highway is a site of traffic congestion due to patrons of the Waiahole Poi Factory during peak hours of 11:00am-2:00pm daily. All crews involved in the construction of the proposed residence will be advised to avoid contributing to the traffic congestion at this intersection. Crews will also be mandated to follow posted speed limits in order to ensure minimal impacts to the traffic in the valley. All crews will park on-site and will not create any parking hazards or congestion along Waiahole Valley North Branch Road near the project area.

A community member expressed concerns that the property could be used for major commercial activities such as tourism. The property will not be used for any commercial tourism or visitor industry activities. The proposed residence is a single-family, permanent residence for the managing member of the ‘Ōhulehule Forest Conservancy. No short-term or long-term rentals or additional dwelling units will be constructed on the site.

5. Describe how the proposed land use, including buildings, structures and facilities, is compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.

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. Most of the 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 Waiahole ahupua‘a is owned and managed as the Waiahole 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 intermittent ordnance survey and removal efforts.

To the northeast of the property, the ahupua’a of Hakipu’u, Kualoa and Ka’a’awa are privately owned by Kualoa Ranch Hawai’i, Inc. ("Kualoa Ranch"). Kualoa Ranch is primarily a tourism location that operations outdoor recreational activities. Kualoa Ranch also has agricultural operations including livestock, farming, and aquaculture.

The proposed residence is consistent with regional and community-level planning efforts. 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 O’ahu General Plan. Each of the eight plans guides development in one of eight districts on the island of O’ahu. The Ko’olaupoko SCP was updated in 2010. The original Ko’olaupoko SCP was developed in 1998-2000.

The Ko’olaupoko SCP identifies ten key elements of the vision for Ko’olaupoko. The proposed use supports one of those elements:

1) Maintain the predominantly low-rise, low-density, single-family character of the urban fringe and rural communities.

Land uses identified in the Kahalu’u to Kualoa area in the 2010 Ko’olaupoko SCP are dominated by open space/preservation in mauka areas, and agriculture, parks, and low-density residential in the makai areas. The 2010 SCP identifies the mauka parcel of the property as open space/preservation area and the makai parcel as agricultural area.

The proposed use is compatible with the existing land uses on and surrounding the property because (1) the proposed residence will not affect site access for maintenance of the Waiāhole Irrigation System, (2) facilities will be sited and constructed so as to minimize impact to view planes and potential soil erosion.

The design of the proposed residence is consistent with residences in the surrounding community. The residential and agricultural lots held by the HHDFC allow for the construction of 5,000 sq. ft structures (e.g., homes and/or work-related buildings). The proposed residence is a one-story dwelling with 3,652 square feet of living area, 823 square feet of covered lānai space, and 480 square feet of a carport. A survey of the larger houses in the surrounding community finds that upon completion, the proposed residence would be the third largest home in the area. The following table provides the details of the larger homes in the community:
Table 3 – Large Residences in the Surrounding Community

<table>
<thead>
<tr>
<th>Address</th>
<th># of Stories</th>
<th># of Bedrooms</th>
<th># of Bathrooms</th>
<th>S.F. of Living Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>48-190 Kamehameha Hwy.</td>
<td>Two</td>
<td>5</td>
<td>5</td>
<td>4,369</td>
</tr>
<tr>
<td>48-161 Waiāhole Valley Rd.</td>
<td>Two</td>
<td>5</td>
<td>4.5</td>
<td>4,263</td>
</tr>
<tr>
<td>Proposed Residence</td>
<td>One</td>
<td>4</td>
<td>3.5</td>
<td>3,652</td>
</tr>
<tr>
<td>48-479 Waiāhole Valley Rd.</td>
<td>Two</td>
<td>4</td>
<td>4</td>
<td>3,104</td>
</tr>
<tr>
<td>48-329 Waiāhole Valley Rd.</td>
<td>Two</td>
<td>6</td>
<td>3</td>
<td>2,535</td>
</tr>
</tbody>
</table>

The location of the proposed residence is approximately 150-200 feet north of the site of the former residence on the makai parcel of the property that was removed in 2017. This residence was a two-story structure. In contrast, the proposed residence is sited further from the Waiāhole Valley Road and is only a one-story structure. The proposed residence will not be visible from the Waiāhole Valley Road or from surrounding homes. The proposed residence is sited to minimize the visual impacts on the surrounding area.

6. Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.

The makai portions of the property have significant scenic resources, including views towards the waters of Kāne‘ohe Bay and Pu‘u ‘Ōhulehule to the north. The proposed use will improve upon the scenic rural quality of the property by replacing aggressive invasive species such as strawberry guava (*Psidium cattleianum*) and albizia (*Falcataria molucanna*) with native plants and alien/non-invasive plants.

The former land-use of this area included two residences, a chicken farm, a plant nursery, and a horse stable. This area of approximately 5 acres that was utilized for these uses by the previous landowners and former tenants. The proposed residence has been sited to minimize visual impact on view planes from Waiāhole Valley Road and other areas of the property. The construction of the proposed residence, driveway and landscaped area is a project area of approximately 1.4 acres of the total 327 acres makai parcel. This is located on the land that was previously used by the former tenants of the property and had previously been cleared and graded. Refer to Figure 17 for details on the site conditions circa 2012. Currently, this 1.4-acre area is overgrown with invasive plant species and overrun with feral pigs. Refer to Figures 11 and 12 for current site conditions.

The proposed residence, driveway and landscaped area will include necessary grading in order to create a drainage system that will minimize soil erosion and sedimentation. It will also include the removal of invasive plant species and restoration of native plant species wherever possible. Views of the ocean and mountains may be partially obstructed by trees, but the proposed land use fits within the rural agricultural character of Waikāne Valley.
Figure 20 - Map of Site Conditions circa 2012
The above map of the site conditions circa 2012 shows images in and around the project area of the proposed residence. Below is a brief description of each of the images shown in Figure 17.

- 1) View of dirt access road to former plant farm facing north.
- 2) View of dirt access road to former plant farm facing south.
- 3) View of gravel driveway access off of Waiahole Valley North Branch Road facing northeast.
- 4) View of gravel driveway access off of Waiahole Valley North Branch Road facing south.
- 5) View of former residence facing northeast.
- 6) View of gravel driveway access to former residence facing west.
- 7) View of gravel driveway access to former residence facing east.
- 8) View of former chicken farm along dirt access road facing southeast.
- 9) View of former chicken farm facing south.
- 10) View of former plant farm facing west.

If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

NOT APPLICABLE

7. Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.

By regulating access onto the property, the ʻOhulehule Forest Conservancy anticipates that use conflicts and safety concerns will be reduced. There is currently trespassing on the property for illegal off-road vehicle use as well as illegal dumping which causes noise pollution and chemical pollution, respectively. It is anticipated that such activities will cease dramatically once house construction is completed and occupancy is achieved.

Cultural Impacts

Articles IX and XII of the State Constitution, other state laws, and the courts of the State require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups.

Please provide the identity and scope of cultural, historical and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

Pre-Contact

Waikāne Valley is a significant Hawaiian wahi pana. 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 and generally represents 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’ōla-li, which was male, and the Wai’ōla-la, which was female.”

Waikāne is also mentioned in the Kumulipo, the traditional story of the creation of the Hawaiian universe and royal lineage. In Hawaiian tradition, the navel cord and afterbirth have to be deposited in sacred places, thus indicating the importance of Waikāne Valley. Handy and Handy (1972, p.442) also describe the traditional Hawaiian taro agriculture in 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’ēke’ē Stream, no longer cultivated in taro.”

Charlot (1977) summarizes Waikāne Valley’s historic cultural significance in a testimony against proposed residential development of the valley: “It was considered a place of extraordinary sacredness from the earliest recorded times. It was the dwelling place of priests who were transmitters of ancient traditions and sources of new expressions of Hawaiian culture. The valley contained a Paliuli, a place set aside for the special education of chiefs in religious traditions, literary culture, politics, athletics and war. The valley was proverbial for its agriculture, and contained at least one place [the hōlua slide] which apparently was a meeting area for nobility and commoners alike...Waikāne is indisputably a wahi pana, a famous place in Hawaiian tradition.”

**Post-Contact History of the Valley**

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 of O’ahu 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, such as the mejiro (Zosteros japonicus) 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. The system collects primarily dike-impounded groundwater and
historically produced 27 million gallons of water per day for the plantation. Water flows in Kahana, Waikāne, and Waiāhole Streams were significantly reduced as a result of the Waiāhole irrigation system.

