

COUNTY OF HAWAI'I PLANNING DEPARTMENT
BACKGROUND REPORT

HAUNANI KANE, PH.D., CLIFF KAPONO, PH.D., AND JOHN H.R. BURNS, PH.D.
SPECIAL MANAGEMENT AREA USE PERMIT APPLICATION
(PL-SMA-2025-000083)

Haunani Kane, Ph.D., Cliff Kapon, Ph.D., and John H.R. Burns, Ph.D. have submitted an application for a Special Management Area Use Permit to allow for the development of an educational and research facility consisting of a hālau, cabins, an on-site caretaker residence, accessory mixed-use support buildings, along with 20 parking stalls, internal access driveways, pedestrian pathways, riverfront walking paths, a floating pier, and related improvements on three (3) parcels totaling 1.97 acres within the Special Management Area. The subject property is located along Pu'ueo Street, approximately 300 feet makai of its intersection with Wailuku Drive, and approximately 70 feet mauka of Hawai'i Belt Road (State Highway 19) near the Wailuku River crossing, Pu'ueo, South Hilo, Hawai'i, TMKs: (3) 2-6-002:001, 002, and 003.

PROPOSED DEVELOPMENT

1. **Request:** The applicant is requesting a Special Management Area (SMA) Use Permit to allow for the phased development of the "Pu'ueo Project," an educational, research, and cultural facility on approximately 85,674 square feet (1.97 acres) of land across three parcels (TMKs: (3) 2-6-002:001, 002, and 003). The proposed development is planned to occur in three phases over an anticipated buildout period of approximately five to fifteen (5–15) years, and will include a combination of residential, educational, and accessory structures, along with supporting site improvements.

Phase I of the project includes the construction of a 2,730-square-foot single-family residence to serve as an on-site caretaker/security dwelling, as well as a garage, internal walking trails, several pavilion structures, and a temporary floating pier to facilitate access and program activities along the Wailuku River. Phase II improvements include the construction of a 2,990-square-foot hālau

(large gathering structure), a 1,280-square-foot restroom facility, and a 12-stall covered parking structure will be provided along with 8 uncovered parking areas totaling 20 parking stalls for the project. Phase III includes the development of two (2) cabins, each approximately 630 square feet in size, intended to support overnight stays or program-related uses.

In addition to the primary structures, the project includes accessory improvements such as internal circulation paths, landscaped open spaces, and site infrastructure necessary to support the proposed uses. The development is intended to be low impact in nature, with structures distributed across the site to maintain open space and minimize disturbance to existing conditions. The project area has been previously subject to grading, vegetation clearing, and debris removal activities under prior SMA Minor Use Permits and currently remains largely vacant.

The proposed project is designed to function as a multi-use facility incorporating residential, educational, and gathering components, with development occurring incrementally over time based on funding and operational needs. While the application identifies the scope and scale of proposed improvements, no specific total project valuation was provided within the submitted materials. Full buildout of the project is anticipated to occur over a period of five to fifteen years following receipt of all necessary permits and approvals.

2. **Project Objectives:** The objective of the proposed Pu'ueo Project is to develop a multi-use facility that accommodates residential, educational, and gathering functions through a phased approach. The project is intended to establish a site capable of supporting science education, research activities, community-based programming, and cultural engagement, while utilizing the subject properties in a manner consistent with their size, location, and surrounding land uses.
3. **Cost/Time of Project:** The application indicates that the total project cost is anticipated to be somewhere between \$4,000,000 and \$5,000,000, however a specific valuation has not been set. Based on funding and other attributes the

development is proposed to occur in phases over an anticipated period of approximately five to fifteen (5–15) years, subject to the issuance of all required permits, approvals, and adequate project funding.

4. **Landowner:** I&A Burns Joint Trust / John Robert Henrik Burns.
5. **Supportive Information:** The applicant has submitted the attached in support of the request: **(Planning Department Exhibit 1 – SMA Use Permit Application Packet dated January 26, 2026).**

BACKGROUND INFORMATION

6. **Chapter 343, HRS:** The proposed improvements are not subject to the requirements of Chapter 343, Hawai'i Revised Statutes regarding Environmental Impact Statements as there is no trigger identified.
7. **Previous SMA Approvals/Permits:**
 - April 14, 1978 – Special Management Area (SMA) Minor Permit No. 78-42 was issued for the subdivision of TMK 326002001 into 2 parcels, minor vegetative clearing, grubbing, grading, and the construction of a paved roadway. Staff notes that the subdivision was never pursued due to the fact that parcels 001 and 002 were considered to be pre-existing legal lots of record.
 - May 21, 1991 – Special Management Area (SMA) Minor Use Permit No. 91-12 was approved by the Planning Director for clearing of vegetation, removal of abandoned vehicles, minor structures and other debris on TMK 326002001 and 002. No work on 326002003 occurred under this approval.
 - June 7, 1993 – SMA Use Permit No. 340 was approved by the Planning Commission for the construction of a 24-unit condominium and related improvements on TMK 326002001 and 002. No work on 326002003 was proposed.
 - July 16, 1999 – Due to the applicant's inability to develop the project approved under SMA Use Permit No. 340, the Planning Commission voted to revoke SMA Use Permit No. 340. Therefore, SMA No.340 is no longer valid.

July 25, 2022 – SMA Minor Use Permit No. PL-SMM-2022-000021 was approved by the Planning Director for tree removal, grubbing, and grading on TMKs 326002001, 002 and 003.

STATE AND COUNTY PLANS

8. **State Land Use District:** Urban.
9. **General Plan LUPAG MAP Designation:** Medium Density Urban (mdu).
10. **County Zoning:** Resort-Hotel 750 square feet (V-.75).
11. **Hilo Community Development Plan (HCDP):** The Hilo CDP was adopted by Resolution No. 1 on May 21, 1975.
12. **Special Management Area (SMA):** The project is located within the Special Management Area and therefore, the proposed development is subject to the SMA review.

DESCRIPTION OF PROJECT AREAS AND SURROUNDING AREA

13. **Land Area:** The subject project area consists of three parcels totaling approximately 85,674 square feet (1.97 acres), including Parcel 001 (approximately 65,327 square feet), and Parcel 002 and 003 (together total 20,347 square feet).
14. **Subject Project Area:** The subject project area consists of three contiguous parcels totaling approximately 85,674 square feet (1.97 acres) located in the ahupua'a of Pu'ueo, South Hilo District, Hawai'i Island. The parcels are irregular in shape and are situated along Pu'ueo Street, extending makai toward the Wailuku River. The site is characterized by generally gently sloping to moderately uneven topography that follows the natural contours of the riverbank, with portions of the property exhibiting previously disturbed conditions due to historic uses, vegetation clearing, and prior grading activities. The makai portions of the site border the Wailuku River, where the terrain becomes more variable and constrained by the riverbank, while the mauka areas are relatively more level and accessible. Existing conditions consist largely of cleared land with scattered vegetation and remnants of past land impacts.

15. **Surrounding Land Zoning/Uses:** The subject project area, identified as TMKs: (3) 2-6-002:001, 002, and 003, are all zoned Resort-Hotel (V-.75) and are located within the Pu'ueo area of South Hilo. Surrounding properties along Pu'ueo Street and in the immediate vicinity are also predominantly zoned Resort-Hotel (V-.75), with nearby areas transitioning to Multi-Family Residential (RM) and Commercial (CG/CS) zoning districts further mauka along Wailuku Drive and toward downtown Hilo. Existing development in the area reflects these zoning designations and includes a mix of apartment complexes (including multi-unit residential buildings along Pu'ueo Street), small-scale commercial structures, and scattered single-family residences. The subject property is situated makai of Wailuku Drive and in close proximity (approximately 200 to 300 feet) to the Wailuku River and the Wailuku River Bridge, which serves as a key access point between the Pu'ueo area and central Hilo. Lands immediately makai and adjacent to the project site are characterized by the Wailuku River corridor, which remains largely undeveloped and functions as a natural riparian and open space feature. The surrounding area reflects a developed urban setting with a mix of residential and commercial uses consistent with the zoning pattern and the Medium Density Urban designation.
16. **Flood Insurance Rate Map (FIRM):** A review of FEMA Flood Insurance Rate Maps (FIRMs) indicates that the subject project area is located primarily within Flood Zone X (Area of Minimal Flood Hazard), with portions of the property along the Wailuku River corridor potentially falling within Flood Zone AE (Special Flood Hazard Area). Flood Zone X represents areas outside of the 100-year (1-percent annual chance) and 500-year (0.2-percent annual chance) floodplains, while Flood Zone AE identifies areas subject to inundation by the 1-percent annual chance flood event where base flood elevations have been determined.
17. **Flora/Fauna Resources:** No professional flora surveys were conducted for the project site; however, the subject project area is characterized by previously disturbed urban land with secondary vegetation typical of lowland Hilo environments. Existing vegetation consists primarily of non-native and

ornamental species interspersed with remnant native and coastal plants. Identified species within the project area include naupaka (*Scaevola taccada*), wedelia (*Sphagneticola trilobata*), autograph tree (*Clusia rosea*), ironwood (*Casuarina equisetifolia*), coconut palm (*Cocos nucifera*), dwarf umbrella tree (*Schefflera arboricola*), and various common grasses. Vegetation is generally sparse to moderate in density due to prior clearing and grading activities, and the site does not contain intact native ecosystems or any noted designated critical habitat.

No formal faunal surveys were conducted as part of the application; however, the disturbed condition of the site and surrounding urban land uses suggest limited habitat value. The Wailuku River corridor adjacent to the project area provides a more ecologically functional riparian environment, which may support a greater diversity of flora and fauna compared to the project site itself. Although no threatened or endangered plant species were identified on-site, the broader area may provide habitat for native fauna. Potential species that could occur in the vicinity include the Hawaiian hawk ('Io, *Buteo solitarius*), Hawaiian short-eared owl (Pueo, *Asio flammeus sandwichensis*), Hawaiian coot (*Fulica alai*), Hawaiian stilt (*Himantopus mexicanus knudseni*), and Hawaiian duck (*Anas wyvilliana*), particularly in association with nearby riparian and wetland environments.

18. **Archaeological Resources:** The subject project area is located within the ahupua'a of Pu'ueo, South Hilo District, Hawai'i Island, and has been previously studied in part through an Archaeological Inventory Survey (AIS) conducted by Goodfellow (1991), which covered Parcels 001 and 002. The AIS identified Site 50-10-35-15415 within the project area, consisting of two features, including pre-contact hearths, historic refuse, and remnants of more recent structural remains. The site was evaluated under Criterion D (information content). The project area is also located within the boundaries of the historic Pu'ueo District (State Inventory of Historic Places [SIHP] #50-10-35-07442), where historic features including a boathouse and shoreline boat davits along the Wailuku River have

been documented. Historical records indicate that the Pu'ueo area functioned as a residential community dating back to the late 18th century, with multiple residences and associated uses present in the early 1900s. The subject parcels were also previously used for commercial and residential purposes, including operation of the Pu'ueo Poi Factory until approximately 1965, as well as various residences and small businesses. The application indicates that the project area has undergone prior disturbance, including vegetation clearing, grading, and debris removal under previous SMA Minor Use Permits. These activities have reportedly removed most visible remnants of earlier structural foundations associated with historic uses of the parcels. Parcel 003 has not been previously subject to an Archaeological Inventory Survey. The project was submitted to the State Historic Preservation Division (SHPD) for its Ch. 6E-42 review. According to the SHPD letter dated March 4, 2026, while portions of the project area have been previously surveyed through an Archaeological Inventory Survey (AIS), the entirety of the three parcels has not been fully investigated, and SHPD has determined that there is insufficient information to assess potential impacts to historic properties; therefore, SHPD has requested that an archaeological field inspection (FI) be conducted across the entire project area by a qualified archaeologist, and, if additional historic properties or sites are identified, that a new AIS be prepared and submitted to SHPD for review and acceptance prior to the initiation of any land-altering activities **(Planning Department Exhibit 2 – SHPD response letter dated March 4, 2026).**

19. **Cultural/Historic Resources:** The subject project area is located within the ahupua'a of Pu'ueo, South Hilo District, an area with documented cultural and historic significance. Historical records indicate that Pu'ueo functioned as a residential and community area dating back to the late 18th century, with multiple residences present by the early 1900s. The area has also supported a range of historic land uses, including residential development, small businesses, and operation of the Pu'ueo Poi Factory until approximately 1965. The project site is situated within the boundaries of the historic Pu'ueo District (State Inventory of

Historic Places [SIHP] #50-10-35-07442), where features such as a boathouse and shoreline boat davits along the Wailuku River have been previously identified. Portions of the subject parcels have been previously evaluated through an Archaeological Inventory Survey (AIS) conducted by Goodfellow (1991), which documented archaeological Site 50-10-35-15415 consisting of pre-contact hearths, historic refuse, and remnants of more recent structural features. The project area has been subject to prior disturbance, including vegetation clearing, grading, and debris removal under previous SMA Minor Use Permits, which have removed most visible remnants of earlier structural foundations. However, as noted in correspondence from the State Historic Preservation Division (SHPD), the project area remains within a culturally significant district, and not all parcels have been fully surveyed for archaeological resources.

20. **Recreational/Scenic and Open Space Resources:** The subject project area is located adjacent to the Wailuku River and is situated within an urbanized portion of Pu'ueo in South Hilo. The Wailuku River corridor serves as a natural open space feature and contributes to the scenic character of the area, providing views of the river and surrounding vegetation. The project site itself, however, does not function as a formal recreational area and is not designated for public recreational use. The parcels are privately owned and have historically been utilized for residential and commercial purposes. The surrounding area includes informal recreational and scenic resources associated with the Wailuku River and nearby infrastructure such as the Wailuku River Bridge ("Singing Bridge"), which offers visual access to the river and is commonly used for sightseeing and passive enjoyment of the landscape. The river corridor may support activities such as informal fishing and viewing; however, access within the immediate project site is limited and not formally established for public use. The project area has experienced prior disturbance, including overgrowth of non-native vegetation and use by a homeless population, which resulted in the accumulation of debris and degraded site conditions. Subsequent clearing and cleanup activities have improved site conditions but also reflect the altered state of the property. As

such, the site currently does not provide maintained recreational facilities or organized open space amenities. Overall, while the Wailuku River corridor contributes to the scenic and open space character of the surrounding area, the subject property itself does not serve as a significant recreational or open space resource.

While some localized changes to views across the site may occur due to the introduction of new structures, the project is not expected to obstruct significant public view corridors or scenic vistas associated with the Wailuku River or surrounding landscape. The overall visual impact is anticipated to be consistent with the existing mixed-use and moderately developed character of the Pu'ueo area.

21. **Coastal Hazards:** The subject property is located within the Special Management Area (SMA) and is situated adjacent to the Wailuku River, a major fluvial system that ultimately discharges to Hilo Bay. While the site does not front the ocean shoreline, its proximity to the river places it within an area that may be subject to fluvial flooding and related hazards. FEMA Flood Insurance Rate Maps (FIRMs) indicate that portions of the project area may be within or near designated flood hazard zones associated with the Wailuku River, while other areas of the site are outside mapped flood hazard areas. The project site is not subject to coastal erosion hazards associated with marine shorelines; however, localized bank instability and flooding along the river corridor may occur during high flow events.

PUBLIC UTILITIES AND SERVICES

22. **Access:** Access to the subject property is provided via Pu'ueo Street, a County-maintained roadway, which connects to Wailuku Drive.
23. **Water:** The Department of Water Supply (DWS) indicated that potable water service is available to the project via an existing 6-inch waterline; however, its support is conditioned upon several requirements, including submission of engineered water demand calculations, payment of any applicable water commitment and facilities charges, installation of appropriate backflow

prevention, and coordination of any necessary system improvements or relocations. DWS also noted that the existing system does not meet minimum fire flow standards, requiring consultation with the Fire Department for alternative fire protection measures, and emphasized the need to reduce potable water use for irrigation through conservation and alternative sources. In response, the applicant has acknowledged and agreed to comply with all DWS conditions, including preparation of water usage studies, installation of required infrastructure, and coordination on fire protection measures, and has committed to incorporating water conservation strategies—such as exploring alternative irrigation sources and low-water landscaping—in alignment with DWS recommendations.

24. **Wastewater:** According to the Department of Environmental Management, the proposed project area is within 300-linear feet of an existing sewer system. The applicant shall install sewer lines as required by Section 23-85 of the Hawaii County Code.
25. **Other Essential Utilities and Services:** Electricity, telephone, and internet services are available to the site.

AGENCIES' COMMENTS

26. **Hawaii County Police Dept.: (Planning Department Exhibit 3 – February 25, 2026, Memo).**
27. **Department of Health: (Planning Department Exhibit 4 – February 18, 2026, Memo).**
28. **Department of Environmental Management: (Planning Department Exhibit 5 – February 25, 2026, Memo).**
29. **Department of Public Works – Building: (Planning Department Exhibit 6 – February 24, 2026, Memo).**
30. **Hawaii County Fire Dept.: (Planning Department Exhibit 7 – February 18, 2026, Email).**
31. **Office of Planning and Sustainable Development (OPSD): (Planning Department Exhibit 8 – March 12, 2026, letter).**

32. **County Department of Water Supply (DWS): (Planning Department Exhibit 9 – March 25, 2026, letter).**

AGENCIES - NO RESPONSE

33. County Dept. of Public Works – Engineering, DLNR-OCCL/DOFAW/ENG, Civil Defense, State DOE.

PUBLIC COMMENTS

34. The Department has not received any comments or objections from the public or adjacent landowners on this application.

APPLICANTS RESPONSE

35. **Applicants Response to Comments: (Planning Department Exhibit 10 – March 25, 2026, letter).**
36. **Applicants Response to Comments: (Planning Department Exhibit 11 – April 4, 2026, Letter).**

Daryn Arai
Land Use Planning Consultant

January 26, 2026

Mr. Jeffrey Darrow, Director
County of Hawai'i Planning Department
101 Pauahi Street, Suite 3
Hilo, HI 96720

Dear Director Darrow:

Subject: SMA Use Permit Application
Applicants: Haunani Kane, Ph.D.; Cliff Kaponu, Ph.D.; John H.R. Burns, Ph.D.
Request: "Pu'ueo Project", an educational, research and collaborative/gathering space
that will promote science education, outreach and cultural engagement
TMKs: 2-6-002: 001, 002 & 003; Pu'ueo, South Hilo, Hawai'i Island

Accompanying this letter, we present for your consideration and processing before the Windward Planning Commission the request for a Special Management Area Use Permit to allow for the development of the "Pu'ueo Project", an educational, research and collaborative/gathering space that will promote science education, outreach and cultural engagement. The subject properties are located along the northern embankment of the Wailuku River, between Puueo Street and Highway 19 in the City of Hilo.

Pursuant to your application requirements to be filed via the EPIC system, please find accompanying this letter the following:

- a. Original of the completed SMA Use Permit application form and accompanying environmental report that includes a location map and site plan;
- b. Completed application form with landowners' authorizations
- c. List of the surrounding property owners within 500 feet of the subject property.

Should you have questions on this matter, please feel free to contact me. Thank you very much.

Sincerely,



Daryn Arai

Planning Dept. Exhibit <u>1</u>

copy via email: Applicants-Dr. Kane, Dr. Kaponu & Dr. Burns



SPECIAL MANAGEMENT AREA USE PERMIT APPLICATION

Prepared on Behalf of Applicants

**Haunani Kane, Ph.D.
Cliff Kaponu, Ph.D.
John H.R. Burns, Ph.D.**

Pu‘ueo Project

**An educational, research and collaborative/gathering space
that will promote science education, outreach and cultural
engagement**

**Tax Map Keys: (3) 2-6-002:001, 002 & 003
Pu‘ueo, South Hilo District
Hawai‘i Island**

**Prepared by: Daryn Arai, Planning Consultant
January 2026**

SPECIAL MANAGEMENT AREA USE PERMIT APPLICATION

COUNTY OF HAWAII PLANNING COMMISSION

(Type or legibly print the requested information)

APPLICANT(S): Haunani Kane, Ph.D. / Cliff Kapono, Ph.D. / John H.R. Burns, Ph.D.

APPLICANT'S SIGNATURE: (see attached authorization letter) DATE: August 26, 2025

ADDRESS: c/o John H.R. Burns
PO Box 578
Papaikou, HI 96781

LIST APPLICANT'S INTEREST (if not owner): Scientific and community-based program coordinators

PHONE: (Bus.) 808-854-4057 Burns (Res.) _____ (Email) [REDACTED]

REQUEST: "Pu'ueo Project", an educational, research and collaborative/gathering space that will
promote science education, research and cultural engagement.

TAX MAP KEY: 2-6-002:001, 002 & 003 ZONING: Resort-Hotel (V-.75)

SIZE OF PROPERTY / AREA OF REQUESTED USE: total 85,674 ± / total 85,674 ±

LANDOWNER(S): John Robert Henrick (H R) Burns and the I&A Burns Joint Trust

FEE SIMPLE LANDOWNER(S) WRITTEN AUTHORIZATION

(may be provided by letter with the below statement included):

(see attached authorization letter) DATE: 8/26/2025

DATE: _____

AGENT: Daryn Ara'i

AGENT ADDRESS: PO Box 4501, Hilo HI 96720

PHONE: (Bus.) 808-895-3218 (Res.) _____ (Email) [REDACTED]

Please indicate to whom original correspondence and copies should be sent.

ORIGINAL: Applicants via [REDACTED] COPIES: Agent

TO WHOM IT MAY CONCERN:

The undersigned below are the owners of those properties consisting of a total of approximately 85,674 square feet and identified as TMK: 2-6-002:001, 002 & 003 located in Pu'ueo within the District of South Hilo.

As owners of these subject properties, we hereby authorize the filing of a Special Management Area (SMA) Use Permit application to allow for the development of the "Pu'ueo Project", an educational, research and collaborative/gathering space that will promote science education, outreach and cultural engagement. By this letter, we also authorize Haunani Kane, Ph.D.; Cliff Kapono, Ph.D. and John H.R. Burns, Ph.D. as our representatives in regards to this matter and Daryn Arai, Planning Consultant, to assist us with the filing and processing of this application before the County of Hawai'i.



John Robert Hendrick (H.R.) Burns
PO Box 578
Papaikou, HI 96781

August 26, 2025

Date



I&A Burns Joint Trust
279 Puia Road
Hilo, HI 96720-2261

August 26, 2025

Date

LISTING OF SURROUNDING PROPERTY OWNERS WITHIN 300 FEET OF PROJECT SITE			
TAX MAP KEY	LANDOWNER	ADDRESS	
230040070000			
230040080000			
230040080000			
230050040000			
260010050000			
260010070000			
260010190000			
260010200000			
260020040000			
260020050000			
260020050000			
260020060000			
260020070000			
260020080000			
260020120000			
260020140000			
260020170000			
260020180000			
260020190000			
260020210000			
260020220000			
260030090000			
260030090000			
260030220000			
260030220001			
260030220002			
260030220002			
260030220003			
260030220004			
260030220005			
260030220006			
260030220007			
260030220008			
260030220009			
260030220010			
260030220011			
260030220012			
260030220013			
260030220013			
260030220014			
260030220015			
260030220016			
260030220017			
260030220017			
260030220018			

260030230000			
260030240000			
260030360000			
260030370000			
260030380000			
260030390000			
260030400000			
260030430000			
260030440000			
260030450000			
260030460000			
260030470000			

**BACKGROUND INFORMATION REPORT
IN SUPPORT OF
SPECIAL MANAGEMENT AREA USE PERMIT APPLICATION
for the proposed**

PU'UEO PROJECT

Tax Map Keys: (3) 2-6-002:001, 002 & 003
Pu'ueo, South Hilo District
Hawai'i Island

Prepared by: Daryn Arai, Planning Consultant
January 2026

Table of Contents

A. DETAILS OF PROPOSED USE / DEVELOPMENT	1
1. Applicant	1
2. Landownership and Partnership	1
3. Applicant's Request.....	2
4. Location of Properties	2
5. Statement of Objectives and reasons for the request	3
6. Proposed Project Details.....	3
7. Facility and Property Use and Management	5
8. Site Development Concept	7
9. Timeframe and cost.....	8
B. HISTORICAL PROPERTY INFORMATION	8
C. REGULATORY HISTORY.....	13
D. LAND USE AND OTHER REGULATORY CONSIDERATIONS.....	14
22. State Land Use Designation	14
23. Current County Zoning.....	14
24. General Plan Land Use Pattern Allocation Guide (LUPAG) Map	14
25. Hilo Community Development Plan	15
26. Coastal Zone Management, HRS, Chapter 205A.....	15
27. Special Management Area (SMA).....	15
E. DESCRIPTION OF PROPERTY AND SURROUNDING AREA	16
28. Subject Property.....	16
29. Surrounding Zoning/Land Uses	16
30. US Soil Survey	16
31. FIRM	17
32. Sea Level Rise Vulnerability and Adaptation Report (2017)	18
33. Flora/Fauna Resources	18
34. Archaeological Resources	18
35. Cultural or Native Gathering Rights.....	19
36. Public Access.....	19
F. PUBLIC UTILITIES AND SERVICES	19
37. Access:.....	19
38. Water	19
39. Wastewater	19
41. Essential Utilities and Services	19
F. STATEMENT IN SUPPORT OF SMA USE PERMIT REQUEST	20
G. ANTICIPATED EFFECTS UPON THE SPECIAL MANAGEMENT AREA.....	21
H. OBJECTIVES AND POLICIES OF CHAPTER 205A AND SMA GUIDELINES	23
I. CONCLUSION	26

**COUNTY ENVIRONMENTAL REPORT
IN SUPPORT OF SPECIAL MANAGEMENT AREA USE PERMIT APPLICATION FOR
PROPOSED PU‘UEO PROJECT**

Affecting Tax Map Keys: (3) 2-6-002: 001, 002 & 003;Pu‘ueo, South Hilo

A. DETAILS OF PROPOSED USE / DEVELOPMENT

1. Applicants

The Applicants (Dr. Cliff Kapono, Dr. Haunani Kane, and Dr. John H.R. Burns) are Hawai‘i-based scientists and educators dedicated to advancing ocean science, Indigenous knowledge, and community-based conservation through innovative research, storytelling, and education.

- **Haunani Kane, Ph.D.**

- First Native Hawaiian woman to receive her doctorate in geology from the University of Hawaii at Manoa. Her work primarily focuses on low lying island resilience as a result of climate change. She was an integral part of the **Polynesian Voyaging Society’s** worldwide voyage, lending her services as both a traditional navigator as well as the director of sciences. She has been featured in publications such as The New York Times, New Scientist, LA Times and Hawaii Business Magazine.

- **Cliff Kapono, Ph.D.**

- Professional surfer, chemist and journalist. Born on the eastern shores of Hawai‘i, his life involves equal parts science as it does surf. While contributing several peer-reviewed publications to the fields of molecular bioscience, he has also produced a handful of award-winning films that discuss indigenous activism, ocean conservation, global food security and virtual reality. He has been profiled in publications such as The New York Times, NBC, CBS, Surfer Magazine and more.

- **John H.R. Burns, Ph.D.**

- Specializes in coral reef ecology and data science. His research uses novel modeling techniques to characterize some of the most resilient reefs on the planet. His work has been highlighted by Rolex, National Geographic, Forbes and Surfer Magazine. He has also contributed to award-winning documentaries such as Chasing Coral, Reefs at Risk, and Island Earth.

2. Landownership and Partnership

The subject properties are owned by John Robert Henrick (H.R.) Burns and the I&A Burns Joint Trust, both of whom have authorized the filing of this SMA application. The Burns Family will collaborate with the Applicants on running the proposed science and community-focused events as well as fundraising efforts. These collaborative efforts will also extend to other community and educational groups and organizations that share the mission of the landowners and the applicants.

3. Applicants' Request

The Applicants wish to develop the “Pu‘ueo Project” as a meeting facility that will provide a collaborative/gathering space that promotes science education, outreach and cultural engagement. The mission is to create an inspiring environment that fosters learning and collaboration. By developing the property in phases, the Applicants aim to balance sustainability, accessibility, and functionality, ensuring it serves as a hub for scientific retreats, educational programs and community gatherings.

4. Location of Properties

The approximately 1.97-acre Project Site, consisting of three (3) separate properties, is situated within the City of Hilo and basically framed by the Wailuku River along its southern boundary, Puueo Street along its western or makai boundary, the private Kou Lane along its northern boundary, and one parcel removed (about 70 feet) from the Hawaii Belt Road (State Highway 19) the defines the mouth of the Wailuku River and its connection with Hilo Bay. (refer to [Figure 1 - Location Map](#) and [Figure 2 - Tax Map](#) below).

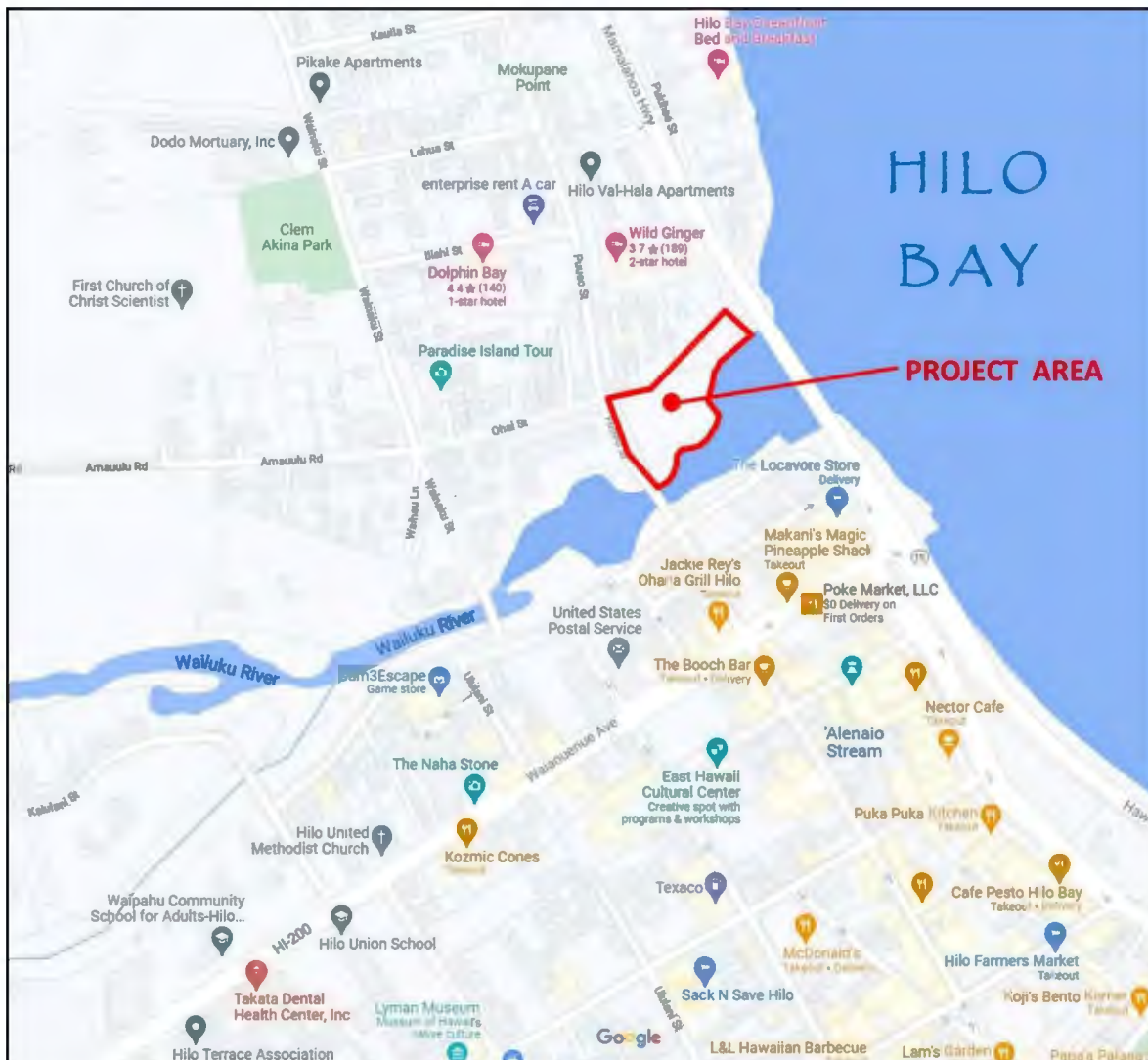


Figure 1 - Location Map

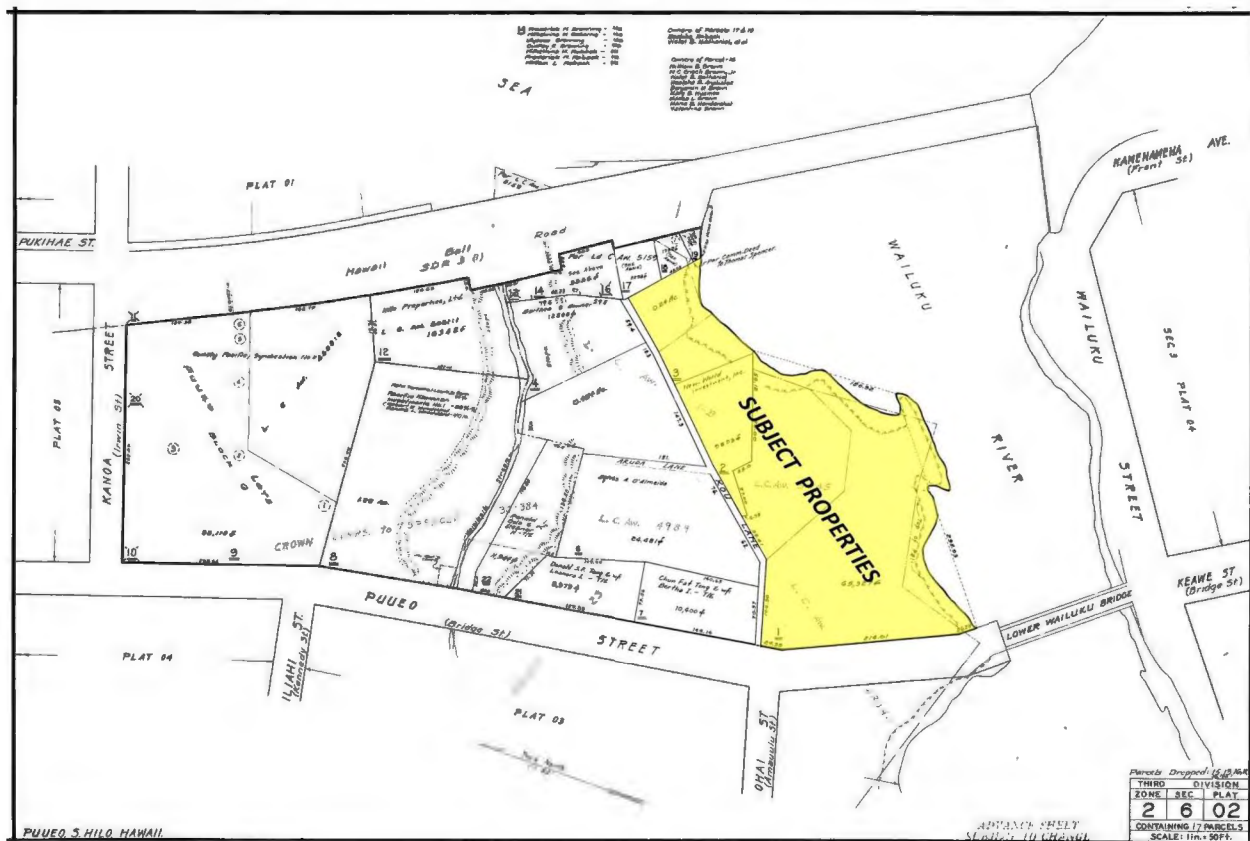


Figure 2 - Tax Map

5. Statement of Objectives and reasons for the request

The Pu'ueo Project aims to create a unique meeting facility that supports science education, outreach, and cultural engagement through a partnership with the Applicants to create an inspiring environment that fosters learning and collaboration. By developing the property in phases, the Applicant seeks to balance sustainability, accessibility and functionality, while ensuring the proposed project serves as a hub for scientific retreats, educational programs, and community gatherings. The Applicants commit to creating a space that minimizes environmental impact and supports scientific exploration.

6. Proposed Project Details (see Figure 3 – Proposed Site Plan) and Exhibit A - Pu'ueo Project Plans

a. Phase 1 – Establish a Presence and Install Infrastructure (first 5 years)

- Construction of a 1-1/2 story, 2-bedroom single-family residential dwelling approximately 2,370 gross square-foot in size that will serve as an on-site presence for security, property maintenance, and landscaping.
- A 2-car garage will be constructed proximate to the proposed dwelling.
- Development of walking trails and small sitting areas (170 square foot pavilions), allowing visitors to explore and connect with the land in an immersive way.
- Property access will be limited to pre-approved visitors, ensuring minimal environmental impact and controlled use.
- Temporary floating pier, anchored to the property, removed when not in use.

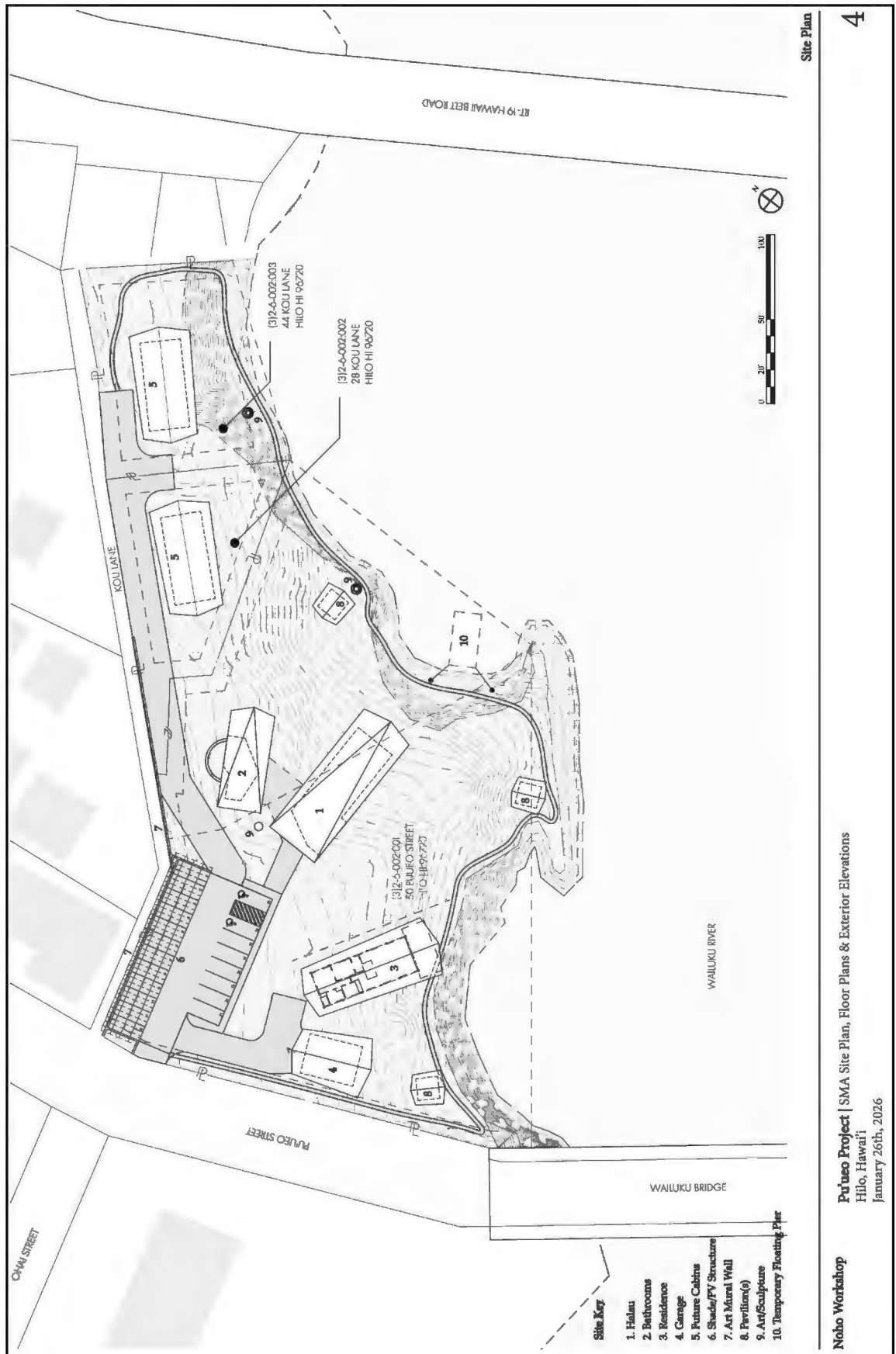


Figure 3 – Proposed Site Plan

- b. Phase 2 – Building the Hālau and parking solutions (Year 5 to Year 10)
- Construction of a hālau (large gathering space) to accommodate organizational meetings, educational programs and retreats.
 - The hālau structure will be approximately 1-1/2 stories in height and approximately 2,990 gross square feet in size, and will include a kitchen.
 - Programs will be educational in nature, aligning with **the Applicant's** mission of science outreach and learning.
 - A restroom facility, approximately 1,280 gross square feet in size.
 - A 12-stall covered parking structure will be provided along with uncovered parking areas able to accommodate a total of 8 stalls.
 - Noise and traffic control measures will be in place to respect the surrounding area. All parking associated with project activities will be maintained on-site.
 - The hālau will be made available for use by other educational programs and organizations **to generate revenue that will help sustain the Applicant's** programs. No special events, such as fairs, fundraising or concerts, will be held on the Project Site.
- c. Phase 3 – Development of cabins (Year 10 to Year 15)
- Small cabins will be constructed to provide short-term rental opportunities that will help generate revenue to maintain the meeting facility and support its related operations. These cabins will not be promoted as part of the meeting facility.
 - These cabins will consist of two studio units approximately 630 gross square feet in size.
 - The proposed project will remain low-density in design, maintaining an emphasis on natural integration and sustainability.

7. Facility and Property Use and Management

- a. Target Audience
- Science educators, students, and researchers seeking a dedicated space for learning, collaboration, and knowledge-sharing.
 - Local community members and organizations looking to engage in science outreach, environmental education, and community-focused programs.
 - Visitors attending retreats and workshops focused on STEM education, conservation, and traditional knowledge integration.
 - The proposed meeting facility will function like a conference room to promote collaboration through the sharing of ideas and information. This facility will not be operated like a social hall where socialization and entertainment are the priorities. The Applicant plans to host a limited number of community-focused programs each year (around 4) that align with their mission of conservation, education, and cultural connection. These programs will not be commercial or recreational in nature but rather focused on outreach and engagement. Examples of these programs include:
 - Educational presentations by scientists, conservationists, cultural practitioners, and community leaders to share knowledge and inspire stewardship.

- Film nights and creative media events, such as surf film premieres or keiki-focused environmental documentaries.
 - **“Roots and Research” series** - quarterly events that pair scientists with local community members to highlight career pathways and sustainable practices.
- b. Hours of Operation
- The property will operate on a reservation-only basis, meaning that access will be restricted to pre-approved guests, scheduled programs, and community partners. Maximum attendance on the project site during any program/activity will be limited to 100 people.
 - Regular open hours are not anticipated, as most uses will be event-based and controlled through advance scheduling. Applicant anticipates that use of the meeting facility will be limited to the hours of 7:00am to 10:00pm on any given day.
- c. Staffing & Maintenance
- The only permanent occupants will be residents of the on-site home, who will assist in security, property maintenance, and landscaping.
 - Additional staffing will be event-specific, with volunteers or temporary personnel hired as needed for larger gatherings, retreats, or maintenance projects.
 - **The hālau and mixed-use buildings** will be maintained by the resident caretakers and serviced as needed for activity preparation and upkeep.
- d. Traffic and Parking Management
- Daily traffic flow will be minimal, as the property is not intended for high-volume public access due to reservation-based use of the meeting facility.
 - The Applicant agrees to limit attendees to any program or activity on the Project Site to no more than 100 people. A total of 20 parking stalls are proposed, complying with the parking ratio of 1 parking stall/7 people and the gross floor **area of the hālau, exclusive of the exterior lanai.**
 - The site will have internal pedestrian trails and gathering spaces, promoting walkability and minimizing vehicular impact on the landscape.
- e. Environmental & Community Considerations
- The development will prioritize sustainability, ensuring that structures and landscaping blend with the natural surroundings.
 - The space will respect environmental values, incorporating native plants, eco-friendly design, and land stewardship principles into its development

8. **Site Development Concept**

The proposed Pu‘ueo Project is designed to minimize the need for extensive land alteration activities in order to accommodate the proposed project components. This is reflected in the design of smaller structures rather than a single larger, multi-story facility as well as the use of post and beam construction for the hālau and residence. Due to the meandering interface of the subject properties with the Wailuku River, all **proposed structures will be situated along the “top-of-bank”, with the exception of the floating pier.** A proposed grassed pedestrian pathway, approximately 5 feet wide, will be provided along the banks of the Wailuku River **as a “nature walk” whose alignment** will follow the existing topography in order to minimize the need for any hand-grading.

9. Best Management Practices

The subject properties have been extensively cleared of very heavy vegetation in 2023. During this clearing period, bio-socks and filter fencing were placed along the top of the Wailuku River embankment to control the sedimentation into the Wailuku River until such time sufficient groundcover was restored through the application of quick-growing annual rye grass or similar groundcover that minimized erosion and sedimentation.

The Applicant will take the same cautious approach towards the development of the proposed Pu‘ueo Project by implementing a project that is integrated with the existing landform rather than extensive reshaping. This will be accomplished through the use of post and beam construction where possible and the design of smaller building components rather than large, multi-level facilities. The Applicant will also adhere to the following requirements:

- Prior to the commencement of any land altering or construction activities, sedimentation barriers (silt fences) shall be implemented on downhill slope of the project site to minimize potential run off or sedimentation and shall remain in place until final inspection has been granted for all proposed construction activities.
- All earthwork and grading activity shall conform to Chapter 10, Erosion and Sedimentation Control of the Hawai‘i County Code
- All construction and maintenance activities on the subject parcel shall comply with Chapter 27, Floodplain Management, of the Hawai‘i County Code.
- To protect any Hawaiian Hoary Bats in the vicinity of the subject properties, barbed wire fencing shall not be used anywhere within the project site and woody vegetation over 15 feet in height shall not be removed during bat breeding season of June 1st to September 15th.
- If any state-listed waterbirds such as the Hawaiian Duck, Hawaiian Stilt, Hawaiian Coot or **Hawaiian Goose (Nēnē)** are present during any construction activities, the Applicant shall immediately cease all activities within 100 feet of the bird. Work may continue after the bird leaves of its own accord. If a nest is discovered at any point, the Hawai‘i Island Branch DOFAW Office shall be contacted.
- If the State endangered Hawaiian Monk Seal and threatened Green Sea Turtle are present during any construction activities, the Applicant shall immediately cease all activities within 100 meters of the animal. Work may continue after the animal leaves of its own accord.
- Artificial light from exterior lighting fixtures, including, but not necessarily limited to floodlights, up-lights or spotlights used for decorative or aesthetic purposes shall be prohibited if the light directly illuminates, or is directed to project across property boundaries toward, the shoreline and ocean waters, except as may otherwise be permitted pursuant to Section 205A-71(b), Hawai‘i Revised Statutes.
- In the event that surface or subsurface historic resources, including human skeletal remains, structural remains (e.g., rock walls, terraces, platforms, etc.), cultural deposits, marine shell concentrations, sand deposits, or sink holes are identified during the demolition and/or construction work, the Applicant shall cease work in the immediate vicinity of the find, protect the find from additional disturbance and

contact the State Historic Preservation Division at (808) 933-7651. Subsequent work shall proceed upon an archaeological clearance from DLNR-SHPD when it finds that sufficient mitigation measures have been taken.

