MICHAEL P. VICTORINO
Mayor

LORI TSUHAKO
Director

LINDA R. MUNSELL
Deputy Director

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MAY - 9 2020

DEPARTMENT OF HOUSING
& HUMAN CONCERNS
COUNTY OF MAUI
2200 MAIN STREET, SUITE 546
WAILUKU, MAUI, HAWAI'I 96793
PHONE: (808) 270-7805

April 27, 2020

Mr. Keith Kawaoka, Acting Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Mr. Kawaoka:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR THE 100% AFFORDABLE LA'AKEA VILLAGE PROJECT LOCATED AT TMK (2) 2-5-005:030 IN PAIA, MAUI, HAWAII

With this letter, the Department of Housing and Human Concerns hereby transmits the draft environmental assessment and anticipated finding of no significant impact (DEA-AFONSI) for the La'akea Village project situated at TMK (2) 2-5-005:030, in the Makawao district on the island of Maui for publication in the next available edition of the Environmental Notice.

The online submittal form for HRS Chapter 343 publications is being utilized and an Adobe Acrobat PDF file of this letter and the unlocked and searchable PDF of the DEA-AFONSI document are attached.

If there are any questions, please contact Mr. Buddy Almeida, Housing Administrator, at 270-7351.

Sincerely,

LORI TSUHAKO, LSW, ACSW
Director of Housing and Human Concerns

Enclosure
xc: Ms. Sarah Menzies, La'akea Village
Mr. Raymond Cabebe, Chris Hart & Partners
Buddy Almeida, Housing Division

APPLICANT
PUBLICATION FORM

Project Name:	La'akea Village
Project Short Name:	(please use no more than five succinct words; count not to include document status, e.g., EA)
HRS §343-5 Trigger(s):	Use of County land
Island(s):	Maui
Judicial District(s):	Makawao
TMK(s):	(2) 2-5-005:030
Permit(s)/Approval(s):	HRS 201H approval; building, grading, electrical, plumbing, driveway permits; NPDES permit
Approving Agency:	County of Maui Department of Housing and Human Concerns
Contact Name, Email, Telephone, Address	Ms. Lori Tsuhako loriann.tsuhako@co.maui.hi.us (808) 270-7805 2200 Main Street, Suite 546 Wailuku, Hawaii 96793
Applicant:	La'akea Village
Contact Name, Email, Telephone, Address	Ms. Sarah Menzies sarah@laakeavillage.org (808) 579-8398 P.O. Box 790994 Paia, Hawaii 96779
Consultant:	Chirs Hart & Partners, Inc.
Contact Name, Email, Telephone, Address	Mr. R. Raymond Cabebe rcabebe@chpmaui.com (808) 242-1955 115 N. Market Street Wailuku, Hawaii 96793

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

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

Project Summary

Provide a description of the proposed action and purpose and need in 200 words or less.

La'akea Village is a charitable 501(c)(3) organization and a Department of Health licensed agency providing services to Maui's intellectually and developmentally disabled (IDD) community since 2006 through the operation their various day programs and activities. La'akea Village wishes to provide a safe, complete live/work community environment for their long-term program participants by constructing the La'akea Village project.

The proposed project is a 100% affordable HRS 201H residential housing development for low income families and persons with disabilities. Once complete, the project will include the construction of eighteen (18) residential structures with a total of 47 bedrooms and the necessary supporting infrastructure. The project will be low density and keep the primary use of the subject parcel in agriculture. This alternative represents the highest and best use of the property.

Proposed housing consists of ten (10) 1-bedroom units, five (5) 2-bedroom units, and three (3) 9-bedroom units. Additional structures will include a multi-purpose community/recreation center for yoga/dance, group meeting spaces, and agricultural facilities/storage and processing buildings. Associated infrastructure improvements include paved roadways, sidewalks, onsite parking, drainage systems, water system, sewer system, and underground utilities. The project will be phased based on available funding.

HRS Chapter 343
DRAFT ENVIRONMENTAL ASSESSMENT

for

LA'AKEA VILLAGE

639 Baldwin Avenue
Paia, Maui, Hawaii
Tax Map Key: (2) 2-5-005:030

Prepared for:
La'akea Village
P.O. Box 790994
Paia, Hawaii 96779

Prepared by:
Chris Hart & Partners, Inc.
115 North Market Street
Wailuku, Hawaii 96793
Phone: (808) 242-1955
Facsimile: (808) 242-1956

JANUARY 2020

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Appendix A	Draft HRS 201H Exemptions
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Appendix E	Preliminary Engineering and Drainage Report
Appendix F	Traffic Assessment Report
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I. PROJECT INFORMATION

A. PURPOSE OF THE REQUEST

This Environmental Assessment (EA) has been prepared to analyze the potential impacts related to the construction of the La'akea Village project in support of an HRS 201H application. La'akea Village is a charitable 501(c)(3) organization that has operated under various names, including Sunrise Farms, La'akea Community Farm, and La'akea Foundation. The proposed project consists of an 18 unit 100% affordable residential development, along with other ancillary structures. The proposed project site is situated on an approximately 5 acre portion of a 12.203 acre parcel, owned by the County of Maui, located in Paia, adjacent to Doris Todd Christian Academy along Baldwin Avenue across the street from the Alfred Boteilho Gym (**See:** Figures No. 1 "Location Map" & No. 2 "Tax Map"). Two (2) driveways along Baldwin Avenue will provide access to the project site.

This EA is triggered by the La'akea Villages' use of federal, state, or county lands or funds for development of the proposed project. The 201H application process allows for exemptions from certain statutes, ordinances, charter provisions, and rules of any government agency relating to planning, zoning, and construction standards. As part of the 201H application, the Applicant is requesting an exemption from the requirement for a State Land Use District Boundary Amendment (DBA), among other exemptions. (**See**: Appendix "A" "Draft HRS 201H Exemptions")

B. PROJECT PROFILE

Proposed Project:	La'akea Village 201H 100% Affordable Rental Project
Project Address:	639 Baldwin Avenue Paia, Maui, Hawaii
Project TMK:	(2) 2-5-005: 030
Parcel Size:	12.203 acres
Existing Land Use:	Existing La'akea Village farm, farm stand, day use program facilities, and main office
Access:	Baldwin Avenue

C. IDENTIFICATION OF THE OWNER

Land Owner:	County of Maui
Address:	Department of Finance 200 South High Street Wailuku, Hawaii 96793
Phone:	(808) 270-7722
Contact:	Mr. Scott Teruya, Director

D. IDENTIFICATION OF THE APPLICANT

Applicant:	La'akea Village
Address:	PO Box 790994 Paia, HI 96779
Phone:	Business: (808) 579-8398
Contact:	Ms. Sarah Menzies

La'akea Village (La'akea) is a charitable 501(c)(3) organization whose mission is *"to empower people of all abilities to live, work, learn, play and thrive together to reach their greatest potential."* La'akea, a Department of Health licensed agency, has been providing services to Maui's intellectually and developmentally disabled (IDD) community since 2006 through the operation their various day programs and activities. In 2015, La'akea purchased their first assisted living group home in the nearby Skill Village neighborhood to begin providing a complete live/work safe community environment for some of their long-term program participants. It is more homes and living environments like this that the Applicant wishes to construct and provide for their participants with the La'akea Village project.

E. CONSULTANTS

Land Use Planner & Landscape Architect:	Chris Hart & Partners, Inc. 115 N. Market St. Wailuku, Maui, Hawaii 96793
Phone:	Voice: (808) 242-1955 Facsimile: (808) 242-1956
Contact:	Mr. R. Raymond Cabebe, Vice-President
Architect:	Dean Johnston Designs 785 Hamana Place Haiku, Maui, Hawaii 96708
Phone:	Voice: (808) 264-2273

Contact:	Mr. Dean Johnston
Civil Engineer:	Otomo Engineering, Inc. 305 S. High St., Ste. 102 Wailuku, HI 96793
Phone:	Voice: (808) 242-0032 Facsimile: (808) 242-5779
Contact:	Mr. Stacy A. Otomo, P.E.
Archaeologist:	Archaeological & Ethnographic Consultants Hawaii, LLC 25 Ohaoha Place Makawao, Hawaii 96768
Phone:	Voice: (808) 573-5850
Contact:	Ms. Andree-Michelle Conley-Kapoi, MA
Traffic Engineer:	The Traffic Management Consultant 1188 Bishop Street, Suite 1907 Honolulu, Hawaii 96813
Phone:	Voice: (808) 536-0223 Facsimile: (808) 537-2985
Contact:	Mr. Randall S. Okaneku, P.E.
Cultural Consultant:	Honu Media LLC 500 Kapalua Drive #20P 7-8 Lahaina, Hawaii 96761
Phone:	Voice: (808) 268-0787
Contact:	Ms. Katherine Kama'ema'e Smith

F. ACCEPTING AGENCY

Agency:	Department of Housing and Human Concerns 2200 Main Street, Suite 546 Wailuku, Maui, Hawaii 96793
Phone:	Voice: (808) 270-7805 Facsimile: (808) 270-7165
Contact:	Ms. Lori Tsuhako, Director

G. MAJOR LAND USE, DEVELOPMENT AND CONSTRUCTION APPROVALS

1. 201H Application approval from the Maui County Council.
2. Grading/Grubbing Permit approval from the Maui County Department of Public Works (DPW).
3. Building, Electrical, and Plumbing Permits for future structures from DPW.
4. NPDES Permit approval from the State of Hawaii, Department of Health.
5. Driveway Permit from DPW.

H. PRE-CONSULTED AGENCIES& PRIVATE INTERESTS

Chris Hart and Partners, Inc. (CH&P) distributed Early Consultation Letters to various Federal, State, and County agencies requesting comments on the proposed project. The Agencies with an asterisk (*) provided early consultation comments. (**See**: Appendix "B" "Early Consultation Letters")

State Agencies
Department of Business Economic Development & Tourism*
Department of Hawaiian Home Lands
Department of Health (multiple branches)*
Department of Land and Natural Resources (DLNR) (multiple branches)*
DLNR – State Historic Preservation Division (SHPD)
Department of Transportation
Hawaii Housing Financing and Development Corporation
Office of Hawaiian Affairs

Maui County Agencies
Department of Environmental Management*
Department of Housing and Human Concerns*
Department of Parks and Recreation*
Department of Planning
Department of Public Works*
Department of Water Supply
Fire Prevention Bureau
Police Department*
Councilmember Mike White, Makawao-Haiku-Paia District

Others
A&B Properties
Doris Todd Christian Academy*
Paia Town Association
Property Owners within 500 feet

Early comments provided by agencies have been addressed within this Draft Environmental Assessment. A letter was sent to the Doris Todd Christian Academy in response to some safety concerns. A follow up meeting was held on November 14, 2019 with Ms. Carolyn Moore, head of schools, school staff, and La'akea board members and executive director. Ms. Moore expressed appreciation for what La'akea proposed to address security. Both parties agreed to keep open communications and discussed possible collaborative activities with each other.