Despite the agricultural changes throughout windward and leeward O‘ahu, Handy reported that in 1935, there was still a broad area of terraces at Waikāne, where large crops of taro were being grown to sell to poi factories (Handy 1940, p.97). There were also inland terraces with taro situated between the Waikāne and Waike‘eke‘e 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, the Kamaka family, 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 from the Kamaka family to the 187-acre ordnance impact area located immediately to the northeast of the property. 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 Kāne‘ohe and Kailua from small rural communities into suburban population centers.

Land subdivision and development also started being 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 Kamehameha Highway. In order to resolve the issue, the State acquired the Waiāhole Valley lands in 1977 and organized the lands as an agricultural state park and rural community subdivision in 1986. The Waiāhole Valley Agricultural Subdivision is currently under the management of the HHFDC.

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.

**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 several sites
associated with agricultural uses on the makai parcel, but none in the immediate vicinity of the proposed residence. Significantly, a lo‘i complex was 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 lo‘i, ‘auwai, and probable habitation sites on raised ground near the lo‘i. This historic site is located approximately one and a half miles from the location of the proposed residence, well outside of the project area.

A field survey of the project area conducted by Cultural Surveys Hawai‘i in 2012 confirmed the findings of the previous archaeological surveys and did not identify any historic sites in the immediate vicinity of the proposed residence. The letter report from that field survey is included as Appendix D of the attached Draft Environmental Assessment.

Many residents 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). Mrs. Royos supports the proposed project because she trusts the intentions of the ‘Ōhulehule Forest Conservancy, and will be glad to see more farming in Waikāne Valley.

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 was once very active in the area’s Neighborhood Boards. He also served on the Governor’s “Taro Purity and Security Task Force” that monitored and advocated for expanded taro production. Mr. Fukumitsu shared his knowledge of the area’s history and its cultural significance.

Hakipu‘u 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. Lā‘au lapa‘au (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, Kaha‘i brought ‘ulu to Kualoa. Mauloa is buried between Waikāne and Hakipu‘u. 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. Now we’re trying to integrate tradition with modern life (Fukumitsu interview, 2012).

Mr. Fukumitsu did not feel that the projects proposed by the ‘Ōhulehule Forest Conservancy would have any impact on cultural practices in Waikāne Valley, and was interested in participating in reuse of the historic taro lo‘i in the future.

Mr. Laurence Uyemura is a long-time resident of Waiāhole Valley, and maintains a residence on Waiāhole Valley Road. He is a residential lessee of lands owned by the State of Hawai‘i and managed by HHFDC. His family can trace their lineage back to Inoino, a kuleana land owner from Hakipu‘u. His family moved from
Hakipu‘u to Waikāne/Waiahole around the time of WWII. At this time, a military base was constructed on what is now Kualoa Ranch and his family and other families were displaced. The Uyemura family has been involved in commercial fish operations in the area over three generations. Mr. Uyemura is familiar with the site of the proposed residence, is very knowledgeable about the water resources of the area, and has familiar connections to many of the native Hawaiian farmers in the area. Mr. Uyemura shared that he is not aware of any culturally sensitive sites in the vicinity of the proposed residence. His understanding is that the known cultural sites are located outside of the project area. Mr. Uyemura also mentioned that there is very little surface water resources located in the vicinity of the project area. He stated that there used to be more surface water resources, like springs and streams, but those were significantly reduced from the construction of the McCandless water system and the wells for the Waiahole Valley Water System. Mr. Uyemura does not believe that there will be any significant impacts on cultural resources from the proposed residence.

Mr. Māhoelehua Collins is a long-time resident of Waiahole Valley and his family maintains a residence on a privately-owned parcel that is a kuleana land award from the Māhele. Mr. Collins is also very familiar with kuleana land research from his position in DLNR which requires land tenure research. Mr. Collins stated that he is familiar with the site of the proposed residence and frequented the area in his youth for hiking access into the forest reserve and trails into Waikāne Valley. In his time spent in that area, he does not recall seeing any active lo‘i. He does remember lo‘i around the Waiahole Poi Factory, both mauka and makai of the Factory. Mr. Collins expressed that proper research into the kuleana land parcels is important to understand if there were any recognized trails, ‘auwai (fresh water channels), or kahawai (streams) that were documented on the Land Commission documents. As the kuleana land parcels are not located in the vicinity of the project area, the proposed residence is not anticipated to have any significant impacts on those specific cultural resources.