10. Timeframe and cost

Upon issuance of an SMA Use Permit, the Applicants will submit a detailed site, elevation and landscaping plans for Plan Approval Review, likely within a six (6) month period. Upon issuance of Final Plan Approval, it will likely take about a year to prepare the necessary construction drawings and secure building permits for the Phase 1 residential dwelling and detached garage. The hope is to complete construction of the Phase 1 residential dwelling within 3 years from the date of SMA approval.

Development of subsequent phases will be dependent upon securing the necessary financing, but the Applicant anticipates that the entire Pu‘ueo Project, as presented within this application, could be completed within 12 years. Anticipated cost for the construction of the Pu‘ueo Project is anticipated to range somewhere between \$4 to \$5 million dollars.

B. HISTORICAL PROPERTY INFORMATION

- 11.** As confirmed by the pre-existing lot determination for Parcels 1 and 2, the Project Site consist of 3 individual lots of records resulting from Land Commission Awards dating back to the 1850s. In the late nineteenth century, the Pu‘ueo area established itself as a residential community, along with various dryland agricultural activities. Stores such as Serrao serviced this community until the later twentieth century when it was cleared for the construction of the existing Riverside Apartment complex across Puueo Street and mauka of the Project Site. The Project Site, while currently vacant of any use, has historically accommodated the former Puueo Poi Factory up to its relocation in 1965. There were also a few homes built on the property. These historical photos of the Project Site show the extent of development and activities that once inhabited these properties and immediately surrounding area.

Figure 4 – E.D. Baldwin Survey 1891 a section of a government survey map from 1891 that depicts the then-existing structures on the Project Site, including the “Store House” that is also depicted in the photograph identified as Figure 5 – Photo by Brother Bertram, circa 1883 to 1905

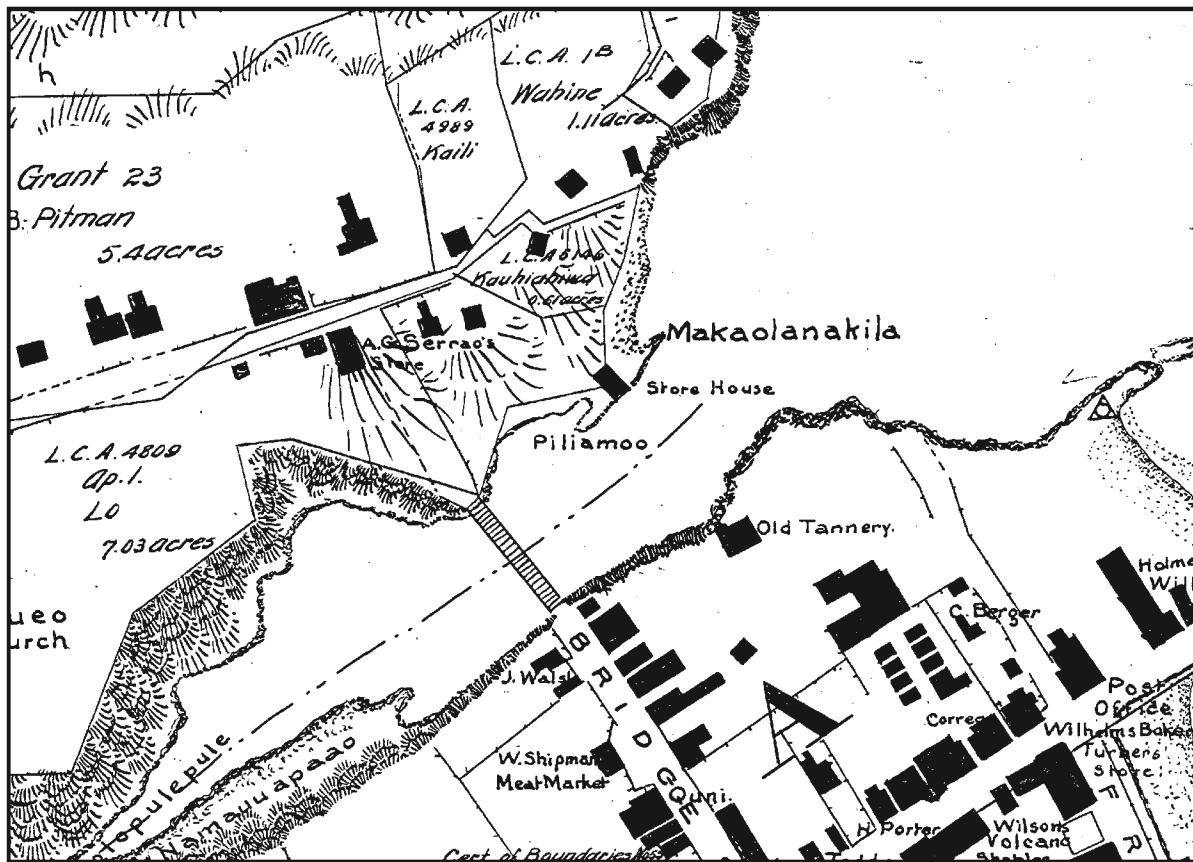


Figure 4 – E.D. Baldwin Survey 1891

Figure 5 – Photo by Brother Bertram, circa 1883 to 1905 below looks northwest from the southern bank of Wailuku River towards the Project Site. Note the “Store House” in the foreground along with a number of homes and the extensively cleared and managed landscaped that also includes taro lo‘i.



Figure 5 – Photo by Brother Bertram, circa 1883 to 1905

Figure 6 – Photo by Orville Magoon, April 1946 looks mauka toward the Project Site situated on the right (north) side of the Wailuku River and between the two bridges. This photo was taken shortly after the 1946 Tsunami that collapsed a section of the railroad bridge that spanned the Wailuku River.



Figure 6 – Photo by Orville Magoon, April 1946

Figure 7 below shows the property shortly after the April 1946 tsunami, looking makai at Pu‘ueo Bridge with the mauka portion of the Project Site located on the upper left portion of this photo.



Figure 7 – Photo by NOAA, April 1946

12. 1940s to 1960s

The Project Site previously hosted the original Puueo Poi Factory that was located along the Wailuku River stream bank, as well as several homes. The poi factory operated during the period from 1941 to 1965, with all active occupation of the property ceasing sometime during the late 1960s.

13. 1980s to 2020s

More recent clearing of the Project Site, somewhere around the late 1980s, almost completely destroyed the majority of foundations associated with the poi factory and homes that once existed. Ornamental trees were left behind, such as breadfruit, guava, hibiscus, mango, castor bean, avocado, banana and palm trees. Over decades, the vegetation has grown unmanaged and a dense ground cover of Hilo, California and Wainaku grasses now intertwines between the trees, which now includes the dangerous Albizia and banyan along with scattered populations of laua‘e and bamboo

14. July 25, 2022

Due to the extensive vegetative canopies that dangerously occupied the project site, **and the squatting, littering and other illicit activities that the project site's condition** promoted, the prior landowner secured SMA Minor Use Permit PL-SMM-2022-000021 (see Exhibit B) to allow for tree removal, grubbing and minor grading activities. These vegetation clearing activities were completed in mid-2023.

C. REGULATORY HISTORY

15. April 14, 1978 – SMA Minor Use Permit No. 78-42 issued for area now identified as Parcels 1 and 2 to allow for minor clearing and grading activities as well as the construction of a 12-foot wide paved road to service both lots. (see Exhibit C-SMM 78-42)

16. May 21, 1991 – SMA Minor Use Permit No. 91-12, issued for Parcels 1 and 2, to allow for clearing of vegetation, removal of abandoned vehicles, minor structures and other debris as well as for work associated with a topographic survey, archaeological and soil testing. (see Exhibit D – SMM 91-12)

17. June 30, 1992 – Board of Land and Natural Resources certifies shoreline survey along Wailuku River frontages of Parcels 1 and 2. (see Exhibit E – Shoreline Survey)

18. May 27, 1993 – Planning Commission approves SMA Use Permit No. 340 to allow for the construction of a 24-unit condominium (Noelani Gardens) complex and related improvements within that area identified as Parcels 1 and 2. (see Exhibit F – SMA 340). At the request of the previous landowner and applicant, this permit was subsequently revoked by the Planning Commission on July 16, 1999

19. January 7, 2019 – Determination of Pre-existing Lot confirming Parcel 1 consists of two (2) existing legal lots of record. (see Exhibit G – Pre-Existing Lot Determination)

20. May 24, 2019 – State Department of Land and Natural Resources confirms that Parcels 1 and 2 are not subject to the shoreline certification process according to Chapter 13-222, Hawaii Administrative Rules (HAR). As Parcel 3 is similarly situated inland along the Wailuku River, the Project Site is not located along the shoreline. (see Exhibit H – DLNR Letter to Peter Kubota)

21. September 9, 2019 – Tentative Subdivision Approval issued for proposed consolidation and re-subdivision of three (3) existing lots of record comprising both Parcels 1 and 2. This subdivision action has been deferred by the Applicant as they have recently purchased the adjoining Parcel 3 and will reassess their options once the Project Site has been cleared. (see Exhibit I – Tentative Approval dated September 9, 2019.

22. July 25, 2022 – SMA Minor Use Permit PL-SMM-2022-000021 issued to allow clearing of excessive vegetation from project site. (see Exhibit B)

D. LAND USE AND OTHER REGULATORY CONSIDERATIONS

23. State Land Use Designation: Urban.

The project site is situated within an area designated for Urban uses by the State Land Use Commission.

24. Current County Zoning: Resort-Hotel-750sf of land area per unit (V-.75)

The Project Site is situated within an area designated for Urban uses by the State Land Use Commission and for Resort-Hotel (V-.75) uses by the County Zoning Code. (see Figure 8 - Current Area Zoning)



Figure 8 – Current Area Zoning

25. General Plan Land Use Pattern Allocation Guide (LUPAG) Map: Medium Density Urban

The County of Hawai'i General Plan is the policy document for the long-range comprehensive development of the island of Hawai'i. The General Plan Land Use Pattern Allocation Guide (LUPAG) map suggests this area of Pu'ueo for Medium Density Urban uses, which consist of village and neighborhood commercial and single family and multiple family residential and related functions (multiple family residential -- up to 35 units per acre). The proposed Pu'ueo Project will introduce uses that are consistent with the LUPAG map classification.

26. Hilo Community Development Plan

The Hilo Community Development Plan (HCDP), adopted in 1975, recommends that the Project Site and lands to the west along the Wailuku River be rezoned from Resort Hotel (V-.75) to Multiple Family Residential (RM). The reason for this recommendation is based on the finding that:

“The Puueo shore area is desirable for hotel development because of the attractive views across Hilo Bay and the proximity to downtown (both for the convenience of visitors and to assist in revitalization of downtown). This area is currently zoned for resort use but is being developed with multi-family residential. It is unfortunate that this multi-family development may pre-empt potential hotel sites for which there will be demand in the future. This plan recommends that the resort zoning be retained (except for the small wedge of resort-zoned land adjacent to Wailuku River) in order to encourage hotel development. The strip of resort-zoned land along Wailuku River is too small for proper resort development, especially for high-rise buildings, and should be rezoned to RM 4.

In addition to potential hotel sites being pre-empted by multi-family development, the high density character for such development is likely to overload this infrastructure and public facilities designed for this area. In order to mitigate this problem and still encourage one or a few hotels being developed, it was recommended in a previous section of this report that the zoning ordinance be revised, requiring a lower density multi-family use in the resort zone than is now allowed.”

27. Coastal Zone Management, HRS, Chapter 205A

The entire State of Hawai‘i lies within the Coastal Zone Management area. The intent of the Coastal Zone Management Program is to guide and regulate public and private uses in the coastal zone management area with respect to recreational resources, historic resources, public access to the shoreline, scenic and open space resources, coastal ecosystems, marine resources, economic uses, coastal hazards, managing development, public participation, and beach protection.

28. Special Management Area (SMA)

The Special Management Area (SMA) is a part of the Coastal Zone Management Program that is regulated by the County, **established to promote the State’s policy to preserve, protect, and where possible, to restore the natural resources of the coastal zone of Hawai‘i.** Therefore, special controls on development within the area along the shoreline are necessary to avoid permanent loss of valuable resources and the foreclosure of management options, and to ensure that adequate public access is provided to public-owned or used beaches, recreation areas, and natural reserves, by dedication or other means. The project site is situated within the SMA due to its proximity to the coastal area of Hilo. An SMA Use Permit is required from the Windward Planning Commission in order to support the proposed Pu‘ueo Project.

E. DESCRIPTION OF PROPERTY AND SURROUNDING AREA

29. Subject Property

The Project Site is currently vacant of any uses or structures and gently slopes towards Hilo Bay and the Wailuku River, with that section immediately adjacent to the river dropping off sharply in a cliff or bank about 20 feet high in some sections.

As previously mentioned, the project site was recently grubbed which removed the extensive canopy of Albizia, banyan, avocado, gunpowder, plumeria, mango, bamboo and palms, as well as the understory of grasses such as California, Hilo and Wainaku grasses.

30. Surrounding Zoning/Land Uses

The Project Site resides in an area that historically has been, and currently is, extensively developed primarily with residential uses. The Project Site is framed by the Wailuku River to the south and Puueo Street to the west (mauka), and the privately owned pedestrian lane known as Kou Lane to the north. To the east are small vacant parcels that also adjoin the Hawaii Belt Road (State Highway 19) and like the Project Site, is heavily overgrown with various trees and undergrowth.

Across of Kou Lane to the north is a 14-unit apartment complex as well as a collection of single-family dwellings along the private Arruda Lane. Both Kou Lane and Arruda Lane are narrow private lanes that are not accessible by vehicles and remain exclusively pedestrian.

Across of Puueo Street to the west (mauka) is the much larger 74-unit Riverside Apartment complex and a neighborhood of single-family homes and condominium apartments. Figure 7 below shows the Zoning pattern within this particular section of Puueo, reflecting the Resort-Hotel zoning that includes the Project Site and lands up and down along the Wailuku River as well as along the Hawaii Belt Road. Much of the remaining lands shown are zoned for commercial uses (CN-10) or apartment complexes (RM-1).

31. US Soil Survey: Hilo Hydrous silty claim loam (903)

The subject property is comprised entirely of Hilo series soil, which consists of deep, well drained soils that formed in material weathered from volcanic ash. Hilo soils are on ashfields that are on low-elevation windward slopes of Mauna Kea volcano at elevations of 15 to 335 meters (50 to 1100 feet). The soils formed in material weathered from volcanic ash underlain by 100- to 300-thousand year-old pahoehoe and 'a'a lava flows. This soil is well drained, with medium to high runoff and high saturated hydraulic conductivity (Ksat) in the surface and moderately high Ksat in the subsurface. These soils are used for forest, wildlife habitat, building site development, recreation, orchard crops, agroforestry, and livestock grazing. Common vegetation is hilograss (*Paspalum conjugatum*), guinea grass (*Urochloa maxima*), California grass (*Urochloa mutica*) and strawberry guava (*Psidium cattleianum*).

32. **FIRM**

The majority of the Project Site is situated outside of the 500-year frequency floodplain and not subject to coastal inundation, with the exception of that portion that forms the embankment of the Wailuku River which are subject to both the 100-year frequency flooding (AE) and coastal flooding (VE) with a base flood elevation of approximately 16 feet, as shown in Figure 9 – DLNR Flood Hazard Assessment. As no habitable structures or uses are proposed within these portions of the Project Site subject to potential inundation, no adverse effects from flooding from Hilo Bay or along the Wailuku River is expected.



Figure 9 – DLNR Flood Hazard Assessment

33. Sea Level Rise Vulnerability and Adaptation Report (2017)

The Sea Level Rise Vulnerability and Adaptation Report (“report”) provides a state-wide assessment of Hawaii’s vulnerability to sea level rise and offered recommendations to **reduce the exposure and sensitivity to sea level rise and increase the State’s capacity to adapt**. One such recommended practice is that the magnitude and rate of sea level rise warrants planning for 3.2 feet of sea level rise by 2100. Towards that end, the Sea Level Rise Exposure Area (SLR-XA) shows that only a small portion of the subject property will be impacted by 3.2 feet of expected sea level rise by 2100, and would inundate generally the same area subject to flooding as shown below; and for similar reasons, the proposed activities are not introducing any uses or structures that will be impacted by sea level rise anticipated within the next 75 years.

34. Flora/Fauna Resources

No professional flora or faunal surveys were conducted of the subject property due to its extensively altered nature, especially after the recently approved grubbing activities. The Applicant has not identified any endangered species of plants or animals within the project site. While no endangered species of fauna were observed, its location and shoreline proximity could see threatened or endangered species such as the Hawaiian Hoary Bat, Hawaiian (koloa) Duck, Hawaiian (Nene) Goose, Hawaiian Petrel, Hawaiian Coot, Band-rumped Storm-petrel and the Hawaiian Stilt. The Hawaiian Monk Seal and the threatened Green Sea Turtle may occur in the vicinity of the subject properties.

35. Archaeological Resources

An archaeological inventory survey of the Project Site currently identified as Parcels 1 and 2 was performed in 1991 (see Exhibit J) as part of the now-defunct Noelani Gardens project and which identified one prehistoric site (Site 15415) consisting of prehistoric hearths, historic refuse and recent structural remnants located along the Wailuku River frontage of the project site. At the time of review by the State Department of Land and Natural Resources-Historic Preservation Division (SHPD), they found that adequate documentation for all of the components except for the prehistoric hearths, dating back between AD 1400 to 1670, with a recommendation that it be preserved until its historical significance is determined. The survey concluded that these hearths were most likely associated with temporary occupation within the Project Site and likely associated with exploitation of riverine and marine resources. Based on the result of the archaeological investigation, Site 15415 was evaluated as significant solely for information content and is not recommended for further work.

Due to historic and more recent occupation of the Project Site, and the interim preservation of Site 15415 until a significance determination is made by SHPD, the Project Site does not present itself as an area containing significant cultural, historical or natural resources that would be compromised by the proposed activities. Therefore, the Applicant finds that the proposed grubbing and grading activities will not have a significant adverse impact upon any cultural, historic or natural resources.

No archaeological survey was conducted for Parcel 3, although this property has been partially cleared.

36. Cultural or Native Gathering Rights

Due to historical occupation of the property for commercial and residential uses until the mid-1960s, and the absence of any known native Hawaiian flora, the Project Site is not known to be a resource for the practice of any native Hawaiian traditional or customary rights.

37. Public Access

The Project Site is situated at least 70 feet mauka of State Highway 19 as it crosses the Wailuku River, and therefore not directly fronting the shoreline as confirmed by the State Department of Land and Natural Resources, and therefore not anticipated to have any significant adverse impact upon coastal recreational resources. The Applicant is not aware of any resources within the property that provides direct coastal recreational opportunities to the residents of this island. Wailuku River itself, especially that portion that fronts the Project Site, is not known to offer any recreational opportunities. Furthermore, no identified public access to the shoreline or mountain areas existing within the Project Site. Therefore, the proposed grubbing and grading activities, by and of itself, will not have an adverse impact to any coastal recreational resources.

F. PUBLIC UTILITIES AND SERVICES

37. Access:

Access to the subject property is from Puueo Street, a County-maintained, two-lane roadway. Within the project site, access to the proposed 20-stall parking areas will be provided by an internal paved driveway.

38. Water

County water is available to support the proposed project.

39. Wastewater

The project site can be served by the **County's** municipal sewer system, with all **wastewater pumped to the County's** Hilo wastewater treatment system. The Applicant believes that a 10-inch sewer line runs along Puueo Street directly fronting the subject properties. There is also a sewer line makai of the subject properties along Highway 19. The Applicant will likely required to prepare a sewer capacity study for review and approval by the Department of Environmental Management that will ultimately determine where and how to connect the **Pu'ueo Project to the County's sewer system.**

40. Solid Waste

Solid waste will be handled through commercial haulers or disposal by the landowner into authorized landfill sites or transfer stations.

41. Essential Utilities and Services

Other utilities, such as electrical, cable and telephone services, will be made available to the project site.

F. STATEMENT IN SUPPORT OF SMA USE PERMIT REQUEST

The approval of the Applicants' request to develop the project site as an educational, research and collaborative/gathering space that will promote science education, outreach and cultural engagement will not be contrary to the standards and policies of Chapter 205A, Hawai'i Revised Statutes, relating to Coastal Zone Management. The proposed Pu'ueo Project will consist of a series of relatively small, one to one and a half-story buildings that will be sited so as to not be subject to any coastal hazard nor anticipated to have any adverse impact upon coastal resources. The project site does not provide access to the shoreline. The project site itself has been recently and extensively grubbed of invasive vegetation. Therefore, development of the project site as presented within this application will not have any significant adverse impact on cultural or historical resources in the area or upon any endangered species of plants or animals.

In view of the Hawai'i State Supreme Court's "PASH" and "Ka Pa'akai O Ka'Aina" decisions, the issue relative to native Hawaiian gathering and fishing rights must be addressed in terms of the cultural, historical, and natural resources and the associated traditional and customary practices of the site.

It is unlikely that there are any valued cultural, historic and natural resources to be found within the property, given that it has been extensively utilized for commercial and residential purposes since the late 1800s.

For these reasons, the Applicants could find no evidence of any possible adverse effects or impairments that will occur to any valued resources should the proposed Pu'ueo Project be allowed to proceed. Should the Applicants inadvertently encounter any remains of historic sites, such as rock walls, terraces, platforms, marine shell concentrations or human burials, the Applicants agree to cease any work in the immediate area and contact the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-HPD), resuming activities only upon securing archaeological clearance from DLNR-HPD when it finds that sufficient mitigation measures have been taken.

Approval of the request to construct and establish the Pu'ueo Project will not be contrary to Chapter 205A, Hawai'i Revised Statutes, relating to Coastal Zone Management nor the guidelines for approval of an SMA Use Permit as prescribed by Planning Commission Rule No. 9 regarding the Special Management Area.

The project site is situated within the Special Management Area, but does not share a direct frontage with the shoreline. It does, however, front the bank of the Wailuku River. The Applicants will site all habitable structures in a manner that will not be subject to any **coastal hazard** nor the effects of sea-level rise. The project site has been utilized for almost 150 years for commercial and residential purposes, and has most recently been cleared of an extensive canopy of invasive trees and thick undergrowth. Squatters, and the litter that is left behind, have been removed from the project site. The Applicants consist of scientists focusing their efforts on the protection of our oceans. Therefore, the development of the

proposed Pu‘ueo Project on the subject properties is not anticipated to have any adverse impact upon coastal resources such as **coastal recreational** and **marine resources, coastal ecosystems** or the **public use and recreational use of any beach**.

The subject properties were recently and extensively grubbed under the review and approval of SMM-2022-000021 issued by the Planning Director. Upon review of the propose grubbing activity by the Department of Public Works, it determined that the scope of the proposed grubbing activity did not warrant a grubbing permit. A previous archaeological survey identified one prehistoric site (Site 15415) consisting of prehistoric hearths, historic refuse and recent structural remains. Based on the result of the archaeological investigation, Site 15415 was evaluated as significant solely for information content and is not recommended for further work. Therefore, it is not anticipated that development of the proposed Pu‘ueo Project will have any adverse impact on **cultural or historical resources** in the area as this area has already been extensively altered and disturbed over the course of more than 150 years.

The subject properties, zoned Resort-Hotel (V-.75), are similarly designated as those properties to the west (mauka) and to the north along Puueo Street. The subject properties and the surrounding area within this part of Pu‘ueo is designated for Medium Density Urban uses by the General Plan, which consist of village and neighborhood commercial and single family and multiple family residential and related functions (multiple family residential -- up to 35 units per acre). The proposed Pu‘ueo Project will introduce uses that are consistent with the LUPAG map classification as witness by uses such as the 74-unit Riverside Apartments, 14-unit apartment complex at 66 Pu‘ueo Street and a one-story commercial building directly across Pu‘ueo Street.

Finally, in terms of the **public participation** objective, this is generally a public agency function. This is achieved through the Marine and Coastal Zone Management Advisory Group (MACZMAG) and the public hearing process required pursuant to the **Planning Commission’s Rules and County Council’s meetings** on this application. Notices of this application will become available through the posting of a sign on the property, as well as sending two (2) notices to surrounding property owners, one at the time the application is filed and again, prior to the public hearing.

G. ANTICIPATED EFFECTS UPON THE SPECIAL MANAGEMENT AREA

a. Relationship of proposed action to land use plans, policies and control

The subject properties are situated within the State Land Use Urban District and zoned for Resort-Hotel (V-.75) uses. The V (Resort-Hotel) zoning district applies to areas that accommodate the needs and desires of visitors, tourists and transient guests. It applies to specific areas where public roads and public utilities are available or where suitable alternate private facilities are assured. It may apply to a single isolated hotel or resort with or without a commercial mall or shopping section. In this case, the proposed Pu‘ueo Project is envisioned as a place-based initiative rooted in conservation, science,

storytelling, community gathering, and education. Its mission is to foster meaningful connections between people and place by supporting community-driven science, sharing knowledge through storytelling, and advancing ocean protection through culturally grounded outreach and innovation. People, both residents and visitors alike, will be invited to participate in the discussions that will foster learning and collaboration. By developing the property in phases, the Applicant seeks to balance sustainability, accessibility and functionality, while ensuring the proposed project serves as a hub for scientific retreats, educational programs, and community gatherings. The Applicants commit to creating a space that minimizes environmental impact and supports science and education.

b. Description of how project will affect area and surrounding lands

The subject properties lie within a long-established single- and multiple-family residential area that is also host to scattered commercial uses, such uses that also occurred on the subject properties for most of the last 150 years. During more recent years, the subject properties became overgrown with non-native plants and weeds that sheltered a homeless community that resulted in the area being littered with garbage and illicit activities. The subject properties have been recently cleared, reminding one of what this area looked like in the past when the land was cared for while being used as homesites and business establishments.

The Pu‘ueo Project is envisioned as a meeting space for science and educational programs while also accommodating select community gatherings that align with the learning and collaborative environment that the Applicant wishes to promote. The Applicant will manage traffic to the proposed facility as well as operational hours, as the Applicant is well-aware of the many neighbors living nearby.

c. Description of impacts that cannot be avoided and applied mitigation measures

The construction of the proposed Pu‘ueo Project will cause some temporary noise impacts upon adjoining properties. The Applicant and their contractors will apply best management practices and common sense when undertaking the construction work, such as limiting construction activities to daylight hours only with appropriate dust and runoff control measures implemented. All construction material will be promptly and properly disposed of throughout the construction process and upon completion of the project.

Wastewater generated by the project will be **accommodated within the County’s** sewer system. Runoff will be minimized through the use of on-site drainage systems as well as minimizing the overall footprint of the project and limiting the extent of impervious surfaces and capturing roof runoff and diverting it to small drainage basins.

d. Alternatives to the proposed project

Alternatives to the proposed Pu'ueo Project is to leave the property undeveloped or to construct a single-family dwelling or a multiple-family residential complex. There are various uses and activities permitted within the Resort-Hotel zoning district, many of which may introduce must higher levels of impact upon adjoining and surrounding properties.

The Applicants wish to establish a learning and collaboration meeting space on these properties who collectively wish to minimize environmental impacts and support scientific exploration. Their mission is to empower communities through meaningful science, educational outreach, conservation, and storytelling rooted in place-based knowledge and values. How appropriate that this proposed facility and its mission will be situated along the Wailuku River at its overlooks Hilo Bay.

The purpose of the SMA is to ensure that development will not have a substantial adverse effect upon coastal resources, and the Applicant believes that they have accomplished this goal with the information provided within this application. The Applicants will not bring harm to the very resources that they wish to protect. It really is that simple and clear.

e. Irreversible and irretrievable commitment of resources

Given the limited and focused scope of the proposed project, the Applicant is not able to identify any irreversible or irretrievable commitment of cultural, historical, recreational or ecological resources as a result of the proposed project. Public facilities and services are available to support the proposed project. This will be a community-focused meeting facility with collaborative programs centered around scientific exploration and building relationships with our community. The Applicant hopes that their initiative will be viewed as a great opportunity and a valuable resource. This property was once extensively utilized as homesites and a community resource. The Applicant wishes to restore the historic value of these properties once more.

H. OBJECTIVES AND POLICIES OF CHAPTER 205A AND SMA GUIDELINES

a. Recreational resources

The subject properties are not known to accommodate any coastal recreational or public access opportunities. While the subject properties are located along the banks of the Wailuku River, the nearby Hilo Bay provides a more direct access to the bay, where recreational opportunities occur.

b. Historic resources

An archaeological inventory survey of the subject properties was performed in 1991 as part of the now-defunct Noelani Gardens project and which identified one prehistoric site (Site 15415) consisting of prehistoric hearths, historic refuse and recent structural remnants located along the Wailuku River frontage of the project site. At the time of review by the State Department of Land and Natural Resources-Historic Preservation Division (SHPD), they found that adequate documentation for all of the components except for the prehistoric hearths, dating back between AD 1400 to 1670, with a recommendation that it be preserved until its historical significance is determined. The survey concluded that these hearths were most likely associated with temporary occupation within the Project Site and likely associated with exploitation of riverine and marine resources. Based on the result of the archaeological investigation, Site 15415 was evaluated as significant solely for information content and is not recommended for further work.

Based on this determination, the subject properties do not present themselves as an area containing significant cultural, historical or natural resources that would be compromised by the proposed activities. Therefore, the Applicant finds that the proposed Pu'ueo Project will not have a significant adverse impact upon any cultural, historic or natural resources. No archaeological survey was conducted for Parcel 3, although this property has been recently grubbed and cleared.

c. Scenic and Open Space resources

The subject properties are not identified as an area of natural beauty by the General Plan. The subject properties are located along the banks of the Wailuku River at a location mauka of Hilo Bay. However, these properties are highly visible from makai vantage points near Hilo Bay. The Applicant believes that this proposed action will improve scenic and open space opportunities along this particular section of the Wailuku River, especially when compared with the heavily overgrown state of the properties that existed only a couple of years ago. But as far as viewplanes makai towards Hilo Bay, such visual intrusions are considered minimal, especially when compared with adjoining multi-level apartment complexes.

d. Coastal ecosystems

The subject properties do not have a direct shoreline frontage, but is situated along the banks of the Wailuku River. The small and limited scale of this project will further manage the effects that activities and improvements upon these lands will have upon nearby coastal ecosystems. The Applicant will comply with all applicable government regulations to mitigate the effects of the project upon coastal resources, such as prompt disposal of demolition- and construction-related material, property erosion and sedimentation control, air quality management and the effects of excessive noise. The Applicant understand that they are located within an established residential community

surrounded by neighbors, and will be in how they and their contractors proceed with the construction activities.

e. Economic uses

Economic benefits associated with the proposed Pu‘ueo Project are limited to the skilled contractors who will build the new facility. As a non-profit organization, the Applicant is interested in promoting scientific endeavors geared towards ocean conservation. What is envisioned as a world-class science meeting facility will hopefully attract interested members of the local and worldwide science community to Hilo and showcasing the ongoing efforts of the Applicant.

f. Coastal hazards

The majority of the Project Site is situated outside of the 500-year frequency floodplain and not subject to coastal inundation, with the exception of that portion that forms the embankment of the Wailuku River which are subject to both the 100-year frequency flooding (AE) and coastal flooding (VE) with a base flood elevation of approximately 16 feet. As no habitable structures or uses are proposed within these portions of the Project Site subject to potential inundation, no adverse effects from flooding from Hilo Bay or along the Wailuku River is expected

The Sea Level Rise Vulnerability and Adaptation Report provide a state-wide assessment of Hawaii’s vulnerability to sea level rise and offered recommendations to **reduce the exposure and sensitivity to sea level rise and increase the State’s capacity to adapt**. One such recommended practice is that the magnitude and rate of sea level rise warrant planning for 3.2 feet of sea level rise by 2100. Towards that end, the Sea Level Rise Exposure Area (SLR-XA) shows that only a small portion of the subject property will be impacted by 3.2 feet of expected sea level rise by 2100, and would inundate generally the same area subject to flooding as shown below; and for similar reasons, the proposed activities are not introducing any uses or structures that will be impacted by sea level rise anticipated within the next 75 years.

g. Cultural resources

In view of the Hawai‘i State Supreme Court's " PASH" and "Ka Pa‘akai O Ka‘Aina" decisions, the issue relative to native Hawaiian gathering and fishing rights must be addressed in terms of the cultural, historical, and natural resources and the associated traditional and customary practices of the site. The Applicant has not witnessed or encountered any activities that would recognize the subject properties as being host to any valued cultural, historical, and natural resources. The Applicant understand that should they inadvertently encounter any remains of historic sites, such as rock walls, terraces, platforms, marine shell concentrations or human burials, all work in the immediate area will cease and the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-HPD) immediately contacted, resuming

activities only upon securing archaeological clearance from DLNR-HPD when it finds that sufficient mitigation measures have been taken.

In the absence of any evidence of traditional or customary Native Hawaiian rights being practiced on the subject property and the existence of any known valued cultural, historical or native resources, the Applicant believes that the proposed project would have no adverse impact relative to the cultural and historical resources of the area. To the extent to which traditional and customary Native Hawaiian rights are exercised, the proposed action will not affect traditional Hawaiian rights.

Based on the above findings, the Applicant maintains that the proposed project as presented within this application will not have any substantial adverse impacts on the surrounding area, nor will its approval be contrary to the objectives and policies of Chapter 205A, HRS, relating to Coastal Zone Management and Rule No. 9 of the Planning Commission relating to the Special Management Area.

I. CONCLUSION

Based on the discussion above, the Applicant finds that approval of an SMA Use Permit to allow for the construction and establishment of the proposed Pu‘ueo Project and related improvements on the subject properties will conform to the goals, policies and standards of the General Plan and will not have a significant adverse impact upon coastal resources; and would result in an appropriate land use pattern that will further the public necessity and convenience and the general welfare.

Pu'ueo Project

Hilo, Hawai'i

SMA Site Plan, Floor Plans & Exterior Elevations

January 26th, 2026

noho



工作坊

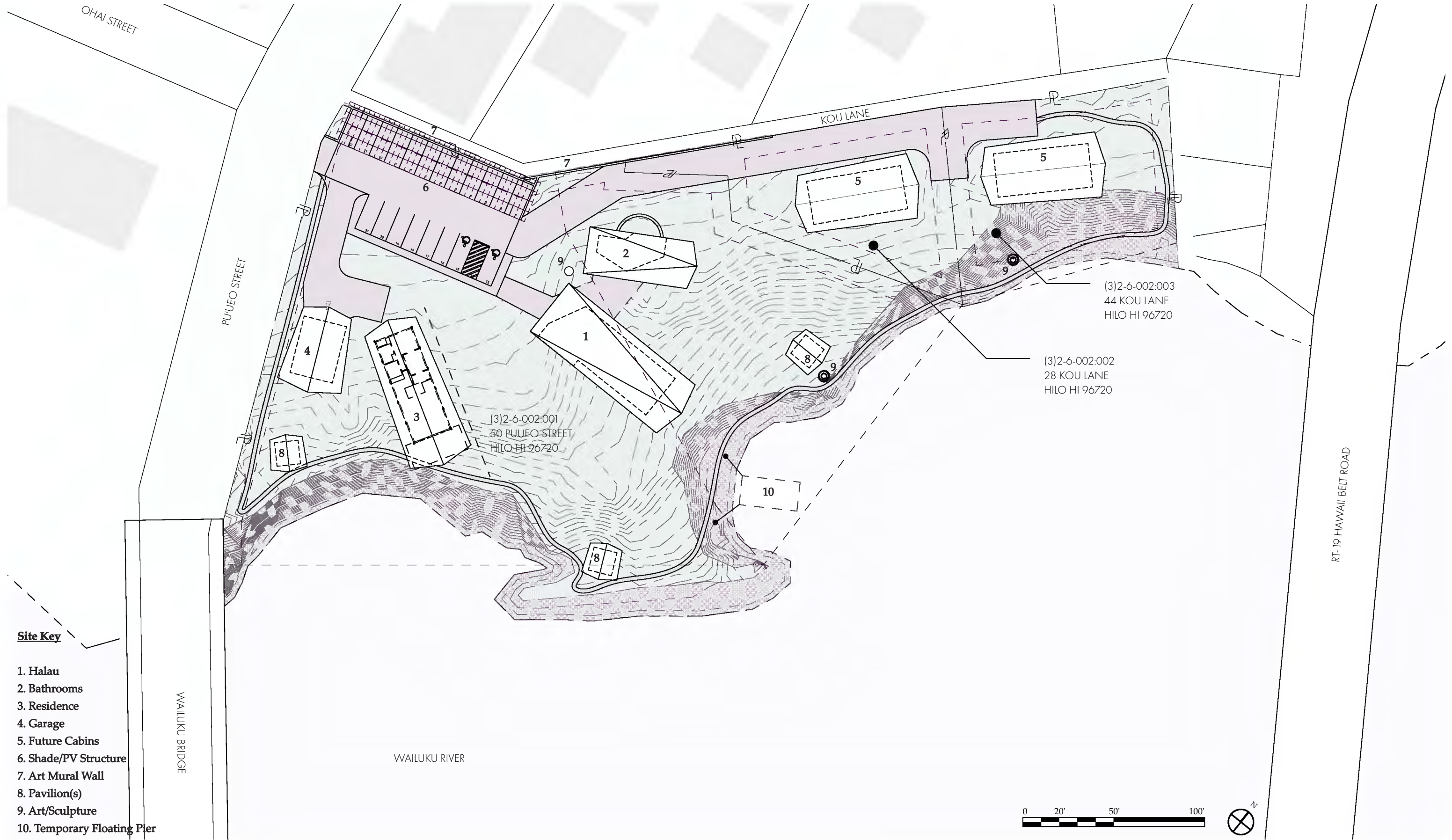
EXHIBIT A

A sense of place.
Hilo, 1907.





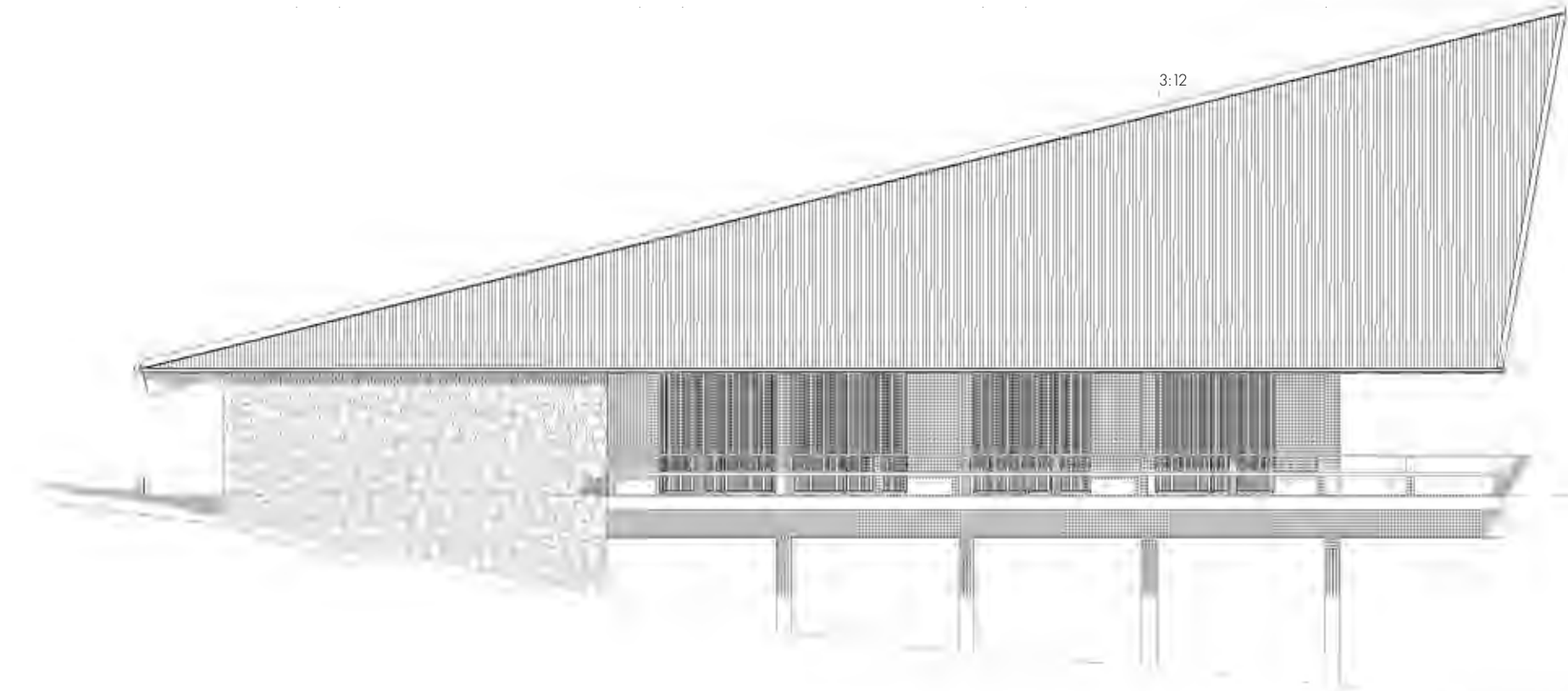
Site Plan



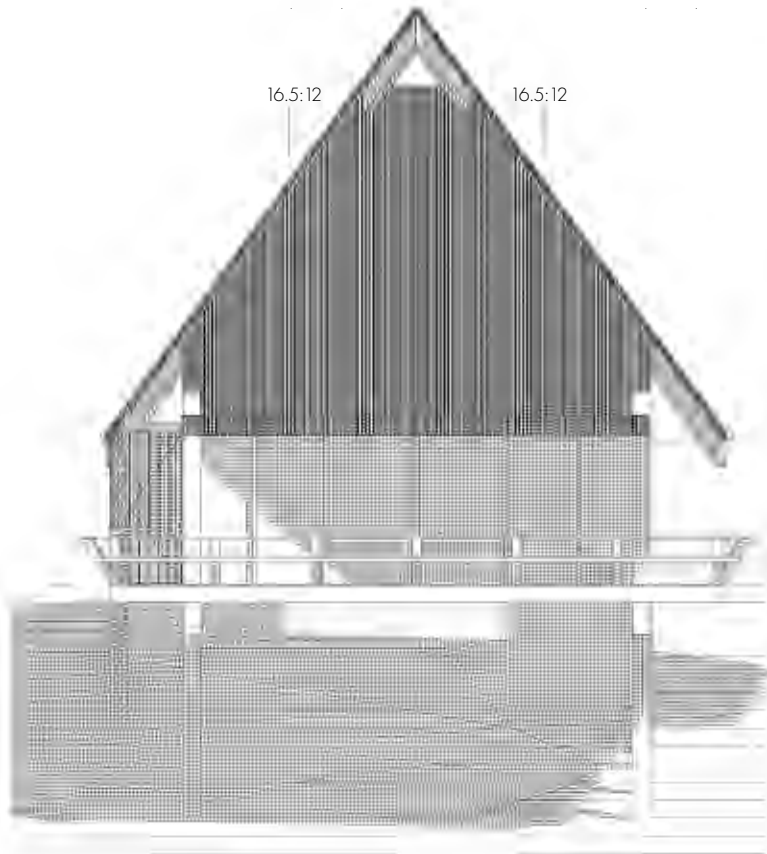
Site Key

- 1. Halau
- 2. Bathrooms
- 3. Residence
- 4. Garage
- 5. Future Cabins
- 6. Shade/PV Structure
- 7. Art Mural Wall
- 8. Pavilion(s)
- 9. Art/Sculpture
- 10. Temporary Floating Pier