II. DESCRIPTION OF THE PROPERTY AND PROPOSED ACTION

A. PROPERTY LOCATION

The project site is located in Paia, adjacent to Doris Todd Memorial Christian School along Baldwin Avenue across the street from the Alfred Boteilho Gym at TMK: (2) 2-5-005: 030 in Paia, Maui Hawaii. The subject parcel is approximately 12.203 acres in area (**See:** Figure Nos. 1 "Regional Location Map", 2 "Tax Map Key", & 3 "Aerial Map").

B. EXISTING LAND USE

The project site is primarily used for active agriculture uses for growing row crops and animal husbandry. The majority of the remaining areas are either in use by La'akea or remain vacant with boulders, trees, shrubs and grasses. The areas in use contain La'akea's main headquarters/office, gravel parking area, outdoor spaces for their day program participants, a farm stand, a gathering center, a kitchen, and other small structures for farm and day use (**See:** Figure Nos. 4.1-4.2 "Site Photographs").

La'akea has a fifty-five (55) year lease for the County property, initiated in 2005, to develop a "farm village for developmentally disabled adults." La'akea currently has a staff of 28 and serves approximately 18 individuals.

C. LAND USE DESIGNATIONS

State Land Use Classification:	Agriculture (**See**: Figure No. 5)
Maui Island Plan:	Small Town Growth Boundary (**See**: Figure No. 6)
Paia-Haiku Community Plan:	"SF" Single Family Residential (**See**: Figure No. 7)
County Zoning:	Interim District (**See**: Figure No. 8)
Flood Zone Designation:	"X" (Outside the 0.2% annual chance floodplain) (**See**: Figure No. 9)

D. ALTERNATIVES

The following alternatives were considered in preparation of this Draft Environmental Assessment:

1. **No Action:** This alternative would forego additional improvements to the site.

Positive Impacts: By leaving the property in its existing agricultural only state, the short-term impacts associated with construction would be avoided. Maintaining the site as agriculture only would reduce energy consumption, the number of automobiles in the immediate area, and increase agricultural crop production potential.

Negative Impacts: La'akea would not develop the farm village on the property as required by its lease, if the "No Action" plan were followed. The residents of Paia and participants in the La'akea community will be limited in their options for affordable housing. La'akea would not be able to realize its primary mission and goal of creating the live/work environment for persons with disabilities and low income and which would likely result in the dissolution of La'akea due to the lack of participants.

2. **Deferred Action:** This alternative would delay development to a later time.

Positive Impacts: There would be no immediate construction-related impacts associated with development.

Negative Impacts: A delay in commencing development would result in uncertainties related to market conditions, interest rates, construction costs, and availability of infrastructure. Additionally, time sensitive project specific funding would expire or be withdrawn. These considerations along with the immediate need for affordable housing options for persons with disabilities and low income would be burdensome to La'akea and result in many participants having no options for work or housing.

3. **Alternative Site:** This option would require that the owner/applicant find and develop another multi-family residential parcel.

Positive Impacts: The short term and peripheral impacts associated with construction would be avoided.

Negative Impacts: Paia, low income families, and the developmentally disabled community would lose an opportunity for new affordable multi-family housing. The applicant does

not lease another suitable site and the land costs involved in acquiring a suitable site could be high.

4. **Denser Development:** This option would develop La'akea Village as a larger development.

Positive Impacts: This option would provide more housing.

Negative Impacts: Infrastructure impacts and impact on public services would proportionately increase with a denser development. La'akea would require additional resources to pursue a larger development.

E. DESCRIPTION OF PROPOSED ACTION (PREFERED ALTERNATIVE)

The proposed project is a multi-family, 100% affordable residential housing, development for low income families and persons with disabilities (**See**: Figure No. 10.1 "Concept Plans"). Once complete, the project will include the construction of eighteen (18) residential structures with a total of 47 bedrooms and the necessary supporting infrastructure. The project will be low density and keep the primary use of the subject parcel in agriculture. This alternative represents the highest and best use of the property.

The development will result in ten (10) 1-bedroom units, five (5) 2-bedroom units, and three (3) 9-bedroom units. Additional structures will include a multi-purpose community/recreation center for yoga/dance, group meeting spaces, and agricultural facilities/storage and processing buildings (**See:** Figure No. 10.1 "Site Plan"). Associated infrastructure improvements include paved roadways; concrete curbs, gutters and sidewalks; onsite parking, drainage systems, water system, sewer system, and underground utilities.

Existing wire fencing will be supplemented along property boundaries and along top of the gulch for security purposes. A four foot wide green space consisting of hedge plantings will be provided at the Doris Todd Christian Academy property boundary. A landscaped buffer will also be provided along the northern property line in the area of a historical Japanese cemetery on the adjoining property.

The proposed project will be 100% affordable and a 201H application will be submitted. At the conclusion of this environmental review process, it is anticipated that a Finding of No Significant Impact (FONSI) will be determined. The proposed project will comply with the Residential Workforce Housing Ordinance by providing more than the required amount of rental units at an affordable price.

The project will be phased based on available funding.

III. DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Land Use

Existing Conditions. The proposed project site is located south of Paia town, adjacent to Doris Todd Christian Academy along Baldwin Avenue, and across the street from the Alfred Boteilho Gym at TMK: (2) 2-5-005: 030 in Paia, Maui Hawaii.

The subject property borders agricultural and urban uses including residential, interim, and public/quasi-public (**See:** Figure No. 3, "Aerial map"). To the north are agricultural uses and a school. To the east and south are additional agricultural uses. Across Baldwin Avenue to the west is a public gym and a single-family residential neighborhood.

The following is a description of zoning, community plan designations, and existing land uses adjacent and in close proximity to the subject property:

North:
Zoning: Interim and Public/Quasi-Public (P-1)
Community Plan: Single Family (SF) and Public/Quasi-Public (P)
State Land Use: Urban and Agricultural Districts
Existing uses. Agriculture, School, and Church

South:
Zoning: Agricultural
Community Plan: Agricultural (AG)
State Land Use: Agricultural District
Existing uses. Agriculture

East:
Zoning: Agricultural
Community Plan: Agricultural (AG)
State Land Use: Agricultural District
Existing uses. Agriculture

West:	Zoning: R-1 Residential Community Plan: Single-Family (SF) State Land Use: Urban District **Existing uses.** Single-Family residences

Potential Impacts and Mitigation Measures. The proposed project is appropriate for the Urban State Land Use designation. As part of the forthcoming 201H application, the Applicant will ask for an exemption from various chapters of the Maui County Code including, but not limited to, public hearing requirements for a Land Use Commission District Boundary Amendment (DBA) from Agricultural to Urban which will result in more consistent land use designations.

2. Topography and Soils

Existing Conditions. The project site elevation ranges from approximately 246 feet above mean sea level (AMSL) at the western boundary of the site to approximately 300 feet AMSL at the northeast corner, averaging approximately 4.9% slope.

According to the *Soil Survey Geographic Database for the Island of Maui, State of Hawaii* (September 2014), prepared by the United States Department of Agriculture, Natural Resources Conservation Service, the soil classification found on the majority of the project site is Paia silty clay, 3 to 7 percent slopes (PcB) (**See:** Figure No. 11 "Soils Map"). PcB is characterized as having moderate permeability, slow runoff, and slight erosion hazard.

Potential Impacts and Mitigation Measures. The soil type present at the project site and moderate slope and are adequate for development. Therefore the current soil conditions found at the project site are adequate for the proposed single family development.

3. Flood and Tsunami Zone

Existing Conditions. According to Panel Number 1500030408E of the Flood Insurance Rate Map (FIRM) prepared by the United States Federal Emergency Management Agency with a revised date of November 4, 2015, the project site is situated in Flood Zone X. (**See**: Figure No. 9 "Flood Hazard Assessment Report Map"). Flood Zone X is designated as areas outside the 0.2% annual chance flood plain.

Potential Impacts and Mitigation Measures. Since the proposed structures will be within Zone X, there are no requirements relating to Special Food Hazard Areas.

4. **Terrestrial Biota (Flora and Fauna)**

Existing Conditions. The project area has been heavily impacted by the Store Village plantation camp that existed there until about the 1950s. As the camps closed down with the development of "Dream City" in Kahului, the site was converted to sugar cane cultivation. According to the *La'akea Farms and Foundation Cultural Impact Assessment* (Smith 2018) (**See:** Appendix "D": "Cultural Impact Assessment"), "[w]ith the exception of an endemic loulu fan palm, no native or canoe plants were observed except those planted by La'akea Farms: a kukui tree, two ulu trees, some coco[nut] palms, and a patch of dry land kalo." La'akea plants and cultivates food crops on approximately four acres of the site. Other vegetation observed on the uncultivated portions of the site include various alien grasses, koa haole, and weeds.

Fauna consists of mongoose, feral rodents, cats, and dogs. Birds include cattle egret, mynah, sparrow, house finch, and cardinal. There is no evidence of seabird or *Nēnē* habitat, due to the dryness of the property.

Potential Impacts and Mitigation Measures. The animal species observed on the site are non-native. Native vegetation species are nearly all planted by La'akea Village. Native species will be considered for future plantings.

5. **Air Quality**

Existing Conditions. Air quality refers to the presence or absence of pollutants in the atmosphere. It is the combined result of the natural background and emissions from many pollution sources. In general, air quality in Paia and Maui in general is considered relatively good. Non-point source emissions (automobile) are not significant to generate a high concentration of pollutants. The relatively high quality of air can also be attributed to the region's exposure to wind, which quickly disperses concentrations of emissions.

Potential Impacts and Mitigation Measures. The impact of land development activities on air quality in a proposed development's locale differs by project phase (site preparation, construction, occupancy) and project type. Air quality impacts attributed to the proposed project could include dust generated by the short-term construction related activities. Site work such as grading and building construction, for example, could generate airborne particulate. Adequate dust control measures that comply with the provisions of Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust, will be implemented during all phases of construction. Mitigation measures will include but are not limited to:

- Providing adequate water source on site prior to start-up of construction activities.
- Landscape planting and rapid covering of bare areas, including slopes, beginning with the initial grading phase.
- Controlling of dust from shoulders, project entrances, and access roads.
- Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities.
- Controlling of dust from debris hauled away from project site.

6. Noise Characteristics

Existing Conditions. In an agricultural environment, noise is due primarily to vehicular traffic, farming machinery, and livestock noises. Nearby school and residential properties generate noises associated with urban use. However, noise levels in the vicinity of the project area are generally low. Traffic noise from the adjacent Baldwin Avenue is the predominant source of background noise in the vicinity of the subject property.

Potential Impacts and Mitigation Measures. In the short-term, the proposed project could generate some adverse impacts during construction. Noise from heavy construction equipment, such as material-carrying trucks and trailers, would be the dominant source of noise during the construction period. To minimize construction related impacts to the surrounding neighbors, the developer will limit construction activities to normal daylight hours, and adhere to the Department of Health's Administrative Rules, Chapter 11-46, Community Noise Control." In the longer-term, the proposed project should not significantly impact existing noise conditions in the area since the proposed project is a continuation of existing uses.

7. Archaeological Resources

Existing Conditions. The project area has been previously disturbed since it was the former site of the Store Village Plantation Camp and intense sugar cane cultivation. Archaeological & Ethnographic Consultants Hawaii, LLC conducted an Archaeological Assessment Survey on the project site in February 2018 and prepare an Archaeological Assessment (AA) report (**See:** Appendix "C" "Archaeological Assessment").