Mr. Ted Saizon is the former resident of the makai parcel. He lived on the property for over 20 years. He first became familiar with the property when it was owned by a former landowner named Tom Enomoto. At that time, the property was vacant but there were structures built on the parcel including a horse stable. Mr. Saizon first became a tenant of the property to board his horses. After some time, Mr. Saizon reached out to the landowner regarding renting the property as a residence. Once he moved onto the property they began using the property to raise chickens and tropical plants such as ginger and heliconia. Mr. Saizon is not aware of any kalo farming that occurred in the vicinity of the property. He mentioned that the Tongan family that lived mauka of his residence did grow ‘ulu. In the years that Mr. Saizon was a tenant of the property, the only persons that requested access to the property were pig hunters that crossed the property to access the mauka areas. He mentioned that these hunters were all people that he knew, and they were not long-time, generational hunters of that property. He frequently explored the property, both on foot and by horseback. He stated that he never observed any cultural sites. He did see kalo terracing in mauka areas, but not within the vicinity of the proposed project area. Mr. Saizon stated that there are minimal surface water resources on the property near the proposed project area. There seemed to be evidence of more substantial water flow from streams and springs in the past based on the condition of the dry stream bed, but that during his time on the property there was just a trickle of water flowing in those beds. Mr. Saizon stated that in his two decades as a tenant on the property he is not aware of any persons who requested access to the property for traditional or customary uses.
Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

Based on the findings of the archaeological surveys of the mauka and makai parcels of the property and the interviews with long-time residents and cultural practitioners, the site of the proposed residence does not appear to have any evidence of culturally sensitive sites. Therefore, there are no anticipated significant impacts on cultural resources from the construction of the proposed residence.

The proposed residence is not anticipated to impact Native Hawaiian access rights, as controlled access to Native Hawaiian practitioners for traditional and customary practices in the valley will not be prohibited.

In addition, the ‘Ōhulehule Forest Conservancy continues to seek to partner with local community members interested in restoring the historic taro lo‘i of upper Waikāne Valley. This will provide opportunities for local community members to reconnect with traditional cultural practices of the valley. Prior to beginning any lo‘i restoration activities, a Preservation Plan will be submitted to the State Historic Preservation Division for approval to ensure that proposed activities do not impact the historic nature of these cultural sites.

What feasible action, if any, could be taken by the BLNR in regards to your application to reasonably protect native Hawaiian rights?

The proposed land use is not anticipated to impact native Hawaiian rights. Consequently, no action by the BLNR is required to protect native Hawaiian rights.

Other Impacts

Does the proposed land use have an effect (positive/negative) on public access to and along the shoreline or along any public trail?

The proposed land use is not located along or near the shoreline and thus does not affect the public access to the shoreline. There are no public trails on the property.

Does the proposed use have an effect (positive/negative) on beach processes?

The proposed use will not have an effect on beach processes.

Will the proposed use cause increased runoff or sedimentation?

Land clearing and construction activities will be conducted according to best practices to minimize soil erosion and runoff. Land clearing will be conducted outside of the wettest months from December through March, and during clement weather as much as possible. BMPs related to building and road construction may include silt fences, compost socks, proper location of potential sediment sources, dust control, proper stockpile management, and/or other BMPs as needed. The proposed residence and driveway have been sited to minimize land clearing in the project area. An area of 1.4 acres has been
identified as the scope of work. Much of this area includes the existing driveway. The existing conditions on the site do not include drainage controls on the driveway and other cleared areas. The proposed residence and driveway includes plans for drainage control BMPs that will decrease runoff and sedimentation.

**Will the proposed use cause any visual impact on any individual or community?**

The proposed use is not anticipated to have any significant visual impact on any individual or community. The proposed residence has been sited to minimize its visual impact from Waiāhole Valley Road and other areas of the property. The design for the residence is a one-story structure that is located approximately 150-200 feet from the site of the former residence on the property, thereby increasing the distance of the proposed residence from Waiāhole Valley Road. This will further minimize any visual impacts on any individual or community.

**Please describe any sustainable design elements that will be incorporated into the proposed land use (such as the use of efficient ventilation and cooling systems; renewable energy generation; sustainable building materials; permeable paving materials; efficient energy and water systems; efficient waste management systems; et al.).**

Low flow water-conserving fixtures will be used in the residence, and solar photovoltaic panels will be installed on the roof.