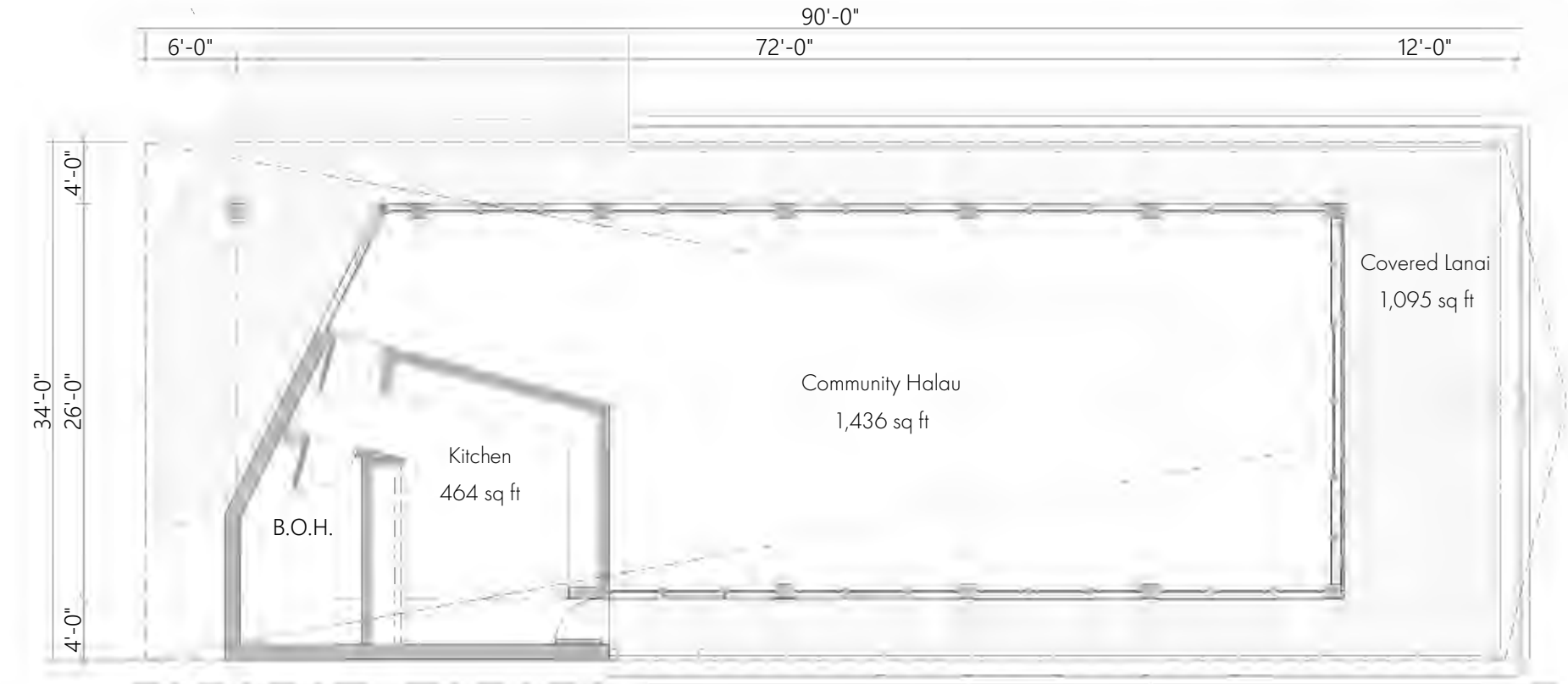
Site Plan



1 South Elevation



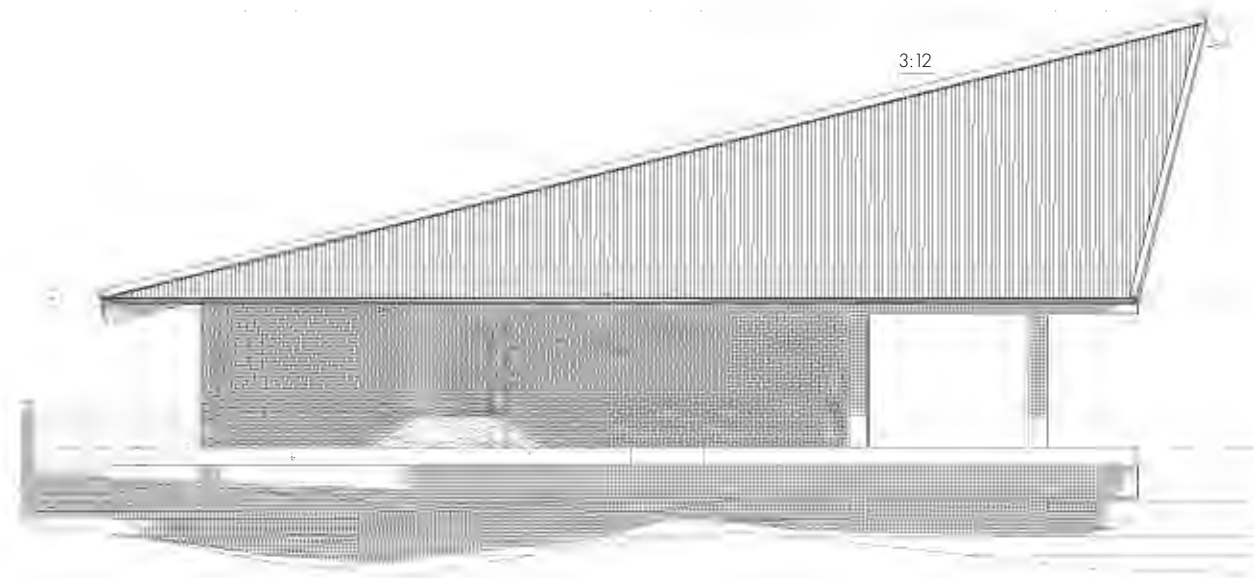
2 East Elevation



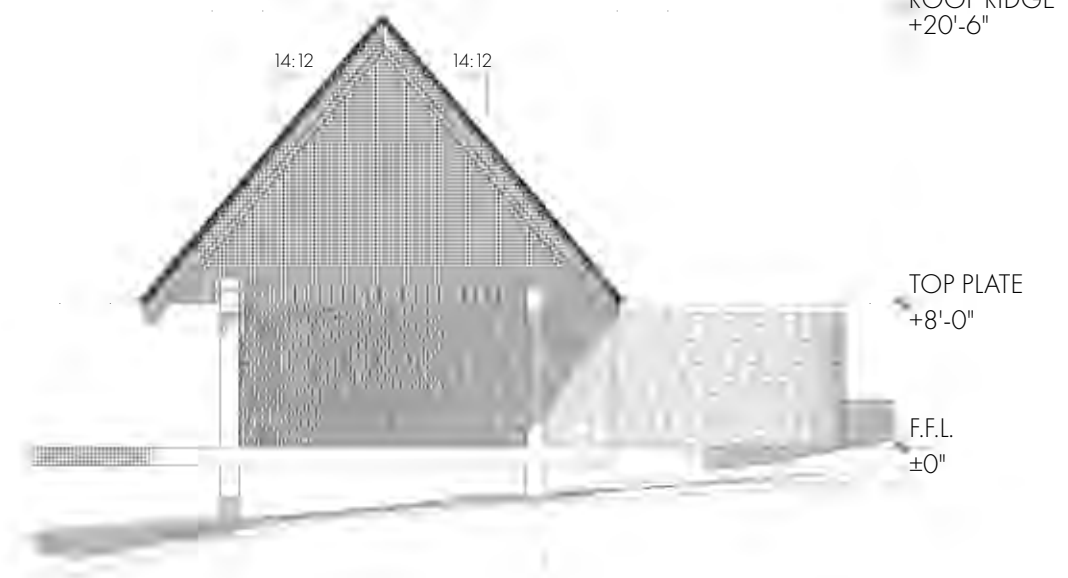
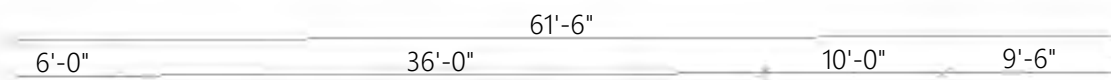
Floor Plan

AREAS (SF)

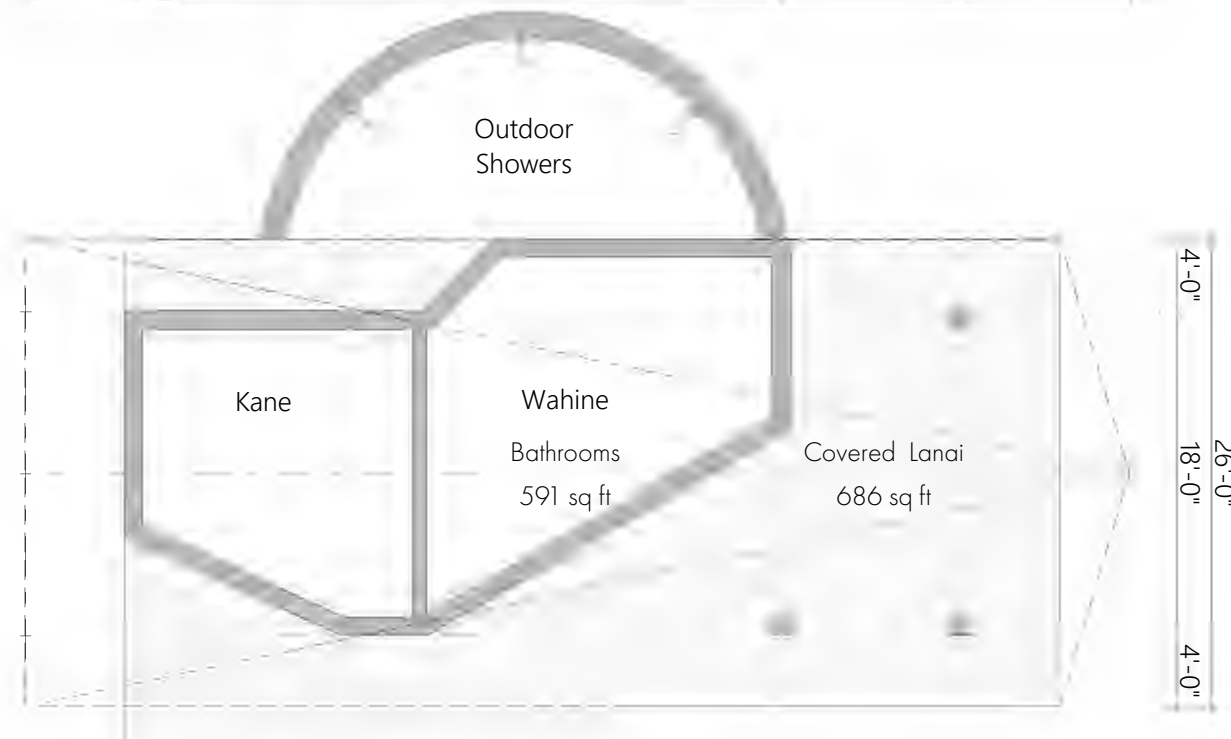
Kitchen	464
Community Halau	1,436
	1,900 ft ²
Covered Lanai	1,087
	1,087 ft ²



3 South Elevation



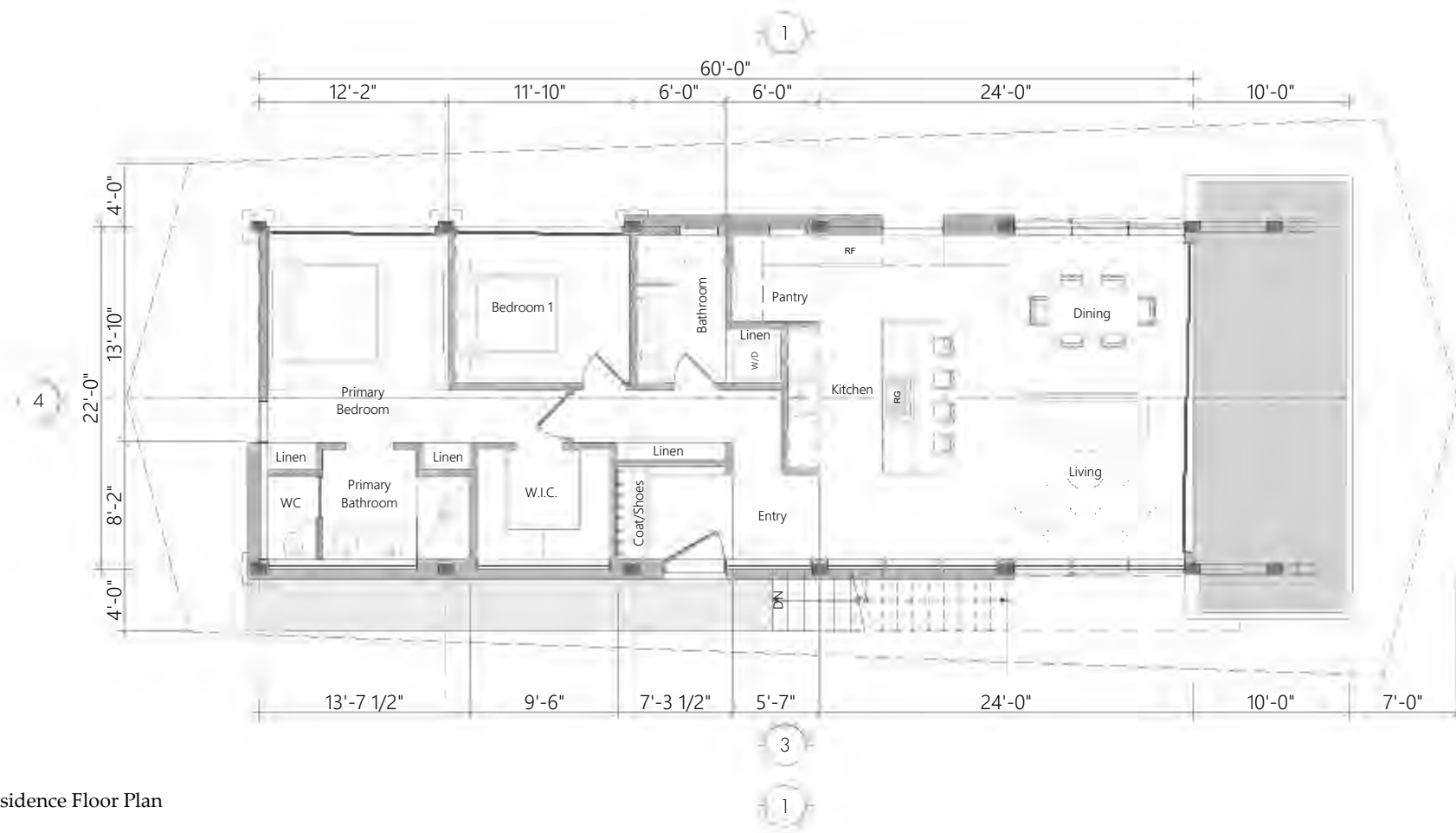
4 East Elevation



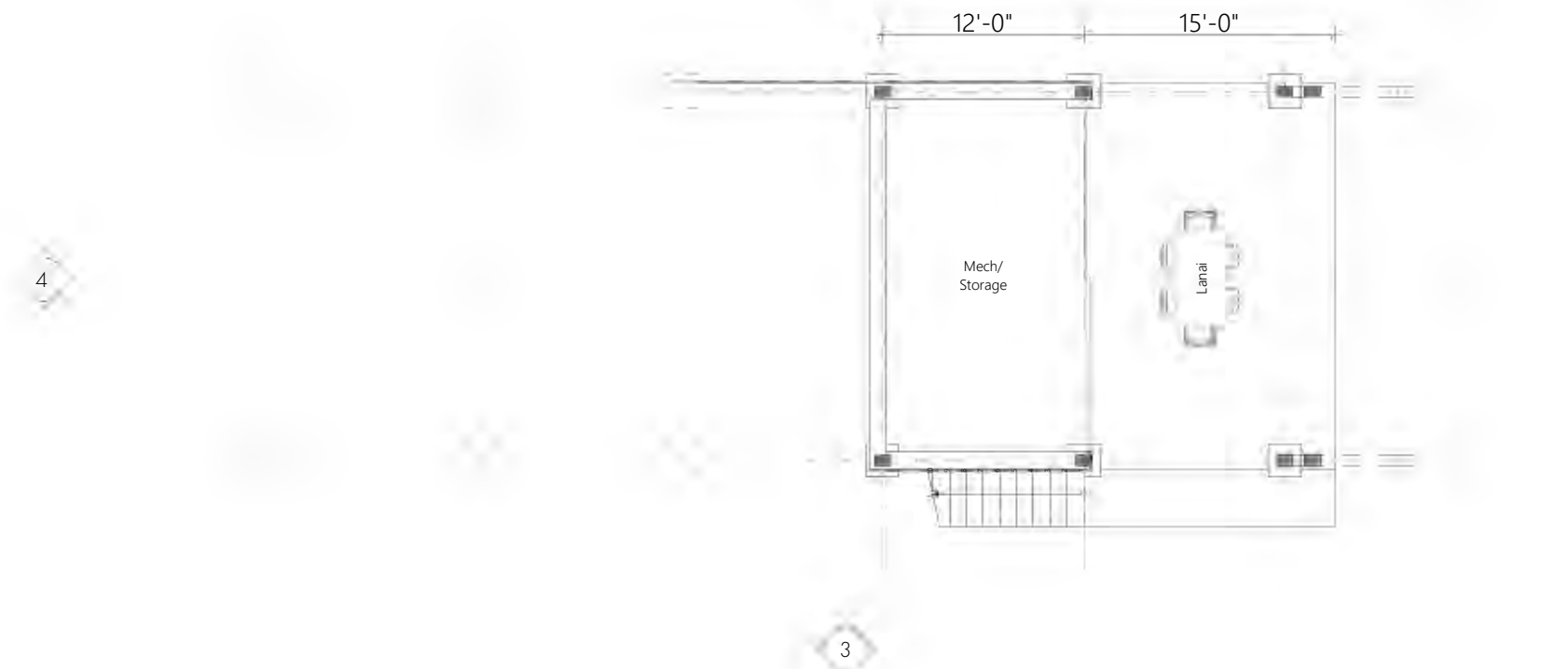
Floor Plan

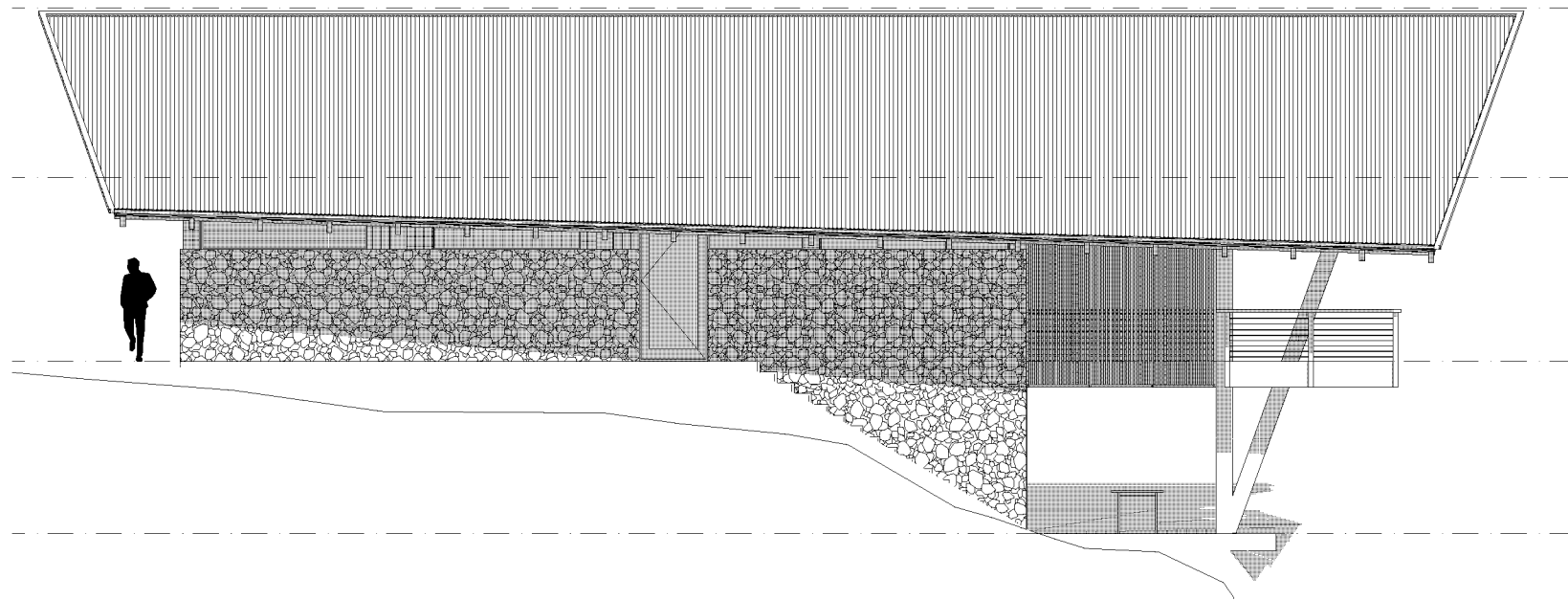
AREAS (SF)	
Bathrooms	591
	591 ft ²
Covered Lanai	686
	686 ft ²

Bathroom Structure Floor Plans & Exterior Elevations

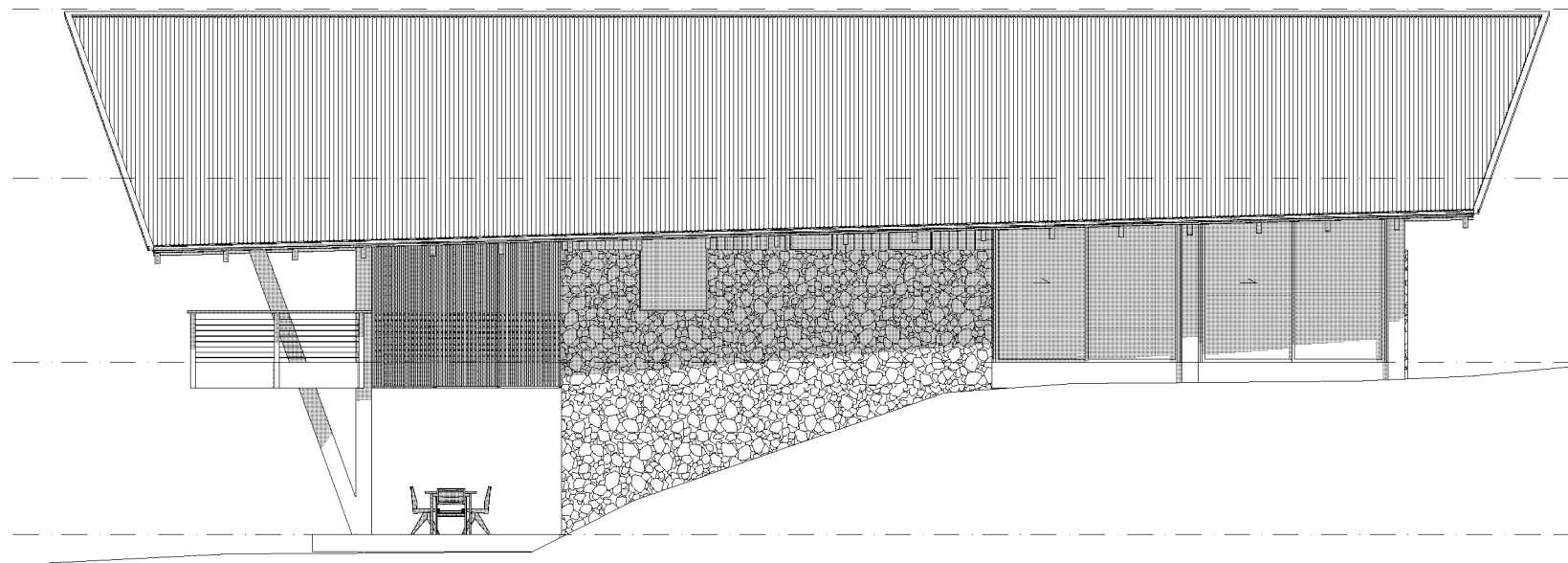


AREAS (SF)	
INTERIOR	
Entry Hall	143
KDL	528
Primary Bed	199
Guest Bedroom	122
Primary Bath	111
WIC	76
Bathroom	65
Utility	76
Mech/Storage	293
	293 ft²
	1,613 ft²
COVERED LANAI	
Lanai	359
Lanai	397
	756 ft²

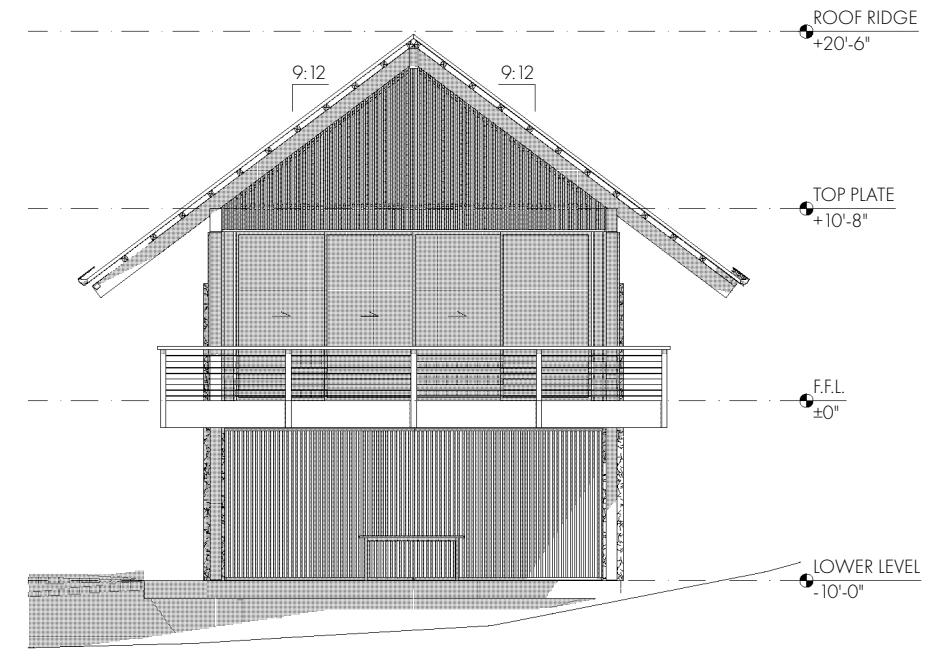




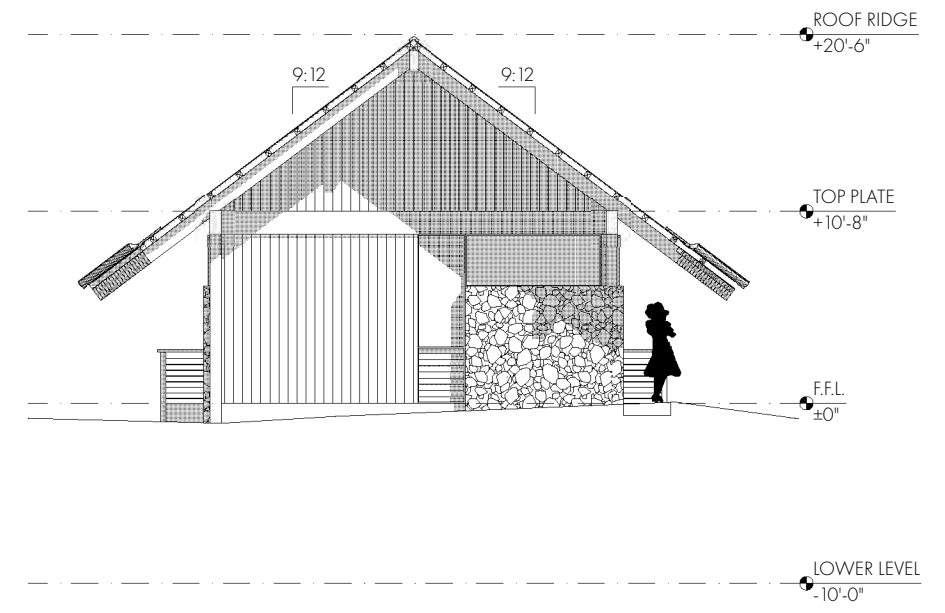
South Elevation



North Elevation

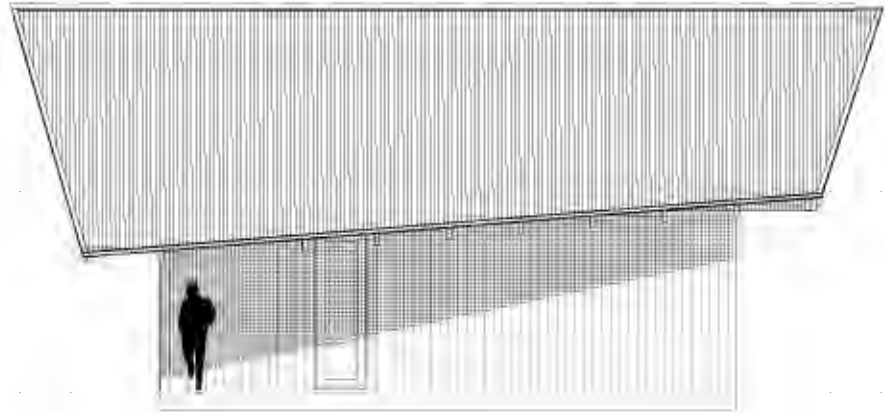


East Elevation

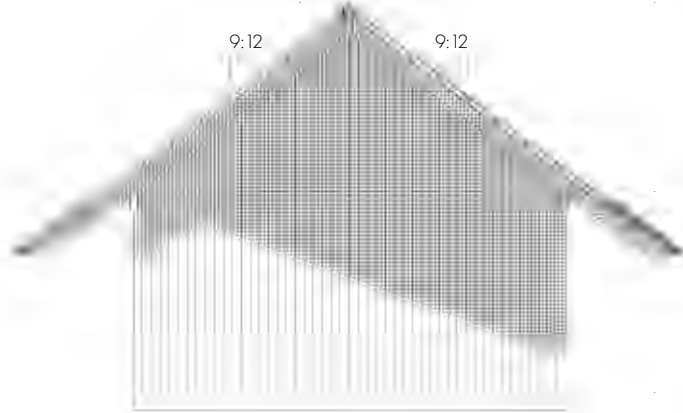


West Elevation

Residence Exterior Elevations



1 North Elevation

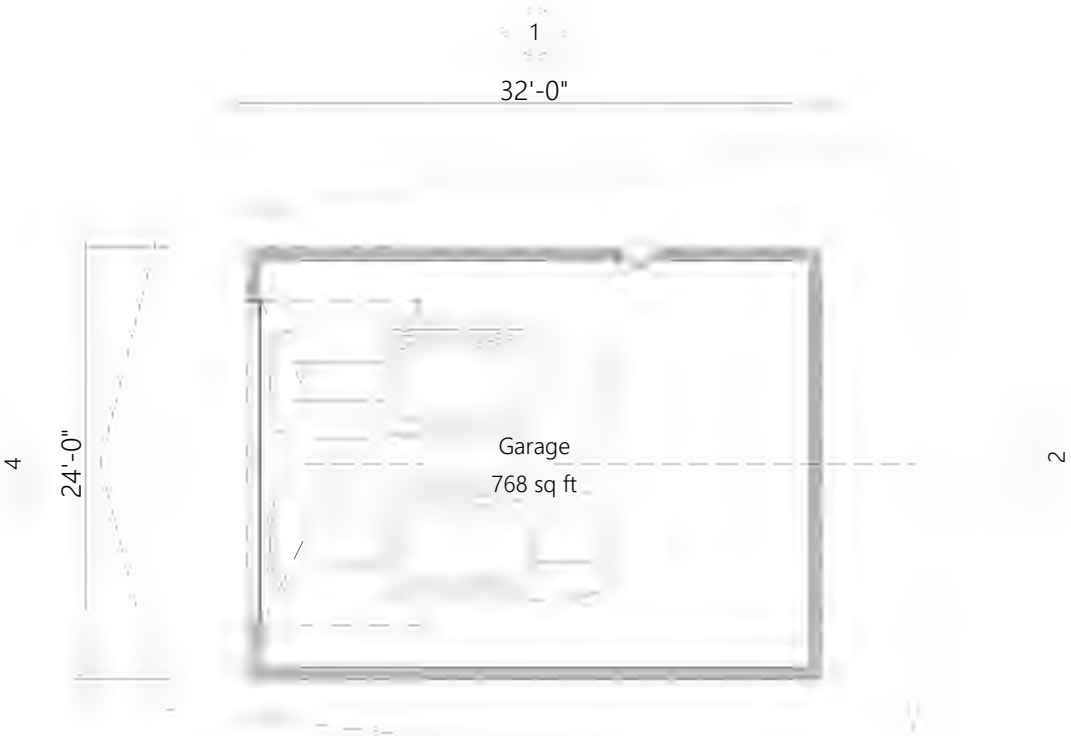


2 West Elevation

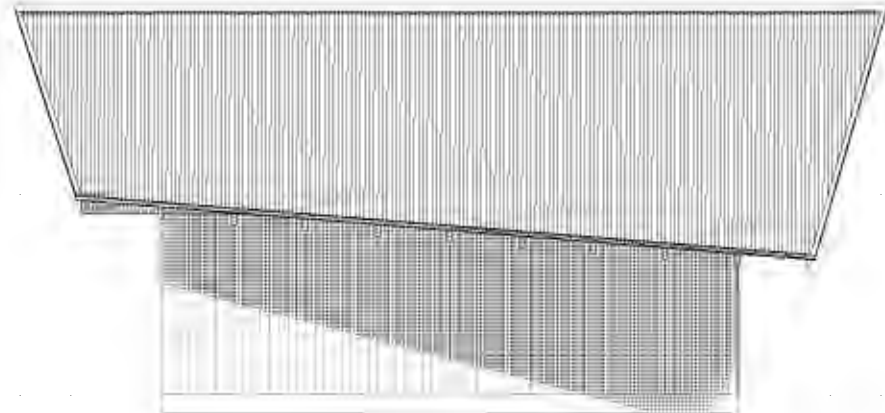
ROOF RIDGE
+21'-8"

TOP PLATE
+11'-2"

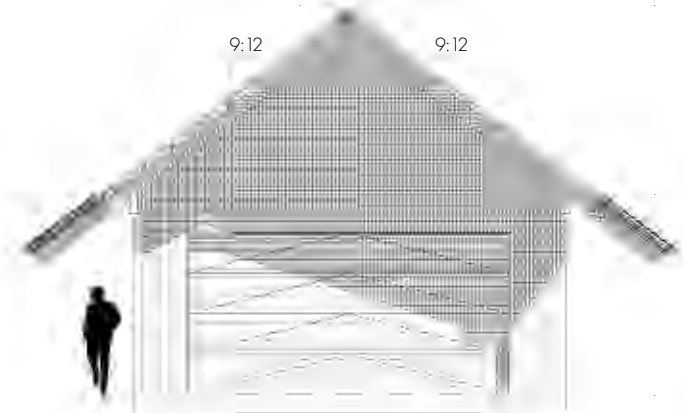
F.F.L.
±0"



Floor Plan



3 South Elevation



4 East Elevation

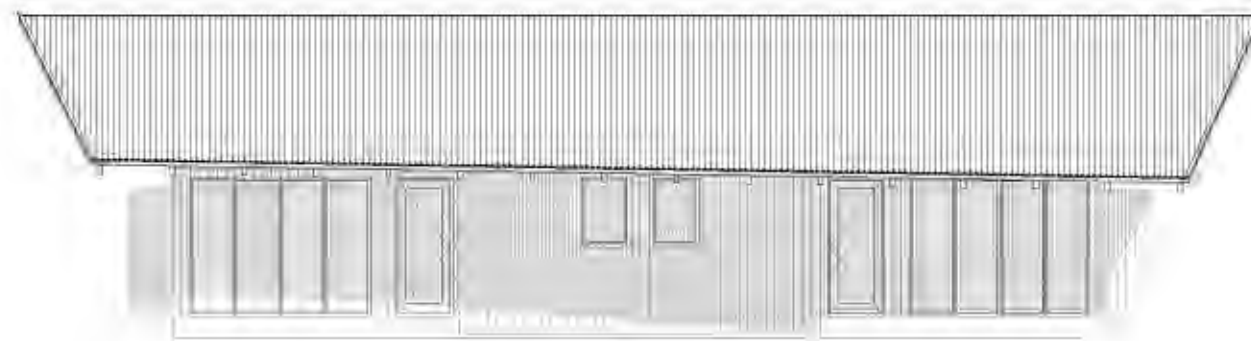
ROOF RIDGE
+21'-8"

TOP PLATE
+11'-2"

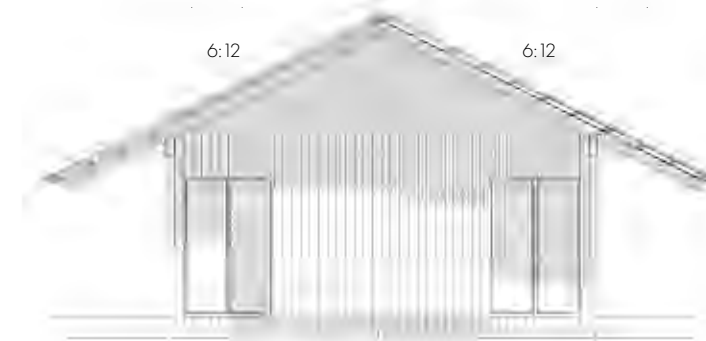
F.F.L.
±0"

AREAS (SF)	
Garage	768
	768 ft²

Garage Floor Plan & Exterior Elevations



1 South Elevation

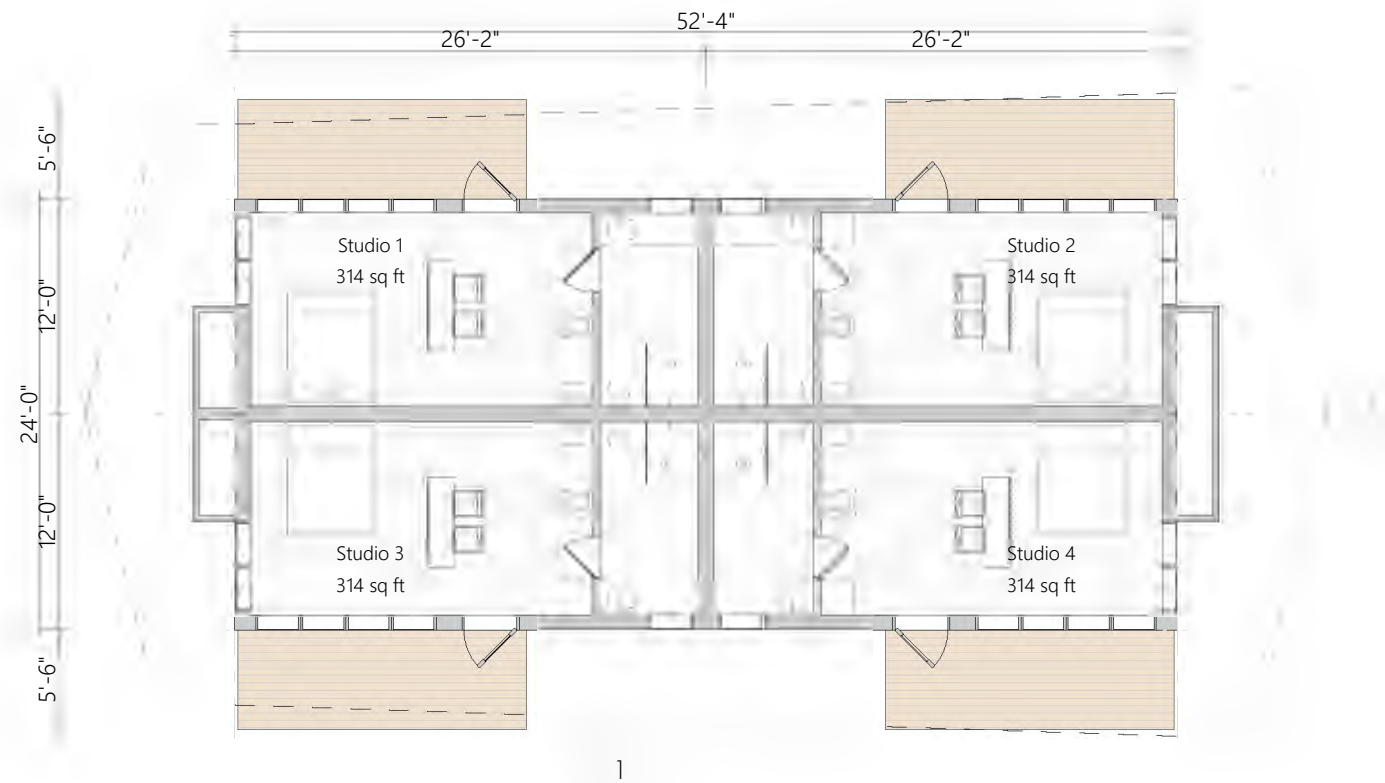


2 East Elevation

Roof Ridge
+17'-2"

Top Plate
+9'-0"

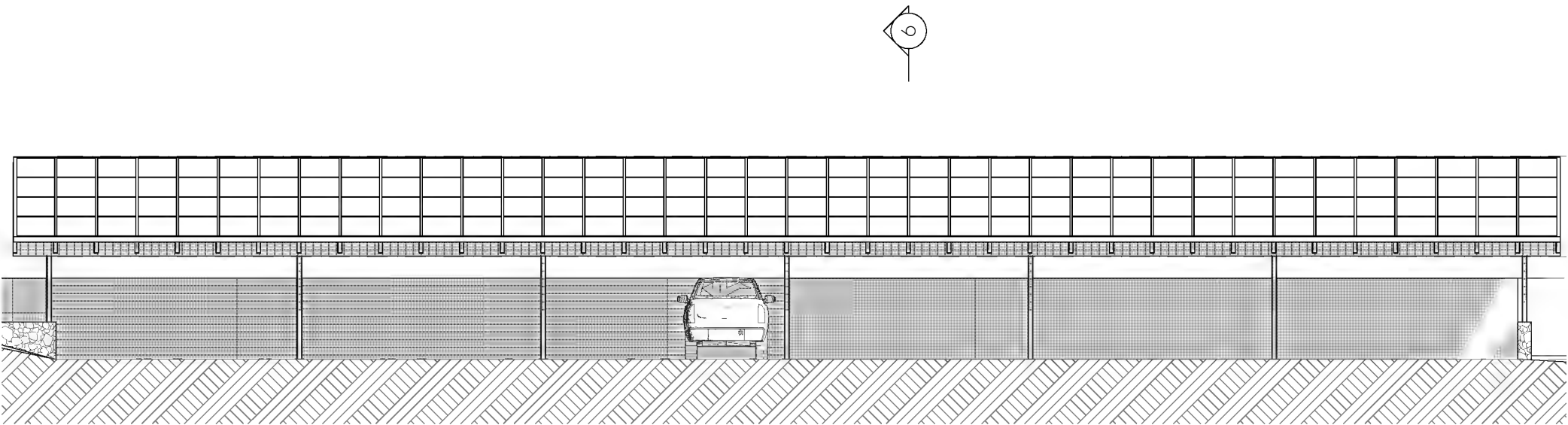
First Floor
±0"



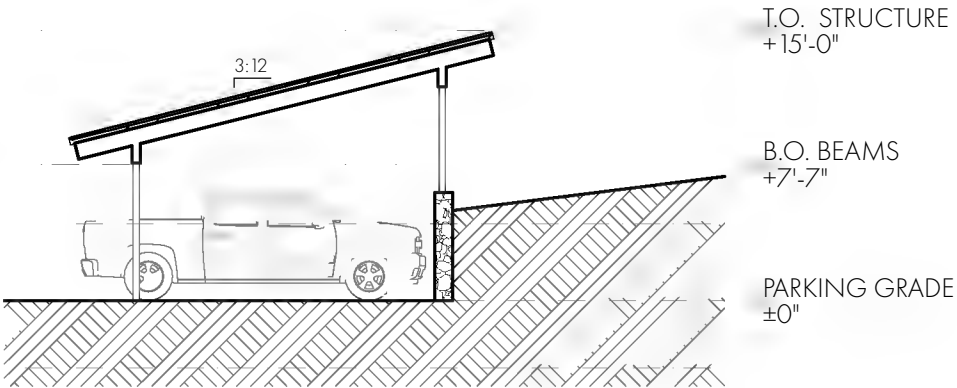
Floor Plan

AREA (SF)

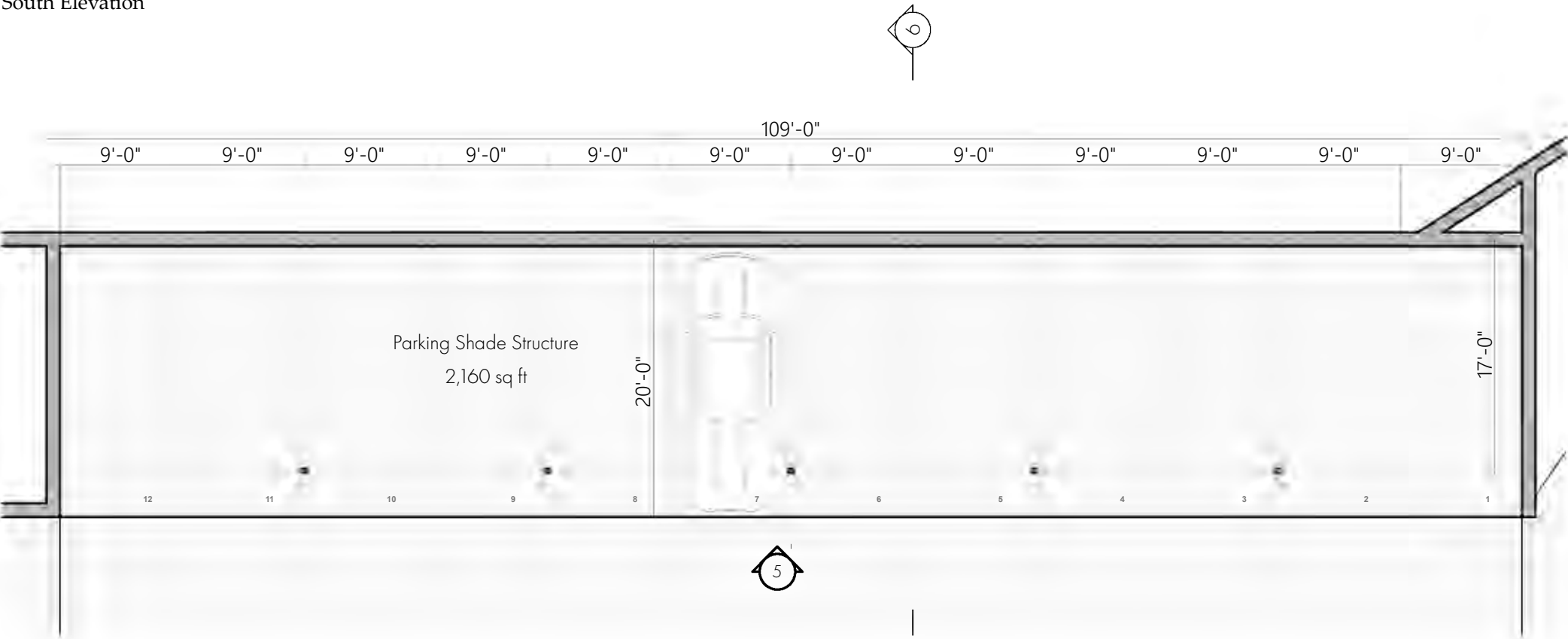
Studio 1	314
Studio 2	314
Studio 3	314
Studio 4	314
	1,256 ft²



South Elevation

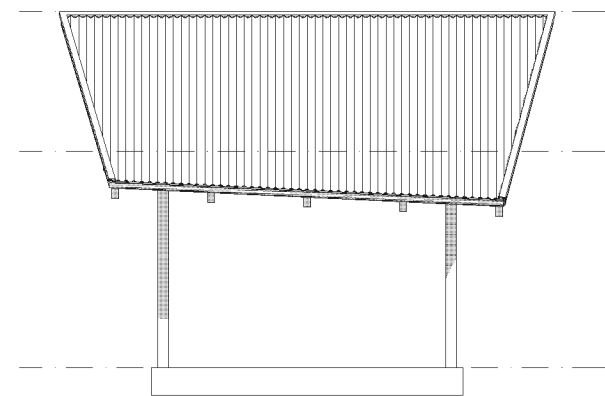


Parking Shade Structure Section

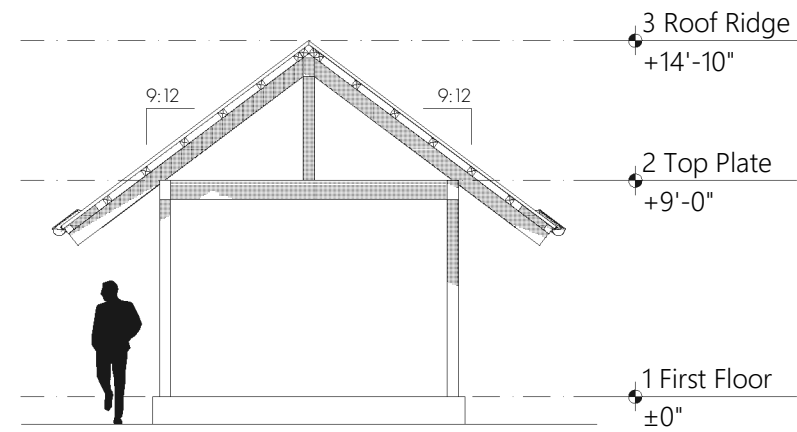


Floor Plan

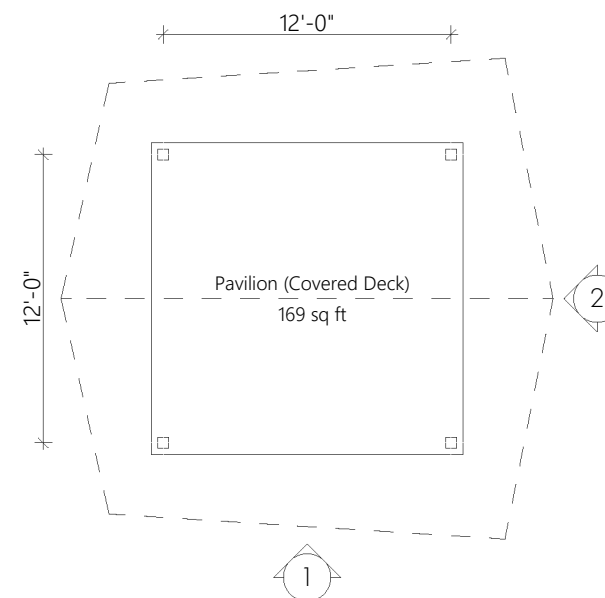
AREAS (SF)	
Parking Shade Structure	2,160
	2,160 ft²