The assessment utilized a pedestrian surface survey and sixteen (16) stratigraphic trenches to assess subsurface conditions. Two additional trenches were located outside of the project area. Documented cultural materials found consisted of modern agricultural debris and material associated with plantation camp era activities.

Potential Impacts and Mitigation Measures. Cultural resources encountered on the property were not collected since they were associated with modern day agricultural activities. The AA report concludes:

> *Based upon the current archaeological research, it does not appear that supplementary examination of the subject parcel would contribute significantly to the data or interpretation of the region; However, based upon the close proximity of the possible Japanese Cemetery and a possible Korean Church being located under the current farm store building, archaeological monitoring during construction activity appears to be warranted – at minimum in and around those two areas. Established on the aforementioned reasons, A&E Consultants Hawai`i, LLC recommends archaeological monitoring for the proposed project.*

The Japanese Cemetery mentioned is not on the subject property; however, A&E Consultants Hawai'i advises that the applicant establish a buffer and "possible vegetation barrier to separate development from the historic religious site" since it is located less than 15 meters (approximately 50 feet) from the northern property line.

If the State Historic Preservation Division (SHPD) concurs with the AA report, an Archaeological Monitoring Plan (AMP) will be prepared to detail monitoring procedures during excavation work associated with the proposed construction. The AMP will be approved by SHPD prior to implementation.

8. Visual Resources

Existing Conditions. The project site is located adjacent to Baldwin Avenue in Upper Paia. The project site has limited public views to the ocean because existing topography of the site, vegetation on adjacent parcels, and the Doris Todd Christian Academy to the north. Public views from Baldwin Avenue to the summit of Haleakala will not be impacted. Views from individual units will vary due to the building orientation and location on the site.

Potential Impacts and Mitigation Measures. No unique public scenic resources or adjacent views are anticipated to be impacted by the proposed development as all proposed structures will be one story in height. The project is not anticipated to significantly impact public view corridors, or the visual character of the site and its immediate environs.

9. Agricultural Resources

Existing Conditions. In 1977, the State Department of Agriculture developed a classification system to identify Agricultural Lands of Importance to the State of Hawaii

(ALISH). The classification system is based primarily, although not exclusively, upon the soil characteristics of the lands. The three (3) classes of ALISH lands are "Prime", "Unique", and "Other", with all remaining lands termed "Unclassified". When utilized with modern farming methods, "Prime" agricultural lands have a soil quality, growing season and moisture supply necessary to produce sustained crop yields economically. "Unique" agricultural lands possess a combination of soil quality, growing season, and moisture supply to produce sustained high yields of a specific crop. "Other" agricultural lands include those that have not been rated as "Prime" or "Unique" but are still considered important agricultural lands.

The ALISH system classifies the project site as approximately 40% "Prime Land" with the remainder being unclassified (**See:** Figure No. 12, "ALISH Map"). It was likely designated "Prime" when the property was planted in sugar cane during the heyday of large scale mono-crop agriculture. Surrounding lands are primarily unclassified with "Prime" lands to the south. Unclassified lands have been heavily developed to provide public infrastructure, residential, and public/quasi-public structures. The proposed project will keep most of the land in farming and is not expected to impact the long-term viability to the growth of agriculture on the island of Maui.

In 1967 The University of Hawaii, Land Study Bureau (LSB), developed the Overall Productivity Rating, which classifies soils according to five (5) levels, ranging from "A", representing the class of highest productivity soils, to "E", representing the lowest.
The lands underlying the project site are unclassified due to the urban nature of the adjoining properties (**See:** Figure No. 13, "LSB Map")**.**

Potential Impacts. Due to the urbanization of some of the surrounding lands which are primarily developed with residential and public uses, the subject property is not classified by the LSB. However, the ALISH classification indicates that at least a portion of the property is "Prime" agricultural land. Most of the property will continue to be farmed as part of La'akea programs for its clients. As such, the utilization of a portion of agricultural lands within the project site for residential use is appropriate and compatible with the surrounding uses.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population

Existing Conditions. According to the 2010 Census, the population of the County of Maui has exhibited relatively strong growth over the past decade with a 2010 population of 154,834, a 20.9% increase over the 2000 population of 128,094, compared to the 12.3% growth of the entire State of Hawaii. The 2010 population of Maui Island was 144,444. Population growth is projected to continue with the year 2020's resident population projected to reach 175,136.

Paia is part of the Makawao District which experienced a growth rate of 14.8% increase in population from 2000 to 2010, with the 2010 resident population reaching 41,887, or 27% of Maui Island's population.

Potential Impacts and Mitigation Measures. The proposed project will consist of 18 units and will slightly increase the population in the immediate area. The proposed project could increase the immediate population by approximately 47 people (number of bedrooms).

2. Housing

Existing Conditions. Maui County Code Chapter 2.96, Residential Workforce Housing Policy (RWHP) requires that any project that results in the creation of ten (10) or more units would trigger the requirements of the RWHP. The Applicant will comply with the RWHP and the proposed project will provide 18 affordable rental units for Maui residents.

Potential Impacts and Mitigation Measures. The project will increase the available supply of residential units by 18. The project will be rented as residential workforce housing, as defined in Chapter 2.96, Maui County Code, to eligible households have gross family incomes from 80% or less to not more than 120% of the median income established by HUD. The 2019 median annual family income is $83,800. As such, the project will serve to reduce the future shortfall for resident housing within the Paia-Haiku Community Plan area. This project will also contribute to the State goal to develop 22,500 affordable rental housing units by December 31, 2026, pursuant to Act 127 (2016).

3. Economy

Existing Conditions. Tourism and agriculture are the predominant components of Maui County's economy. Large-scale mono-crop agriculture, including sugar, pineapple, and cattle ranching, was once the County's dominant agricultural land use and generated the majority of the County's agricultural revenues. Paia's economy was once based primarily upon the sugar agricultural industry.

However, as sugar production declined and the population center moved to central Maui, the commercial center of Paia gradually transformed into trendy restaurants, boutiques, and art galleries catering to residents and visitors. The closure of the HC&S Puunene Sugar Mill and the final sugar cane harvest at the end of 2016 signaled the end of mono-crop agriculture on Maui.

The existing farm operates a country store vending locally grown organic produce and handmade gifts, generating income. The store also provides meaningful work for program participants.

Potential Impacts and Mitigation Measures. The project will generate positive short-term as well as long-term economic effects.

Short-term construction related impacts. On a short-term basis, the project will support the economy via direct and indirect construction-related employment, as well as through the purchase of construction materials and building-related services

Longer-term economic related impacts. Permanent employment for onsite maintenance, staff, and program participants are anticipated to create jobs.

4. Cultural Resources

Existing Conditions. Honu Media, LLC prepared the *La'akea Farms and Foundation Cultural Impact Assessment* report (CIA) in February 2018 (**See**: Appendix "D"). The project site is in the land district or *ahupua'a* of Hāmākuapoko. The CIA describes the district's pre-contact history:

> *… dry kula lands of Upper Pāʻia represented low-density population in pre-contact era, with opportunistic farming opportunities for sweet potatoes and sugar cane, but only when rainfall was sufficient. In Hāmākuapoko, settlements cluster near running streams, on the coastline close to fishing and in upland agricultural zones at elevations where condensation of moisture from Moa'e trade winds occurs with regularity.*

For the CIA, oral interviews were conducted with the following persons:

1. Joy Bissel,
2. Marilyn Morikawa,

3. Roy Earle

Potential Impacts and Mitigation Measures. The CIA notes that "the study parcel was in commercial sugar cane agriculture from the 1840s to 2000; historical artifacts or cultural sites on this land would have been either discovered or lost in grading, tilling and harvesting." The CIA concludes that "[w]ith no identified cultural sites or current cultural practices on this property, there is no effect on the building expansion plan."

C. PUBLIC SERVICES

1. Recreational Facilities

Existing Conditions. The Paia-Haiku area has a wide reputation as a recreational destination, particularly for ocean related activities. Ocean sports and recreation available in the district include swimming, fishing, scuba diving, snorkeling, surfing, windsurfing, kite-surfing, stand up paddle boarding, canoe paddling, and other organized individual and team athletic activities, as well as social gatherings. The area has hosted many surfing, wind sport, and paddle sport competitions. State and County facilities in the Pa'ia District include the H. A. Baldwin Beach Park, Ho'okipa Beach Park, Pa'ia Gymnasium, Pa'ia Community Center and Rainbow Park.

Potential Impacts and Mitigation Measures. The proposed project will not increase demand for the region's recreational facilities.

2. Police and Fire Protection

Existing Conditions. Police protection for the region is provided by the Maui County Police Department (MPD) headquartered at the Wailuku station approximately 8.4 miles away. The Central Maui patrol includes approximately 100 full time personnel. MPD also maintains a substation at the Eddie Tam Memorial complex in Makawao, approximately 6.2 miles away.

Fire prevention, suppression, and protection are provided by Maui County Fire Department's Paia Station, located on Hana Highway in Paia, approximately 1.3 miles from the subject property. The Paia station is staffed by fifteen full-time personnel.

Potential Impacts and Mitigation Measures. The proposed project will not extend the service area; thus, the proposed project is not anticipated to have an adverse impact upon existing police and fire protection services.

The Applicant will submit fire flow calculations to the Fire Department and the Department of Water Supply during the building permit review process to determine the required system improvements.

3. Medical Facilities

Existing Conditions. Major medical facilities are located approximately 8.6 miles from the project site at Maui Memorial Medical Center and the Kaiser Permanente Health Clinic. Various private practices and clinics also provide services in Haiku, Makawao, and Pukalani. Emergency medical response service is available in Paia.

Potential Impacts and Mitigation Measures. The proposed project will not significantly increase the resident population in the immediate area and therefore is not anticipated to produce a significant increase in demand for physicians, dentists, nurses, mental health personnel and hospital beds.

4. Solid Waste

Existing Conditions. Only two landfills are currently operating on Maui, the Central Maui Landfill in Puunene, and the Hana landfill. Residential solid waste collection is provided by the County and taken to the Central Maui Landfill (CML), which also accepts waste from private refuse collection companies. The CML will reach capacity in 2026. It is expected that 50 additional acres will be acquired for expansion before capacity is reached. The County is implementing an Integrated Waste Conversion and Energy Project that is expected to divert approximately 85 percent of waste from the CML.

Plastic, glass, metal, cardboard, and newspaper can be recycled when left at various drop-boxes throughout the County. Green waste recycling is provided by several private organizations.

Potential Impacts and Mitigation Measures. Based upon figures provided by the County of Maui, Curbside Refuse Collection System Plan, September 2000, the subject project will generate approximately 1.72 tons per household per year, which is equivalent to 3,440 pounds/year of solid waste. Thus, the project is anticipated to generate approximately 61,920 pounds/year or 170 pounds per day of solid waste. Solid waste collection for the

proposed project will be contracted to a private collection company. Green waste from the site will be either mulched on site or deposited at the Central Maui landfill's green waste recycling facility. During construction the applicant will incorporate a job site recycling plan in order to reduce the amount of construction related waste generated by the project. Areas designated for trash collection will have receptacles for recycling paper, cardboard, metals, glass, and plastics.