**If the project involves landscaping, please describe how the landscaping is appropriate to Conservation District (e.g. use of indigenous and endemic species; xeriscaping in dry areas; minimizing ground disturbance; maintenance or restoration of the canopy; removal of invasive species; habitat preservation and restoration; et al.).**

The proposed use is appropriate to the Conservation District because it will include removal of invasive plant species in and around the proposed single family residence and any landscaping will utilize native Hawaiian plants along with Polynesian-introduced and beneficial non-invasive alien plants. Removal of aggressive invasive plants like albizia (*Falcatarria moluccana*) and octopus trees (*Scheflera actinophylla*) and replacement with natives species may improve habitat for bird species. A list of proposed plant species that may be used in landscaping the project area can be seen in the Table below.

### Table 4 - Proposed Landscaping Plants

<table>
<thead>
<tr>
<th>Hawaiian or Common Name</th>
<th>Botanical Name</th>
<th>Status/(Risk Score)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breadfruit</td>
<td><em>Artocarpus altilis</em></td>
<td>Polynesian Introduction (-12)</td>
</tr>
<tr>
<td>Colville’s Glory Tree</td>
<td><em>Colvillea racemosa</em></td>
<td>Non-invasive alien (-8)</td>
</tr>
<tr>
<td>Firewheel</td>
<td><em>Stenocarpus sinuatus</em></td>
<td>Non-invasive alien (-4)</td>
</tr>
<tr>
<td>Floss-silk tree</td>
<td><em>Chorisia speciosa</em></td>
<td>Non-invasive alien (-7)</td>
</tr>
<tr>
<td>Gold Tree</td>
<td><em>Tabebuia donnell-smithii</em></td>
<td>Non-invasive alien (-4)</td>
</tr>
<tr>
<td>Ho`awa</td>
<td><em>Pittosporum glabrum</em></td>
<td>Native</td>
</tr>
<tr>
<td>Illwara Flame Tree</td>
<td><em>Brachychiton acerifolius</em></td>
<td>Non-invasive alien (-5)</td>
</tr>
<tr>
<td>Jacaranda</td>
<td><em>Jacaranda mimosifolia</em></td>
<td>Non-invasive alien (1)</td>
</tr>
<tr>
<td>Koa</td>
<td><em>Acacia koa</em></td>
<td>Native</td>
</tr>
<tr>
<td>Koki’o ke’oke’o</td>
<td><em>Hibiscus punaluensis</em></td>
<td>Native</td>
</tr>
</tbody>
</table>
Please describe the Best Management Practices that will be used during construction and implementation of the proposed land use.

The proposed project will use Best Management Practices (BMPs) during implementation of the following activities:

- Access Road Repair and Construction
- Land Clearing
- Residence Construction

*Risk Scores from Pacific Island Ecosystems at Risk (PIER)—Risk Assessments. See [http://www.hear.org/pier/wra.htm](http://www.hear.org/pier/wra.htm)
Access Road Repair and Construction

The driveway to the proposed residence will be constructed using established BMPs to provide safe access while minimizing environmental impacts such as soil erosion.

Table 5 - Best Management Practices for Access Road Repair and Construction

<table>
<thead>
<tr>
<th>Best Management Practice</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope stabilization and sediment filters</td>
<td>Use erosion-control blankets and/or ground cover vegetation to stabilize steep slopes on road banks. Use vegetative buffers at the outlets of road drainage structures for sediment filtration. Perimeter controls such as fiber rolls, silt fence, and tracking controls such as stabilization at the construction entrance/exit, storm drain inlet protection and use of buffer zones.</td>
</tr>
<tr>
<td>Road Drainage Structures</td>
<td>Place drainage structures such as water bars or broad-base diversion channels in locations where concentrated slope drainage crosses the road or on steeper road sections. Use onsite rock material and/or geotextile for surface road crowning.</td>
</tr>
<tr>
<td>Sediment Catch Basins</td>
<td>Use sediment catch basins and armored road-side drainage to prevent down-slope movement of sediments.</td>
</tr>
<tr>
<td>Monitoring and Maintenance</td>
<td>1) Conduct monitoring and maintenance of BMPs to ensure their continued effectiveness; 2) Monitor and maintain the road fill so as to minimize erosion.</td>
</tr>
</tbody>
</table>