1 South Elevation



2 East Elevation



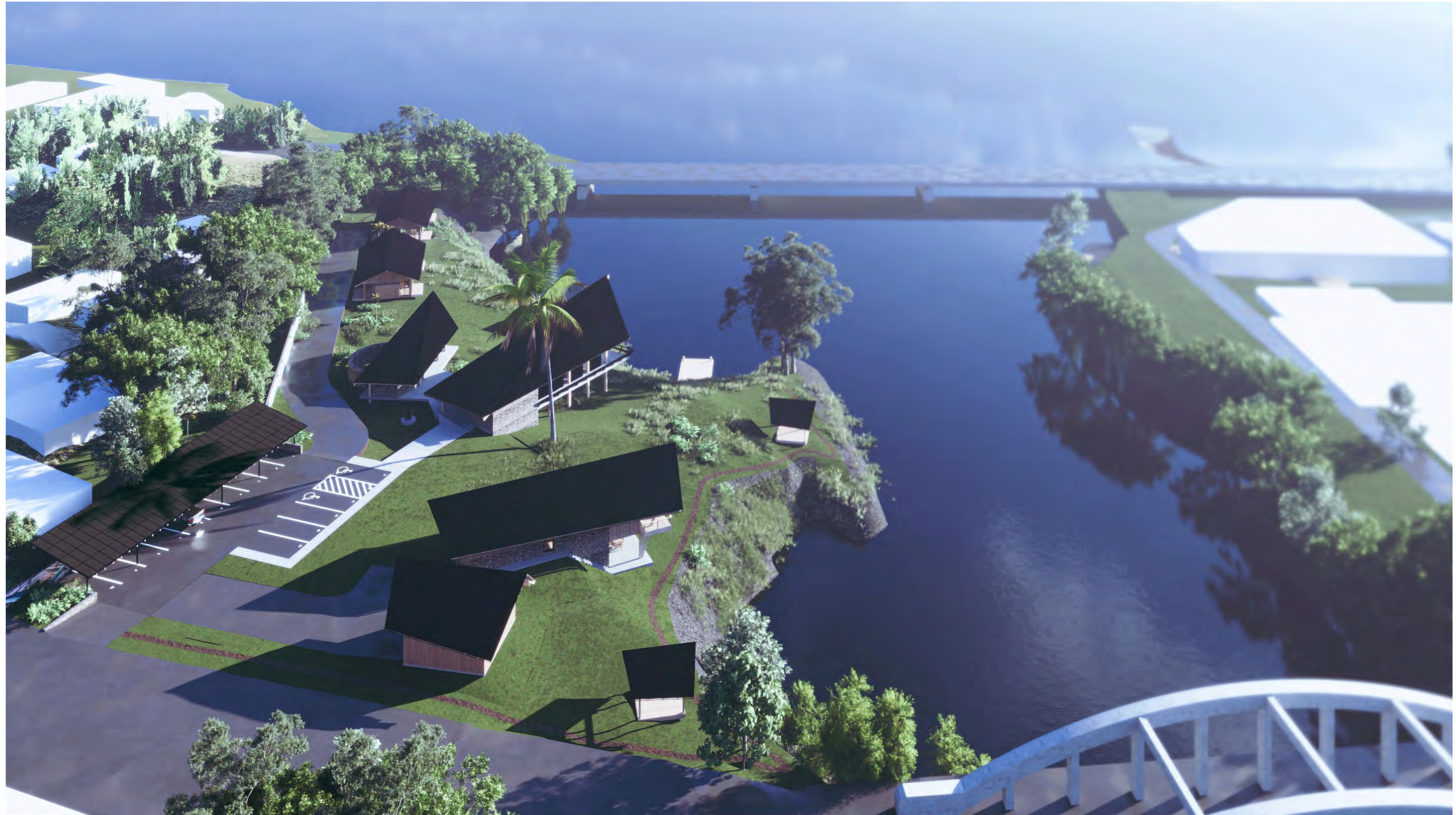
Floor Plan

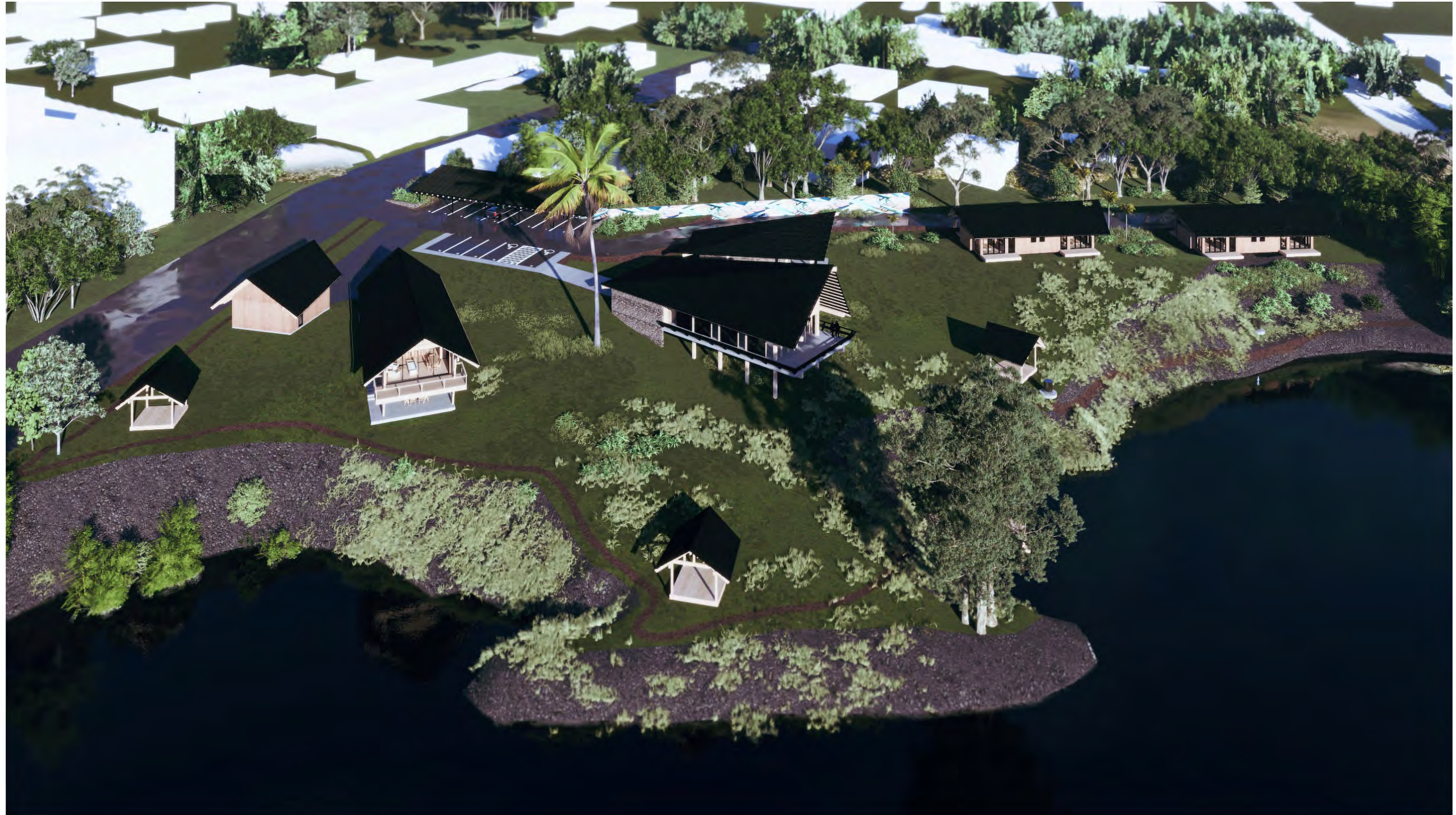
AREA (SF)

Pavilion (Covered Deck)	169
	169 ft²



View from Pu'ueo Bridge







View from Halau



View from Halau



View from Wailuku River



View from Pu'ueo Street



View from Guest Parking

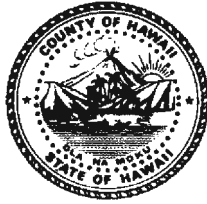


View of Parking Entry from Pu'ueo Street

Mitchell D. Roth
Mayor

Lee E. Lord
Managing Director

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



County of Hawai'i

PLANNING DEPARTMENT

Zendo Kern
Director

Jeffrey W. Darrow
Deputy Director

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

July 25, 2022

Daryn Arai
P.O. Box 4501
Hilo, Hawai'i 96720
Email: [REDACTED]

Dear Mr. Arai:

**SUBJECT: Special Management Area (SMA) Use Permit Assessment Application
(PL-SAA-2022-000070)**

**Special Management Area (SMA) Minor Permit
(PL-SMM-2022-000021)**

Applicant: Daryn Arai

Landowner: Aloha Kou, LLC

**Request: Proposed Tree Removal, Grubbing and Minor Grading
Activities**

Tax Map Keys: (3) 2-6-002:001, 002 & 003, South Hilo, Hawai'i

We have reviewed the subject Special Management Area Use Permit Assessment Application (PL-SAA-22-000070) received by this office on March 30, 2022. The total land area of approximately 1.97-acres is zoned Resort-Hotel-7,500 square feet (V-.75) by the County and designated as Urban by the State Land Use Commission (LUC). The subject parcel is designated as "Medium Density Urban" (mdu) by the Hawai'i County General Plan Land Use Pattern Allocation Guide (LUPAG) map. The entire subject parcel is located within the Special Management Area (SMA); however, it is not considered a "shoreline parcel" as defined by Section 205A-41, Hawai'i Revised Statutes (HRS).

Existing Land Uses:

Special Management Area Minor Permit No. 78-42 (April 14, 1978) and Special Management Area Minor Permit No. 91-12 (May 21, 1991) were previously issued for various improvements on the subject parcel. Additionally, Special Management Area Use Permit 340 was granted by the Planning Commission on May 27, 1993, which was issued for the construction of a 24-unit

condominium complex and related improvements. SMA Use Permit 340 was revoked by the Planning Commission on July 16, 1999.

Proposed Project:

The applicant is proposing tree removal, gubbing and minor grading activities.

Purpose of Project:

The purpose of the tree removal is to remove heavy and extensive overgrowth in order to establish a scheduled maintenance program that will deter unpermitted activities, such as squatting, littering and other illicit activities.

Hawai'i Revised Statutes (HRS) Ch. 343 Determination:

The proposed project does not meet any of the triggers for environmental review in Hawai'i Administrative Rules (HAR) Section 11-200.1-9 (Applicability of Chapter 343, HRS, to applicant actions) and HRS Chapter 343-5, thus an environmental document is not required.

Additional Agency Reviews Conducted:

Based on the style and scope of the proposed project, the Planning Department solicited comments from other agencies that may have concerns or recommendations for the proposed project. The following outlines the agencies contacted and their comments:

State Department of Land and Natural Resources (DLNR): The following Divisions were contacted; DAR, Engineering, DOFAW, CWRM, OCCL, and Land Division (Hawai'i District). Comments were received from Engineering Division and DOFAW.

According to the Department of Land and Natural Resources Division of Forestry and Wildlife (DOFAW), the Hawaiian Hoary Bat or 'Ōpe'ape'a (*Lasiurus cinereus semotus*) could potentially occur in the vicinity of the project area and may roost in nearby trees. Bat birthing and pup rearing season spans from June 1st through September 15th. DOFAW reported that the Hawaiian Duck, Hawaiian Stilt, Hawaiian Coot, Hawaiian Goose (Nēnē) and the Hawaiian Hawk ('Io) as possibly occurring in the vicinity of the project area. It is against State law to harm or harass this species. Lastly, the State listed Hawaiian Hawk or 'Io may occur in the vicinity as well as the Hawaiian Monk Seal and threatened Green Sea Turtles. Furthermore, DOFAW has provided guidance on measures to avoid and minimize impacts to the listed species, in addition to guidance on avoiding the spread of invasive species and pathogens. Based on the preceding, the Planning Department will add this condition as well as standard conditions that the applicant comply with the requirements of DOFAW.

Special Management Area Determination:

According to Hawai'i Revised Statutes (HRS) Chapter 205A-44 and Planning Commission (PC) Rule No. 9-4(e)(1)(E), "development" includes "*Grading, removing, dredging, mining or extraction of any materials.*" Therefore, the proposed tree removal, grubbing and minor grading

Daryn Arai
July 25, 2022
Page 3

is considered to be development and will require a review against the Special Management Area rules and regulations.

We find that the proposed project is not exempt from the definition of “development;” however, the project will not have a cumulative impact or a significant adverse environmental or ecological effect on the SMA. Therefore, pursuant to Planning Commission Rule Section 9-10(e), Special Management Area Minor Permit No. PL-SMM-2022-000021 is hereby issued for the project as described above. It is the applicant’s responsibility to read and comply with the conditions listed in the enclosed permit.

While further review of the proposed project against the Special Management Area rules and regulations will not be required, all other applicable Zoning Code and Building Code requirements must be satisfied. Additionally, any future development or activities not included in this approval shall require further review and approval as provided under Chapter 205A, HRS and Rule 9, Planning Commission Rules of Practice and Procedure.

If you have questions regarding this document, please contact Tracie-Lee Camero of this office at (808) 961-8166 or via email at Tracie-Lee.Camero@hawaiicounty.gov.

Sincerely,


Jeffrey W. Darrow (Jul 25, 2022 10:18 HST)

ZENDO KERN
Planning Director

TC:jaa
\\coh01\planning\public\wpwin60\czm\smm\2022\pl-smm-2022-0000211_alohakou.doc

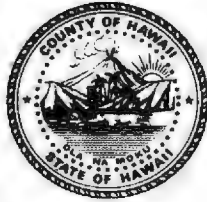
Enclosure: SMA Minor Permit No. PL-SMM-2022-000021

Cc (via email): Shichao Li, State-OPSD
Lisa E. Webster, State-OPSD
GIS Section

Mitchell D. Roth
Mayor

Lee E. Lord
Managing Director

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



County of Hawai'i

PLANNING DEPARTMENT

Zendo Kern
Director

Jeffrey W. Darrow
Deputy Director

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

Special Management Area Minor Permit No. PL-SMM-2022-000021

Project: Grading, Grubbing and Tree Removal
Applicant(s): Daryn Arai
Landowner(s): Aloha Kou, LLC
TMK(s): (3) 2-6-002:001, 002, and 003
Location: South Hilo District, Island of Hawai'i
Land Area: 1.4997 acres

Applicant's Request

- 1. Project Description:** This Special Management Area (SMA) Minor Use Permit is being pursued for the tree removal, grubbing and minor grading activities.
- 2. Purpose of Project:** The purpose of the tree removal is to remove heavy and extensive overgrowth in order to establish a scheduled maintenance program that will deter unpermitted activities, such as squatting, littering and other illicit activities.
- 3. Project Valuation:** \$150,000.
- 4. Determination:** According to Chapter 205A-22, Hawai'i Revised Statutes (HRS), and Planning Commission (PC) Rule No. 9-4(e)(1) relating to Special Management Area (SMA): "*grading, removing, dredging, mining or extraction of any materials*" as defined as "development," Therefore, the proposed land clearing and vegetation removal of the subject parcels is considered "development" and requires a review against the Special Management Area rules and regulations. Our review has resulted in the issuance of a SMA Minor Permit.

State and County Plans

- 5. State Land Use District:** The subject parcel is within the State Land Use Urban District.
- 6. General Plan:** The parcel is designated as "Medium Density Urban" (mdu) by the Hawai'i County General Plan Land Use Pattern Allocation Guide (LUPAG) Map.
- 7. County Zoning:** The parcel is currently zoned as both Resort-Hotel (V-.75).

8. **Special Management Area:** The project parcel is located within the Special Management Area (SMA); however, no portion of the parcel is located within the “shoreline area” as defined by section 205A-41, Hawai‘i Revised Statutes (HRS).
9. **Flood Zone:** Zone X, AE, and VE (*Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves*).

Compliance with Objectives and Policies of Chapter 205A, Hawai‘i Revised Statutes (HRS), Regarding the Special Management Area

Check all objectives and policies found to be consistent with proposed development. Issuance of SMA Minor Permit requires that activity be consistent with all objectives & policies.

The proposed development is consistent with the following objectives and policies:

- ☒ Development will not have any significant adverse environmental or ecological effect, except as any adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or compelling public interest. Those adverse effect shall include but not be limited to the potential cumulative impact of individual developments, each of which taken by itself might not have a significant adverse effect and the elimination of planning options.
- ☒ The proposed development is consistent with the Hawai‘i County General Plan, community plan, and zoning; provided that a finding of consistency shall not preclude concurrent processing where a general plan, community plan, or zoning amendment may also be required.
- ☒ The proposed development does not conflict with the following objectives of Chapter 205A, HRS (as amended), to:
 - ☒ Provide coastal recreational opportunities accessible to the public.
 - ☒ Protect, preserve, and where desirable, restore those natural and man-made historic and pre-historic resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
 - ☒ Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.
 - ☒ Protect valuable coastal ecosystems, including reefs, beaches, and coastal dunes, from disruption and minimize adverse impacts on all coastal ecosystems.

- ☒ Provide public or private facilities and improvements important to the State's economy in suitable locations.
- ☒ Reduce hazard to life and property from coastal hazards.
- ☒ Improve the development review process, communication, and public participation in the management of coastal resources and hazards.
- ☒ Stimulate public awareness, education, and participation in coastal management.
- ☒ Protect beaches and coastal dunes for: Public use and recreation; The benefit of coastal ecosystems; Use as natural buffers against coastal hazards; and coordinate and fund beach management and protection.
- ☒ Promote the protection, use, and development of marine and coastal resources to assure their sustainability.
- ☒ The proposed development is consistent with the following policies of Chapter 205A, HRS, relating to:
 - ☒ Recreational Resources
 - ☒ Historic Resources
 - ☒ Scenic and Open Space Resources
 - ☒ Coastal Ecosystems
 - ☒ Economic Uses
 - ☒ Coastal Hazards
 - ☒ Managing Development
 - ☒ Public Participation
 - ☒ Beach and Coastal Dune Protection
 - ☒ Marine and Coastal Resources
- ☒ The proposed development conforms to the requirements of Chapter 343, HRS, regarding Environmental Impact Statements.

Findings

1. As discussed above, the conducted activities will not have any significant adverse environmental or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or compelling public interest.
2. The proposed development is consistent with the objectives, policies, and SMA guidelines of Chapter 205A, HRS.
3. The estimated project cost of \$150,000 is not in excess of \$500,000.

Approved Uses, Activities and Operations

Pursuant to Planning Commission Rule Section 9-10(e), **Special Management Area Minor Permit No. PL-SMM-2022-000021** is hereby approved for tree removal, grubbing and minor grading activities, subject to the applicants' compliance with the conditions of approval as specified below.

Conditions of Approval

The Planning Director has approved **SMA Minor Permit No. PL-SMM-2022-000021**, subject to the following conditions:

1. The applicant(s), its successor(s), or assign(s) (Applicant) shall be responsible for complying with all stated conditions of approval.
2. The applicant shall secure all necessary approvals and permits from other affected federal, state, and county agencies as necessary to comply with all applicable laws and regulations, including the Department of Land and Natural Resources Commission on Water Resource Management and/or the Department Land and Natural Resources Office on Conservation and Coastal Lands.
3. Prior to the commencement of any land altering or construction activities, sedimentation barriers (silt fences) shall be implemented on downhill slope of the project site to minimize potential run off or sedimentation and shall remain in place until final inspection has been granted for the proposed tree removal, grubbing and minor grading activities.
4. All earthwork and grading activity shall conform to Chapter 10, Erosion and Sedimentation Control of the Hawai'i County Code.

5. All construction and maintenance activities on the subject parcel shall comply with Chapter 27, Floodplain Management, of the Hawai'i County Code.
6. To protect any Hawaiian Hoary Bats in the vicinity of the property, barbed wire fencing shall not be used on the property and woody vegetation over 15 feet in height shall not be removed during bat breeding season of June 1st to September 15th.
7. If any state-listed waterbirds such as the Hawaiian Duck, Hawaiian Stilt, Hawaiian Coot or Hawaiian Goose (Nēnē) are present during any construction activities, cease all activities within 100 feet of the bird. Work may continue after the bird leaves of its own accord. If a nest is discovered at any point, the Hawai'i Island Branch DOFAW Office shall be contacted.
8. If trees are to be cut, particularly during the breeding season from March to September, the area shall first be surveyed to ensure no Hawaiian Hawk ('Io) nests are present.
9. If the State endangered Hawaiian Monk Seal and threatened Green Sea Turtle are present during any construction activities, cease all activities within 100 meters of the animal. Work may continue after the animal leaves of its own accord.
10. Artificial light from exterior lighting fixtures, including, but not necessarily limited to floodlights, up-lights or spotlights used for decorative or aesthetic purposes shall be prohibited if the light directly illuminates, or is directed to project across property boundaries toward, the shoreline and ocean waters, except as may otherwise be permitted pursuant to Section 205A-71(b), Hawai'i Revised Statutes.
11. In the event that surface or subsurface historic resources, including human skeletal remains, structural remains (e.g., rock walls, terraces, platforms, etc.), cultural deposits, marine shell concentrations, sand deposits, or sink holes are identified during the demolition and/or construction work, the Applicant shall cease work in the immediate vicinity of the find, protect the find from additional disturbance and contact the State Historic Preservation Division at (808) 933-7651. Subsequent work shall proceed upon an archaeological clearance from DLNR-SHPD when it finds that sufficient mitigation measures have been taken.
12. Any further development, including but not limited to, the construction of structures or improvements not included in this determination shall require further review and approval as provided under Chapter 205A, HRS, and Rule 9, Planning Commission Rules of Practice and Procedure.
13. That in issuing this permit, the Department has relied on the information and data that the applicant has provided in connection with this permit. If, subsequent to issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit

may be modified, suspended, or revoked, in whole or in part, and/or the Department may, in addition, institute appropriate legal proceedings.

14. The Planning Director shall initiate procedures to revoke this permit should any of the conditions not be met or substantially complied with in a timely fashion.

If you have any questions, please feel free to contact Tracie-Lee Camero at (808) 961-8166 or via email at Tracie-Lee.Camero@hawaiiicounty.gov.

APPROVED:

Jeffrey W. Darrow

Jeffrey W. Darrow (Jul 25, 2022 10:18 HST)

ZENDO KERN
Planning Director

July 25, 2022

Date

TC:jaa

\\coh01\planning\public\wpwin60\czn\smm\2022\pl-smm-2022-000021_alohakou.doc

Enclosure: Exhibit A, Site Plan

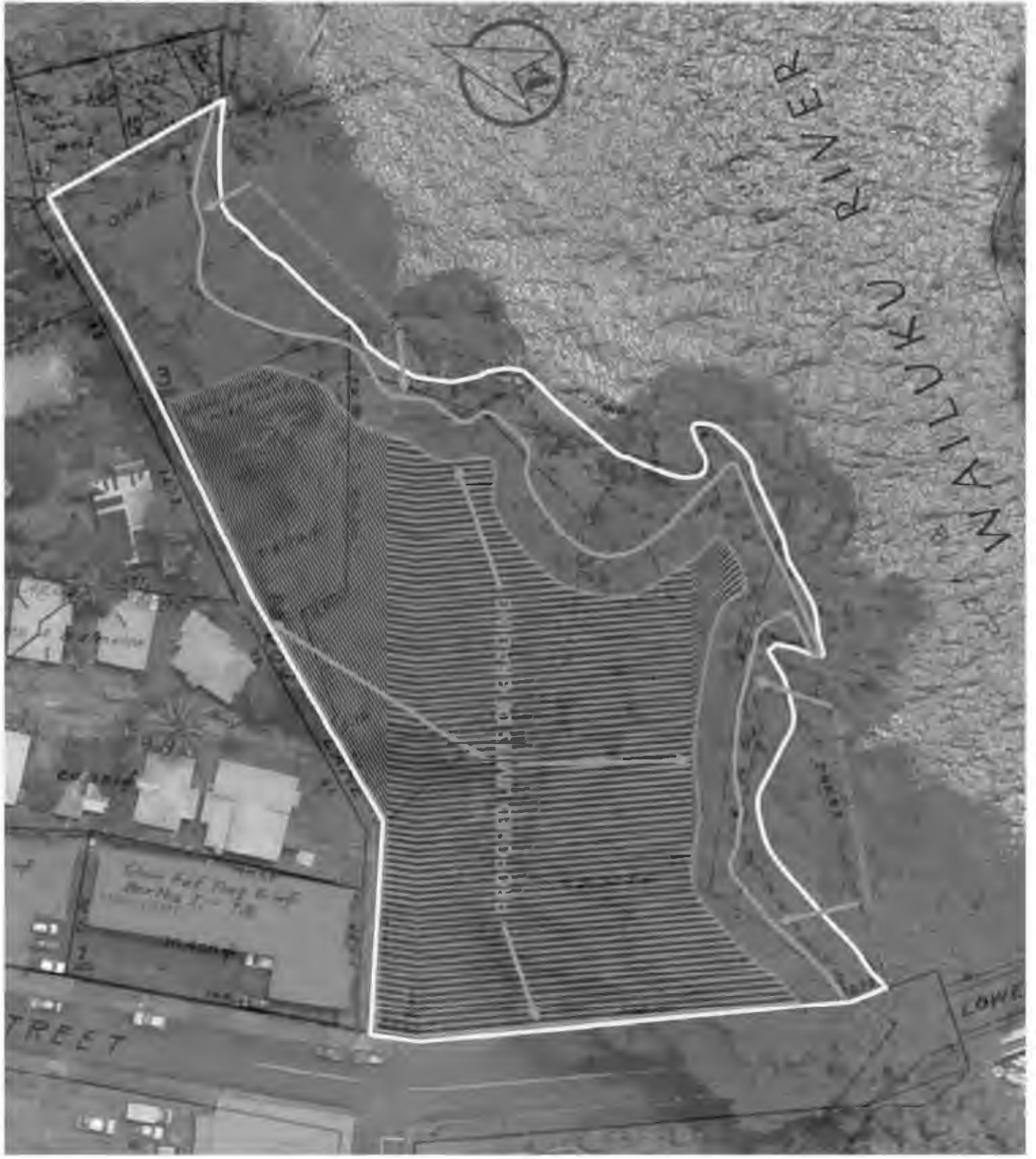


Figure 3 – Extent of Proposed Grading activities

PLANNING DEPARTMENT - PLANNING COMMISSION

COUNTY OF HAWAII
Hilo, Hawaii

PERMIT NO. 78-42

SPECIAL MANAGEMENT AREA MINOR PERMIT

The Planning Director completed on April 14, 1978
an assessment on the application of New World Investment
for a Special Management Area (SMA) Minor Permit pursuant to
Section 9.7.C, Rule No. 9 of the Planning Commission Rules
Relating to Administrative Procedures, as amended. The permit
request is for: the subdivision of parcel TMK: 2-6-02:01 into
two lots and to perform minor clearing and grading, and the
construction of a paved roadway in Puueo, South Hilo, Hawaii.

As indicated on the attached report, the Director finds
that the proposed development is:

- (1) not in excess of \$25,000; and
- (2) will not significantly affect the SMA.

Therefore, with the concurrence of the Chief Engineer,
the Director hereby grants to the applicant a minor permit
under the authority vested in him by Section 9.7.C of said
Rules, with the following condition(s) that:

1. The applicant comply with the requirements of the
County of Hawaii Grading Ordinance (No. 168);
2. The requirements for subdivision be complied with; and
3. All other rules, regulations and requirements be
complied with.

Should any of these conditions not be met, this SMA Minor
Permit shall be deemed null and void.

for David J. Munch
Chief Engineer, DPW

Ray Walker
Planning Director

Attachment

P.D. 6/77

EXHIBIT C

BACKGROUND

New World Investment, Inc. is requesting a Special Management Area (SMA) Use Permit for the subdivision of parcel TMK: 2-6-02:01 into two lots and to perform minor clearing and grading, and the construction of a paved roadway in Puueo, South Hilo, Hawaii.

More specifically, the proposed area to be subdivided is located along the Hamakua side of the Wailuku River approximately 200 feet from the Wailuku Bridge and fronting Kou Lane and Puueo Street.

The subject parcel will be subdivided into two parcels of 44,830 square feet (Lot A) and 18,889 square feet (Lot B) each. A 16-foot wide road easement and a 12-foot wide pavement extending approximately 150 feet from Puueo Street will traverse Lot A to Lot B.

The area to be improved is presently zoned for multi-family (RM-7.5) residential use and was previously used for residential purposes.

In support of the request, the applicant states, in part:

"Anticipated potential impacts of the project will be basically confined to minor clearing and grading which would result in slight changes of the existing terrain and to a slight increase in surface runoff due to impervious pavements. There will be little or no effect on water quality or endangering of wildlife. None of the anticipated impacts are expected to have significant adverse effects."

The total cost of the proposed activities will be approximately \$10,000.

A SMA Minor Use Permit is hereby approved based upon the following considerations:

1. The total cost/fair market value of the proposal will not exceed \$25,000;
2. Nonstructural activities will consist of minor clearing and grading and the placement of boundary markers. Structural activity will consist of construction of a paved

roadway; and

3. The proposal will not significantly conflict with Rule 9.1B, 9.3, 9.4, or 9.7D.

It has been determined that the proposed activities will have no significant adverse impact on the SMA or SMA resources. The construction of the roadway and the grading and clearing of land will result in minor alteration to the existing topography which will increase surface runoff but should not significantly affect existing drainage or erosion pattern provided the applicant complies with existing rules and regulations pertaining to this requirement. Further, it will not result in the destruction of native or endemic species of plants or animals since the area had been previously improved for residential use. The proposal will not impact on any existing public access routes to the shoreline nor will it detract from the line of sight towards the ocean from the nearest highway.

A SMA Minor Permit is further approved with the conditions that:

1. The applicant comply with the requirements of the County of Hawaii Grading Ordinance (No. 168);
2. The requirements for subdivision be complied with; and
3. All other rules, regulations and requirements be complied with.

Should any of these conditions not be met, this SMA Minor Permit shall be deemed null and void.



Planning Department

25 Aupuni Street, Rm. 109 • Hilo, Hawaii 96720 • (808) 961-8288

C
O
P
Y
CERTIFIED MAIL

May 21, 1991

Mr. Daniel Livingston,
General Manager
CRL Development, Inc.
1585 Kapiolani Boulevard, #1300
Honolulu, HI 96814

Dear Mr. Livingston:

SPECIAL MANAGEMENT AREA (SMA) MINOR USE PERMIT NO. 91-12
Applicant: CRL Investment, Inc.
Tax Map Key: 2-6-2-:1 and 2

Upon careful review of your SMA Minor Use Permit request, we have found that it complies with the requirements for a Minor Permit set forth in Rule 9.7 of the Planning Commission's Rules and Regulations Relating to Special Management Area.

Accordingly, please find enclosed an SMA Minor Use Permit No. 91-12 for clearing of vegetation, removal of abandoned vehicles and minor structures and removal of other debris for topographic survey, archaeological investigation and soil investigations approximately 200 feet from the Wailuku Bridge, makai of and fronting Puueo Street and Kou Lane and along the Hamakua side of Wailuku River, Puueo, South Hilo, Hawaii, Tax Map Key 2-6-2-:1 and 2.

Please note that the permit approval is also subject to the following conditions:

1. The applicant, its successors or assigns shall be responsible for complying with all conditions of approval.
2. A Grubbing Permit shall be secured from the Department of Public Works within one year from the effective date of this permit.

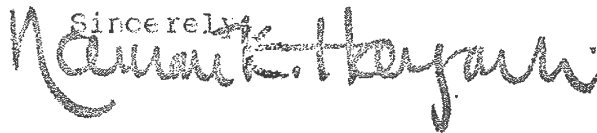
EXHIBIT D

Mr. Daniel Livingston,
General Manager
CRL Development, Inc.
May 21, 1991
Page 2

3. Prior to clearing activities, a 40-foot transverse line along the shoreline of Wailuku River must be marked clearly with colored flagging and identified to the persons doing the grubbing.
4. The project is to be carried out exactly as described in this SMA Minor Use Permit and attached Background statement. Any deviations from the described operations will need to receive advance approval from the Planning Department.
5. All other applicable rules, regulations and requirements shall be complied with.
6. An extension of time for the performance of conditions within the permit may be granted by the Planning Director upon the following circumstances: a) the non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors or assigns, and that are not the result of their fault or negligence; b) granting of the time extension would not be contrary to the General Plan or Zoning Code; c) granting of the time extension would not be contrary to the original reasons for the granting of the permit; and d) the time extension granted shall be for a period not to exceed the period originally granted for performance (i.e., a condition to be performed within one year may be extended for up to one additional year). Further, should any of the conditions not be met or substantially complied with in a timely fashion, the Director shall initiate procedures to revoke the permit.

Mr. Daniel Livingston,
General Manager
CRL Development, Inc.
May 21, 1991
Page 3

Should you have any questions regarding the above, please do not
hesitate to contact this department at 961-8288.

Sincerely,


NORMAN K. HAYASHI
Planning Director

AK:smc
64096
Enclosures

cc: Chief Engineer

MAY 22 1991

✓bcc: Rick (w/background & recommendations)

PLANNING DEPARTMENT - PLANNING COMMISSION
COUNTY OF HAWAII
Hilo, Hawaii

PERMIT NO. 91-12

SPECIAL MANAGEMENT AREA MINOR USE PERMIT

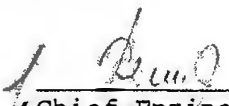
The Planning Director completed on May 13, 19⁹¹, an assessment on the application of CRL INVESTMENT, INC. for a Special Management Area (SMA) Minor Use Permit pursuant to Section 9.7.C., Rule 9 of the Planning Commission Rules Relating to Administrative Procedures, as amended. The permit request is ~~for~~ to allow the clearing of vegetation, removal of abandoned vehicles, and minor structures and removal of other debris for topographic survey, archaeological investigation and soil investigations approximately 200 feet from the Wailuku Bridge, makai of and fronting Puueo Street and Kou Lane and along the Hamakua side of Wailuku River, Puueo, South Hilo, Hawaii TMK 2-6-2:1 and 2.

As indicated on the attached report, the Director finds that the proposed development is:

- 1) not in excess of \$65,000; and
- 2) will not significantly affect the SMA.

Therefore, with concurrence of the Chief Engineer, the Director hereby grants to the applicant a minor use permit under the authority vested in him by Section 9.7.C of said Rules, with the following condition(s) that:

PLEASE SEE ATTACHED CONDITIONS.



Chief Engineer, DPW



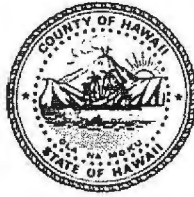
Planning Director

Attachment

SPECIAL MANAGEMENT AREA (SMA) MINOR USE PERMIT NO. 91-12
APPLICANT: CRL INVESTMENT, INC.
CONDITIONS

1. The applicant, its successors or assigns shall be responsible for complying with all conditions of approval.
2. A Grubbing Permit shall be secured from the Department of Public Works within one year from the effective date of this permit.
3. Prior to clearing activities, a 40-foot transverse line along the shoreline of Wailuku River must be marked clearly with colored flagging and identified to the persons doing the grubbing.
4. The project is to be carried out exactly as described in this SMA Minor Use Permit and attached Background statement. Any deviations from the described operations will need to receive advance approval from the Planning Department.
5. All other applicable rules, regulations and requirements shall be complied with.
6. An extension of time for the performance of conditions within the permit may be granted by the Planning Director upon the following circumstances: a) the non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors or assigns, and that are not the result of their fault or negligence; b) granting of the time extension would not be contrary to the General Plan or Zoning Code; c) granting of the time extension would not be contrary to the original reasons for the granting of the permit; and d) the time extension granted shall be for a period not to exceed the period originally granted for performance (i.e., a condition to be performed within one year may be extended for up to one additional year). Further, should any of the conditions not be met or substantially complied with in a timely fashion, the Director shall initiate procedures to revoke the permit.

Stephen K. Yamashiro
Mayor



County of Hawaii

PLANNING COMMISSION

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8288 Fax (808) 961-9615

CERTIFIED MAIL

June 7, 1993

Stephen J. Menezes, Esq.
Menezes Tsukazaki Yeh & Moore
100 Pauahi Street, Suite 204
Hilo, HI 96720

Dear Mr. Menezes:

Special Management Area (SMA) Use Permit No. 340
Applicant: CRL Development, Inc.
Request: 24-Unit Condominium and Related Improvements
Tax Map Key: 2-6-2:1 & 2

The Planning Commission at its duly held public hearing on May 27, 1993, voted to approve Special Management Area Use (SMA) Permit No. 340, to allow the construction of a 24-unit condominium project and related improvements. The property is located on the north side of the Wailuku River at the corner of Puueo Street and Kou Lane, South Hilo, Hawaii.

Approval of this request is based on the following:

The purpose of Chapter 205-A, Hawaii Revised Statutes, and Rule 9, Special Management Area Rules and Regulations of the County of Hawaii is to preserve, protect, and, where possible, to restore the natural resources of the coastal zone areas. Therefore, special controls on development within the area along the shoreline are necessary to avoid permanent loss of valuable resources and the foreclosure of management options.

One of the criteria for approving a development within the SMA is that it is consistent with the General Plan and Zoning Code. Although the proposed use is consistent, it should be pointed out that the complexes must meet the Zoning Code required minimum 15 feet distance between main structures. The proposed project does conform to the General Plan Land Use Pattern Allocation Guide (LUPAG) Map, which designates this area for Medium Density Urban development. Further, the properties' Resort-Hotel zoning designation allows for the proposed use.

EXHIBIT F

JUN - 8 1993

Stephen J. Menezes, Esq.
June 7, 1993
Page 2

Approval of this request would complement a goal of the Housing Element of the General Plan to "Attain a diversity of socio-economic housing mix throughout the different parts of the County" and to "Maintain a housing supply which allows for a variety of choice."

Another criteria in reviewing an SMA Use Permit application is that "The development will not have any significant adverse environmental or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or compelling public interest. Such adverse effect shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect and elimination of planning options." The proposed development is not anticipated to have substantial adverse ecological effects. The project site had been previously used for residential purposes and had been recently grubbed and, as such, the area is not known to contain any unique ecological systems nor provide habitats for any endangered plant or animal species. No adverse impacts on air and water quality are expected to be generated by the proposed development. Air emissions generated during the construction phase can be mitigated by existing regulations.

A recent certified shoreline survey of the property places the certified shoreline along the property's boundary along Wailuku River. Any potential increase in runoff or discharge that could reach ocean waters can be handled by on-site improvements. Negative impacts on the local water quality resulting from soil erosion and runoff during site preparation and construction phases can be adequately mitigated through compliance with existing regulations. Municipal treatment of wastewater will be required to avoid impacts to coastal ecosystems. Therefore, no significant adverse impact to coastal ecosystems is anticipated.

The proposed development is not expected to have an adverse impact on public access to or along the shoreline. Proposed complexes A and B will be situated a minimum of 40 feet from the certified shoreline along Wailuku River, southern portion of the property. Complexes C and D will be located a minimum of 20 to 40 feet from the certified shoreline along Wailuku River, eastern portion of the property. The landscaping improvements will be located outside of the 20-foot shoreline setback area. With the determination of this portion of the Wailuku River as a "shoreline", public access along the banks of the river must be preserved, particularly with the potential of future

Stephen J. Menezes, Esq.
June 7, 1993
Page 3

developments along the Wailuku River. Therefore, it is recommended that a shoreline access plan be submitted for review and approval prior to securing Final Plan Approval for the proposed development.

Viewplanes will not be significantly affected by the proposed project. The buildings will be situated more than 250 feet mauka of the Hawaii Belt Road. As such, the proposed project will not affect the makai views from the Hawaii Belt Road. Although the proposed project may affect mauka views from the Hawaii Belt Road, retaining some of the existing trees along the top of the bank for landscaping and the reduction of the height of the structures to 2 stories would mitigate any adverse impact.

An archaeological inventory survey of the project site identified one site (Site 15415) which consists of two components: 1) several diffuse prehistoric hearths, and 2) historic refuse and recent structural remnants. The report concluded that "The site is evaluated as significant solely for information content and is not recommended for further work." However, the Department of Land and Natural Resources-Historic Preservation Division recommends that this site be preserved until such time its significance can be determined. According to DLNR, "Sufficient level of recordation has been performed on the site's historic component which is located outside of a 40-foot setback zone at the edge of Wailuku River. The prehistoric component still contains significant information. Also, since it is contained entirely within the 40-foot setback zone, it will be preserved. We concur that this preservation will result in a 'no adverse effect' determination for this site." In addition, the DLNR found the interim (short term) preservation measures to protect the prehistoric component during construction activities to be acceptable. These measures will be included as conditions of approval which consist of the erection of construction barrier along the inland margins of the 40-foot setback area and an on-site monitoring by a qualified archaeologist during the initial phase of grading and grubbing activities along the margins of the prehistoric deposit. Also, it is recommended that the applicant prepare a mitigation plan for the review and approval of the Planning Department, in consultation with DLNR, prior to securing Final Plan Approval or the issuance of a grading permit. This will ensure that such a mitigation plan be approved by the Department prior to any land alteration activities and for the preservation and protection (interim or permanent) of Site 15415.

According to a Traffic Impact Study for the project, there would be no adverse effect on Puueo Street, the Puueo Street/Ohai Street intersection or the Puueo Street/Keawe Street intersection with Wailuku Drive. These intersections are anticipated to operate at LOS A or B with the project. However, the applicant shall provide a driveway access to Puueo Street having adequate sight distance and meeting with the approval of the Department of Public Works.

Approval of this request is subject to the following conditions:

1. The applicant, its successors or assigns shall be responsible for complying with all stated conditions of approval.
2. The required water commitment payment shall be submitted to the Department of Water Supply in accordance with its "Water Commitment Guidelines Policy" within ninety days from the effective date of this permit.
3. Consolidation of the properties shall be secured from the Planning Department prior to Final Plan Approval.
4. Final Plan Approval of the 24-unit condominium project shall be secured from the Planning Department. Plans shall identify structures, the 20-foot and 40-foot shoreline setback lines, and parking stalls associated with the proposed development. Parking shall comply with the requirements of Chapter 25 (Zoning Code). Plans shall also indicate appropriate landscaping, including the retention of some existing trees along the Wailuku River frontage.
5. Construction of the proposed condominium complexes and related improvements shall be completed and a certificate of occupancy issued within five years from the effective date of the SMA Use Permit.
6. A public shoreline access plan shall be submitted for review and approval by the Planning Department, in consultation with the Department of Land and Natural Resources, prior to the submittal of plans for Plan Approval review. The public access plan shall include, but not be limited to, the delineation of shoreline access to and along the length of the property; location, time of construction and/or availability of public accesses; restrictions on use; and other related improvements.

7. A mitigation plan shall be submitted for review and approval by the Planning Department, in consultation with the State Department of Land and Natural Resources, prior to the submittal of plans for Plan Approval review.
8. The minimum 20-foot shoreline setback shall be staked and delineated with a continuous flag ribbon by a registered surveyor prior to any land alterations in the affected area. Written confirmation shall be submitted in conjunction with requested permit(s). No improvements shall be allowed within the 20-foot shoreline setback area unless approvals have been granted in accordance with Rule 8 of the Planning Commission relating to Shoreline Setback.
9. The minimum 40-foot shoreline setback shall be staked and delineated with a continuous flag ribbon by a registered surveyor prior to any land alterations in the area of Site 15415. Construction barrier shall be erected along the inland margins of the 40-foot setback area. Written confirmation shall be submitted in conjunction with requested permit(s). To ensure the preservation of Site 15415, any improvements within this area shall be approved by the Planning Department, in consultation with the State Department of Land and Natural Resources.
10. On-site monitoring shall be conducted by a qualified archaeologist during the initial phase of grading and grubbing activities along the margins of the prehistoric deposit.
11. Should any unidentified sites or remains such as artifacts, shell, bone, or charcoal deposits, human burials, rock or coral alignments, pavings, or walks be encountered, work in the immediate area shall cease and the Planning Department shall be immediately notified. Subsequent work shall proceed upon an archaeological clearance from the Planning Department when it finds that sufficient mitigative measures have been taken.
12. Driveway access to Puueo Street shall meet with the approval of the Department of Public Works. Appropriate signage and roadway markings shall be provided by the applicant prior to the issuance of a certificate of occupancy for the condominium complexes.
13. An erosion and sediment control plan shall meet with the approval of the Department of Public Works. The plan shall also include a provision that a minimum 20-foot wide

vegetated buffer area along the Wailuku River boundary be maintained throughout the construction period.

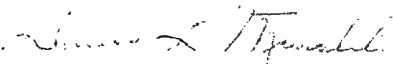
14. Energy efficient appliances and other energy saving devices shall be incorporated in the development's plans and requirements.
15. The applicants, its successors or assigns shall indemnify and hold the County of Hawaii harmless from and against any loss, liability, claim or demand for property damage, personal injury and death arising out of any act or omission of the applicants, successors, assigns, officers, employees, contractors and agents under this permit or relating to or connected with the granting of this SMA Use Permit.
16. Comply with all other laws, rules, regulations and requirements.
17. Upon compliance with all conditions of approval, in conjunction with the application for certificate of occupancy and prior to the selling and/or occupancy of any of the condominium units, the applicant shall provide, in writing, a final status report to the Planning Department.
18. An extension of time for the performance of conditions within the permit may be granted by the Planning Director upon the following circumstances: a) the non-performance is the result of conditions that could not have been foreseen or are beyond the control of the applicant, successors or assigns, and that are not the result of their fault or negligence; b) granting of the time extension would not be contrary to the General Plan or Zoning Code; c) granting of the time extension would not be contrary to the original reasons for the granting of the permit; and d) the time extension granted shall be for a period not to exceed the period originally granted for performance (i.e., a condition to be performed within one year may be extended for up to one additional year). Further, should any of the conditions not be met or substantially complied with in a timely fashion, the Director shall initiate procedures to revoke the permit.

This approval does not, however, sanction the specific plans submitted with the application as they may be subject to change given specific code and regulatory requirements of the affected agencies.

Stephen J. Menezes, Esq.
June 7, 1993
Page 7

Should you have any questions, please feel free to contact Rodney Nakano or Alice Kawaha of the Planning Department at 961-8288.