5. Schools

Existing Conditions. The Paia-Haiku District is serviced by both private and public schools, which provide education for preschool through intermediate school age children. Paia Elementary School is located *mauka* (southeast), approximately 0.3 miles away and Doris Todd Christian Academy is adjacent to the property to the northwest. Kalama Intermediate School is located in Makawao and King Kekaulike High School is located in Pukalani. The project is within the boundaries of the Makawao Impact District.

Potential Impacts and Mitigation Measures. In 2007, the Hawaii Legislature enacted Act 245 as Section 302A, Hawaii Revised Statutes (HRS), "School Impact Fees". Based upon this legislation, the DOE has enacted impact fees for residential developments that occur within identified school impact districts.

D. INFRASTRUCTURE

1. Water

Existing Conditions. Domestic water fire flow will be provided by the County's water system. There are three existing waterlines fronting the property along Baldwin Avenue: 6-inch, 8-inch, and 12-inch lines.

A 300,000 gallon tank, located on Baldwin Avenue, is approximately 465 feet above mean sea level and provides storage for the area. The source for this water system is from the Central Maui Source. (**See:** Appendix "E" "Preliminary Engineering Report")

The property is served by an existing 1-inch meter. There is an existing fire hydrant on Baldwin Avenue across the existing driveway.

Potential Impacts and Mitigation Measures. In accordance with the Department of Water Supply's Domestic Consumption Guidelines for residential development, the

average daily demand for the project is approximately 54,970 gallons per day (**See:** Appendix "E" "Preliminary Engineering Report") Fire flow demand for the residential development is 1,500 gallons per minute for a 2-hour duration. Fire hydrants will be installed with a maximum spacing of 250 feet, if necessary.

The required water meter size will be determined at the time building permits are applied for. Water service and fire protection improvements will be made as required to meet standards.

Low flow fixtures, drought tolerant plants, and efficient irrigation, such as drip, will be implemented in order to conserve water.

2. Sewer

Existing Conditions. There are no existing County wastewater system in the vicinity.

Potential Impacts and Mitigation Measures. The project will be required to install its own individual wastewater system designed to meet State of Hawaii requirements. Permits will be applied for during building permit processing.

3. Drainage

Existing Conditions. The elevation on the site ranges from 246 feet above mean sea level at the western boundary of the site to 300 feet at the northeastern corner, averaging approximately 4.9% slope.

Presently, runoff from the project site sheet flows in a southeast to northwest direction across the property. It is estimated that the present 50-year, 1-hour runoff from the project site is 12.64 cfs. The resulting storage volume is 23,508 cubic feet. (**See:** Appendix "E" "Preliminary Engineering Report")

Potential Impacts and Mitigation Measures. According to the Preliminary Engineering Report (Otomo 2017):

> *The design intent of the development plan will be to utilize the existing topography as much as possible and limit the need for extensive grading.*

As a result, there will not be any significant alterations to the existing drainage pattern. Runoff will be collected by various methods such as vegetated swales and/or grated inlet catch basins and conveyed to onsite retention basins at various locations on the property. The retention basins will be located in areas to minimize direct release of surface runoff into downstream properties.

The post development runoff from the project site is estimated to be 20.94 cfs, with an increase of 8.30 cfs over existing conditions. The resulting storage volume for developed conditions is 45,238 cubic feet, an increase of 21,730 cubic feet.

Development of the project will include the implementation of site specific best management practices (BMPs) during construction to provide erosion control and minimize impacts to downstream properties. BMPs may include:

1. Prevention of cement products, oil, fuel, and other toxic substances from falling or leaching into the water.
2. Prompt and proper disposal of all loosened and excavated soil and debris material from drainage structure work.
3. Retention of existing ground cover until the last possible date.
4. Stabilization of denuded areas by sodding or planting as soon as possible.
5. Implementation of sediment trapping measures and basins.
6. Control of access and vehicular movement across disturbed areas.
7. Early construction of drainage features.
8. Minimization of construction time.

The project will also include post-construction BMPs, which will improve the quality of storm water runoff from the proposed development.

The proposed drainage system will be designed in accordance with Chapter 4, "Rules for the Design of Storm Drainage Facilities in the County of Maui" and Chapter 111, "Rules for the Design of Storm Water Treatment Best Management Practices."

4. Roadway

Existing Conditions. Traffic Management Consultant (TMC) prepared a Traffic Assessment Report (TAR) for the La'akea Village project. (**See:** Appendix "F" "Traffic Assessment Report") The project area includes the following intersections and roadways:

a) Hana Highway at Baldwin Avenue
b) Paia Bypass at Baldwin Avenue
c) North Driveway at Baldwin Avenue
d) South Driveway at Baldwin Avenue

Hana Highway is a two-lane, two-way State highway. Baldwin Avenue, a two-lane, two-way collector roadway, intersects Hana Highway in Lower Paia approximately one mile northwest of the project site. The T-intersection with Hana Highway is signal controlled. Baldwin Avenue connects Paia and Makawao. The Paia Bypass Road is a one-lane, one-way road that runs in a west to east direction between Hana Highway and Baldwin Avenue. Traffic is controlled by a stop sign at its intersection with Baldwin Avenue.

Public Transportation. The Haiku Islander Route #35 of the Maui Bus system, Maui's only public transportation system, has the nearest bus stop on Hana Highway in Lower Paia, approximately 1.2 miles away.

Parking. A total of 60 parking stalls will be provided onsite, including 13 ADA accessible stalls.

Note that none of La'akea's clients operate motor vehicles.

Potential Impacts and Mitigation Measures. The TAR evaluates the following intersections in terms of overall Level of Service (LOS), without and with the proposed expansion project:

Intersection	Overall LOS Without		Overall LOS With	
	AM	PM	AM	PM
Hana Hwy/Baldwin Ave	C	C	C	C
Paia Bypass/Baldwin Ave	B	B	B	C
La'akea Driveways/Baldwin Ave (North)	A	A	B	B
La'akea Driveways/Baldwin Ave (South)	A	A	A	A

The proposed project is expected to generate 47 trips in the AM peak hour and 67 trips in the PM peak hour.

The TAR concludes that the potential traffic generated by the project does not trigger requirements for exclusive left turn lanes at any of the intersections and that the LOS at all intersections will remain satisfactory. As such, no traffic mitigation is recommended by the TAR.

5. Electrical, Telephone, Cable and Data Systems

Existing Conditions.

There are existing overhead electrical, telephone, and cable lines which are located along Baldwin Avenue that currently service the area.

Potential Impacts and Mitigation Measures. Within the project site, electrical, phone, and cable systems will be installed in accordance with the utility company rules and regulations.

IV. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. STATE LAND USE LAW

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes four major land use districts into which all lands in the State are placed. These districts are designated Urban, Rural, Agricultural, and Conservation. The subject property is within the Agricultural District. The residential development as proposed is permitted within the Agricultural District as an accessory use to farming activities

B. HAWAII STATE PLAN

The Hawaii State Plan (Chapter 226, HRS), establishes a set of goals, objectives, and policies that serve to guide the long-term growth and development of the State. The Plan consists of three (3) parts. Part I includes its Overall Theme, Goals, Objectives, and Policies; Part II encompasses Planning, Coordination, and Implementation; and Part III establishes Priority Guidelines. Since Part II of the State Plan covers its administrative structure and implementation process, comments relating to the applicability of Part II to the proposed project are not appropriate. In addition to sections of the State Plan that are applicable to the proposed project, a discussion of how the project conforms to the State Plan is included below.

Hawaii State Plan, Chapter 226, HRS Part I. Overall Themes, Goals, Objectives and Policies
HRS 226-4: State Goals. In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve: *1. A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations.* *2. A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well being of the people.* *3. Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.*
Analysis: The proposed 100% affordable housing project achieves the above-referenced goals by 1) contributing real property taxes and 2) creating affordable rental housing for Maui residents, thereby providing greater opportunity for self-reliance and self-determination. In addition the existing farming operation is currently providing jobs in the Paia region.

Chapter 226-5, HRS, Objective and Policies for Population
Objective: It shall be the objective in planning for the state's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.
Policies:
(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.
(3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.
(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.
<u>Analysis:</u> The proposed project is a 100% affordable residential project that will help accommodate foreseeable population growth on Maui. The project area within the Small Town Growth Boundary by the Maui Island Plan, the project site is in an appropriate location for new single family development and growth. The project site is located adjacent to residential neighborhoods and existing infrastructure and public facilities are in close proximity, making this location ideal for growth. The existing farming/country store operation is strengthening Maui's economy by creating jobs for Maui residents which will in turn have a positive impact on the rest of the Maui economy. The result will be an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires, which will promote increased opportunities for Hawaii.
Chapter 226-6, HRS, Objectives and Policies for the Economy – in General
Objectives: Planning for the State's economy in general shall be directed toward achievement of the following objectives:
Objectives:
(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.

(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.
<u>Analysis:</u> The existing farming/country store and social service operation is strengthening Maui's economy by creating jobs for Maui residents which will in turn have a positive impact on the rest of the Maui economy. The result will be an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires, which will promote increased opportunities for Hawaii.
Chapter 226-7, HRS, Objective and policies for the economy-agriculture.
(a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:
<u>Objectives:</u>
(2) Continued growth and development of diversified agriculture throughout the State.
<u>Policies:</u>
(7) Increase the attractiveness and opportunities for an agricultural education and livelihood.
(8) Expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.
(9) Promote economically competitive activities that increase Hawaii's agricultural self-sufficiency.
<u>Analysis:</u> The proposed project site is a former sugar cane field that is currently used for diversified farming activities and a country store. The operation will continue with the proposed added residential component.
<u>Chapter 226-12, HRS, Objective and Policies for the Physical Environment – Scenic, Natural Beauty, and Historic Resources</u>
(a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.
<u>Policies:</u>
(1) Promote the preservation and restoration of significant natural and historic resources.
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.

Analysis: As discussed in Section III.A.7 (Archaeological/Historical Resources), the AIS noted that "there were no significant historic properties encountered within the parcel." However, the AIS advises "an established buffer and possibly a natural vegetation barrier to separate development from" the possible Japanese cemetery in the gulch to the northeast. Archaeological monitoring during construction is also recommended. As discussed in Section III.B.4 (Cultural Resources), the cultural impact statement (CIA) which was prepared for the proposed project reported that "With no identified cultural sites or current cultural practices on this property, there is no effect on the building expansion plan." The oral history interviews did not reveal any known gathering places on the subject property nor did any access concerns surface as a result of the proposed Project. In light of the foregoing, it can be concluded that development of the site will not impact cultural resources on the property or within its immediate vicinity.
Chapter 226-19 Objectives and policies for socio-cultural advancement-housing.
(a) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:
(1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawaii's population.
Policies:
(1) Effectively accommodate the housing needs of Hawaii's people.
(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.
Analysis: As discussed in Section III.B.2 (Housing), the proposed project will offer 100% affordable single family housing to address the housing needs of Paia residents. The single-family housing development is providing more units than the required by Maui County Code, Chapter 2.96 (Residential Workforce Housing Policy) and are available for full-time Maui residents.