Land clearing

Approximately half an acre of land will be cleared for construction of the residence. Invasive vegetation will be removed mechanically and used as mulch and for slope stabilization as required. The total project scope for the proposed residence and driveway is 1.4 acres. The following steps will be used in conducting clearing:

Table 6 - Best Management Practices for Land Clearing

<table>
<thead>
<tr>
<th>Activities</th>
<th>Best Management Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land clearing work period:</td>
<td>1. Land clearing will be conducted outside of the wettest months, which are typically December through March. To the extent possible, the construction contractor will conduct land clearing during clement weather in order to minimize potential erosion. 2. Trees taller than 15 feet will be cleared outside of the Hawaiian hoary bat pupping season from June 1 through September 30.</td>
</tr>
<tr>
<td>Prior to beginning land clearing activities:</td>
<td>1. Cultural Surveys Hawai`i, Inc. conducted an archaeological inventory survey of the property and confirmed that no historic sites are present in the proposed residence area. Based on these findings no cultural or historic sites will be impacted by the residence.</td>
</tr>
</tbody>
</table>
2. The owner will conduct a site reconnaissance before the start of land clearing activities to identify the presence of any native trees and plants to preserve during land clearing, preparation, and planting.

| Land clearing activities: | 1. The construction contractor will clear existing vegetation from the vicinity of the proposed residence and access roads using a small bulldozer. He will use a portable chipper to mulch the cleared vegetation. The mulch will be stored in prescribed locations and covered with a tarp to solarize for 4 to 6 weeks to kill weed seeds. The mulch produced will be used to control weeds and erosion.
2. The construction contractor will remove invasive trees with trunk diameters larger than 4 inches using a backhoe excavator to excavate soil around the root mass and push the tree over.
3. The trunks of larger trees that cannot be mulched will be cut into logs and laid across hill slopes on the edges of the future farming area for slope stabilization and erosion control. |

Erosion and sediment control

The residence and driveway will be designed and constructed to minimize adverse impacts to soil and water quality in the surrounding environment.

The following Best Management Practices will be implemented during construction:

Table 7 - Best Management Practices for Erosion and Sediment Control

<table>
<thead>
<tr>
<th>Activities</th>
<th>Best Management Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erosion and sediment control during construction</td>
<td>• An Erosion and Sediment Control Plan and a Storm Water Pollution Prevention Plan will be prepared and implemented throughout the duration of construction until final stabilization of all disturbed areas.&lt;br&gt;• Erosion control best management practices (BMPs) include providing temporary or permanent stabilization of exposed areas, preserving existing vegetation as long as possible, and minimizing soil compaction.&lt;br&gt;• Sediment control BMPs include perimeter controls (fiber rolls, silt fence), tracking controls (stabilized construction entrance/exit), storm drain inlet protection, and use of buffer zones.&lt;br&gt;• Wind erosion controls for dust management and additional good housekeeping BMPs (for non-stormwater discharges and waste and material management) will also be implemented to minimize impacts to stormwater runoff.&lt;br&gt;• Protection of post-construction LID improvements will be required until all phases of construction are complete.&lt;br&gt;  o Construction equipment and heavy truck traffic should be minimized to reduce compaction and infiltration capability at the basin areas.&lt;br&gt;  o Special care shall be made to prevent sediment from entering and clogging swale and basin areas.</td>
</tr>
</tbody>
</table>
**Zweng Single-family Residence**

- A Notice of Intent shall be filed with the State of Hawaii Department of Health to obtain a Notice of General Permit Coverage under the NPDES Construction General Permit.
- A Site-Specific Construction Best Management Practice Plan (“SSBMPP”) will be assembled prior to beginning site construction activities, as required by the State Department of Health (DOH) National Pollutant Discharge Elimination System (NPDES) regulations. The SSBMPP will be followed during construction activities and 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.
- Erosion and sediment control practices will be conducted immediately upon completion of land clearing.

| Erosion and sediment control post Construction | • All exposed areas shall be stabilized using either vegetative or non-vegetative means.  
• Proposed impervious areas (roof and hardscape) 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.  
• Gravel aprons flanking the concrete driveways will reduce site imperviousness and help filter and capture roadway sediments.  
• 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.  
• Routine operations and maintenance shall be provided to ensure longevity and effectiveness of LID and drainage features. |

Please describe the measures that will be taken to mitigate the proposed land use’s environmental and cultural impacts.