Sincerely,

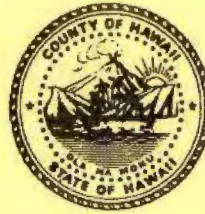


Donald L. Manalili, Chairman
Planning Commission

RKN:jdk
LCRLDe02.PC

xc: Mr. Daniel Livingston
Honorable Stephen K. Yamashiro, Mayor
Planning Director
Department of Public Works
Department of Water Supply
County Real Property Tax Division
Office of State Planning, CZM Program w/background
Department of Land and Natural Resources
Plan Approval Section

Harry Kim
Mayor



Michael Yee
Director

Duane Kanuha
Deputy Director

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

County of Hawai'i PLANNING DEPARTMENT

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

January 7, 2019

Peter K. Kubota
Attorney at Law
505 Kilauea Avenue, Suite B
Hilo, HI 96720-3011

Dear Mr. Kubota:

**DETERMINATION OF PRE-EXISTING LOT OF RECORD
Being Land Commission Award 5145,
Being Also a portion of Land Commission Award 4809, Apana 1,
Pu'u'eo, South Hilo, Island of Hawai'i, Hawai'i
Tax Map Key: (3) 2-6-002:001**

This is in response to your correspondence of November 30, 2018, requesting a determination of a pre-existing lots of record for the subject property.

We have reviewed our department records, and those of the Department of Finance-Real Property Tax Division (RPT) in accordance with Article 11 (Pre-existing Lots) of the Subdivision Code (Sections 23-117 through 23-120).

Our review of the records has found the following:

1. In its present configuration and land area (65,327 square feet), Parcel 001 is the result of Land Commission Awards that date back to the 1850's; and
2. Although land acreage has been updated over time, we have no record of the original land titles having been consolidated with any other adjacent lands.

Given the above, and pursuant to Section 23-118. Criteria to determine a pre-existing lot;

"The lot was created and recorded prior to November 22, 1944 or the lot was created through court order (e.g. partition) prior to July 1, 1973, and the lot had never been legally consolidated, provided that no pre-existing lot shall be recognized based upon a lease except for a lease which complied with all other applicable laws when made, including Territorial statutes regulating the sale or lease of property by lot number or block number, and on September 25, 2002, the proposed lot contains a legal dwelling, or has been continuously leased since January 8, 1948, as a separate unit."

Peter K. Kubota
Attorney at Law
December 7, 2019
Page 2

Your request is for recognition of three (3) pre-existing lots of record consisting of Land Commission Award 5145, a portion of Land Commission Award 4989-B, and a portion of Land Commission Award 4809, Apana 1. We find no evidence to support the recognition of a portion of Land Commission Award 4989-B. Therefore, we confirm that **Parcel 001 (65,327 square feet) consists of two (2) legal pre-existing lots of record**, being Land Commission Award 5145 and a portion of Land Commission Award 4809, Apana 1.

Should you have any questions, please feel free to contact Hans Santiago or Jonathan Holmes of this department.

Sincerely,



MICHAEL YEE
Planning Director

HS:tb

\\\\coh33\\planning\\public\\Admin Permits Division\\PELOR(Pre-ExistingLotOfRecord)\\2019\\2-6-002-001KU80TA 01-07-19.docx

xc: Tax Maps and Records Supervisor
Real Property Tax Division-Kona
Manager-Chief Engineer, DWS
G. Bailado, GIS Analyst (via e-mail)

2018 DEC 6 PM 2 39

PETER K. KUBOTA

Attorney at Law
A Law Corporation

505 Kilauea Avenue Suite B
Hilo, Hawaii 96720-3011
Phone: (808) 935-2422
Facsimile: (808) 935-5999
e-mail: [REDACTED]

Areas of Practice
Business Law
Real Estate
Estate Planning

November 30, 2018

Michael Yee
Planning Director
County of Hawaii
100 Pauahi Street
Hilo, Hawaii 96720

RE: Lot Determination TMK (3) 2-6-002-001

Dear Mr. Yee:

I am under contract to purchase Tax Map Key Nos. (3) 2-6-002-001 from the current owners, Edwin Shiroma and Frederick Zane, and Mr. Zane's company Urban Management Corp. Based on title research conducted by Title Guaranty of Hawaii, Inc., we believe that Tax Map Key No. (3) 2-6-002-001 is comprised of three pre-existing lots of record, being

- (1) Royal Patent No. 4671, Land Commission Award 4989-B
 - (2) Royal Patent No. 4883, Land Commission Award 5145, and
 - (3) Royal Patent No. 4687, Land Commission Award 4809, Apana 1 to Lo.
- A copy of the Title Guaranty preliminary title report is attached as Exhibit A.

Attached as Exhibit B is a certification of Joanna Kaalele of Title Guaranty of Hawaii regarding their findings as to the source of title and the documentation provided herein. Copies of the referenced Royal Patents and their corresponding Land Commission Awards are attached to Ms. Kaalele's certification as Exhibit C.

SCANNED

DEC 07 2018
By: 122025 f

Michael Yee
November 30, 2018
Page 2

These lots were acquired separately, and were never legally consolidated. As such, would you please review these materials and confirm that there are in fact three lots of record within this parcel? Please call or write if you have any questions or concerns, or require further information for your determination.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'Peter K. Kubota', with a large, sweeping flourish at the end.

PETER K. KUBOTA

The undersigned owners consent to the request for lot determination as set forth in this letter.

Edwin Shiroma

Frederick Zane

Urban Management Corp.
a Hawaii corporation

By _____
Frederick A. Zane
Its President

Enclosures

Michael Yee
November 30, 2018
Page 2

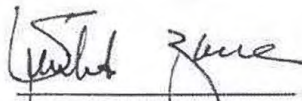
These lots were acquired separately, and were never legally consolidated. As such, would you please review these materials and confirm that there are in fact three lots of record within this parcel? Please call or write if you have any questions or concerns, or require further information for your determination.

Very truly yours,

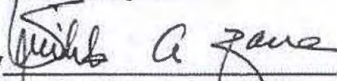


PETER K. KUBOTA

The undersigned owners consent to the request for lot determination as set forth in this letter.


Edwin Shiroma
Frederick Zane

Urban Management Corp.
a Hawaii corporation

By 
Frederick A. Zane
Its President

Enclosures

DAVID Y. IGE
GOVERNOR OF HAWAII



2019 MAY 24 PM 4 22
CLERK OF THE COURT
COUNTY OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 24, 2019

Mr. Peter K. Kubota
Attorney At Law
505 Kilauea Avenue, Suite B
Hilo, Hawaii 96720-3011

Dear Mr. Kubota,

SUBJECT: Request for Shoreline Certification; TMK (3) 2-6-002:001 & 002
U

We are writing in response to your request to confirm whether the above referenced parcels could obtain a certified shoreline. It is our understanding that the subject parcels are situated inland of the coastline along the Wailuku River. As only oceanfront properties are eligible for shoreline certification, parcels located adjacent to a stream or river would not qualify for shoreline certification.

Furthermore, we also refer you to Chapter 13-222, Hawaii Administrative Rules (HAR), regarding the shoreline certification process. Pursuant to Section 13-222-2 HAR, the shoreline is defined as "the upper reaches of the wash of the waves, other than storm or seismic waves, at high tide during the season of the year in which the highest wash of the waves occurs, usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves." The aforementioned criteria for determining the location of the shoreline are unique to coastal environments and would not apply to properties located inland along a stream or river.

Please feel free to contact Ian Hirokawa, Special Projects Coordinator at (808) 587-0420 if you have any further questions. Thank you.

Sincerely,


Russell Y. Tsuji
Administrator

cc: DAGS Survey

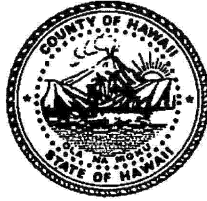
EXHIBIT H



Harry Kim
Mayor

Wil Okabe
Managing Director

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



County of Hawai'i
PLANNING DEPARTMENT

Michael Yee
Director

Duane Kanuha
Deputy Director

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

September 9, 2019

Clyde K. Matsunaga
Imata and Associates, Inc.
171 Kapi'olani Street
Hilo, HI 96720

Dear Mr. Matsunaga:

TENTATIVE APPROVAL

SUBDIVIDERS: ALOHA KOU, LLC, Peter Kubota, Manager

Proposed Consolidation of A Portion of Royal Patent 4687, Land Commission Award 4809, Apana 1; Royal Patent 4883, Land Commission Award 5145; And A Portion of Royal Patent 4693, Land Commission Award 1-B;
And Resubdivision into Lots 1, 2, And 3.

Pu'u'eo, South Hilo, Island of Hawai'i, Hawai'i

TMKs: (3) 2-6-002:001 & 002 (SUB-19-001887)

Please be informed that Tentative Approval of the preliminary plat map dated March 14, 2019, is hereby granted with modifications and conditions.

The subdividers are now authorized to prepare detailed drawings of the subdivision plan in accordance with Chapter 23, Subdivision Control Code, County of Hawai'i, as modified. Before final approval can be granted, the following conditions must be met:

1) Drainage

- a) Portions of the subdivision are located within Zone AE and VE according to the current Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA).
- b) Identify the Zone AE and VE boundaries and base flood elevations on the final plat map.
- c) Identify any other watercourses or drainageways that are not designated as a FEMA flood zone and encumber with drainage easements.
- d) Any construction within the designated FEMA flood zone shall comply with the requirements of Chapter 27, Floodplain Management, of the Hawai'i County code.

- 2) Access and Roadway Improvements
 - a) Provide a future road widening setback along the Kou Lane frontage equal to $\frac{1}{2}$ the difference between the existing right-of-way width and 50 feet.
 - b) Provide a future road widening setback along the Pu'u'eo Street frontage equal to $\frac{1}{2}$ the difference between the existing right-of-way width and 60 feet.
 - c) Kou Lane is not currently paved/accessible to vehicular traffic. Please provide discussion on subdivider's intent with regards to providing a physical access to the proposed lots. Additional or revised Tentative Approval (TA) conditions may be imposed based on the discussion provided to the Planning Department. If reconfiguration of lots is necessary, an agency review of the revised preliminary plat map may be necessary and/or may require a revised/new TA.
- 3) All easements affecting proposed lots shall be identified for its purpose and to which proposed lot(s) and/or grantee(s) the easement is in favor of. This shall be shown on the final plat map.
- 4) Wastewater Improvements.
 - a) All subdivided lots shall be connected to the public sewer system located within Pu'u'eo Street. The proposed sewer system shall meet with the approval of the Department of Environmental Management (DEM).
 - b) Submit sewer system construction plans as required by the DEM for approval by affected agencies.
- 5) Property Tax Certification. Submit written proof that all taxes and assessments on the property are paid to date.
- 6) Surveyor's Certification. Place property markers in accordance with the final plat map. Surveyor shall submit certification upon completion.
- 7) Final Plat Map. **Submit ten (10) copies of the final plat map** prepared in conformity with Chapter 23, Subdivisions, within one year from the date of tentative approval, on or before **September 9, 2020**. If not, tentative approval to the preliminary plat map shall be deemed null and void. Only upon written request from the subdividers and for good cause, the director may grant to the subdividers an extension of time within which the subdividers may file the final plat. **As part of final plat map submittal, provide an additional copy of the final plat map as a ".dwg" or ".dxf" diskette file prepared by CAD software. In the alternate, a digital copy of the final plat map may be e-mailed to the Tax Maps and Records Supervisor at planning@co.hawaii.hi.us.**
- 8) Time Limit. Subdividers shall complete all requirements specified as conditions for tentative approval of the preliminary plat map within three (3) years of said tentative approval, on or before **September 9, 2022**. An extension of not more than two (2) years may be granted by the director upon timely request of the subdividers.

Please be aware that if at any time during the fulfillment of the foregoing conditions, should concerns emerge such as environmental problems or other problems which were earlier

2) Access and Roadway Improvements

- a) Provide a future road widening setback along the Kou Lane frontage equal to $\frac{1}{2}$ the difference between the existing right-of-way width and 50 feet.
 - b) Provide a future road widening setback along the Pu'u'eo Street frontage equal to $\frac{1}{2}$ the difference between the existing right-of-way width and 60 feet.
 - c) Kou Lane is not currently paved/accessible to vehicular traffic. Please provide discussion on subdivider's intent with regards to providing a physical access to the proposed lots. Additional or revised Tentative Approval (TA) conditions may be imposed based on the discussion provided to the Planning Department. If reconfiguration of lots is necessary, an agency review of the revised preliminary plat map may be necessary and/or may require a revised/new TA.
- 3) All easements affecting proposed lots shall be identified for its purpose and to which proposed lot(s) and/or grantee(s) the easement is in favor of. This shall be shown on the final plat map.
- 4) Wastewater Improvements.
- a) All subdivided lots shall be connected to the public sewer system located within Pu'u'eo Street. The proposed sewer system shall meet with the approval of the Department of Environmental Management (DEM).
 - b) Submit sewer system construction plans as required by the DEM for approval by affected agencies.
- 5) Property Tax Certification. Submit written proof that all taxes and assessments on the property are paid to date.
- 6) Surveyor's Certification. Place property markers in accordance with the final plat map. Surveyor shall submit certification upon completion.
- 7) Final Plat Map. **Submit ten (10) copies of the final plat map** prepared in conformity with Chapter 23, Subdivisions, within one year from the date of tentative approval, on or before **September 9, 2020**. If not, tentative approval to the preliminary plat map shall be deemed null and void. Only upon written request from the subdividers and for good cause, the director may grant to the subdividers an extension of time within which the subdividers may file the final plat. **As part of final plat map submittal, provide an additional copy of the final plat map as a ".dwg" or ".dxf" diskette file prepared by CAD software. In the alternate, a digital copy of the final plat map may be e-mailed to the Tax Maps and Records Supervisor at planning@co.hawaii.hi.us.**
- 8) Time Limit. Subdividers shall complete all requirements specified as conditions for tentative approval of the preliminary plat map within three (3) years of said tentative approval, on or before **September 9, 2022**. An extension of not more than two (2) years may be granted by the director upon timely request of the subdividers.

Please be aware that if at any time during the fulfillment of the foregoing conditions, should concerns emerge such as environmental problems or other problems which were earlier

Clyde K. Matsunaga
Imata and Associates, Inc.
September 9, 2019
Page 3

overlooked or not anticipated/accounted for in data/reports available to date, this could be sufficient cause to immediately cease and desist from further activities on the proposed subdivision, pending resolution of the problems. The Planning Director shall confer with the listed officers to resolve the problems and notify you accordingly.

No final approval for recordation shall be granted until all the above conditions have been met.

Land shall not be offered for sale, lease or rent until final approval for recordation of the subdivision is granted by the Planning Director or the proposed subdivision has been issued a preliminary order of registration by the Department of Commerce and Consumer Affairs (DCCA) in accordance with the requirements of Chapter 484, Hawai'i Revised Statutes (HRS).

Should you have any questions, please feel free to contact Hans Santiago or Jonathan Holmes of this department.

Sincerely,



MICHAEL YEE
Planning Director

HS:tb

\\coh33\planning\public\Admin Permits Division\Subdivision\2019\2019-3\SUB-19-001887AlohaKouLLC TA 09-09-19.docx

Enc.: PPM (03-14-19)

xc: Manager, DWS
Director, DPW
District Environmental Health Program Chief, DOH
Wayne A. Subica, LPLS, Imata and Associates, Inc.
Aloha Kou, LLC, Peter Kubota, Manager

Archaeological Inventory Survey Noelani Gardens Project

Land of Puueo, South Hilo District
Island of Hawaii



PHRI

Paul H. Rose mahl, Ph.D., Inc.

Archaeological • Historical • Cultural Resource Management Studies & Services

305 Mohouli Street • Hilo, Hawaii 96720 • (808) 969-1763 • FAX (808) 961-6998
P.O. Box 23305 • G.M.E., Guam 96911 • (671) 472-3117 • FAX (671) 472-3131

EXHIBIT J

RECEIVED

'91 DEC 31 PM 2 24

PLANNING DEPT.

COUNTY OF HAWAII

Archaeological Inventory Survey Noelani Gardens Project

**Land of Puueo, South Hilo District
Island of Hawaii (TMK:3-2-6-2:1,2)**

by

Susan T. Goodfellow, Ph.D.
Laboratory Director

Prepared for

Daniel Livingston
CRL Development, Inc.
1585 Kapiolani Blvd., Suite 1300
Honolulu, Hawaii 96814

September 1991

PHRI

Paul H. Rosendahl, Ph.D., Inc.

Archaeological • Historical • Cultural Resource Management Studies & Services

305 Mohouli Street • Hilo, Hawaii 96720 • (808) 969-1763 • FAX (808) 961-6998
P.O. Box 23305 • G.M.F., Guam 96911 • (671) 472-3117 • FAX (671) 472-3131

SUMMARY

At the request of Daniel Livingston, general manager, CRL Development, Inc., Paul H. Rosendahl, Ph.D., Inc. (PHRI) conducted an archaeological inventory survey of the approximately 1.73 acre Noelani Gardens Project site, located in the Land of Puueo, South Hilo District, Island of Hawaii (TMK:3-2-6-1:1,2). The field work for the project was conducted on July 15-17, 1991 and consisted of a 100%-coverage pedestrian survey and limited subsurface testing. The field work included—with the client's permission—monitoring of foundation coring by Geolab. The monitoring was conducted July 25-30, 1991 and primarily entailed examining core sediments for samples which could be used for age determination analyses. A final trench excavation designed to test for subsurface remains in the area of Core #6 was conducted on September 27, 1991.

During the pedestrian survey, several remnants of house foundations were identified in the central portion of the project area. The remnants were surrounded by abundant historic period to recent debris; however, clearing and subsequent bulldozing in the area have destroyed the original associations between the foundations and artifactual remains. In order to gain information on the nature of historic period and the more

recent use of the project area, diagnostic bottles and ceramics were collected from the area. No prehistoric features or artifacts were encountered on the surface during the pedestrian survey.

Previous examination of the cliff exposures along the Wailuku River side of the project area (Rosendahl 1980) noted concentrations of charcoal and fire-cracked rock in the area above the pebble beaches on the northeastern boundary of the project area. Subsurface testing of the buffer zone along the cliffs was thus undertaken to determine the extent of these deposits. A series of 11 backhoe trenches and four test pits was placed along the buffer zone; these excavations encountered concentrations of charcoal, coral, and fire-cracked rock (diffuse hearths) in five of the trenches. No artifacts, ecofactual remains, or distinctive subsurface features were encountered in association with the hearths.

As a result of the survey, one site (Site 15415) was identified. The site consists of two components: the several diffuse prehistoric hearths, and the historic refuse and recent structural remnants. The site is evaluated as significant solely for information content and is not recommended for further work.

Cover Photo: Photograph of Landing at Wailuku River (Courtesy of the Marianist Archives)

CONTENTS

	Page
INTRODUCTION	1
Background	1
Scope of Work	1
Project Area Description	2
Previous Archaeological Research	2
Summary of Historical Documentary Research	5
Field Methods and Procedures	6
FINDINGS	7
Surface Findings	7
Subsurface Findings	7
DATA ANALYSES	13
Age Determinations	13
Portable Artifacts	15
CONCLUSION	25
Discussion	25
General Significance Assessments and Recommended General Treatments	25
REFERENCES CITED	26
APPENDIX A: Historical Documentary Research by Lehua Kalima, B.A.	28

ILLUSTRATIONS

Figure

1 Project Location Map	3
2 Locations of Backhoe Trenches and Shovel Test Units	8
3 Artifact Illustrations	19
4 Artifact Illustrations	21
A-1 Photo of Wailuku River	30
A-2 Wailuku River Portion of an 1891 Map of Hilo	31
A-3 Photograph of Landing at Wailuku River	36

TABLES

Table

1 Summary of Backhoe Trench Excavations	10
2 Summary of Shovel Test Units	11
3 Summary of Radiocarbon Age Determinations	14
4 Detailed Distribution of Portable Artifacts	16

INTRODUCTION

BACKGROUND

This report presents the results of an archaeological inventory survey conducted at the 1.73-acre Noelani Gardens project area, located north of Lower Wailuku Bridge, along Puueo Street, in the Land of Puueo, South Hilo District, Island of Hawaii (TMK:3-2-6-2:1,2). The survey was conducted by Paul H. Rosendahl, Ph.D, Inc. (PHRI) at the request of Daniel Livingston, general manager for CRL Development. The overall objective of the survey was to provide information sufficient for satisfaction of all historic preservation regulatory review requirements of the Hawaii County Planning Department (HCPD) and the Department of Land and Natural Resources - State Historic Preservation Division (SHPD).

The survey consisted of a 100% pedestrian survey and limited subsurface testing. An initial 100% pedestrian survey of the project area had been conducted by PHRI in 1980 (Rosendahl 1980); nevertheless, the area was surveyed again during the current project. The current survey was conducted on July 15, 1991 and included surface collection of diagnostic artifacts and basic mapping of foundation remnants that had been noted during the earlier survey. The limited subsurface testing was conducted July 15-17, 1991 and consisted of placing 11 systematically spaced backhoe trenches and four shovel test units. All field work was conducted by PHRI Laboratory Director Susan T. Goodfellow, Ph.D, and PHRI Lab Assistants Varda Zamir, B.A., and Patricia Zuccaro, B.A.. Dr. Paul H. Rosendahl provided overall guidance for the project. Approximately 45 labor-hours were expended conducting the field work.

SCOPE OF WORK

The basic purpose of the inventory survey was to identify all sites and features of potential archaeological significance present within the specified project area. An inventory survey comprises an initial level of archaeological investigation and is conducted basically to determine the presence or absence of archaeological resources within a specified project area. It indicates both the general nature and variety of archaeological remains present, and the general distribution and density of such remains. Finally, it permits a general significance assessment of the archaeological resources, and facilitates formulation of realistic recommendations and estimates for such further work as might be necessary or appropriate. Such work could include further data collection (further recording of sites and features, and selected limited excavations) and possibly

subsequent mitigation—data recovery research excavations, construction monitoring, interpretive planning and development, and/or preservation of sites and features with significant scientific research, interpretive, and/or cultural values.

The basic objectives of the present survey were fourfold: (a) to identify all sites and site complexes within the project area; (b) to evaluate the potential general significance of all identified archaeological remains; (c) to determine the possible impacts of proposed development upon the identified remains; and (d) to define the general scope of any subsequent further data collection and/or other mitigation work that might be necessary.

Based on a review of readily available background literature, and based on familiarity with the project area and its vicinity (PHRI conducted a surface reconnaissance survey of the project area in 1980 [Project ARA-80-9]), and based on discussions with CRL Development, Inc. representatives and with Dr. Ross Cordy, chief archaeologist with the DLNR-SHPD, and based on extensive familiarity with the current requirements of review authorities, the following specific tasks were determined to constitute an adequate scope of work for the proposed inventory survey:

1. Review archaeological and historical literature relevant to the project area, and conduct limited historical documentary research (emphasis on readily available literature and documentary sources) and interviews with any appropriate and available local informant sources;
2. Conduct a 100%-coverage, high-intensity pedestrian survey of the project area (already completed in 1980);
3. Conduct limited subsurface testing by means of a backhoe in the project area in order to (a) determine the presence or absence (and general distribution) of potentially significant buried cultural features or deposits, and (b) obtain suitable samples for age determination analyses; and
4. Analyze field and historical research data, and prepare appropriate reports.

The inventory survey was carried out in accordance with the guidelines currently used by the DLNR-SHPD for the review and evaluation of archaeological inventory survey reports submitted in conjunction with various development

permit applications. The significance of all archaeological remains identified within the project area was assessed in terms of the National Register Criteria contained in the Code of Federal Regulations (36 CFR Part 60) and criteria for the evaluation of traditional cultural values prepared by the National Advisory Council on Historic Preservation. These criteria are used by the DLNR-SHPD and Hawaii County Planning Department for the evaluation of cultural resources and to evaluate eligibility for the Hawaii State and National Register of Historic Places. To further facilitate client management decisions regarding the subsequent treatment of resources, the archaeological remains were also evaluated in terms of PHRI Cultural Resource Management (CRM) value modes, which are derived from the above federal criteria. All significance criteria are discussed in detail in the Conclusion section.

PROJECT AREA DESCRIPTION

The project area consists of two adjoining parcels of land (Figure 1). Parcel 1 comprises 65,323 square feet (1.5 acres) and includes all of Land Commission Award (LCA) 5145 (Royal Patent 4883) to Kauhiahwa and a portion of LCA 4809 (Royal Patent 4687) to Loand Moses. Parcel 2 comprises 9,893 square feet (0.23 acres) and includes a portion of LCA 1-B (Royal Patent 4693) to Wahine. The project area is on the north side of the Wailuku River, between Puueo Street to the west and Bayfront Highway to the east. Both parcels are between the Wailuku River and Kou Lane, and are located southwest of Kou Lane (Figure 1).

The terrain in the project area slopes down to the Wailuku River, with the part immediately adjacent to the river dropping off sharply in an earthen bank or cliff that is as much as 20 feet high.

The project area was occupied until about the early 1960s. During the 1980 survey (Rosendahl 1980) the remains of this occupation were found overgrown with thick grasses. The area has since been cleared and bulldozed in preparation for construction; however evidence of the occupation still exists in the form of scattered ornamental trees and shrubs (principally introduced species) such as breadfruit, guava, hibiscus, mango, castor bean, avocado, banana, and palm trees, and ground cover such as philodendron and *laua 'e*. Other vegetation in the area includes dense stands of bamboo near the edge of the Wailuku River.

The project area contains Hilo Series soils, primarily Hilo silty clay loam. This soil type is present on 0-20 percent slopes on the lower windward side of Mauna Kea and is dissected by deep, narrow gulches (Sato *et al.* 1973). The color of the soil type ranges from brown or dark reddish brown to dark grayish brown, depending on depth and moisture, while pH readings

indicate that all horizons are typically acidic. Normal depth to bedrock is five feet or more, and roots are found throughout the soil profile to bedrock. Soil permeability is good, and there is little evidence of soil erosion.

There is abundant permanent fresh water in the project area, provided primarily by Wailuku River and its tributaries. Hilo Bay is the largest water resource in the area, with the many inlets along the bay providing places to practice aquaculture, as well as sheltered places to dock canoes. The bay itself would have provided both brackish and marine water resources.

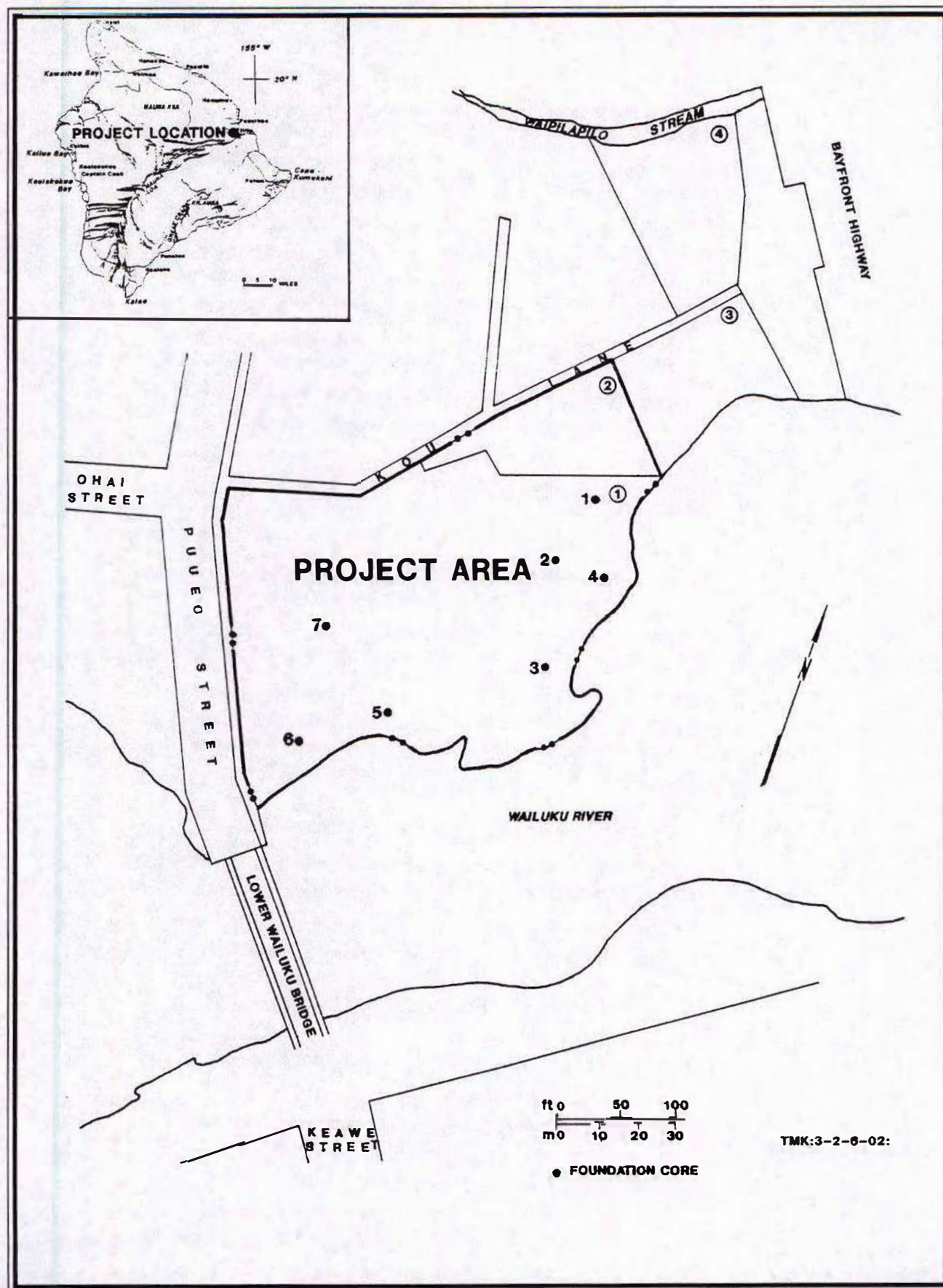
PREVIOUS ARCHAEOLOGICAL RESEARCH

Archaeological research concerning the windward side of the island of Hawaii has been notably scarce. The earliest archaeological survey of the Hilo region was performed by Hudson in the 1930s (Hudson Ms.) during his larger inspection of archaeological resources throughout east Hawaii. He noted that:

No archaeological remains are to be found in the city of Hilo itself except a few stones which are said to have been taken from *heaius*. It is possible, however, to gather a fair amount of information from traditional and historical sources about former structures, and in the region east of Hilo toward Lileiwi Point there are numerous sites still sufficiently well preserved to be measured and described (Hudson 1932:226).

Among the better preserved sites noted east of Hilo were agricultural terraces along the banks of streams, used primarily for growing taro; and a few probable habitation platforms (Sites 31-36). Hudson explains the lack of archaeological sites in Hilo as the product of development in the area, and draws upon early historical sources to provide information concerning land use in the bay area. His synthesis, as well as other information from historical accounts, is presented in the Summary of Historical Documentary Research section.

Hudson's contention that no archaeological remains were present in the city of Hilo has been largely supported by archaeological field work undertaken in the South Hilo District during the last decade. In 1982, Kelly and Athens conducted a survey of the Alenaio Stream Flood Damage reduction project area (Kelly and Athens 1982) on behalf of the Bishop Museum, for the Army Corps of Engineers. The survey, which investigated two alternate project routings around Alenaio Stream, failed to locate prehistoric or early historic remains, although it did identify the remains of a historic cane house. Kelly's historical documentary research for the project uncovered an 1825 map



of the Hilo area by C.R. Malden which showed extensive taro pondfields extending from Hilo Bay inland to Halai Hill. The map did not show any villages in the Hilo area, leading Kelly to suppose that house sites were situated throughout the cultivated lands (Kelly and Athens 1982:12). Based on the findings, Athens recommended subsurface testing to determine the presence/absence of buried deposits; however, archaeological reports archived at the DLNR-SHPD and HCPD indicate that no subsurface archaeological testing has been conducted in the Hilo area.

Cox (1983) conducted a survey of the Honolii Stream Hydropower Study areas as part of a feasibility study for the Army Corps of Engineers. Cox examined two areas, a gauging station site and the northern crest of Honolii Stream. No sites were identified within the weir location, but one site was identified on the northern stream bank. The site, an agricultural terrace in fair condition, was located approximately a quarter mile downslope of the present landing field, at an elevation of 1,300 ft above mean sea level, part way down a stream bank. No portable remains were collected at the site.

A series of three reconnaissance surveys was conducted in the Hilo area in 1987-88 by PHRI (Rosendahl M.L.K. 1988a,b,c; Rosendahl and Telea 1988). The first of these, a survey of the Hilo Judiciary Complex site, was conducted during December 1987 on behalf of William Okamoto and Associates, Inc.. Five parcels of land in downtown Hilo were investigated (Rosendahl 1988a). The survey failed to locate archaeological sites, noting that "Candidate sites 1-5 have all undergone profound transformation as the city of Hilo has evolved; no traces of prehistoric or early historic land use patterns were present on the ground surface of the sites" (Rosendahl 1988a:8). Based on the map uncovered by Kelly during the earlier Bishop Museum survey (Kelly and Athens 1982), however, Rosendahl recommended that limited subsurface testing be undertaken to determine the presence/absence of buried deposits in the project area.

The second PHRI survey was conducted in South Hilo, at the proposed Irradiation Plant site, for Westec Services (Rosendahl and Telea 1988). Again, the site had been substantially disturbed during the growth of Hilo, leaving no surface traces of prehistoric or early historic sites. The results of the third survey, conducted in the Land of Waiakea at the Hilo Waste Water Treatment Facility site (Rosendahl 1988b), were similarly unproductive.

The third survey, conducted in the Lands of Kikala and Paukaa at the Honolii Hydroelectric Plant project area (Rosendahl 1988c), identified three historic sites in the seaward portion of the project area. The sites—a terrace, a wall alignment, and a

complex—based on size, location, and portable remains, were interpreted as habitation and boundary/agricultural sites. Rosendahl concluded:

Based on an initial examination of the banks of Honolii Stream within the project area and on historical documentary research, it is likely that the banks of the stream in the project area once supported taro cultivation. Documentary research indicates that there was at least one habitation complex in the area of the stream during the mid-1800s; this corresponds roughly to the Kiyan residences [the habitation complex] noted above (Rosendahl 1988c:14).

Most recently, PHRI conducted a field inspection (Rosendahl 1990) and inventory survey (Jensen 1991) of the Komohana Golf Course, located in the Lands of Ponahawai and Punahoa 1-2. Both projects were conducted for the KTA Consulting Group. No archaeological remains of any kind were observed during the field inspection. The inventory survey, led by Jensen, located two sites: Site 14946, a possible former residential site and associated animal shed; and Site 14947, a ditch system with one primary channel partially intact. No other surface remains were noted, and no evidence for prehistoric or early historic use of the project area was recovered.

In 1980 PHRI conducted a 100%-coverage pedestrian survey of the project area (Rosendahl 1980 [Project ARA-80-9]) on behalf of Kuuipo Resort Condominiums, Inc. The findings of the 1980 survey, which form the basis for the current investigation, noted that:

The only surface structural remains found during the archaeological reconnaissance survey were those resulting from the recent historic period occupation of the project area.

Both structural remains and modern portable cultural debris and rubbish from this recent occupation were abundant. No evidence of any surface structural remains from any prehistoric or early historic period archaeological sites was found (Rosendahl 1980:5).

During the Rosendahl (1980) survey the exposed face of the cut bank along Wailuku River was inspected. Portions of a possibly undisturbed subsurface cultural deposit were identified in the cut bank immediately behind the existing pebble beach. The apparent deposit extended along the bank for approximately 50-55 meters, along the cut face, and was restricted to the uppermost 50 cm of the face. The deposits were marked by numerous pieces of fire-cracked rock, pieces of several species of marine molluscs, candle-nut (*kukui*) shell, and a few fragments

artifacts were associated with the deposit. Two possible features were noted in the exposed bank: a small hearth or fireplace and a pavement of small, waterworn cobbles and pebbles.

SUMMARY OF HISTORICAL DOCUMENTARY RESEARCH

As part of the current project, PHRI Historical Researcher Lehua Kalima conducted limited historic documentary research on the project area (Appendix A). Included in Kalima's report are quotations from historical versions of Hawaiian legends and oral histories concerning Puueo and the Wailuku River area of South Hilo. Also included are excerpts from various ethnohistories and reports, early photographs and maps of the project area, transcripts of native testimonies for claimed lands in Puueo *ahupua'a*, and transcripts of informant interviews conducted as part of the 1980 reconnaissance survey (Rosendahl 1980). The following summarizes information in Kalima's report, and information from other sources, including Hudson (Ms.).

Puueo literally translates as "Victory Hill." In *Place Names of Hawaii* Puueo is described as an "elevated place in Hilo qd., where Kalaniopu'u built the *heiau* of Kanao (Pukui et al. 1974; Appendix A). In native histories, Puueo is mentioned in two proverbs and several legends (Appendix A), most of which center on Wailuku River as the home of Hina, the mother of the demigod Maui, and describe Maui's victory over the Long Eel, Kuna Loa.

Early historical references to the inhabitants of the Hilo area are numerous. The Reverend William Ellis, who travelled throughout much of Hawaii during the 1820s, estimated that Hilo Bay contained 400 houses, and "probably not less than 2000 inhabitants" (Ellis 1827:337-338) at the time of his visit. Menzies, another early traveler to Hawaii, provided more information concerning the location of native habitations when he wrote "round the bottom of this [Hilo] bay was a tract of low land that extended a considerable distance to the eastward and presented the most exuberant appearance, being well cultivated and adorned with beautiful groves of coconut palms and breadfruit trees amongst which were scattered the habitations of the natives" (Menzies 1920). Stewart also observed the native habitations, noting that "the habitations of the natives are seen, not in a village, but among the plantations, like farm-houses in a thickly inhabited country" (Stewart 1830:362). Based on these and his own observations, Lyman later suggested that in 1846 there were three of four thousand inhabitants in the region between Hilo and Keaau (1924:94).

Early inhabitants of Hilo apparently cultivated taro in areas along stream banks. Handy and Handy (1972) write: "On the lava-strewn plain of Waiakea and the Wailuku River, dry

taro was formerly planted wherever there was enough soil..." (Handy and Handy 1972:539). Bloxam, a naturalist aboard the *Blonde* in 1824-25, noted that "the taro is cultivated here in great quantities, not in ponds as at Woahoo [Oahu] but on dry land" (Bloxam 1925:52)—an observation which contrasts with the taro pondfields depicted in C.R. Malden's 1825 map of Hilo (Kelly and Athens 1982).

A second set of subsistence activities apparently revolved around fishponds, formed by damming streams or by building walls across coastal inlets (Hudson 1932:230). Coulter wrote that "coral reefs in Hilo Bay furnished an environment suitable to aquiculture, and fishponds there contributed to the food supply of people on this part of the coast" (Coulter 1931:28). Hudson presented the same quotation from Coulter in his book, and noted that the statement implied that fishponds were built out into the bay, which was erroneous. He further commented "There is no archaeological evidence of, and no historical reference to, any ponds built offshore. There is still much fishing in the bay from canoes and along the coast with casting nets and spears...most of the ponds seem to have been built inland in the streams" (Hudson 1932:230). Ellis also commented on fishponds, saying that Wailama and Waiakea Streams "...at a short distance from the shore, fill several large fishponds, and afterwards empty themselves into the sea" (Ellis 1831:337). Ellis noted that there were plenty of ducks in the ponds and streams as well as fish. Stewart similarly mentioned Waiakea Fishpond, visiting it two years after Ellis, calling it:

...a large fishpond, of which the creek or river is the outlet. It is a pretty sheet of water in its natural state, excepting strong stone dams, to prevent the escape of the fish. These are *tabu* to all but high chiefs; and no one of rank having lived here lately, the whole pond is literally alive with the finest of mullet" (Stewart 1830:365).

Finally, Lyman wrote:

...just after leaving the village [Hilo] we passed the royal fishponds on the left. These are connected with the bay, and contain the finest mullet in large quantity. They are *tabu* to the natives & fish from the ponds cannot be purchased at any price. The ponds are navigated by light canoes made of bark. (Lyman 1924:87).

According to Hudson's observations in the 1930s, the Waiakea fishponds had been rebuilt so frequently it was impossible to determine their original form (Hudson 1932:232).

In addition to the subsistence activities noted above, Ellis observed that trading took place in Puueo, on the banks of the Wailuku River. Trading involved goods ranging from mats and tapa to food and would take place at certain times of the year

so that people from all areas in eastern Hawaii could participate. According to Ellis there was a toll bridge on the Wailuku River during the reign of King Kamehameha I. The amount of the toll depended on the desire of the collector, who would then determine whether a person could cross the river (Ellis 1963).

Land tenure documents indicate that Kamehameha held many of the Hilo lands, supporting the historic observations that royal fishponds existed in the Hilo area. Upon his death, the Hilo lands, including Pi'ihonua, Punahoa and Waiakea, were passed to his son and heir, Liholiho, while Puueo *ahupua'a* went to a favorite wife, Kaheihemalie (Kelly *et al.* 1981:11). In 1842 Puueo was handed down to her daughter, Kekauluohi, the mother of Kamehameha V. Upon Kekauluohi's death in 1845, the lands presumably went to the crown. During the Great Mahele parcels in Puueo were sold to various claimants by Commissioners of Crown Lands (Kelly *et al.* 1981:40).

FIELD METHODS AND PROCEDURES

A 100%-coverage pedestrian survey of the project area was conducted by PHRI in 1980 (Rosendahl 1980). Due to recent clearing and initial bulldozing in the central portion of Parcel 1, however, the area was surveyed again during the current project. The second survey, which included surface collection, was conducted on July 15, 1991 by Laboratory Director Susan T. Goodfellow, Ph.D., and Laboratory Assistants Varda Zamir, B.A., and Patricia Zuccaro, B.A. The survey commenced at the edge of the parcel defined by Puueo Street and continued to the edge of the shoreline buffer zone along Wailuku River. The survey proceeded in sweeps oriented parallel to Puueo Street, and was accomplished in conjunction with a surface collection of diagnostic bottles and ceramic artifacts which could potentially aid in dating the various historic period uses of the parcel.

The subsurface testing was conducted July 15-17, 1991 and consisted of placing 11 systematically spaced backhoe trenches and four shovel tests within the shoreline buffer zone. The 1980 survey report had noted concentrations of charcoal and fire-cracked rock exposed along the river cut on the northern and western edges of the project area (Rosendahl 1980); placement of the subsurface tests was thus oriented to determine the extent and distribution of these deposits. Historic photographs of the project area (Figures A-1, A-3 in Appendix A) had indicated that several houses, as well as the Puueo Poi Factory, had been located along the shoreline of the project area, and it was hoped that subsurface testing might also confirm the locations of past historic occupation. Generally, the trenches were placed at intervals of approximately 25 ft, along the northern shoreline, above the pebble beaches, the chosen interval being based on expected size of historic period

house foundations. The backhoe could not gain access to some areas, thus in these areas the intervals were adjusted. The trenches were generally numbered consecutively, beginning at the northwestern end of the shoreline and continuing to the northeastern end.

The backhoe trenches measured 1.0 wide by 2.0 m long. The trenches were excavated to depths of 1.29-2.07 m, and were discontinued on reaching sterile river clay. The trenching was monitored for signs of cultural debris and/or dating samples, with trench excavation halted in cases where natural or cultural layers were noted. Depth ranges, thickness, and general color and texture were noted for each layer encountered; layers were recorded on standard PHRI Soil Stratigraphy forms. Soil descriptions were supplemented by notes on depositional history and the specific setting of each trench. A representative soil column, of five strata encountered in the majority of the trenches, was taken from Trench 1 and underwent laboratory analysis and description. Samples of layers exhibiting different characteristics from those encountered in Trench 1 were also collected where appropriate. All trenches were backfilled upon completion of the stratigraphy forms and completion of collection of cultural material and dating samples.

Four shovel test units were placed along the shoreline buffer zone, on the western edge of the project area (Figure 2). The units were placed at approximately 60 ft intervals along the shoreline access path to test for possible prehistoric remains and to determine whether an intact substrate relating to historic occupation existed in the uncleared portion of the project area. The units measured 50 by 50 cm. Excavation was conducted by natural layers in all units, with characteristics of each stratum being recorded on standard PHRI excavation forms. Final depths of the units ranged from 1.03-1.74 meters below datum; two of the units were terminated upon reaching a sterile clay layer, one was terminated for practical reasons (the unit became too deep to excavate from the surface), and the final unit was terminated on bedrock. Soil samples were taken from clay layers in two units and underwent laboratory analysis and description. The units were photographed, were recorded on excavation forms, and were then backfilled.

Five of the trenches and all four of the shovel units contained charcoal. Bulk samples of soil and charcoal were taken from concentrations in the trenches, and charcoal fragments were collected throughout the upper layers of the shovel test units. The samples were placed in aluminum foil packages to reduce potential contamination. The samples were then labelled with provenience information, including project number, trench number, stratum, depth, recovery code, and recorder's initials. Both soil column and dating samples were accessioned and were submitted to the PHRI laboratory at the end of the field work portion of the project.

FINDINGS

SURFACE FINDINGS

As noted, structural remains corresponding to the recent historic occupation in the project area were encountered during the Rosendahl survey (1980). Associated with the remains was abundant cultural debris. No evidence of prehistoric or early historic occupation was encountered. During the current survey, it was noted that clearing and bulldozing to prepare for construction had almost completely destroyed the evidence for the early occupation; the majority of the foundations mapped during the 1980 survey report had been destroyed (Rosendahl 1980).

Only a few structural remnants of the recent historic occupation remain. Portions of three foundations were encountered at the edge of the shoreline buffer zone; these were recorded on the excavation map presented as Figure 2. The cleared surface of the project area was then inspected for structural or cultural debris indicative of prehistoric or early historic period occupation. No evidence for this was found; however, recent historic cultural remains were present, although they had been displaced during the clearing and bulldozing.

To provide additional information concerning the length of recent occupation, and to determine whether any portable artifacts dating to the early historic period were present in the debris, diagnostic bottles and ceramic artifacts were collected from the surface of the cleared and bulldozed areas. Many artifacts were collected; several onlookers, however, informed us that the area has been a popular hunting ground for bottle collectors since its abandonment in the 1960s; the current assemblage thus may not adequately reflect the range of materials originally present in the project area. It is likely that the earlier (and thus more valuable) artifacts from the parcel have been removed.

In general, the remains found in the cleared portions of the project area reflect habitation. Most of the remains consist of glassware—liquor bottles, food jars, drinking glasses, cosmetic jars, and medicine bottles. Also present were ceramics, including porcelain plates, bowls, and cups; plastic cartons; phonograph records; nails; wood; concrete fragments; and miscellaneous paper items. The most recent debris was found at the eastern edge of Parcel 1, along Kou Lane, where local South Hilo residents have utilized the land for refuse disposal. Debris in this area ranges from liquor bottles to pieces of children's toys to fragments of shoes and clothing.

In addition to the above remains, several concentrations of recent historic remains were encountered in the shoreline

buffer zone. A shoreline access path was discovered along the western edge of Parcel 1; this path skirts the banks of the Wailuku River and has slumped in several areas due to slope wash from heavy rains. Concentrations of debris were noted primarily in these slump zones and consisted of abundant liquor and soda bottles, as well as miscellaneous metal fragments. Other than in the slumped areas, surface debris was fairly rare as compared to the central portion of the project area. A surface collection was conducted along the shoreline buffer zone. The collection was limited to bottles or other debris not encountered in the central portion of the project area.