PART III. PRIORITY GUIDELINES

The priority guidelines of the Hawaii State Plan establish overall priority guidelines which address areas of State-wide concern. The Hawaii State Plan notes that the State shall strive to improve the quality of life for Hawaii's present and future population through the pursuit of desirable courses of action in five (5) major areas of Statewide concern which merit priority attention: 1) economic development; 2) population growth 3) affordable housing; 4) crime and criminal justice; and 5) quality education (§226-102). The development of the La'akea Village is supportive of the following priority guidelines of the Hawaii State Plan.

Hawaii State Plan, Chapter 226, HRS Part III. Priority Guidelines
HRS 226-101*: Purpose. The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.*
HRS 226-102*: Overall Direction. The State shall strive to improve the quality of life for Hawaii's present and future population through the pursuit of desirable courses of action in five major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, and quality education.*
Chapter 226-104, HRS, Population Growth and Land Resources Priority Guidelines
(b) Priority guidelines for regional growth distribution and land resource utilization:
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.
Analysis: As discussed in Section III.B.1 (Population) the proposed will provide housing for the population of the Paia region. The subject property is located within the Maui Island Plan's Small Town Growth Boundary and supporting infrastructure is adjacent to the site or are in close proximity. As discussed in Section III.D (Infrastructure), the proposed will be responsible for some required infrastructure improvements and utility upgrades as determined by the appropriate governmental agencies and public utility companies. As discussed in Section III.C.3 (Police and Fire protection services) increased tax revenues generated by the project will provide additional funds to the County for police

and fire capital facility improvements and service upgrades. Additionally, the applicant will comply with any impact fee ordinances for police and fire. As discussed in Section III.A.9 (Agricultural Resources) The LSB and ALISH classification systems indicate that the lands underlying the project site possess poor soil and low soil ratings for productive agricultural uses. As such, the utilization of these poorly-rated agricultural lands for single family use and development is deemed appropriate. Through the public review process for the EA, mitigation measures will be identified to help address any environmental impacts that may arise from the proposed project.
Chapter 226-106 Affordable housing. Priority guidelines for the provision of affordable housing:
Priority guidelines for the provision of affordable housing:
(1) Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.
(8) Give higher priority to the provision of quality housing that is affordable for Hawaii's residents and less priority to development of housing intended primarily for individuals outside of Hawaii. [L 1986, c 276, §33; am L 1989, c 250, §3]
<u>*Analysis:*</u> As discussed in Section III.B.2 (Housing), the proposed project will offer 100% affordable single family housing to address the housing needs of Paia region. The single-family housing development is providing more units than the required by Maui County Code, Chapter 2.96 (Residential Workforce Housing Policy) and are available for full-time Maui residents therefore the proposed project is supportive of the priority guidelines for affordable housing.
Chapter 226-108 Quality education.
Priority guidelines to promote quality education:
(1) Strengthen and expand educational programs and services for students with special needs.

Chapter 226-108 Sustainability priority.
Priority guidelines and principles to promote sustainability:
(1) Encouraging balanced economic, social, community, and environmental priorities;
(2) Encourage planning that respects and promotes living within the natural resources and limits of the State;
(3) Promote a diversified and dynamic economy;
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaii.
Analysis: The proposed development will provide greatly needed affordable housing units in the Paia region. Providing affordable housing for Maui residents is priority of Maui Island Plan, Paia-Haiku Community Plan and the Department of Housing and Human Concerns. The proposed project also supports Hawaii State Plan Chapter 226, HRS 226-106 "Affordable Housing" which sets priority guidelines for the provision of affordable housing in the State of Hawaii. The proposed development will provide housing opportunities for workforce residents. The project will support a dynamic economy by proving additional housing options to Maui's workforce residents. The proposed project site is identified as a Small Town growth area and will complement the existing neighborhood and provide much needed affordable housing units in the near future. The project anticipates acceptance of the Final EA which will document that the project will not compromise the needs of future generations. The Applicant recognizes the importance of sustainability in Planning and the proposed project has incorporated sustainability design elements such as photo-voltaic (PV) to offset energy demands and vegetated swales and retention basins located on site to intercept stormwater runoff closer to the source. The Applicant may consider other renewable energy technologies and conservation measures to promote sustainability.
Chapter 226-109 Climate change adaptation priority.
Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall:

(1) Ensure that Hawaii's people are educated, informed, and aware of the impacts climate change may have on their communities;
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;
Analysis: Effects of climate change will have adverse effects on all communities, our economies, and our natural and cultural resources. As discussed in Section III.A.9 (Agricultural Resources) The LSB and ALISH classification systems indicate that the lands underlying the project site possess poor soil and low soil ratings for productive agricultural uses. As such, the utilization of these poorly-rated agricultural lands for urban use and development is deemed appropriate.

C. GENERAL PLAN OF THE COUNTY OF MAUI

The General Plan of the County of Maui refers to a hierarchy of planning documents that together set forth future growth and policy direction in the County. The General Plan is comprised of the following documents: 1) County-wide Policy Plan; 2) Maui Island Plan; and 3) nine community plans.

The County-wide Policy Plan was adopted on March 19, 2010 and is a broad policy document that identifies a vision for the future of Maui County. It establishes a set of guiding principles and provides comprehensive goals, objectives, policies and implementing actions that portray the desired direction of the County's future. The County-wide Policy Plan provides the policy framework for the development of the Maui Island Plan and nine Community Plans.

The County-wide Policy Plan guiding principles, goals, objectives, policies and implementing actions that are as follows:

A. PROTECT THE NATURAL ENVIRONMENT

Goal: *Maui County's natural environment and distinctive open spaces will be preserved, managed, and cared for in perpetuity.*

Objective No. 3: *Improve the stewardship of the natural environment.*

Policies:

c. Evaluate development to assess potential short-term and long-term impacts on land, air, aquatic, and marine environments.

d. *Reduce air, noise, light, land, and water pollution, and reduce Maui County's contribution to global climate change.*

Analysis. The stormwater treatment system is designed to remove pollutants in addition to retaining discharge from the site. During construction, best management practices will minimizes air, stormwater, and groundwater contamination.

E. EXPAND HOUSING OPPORTUNITIES FOR RESIDENTS

Goal: *Quality island-appropriate housing will be available to all residents.*

Objective No. 1: *Reduce the affordable housing deficit for residents.*

Policies:

a. *Ensure that an adequate and permanent supply of affordable housing, both new and existing units, is made available for purchase or rental to our resident and/or workforce population, with special emphasis on providing housing for low- to moderate-income families, and ensure that all affordable housing remains affordable in perpetuity.*

Analysis. The proposed project will increase affordable housing opportunities for residents of Maui County.

The Maui Island Plan serves as the regional plan for the Island of Maui. The Plan is comprised of the following ten elements: 1) Population; 2) Heritage Resources; 3) Natural Hazards; 4) Economic Development; 5) Housing; 6) Infrastructure and Public Facilities; 7) Land Use; 8) Directed Growth Plan; 9) Long Range Implementation Plan; and 10) Monitoring and Evaluation. Each element contains goals, objectives, policies and implementing actions. The Directed Growth Plan identifies the location of future development through 2030. The Directed Growth Plan is intended to guide the location and general character of future urban development and will direct future zoning changes and guide the development of the County's short-term and long-term capital improvement plan budgets. As indicated by the Plan's Directed Growth Maps, the Project lies within the limits of the proposed Small Town Growth Boundary for Paia.

> *Characteristics: Small Towns are less intensely developed than urban areas with fewer services and a lower level of infrastructure. They may be more self-sufficient than Rural Villages. Primary employment opportunities are usually in nearby urban areas.*
> *Purpose: Protect the integrity, unique sense of place, and economic viability of Maui's traditional small towns.*

Implementation Strategy: *Protect separation between communities through the use of Small Town Boundaries. Allow for expansion where appropriate. Utilize design guidelines and rural infrastructure standards to protect Small Town character.*

Analysis. The proposed La'akea Village is a low density residential project that will retain the rural character of the area and will be reminiscent of the plantation era.

POPULATION

Goal:	
1.1	***Maui's people, values, and lifestyles will thrive through strong, healthy, and vibrant island communities.***
Objective:	
1.1.1	***Greater retention of island residents by providing viable work, education, and lifestyle options.***
Policies:	
1.1.1.b	*Expand housing, transportation, employment, and social opportunities to ensure residents are able to comfortably age within their communities.*

Analysis. The proposed project is providing opportunities for employment in the short-term (construction related) and long term. The proposed project itself will be providing long term affordable housing for 18 families.

HOUSING

Goal:	
5.1	***Maui will have safe, decent, appropriate, and affordable housing for all residents developed in a way that contributes to strong neighborhoods and a thriving island community.***
Objective:	
5.1.1	***More livable communities that provide for a mix of housing types, land uses, income levels, and age.***
Policies:	
5.1.1.a	*Promote livable communities (compact/walkable/bikeable, access to transit) that provide for a mix of housing types and land uses, including parks, open space, and recreational areas.*
Objective:	

5.1.3	***Provide affordable housing, rental or in fee, to the broad spectrum of our island community.***
Policies:	
5.1.3.c	*Facilitate the use of public lands in urban areas that are suitable for affordable housing.*
5.1.3.d	*Develop or support partnerships and initiatives that provide housing-related education/outreach.*
Objective:	
5.1.5	***A wider range of affordable housing options and programs for those with special needs.***
Policies:	
5.1.5.a	*Ensure that residents with special needs have access to appropriate housing.*
5.1.5.b	*Encourage housing to be built or rehabilitated to allow the elderly and those with special needs to live in their home.*
5.1.5.c	*Ensure and facilitate programs to assist those with special needs from becoming homeless.*

Analysis. The proposed La'akea Village is a 100% affordable rental project targeted towards intellectually and developmentally disabled persons. The project's primary residents will participate in La'akea's onsite programs involving the farm, country store, and development activities.

INFRASTRUCTURE AND PUBLIC FACILITIES

SOLID WASTE

Goal:	
6.1	***Maui will minimize the volume of solid waste that enters the regional landfills.***
Objective:	
6.1.2	***Prolong the life of existing landfills.***
Policies:	
6.1.2.a	*Increase recycling, reuse, and reduction of solid waste.*

Analysis. Green waste from the site will be either mulched on site or deposited at the Central Maui landfill's green waste recycling facility. During construction the applicant will incorporate a job site recycling plan in order to reduce the amount of construction related waste generated by the project. Areas designated for trash collection will have receptacles for recyclable items.

ENERGY

Goal:	
6.10	***Maui will meet its energy needs through local sources of clean, renewable energy and through conservation.***
Objective:	
6.10.1	***Reduce fossil fuel consumption: using the 2005 consumption as a baseline, reduce by 15% in 2015; 20% by 2020; and 30% by 2030.***
Policies:	
6.10.1.a	*Support energy efficient systems, processes, and methods in public and private operations, buildings and facilities.*

Analysis. The proposed project will utilize energy efficient appliances and install a photo-voltaic array to offset the project's energy consumption.