Based on the proposed activities and best management practices outlined above, significant environmental or cultural impacts from the construction of the proposed residence and driveway are not expected. Potential environmental impacts associated with land clearing, restoration of access roads, and construction will be mitigated through the use of Best Management Practices including those listed above. Grading in the vicinity of the residence will be kept to a minimum.
Single Family Residential Standards

Single Family Residences must comply with the standards outlined in §13-5 Exhibit 4.

**Size of Lot:**

<table>
<thead>
<tr>
<th></th>
<th>Existing</th>
<th>Proposed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed building footprint</td>
<td>0</td>
<td>4,955 sf or 0.11 ac</td>
<td>4,955 sf or 0.11 ac</td>
</tr>
<tr>
<td>Paved areas / impermeable surfaces</td>
<td>0</td>
<td>16,995 sf or 0.39 ac</td>
<td>16,995 sf or 0.39 ac</td>
</tr>
<tr>
<td>Landscaped areas</td>
<td>0</td>
<td>39,345 sf or 0.90 ac</td>
<td>39,345 sf or 0.90 ac</td>
</tr>
<tr>
<td>Unimproved areas</td>
<td>327 ac</td>
<td>325.6 ac</td>
<td>327 ac</td>
</tr>
</tbody>
</table>

**Setbacks**

Front: 150 ft.  
Sides: 1,000 ft.  
Back: 3,500 ft.

**Shoreline Properties**

NOT APPLICABLE

Average Lot Depth (ALD):  
Average annual coastal erosion rate:  
Minimum shoreline setback based on Exhibit 4:  
Actual shoreline setback of proposed structure:

**Maximum Developable Area**

The maximum developable area computation shall include all floor areas under roof, including first, second, and third story areas, decks, pools, saunas, garage or carport, and other above ground structures.

- Maximum Developable Area based on Exhibit 4: 5,000 sf  
- Actual Developed Area of proposed residence: 4,955 sf  
- Actual height of the proposed building envelope as defined in Exhibit 4: 25 ft. max

**Compatibility**

Provide justification for any proposed deviation from the established residential standards.

NOT APPLICABLE

How is the design of the residence compatible with the surrounding area?

The residence will be sited to minimize disturbance to views from other areas of the valley. Native and introduced plants with low invasive potential will be used for landscaping. The building structure will consist of a slab on grade foundation with wood framed walls and roof structure. The desired appearance of the dwelling is to have a residential character and scale and blend in with the rural nature of the area.

If grading is proposed include a grading plan which provides the amount of cut and fill. Has grading or contouring been kept to a minimum?
In an effort to minimize the impact within the larger Conservation District, the owner is proposing to build a single-family residence on a small portion of the larger property. This is by achieved by proposing to develop the residence within the area of the previous residence and to improve the existing driveway on the property (that is, the project involves no new development). Please refer to the grading plan in Figure 4 of this application which depicts the scope of grading, including the dwelling building pads, driveway grading and retaining walls used to level the area of proposed work. A total cut of approximately 1,500 cubic yards, fill of approximately 900 cubic yards and fill for the dwelling of 600 cubic yards is proposed for this project. This equates to a net of zero cubic yards for import/export of materials.

Chapter 205A, Coastal Zone Requirements

Land uses are required to comply with the provisions and guidelines contained in Chapter 205A, Hawaii Revised Statutes (HRS), entitled "Coastal Zone Management," as described below:

- **Recreational resources:** Provide coastal recreational opportunities accessible to the public.

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

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

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

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

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

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

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

- **Beach protection:** Protect beaches for public use and recreation.

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

**NOT APPLICABLE: THE PROJECT SITE IS NOT WITHIN THE COASTAL ZONE.**
CERTIFICATION

I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attachments and exhibits is complete and correct. I understand that the failure to provide any requested information or misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, or for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the Land Board.

I hereby authorize representatives of the Department of Land and Natural Resources to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 4:30 p.m.

Signature of authorized agent(s) or if no agent, signature of applicant

AUTHORIZATION OF AGENT

I hereby authorize Bruce Tsuchida to act as my representative and to bind me in all matters concerning this application.

Signature of applicant(s)