SUBSURFACE FINDINGS

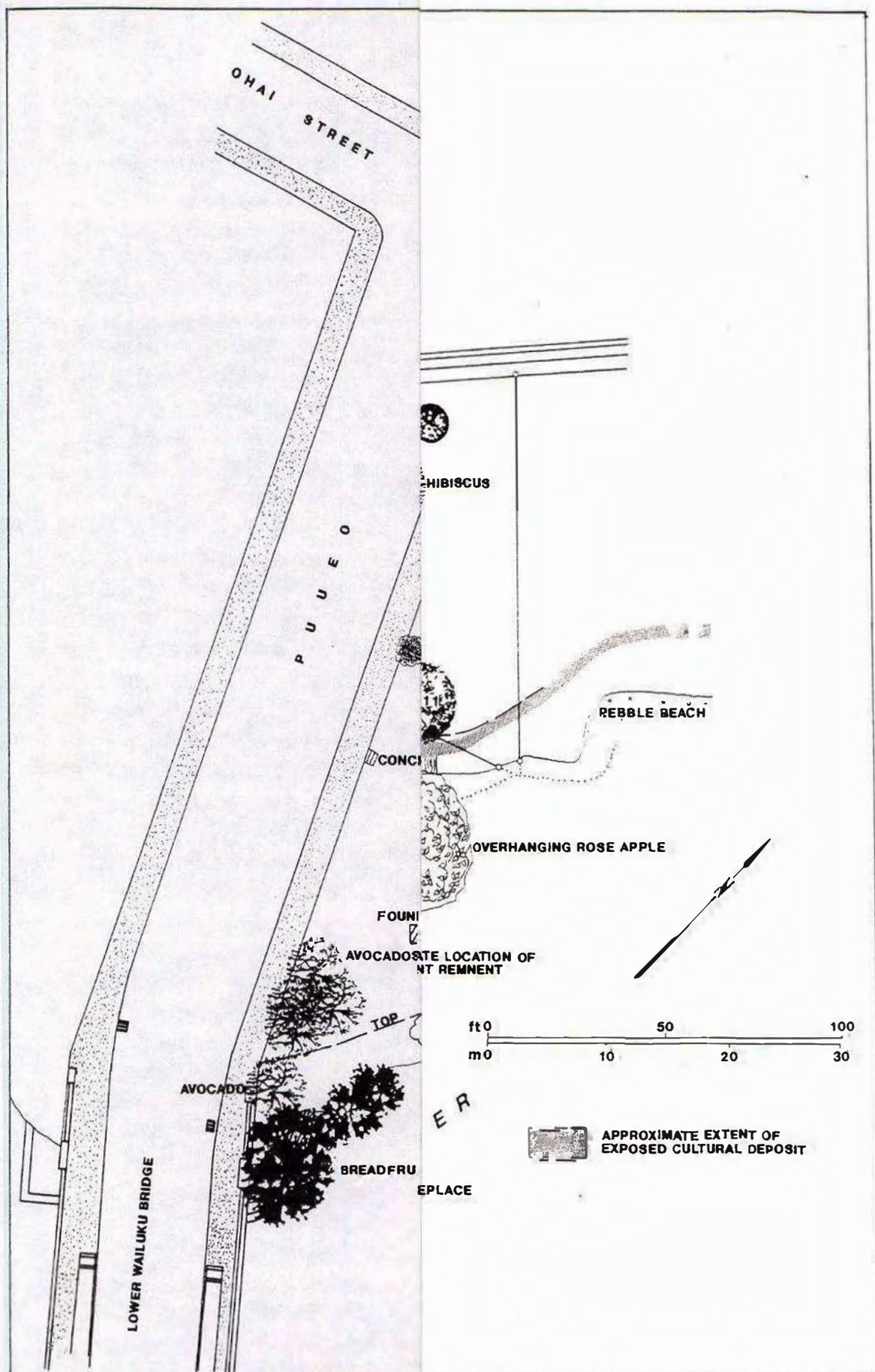
Backhoe Trenches

Eleven backhoe trenches were excavated across the project area (see Table 1 for summary of trench findings) (Figure 2.). The majority of the trenches exhibited a thick root mat in the upper layer; below this layer was disturbed soil, either from clearing, recent dumping, or slope erosion. One general profile type, consisting of 4-6 strata, was observed (Strata I-V, Table 1); variations on this profile were noted primarily in the trenches excavated furthest from the cut bank.

Cultural deposits, in the form of charcoal concentrations, were encountered in Trenches 1, 3, 4, 5, and 10 and were given horizontal feature (HF-) designations. The deposits are described as follows:

Horizontal Feature 1 (Trench 1, Stratum III) - The deposit was first noted as loose fragments of charcoal in the soil matrix of Stratum III. With increasing depth, however, the deposit exhibited greater integrity and was found to be associated with reddened soil and fire-cracked rock. The outline of the feature was traced within the trench and was determined to represent an oval measuring approximately 0.75 m wide by 1.10 m long. No artifacts or ecofacts were encountered in association with the feature. Given the general correspondence of the trench with the area of the cut bank noted to contain a probable hearth feature (Rosendahl 1980:5), this feature is interpreted as the hearth feature noted previously.

Horizontal Feature 2 (Trench 3, Stratum IV) - As with HF-1, the deposit in Trench 3 was first noted as loose fragments of charcoal in the matrix of Stratum



IV. As excavations into Stratum IV continued, the concentration became more dense and was found to be associated with several fragments of waterworn coral and some reddened soil. The outlines of the feature could not be well established as the feature continued to be somewhat dispersed; the portion exposed in the trench measured 0.94 m wide by 64 m long. The red soil graded into a red clay layer (Stratum V) at 1.40 cm below the surface. No artifacts or ecofactual remains were associated with the feature.

Horizontal Feature 3 (Trench 4, Stratum III-IV Interface) - The deposit was noted first in the lower matrix of Stratum III and continued for approximately 10 cm into Stratum IV. The feature consists of a fairly dense concentration of charcoal fragments and ash, but is not associated with the types of remains noted in HF-1 and HF-2 above. Due to the dispersed nature of the deposit, the outlines of the feature could be only generally ascertained; the feature appeared to be roughly oval and measured 0.8 m wide by 1.2 m long. No artifacts or ecofactual materials were associated with the feature.

Horizontal Feature 4 (Trench 5, Stratum IV) - An oval-shaped deposit of ash and charcoal was encountered at a depth of 1.5 meters below the surface. The majority of the feature was exposed in the trench and measured 0.70 m wide by 0.95 m long; measurements may be somewhat inaccurate due to backslide of material into the trench from the upslope end. No other cultural materials were associated with the deposit.

Horizontal Feature 5 (Trench 10, Stratum III) - The soil in Stratum III of the trench was mixed with a fairly dense concentration of charcoal from a depth of 0.88 m to 0.95 m. No discernible outline for the feature was noted either in profile or plan view; general measurements of the feature area exposed within the trench were 0.65 m wide by 1.20 m long. No cultural material was associated with the deposit.

In addition to the charcoal concentrations noted above, loose charcoal fragments were encountered in Strata I and II of Trench 1, Stratum II of Trench 2, and Stratum III of Trench 9. Samples of all charcoal deposits were submitted to the PHRI laboratory for sample preparation. Samples determined to be of sufficient size and integrity for analysis were then submitted to Beta Analytic of Coral Gables, Florida for age determination analysis. The results of the analysis are presented in the Data Analysis section.

Cobble layers were encountered in three of the trenches, providing the opportunity to determine whether the cobble layers noted in the cut bank during the 1980 survey (Rosendahl 1980) represented pavements or natural rock layers. The layers were encountered in Stratum IV of Trench 4, Stratum III of Trench 7, and Stratum IV of Trench 8. The cobble layer in Trench 4 overlaid the sterile red-brown clay noted in all of the trench units (see Table 1) and ranged from 0.35-0.65 m thick (1-5 cobbles thick). The rocks were generally waterworn, resembling the rocks of the pebble beach below, and were of various sizes. The cobble layer was exposed primarily in the northwest face of the trench and was fairly irregular in profile. No cultural materials were associated with the layer. Due to its presence immediately above the pebble beach, and the lack of cultural associations, the layer is interpreted as a natural formation, most likely an earlier layer of pebble beach. The remaining two cobble layers overlaid a layer of brown humus. Both layers were loosely consolidated and were intermixed with the reddish soil matrix from the previous layer, in a manner similar to that noted for soil/rock layers in other trenches.

No cultural material was associated with either of the layers. Given the overall similarity of these two layers to stratigraphy noted in other trenches, as well as the lack of cultural material associated with the cobbles, it is most likely that both layers are natural, and simply represent coarser versions of the stratigraphy noted elsewhere in the project area.

Portable remains, in the form of recent historic debris, were encountered in Strata I and II in Trenches 1, 2, 4, 5, 10, and 11 and consisted of the same types of materials noted in the surface findings above. The remaining strata were found to be sterile insofar as no portable remains were present. No portable remains dating to the prehistoric or early prehistoric periods were encountered in the trench excavations. Ecofactual remains, in the form of a dense concentration of *opihi* shells, were encountered in the upper 10 cm of Trench 5. A sample was collected for analysis; however, the deposit is interpreted as a recent deposit due to recent historic debris in the same stratum. Finally, waterworn coral fragments were encountered in Stratum II of Trench 2, Strata III and IV of Trench 3, and in several areas of the shoreline buffer zone between the trenches. Only the coral fragments from Stratum IV of Trench 3 were found in direct association with other cultural material (HF-2); the other coral fragments were generally isolated.

Shovel Test Units

Four shovel test units were excavated in the shoreline buffer zone along the western portion of Parcel 1. As noted in the Field Methods and Procedures section, the tests were placed to determine the nature of the stratigraphy underlying the more disturbed central portion of the project area, and to

Table 1.
SUMMARY OF BACKHOE TRENCHES

Tr No.	Strat	Depth (cmbs)	Soil Type	Comments
1	I	0-30	sicl	Very dark brown (10YR 2/2 moist); charcoal fragments, recent debris
	II	30-56	l	Dark yellowish brown (10YR 3/4 moist), charcoal fragments, w/w cobbles
	III	56-117	sicl	Very dark brown (10YR 2/2 moist); charcoal fragments, recent debris
	HF-1	102-110	cl	Dark reddish brown (2.5YR 2.5/4 moist); diffuse hearth feature with fire-cracked rocks
	IV	117-160	cl	Dark reddish brown (2.5YR 3/4 moist); sterile
	V	160-190+	c	Dusky red (2.5YR 3/2 moist); sterile
2	I	0-24	sicl	Very dark brown (10YR 2/2 moist); recent debris
	II	24-46	l	Dark yellowish brown (10YR 3/4 moist); charcoal fragments, coral, recent debris
	III	46-83	sicl	very dark brown (10YR 2/2 moist); sterile
	IV	83-110	cl	dark reddish brown (2.5YR 3/4 moist); sterile
	V	110-129+	c	Dusky red (2.5YR 3/2 moist); sterile
3	I	0-23	sicl	Very dark brown (10YR 2/2 moist); sterile
	II	23-33	l	Dark yellowish brown (10YR 3/4 moist); sterile
	III	33-122	sicl	Very dark brown (10YR 2/2 moist); coral, recent debris
	IV	122-163	cl	Dark reddish brown (2.5YR 3/4 moist); sterile
	HF-2	123-140	c	Dusky red (2.5YR 3/2 moist); charcoal, coral
	V	163-189+	sil	Black (10YR 2/1 moist); charcoal
4	I	0-35	sicl	Very dark brown (10YR 2/2 moist); recent debris
	II	35-58	l	Dark yellowish brown (10YR 3/4 moist); sterile
	III	58-135	sicl	Very dark brown (10YR 2/2 moist); sterile
	HF-3	132-135	cl	Dusky red (2.5YR 3/2 moist); charcoal concentration
	IV	95-170	k	Waterworn cobble layer; sterile
	V	170+	c	Dusky red (2.5YR 3/2 moist); sterile
5	I	0-32	sicl	Very dark brown (10YR 2/2 moist); midden, recent debris
	II	32-42	l	Dark yellowish brown (10YR 3/4 moist); sterile
	III	42-82	sicl	Very dark brown (10YR 2/2 moist); sterile
	IV	82-156	cl	Dark reddish brown (2.5YR 2.5/4); sterile
	HF-4	150-156	sicl	Very dark brown (10YR 2/2 moist); ash/charcoal concentration
	V	156-190	c	Dusky red (2.5YR 3/2 moist); sterile
6	I	0-18	sicl	Very dark brown (10YR 2/2 moist); sterile
	II	18-37	g	Dark brown (10YR 3/3 moist); sterile
	III	37-67	cl	Dark reddish brown (5YR 3/3 moist); sterile
	IV	67-140	cl	Dark reddish brown (2.5YR 3/4 moist); sterile
	V	140-161+	c	Dusky red (2.5YR 3/2 moist); sterile
7	I	0-28	sicl	Very dark brown (10YR 2/2 moist); sterile
	IA	28-37	g	Very dark gray (10YR 3/1 moist); sterile
	II	37-55	l	Dark yellowish brown (10YR 3/4 moist); sterile
	III	55-80	k	Waterworn cobble layer; sterile
	IV	80-128	sil	Very dark brown (10YR 2/2 moist); sterile
	V	128-173	sicl	Very dark grayish brown (10YR 3/2 moist); sterile
	VI	173-195+	c	Dusky red (2.5YR 3/2 moist); sterile

Table 1. (cont.)

Tr No.	Strat	Depth (cmbs)	Soil Type	Comments
8	I	0-23	sicl	Very dark brown (10YR 2/2 moist); sterile
	II	23-83	l	Dark yellowish brown (10YR 3/4 moist); sterile
	III	83-104	sic	Dark brown (7.5YR 3/2 moist); sterile
	IV	104-138	k	Waterworn cobble layer; sterile
	V	138-163+	c	Dusky red (2.5YR 3/2); sterile
9	I	0-15	sicl	Very dark brown (10YR 2/2 moist); sterile
	II	15-20	l	Dark yellowish brown (10YR 3/4 moist); sterile
	III	20-83	c	Dark reddish brown (2.5YR 3/4 moist); charcoal
	IV	83-119+	c	Dusky red (2.5YR 3/2 moist); sterile
10	I	0-38	sicl	Very dark brown (10YR 2/2 moist); recent debris
	II	38-88	l	Dark yellowish brown (10YR 3/4 moist); sterile
	III	67-150	sicl	Very dark brown (10YR 2/2 moist); sterile
	HF-5	67-75	sicl	Dusky red (2.5YR 3/2 moist); charcoal concentration
	IV	150+	kcl	Dark reddish brown (2.5YR 3/4 moist); sterile
11	I	0-40	sicl	Very dark brown (10YR 2/2 moist); recent debris
	II	40-113	l	Dark yellowish brown (10YR 3/4 moist); recent debris
	III	113-181	sicl	Very dark brown (10YR 2/2 moist); sterile
	IV	181-207	c	Dusky red (2.5YR 3/2 moist); sterile

Table 2.

SUMMARY OF SHOVEL TEST EXCAVATIONS

Unit	Depth Strat	Soil (cmbd)	Type	Comments
ST-1	I	46-87	sicl	Very dark brown (10YR 2/2 moist); charcoal, recent debris
	II	85-120	l	Dark yellowish brown (10YR 3/4 moist); charcoal, recent debris
	III	113-135+	sic	Very dark grayish brown (10YR 3/2 moist); sterile
ST-2	I	42-69	sicl	Very dark brown (10YR 2/2 moist); charcoal, recent debris
	II	58-103	l	Dark yellowish brown (10YR 3/4 moist); charcoal, recent debris
	III	95-103+	sic	Very dark grayish brown (10YR 3/2 moist); sterile
ST-3	I	87-126	sicl	Very dark brown (10YR 2/2 moist); charcoal, recent debris
	II	116-174+	l	Dark yellowish brown (10YR 3/4 moist); charcoal, recent debris
ST-4	I	108-134	sicl	Very dark brown (10YR 2/2 moist); charcoal, recent debris
	II	128-134+	BR	Bedrock

disturbed central portion of the project area, and to ascertain whether any prehistoric or early historic period remains were present in this portion of the project area. A summary of the shovel test units is presented in Table 2. Excavation of all four units revealed the same Strata I and II noted for the backhoe trench units above, and contained recent historic debris and scattered fragments of charcoal throughout the strata. Shovel Test Units 1 and 2 were terminated when a sterile mottled clay layer was encountered; this clay appears to be a C-horizon produced by decomposition of the underlying bedrock. Shovel Test Unit 3 was terminated in Stratum II at a depth where charcoal and recent debris were no longer present, and when the depth of the pit made further excavation of it difficult. Shovel Test Unit 4 was terminated on bedrock. No cultural remains from the prehistoric or early historic period were encountered in the shovel test units. Those cultural layers which were encountered contained the same type of recent debris encountered elsewhere in the project area, and appeared to be the result of secondary deposition from slopewash and slumping. As with the trench units, samples of the soil layers and charcoal were collected for analysis. All artifacts were collected by stratum, were recorded on the excavation form, and were submitted to the PHRI laboratory for analysis. The results of the analysis are presented in the Data Analysis section.

Monitoring of Foundation Coring Operations

In addition to conducting the inventory survey, PHRI monitored a coring project conducted by Geolab, Inc. The

coring, requested by the client, was done to test for foundation stability. The purpose of the monitoring was to determine presence/absence of additional subsurface cultural remains in the area. The cores were placed primarily in those areas already tested by PHRI during the inventory survey, and were designed to take samples only to depths of 5-6.5 ft, 10-11.5 ft, and 15-16.5 ft below surface (Figure 1). Cultural material in the form of a single charcoal sample was encountered in Core #6 (see map) at 10-15 ft below surface, indicating the potential for deeper remains beneath the untested portions of the project area. Unfortunately, the sample was too small to submit for age determination analyses. The remaining core samples were culturally sterile.

In order to determine the presence /absence of subsurface cultural remains associated with the sample taken from Core #6, and to obtain a larger sample if possible, a final backhoe trench was excavated in the immediate area of the core. The trench was oriented perpendicular to Puueo St. and extended approximately 2.5 meters to either side of the core hole. Excavation revealed a layer of disturbed, compacted clay and recent debris, extending from the current ground surface to a depth of 2.1 meters, underlain by an intact natural grey clay layer. This lower layer contained increasing amounts of decomposing bedrock with depth, and was heavily mottled in places. The excavation terminated at a depth of 4.4 meters and was determined to be sterile. based on the findings of this excavation, the charcoal sample encountered in Core #6 is interpreted as intrusive.

DATA ANALYSES

AGE DETERMINATIONS

Objectives and Methods

The purpose of age determination analysis is to provide initial chronological data to aid in assessing the relative significance of sites in the project area. Six samples of charcoal were chosen from discrete cultural deposits within Site 15415 for age determination using radiocarbon analysis. Samples were selected based on the amount and nature of datable material present, stratigraphic context, and overall distribution within the project area. The samples were submitted for radiocarbon analysis to Beta Analytic Inc. of Coral Gables, Florida.

Using standard procedures, the samples were pretreated with an acid, alkali, acid series of soakings to remove carbonates and humic acids. After pretreatment, samples were combusted to form carbon dioxide gas, were combined with lithium to separate the carbon, and were hydrolized for conversion to liquid form. The liquid was then catalyzed to form benzene and was placed in a liquid scintillation counter to determine the amount of carbon-13 and carbon-12. Due to small sample size, three of the samples were given extended counting to reduce statistical errors associated with small samples. The isotope values obtained during the counting process were then used to calculate the carbon-13 carbon-12 ratio for each sample, with the final result being determined relative to international standards in order to reduce errors produced by carbon isotope fractionation. Processing of the samples proceeded normally.

Results

The results of the radiocarbon age determination analyses are summarized in Table 3. The age for each sample is reported as a range corresponding to the calendric age $\pm$ two standard deviations. Ages were calibrated using the tables provided in Stuiver and Pearson (1986), which correct for variations in atmospheric carbon over time.

According to Table 3, samples RC-1174, -1175, -1173, and -1172 yielded definitive age ranges after calibration, while samples RC-1169 and -1170 produced multiple age ranges. Multiple ranges are caused by "flat" regions in the calibration curve, which correspond to periods when atmospheric carbon decreased at a rate greater than 1.2 ppm 10 years, resulting in more than one possible fit of a sample to the calibration curve. While multiple age ranges are more difficult to interpret archaeologically, detailed examination of the statistical curves, combined with evidence from artifactual material and feature stratigraphy, generally provides a means of selecting one age

range as more probable than the others. Based on these criteria, the most likely age range for samples RC-1169 and -1170 are AD 1390-1950 and AD 1400-1670, respectively.

With the exception of the result for RC-1175, which is discussed in more detail below, the results of the age determination analysis are generally consistent with the stratigraphic relationships of the samples. Two of the four age ranges derived from the hearth features (RC-1173 and -1170) fall between AD 1400-1670; an age range which is consistent with the depth of the samples and the apparent prehistoric nature of the hearth features. The results for RC-1169 (Horizontal Feature 1, Backhoe Trench 1) provided a much larger error range for the sample; however, examination of the one-sigma values for RC-1169 indicates that there is a 90% probability that the actual age of the sample falls between AD 1440-1670; the sample therefore provides an age range consistent with the other hearth features. The age range for the fourth hearth feature (HF-4, Backhoe Trench 5) is potentially later than the others, indicating occupation of the project area at sometime between AD 1640-1822 (69% probability at the one-sigma level), although there is a potential overlap of the four age ranges between AD 1640-1670.

The age range for RC-1174 (Layer I/II of Shovel Test 1) is consistent with the sample depth, and provides age limits for the disturbed material overlying the majority of the project area. The one-sigma values indicate that there is a 67% probability that the sample is post-Contact in age (AD 1803-1950); suggesting that historic period occupation of the area may predate the recent debris encountered on the surface.

Finally, the age range for RC-1175 represents the only inconsistent result of the age determination analysis. The sample, which was collected throughout Layer II of Shovel Test 3, was associated at all levels in the layer with historic debris; suggesting that the layer had been deposited primarily by the action of slope wash. The age range of 8350-8630 BC indicated by the age determination analysis is thus inconsistent with the interpretation of the layer as well as with the AD 1650-1950 age range provided by RC-1174, from a depositionally similar context. Based on this information, the age range may be interpreted in one of two ways: (1) the sample is not associated with human activity, but instead dates an earlier event (e.g., a forest fire); or (2) the sample has been contaminated in some manner; thereby providing an anomalously early result in terms of artifactual associations and stratigraphic position. Without further information concerning potential sources of contamination and/or a natural history of the project area, however, both of these explanations remain speculative.

Table 3.
SUMMARY OF RADIOCARBON AGE DETERMINATIONS

PHRI Lab.No. RC-	Lab. No. BETA-	Provenience	C-14 Age Yrs. B.P. (one sigma)	C-13/ C-12 Ratio	C-13 Adjusted C-14 Age Yrs. B.P	*Calendric Range Yrs. AD
SITE 15415						
1174	46369	ST-1, Layer I/II, 39-89 cmbs	180 ± 70	-28.7	120 ± 70	1650-1955#
1175	46370	ST-3, Layer II, 29-101 cmbs	10440 ± 70	-25.2	10440 ± 70	8350-8630 BC
1173	46368	BT-10, HF-5, Layer III, 88 cmbs	440 ± 80	-28.6	380 ± 80	1410-1660
1169	46364	BT-1, HF-1, Layer III, 102 cmbs	350 ± 130	-26.9	320 ± 130	1328-1333 1390-1950
1170	46365	BT-3, HF-2, Layer IV, 123 cmbs	440 ± 90	-29.3	370 ± 90	1400-1670 1773-1793 1948-1953
1172	46367	BT-5, HF-4, Layer IV, 150 cmbs	180 ± 70	-26.5	160 ± 70	1640-1950

* Calibrated according to Stuiver and Pearson (1986). Range at two sigmas.

* Denotes influence of bomb C-14.

PORTABLE ARTIFACTS

A total of 264 artifacts, including one possible basalt flake and 263 non-indigenous artifacts of recent historic age were encountered in the project area during the current investigation. The assemblage, which includes a range of construction materials, tools, domestic and recreational items, items of personal adornment, and miscellaneous items, derives from the disturbed surface and subsurface portions of the project area. A detailed tabulation of non-indigenous artifacts by provenience is presented in Table 4.

Construction Materials

Twenty items related to construction were encountered in the project area. The assemblage includes a metal hinge, 11 metal nails or nail fragments, three porcelain insulators, and three porcelain fixtures. The hinge, which derives from Layer I of Shovel Test 1, measures 35.2 mm by 27.1 mm and is slightly corroded. It appears to be a door hinge. The nails vary in size and condition, with the largest nail measuring 11.8 cm in length and 1.5 cm in head diameter. The nails appear to be common flat headed nails, and are generally corroded. The insulators are identical in size, measuring 4.2 cm by 3 cm by 7 cm, and are manufactured of industrial grade white porcelain. All of the insulators are in good condition. Finally, the fixtures include two fragments of a wall mount light fixture and one fragment of a probable bathroom fixture. The light fixture measures 9 cm in diameter and was manufactured of industrial grade porcelain by the Bryant Co. (U.S.A.). The fixture is embossed with "660 w 250 v" to indicate maximum voltage limits and has a registration number incised on the back. Together, the two fragments represent approximately 80% of the complete fixture. The remaining fixture fragment is also manufactured of industrial grade porcelain. The fragment is highly glazed/polished on the upper surface and sides, indicating that these were visible when the fixture was installed; the remaining face is unglazed. The undamaged portion of the fragment exhibits a bevelled corner and an inset area with a hole for a screw or nail. The inset area is squared on the outer face of the fixture and circular on the opposite face. The fixture has no other diagnostic features. It measures 8 cm by 5.2 cm by 3.1 cm.

Domestic Items

A total of 215 items potentially related to domestic activities were encountered in the project area. The assemblage, which includes glassware, porcelain, other ceramics, and a range of metal items, was derived primarily from the disturbed portions of the project area as part of the surface collection. Bottle and glassware classification systems and descriptive terminology are adapted from several sources, including Fike (1987), Carter

(1976), and Munsey (1971). Ceramic and porcelain classification systems are adapted from Burton (1904), Bemrose (1950), and Shepard (1968). The assemblage is described by material type below.

Glassware

Glassware is the largest category of materials in the domestic assemblage, and consist of 14 bottles, 30 bottle fragments, four cosmetic jars, one bowl fragment, three dish fragments, a flask, three jars and three jar fragments, a light bulb, two plate fragments, two bottle stoppers, two drinking glass fragments, and 106 glass fragments from unidentified vessels.

By type, the bottle inventory includes three soda bottles, two beer bottles, a wine bottle, a large wine jug, three prescription bottles, four specialty bottles, and one bottle of uncertain function. All of the bottles were manufactured using an Automatic Bottle Machine, and thus date to post-AD 1900. Specimen #23 is a perfume bottle manufactured of clear glass. It has an excelsior base which is slightly concave in cross section, and has squared shoulders, four side panels, and a patent neck finish requiring a stopper. The bottle is undecorated and measures 6.1 cm by 3.1 cm wide by 2 cm thick. Specimen #44 is a cologne bottle manufactured of clear glass. In plan view, the base is a monarch oval with a slightly concave cross section. The bottle has squared shoulders and four side panels, two of which are indented, and a small mouth external thread finish. The base is embossed with "Mennen..4..W..50"; the bottle is also decorated with a series of raised lines parallel to the base. It measures 12.6 cm by 8.5 cm by 3 cm. Specimen #62 is a 6 oz soda bottle manufactured of pale green glass. It has a round base which is slightly concave in cross section, and has low shoulders and a crown neck finish. The shoulders are embossed with the Coca-Cola trademark and patent information; the neck and skirt of the bottle are fluted. The bottle measures 19.5 cm high by 6 cm in diameter at base.

Specimen #64 is a small 4 oz soda bottle manufactured of clear glass. It has a round base which is slightly concave in cross section, and a crown neck finish. It is embossed with a "2" on the base, but is otherwise undecorated. It measures 14.1 cm by 5.1 cm in diameter at the base. Specimen #68 is a Clorox bottle manufactured of brown glass. It has a round base which is slightly concave in cross-section, and has high rounded shoulders, straight sides, and a variant of the stacked ring neck finish. It is embossed with the manufacturer name and "16 oz." around the shoulders and base; the base is embossed with the manufacturer's trademark and registration, and with patent information. The bottle measures 20 cm by 7.6 cm in diameter at the base. Specimen #73 is a two liter wine jug manufactured of pale green glass. It has a round base which is flat in cross section, a wide-

Table 4. (cont.)

CATEGORY	15415 Buckbee Surface Collection		Trench BT-1		III	Sub Total	BT-2	II	III	Sub Total	BT-3	BT-4	BT-5	BT-10	BT-11	BT Total	Shovel Test		II	ST-2	ST-3	II	Sub Total	ST-4	ST Total	Grand Total
	I	II	I	II													ST-1	ST-1								
DOMESTIC ITEMS																										
Ceramic	4	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	6
Bowl Fragments	1	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	1
Cup Fragments	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	2
Platter Fragments	1	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	1
Plate Fragments	4	-	-	-	-	0	2	-	-	2	-	-	1	1	-	4	5	-	-	-	-	-	3	-	8	16
Unidentified Fragments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bottle	5	-	1	-	-	2	2	-	-	2	-	-	2	-	1	6	-	-	-	-	-	-	1	-	3	14
Bottle Fragments	19	-	-	-	-	1	1	-	-	1	-	-	-	-	-	1	1	3	1	6	-	-	11	-	31	
Bowl Fragments	-	-	1	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	1
Ceramic Jar	4	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	4
Dish Fragments	1	-	1	-	-	1	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	0	-	0	2
Flask	1	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	1
Jar	1	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	1
Jar Fragments	1	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	1
Jug	1	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	1
Light Bulb	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	2
Plate Fragments	2	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	2
Stopper	2	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	2
Unidentified Fragments	3	-	-	-	-	0	-	-	-	0	-	-	1	-	-	1	32	-	-	-	-	-	34	-	102	106
Vase	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	0	-	0	1
Water Glass Fragments	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	2
Metal	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	0
Jar Lid	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	1	-	1	1
Porcelain	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	7
Bowl Fragment	6	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	4	5
Unidentified Fragments	1	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	1
Bakelite	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	2
Knob	1	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	0
SUBTOTAL DOMESTIC ITEMS	57	2	2	4	2	4	5	0	2	5	1	5	1	1	18	41	3	1	1	0	1	140	0	140	215	
RECREATION																										
Glass	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	1	-	3	6
Marbles	2	-	-	-	-	0	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	0	-	0	1
Plastic	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	0	-	0	1
Gun Grip	2	-	-	-	-	0	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	-	0	-	0	7
SUBTOTAL RECREATION	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0	7
WEAPONS																										
Bullets	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	1	1
Metal	0	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	0	0
SUBTOTAL WEAPONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
MISCELLANEOUS																										
Graphite	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	1	-	1	1
Battery	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	1	-	1	1
Metal	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	1	-	1	1
Clump	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	2	-	6	7
Fragments	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	1
Rubber	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	1
Fragments	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	-	1	-	4	6
SUBTOTAL MISCELLANEOUS	0	0	2	2	2	2	1	0	0	1	0	0	0	0	0	3	1	6	2	3	1	5	0	12	15	
TOTAL NON-INDIGENOUS	64	2	4	6	6	6	6	2	4	12	1	1	7	1	1	29	49	47	12	59	12	47	71	3	170	263
TOTAL	64	2	4	6	6	6	6	2	4	12	1	1	7	1	1	29	49	47	12	60	12	47	72	3	171	264

mouth external thread, and high rounded shoulders. There is no decoration except for a handle on the upper body. The specimen is embossed on the base with the manufacturers trademark, and measures 30 cm by 16 cm in diameter.

Specimen #78 is a probable soda bottle manufactured of clear glass. It has a round base which is slightly concave in cross-section, a crown neck finish and low shoulders. It is embossed on the base with "Duraglass" plus patent information, and has a painted label with the words "Suqi Soda works..." on the front. The bottle measures 25 high cm by 5.8 cm in diameter. Specimen #79 is a cologne bottle manufactured of clear glass. The base is a variant of a Union oval in plan view and is flat in cross section. The neck has a small mouth, external thread finish. The bottle is decorated with raised parallel lines on the shoulders and skirt and is embossed on the base with the word "Wildroot." It measures 10.5 cm by 5.7 cm by 2.4 cm. Specimen #83 is a perfume bottle manufactured of clear glass. It is four sided, with a Hopkins square base profile and a small mouth, external thread neck finish. The bottle is undecorated, and is embossed with a "23" on the base. It measures 3.7 cm by 2.3 cm by 2.3 cm. Specimen #84 is a bottle of unknown function which may have contained beer or oil. It is manufactured of dark brown glass, and has a round base with a pontile. The neck is finished with a small mouth external thread, and the shoulders are high and rounded. It is embossed with "4/5 quart" around the shoulders, and with the manufacturers trademark on the base. The bottle is decorated with raised vertical lines on the neck and upper shoulders, as well as double horizontal bands parallel to the base at the shoulder below the embossing and again at base of skirt. It measures 28.5 cm by 8.1 cm in diameter.

Specimen #85 is a prescription bottle manufactured of clear glass. The base is a Buffalo Oval in plan view, and is flat in cross section. The neck has a small mouth, external thread finish and ends in high squared shoulders. The bottle is embossed with measuring lines and volume (ounces) notations on the front and sides, and with the manufacturers trademark "Owens" on the base. It measures 8.4 cm by 3.8 cm by 2.5 cm (Figure 3). Specimen #104 is a beer bottle manufactured of brown glass. Morphologically, it has a round base which is slightly concave in cross section, a crown neck finish, high rounded shoulders, and a jointed neck. The bottle is embossed with a manufacturers trademark and patent information on the base, and measures 17.5 cm in height by 7 cm in diameter. Specimen #105 is also a beer bottle, manufactured of amber glass. It has a round base which is flat in cross section, a crown neck finish, and low shoulders. The body is textured and embossed around the shoulders with the words "no deposit, no return, not to be refilled." The trademark and patent information are embossed on the base. The bottle measures 17.5 cm by 7 cm in diameter. Finally, Specimen #143 is a prescription/iodine

bottle manufactured of brown glass. The base is a French square in plan view and is slightly concave in cross section. The neck is finished with a small mouth external thread and ends in high rounded shoulders. The base is embossed with the manufacturer's trademark. The bottle measures 7.7 cm by 3.1 cm by 3.1 cm.

Seven of the bottle fragments are portions of mouths, necks, or shoulders; 17 are base portions, and six are body fragments. Base fragments include one oval and 12 round base profiles; where enough of the base is retained to determine cross-sectional shape, bases are flat or slightly concave. Mouth/neck fragments include one crown neck, two wine necks, and two unknown neck finishes. Twenty of the fragments are embossed—one on the back, one on the front, five horizontally, two vertically, and four on the base. The fragments are clear (14), pale green (3), olive green (3), blue (5), and amber (5). The fragments vary in shape and size. Four of the fragments are from soda bottles, five are from beer bottles, and one is from a wine bottle. The remainder of the fragments could not be matched with bottle types.

The four cosmetic jars were collected from the disturbed portion of the project area during the surface collection. The first cosmetic jar is complete and is made of clear glass. The jar base is footed, with a round plan view and slightly concave cross section. The neck is finished with a wide-mouth, external thread. The jar was decorated with paint, as there are remnants of pale green paint between the neck and foot. The jar is also elaborately fluted between the neck and foot. Mold lines extending from the neck to the base indicate that the jar was manufactured by an automatic bottle machine, thus placing the age of the jar after AD 1903. The jar most likely contained cream or powder. It measures 4.5 cm high and 5.1 cm in circumference. The second cosmetic jar is of opaque white glass and is complete and in good condition. The jar base is plain oval in plan view and has a single-piece molded foot. "Pond's 31-8" is embossed on the base, indicating the manufacturer's name. The neck is finished with a wide-mouth, external thread, while the shoulders are slightly squared. The vessel is undecorated, and measures 4.7 cm by 4.6 cm by 3.8 cm. It most likely contained facial cream. The third and fourth specimens are essentially identical except for size; the third measures 2.8 cm by 5.2 cm in diameter, while the fourth measures 2 cm by 4.4 cm in diameter. Both are made of opaque white glass and are in good condition. The jar necks are finished with wide-mouth external threads; the bases are round in plan view and are slightly concave in cross section. Neither of the jars are embossed or decorated. The larger of the two probably contained facial cream, while the smaller could have contained any one of a number of cosmetics.

The glass bowl fragment is from Layer I of Backhoe Trench 1. The specimen is of clear glass and appears to be a

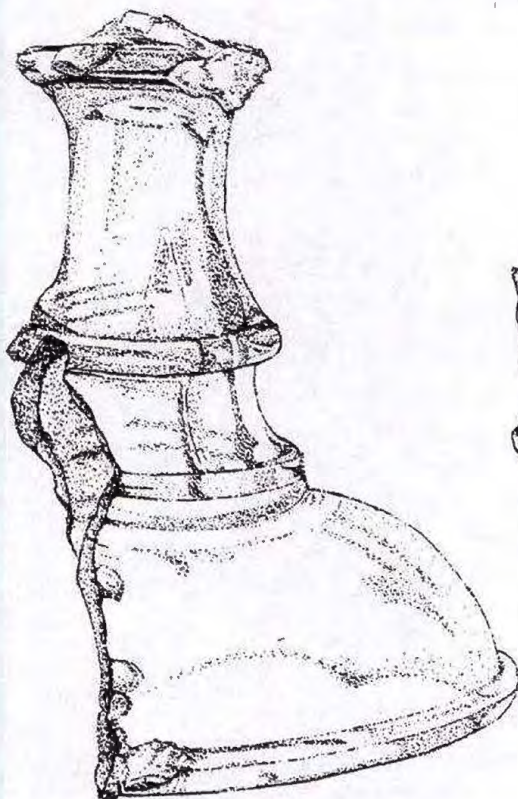
ALL ARTIFACTS 3/4 ACTUAL SIZE



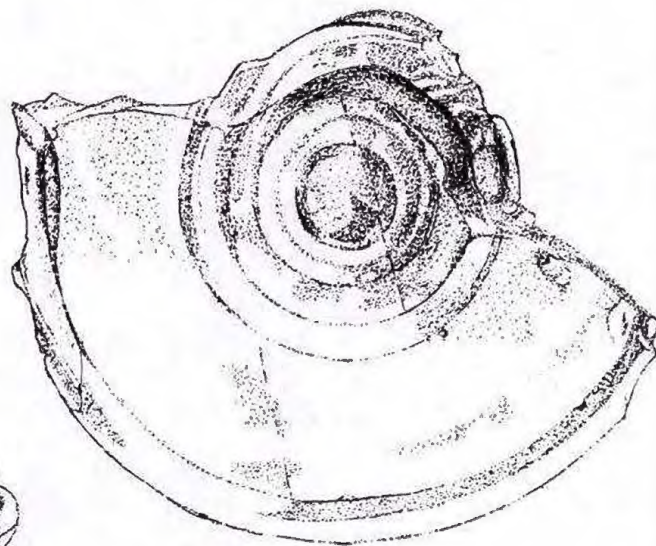
GLASS PRESCRIPTION BOTTLE



BOTTOM VIEW



GLASS FRAGMENT (POSSIBLE COVER)



BOTTOM VIEW

Figure 3. Artifact Illustrations

fragment of a large decorative bowl. The exterior surface is decorated with a series of raised floral designs on a stippled background; the interior is undecorated. The fragment measures 20 cm in diameter.

One of the two dish fragments was collected from the disturbed portion of the project area as part of the general surface collection, while the second fragment is from Layer III of Backhoe Trench 1. The former is a fragment of a candy dish, and may represent either a portion of the dish base or the dish cover. It is manufactured of clear glass and has several molded segments (see Figure 3). It measures 13 cm in diameter at the top/base and tapers to a diameter of 4.2 cm at the opposite end. The second dish fragment is also of clear glass, and appears to be a portion of a candy dish cover. The base of the specimen is decorated with a frosted/sandblasted band parallel to the base, while the opposite end of the specimen is molded and scalloped. It measures 5.2 cm high and 10.1 cm in diameter at the base.

The flask was collected from the disturbed portion of the project area as part of the general surface collection. The specimen, which is a portion of a chemist's flask, includes the base, body and neck portions but lacks the upper neck and mouth. The portion is made of clear glass and measures 7.4 mm in height and 4.6 cm in diameter at the base. The flask holds approximately 2 ounces of fluid.

The complete jars are all made of clear glass. One of the jars is from Layer I of Backhoe Trench 1, while two are from Layer II of Shovel Test 3. Two of the jar bases are oval with flat cross sections, while the third is round with a flat cross section. All are straight-sided; two have squared shoulders and one has rounded shoulders. All three also have wide-mouth external thread neck finishes. One of the jars is embossed with a trademark on the base. As with the bottles, all of the jars were manufactured in an Automatic Bottle Machine sometime after AD 1903. The jars range in height from 4.5-9.1 cm and from 4.3-7.6 cm in diameter.

The jar fragments include a mouth/neck fragment, a mouth/neck/shoulder fragment, and a body fragment. The fragments vary in size and shape. Two are made of clear glass while the third is made of opaque white glass. The mouth/neck fragments exhibit wide-mouth, external thread finishes; the fragments are otherwise morphologically non-diagnostic.

The light bulb is from Layer II of Shovel Test 3. It is complete except for a threaded base, and appears to be a low wattage, decorative bulb, similar to those used in wall sconces or chandeliers. It is widest at the base and tapers to a point at the opposite end. The bulb is fluted from base to point. It measures 5 cm in height and 1.7 cm in diameter at the widest point.

The two glass plate fragments were collected as part of the general surface collection. One of the fragments is an opaque yellow rim sherd, with a rim diameter of 11 cm. The interior of the sherd is slightly fluted and has an incised band around the rim. The fragment is otherwise undecorated. The second plate fragment is of white opaque glass, and includes portions of the rim, body, and base. The fragment is undecorated, and has a rim diameter of 22.5 cm. Both fragments are from utilitarian rather than special occasion ware.

Two glass stoppers were collected from the disturbed surface of the project area during the general surface collection. One stopper is made of translucent pale green glass and is complete. It is fairly thick and short, indicating that it was used for a wide-mouthed vessel. It is flat-topped and undecorated, and measures 1.3 cm high by 4.3 cm in diameter.

The second stopper is made of clear glass and is complete. It has a knob or globe on the top and two small knobs on the base, which may have acted as threads when inserted into the bottle. The stopper is made using a three-piece mold, and measures 2.5 cm high by 3.2 cm in diameter.

One of the drinking glass fragments is from Layer I of Backhoe Trench 5. The specimen is in good condition and includes a portion of the rim and the body. It is manufactured of thin clear glass. Judging by the curvature of the fragment, the diameter of the original glass was 7 cm. The original height and volume of the glass cannot be determined from the fragment. A second drinking glass fragment is from Layer II of Shovel Test 3 and is more complete, consisting of the entire rim and approximately 40% of the body. It is manufactured of medium strength clear glass and has a rim diameter of 6.7 cm. The original height and volume of the glass are indeterminate.

The non-diagnostic glass fragments are all body fragments which cannot be classified further. Seventy-one of the fragments are of clear glass, three are of green glass, three are of blue glass, 18 are of amber glass, three are of lavender glass, and nine are of opaque white glass. The fragments vary in size and shape.

Ceramics

The ceramic inventory includes six bowl fragments, a cup fragment, a jar fragment, two planter fragments, a plate fragment, and 17 fragments from unidentified vessels. The bowl fragments, which are from four vessels, are manufactured from a fine white paste. Specimens 11 and 38 are rim sherds from the same vessel. Both fragments are finished with a high gloss white glaze on the interior and exterior surfaces, and have a painted wheat sheaf design on the exterior. The rim curvature of the fragments indicates an original vessel diameter of 8.2 cm.

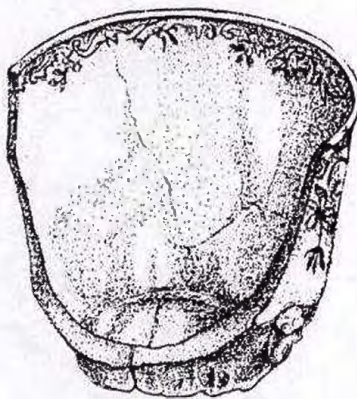
ALL ARTIFACTS 3/4 ACTUAL SIZE



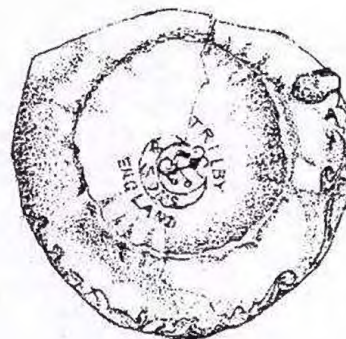
BAKELITE-TYPE PLASTIC KNOB



BOTTOM VIEW



FRAGMENT OF HAND PAINTED PORCELAIN CUP



BOTTOM VIEW



PORCELAIN VASE, HAND DECORATED



BOTTOM VIEW

Figure 4. Artifact Illustrations

Specimen 39 is from a small bowl with a restricted mouth (diameter 6 cm). The exterior is textured to resemble a woven basket and is finished with a brown glaze, while the interior is finished with a high gloss white glaze which is cracking with age. Specimen 51 is a rim sherd from a bowl which measured 8 cm in diameter. The exterior surface of the sherd is decorated with a blue transferprint design which depicts an abstract to geometric motif along the rim and a landscape scene on the body. The interior surface is finished with a white glaze that has crackled with age. Finally, Specimen 120 consists of a rim sherd and a small body fragment from a bowl which measured 8.5 cm in diameter. The fragments are decorated with a raised floral design parallel to the exterior rim; the subsequent weathering of the fragments has made the actual pattern indistinct, however. Both the interior and exterior surfaces of the fragments are finished with a pale ivory glaze that has crackled with age.

The cup fragment constitutes approximately 60% of a china teacup manufactured by Trilby & Sons of England. The cup measures 6.7 cm in diameter, and is slightly fluted around the base. The handle of the cup has broken off, leaving a small fragment that indicates the handle was attached to the cup rather than molded as one piece with the cup. A green floral design has been painted on both the interior and exterior of the cup (Figure 4). The cup is finished with a high gloss clear glaze on all surfaces.

The jar fragment constitutes approximately 50% of a small jar or container. The specimen (#32) is manufactured from a fine white paste and is finished on both interior and exterior surfaces with a high gloss white glaze. The base of the specimen is unglazed and exhibits faint concentric circles indicative of wheel manufacture. The lip of the vessel is indented, suggesting that the vessel was used along with a lid of some sort. The vessel is undecorated and measures 5 cm in diameter.

One of the planter fragments (#150) constitutes approximately 50% of the base of a two-piece planter. The specimen is manufactured of a medium textured tan paste, and is finished on the interior and exterior with a high gloss ivory glaze. The lip of the specimen is unglazed, as is the portion of the body immediately under the rim; the rest of the vessel has crackled with age. The specimen measures 21 cm in diameter and 4 cm high. The second planter fragment is a rim sherd of an undecorated terra cotta planter. The fragment is too small to determine the original vessel diameter and does not include sufficient portions of the body to indicate whether it derives from a planter or a planter base.

The plate fragment is a base and body fragment from a plate of indeterminate size. The fragment is manufactured from a fine white paste and is finished on both surfaces with a high gloss white glaze which has crackled with age. The

specimen is footed with a single-piece molded foot, but is otherwise undecorated.