D. PAIA-HAIKU COMMUNITY PLAN

Maui County has adopted nine (9) community plans. Each community plan examines the conditions and needs of the planning region and outlines objectives, policies, planning standards and implementing actions to guide future growth and development in accordance with the Maui County General Plan. Each community plan serves as a relatively detailed agenda for implementing the broad General Plan themes, objectives and policies.

The project site is located in the Paia-Haiku Community Plan region and is designated for (SF) Single Family use. (**See**: Figure 7, "Paia-Haiku Community Plan Map") The Community Plan was adopted by Ordinance No. 2415 and went into effect on May 17, 1995.

The following Paia-Haiku Community Plan goals, objectives, and policies are applicable to the proposed action:

LAND USE

Goal

A well-planned community that preserves the region's small town ambiance and rural character, coastal scenic vistas, and extensive agricultural land use, and accommodates the future needs of residents at a sustainable rate of growth and in harmony with the region's natural environment, marine resources, and traditional uses of the shoreline and mauka lands.

Analysis. The proposed La'akea Village is a low density residential project that will retain the rural character of the area and will be reminiscent of the plantation

ENVIRONMENT

Goal

The preservation and protection of the natural environment, marine resources and scenic vistas to maintain the rural and natural ambiance and character of the region.

Objectives and Policies

9. *Encourage the construction of natural grass-lined drainage channels, as opposed to concrete channels, and the installation of siltation basins.*

11. *Promote greater awareness and opportunities for recycling and sound conservation practices*

Analysis. The stormwater treatment system is designed to remove pollutants in addition to retaining discharge generated by the project. During construction, best management practices will minimizes air, stormwater, and groundwater contamination.

Green waste from the site will be either mulched on site or deposited at the Central Maui landfill's green waste recycling facility. During construction the applicant will incorporate a job site recycling plan in order to reduce the amount of construction related waste generated by the project. Areas designated for trash collection will have receptacles for recyclable items.

ECONOMIC ACTIVITY

Goal

A stable economy that complements the rural character of the region and provides opportunities for economic diversification and community needs.

Objectives and Policies

1. *Maintain agriculture as the primary economic activity. Enhance opportunities for the cultivation and processing of local agricultural products and encourage the establishment of agricultural parks and support services (i.e., co-op facilities for distribution, marketing and sales) to enhance diversified agricultural activities.*

Analysis. The proposed project site is a former sugar cane field that is currently used for diversified farming activities and a country store. The operation will continue with the proposed added residential component.

HOUSING

Goal

A sufficient supply and choice of attractive housing accommodations with emphasis on affordable housing for a broad cross section of residents.

Objectives and Policies

2. *Expand the inventory of affordable housing. Provide a variety of affordable housing opportunities, including improved lots and self-help projects, and provide for special needs, including the elderly, single- parent families and the disabled. Encourage public sector projects, government programs, public/private joint efforts, and other assistance programs to reduce costs and increase the availability of affordable and gap-group housing projects*

Analysis. The proposed La'akea Village is a 100% affordable rental project targeted towards intellectually and developmentally disabled persons. The project's primary residents will participate in La'akea's onsite programs involving the farm, country store, and development activities

E. MAUI COUNTY ZONING

The subject parcel is currently zoned Interim District (**See**: Figure 8, "Maui County Zoning"). Interim zoning district allows for one single-family dwelling per 6,000 square feet of land. Each single-family dwelling can be occupied by a family as defined in Maui County Code §19.04.040:

> *"Family" means an individual living alone or a group of two or more persons related by blood or marriage and their legal issue living together as a single housekeeping unit in a dwelling unit and in which two boarders, unrelated by blood may be living on a long-term residential basis. A family may also be defined as no more than five unrelated persons living together as a single housekeeping unit. In addition, eight or fewer persons who reside in residential facilities monitored and/or licensed by the state pursuant to chapter 46-15.3 of the Hawaii Revised Statutes shall constitute a family. Resident managers, supervisors or operator and operator's family shall not be included in the resident count.*

A letter from the Maui County Planning Department, dated October 6, 2015 (**See**: Appendix "G"), provides the following determination:

5. *Therefore, the combined zoning regulations for the state and county on the above lot would allow:*
   A. *One farm dwelling per 6,000 square feet of land provided each farm dwelling is used in connection with a farm.*

B. *Each farm dwelling can be occupied by a single family that meets the above county definition of a family. Based on your proposed group homes being licensed by the state and each farm dwelling consisting of group home with eight or fewer residents, the county definition of a family appears to be met.*

As such, the proposed project complies with Maui County land use zoning requirements as well as development standards for the Interim District.

F. COASTAL ZONE MANAGEMENT AREA

As requested by the State of Hawaii, Office of Planning, and pursuant to Chapter 205A, Hawaii Revised Statutes, this section addresses the project's relationship to applicable Coastal Zone Management considerations, as set forth in Chapter 205A. The subject project is not located within the Special Management Area (SMA). As such, the proposed improvements will not require an SMA Use Permit and compliance with the Rules and Regulations of the Planning Commission.

A. RECREATIONAL RESOURCES

Objective: Provide coastal recreational resources accessible to the public.

Policies:

(A) Improve coordination and funding of coastal recreation planning and management; and

(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

(ii) Requiring placement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or require reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;

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

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

(v) Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having standards and conservation of natural resources;

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

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

(vi) *Encourage reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.*

Analysis. The project site is mauka of Hana Highway, approximately 1.2 miles from the ocean. Therefore the project will not have a direct impact on the public's use or access to the shoreline area.

HISTORIC RESOURCES

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

Policies:

(a) *Identify and analyze significant archeological resources;*

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

(c) *Support state goals for protection, restoration, interpretation, and display of historic structures.*

Analysis. The Applicant prepared a Cultural Impact Assessment (**See**: Appendix "D") to study and document potential cultural practices which may affect the project site. It was determined that the proposed project would not have an adverse impact on any cultural activities or significant historic sites. In addition, an Archaeological Assessment (**See:** Appendix "C") was completed and recommends archaeological monitoring during ground disturbance work. If the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD) concurs, an archaeological monitoring plan will be prepared and submitted to SHPD for review and approval prior to construction.

SCENIC AND OPEN SPACE RESOURCES

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

Policies:

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

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

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

(c) *Encourage those developments that are not coastal dependent to locate in inland areas.*

Analysis. As discussed in Section III of this report, the proposed action will be constructed in a mostly vacant slightly sloped open area and the single-story buildings are not expected to impact public views towards the shoreline and Haleakala mountain from Baldwin Avenue. As such, the proposed project is not anticipated to impact public view corridors, or the visual character of the site and its immediate environs.

COASTAL ECOSYSTEMS

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

Policies:

(a) Improve the technical basis for natural resource management;

(b) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

(c) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

(d) *Promote water quantity and quality planning and management practices, which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses, which violate state water quality standards.*

Analysis. As noted previously, the proposed project site is adjacent to the Baldwin Avenue, approximately 1.2 miles from the coast. Therefore, the proposed project is not anticipated to have a significant impact on the coastal ecosystem. Furthermore, the incorporation of mitigation measures during construction as identified in Section III.D.3 of this report will minimize the potential for short-term adverse impacts.

ECONOMIC USES

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

Policies:

(a) Concentrate coastal dependent development in appropriate areas;

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

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

- *(i) Use of presently designated locations is not feasible;*
- *(ii) Adverse environmental impacts are minimized; and*
- *(iii) The development is important to the State's economy.*

Analysis. The proposed project is not a coastal development as the property is located approximately 1.2 miles from the shoreline and therefore not anticipated to impact coastal areas. The Maui Island Plan identifies the proposed project within an area that has been planned for growth and development in Paia and existing supporting infrastructure and services are adequate to service this growth.

COASTAL HAZARDS

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

Policies:

(a) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and non-point source pollution hazards;

(b) Control development in areas subject to storm wave, tsunami, flood, erosion, subsidence, and point and non-point pollution hazards;

(c) Ensure that developments comply with requirements of the Federal Flood Insurance Program;

(d) Prevent coastal flooding from inland projects; and

(e) *Develop a coastal point and nonpoint source pollution control program.*

Analysis. As discussed in Section III of this report, the project site is located approximately 1.2 miles from the ocean and is situated in Flood Zone X. Thus, it is anticipated that the proposed project will not present hazards to life and property from tsunami, storm waves, stream flooding, erosion, subsidence and pollution. The Applicant has retained a licensed civil engineer to develop a drainage plan to mitigate potential flooding conditions to downstream properties. (**See:** Appendix "E")

MANAGING DEVELOPMENT

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

Policies:

(a) Use, implement, and enforce existing laws effectively to the maximum extent possible in managing present and future coastal zone development;

(b) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and

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

Analysis. The proposed residential project will be conducted in accordance with applicable State and County requirements. Opportunity for review of the proposed action is provided through the County's 201H and the State's EA review process.

PUBLIC PARTICIPATION

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

Policies:

(a) Maintain a public advisory body to identify coastal management problems and to provide policy advise and assistance to the coastal zone management program.

(b) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and

(c) Organize workshops, policy dialogues, and site-specific medications to respond to coastal issues and conflicts.

Analysis. In conjunction with the submittal of the Draft EA and 201H application a number of governmental agencies will be consulted and copies of this application will be

circulated to various agencies by the Department of Housing and Human Concerns. During the scheduled public hearings, the public will have an opportunity to review and comment on the proposed project. The EA and 201H processes provide an opportunity for public comment on the document and public testimony at public hearings.

BEACH PROTECTION

Objective: Protect beaches for public use and recreation.

Policies:

(a) *Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;*

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

(c) *Minimize the construction of public erosion-protection structures seaward of the shoreline.*

Analysis. As noted previously, the project site is adjacent to the Baldwin Avenue and is situated approximately 1.2 miles from the coast. Therefore, the proposed project is not anticipated to have a significant impact on the coastal ecosystem. The construction of the proposed project on the subject property will not have a direct physical impact upon any coastal resouces.

MARINE RESOURCES

Objective: Implement the State's ocean resources management plan.

Policies:

(a) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

(b) Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

(c) Coordinate the management of marine and coastal resources and activities management to improve effectiveness and efficiency;

(d) Assert and articulate the interest of the state as a partner with federal agencies in the sound management of the ocean resources within the United States exclusive economic zone;

(e) Promote research, study, and understanding of ocean processes, marine life, and other ocean development activities relate to and impact upon the ocean and coastal resources; and

(f) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Analysis. The proposed project does not involve the direct use or development of marine resources. In addition, with the incorporation of erosion and drainage control measures during construction and after construction, as identified in the infrastructure section of this report, there will not be any adverse impacts to nearshore waters from point and non-point sources of pollution, and on any coastal or marine resource.

V.HRS CHAPTER 343 SIGNIFICANCE CRITERIA

A finding of no significant impact (FONSI) is anticipated and therefore an Environmental Impact Statement will not be required for the proposed action. This determination has been made in accordance with the following significance criteria specified in Section 11-200-12 of the Department of Health rules relating to Environmental Impact Statements:

A. *Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.*

As documented in this report, the proposed project will not result in the loss or destruction of any natural or cultural resource.

B. *Curtails the range of beneficial uses of the environment.*

The proposed project represents a continuation of the previous agricultural uses (farming and country store) and La'akea's day programs. The residential component will be introduced, however the project will not curtail the range of beneficial uses of the environment in the project vicinity.

C. *Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.*

The proposed residential/agricultural project is being developed in compliance with the State of Hawaii's long-term environmental goals. As documented in this Draft EA report, adequate mitigation measures will be implemented to minimize the potential for negative impacts to the environment.

D. *Substantially affects the economic or social welfare of the community or state.*

In the short term, the proposed project will result in increased construction employment and business opportunities.

In the long term, as documented in this report, the proposed project will provide affordable rental housing for intellectually and developmentally disabled (IDD) adults, serving a special population segment of Maui in critical need of an affordable housing supply.

E. *Substantially affects public health.*

The proposed project continues and expands an IDD residential and vocational community where the participants can work, learn, and live. As such, the project will have a positive impact on public health.

F. *Involves substantial secondary impacts, such as population changes or effects on public facilities.*

The proposed project will not lead to a substantial impact on population levels due to its relatively small scale. Additionally, as documented in this report, the project will not result in a significant negative impact on public facilities.

G. *Involves a substantial degradation of environmental quality.*

Mitigation measures will be implemented during construction to minimize negative short-term impacts such as soil erosion and sedimentation. The project design will incorporate a drainage system that will minimize degradation of the environmental quality. (**See:** Appendix "E" "Preliminary Engineering Report")

H. *Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.*

The project does not involve a commitment for larger actions on behalf of the applicant or any public agency. In terms of cumulative impacts, the project site is situated within the State Agricultural District, but adjacent to existing urban uses (residential, school, and recreation areas). Infrastructure and utilities improvements are proposed to service the proposed project. Therefore, the project is not expected to result in cumulative negative impacts on the immediate environment.

I. *Substantially affects a rare, threatened, or endangered species, or its habitat.*

As documented in this report, evidence of habitats of listed species has <u>not</u> been observed on the property.

J. *Detrimentally affects air or water quality or ambient noise levels.*

As documented, there will be short-term impacts on air and water quality and ambient noise levels during construction; however, mitigation measures will be employed to minimize these impacts. Adverse long-term impacts are not anticipated.

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

As described in this report, the proposed project is <u>not</u> located within an environmentally sensitive area.

L. *Substantially affects scenic vistas and view planes identified in county or state plans or studies.*

The proposed project is located adjacent to the Baldwin Avenue. The buildings are limited to single story heights and are not expected to obstruct major view corridors

M. *Requires substantial energy consumption.*

Construction of proposed residential project will comply with Chapter 16.26.1300, "Energy Conservation", Maui County Code. Where practical and economically feasible, the proposed structures will meet or exceed the building efficiency standard

for the State of Hawaii. The project will utilize ground mounted photo-voltaic panels for common area energy use.

VI. FINDINGS AND CONCLUSIONS

This Environmental Assessment report examines the environmental and socio-economic impacts associated with the applicant's proposal to construct improvements on the La'akea Village site. The property has an area of 12.203 acres located in Paia, Maui, Hawaii. The proposed project will be 100% affordable and a forthcoming 201H application will be submitted concluding this environmental review process and anticipated finding of no significant impact (AFONSI).

The proposed project is a residential development to include construction of a total of eighteen (18) units with accessory structures and necessary infrastructure in support of the La'akea Village. The proposed project complies with the Residential Workforce Housing Ordinance by providing more than the required amount of units at an affordable price.

Associated infrastructure improvements include onsite parking, drainage systems, water system, wastewater disposal system, underground utilities, and landscape plantings. Any additional required infrastructure will be built prior to and or concurrently with the project.

Based on the foregoing analysis and conclusion, the proposed project will not result in significant impacts to the environment and is consistent with the requirements of HRS Chapter 343, and a Finding of No Significant Impact (FONSI) is warranted.

VII. REFERENCES

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FIGURES

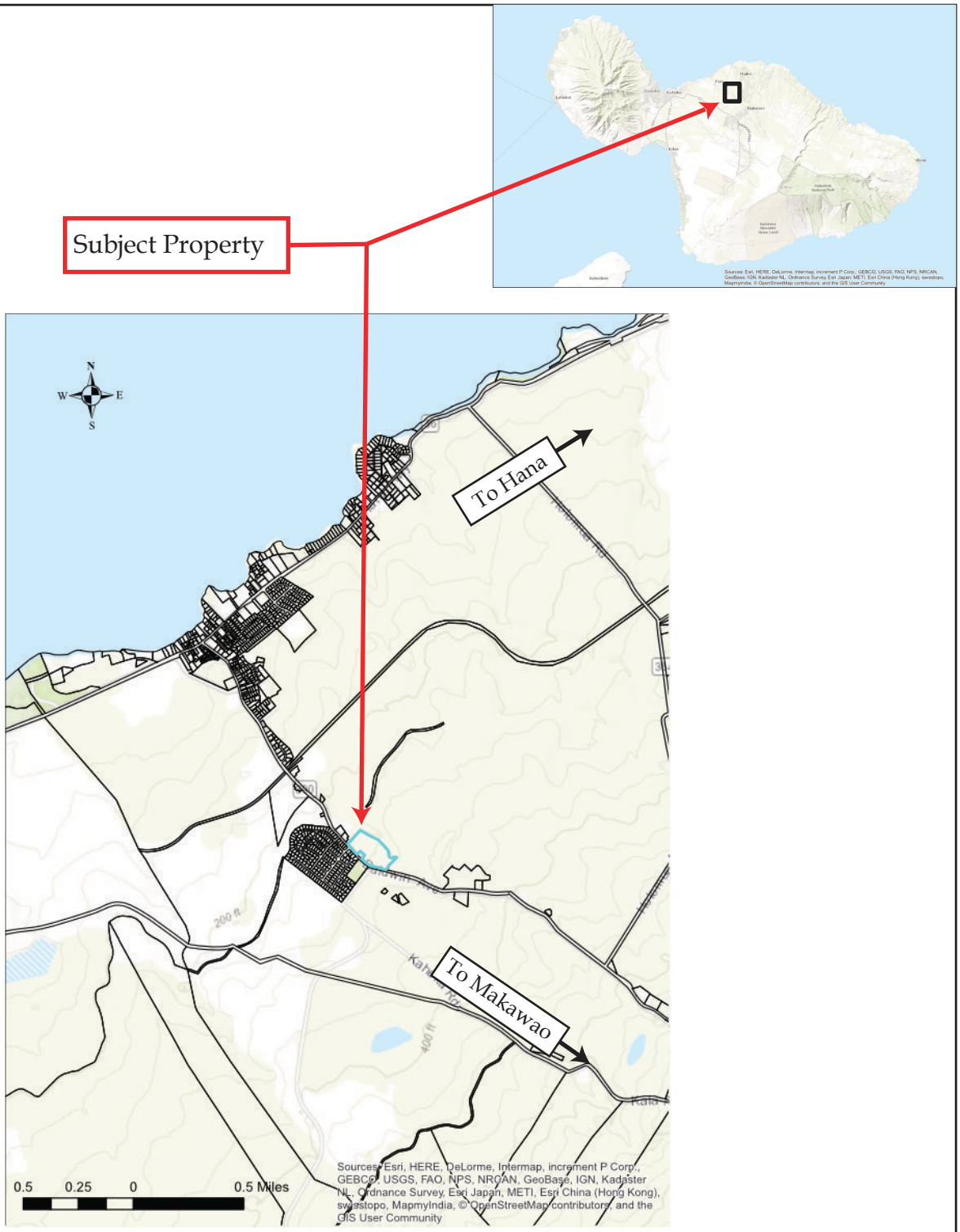


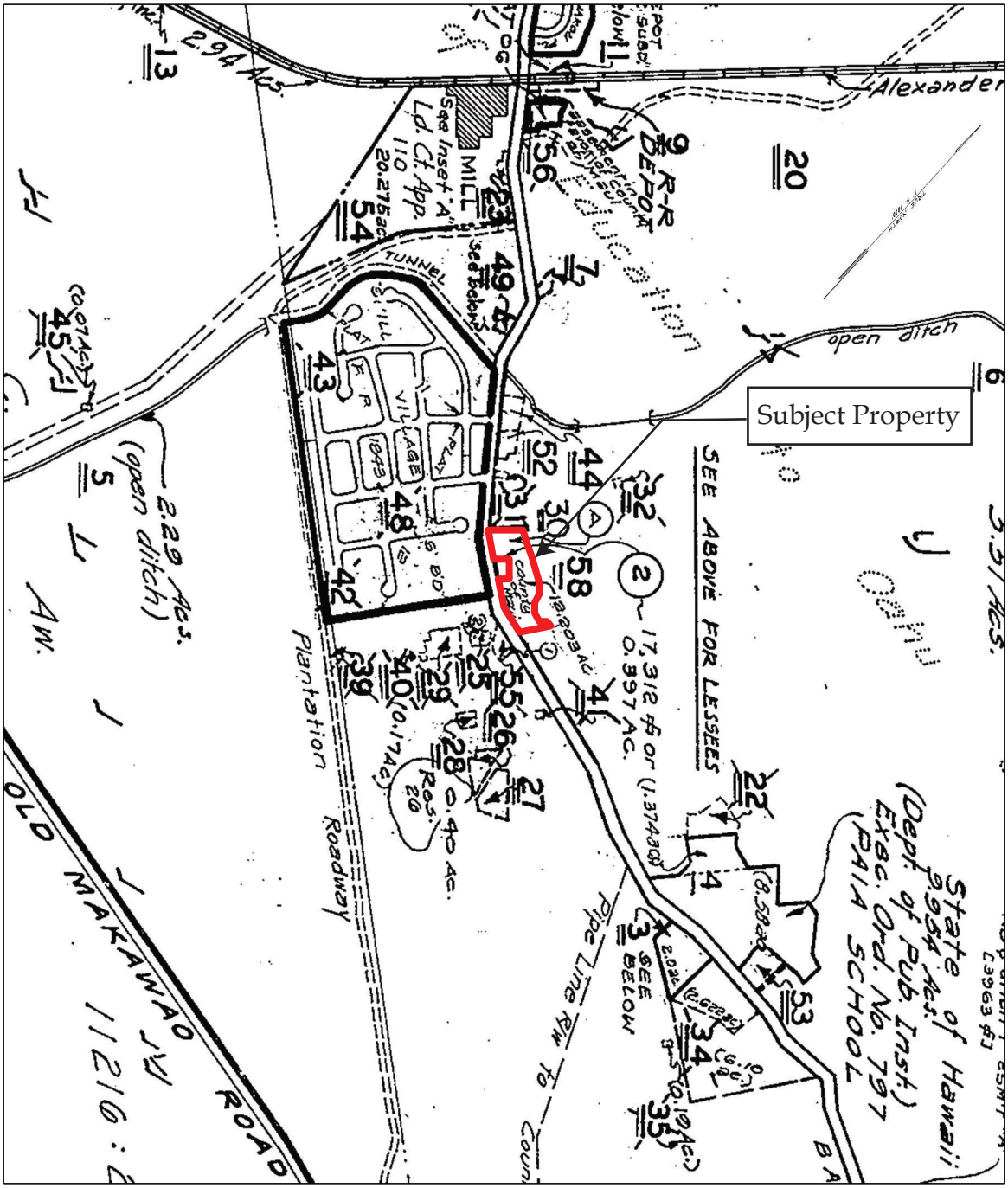
FIGURE 1

Location Map

Scale as Shown

La'akea Community Farm

CHRIS HART & PARTNERS, INC.