The unidentified vessel fragments include six rim sherds and 11 body sherds, three of which are extremely waterworn. Three of the rim sherds and four of the body sherds are manufactured of fine white paste; two of the rim sherds and seven of the body sherds are manufactured from a medium textured tan paste; and one rim sherd is manufactured from a coarser tan earthenware. The majority of the sherds are glazed on the interior and exterior surfaces. The glazes range in color from white/ivory (10), tan (1), brown (1), and green and brown (1), and indeterminate (4); most exhibit age cracks. Two of the sherds are painted, one with an abstract blue design on the exterior, and one with a pink floral design and green bands parallel to the interior rim. A third sherd is decorated with a blue geometric transferprint on the interior surface. The remaining sherds are undecorated. Vessel diameters, as indicated by rim sherd measurements, range from 8-20.5 cm. The body sherds range from 1.5-10.1 cm in length.

Metal

The single metal item in the domestic assemblage is a metal jar lid from Layer II of Shovel Test 2. The lid is fragmentary and extremely corroded. It measures 2.6 cm high by 6.7 cm in diameter.

Porcelain

The porcelain inventory consists of seven bowl fragments and five fragments from unidentified vessels. All of the bowl fragments and four of the five unidentified fragments are manufactured from a medium grade white porcelain which is finished with a high gloss clear glaze on both interior and exterior surfaces. Specimen #35 is comprised of two body/base/foot fragments and one rim sherd, all from the same bowl. An abstract leaf design has been painted on both exterior and interior rims; a series of parallel blue lines extend from the vessel rim to above the base on both the interior and exterior surfaces. The rim is irregularly shaped, preventing accurate measurement of the original vessel diameter. Specimen 3, a body/base/foot fragment, is decorated with brown and green transferprint designs. The exterior exhibits both colors in a series of abstract patterns, while the interior is marked by a simpler brown geometric design. A brown transferprinted maker's mark is visible on the base, and retains portions of Japanese characters; suggesting a Japanese origin for the vessel. Specimen #95, a rim sherd, exhibits an abstract design in blue paint beneath the glaze on the exterior of the rim, and a complex blue floral transferprint on the interior. Based on the curvature of the remaining rim fragment, the original bowl

diameter measured 13.5 cm. Specimen 49 constitutes approximately 20% of a shallow, footed bowl with a rim diameter of 13 cm. The exterior of the fragment is undecorated, while the interior is decorated with an abstract floral red and grey transferprint. The final bowl specimen, #26, constitutes approximately 35% of a shallow bowl (diameter = 13 cm) and is undecorated.

The unidentified porcelain fragments consist of one rim sherd and three body fragments made of the white porcelain noted above; and one body fragment made of pale gray porcelain. A blue, abstract design is painted on the rim sherd (Specimen #9), along the interior rim. The exterior of the sherd displays a series of stipple marks used to create a negative floral design. Based on the curvature of the sherd, the original vessel rim measured 12.5 cm in diameter. One of the body sherds (#121) is decorated with a blue floral transferprint on the interior; the rest of the body sherds are undecorated.

Bakelite

A knob made of a translucent dark brown material, perhaps bakelite, is complete except for a small portion of the top surface. It is basically cylindrical (see Figure 4) with slightly wider sections near the base and top. The top of the knob is rounded. The interior of the knob, from the base to approximately two-thirds its height, is hollow and incised with regularly spaced vertical threads, suggesting that the knob was connected to a protrusion of some sort. The knob is decorated with a series of incised circles placed parallel to the crown and base; several of the circles retain white paint in the incised portions. The stopper measures 5.3 cm high and 2.8 cm in diameter.

Personal Adornment

Five items used for personal adornment were encountered in the project area. The assemblage, which includes two glass buttons, a wood button, and plastic fragments from a comb and a hairbrush, was derived from the surface collection, Backhoe Trench 5, and from Shovel Tests 2 and 3. The glass buttons are made of opaque white glass, while the wood button is made of a light-grained wood. All three buttons are sew-through buttons with four holes and exhibit mold lines indicative of machine-made buttons. In plan view the buttons are all round; in cross section the glass buttons are lenticular while the wooden button is convex-concave. None of the buttons are decorated. The three buttons are complete and are in good condition, and range from 1.7-1.8 cm in diameter. The comb fragment constitutes approximately 30% of a complete comb and is a weathered tan color. It measures 5.3 cm by 3.5 cm. The hairbrush is complete, except for brush bristles, and is dark green.

Writing incised on the grip indicates that it was a "Empire Wave-Maker Professional" hairbrush manufactured in the U.S.A. It measures 20.2 cm by 3 cm.

Recreation

Seven items related to recreation were encountered in the project area. The assemblage includes six glass marbles and a plastic handgrip fragment from a toy pistol. The marbles are all complete and are in good condition. They range in diameter from 1.4-1.8 cm and exhibit a range of colors including orange, blue/gray/white swirled, amber/white swirled, lavender/white swirled, blue/tan/white swirled, and yellow/orange/clear swirled. The plastic handgrip fragment is made of textured black plastic and is in fair condition. It measures 9.5 cm by 5.6 cm by 1.9 cm.

Tools

Two tools, a carborundum stone and a metal wedge, were encountered in the project area. The carborundum stone (whetstone) is broken at both ends, and exhibits several areas of use-wear along the sides and both faces. It is rectangular in cross section and measures 8.8 cm by 3.4 cm by 1.3 cm. The wedge is complete, but is extremely corroded from exposure to rain and groundwater. It measures 8 cm by 5 cm by 5.5 cm.

Weapons

A single bullet was encountered in Layer II of Shovel Test 1. It is 28 mm long by 7 mm in diameter at the base, and appears intact. The bullet shell is green with corrosion.

Miscellaneous

Thirteen miscellaneous items were encountered in the project area. The assemblage consists of a battery fragment, a metal clamp, five corroded metal fragments, two metal items of unknown function, and six fragments from rubber bumpers or tires. The battery fragment consists of the graphite center of a battery and measures 5.7 cm long by 0.9 cm in diameter. The metal clamp is comprised of a small complete wood clamp and a straight-headed screw which have been corroded together as one piece. It measures 2.7 cm by 0.9 cm by 0.2 cm. The metal fragments consist of pieces of metal wire, aluminum cans, etc. that have been corroded by rain and salt air beyond the point of recognition. The rubber fragments are pieces of rubber bumpers or tires left to decay in the project area, and range in size and shape.

One of the metal items of unknown function is a composite of two different types of metal. The upper portion of the

specimen resembles a tab or punch key in shape and is incised with an "M" in a circle on both sides. It appears to be composed of a resistant material, as it has only changed color with time. The lower portion of the artifact is corroded beyond recognition. The artifact measures 1.9 cm by 1.3 cm by 1.1 cm. The second metal specimen appears to be part of a casing or fixture. It is roughly rectangular and has screw/nail holes in several places. It is badly corroded and measures 5.3 cm by 4.6 cm by 0.3 cm.

Summary

Most of the artifacts from the project area were collected from disturbed areas during the general surface collection. In those instances where artifacts were from subsurface

excavations, stratigraphic and local depositional relationships indicated that the artifacts were deposited by frequent slope wash; their contexts are thus interpreted as disturbed. Excepting a possible flaked stone artifact, all of the artifacts encountered were associated with historic use of the area. Diagnostic artifacts, such as bottles and some ceramic items, which were examined as a means of identifying specific phases of historic occupation, generally suggested that most of the artifacts were manufactured during the early twentieth century or later. However, it must be kept in mind that collectors had removed bottles from the project area prior to the current investigation, so the assemblage may be biased. In general, the content of the assemblage is consistent with the data generated as part of the Historical Documentary Research (Appendix A).

CONCLUSION

DISCUSSION

During the current investigation one site (Site 15415) was identified. Site 15415 consists of two components: (a) several diffuse prehistoric hearths, and (b) historic refuse and recent structural remnants. As the latter is within the upper layers of the entire project area, the boundaries of the site are the same as project area boundaries. The prehistoric component is apparently restricted to the 40 ft beach access area immediately above and behind the pebble beaches (c. 9,600 sq ft in area).

The findings of the current investigation indicate the project area has been the locus of periodic human activity for about 550 years. Prehistoric occupation of the project area has been placed between AD 1400-1670, based on age ranges derived from four hearths (three hearths yielded age ranges between AD 1400-1670 and one hearth yielded an age range of AD 1650-1950). This places the occupation in Kirch's Expansion Period (AD 1100-1650) (Kirch 1985). This period is characterized by a rapid increase in population and intensified agriculture, which led to the creation of new social, religious, and political forms. Based on the current evidence, the occupation was most likely temporary: excepting a possible flaked stone artifact, no additional structural, ecofactual, or artifactual remains were encountered in association with the hearths. The occupation may have been in conjunction with exploitation of riverine and marine resources.

Historic occupation of the project area has been placed between AD 1650-1950. This is based on the age determination analysis and the artifact analyses, which indicated that the majority of the materials in the historic assemblage were manufactured after AD 1900. Historic maps and photos confirm that the project area was the site of several private residences as well as the Puueo Poi Factory during the late 1800s through early 1900s, and suggest that the area was occupied prior to the Great Mahele of 1848. No intact structural remains associated with this latter occupation were noted on the surface of the project area.

GENERAL SIGNIFICANCE ASSESSMENTS AND RECOMMENDED GENERAL TREATMENTS

General significance assessments and recommended general treatments for Site 15415 are discussed below. Significance categories used in the site evaluation process are based on the National Register criteria for evaluation, as outlined in the Code of Federal Regulations (36 CFR Part 60). The DLNR-SHPD uses these criteria for evaluating cultural resources. Sites determined to be potentially significant for information content fall under Criterion D, which defines significant resources as ones which "...have yielded, or may be likely to yield, information important in prehistory or history." Sites potentially significant as representative examples of site types are evaluated under Criterion C, which defines significant resources as those which "...embody the distinctive characteristics of a type, period, or method of construction...or that represent a significant and distinguishable entity whose components may lack individual distinction".

Sites with potential cultural significance are also evaluated under guidelines prepared by the Advisory Council on Historic Preservation (ACHP), entitled "Guidelines for Conservation of Traditional Cultural Values in Historic Preservation Review" (Draft Report, August 1985). The guidelines define cultural value as "the contribution made by an historic property to an ongoing society or cultural system. A traditional cultural value is a cultural value that has historical depth." The guidelines further specify that "[a] property need not have been in consistent use since antiquity by a cultural system in order to have traditional cultural value".

Based on the results of the current investigation, Site 15415 is evaluated as significant solely for information content and is not recommended for further work. It should be noted that the assessments and recommendations presented here have been based on the findings of recently completed survey and test excavations. There is always the possibility, however remote, that potentially significant unidentified subsurface cultural remains could be encountered in the course of subsequent development activities. In such situations, archaeological consultations should be sought immediately.

REFERENCES CITED

Bemrose, G.

- 1952 *Nineteenth Century English Pottery and Porcelain*. London: Faber and Faber

Bloxam, A.

- 1925 *Diary, Naturalist of the Blonde...*, 1824-1825. B.P. Bishop Museum Special Publications 10. B.P. Bishop Museum, Honolulu.

Burton, W.

- 1904 *A History and Description of English Earthenware and Stoneware (to the beginning of the 19th century)* Londons: Cassell and Company, Ltd.

Carter, L.

- 1979 Appendix C: Analysis of Historic Artifacts from Kapuahilua and Keae IN Late Prehistoric and Early Historic Settlement-Subsistence Systems on the Anahulu Valley, O'ahu. Departmental Report Series 79-2, Department of Anthropology, B.P. Bishop Museum.

Coulter, J.W.

- 1931 *Population and Utilization of Land and Sea in Hawaii, 1853*. *B.P. Bishop Museum Bulletin* 88. B.P. Bishop Museum, Honolulu.

Cox, D.

- 1983 *Archaeological Reconnaissance of the Wailuku River and Honoli'i Stream Hydropower Study Areas, Puhahoa, South Hilo, Hawaii*. U.S. Army Corps of Engineers.

Ellis, W.

- 1826 *Journal of a Tour Through Hawaii*. Boston: Crocker and Brewster.

Fike, R.E.

- 1987 *The Bottle Book: A Comprehensive Guide to Historic, Embossed Medicine Bottles*. Salt Lake City: Peregrine Smith Books.

Handy, E.S.C., and E.G. Handy

- 1972 *Native Planters in Old Hawaii: Their Life, Lore and Environment*. *B.P. Bishop Museum Bulletin* 233. B.P. Bishop Museum Press, Honolulu.

Hudson, A.E.

- Ms. *Archaeology of East Hawaii*. Manuscript, B.P. Bishop Museum Library, Honolulu (1932).

Jensen, P.

- 1991 Archaeological Inventory Survey, Komohana Golf Course, Lands of Ponahawai and Punahoa 1-2, South Hilo District, Island of Hawaii (TMK:3-2-3-44:09). PHRI Report 998-021091. Prepared for KTA Consulting Group c/o The Keith Companies-Hawaii.

Kelly, M., and J.S. Athens

- 1982 Archaeological and Historical Studies for the Alenaio Stream Flood Damage Reduction Study, Hilo, Hawaii. Prepared for U.S. Army Engineer Division, Pacific Ocean, Honolulu.

Kirch, P.V.

- 1985 *Feathered Gods and Fishhooks: An Introduction to Hawaiian Archaeology and Prehistory*. Honolulu: University of Hawaii.

Lyman, C.S.

- 1924 *Around the Horn to the Sandwich Islands and California, 1845-1850*. New Haven.

Menzies, A.

- 1920 *Hawaii Nei, 128 Years Ago*. Edited by William F. Wilson. Honolulu: The New Freedom Press.

Munsey, C.

- 1971 *The Illustrated Guide to Collecting Bottles*. New York: Hawthorn Books.

Rosendahl, M.L.K.

- 1988a Archaeological Reconnaissance Survey for Environmental Impact Statement (EIS) Hilo Judiciary Complex Sites, Hilo, District of South Hilo, Island of Hawaii. PHRI Report 356-020588. Prepared for Wilson Okamoto & Associates, Inc.
- 1988b Archaeological Reconnaissance Survey for Environmental Impact Statement (EIS) Hilo Wastewater Treatment Facility Site, Land of Waiakea, District of South Hilo, Island of Hawaii (TMK:2-1-13:Por.2). PHRI Report 415-050588. Prepared for M & E Pacific, Inc.
- 1988c Archaeological Survey for Environmental Impact Statement (EIS), Honolii Hydroelectric Project Area (TMK:3-2-6: Var; 3-2-7:Var.), Lands of Kikala and Paukaa, District of South Hilo, Island of Hawaii. PHRI Report 466-081988. Prepared for Mauna Kea Power, Inc. c/o DHM, Inc.

Rosendahl, P.H.

- 1980 Archaeological Reconnaissance Survey of the Kuuipo I Resort Condominium Site (TMK: 3-2-6-02:1,2,3,4), Hilo, Island of Hawaii. Report ARA-9-052080. Prepared for Kuuipo Resort Condominiums, Inc.
- 1990 Field Inspection Survey, Komohana Golf Course Project. Letter Report 912-082690. Prepared for KTA Consulting Group, c/o The Keith Companies-Hawaii. (Dated August 27, 1990)

Rosendahl, M.L.K., and L. Telea

- 1988 Archaeological Reconnaissance Survey for Environmental Impact Statement (EIS), Proposed Irradiation Site, District of South Hilo, Island of Hawaii (TMK:2-1-12:106 [Potential Site A]; 2-1-12:Var. [Potential Site B]; 2-1-25:Por.86 [Potential Site C]). PHRI Report 352-040888. Prepared for Westec Services.

Sato, H.H., W.Ikeda, R.Paeth, R.Smythe, and M. Takehiro, Jr.

- 1973 Soil Survey of the Island of Hawaii, State of Hawaii. U.S. Department of Agriculture-Soil Conservation Service and University of Hawaii Agricultural Experiment Station. Washington, D.C.: Government Printing Office.

Stewart, C.S.

- 1830 Journal of a Residence in the Sandwich Islands, During the Years 1823, 1824, and 1825. (London, 3rd edition)

Stuiver, M. and G.W. Pearson

- 1986 High-Precision Calibration of *Radiocarbon* Time Scale, AD 1950 to 500 BC. *Radiocarbon* 28:805-838.

APPENDIX A

HISTORICAL DOCUMENTARY RESEARCH

by Lehua Kalima, B.A.

The project area is in the *ahupua'a* of Puueo, in the South Hilo District, Island of Hawaii. In *Place Names of Hawaii* Puueo is described as an "elevated place in Hilo qd., where Kalaniopu'u built the *heiau* of Kanoa" (Pukui et al. 1974). No translation for the name is given; the name, however, may be broken into two words *pu'u* and *eo*. Pukui and Elbert (1986) translate *eo* as "winning or victorious", and *pu'u* as "hill". Puueo, then, would translate as "Victory Hill," a name which fits in well with historic events associated with the area.

Legends

Pu'ueo is mentioned in two Hawaiian proverbs found in Mary Pukui's *'Olelo No'eau*. The first deals with the Pu'ueo area in general, while the second deals with a part of Pu'ueo that is part of the project area:

Le'a ka 'ai a ka 'iole, ua nui ka 'ili.

The rats joyously eat their fill, there are many skins [remaining].

There were two Hilo brothers who lived at Kukuau and Pu'ueo. The latter was very prosperous but neglectful of his needy brother. One day the Kukuau man decided to visit his wealthy brother and found many friends eating. After watching them for a while he made this remark. It was overheard by someone who reported it to their host. When he came to see who it was he found that it was his own brother. Sadly he realized then how he had neglected his own kin while outsiders enjoyed his wealth. This saying is sometimes used for one who does for outsiders but neglects his own (Pukui 1983:1963).

Piha 'opala ke one o Ha'akua.

The sand of Ha'akua is filled with rubbish.

Said of one who is untidy, or who talks nonsense. Ha'akua is under the Pu'ueo end of the railroad bridge that spans the Wailuku River in Hilo, Hawai'i (ibid:2631).

Several legends mention Pu'ueo. One deals with the demi-god Maui, his mother Hina, and their encounter with a god named Kuna Loa. Kuna Loa was a huge eel who lived in the Wailuku River, in the area near Rainbow Falls known today as Boiling Pots.

Hina-of-the-fire lived in a cave that the waters of the river streamed over, a cave that always had a beautiful rainbow glimmering across it. While her sons were away no enemy could come to Hina in this cave, for the walls of it went straight and smooth...

In the river below there was one who was an enemy to Hina. This was Kuna Loa, the Long Eel. Once Kuna Loa had seen Hina on the bank of the river, and he had wanted her to leave her cave and come to his abode. But Hina-of-the-fire would not go near the Long Eel. Then he had gone to her, and he had lashed her with his tail, covering her with the slime of the river. She told about the insults he had given her, and Maui drove the Long Eel up the river, where he took shelter in the deep pools. Maui broke down the banks of the deep pools with thrusts of his spear, but Kuna Loa, the Long Eel, was still able to escape from him. Now Maui had gone away, and his mother...kept within the cave.

The Long Eel came down the river. He saw Hina sitting in the mouth of the cave...and he was filled with rage and a wish to destroy her. He took a great rock and he put it across the stream, filling it from bank to bank.

She looked down and she saw that the water was nearer to the mouth of the cave than she had ever seen it before. Higher and higher it came...and Hina-of-the-fire cried, "alas, alas," as she watched the waters mount up and up....But even as she lamented, something was happening to aid Hina. For Maui had placed above her cave a cloud that served her-"Ao-opua," "The Warning Cloud." Over the cave it rose now, giving itself a strange shape: Maui would see it and be sure to know by its sign that something dire was happening in his mother's cave.

He was then on the mountain Hale-a-ka-la, the House of the Sun. He saw the strangely shaped cloud hanging over her cave, and he knew that some danger threatened his mother, Hina-of-the-fire. He dashed down the side of the mountain, bringing with him the magic ax that his grandmother had given him for his battle with the sun. He sprang into his canoe. With two strokes of his paddle he crossed the channel and was at the mouth of the Wailuku River. The bed of the river was empty of water and Maui left his canoe on the stones and went up toward Hina's cave (Colum 1937:55-58).

A large rock formation which lies in the Wailuku River *mauka* of the project area is named Namauuapao but is locally known as Maui's canoe. The formation is believed to be the canoe that Maui left behind on his way to battle Kuna Loa. Figure A-1 is a photo of the Wailuku River. Maui's canoe is the rock formation on the right bank. This photo is undated, but appears to have been taken in the late 1800s or early 1900s. Figure A-2 shows Namauuapao.

Another tale concerns a *kupua*, a god who can take on an animal form, in this case, the form of a lizard. The name of the *kupua* is Piliamoo, which is also the name of a place in the project area (see Figure A-2). The tale is entitled "Keaunini," which is the name of another *kupua* in the story. In this passage, Keaumiki, Keaunini's uncle, travels from Waipio Valley to Hilo, attempting to find a suitable wife for his nephew. Keaumiki is travelling with his brother, Keaukai, and they encounter many obstacles, Piliamoo being one of them:

The Hilo palis were nothing to this man as he sped swiftly over the gulches until he came to the Wailuku River guarded by the *kupua* Pili-a-mo-o, who concealed the path so that none could find it until a price was paid. The dragon covered the path with its rough skin.

Ke-au-miki stood looking for a path, but could only see what seemed to be pahoehoe lava. The tail of the dragon was like a kukui-tree-trunk lying in the water. He saw the tail switching and rising up to strike him. Then he knew that this was a *kupua*. The tail almost struck him on the head. He called to Kahuli in Kuaihe-lani, who sent a mighty wind and hurled aside the waters, caught up the body of the dragon and let it fall, smashing it on the rocks, breaking the beds of lava (Westervelt 1963:198).

Early Historical Accounts

In 1823 Reverend William Ellis, a missionary from New England, visited the Hawaiian Islands and kept a journal of his travels. The following are his impressions of trading that took place in Pu'uueo on the banks of the Wailuku River:

As soon as the rain had ceased, and the fog cleared off... I therefore walked on to Pueo, on the western shore, where, for six dollars, I hired on of Kapapa, chief of the place, to take us between twenty and twenty-five miles.

Returning from Pueo, I visited Wairuku, a beautiful stream of water flowing rapidly over a rocky bed, with

frequent falls, and many places eligible for the erection of water-mills of almost any description. Makoa and the natives pointed out a square rock in the middle of the stream, on which, during the reign of Tamehameha, and former kings, a toll used to be paid by every traveller who passed over the river.

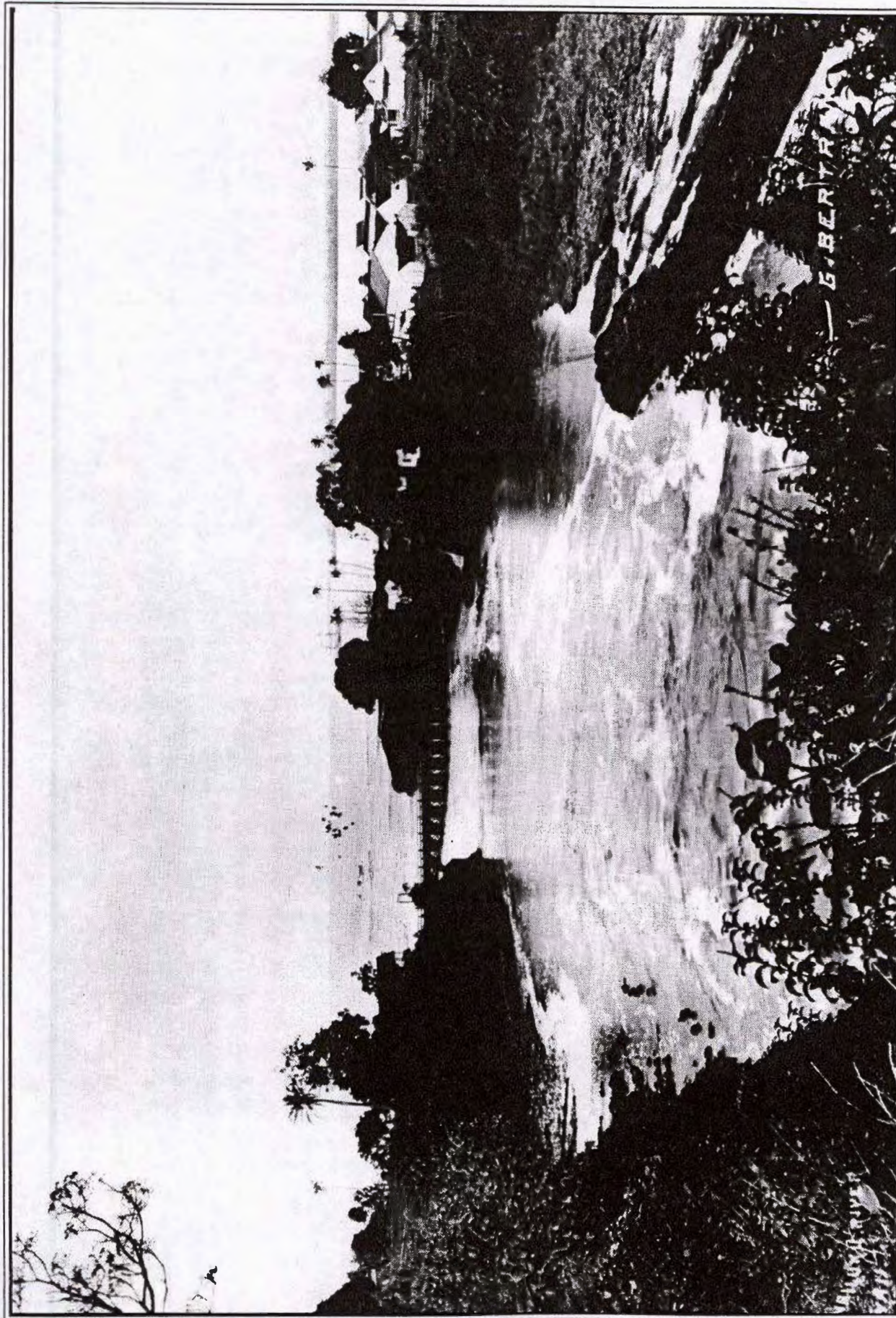
Whenever any one approached the stream, he stood on the brink, and called to the collector of the toll, who resided on the opposite side. He came down with a broad piece of board, which he placed on the rock above mentioned. Those who wished to cross met him there, and deposited on the board whatever articles had been brought; and if satisfactory, the person was allowed to pass the river. It did not appear that any uniform toll was required; the amount, or value, being generally left to the collector.

The natives said it was principally regulated by the rank or number of those who passed over.

In order the better to accommodate passengers, all kinds of permanently valuable articles were received. Some paid in native tapa and mats, or baskets, others paid a hog, a dog, some fowls, a roll of tobacco, or a quantity of dried salt fish (Ellis 1963:229).

The river of Wairuku was also distinguished by the markets or fairs held at stated periods on its banks. At those times the people of Puna, and the desolate shores of Kau, even from the south point of the island, brought mats, and mamake tapa, which is a remarkably strong black or brown native cloth, for the manufacture of which the inhabitants of Ora, and some of the inland parts of Puna, are celebrated throughout the whole group of the Sandwich Islands.... The people of Hiro and Hamakua, as far as the north point, brought hogs, tobacco, tapa of various kinds, large mats made of the pandanus leaves, and bundles of ai pa, which were collected on the north bank...

From bank to bank the traders shouted to each other, and arranged the preliminaries of their bargains. From thence the articles were taken down to the before mentioned rock in the middle of the stream, which in this place is almost covered with large stones. Here they were examined by the parties immediately concerned, in the presence of the collectors, (of the toll for crossing the river) who stood on each side of the rock, and were the general arbiters, in the event of any disputes arising. To them also was committed the preservation of good order during the fair, and they, of



*Figure A-1. Photo of Wailuku River (Looking toward Hilo Bay)
(Courtesy of the Marianist Archives)*

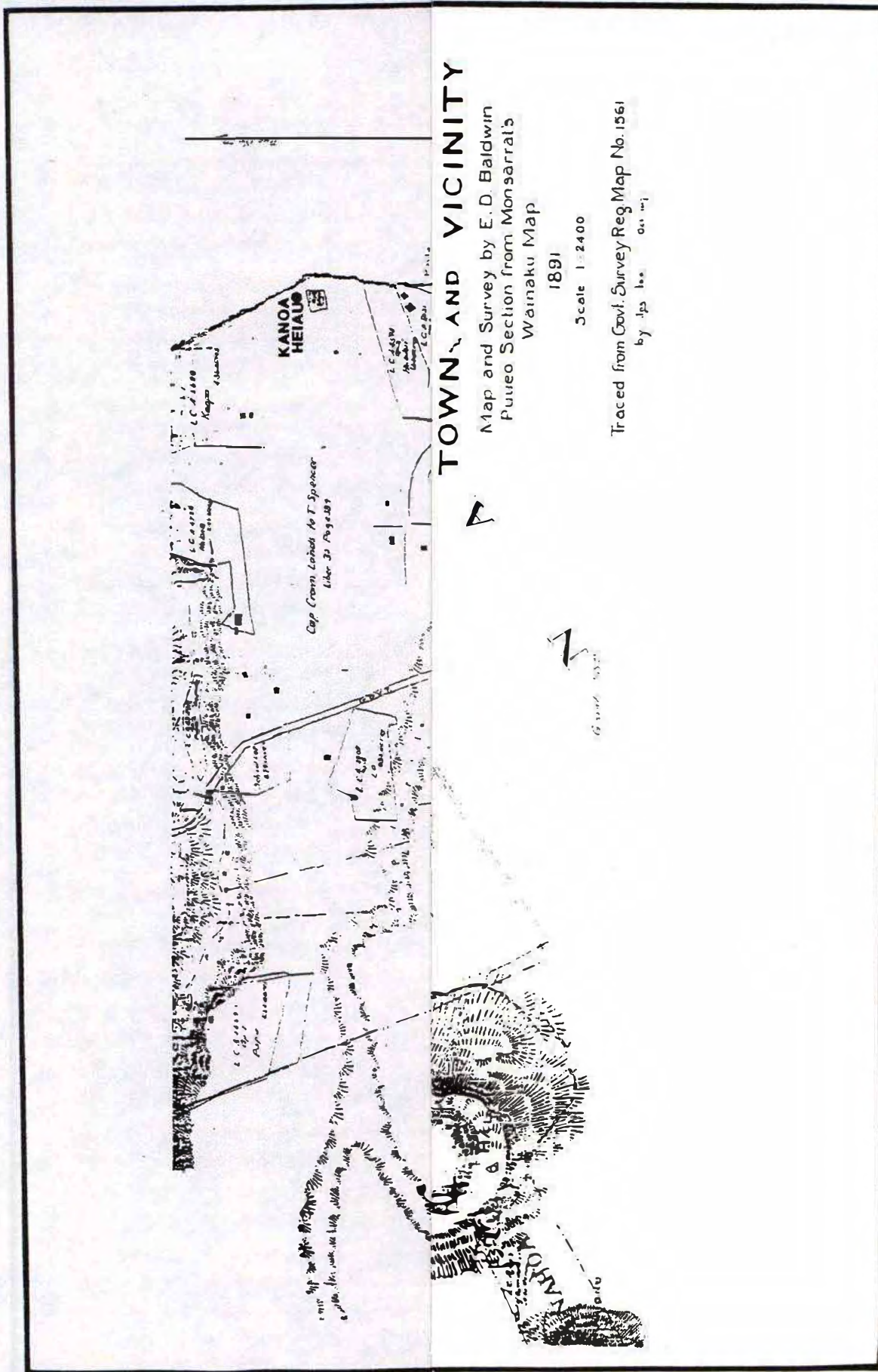


Figure A-2. Wailuku River Portion of an 1891 Map of Hilo
(State Survey Dept. Reg. Map No. 1561)

course, received a suitable remuneration from the different parties.

On the above occasions, the banks of the Wairuku must often have presented an interesting scene, in the bustle of which these clerks of the market must have had no inconsiderable share.

According to the account of the natives, this institution was in force till the accession of Rihoriho, the late king, since which time it has been abolished (ibid:230).

Handy and Handy (1972) write about native Hawaiian agriculture in the Hilo area, and vegetation in the Hilo area:

The population of Hilo was anciently as now concentrated mostly around and out from Hilo Bay, which is still the island's principal port. The Hilo Bay region is one of lush tropical verdure and beauty, owing to the prevalence of nightly showers and moist warmth which prevail under the northeasterly trade winds into which it faces. Owing to the latter it is also subject to violent oceanic storms and has many times in its history suffered semidevastation from tidal waves unleashed by earthquake action in the Aleutian area of the Pacific.

In lava-strewn South Hilo there were no streams whose valleys or bands were capable of being developed in terraces, but cuttings were stuck into the ground on the shores and islets for many miles along the course of the Wailuku River far up into the forest zone...

On the lava-strewn plain of Waiakea and on the slopes between Waiakea and the Wailuku River, dry taro was formerly planted wherever there was enough soil. There were forest plantations in Pana'ewa and in all the lower fern-forest zone above Hilo town and along the course of the Wailuku River (Handy and Handy 1972:538-9).

John Papa I'i, a native Historian, notes that Pu'ueo once had a famous surfing area known as Paula, but its location is not documented (Ii 1959:134).

Land Tenure

In 1848, during the reign of Kamehameha III, the traditional Hawaiian land ownership system was replaced with a more Western-style system. This radical restructuring was called The Great Mahele (division). The Great Mahele defined the land interests of the King, the high-ranking chiefs, and the *konohiki*, who were originally those in charge of tracts of land on behalf

of the king or a chief (Chinen 1958:vii and Chinen 1961:13). More than 240 of the highest-ranking chiefs and *konohiki* in the kingdom joined Kamehameha III in this division. The first *mahele* was signed on Jan. 27, 1848 by Kamehameha III and Princess Victoria Kama'ama, and by her guardians Mataio Kekuanaoa and Ione Ii. The last *mahele* was signed by the King and E. Enoka on March 7, 1848 (Chinen 1958:16).

The Mahele did not convey title to any land. The chiefs and *konohiki* were required to present their claims to The Land Commission to receive awards for lands quitclaimed to them by Kamehameha III. They were also required to pay commutations to the government in order to receive royal patents on their awards. Until an award was issued, title remained with the government. The lands awarded to the chiefs and *konohiki* became known as Konohiki Lands. Because there were few surveyors in Hawaii at the time of the Mahele, the lands were identified by name only, with the understanding that the ancient boundaries would prevail until the land could be surveyed. This expedited the work of the Land Commission and speeded the transfers (Chinen 1961:13).

During this process all land was placed in one of three categories: Crown Lands (for the occupant of the throne), Government Lands, and Konohiki Lands. These were all "subject to the rights of native tenants" (Laws of Hawaii 1848:22). Native tenants were the common Hawaiian people who lived on the land and worked it for their subsistence. Questions concerning the nature of these rights began to arise as the King, the government, and *konohiki* began selling parcels of land. On December 21, 1849 the Privy Council attempted to clarify the situation by adopting four resolutions intended to protect the rights of native tenants referred to in the 1848 law (Chinen 1958:29).

These resolutions authorized the Land Commission to award fee simple title to all native tenants who occupied and improved any portion of Crown, Government, or Konohiki lands. These awards were to be free of commutation except for house lots located in the districts of Honolulu, Lahaina, and Hilo (ibid.).

Before receiving their awards from the Land Commission, the native tenants were required to prove that they cultivated the land for a living. They were not permitted to acquire wastelands or lands which they cultivated "with the seeming intention of enlarging their lots." Once a claim was confirmed, a survey was required before the Land Commission was authorized to issue any award. These lands became known as "Kuleana Lands" (ibid:30). Until its dissolution on March 31, 1855, the Land Commission issued thousands of awards to the native tenants for their *kuleana*; even so, less than 30,000 acres of land were awarded to the native tenants as Kuleana Lands.

Kamehameha personally held many of the Hilo lands and upon his death these lands—including Pi'ihonua, Punahoa and Waiakea—descended to Liholiho, his son and heir to the kingdom (Kelly et al. 1981:11). Kamehameha had given the 'ili *kupono* of Pi'opi'o to his favorite wife Ka'ahumanu and he had given the two Kukuau to his *haole* chiefs John Young and Isaac Davis. Pu'ueo Aupua'a went to another favorite wife, Kaheihimalie (ibid.).

Kaheihimalie was the sister of Ka'ahumanu and a cousin of Boki, a high chief and governor of O'ahu at the time. In 1828 the *ahupua'a* of Pu'ueo remained in her possession but by then Kaheihimalie had become Hoapili-wahine, wife of Ulumahihei Hoapili (ibid:40). Ho'olulu, Hoapili's brother, was given charge of Pu'ueo. Kaheihimalie died in 1842 and the land descended to her daughter Kekauluohi. Kekauluohi was the mother of Lunalilo, Kamehameha V. When she died in 1845, it was presumed that the land went to Lunalilo; however, Pu'ueo does not appear as an *ahupua'a* award to anyone in the Indices to Quiet Land Titles (Board of Commissioners 1929). Land parcels in Pu'ueo, however, were sold by the Commissioners of Crown Lands (Kelly et al. 1981:40).

The following passage tells of a store in the Pu'ueo area that would have been located close to the project area. It also mentions Kino'ole Street, which runs through downtown Hilo.

We find in the memoirs of a physician, son of the Lymans, a notice of the first merchant to open a store in Hilo. The store belonged to Benjamin Pitman, who arrived in 1837. He was joined by his son the following year. The store was located near the Wailuku river and was "a neat thatched house, surrounded by coffee plants". It had a floor and glass windows, and two apartments, one of which had a counter across it and shelves piled with cotton cloth "and all manner of curious articles". The son married Kino'ole, daughter of the chief Ho'olulu who had the charge of Pu'ueo *ahupua'a*. The original "Pitman Street" was renamed Kino'ole Street in 1916 (Kelly et al. 1981:49).

As mentioned, several land parcels were sold by the Commissioner of Crown lands at the time of the Great Mahele. The following are testimonies given by people who claimed land parcels in Pu'ueo. The claims are located within or close to the project area.

L.C.A. 5145 to Kauhihiwa; Native Testimony, Vol. 4:427

Nov. 15, 1848

Haalou sworn he has seen in Makaolanakila ili of Puueo ahupuaa in Hilo, Hawaii:

Section 1 - House site

Mauka Lo's land

Hamakua Kaili's land

Makai Wahine's land

Puna ditch/stream

Section 2 - Keamoalii

Mauka Konohiki

Hamakua and Makai street

Puna Stream

1 cultivated kihapai

Interest from Lo in 1842, no one had objected. Kauhihiwa, foreman under Hoolulu. Kaili sworn he has seen this land just as Haalou has stated here.

L.C.A. 4809 to Lo, Moses; Native Testimony, Vol. 4:418

Mahi sworn he has seen in Puueo ahupuaa of Hilo, a land section.

Mauka street

Hamakua Britinan's lot

Makai beach

Puna Wailuku

2 houses for Lo, 2 for Honai, 1 each for Kapapa, Kaneelaa and Kaehuaku, they have no claim. Land from Hoolulu in 1829.

Mio section

Mauka Kamakapalupalu's house

Hamakua idle land

Makai Laanohala's land

Puna ditch

1 cultivated kihapai

Section 3

Makai Laaauhala's land

Mauka idle land

Hamakua ditch

Makai Kaiohe's house

Puna street

1 partially cultivated kihapai. Mauka and all around this kihapai is idle land.

New Kihapai

Mauka Kaenaena's land

Hamakua Kauhihiwa's land

makai Haleki's land

Puna stream

1 cultivated kihapai

Land from Hoolulu in 1829, no one has objected. Wahine sworn he has seen this land exactly as Mahi has seen it.

L.C.A. 1-b to Wahine; Foreign Testimony, Vol. 5:47

Baranaba sw. dep. he wrote and sent this with many other claims to Honolulu.

OCleary sworn dep. known this cl. to be in ahupuaa of Puueo in 3 lots.

Lot 1 Is in Ili of Kahalauwlaui (?) - 1 field - N. is edge of pali & stream of Waipilopilo - E. house lot of Pupu - S. lot of Kahiahiwa - W. Kaili's lot. - Cl. has 1 house on it, it is not fenced, it is cultivated - he had it from Kapapa when Konohiki of Puueo.

Lot II. 1 field in Ili Hooheo - N. is road to woods, - E. Konohiki. - S. Str. Auwai - W. Konohiki. Cultivated no fence, Cl. had this lot from W. Pi(???) - Konohiki in exch. for his field situated on the lot purchased by B. Pitman-

Lot 3. Ili Nalomalu - 1 field. N. Makupau ili. - E. Paapukai lot. - S. Paapuaa str. - W. is a horse road running across the ahupuaa. Cultivated partly - not fenced. Cl. had this lot from Hoolulu 20 years since then Konohiki, and has ever since held it I believe undisputed. Kuamakaalani sw. knew the above to be true.

The locations of these awards can be found on Figure A-2.

Figure A-2 also shows a storehouse between Makaolanakila and Piliamoo. Figure A-3 is a photograph of what is believed to be the storehouse. No date is given; however, because the storehouse is on the 1891 map, the photograph was probably taken in the late 1800s or early 1900s. The area shown in the photo is within the project area, however, this area looks very different today. No houses are present and the area is overgrown with bamboo and other vegetation. The rock formation in the photograph, however, is identical to formation in the area today.

Informant Interviews

During a previous study (Rosendahl 1980) several women familiar with the Pu'ueo and Wailuku River areas were interviewed and a summary of their testimony was given to Councilwoman Merle Lai. The women's testimony noted the historical value of the Wailuku River area and mentioned several *heiau* in the area.

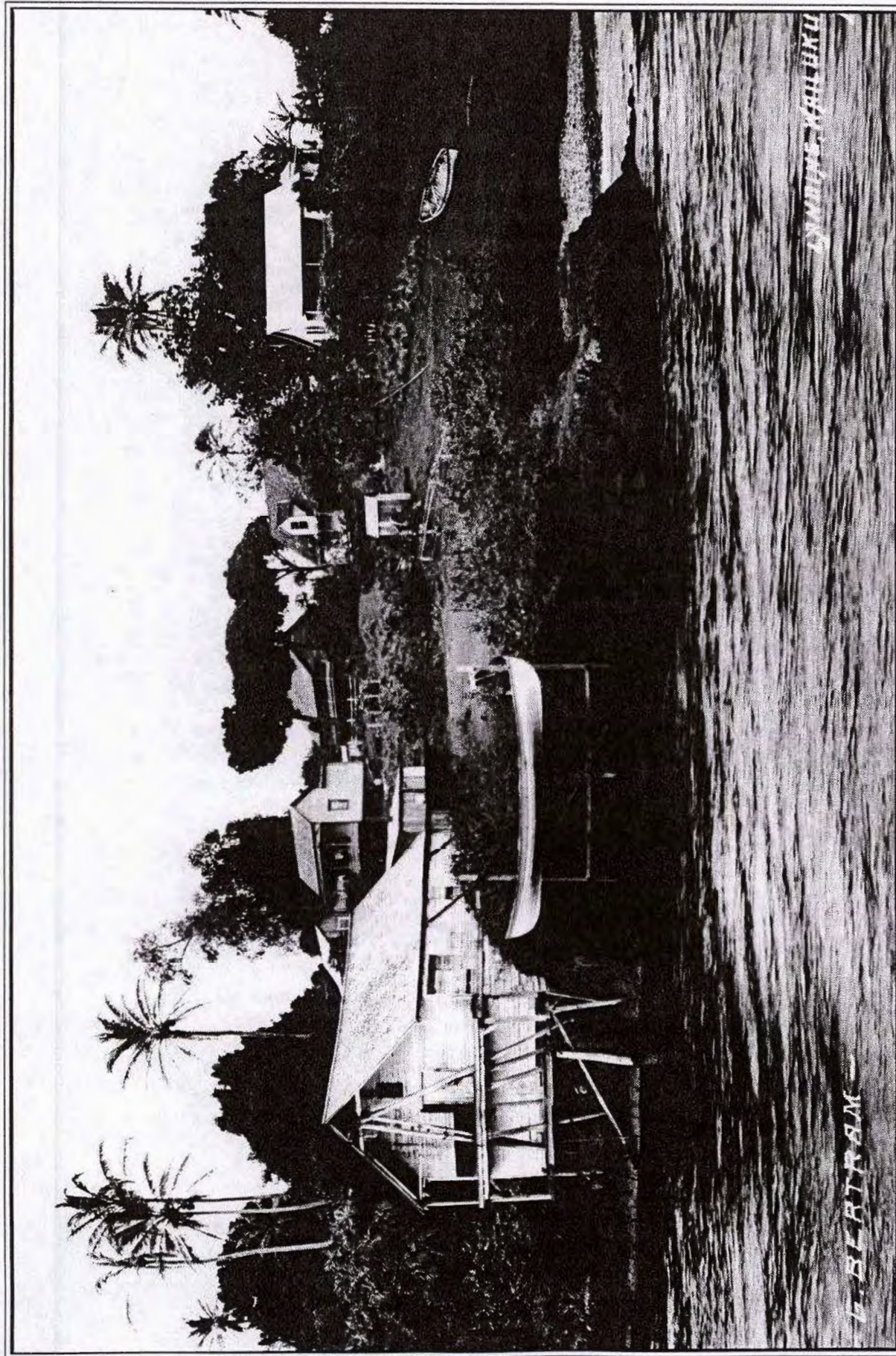
One of the women, "Auntie" Edith Kanakaole, spoke of a stone in the Wailuku River which functioned as a natural bridge. The story of this stone had been handed down through the generations and had been told to Kanakaole by her mother. The story appears to tie in with the legend about Piliamo'o related earlier in this report.

"Mo'o" is the Hawaiian name for lizard. The lizard in this story is in the form of a flat black rock. This lizard or mo'o would help people cross the Wailuku River and served as a stepping stone. It has been said that when one crossed over the lizard at low tide, it moved. In the old days, the rock was significant to the Hawaiian people and they would throw food below to feed the lizard. (The lizard is located midway and below of the Dahlberg's Condominium and the powerhouse, the last bridge and near two waterfalls) (Rosendahl 1980:A-1).

According to Kanakaole, the Wailuku River area and the Mo'o stone are historically important (Rosendahl 1980:A-1).

Kanakaole said that there was once a *heiau* on the Pu'ueo side of the river, along the banks, in the wooded bamboo area. She noted that *ali'i* used to hold counsels of war in the area and park their canoes behind the *heiau* (ibid.). She said that everyone knew preparations for war were being made when canoes were gathered there (ibid.).

Mrs. Eleanor Ahuna, a student of Kanakaole, verified the vicinity of the *heiau*; however, its exact location is not known (ibid:A-2).



*Figure A-3 Photograph of Landing at Wailuku River
(Courtesy of the Marianist Archives)*

Historical records mention several *heiau* in the Pu'ueo area, one of which is Kanoa Heiau. This *heiau* was a *luakini heiau* used for human sacrifice. Every district on the island had at least one *luakini* and Kanoa was the one for Hilo. Kanoa Heiau is not within the project area. Figure A-2 shows the approximate location of the *heiau*, as can be estimated from the following directions:

Heiau of Kanowa [Kanoa], Land of Puueo, Hilo - At the eastern end of Kanoa Street, near the sea-cliff. Isabelle Point 339°54, 1295 feet. A *heiau* for human sacrifice entirely destroyed (Stokes n.d.:578).

Another source notes Kanoa Heiau as:

Probably the most prominent temple in this section was that of Kanoa, (or Kanowa as formerly known), that used to exist at Puueo, near the site of L. Severance's present residence. The time of its erection is not stated, but Kalaniopuu consecrated it to the service of his war-god, Kaili, when he set out to subdue the rebel chief Imakakaloa, in Puna. This indicates it as a war *heiau* of the pookanaka class, though it was but of medium size, some 60 x 80 ft. Luupule was said to have been its priest, and Kane and Kanaloa was its dieties, in latter years. Its walls were thrown down prior to 1850, and entirely destroyed and its stones taken for road work in 1898.

It figures also as the threatened place of sacrifice of Umi and his three companions, in the early part of his reign, while residing incog in Hilo, for some slight to the daughter of the alii of the district, but from which predicament they were released through his retinue, at Waipio, proving good his claim (Thrum 1907:55-6).

While Kanoa Heiau is said to be near the site of the L. Severance home, Figure A-2 shows the home as being across the Wailuku River on the Hilo side.

Another *heiau*, Kaipalaoa, was said to be located on the site of the Hilo Armory. Thrum notes that it was said to be the place

where Keoua sacrificed Keawaemauihili (Rosendahl 1980:A-2). According to Thrum this was the place Umi was to have been sacrificed if he failed to produce his royal ivory necklace at the proper time (other references say Kanoa Heiau was the place where this was to happen [ibid]). The *heiau* is also said to be one of several places where Kamehameha is said to have proclaimed the Mamalahoa Law - The Law of the Splintered Paddle (ibid.).

Noted native Hawaiian historian Samuel Kamakau notes Kaipalaoa Heiau as the place where Liholiho's umbilical cord was cut off, a sacred and important Hawaiian practice. Liholiho, Kamehameha II, became heir to his father's kingdom.

Liholiho was born in November (Hanaia'ele'ele), 1797, in Hilo, Hawaii. His mother was Ka-lani-kau-i-ka-'alaneo Ke-opu-o-lani, and she gave birth to him at the age of seventeen and a half years. He was her firstborn and he was given the name Ka-lani-Kua-Liholiho. Many signs appeared at his birth. He was taken to the *heiau* of Kaipalaoa, and the sacred rite of the cutting of his navel cord was performed by the kahuna (Kamakau 1961:220)

The houses of some chiefs were said to have stood along the beach below the site of Kaipalaoa Heiau (Rosendahl 1980:A-2).

Mrs. Violet Nahaku Ulii Brown Nathaniel, a well-known *kama'aina* who was raised at the mouth of the Wailuku River on the Pu'ueo side believes that a *heiau* was once situated in the bamboo grove between Pu'ueo Bridge and Makaolanakila. This would place the *heiau* within the project area; however, no evidence of the *heiau* exists.

In summary, the project area and its vicinity definitely have historical and cultural value. This is indicated by the many historical references to the project area, and the legends concerning the area. The area is well documented by early visitors as a home to chiefs, and as a well-visited market place. The testimony of several local informants suggests a *heiau* may have existed in the area at one time, and that this area was known even in recent history as a special and sacred place.

REFERENCES CITED**Board of Commissioners**

- 1929 Indices of Awards made by the Board of Commissioners to Quiet Land Titles in the Hawaiian Islands. Star Bulletin Publishers, Honolulu.

Chinen, J.J.

- 1958 *The Great Mahele: Hawaii's Land Division of 1848*. Honolulu: University of Hawaii Press.
1961 *Original Land Titles in Hawaii*. Honolulu: privately published.

Colum, P.

- 1937 *Legends of Hawaii*. Forge Village: Yale University Press, Inc.

Ellis, W.

- 1963 *Journal of William Ellis, Narrative of a Tour of Hawaii, or Owhyee...* Honolulu: Advertiser Publishing Co.

Handy, E.S.C., E.G. Handy, with M.K. Pukui

- 1972 Native Planters in Old Hawaii. *B.P. Bishop Museum Bulletin* 233. Bishop Museum Press, Honolulu.

Ii, J.P.

- 1959 *Fragments of Hawaiian History*. Honolulu: Bishop Museum Press.

Kamakau, S.

- 1961 *Ruling Chiefs of Hawaii*. Honolulu: The Kamehameha Schools Press.

Kelly, M., B. Nakamura, and D.B. Barrere

- 1981 Hilo Bay: A Chronological History, Land and Water Use in the Hilo Bay Area, Island of Hawaii. Dept. Anthro., B.P. Bishop Museum, Honolulu. Prepared for U.S. Army Engineer District, Honolulu.

Puku'i, M.K.

- 1983 'Olelo No'eau. *B.P. Bishop Museum Special Publication* 71. Honolulu: Bishop Museum Press.

Pukui, M.K. and S.H. Elbert

- 1986 *Hawaiian Dictionary*. Honolulu: University of Hawaii Press.

Pukui, M.K., S.H. Elbert, and E.T. Mookini

- 1974 *Place Names of Hawaii*. Honolulu: University Press of Hawaii.

Rosendahl, P.H.

- 1980 Archaeological Reconnaissance Survey of the Kuuipo I Resort Condominium Site, Hilo, Island of Hawaii, (TMK:3-2-6-02:1,2,3,4). PHRI Report ARA-9-052080. Prepared for Kuuipo Resort Condominiums, Inc.

Stokes, J.F.G.

- n.d. Survey of Heiaus of Hawaii. Manuscript in Dept. Anthro., B.P. Bishop Museum (1919).

Thrum, T.G.

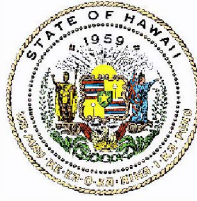
- 1907 Tales from the Temples. Part II. *Hawaiian Almanac and Annual* 1908. T.G. Thrum, Honolulu.

Westervelt, W.D.

- 1963 *Hawaiian Legends of Ghosts and Ghost-Gods*. Tokyo: Charles E. Tuttle Company, Inc.

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

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

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
RYAN K.P. KANAKA'OLE
FIRST DEPUTY
CIARA W.K. KAHANE
DEPUTY DIRECTOR - WATER
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES
ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

March 4, 2026

Jeff Darrow, Director
County of Hawaii
Department of Public Works
101 Pauahi Street, Suite 3
Hilo, HI 96720
planning@hawaiiicounty.gov

IN REPLY REFER TO:
Project No. 2026PR00143
Doc. No. 2603SN01
Archaeology

Dear Jeff Darrow:

**SUBJECT: Hawaii Revised Statutes (HRS) §6E-42 Historic Preservation Review –
County of Hawai'i SMA Use Permit Application
Pu'ueō Project
Pu'ueō Ahupua'a, South Hilo District, Island of Hawai'i
TMK: (3) 2-6-002:001, 002, and 003**

This letter provides the State Historic Preservation Division's (SHPD's) review of the subject County of Hawaii SMA Use permit application received by our office on February 12, 2026. The submittal included construction plans, a TMK map, a County of Hawaii SMA permit application, an archaeological inventory survey (AIS) report (Goodfellow, 1991) and an aerial photo of the project area.

The submittal indicates that the SMA Use Permit request will allow for the development of an educational, outreach and cultural space called the Pu'ueō Project. The application indicates that the combined acreage for the proposed project totals 1.97 acres across the three subject parcels. The proposed project consists of three construction phases to occur over the course of five to fifteen years for full build.

Phase 1 improvements include:

- Construct a 2,730-sq.-ft. residence for on-site security, maintenance, and landscaping.
- Construct a garage, walking trails, several pavilions, and a temporary floating pier.

Phase II improvements include:

- Construct a 2,990-sq.-ft. halau (large gathering place)
- Construct a 1,280-sq.-ft. restroom facility
- Construct a 12-stall covered parking structure

Phase III improvements include:

- Construct two 630-sq.-ft. cabins

A review of SHPD records shows that parts of the proposed project area were included in the Goodfellow (1991) AIS, covering Parcels 001 and 002. The AIS links the project area to three Land Commission Awards and notes that Pu'ueō originated as a residential community dating to the late 18th century. Submittal information indicates the Pu'ueō Poi factory operated within the subject parcel until 1965, along with several residences and other businesses. The current project area is vacant and has, over the years, been subject to SMA Minor Use Permits issued by the County of Hawaii for vegetation clearing, grading, and debris/junk

removal. The submittal also states that clearing activities have removed most remnant foundations from previous uses of the parcels.

The submittal notes that Parcel 003 has not been subject to an AIS. SHPD records show the proposed project area lies within the historic Pu'ueō District, SIHP 50-10-35-07442, where a boat house and shore-side boat davits were identified along the Wailuku River. In 1901, the area contained sixteen private residences. The Goodfellow (1991) AIS records SIHP 50-10-35-15415, comprising two features, several precontact hearths, and remnants of historic refuse and newer structures. Goodfellow (1991) evaluated the historic property under Criterion D (sic; Criterion d) (information content) and recommended no further work. The project area is identified as culturally significant based on its history.

At this time, SHPD has insufficient information to determine the potential of the proposed project to impact any undocumented historic properties that may remain. **SHPD requests** that an archaeological field inspection (FI) be conducted of the entire subject project area by a qualified archaeologist to determine the presence or absence of any additional undocumented historic properties in the current project area. **If any archaeological sites are present and/or unrecorded historic properties are identified, SHPD will request that a new AIS be completed**, as appropriate in consultation with SHPD, and the report be submitted for review and acceptance prior to initiation of land altering activities.

SHPD looks forward to the opportunity to review the results of the identification process. See: <http://dlnr.hawaii.gov/shpd/about/branches/archaeology/> for a list of archaeological consultants with a permit to conduct archaeological work in Hawai'i.

Following the completion of the field inspection, **SHPD requests** the FI report along with a copy of this letter, be submitted via HICRIS to Project No. 2026PR00143 in response to the request.

Please contact Sean Nāleimaile, Hawai'i Island Archaeologist IV, at Sean.P.Naleimaile@hawaii.gov, for any questions or concerns regarding this letter.

Aloha,



Jessica L. Puff, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: Alex Roy, alex.roy@hawaiiicounty.gov
Daryn Arai, [REDACTED]

C. Kimo Alameda, Ph.D.
Mayor

William V. Brilhante, Jr.
Managing Director



Reed K. Mahuna
Chief of Police

County of Hawai`i

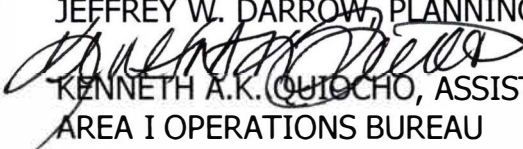
POLICE DEPARTMENT

349 Kapi`olani Street • Hilo, Hawai`i 96720-3998
(808) 935-3311 • Fax (808) 961-2389

February 25, 2026

REC'D HAND DELIVERED

COH PLANNING DEPT
FEB 25 2026 PM 2:36

TO : JEFFREY W. DARROW, PLANNING DIRECTOR
FROM :  KENNETH A.K. QUIROCHO, ASSISTANT POLICE CHIEF,
AREA I OPERATIONS BUREAU

SUBJECT: SPECIAL MANAGEMENT AREA USE PERMIT APPLICATION (PL-SMA-2025-000083)
APPLICANT: HAUNANI KANE PHD, CLIFF KAPONO PHD, AND JOHN H.R. BURNS PHD
REQUEST: TO ESTABLISH AN EDUCATIONAL, RESEARCH AND GATHERING SPACE TO PROMOTE SCIENCE EDUCATION, RESEARCH AND CULTURAL ENGAGEMENT
TAX MAP KEY: (3) 2-6-002:001-003, SOUTH HILO, HAWAI`I

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

Thank you for allowing us the opportunity to comment.

If you have any questions, please contact our South Hilo District Commander, Captain Aaron Carvalho, at (808) 961-2316 or via email at aaron.carvalho@hawaiipolice.gov.

AC:ws/26HQ0142

Planning Dept.
Exhibit <u>3</u>



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

MEMORANDUM

DATE: February 18, 2026

TO: Mr. Jeffrey W. Darrow
Planning Director, County of Hawaii

FROM: Eric Honda
District Environmental Health Program Chief

SUBJECT: Special Management Area Use Permit Application (PL-SMA-2025-000083)
Applicant: Haunani Kane PhD, Cliff Kapono PhD and John H.R. Burns PhD
Request: To Establish an Educational, Research and Gathering Space to
Promote Science Education, Research and Cultural Engagement
TMK: 2-6-002:001-003, South Hilo, Hawai'i

In most cases, the District Health Office will no longer provide individual comments to agencies or project owners to expedite the land use review and process.

Agencies, project owners, and their agents should apply Department of Health "Standard Comments" regarding land use to their standard project comments in their submittal. Standard comments can be found on the Land Use Planning Review section of the Department of Health website: <https://health.hawaii.gov/epo/landuse/>. Contact information for each Branch/Office is available on that website.

Note: Agencies and project owners are responsible for adhering to all applicable standard comments and obtaining proper and necessary permits before the commencement of any work.

General summary comments have been included for your convenience. However, these comments are not all-inclusive and do not substitute for review of and compliance with all applicable standard comments for the various DOH individual programs.

Clean Air Branch

1. All project activities shall comply with the Hawaii Administrative Rules (HAR), Chapters 11-59 and 11-60.1.

2. Control of Fugitive Dust: You must reasonably control the generation of all airborne, visible fugitive dust and comply with the fugitive dust provisions of HAR §11-60.1-33. Note that activities that occur near existing residences, businesses, public areas, and major thoroughfares exacerbate potential dust concerns. It is recommended that a dust control management plan be developed which identifies and mitigates all activities that may generate airborne and visible fugitive dust and that buffer zones be established wherever possible.
3. Standard comments for the Clean Air Branch are at: <https://health.hawaii.gov/epo/landuse/>

Clean Water Branch

1. All project activities shall comply with the HAR, Chapters 11-53, 11-54, and 11-55.
 1. The following Clean Water Branch website contains information for agencies and/or project owners who are seeking comments regarding environmental compliance for their projects with HAR, Chapters 11-53, 11-54, and 11-55: <https://health.hawaii.gov/cwb/clean-water-branch-home-page/cwb-standard-comments/>.

Hazard Evaluation & Emergency Response Office

1. A Phase I Environmental Site Assessment (ESA) and Phase II Site Investigation should be conducted for projects wherever current or former activities on site may have resulted in releases of hazardous substances, including oil or chemicals. Areas of concern include current and former industrial areas, harbors, airports, and formerly and currently zoned agricultural lands used for growing sugar, pineapple or other agricultural products.
2. Standard comments for the Hazard Evaluation & Emergency Response Office are at: <https://health.hawaii.gov/epo/landuse/>.

Indoor and Radiological Health Branch

1. Project activities shall comply with HAR Chapters 11-39, 11-45, 11-46, 11-501, 11-502, 11-503, and 11-504.
2. Noise may be generated during demolition and/or construction. The applicable maximum permissible sound levels, as stated in Title 11, HAR, Chapter 11-46, "Community Noise Control," shall not be exceeded unless a noise permit is obtained from the Department of Health.
3. Construction/Demolition Involving Asbestos: If the proposed project includes renovation/demolition activities that may involve asbestos, the applicant should contact the Asbestos and Lead Section of the Branch at <https://health.hawaii.gov/irhb/asbestos/>.

Safe Drinking Water Branch

1. Agencies and/or project owners are responsible for ensuring environmental compliance for their projects in the areas of 1) Public Water Systems; 2) Underground Injection Control; and 3) Groundwater and Source Water Protection in accordance with HAR Chapters 11-19, 11-20, 11-21, 11-23, 11-23A, and 11-25. They may be responsible for fulfilling additional requirements related to the Safe Drinking Water program: <https://health.hawaii.gov/sdwb/>.
2. Standard comments for the Safe Drinking Water Branch can be found at: <https://health.hawaii.gov/epo/landuse/>.

Solid & Hazardous Waste Branch

1. Hazardous Waste Program - The state regulations for hazardous waste and used oil are in HAR Chapters 11-260.1 to 11-279.1. These rules apply to the identification, handling, transportation, storage, and disposal of regulated hazardous waste and used oil.
2. Solid Waste Programs - The laws and regulations are contained in HRS Chapters 339D, 342G, 342H, and 342I, and HAR Chapters 11-58.1 and 11-282. Generators and handlers of solid waste shall ensure proper recycling or disposal at DOH-permitted solid waste management facilities. If possible, waste prevention, reuse, and recycling are preferred options over disposal. The Office of Solid Waste Management also oversees the electronic device recycling and recovery law, the glass advanced disposal fee program, and the deposit beverage container program.
3. Underground Storage Tank Program – The state regulations for underground storage tanks are in HAR Chapter 11-280.1. These rules apply to the design, operation, closure, and release response requirements for underground storage tank systems, including unknown underground tanks identified during construction.
4. Standard comments for the Solid & Hazardous Waste Branch can be found at: <https://health.hawaii.gov/epo/landuse/>.

Wastewater Branch

For comments, please email the Wastewater Branch at doh.wwb@doh.hawaii.gov.

Sanitation / Local DOH Comments:

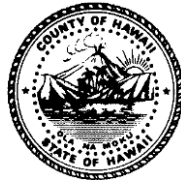
1. According to HAR §11-26-35, No person, firm, or corporation shall demolish or clear any structure without first ascertaining the presence or absence of rodents that may endanger public health by dispersal from such premises. Should any such inspection reveal the presence of rodents, the rodents shall be eradicated before demolishing or clearing the structure. A demolition permit is required prior to demolition.

Other

1. [CDC - Healthy Places - Healthy Community Design Checklist Toolkit](#) recommends that state and county planning departments, developers, planners, engineers, and other interested parties apply these principles when planning or reviewing new developments or redevelopment projects.
2. If new information is found or changes are made to your submittal, DOH reserves the right to implement appropriate environmental health restrictions as required. Should there be any questions on this matter, please contact the Department of Health, Hawaii District Health Office, at (808) 933-0917.

C. Kimo Alameda, Ph.D.
Mayor

William V. Brilhante Jr.
Managing Director



Daniel Girvan, P.E.
Director

Craig Kawaguchi
Deputy Director

County of Hawai'i

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

345 Kekūanāo'a Street, Suite 41 · Hilo, Hawai'i 96720 · cohdem@hawaiiicounty.gov

Ph: (808) 961-8083 · Fax: (808) 961-8086

MEMORANDUM

Date : February 25, 2026

To : Jeffrey Darrow, Director
Planning Department

From : Daniel Girvan, Director
Department of Environmental Management

Subject : PL-SMA-2025-000083

The Wastewater Division has reviewed the subject application and offers the following comments and/or recommendations:

- ☐ No Comments
- ☐ The proposed subdivision is *accessible to a sewer*. The applicant is required to connect all existing and proposed structures to the public sewer in accordance with Section 21-6 and Division 2 of the Hawaii County Code.
- ☒ The proposed subdivision is within 300-linear feet of an existing sewer system. The applicant shall install sewer lines as required by Section 23-85 of the Hawaii County Code. Sewer lines shall comply with Chapter 21, Division 2
- ☐ Extensions of the public sewer system:
The applicant shall submit a letter application to the director detailing where and why the sewer extension is being requested, and a payment mechanism:
 - ☐ The applicant constructs and pays full cost for the extension and may receive for 10 years after completion one-half of all sewer charges collected by the County from other properties that connect to the extension, provided the reimbursement does not exceed the cost incurred by the applicant.
 - ☐ County constructs the extension (the County has yet to create a program to allow this):
 - ☐ The applicant pays the full cost for the extension and may receive for 10 years after completion one-half of all sewer charges collected by the County from other properties that connect to the extension, provided the reimbursement does not exceed the cost incurred by the applicant.
 - ☐ The applicant pays one-half the cost and the County pays the other half of the extension cost. The applicant shall submit sewer engineering plans and sewer study to the Wastewater Division for review.

- ☐ The applicant shall submit a study documenting proposed additional sewer flows so the director can evaluate the capacity of the existing system to handle them. Contact Wastewater Division staff for *Sewer Study* requirements.
- ☐ The proposed subdivision may be subject to existing or future federal, state, or county regulation under Title 40 CFR 403. Contact the Wastewater Division Pretreatment Group for information regarding pretreatment standards and requirements.
- ☐ The proposed subdivision is about ** miles from nearest Hawai'i County Sewer. The applicant shall comply with Department of Health requirements, and all other applicable federal, state, and county regulations. The applicant shall submit plans for treatment facilities to the Department of Health and to the Department of Environmental Management director for review as required by Section 21-11.

For sewers in private roadways:

- ☐ Sewers will be dedicated to the County in accordance with Section 21-19. Contact the Wastewater Division for sewer and easement details and requirements. Applicant shall hold the County harmless for any damage to roadway corridors during or caused by the construction. Contact Wastewater Division for *Permit to Perform Work on the Public Sewer System*.
- ☐ Sewers will be private and will not be dedicated to the County. The applicant shall comply with all Department of Public Works requirements. Contact the Wastewater Division for *Permit to Perform Work on the Public Sewer System*.
- ☐ Other:

Location Map - TMK 2-6-002-001



Current Time: 2/25/2026 11:00 AM

1 inch equals 0 miles

Wastewater Staff

Scale: 1:2,257

COH_Parcels_TMK

Treatment Plants and Pump Stations

Custom

- County Pump Station
- Non-County Pump Station
- County Treatment Plant
- Non-County Treatment Plant

Laterals

Custom

- County Lateral
- Non-County Lateral
- Flow Direction

Mains

Custom

- County Gravity Main
- Non-County Gravity Main
- County Force Main
- Non-County Force Main
- County Outfall
- Non-County Outfall
- County Siphon
- County Stub
- Non-County Stub
- County Treatment
- Non-County Treatment

Manholes

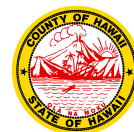
Custom

- County Dropline Manhole
- County Manhole
- Non-County Dropline Manhole
- Non-County Manhole

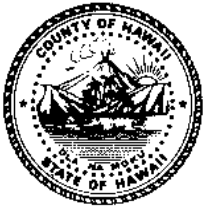
Service Connections

Service Connections

- Connected
- Assumed Connection
- Failed Inspection
- Permit Pending
- Proposed
- Connection Exemption
- Not Connected



Disclaimer: Data provided and maintained by the Hawaii County Wastewater Division are subject to change at any time. The County of Hawaii does not guarantee the positional or thematic accuracy of the GIS data.



BUILDING DIVISION – DPW

COUNTY OF HAWAII – 101 Pauahi Street, Suite 7 – Hilo, Hawai'i 96720

Hilo Office (808) 961-8331 • Fax (808) 961-8410

Kona Office (808) 323-4720 • Fax (808) 327-3509

February 24, 2026

TO:

Alex Roy - County of Hawaii – Planning Dept.
County Of Hawaii Planning Department
101 Pauahi St. Ste. #3
Hilo, HI. 96720

SUBJECT: Special Management Area Use Permit Application (PL-SMA-2025-000083)

Applicant: Haunani Kane PhD, Cliff Kaponu PhD and John H.R. Burns PhD

Request: To Establish an Educational, Research and Gathering Space to Promote Science Education, Research and Cultural Engagement

Tax Map Key: (3) 2-6-002:001-003, South Hilo, Hawai'i

This is to inform you that our records on file, relative to the status of the subject discloses that:

- ☐ No Building permit was issued for work done on the premises.
- ☐ No building permit was issued for the change of occupancy.
- ☐ At the time of completion, the subject complied with all Building Code regulations that were in effect.
- ☐ Variance from any building regulation (Building, Electrical, Plumbing, or Sign) was/was not granted.
- ☐ The following violations(s) still outstanding:
 - ☐ Building
 - ☐ Electrical
 - ☐ Plumbing
 - ☐ Sign
- ☒ Others:

Owner shall acquire and complete the necessary Building Permit(s) to construct and occupy the proposed building(s) and structure(s) as required per Hawaii County Code – Chapter 5 Construction Administration Code, Section 5-3-1. Multiple/separate Building permits are required per Section 5-3-5.

- <https://www.hawaiicounty.gov/our-county/legislative/office-of-the-county-clerk/county-code>
- <https://www.hawaiicounty.gov/home/showpublisheddocument/14/638743634861870000>

Proposed floor plan(s) appear to be consistent with Assembly, Residential, and Multi-unit Residential occupancy types by Building Code definitions. Owner shall ensure that all Building permit documents and plans reflect the applicable occupancy and use types per Building Code definitions and requirements.

Should you have any questions regarding matters contained herein, please feel free to contact Joel Fitzgerald at phone no. (808) 961-8488.

From: [Henderson, Royd](#)
To: [Planning Internet Mail](#)
Subject: Re: Request for Comments | PL-SMA-2025-000083 | Haunani Kane PhD, Cliff Kapono PhD and John H.R. Burns PhD | TMK: (3) 2-6-002:001-003
Date: Wednesday, February 18, 2026 8:47:57 AM
Attachments: [image001.png](#)

Good morning,

Our comments are as follows:

1: Fire Department access and water supply per The Hawaii State Fire Code NFPA1

Thank you,

Royd

From: Miller, Shantel <Shantel.Miller@hawaiicounty.gov>
Sent: Tuesday, February 17, 2026 2:29 PM
To: DPW Eng <dpweng@hawaiicounty.gov>; DWS <dwsengineeringreview@hawaiidws.org>; Civil Defense Distribution Group <civildefense@hawaiicounty.gov>; HCPDOne <hcpdone@hawaiipolice.gov>; DLNR - Land Division (dlnr.land.hawaii@hawaii.gov) <dlnr.land.hawaii@hawaii.gov>; DLNR OCCL <sharleen.k.kuba@hawaii.gov>; DOE <robyn.loudermilk@k.12.hi.us>; DEM (COH) <cohdem@hawaiicounty.gov>; OP <dbedt.stateplanning@hawaii.gov>; DLNR - Engineering Division <DLNR.ENGR@hawaii.gov>; DLNR - DOFAW <dlnr@hawaii.gov>; Building Division Internet Email <cohbuild@hawaiicounty.gov>; Spielman, Aaron <Aaron.Spielman@hawaiicounty.gov>; Morrison, Bethany J <Bethany.J.Morrison@hawaiicounty.gov>; Palma, Maryam <Maryam.Palma@hawaiicounty.gov>; DOH Wastewater Branch <doh.wwb@doh.hawaii.gov>; Honda, Eric <eric.honda@doh.hawaii.gov>; Une, Michael Y. <michael.une@doh.hawaii.gov>; Baybayan, Clinton <Clinton.Baybayan@hawaiicounty.gov>; Henderson, Royd <Royd.Henderson@hawaiicounty.gov>; Kawasaki, Edward <Edward.Kawasaki@hawaiicounty.gov>; Kato, Norren <Norren.Kato@hawaiicounty.gov>; Santiago, Hans <Hans.Santiago@hawaiicounty.gov>; Dane Hiromasa <dane.hiromasa@doh.hawaii.gov>
Cc: Roy, Alex <Alex.Roy@hawaiicounty.gov>; Dacayanan, Melissa <Melissa.Dacayanan@hawaiicounty.gov>
Subject: Request for Comments | PL-SMA-2025-000083 | Haunani Kane PhD, Cliff Kapono PhD and John H.R. Burns PhD | TMK: (3) 2-6-002:001-003

Good Afternoon,

Please see the attached memo requesting your review and comments on the subject matter. No hard copy will be provided.

We apologize for the inconvenience; the application packet referenced in the memo

was not attached. However, you may review the application packet using the following link [PUUEO PROJECT SMA USE PERMIT APPLICATION REV 2026.01.26_V1_FINAL_Redacted.pdf](#)

After opening the link, click on the bookmark icon to navigate through the individual documents.

We kindly ask that you submit your comments to planning@hawaiicounty.gov by **Thursday, March 19, 2026**.

If you have any questions, please feel free to contact Planner Alex Roy (cc'd herein) at 808-961-8140.

Mahalo,

Shan

Shan (Shantel) Miller

Planning Division Staff

County of Hawaii – Planning Department

101 Pauahi Street, Suite 3

Hilo, Hawaii 96720

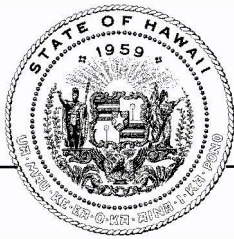
Direct: (808)961-8148 / Main: (808)961-8288

Email: shantel.miller@hawaiicounty.gov



Confidentiality Notice: This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and/or privileged information. Any review, use, disclosure, or distribution by unintended recipients is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.

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



STATE OF HAWAII OFFICE OF PLANNING & SUSTAINABLE DEVELOPMENT

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

MARY ALICE EVANS
DIRECTOR

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: <https://planning.hawaii.gov/>

DTS202602180818MO

Coastal Zone
Management
Program

March 12, 2026

Environmental Review
Program

Land Use Commission

Land Use Division

Special Plans Branch

State Transit-Oriented
Development

Statewide Geographic
Information System

Statewide
Sustainability Branch

Mr. Jeffrey W. Darrow, Director
Department of Planning
County of Hawai'i
East Hawai'i Office
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720

Attn: Alex Roy

Dear Mr. Darrow:

Subject: Special Management Area Use Permit Application (PL-SMA-2025-000083) to establish an educational, research, and gathering space to promote science education, research and cultural engagement Pu'u'eo, South Hilo, Hawai'i; Tax Map Keys: (3) 2-6-002: 001, 002 and 003

Thank you for the opportunity to provide comments on the Special Management Area (SMA) Use Permit Application (PL-SMA-2025-000083), transmitted via memorandum dated February 17, 2026, to establish an educational, research and gathering space to promote science education, research and cultural engagement in Pu'u'eo, South Hilo, Hawai'i.

The 1.97-acre property consists of three contiguous parcels within the SMA and zoned V-7.5 Resort Hotel District. These parcels are situated within the State Urban Land Use Classification District and are abutted on the south side by the Wailuku River, which is within the State Conservation Land Use District.

According to the subject SMA Use Permit application, the applicants propose to develop a meeting facility that will accommodate scientific retreats, educational programs, and community gatherings to include:

- A one-and-a-half story, single family residence of approximately 2,370 gross square feet with 2 bedrooms, 2 bathrooms, a kitchen, dining room, living room, and storage spaces to serve as an on-site residence for staff who provide security, property management, and landscaping.
- A detached 2-car garage, approximately 768 square feet, proximate to the proposed dwelling.

Planning Dept.
Exhibit 8

- Walking trails and 3 covered pavilions of 170 square feet each to provide shaded seating areas at different points along the Wailuku River side of the property.
- A temporary floating pier, anchored to the southern side of the property and located in the Wailuku River.
- A one-and-a-half story halau of approximately 2,990 gross square feet in size, including a community halau room, kitchen, back of house area, and covered lanai to be used for organizational meetings, educational programs, and retreats, including revenue generating events.
- A restroom facility located near the halau of approximately 686 gross square feet in size, including outdoor showers and a covered lanai.
- Paved parking stalls for 20 vehicles including a 12-stall covered parking structure and 8 uncovered stalls.
- Two cabins, consisting of two studio units, for short-term rental to generate revenue to maintain and support the meeting facility.

The proposed development will limit attendees to any program or activity on the project site to no more than 100 people.

Construction is anticipated to be completed in three phases over a 15-year period: Phase I (years 1 through 5) – constructing the residence, 2-car garage, walking trails, pavilions, and floating pier; Phase II (years 5 through 10) – building the halau, restroom facility, covered parking structure, and uncovered parking stalls; and Phase III (years 10 through 15) – constructing the two cabins. The total construction cost for the proposed project is anticipated to range from four to five million dollars.

All or portions of two pavilions are situated within the “AE” or “VE” Flood Zones, which are subject to 100-year frequency flooding and coastal flooding. A portion of the southwest corner of the residence may lie within or directly abut Flood Zone “AE.” Most of the proposed structures are situated within the Flood Zone “X”, areas outside of the 500-year flood plain.

The Office of Planning and Sustainable Development (OPSD) has reviewed the subject SMA Use Permit Application, and has the following comments to offer:

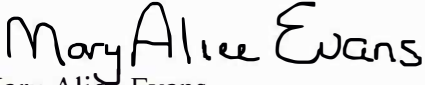
1. The General Plan Land Use Pattern Allocation Guide (LUPAG) map suggests the subject property be used for Medium Density Urban use. The County of Hawai‘i Planning Department should respond to the applicant’s assertion that the proposed

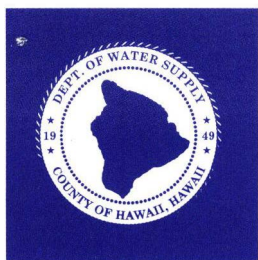
- development is consistent with the LUPAG map classification, and determine whether a single-family residence intended for occupancy by watchmen or custodians is an allowable land use within the county designated Resort-Hotel zoning district, and the proposed gathering space and short-term rental uses of cabins are consistent with the requirements of section 25-1-5, Hawai'i County Code of 1983 for a "meeting facility", which may include a kitchen but has no public commercial transient accommodations.
2. On page 5 of the application, the applicant states that the rental cabins "will consist of two studio units approximately 630 gross square feet in size." On page 4 of Exhibit A, the site plan shows two structures identified as "future cabins." On page 10 of Exhibit A, the floor plan and exterior elevation drawing for the "future cabin" shows a structure of 1,256 square feet that contains 4 studio units, each including an ensuite bathroom and what appears to be a wet bar. The applicant should clarify and describe the size of the rental studio cabin structures, the number of rental units within each structure, and whether the studio units include kitchen facilities.
 3. The application proposes the construction of a temporary floating pier in the Wailuku River but does not discuss the purpose and duration period of the floating pier. The application should address the purpose of the proposed floating pier and anticipated duration of so-called temporary floating pier. OPSD recommends that the County Planning Department assess and determine whether the proposed floating pier is an allowable land use.
 4. In enacting Act 224, Session Laws of Hawaii 2005, the legislature found that light pollution in Hawaii's coastal areas and artificial lighting illuminating the shoreline and ocean waters can be disruptive to avian and marine life. All exterior lighting and lamp posts associated with the proposed development shall be cut-off luminaries to provide the necessary shielding to mitigate potential light pollution in the coastal areas, and lessen possible seabird strikes. No artificial light, except as provided in HRS § 205A-30.5(b), shall be directed to travel across the property boundaries toward Hilo Bay and ocean.
 5. OPSD concurs that prior to the commencement of land altering and construction, sedimentation barriers should be implemented on downhill slope of the project site to minimize potential runoff or sedimentation and be remained until final inspection has been granted for all proposed construction activities. Drywells and/or catch basins should be constructed onsite to capture and infiltrate stormwater runoff, and site-specific Best Management Practices should be prepared and implemented to prevent any runoff, sediment, soil and debris potentially resulting from associated construction activities from adversely impacting the coastal ecosystems and the State waters as specified in Hawai'i Administrative Rules Chapter 11-54.

Mr. Jeffrey W. Darrow
March 12, 2026
Page 4

If you respond to this comment letter, please include DTS202602180818MO in the subject line. For any questions regarding this letter, please contact Rebecca Anderson of our office at (808) 587-2846 or by email at rebecca.anderson@hawaii.gov.

Sincerely,


Mary Alice Evans
Director



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

345 KEKŪANAO'A STREET, SUITE 20 • HILO, HAWAII 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

March 25, 2026

COH PLANNING DEPT
MAR 25 2026 PM3:31

TO: Mr. Jeffrey Darrow, Director
Planning Department

REC'D HAND DELIVERED

FROM: Keith K. Okamoto, Manager-Chief Engineer

SUBJECT: **Special Management Area Use Permit Application (PL-SMA-2025-000083)**
Applicant: Haunani Kane Ph.D., Cliff Kapono Ph.D., and John H.R. Burns Ph.D.
Request: To Establish an Educational, Research and Gathering Space to
Promote Science Education, Research and Cultural Engagement
Tax Map Key 2-6-002:001, 002, and 003

We have reviewed the subject application and have the following comments and conditions.

Water can be made available from an existing 6-inch waterline within Pu'u'e'o Street, fronting Tax Map Key 2-6-003:040, in accordance with the Department's existing water availability conditions, which are subject to change without notice. The Department has no objection to the proposed application, subject to the applicant understanding and accepting the following conditions:

1. The Department requests that the applicant submit estimated maximum daily water usage calculations for the proposed development, for review and approval. The water usage calculations shall be prepared by a professional engineer licensed in the State of Hawai'i, and should include the estimated peak-flow in gallons per minute (GPM), and the total estimated maximum daily water usage in gallons per day, including all irrigation/landscaping use.
2. Upon receipt of the water usage calculations above, the Department will make a determination as to the water commitment deposit amount and prevailing facilities charge (subject to change) to be paid, if necessary. Based on the water demand calculations, the Department will determine the appropriate service lateral and meter size required for the proposed development.
3. The proposed use will require the installation of a reduced pressure-type backflow prevention assembly, within five (5) feet of the meter on private property. If a larger or additional meter is required, a backflow prevention assembly will also be required for that meter. The installation of the backflow prevention assembly must be inspected and approved by the Department before the commencement/continuation of water service.
4. The Department's Water System Standards require that a minimum flow of 2,000 GPM be available at the site for fire protection use. Please be informed that the existing 6-inch waterline within Pu'u'e'o Street is inadequate to provide the required fire flow. The applicant should contact the Fire Department to determine any other fire protection requirements or alternatives.

Planning Dept.
Exhibit 9

... Water, Our Most Precious Resource ... Ka Wai A Kāne ...

The Department of Water Supply is an Equal Opportunity provider and employer.

Mr. Jeffrey Darrow, Director
Page 2
March 25, 2026

5. Subject to other agencies' requirements to construct improvements within the project area, the applicant shall be responsible for the relocation and adjustment of the Department's affected water system facilities, should they be necessary.

Please note that the Department of Water Supply acknowledges that potable water is Hawai'i Island's most precious resource and encourages our communities to promote water conservation and reserve the highest quality of water for the most valuable end-use, which is the sustenance of life.

We request that the developer address the demand for drinking water for landscape irrigation use by reducing the demand, such as:

- Supplying water by alternate methods (i.e. rainwater catchment, reclaimed or reuse water). The County of Hawai'i, Department of Public Works, and/ or the State of Hawai'i, Department of Health has guidelines, recommendations, or regulations regarding these types of systems.
- Design landscape to use water efficient plants that are drought-tolerant, native, or appropriate to the local environment, principles of Xeriscape.
- Select appropriately-sized turf areas, use healthy soils with the appropriate grading to reduce stormwater runoff, including shaded areas, and limit the use of high water using plants, such as turfgrass.

The Department recommends using water efficient plants that are drought tolerant, native, or appropriate to the local environment, using the principles of xeriscaping, and/or propose to supply landscape irrigation water by alternate methods (i.e. rainwater catchment, reclaimed or reused water). The County of Hawai'i, Department of Public Works, and/or the State of Hawai'i, Department of Health has guidelines, recommendations, or regulations regarding these types of systems.

Should there be any questions, please contact Ms. Robyn Matsumoto of our Water Resources and Planning Branch at (808) 961-8070, extension 255.

Sincerely yours,



Keith K. Okamoto, P.E.
Manager-Chief Engineer

RM:dfg

copy – Mr. Daryn Arai
Mr. John H.R. Burns
I&A Burns Joint Trust

Daryn Arai
Land Use Planning Consultant

March 25, 2026

Mr. Jeffrey Darrow, Planning Director
County of Hawai'i Planning Department
101 Pauahi Street, Suite 3
Hilo, HI 96720

Dear Director Darrow:

Subject: Response to Agencies' comments regarding
Special Management Area Use Permit Application PL-SMA-2025-000083
Applicants: Haunani Kane Ph.D., Cliff Kaponu Ph.D. and John H.R. Burns Ph.D.
TMK: 2-6-002:001 thru 003, Pu'ue'o, South Hilo, Hawai'i

Thank you for providing the Applicant with comments received from the various reviewing agencies regarding the subject application, to which we provide the following responses for your consideration.

DLNR--Historic Preservation Division (memo dated March 4, 2026)

The DLNR's Historic Preservation Division (SHPD) notes that the SMA application indicates the Pu'ueo Poi factory operated within the subject parcel until 1965, along with several residences and other businesses. It also noted that the project area is vacant and has, over the years, been subject to SMA Minor Use Permits issued by the County of Hawai'i for vegetation clearing, grading, and debris/junk removal, with that past clearing activities have removed most remnant foundations from previous uses of the parcels.

However, their comments do note that Parcel 003 has not been subject to an AIS. SHPD records show the proposed project area lies within the historic Pu'ueo District where a boat house and shoreside boat davits were identified along the Wailuku River. In 1901, the area contained sixteen private residences. The Goodfellow (1991) AIS records noted an archaeological site comprising two features, several precontact hearths, and remnants of historic refuse and newer structures. Goodfellow (1991) evaluated the historic property under Criterion d (information content) and recommended no further work.

SHPD has determined that the project site is identified as culturally significant based on its history and has insufficient information to determine the potential of the proposed project to impact any undocumented historic properties that may remain. SHPD requests that an archaeological field inspection be conducted of the entire subject project area by a qualified archaeologist to determine the presence or absence of any additional

undocumented historic properties in the current project area. If any archaeological sites are present and/or unrecorded historic properties are identified, SHPD will request that a new AIS be completed for review and acceptance prior to initiation of land altering activities.

The Applicant understands the necessity of initially performing an archaeological field investigation (FI) prior to conducting any land alteration activities. The Applicant will also agree to perform an FI and complete any subsequent studies, reports or plans required by SHPD prior to applying for Final Plan Approval and/or building permits or conducting any land alteration activity.

Department of Health (memo dated February 18, 2026)

The Applicant acknowledges the Department of Health no longer provides individual comments to agencies or project owners to expedite the land use review process. This being said, the Applicant anticipates that this project will not present any environmental health concerns with regulatory implications.

The proposed Pu'ueo Project will connect to the County's sewer system to transport and process all wastewater generated by the proposed facility. Potable water will be made available by the County via an existing waterline located along the Puueo Street frontage of the project site.

As presented within the SMA application, the proposed Pu'ueo Project is designed to minimize the need for extensive land alteration activities in order to accommodate the proposed project components. This is reflected in the design of smaller structures rather than a single larger, multi-story facility as well as the use of post and beam construction for the halau and residence. Less grading will mean less potential for dust and runoff onto nearby properties or waterways. All contractors to be utilized for this project will deploy construction best management practices to ensure proper air and water quality is maintained. Therefore, the Applicant anticipates no compliance issues relating to clean air, safe drinking water, and sanitation issues.

The subject properties are not situated within proximity to a public water well and resides below the Underground Injection Control line. Therefore, the proposed project will not compromise groundwater resources or public water systems.

Mr. Jeffrey Darrow, Planning Director
County of Hawai'i Planning Department
Page 3 of 3
March 25, 2026

Department of Environmental Management (memo dated February 25, 2026)

As required by the Department of Environmental Management, the Applicant will connect the proposed Pu'ueo Project to the existing sewer line that runs along the Puueo Street frontage of the project site.

Department of Public Works-Building Division (memo dated February 24, 2026)

As required by the Building Division, the Applicant will acquire and complete the necessary multiple/separate building permits necessary to construct and occupy the proposed Pu'ueo Project building(s) and structure(s) as required by Chapter 5 (Construction Administration Code) of the Hawai'i County Code.

The Building Division noted that the proposed floor plans appear to be consistent with Assembly, Residential, and Multi-unit Residential occupancy types by Building Code definitions. The Applicant will ensure that all building permit documents and plans reflect the applicable occupancy and use types per Building Code definitions and requirements.

Fire Department (email dated February 18, 2026)

The Applicants acknowledge that design and construction of the proposed Pu'ueo Project must conform to the Fire Department access and water supply requirements pursuant to The Hawaii State Fire Code (NFPA1).

Police Department (memo dated February 25, 2026)

The Applicant acknowledges the response from the Police Department that it does not anticipate any significant project-related impact to traffic nor does it have any public safety concerns.

We hope that we have adequately responded to comments offered by the respective agencies. Please feel free to contact me should there be any questions or need for additional information.

Sincerely,



DARYN ARAI
Land Use Planning Consultant

copy via email: John H.R. Burns, Ph.D. etal

Daryn Arai
Land Use Planning Consultant

April 4, 2026

Mr. Jeffrey Darrow, Planning Director
County of Hawai'i Planning Department
101 Pauahi Street, Suite 3
Hilo, HI 96720

Dear Director Darrow:

Subject: Response to Department of Water Supply's comments regarding
Special Management Area Use Permit Application PL-SMA-2025-000083
Applicants: Haunani Kane Ph.D., Cliff Kapono Ph.D. and John H.R. Burns Ph.D.
TMK: 2-6-002:001 thru 003, Pu'ue'o, South Hilo, Hawai'i

Thank you for providing the Applicant with comments received from the Department of Water Supply regarding the subject application, to which we provide the following response for your consideration.

The Applicants agree to comply with the requirements and seriously consider the recommendations from the Department of Water Supply in its comments on the subject application dated March 25, 2026.

More specifically, the Applicants are researchers whose mission is to advancing ocean science, Indigenous knowledge, and community-based conservation through innovative research, storytelling and education. The proposed Pu'ueo Project will be a gathering space that promotes science education, outreach and cultural engagement. The Applicants, and the fundamental purpose of the Pu'ueo Project, clearly embraces the Department of Water Supply's mission statement that potable water is Hawai'i Island's most precious resource and its desire to encourage our communities to promote water conservation and reserve the highest quality of water for the most valuable end-use, which is the sustenance of life.

The Applicants appreciate the Department of Water Supply (DWS) statement that it has no objection to the proposed project and its ability to support the potable water needs of the proposed project via an existing 6-inch waterline within Puueo Street, to which the Applicants understand and accept the following conditions:

1. Should the SMA application be approved, the Applicants will prepare and submit estimated maximum daily water usage calculations for the proposed development, as prepared by a professional State of Hawai'i-licensed engineer, for review and approval by the DWS. The Applicants will ensure that such a study include the

estimated peak-flow in gallons per minute (GPM), and the total estimated maximum daily water usage in gallons per day, including all irrigation/ landscaping use.

2. A reduced pressure-type backflow prevention assembly will be installed within five (5) feet of the existing water meter on the subject property. If a larger or additional meter is required, the Applicants understand that a backflow prevention assembly will also be required for that meter, both of which must be inspected and approved by the DWS before the commencement/ continuation of water service.
3. The Applicants acknowledge that the existing 6-inch waterline within Puueo Street is inadequate to provide the required 2,000 GPM of minimum fire flow required at the project site for fire protection use. The Applicants will contact the Fire Department to determine any other fire protection requirements or alternatives that can be integrated within the proposed project to address this fire flow deficiency.
4. The Applicants acknowledge that it will be responsible for the relocation and adjustment of the Department's affected water system facilities should they be necessary based upon the requirements of other agencies.
5. To reduce the use of potable water for landscape irrigation use, the Applicants will explore alternative methods to reduce this demand for irrigation during the design of the proposed project. As mentioned earlier, the Applicants are resource conservation researchers whose mission is to promote community conservation efforts in order to protect our oceans and the environments that mutually sustain each other. Their collective wish is for the Pu'ueo Project to be a gathering space to promote this resource conservation effort, and it can only achieve this by implementing the conservation standards and practices that it wishes to promote.

We hope that we have adequately responded to comments offered by DWS. Please feel free to contact me should there be any questions or need for additional information.

Sincerely,



DARYN ARAI
Land Use Planning Consultant