TAXATION MAPS BUREAU TERRITORY OF HAWAII TAX MAP		
SECOND DIVISION		
ZONE	SEC.	PLAT
2	5	05

FIGURE 2

Tax Map

La'akea Community Farm

CHRIS HART & PARTNERS, INC.

FIGURE 3

Aerial Map

Not to Scale

La'akea Community Farm

CHRIS HART & PARTNERS, INC.

1. Driveway entrance to La'akea from Baldwin Avenue.

2. Looking northwest along Baldwin Avenue. La'akea farm stand on the right and Boteilho Gym on the left.

3. Looking southeast along Baldwin Avenue. La'akea's chicken coop structure is visible behind vehicle.

4. Looking northwest along Baldwin Avenue with the County water tank property on the right.

5. Looking northeast along wire fenceline between La'akea property (right) and the Doris Todd Christian Academy parking lot.

6. La'akea farm stand facing Baldwin Avenue.

Taken October 2018 & December 2019

FIGURE 4.1
Site Photographs

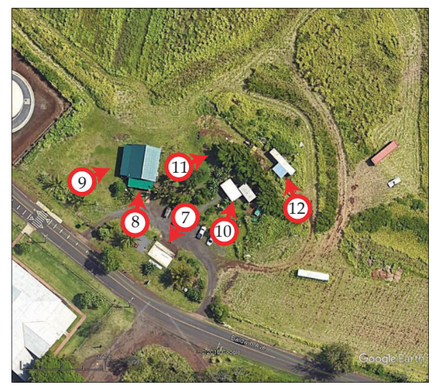
La'akea Community Farm

CHRIS HART & PARTNERS, INC.

7. North side of farm stand from gravel parking lot.

8. Entrance to existing community center building (to remain).

9. View of lanai on the southwest side of community center building.



10. Existing administration office.

11. Existing kitchen building.

12. Existing farm building.

Taken December 2019

FIGURE 4.2
Site Photographs

La'akea Community Farm

CHRIS HART & PARTNERS, INC.

13. Looking northeast across gulch.

14. Looking northwest toward Doris Todd Christian Academy. Visible in the distance are the school's main building (left) and one of the classroom buildings.

15. Looking southwest along common property with Doris Todd Christian Academy. The royal palms are on the school's property.

16. Looking south from near the center of the property. In the distance, the existing community center (left) and the County water tank can be seen.

17. Dry land kalo being cultivated.

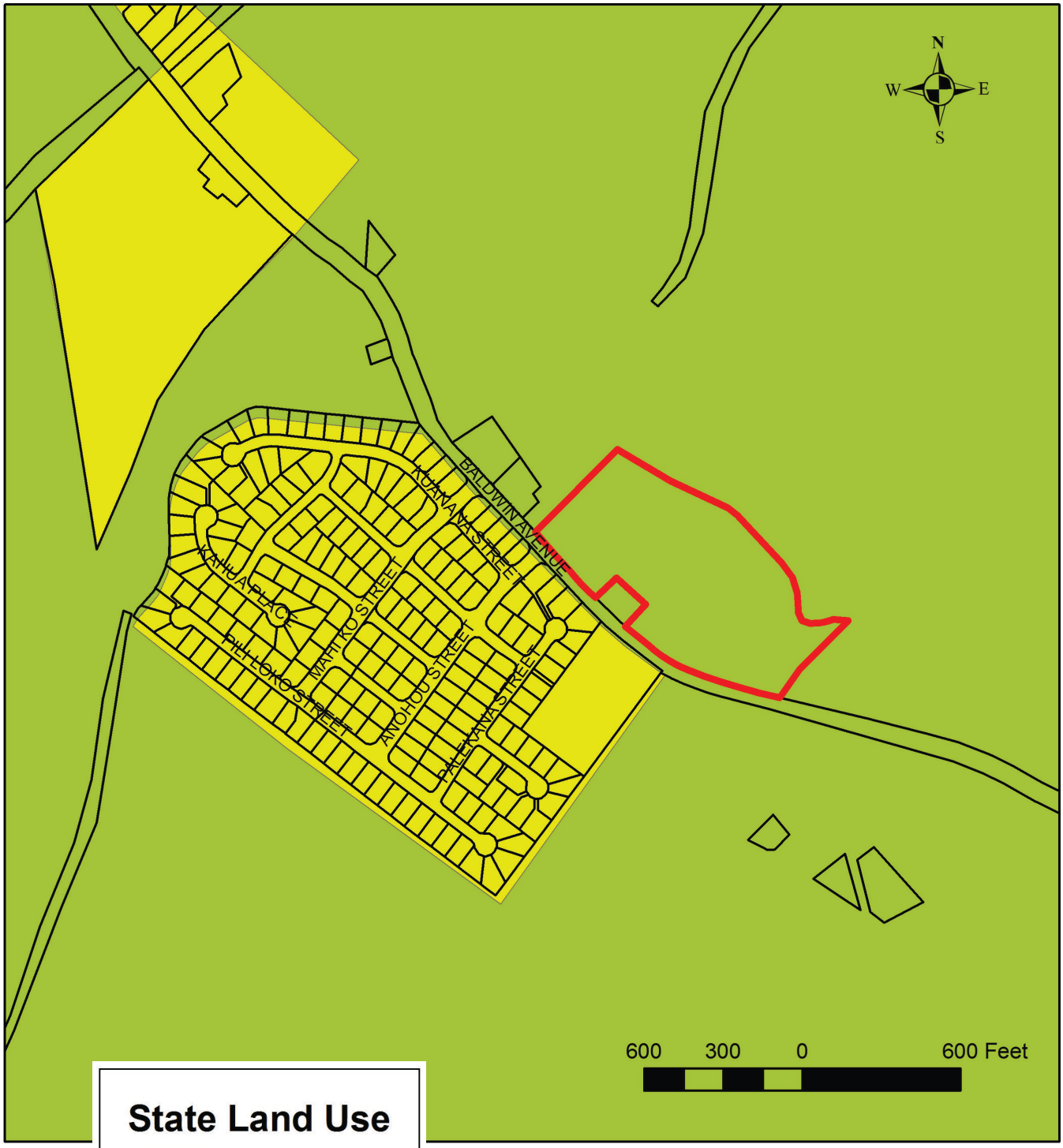
18. Banana patch near the existing buildings.

Taken October 2018

FIGURE 4.3
Site Photographs

La'akea Community Farm

CHRIS HART & PARTNERS, INC.



State Land Use

- Agricultural
- Conservation
- Rural
- Urban

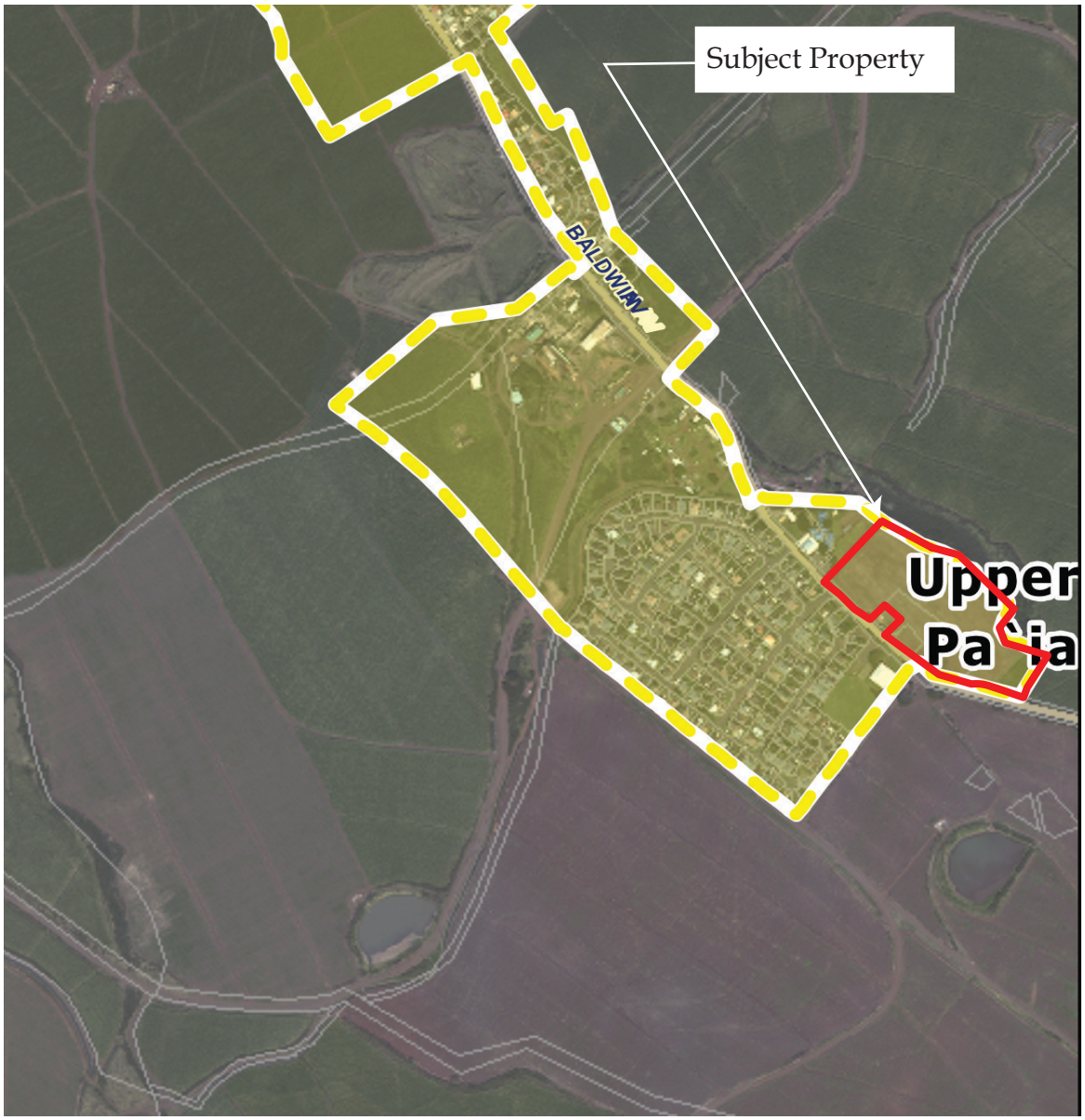
FIGURE 5

State Land Use Map

Not to Scale

La'akea Community Farm

CHRIS HART & PARTNERS, INC.



Legend

Growth Boundaries

- Urban
- Small Town
- Rural

Maui Island Plan Directed Growth Map

Spreckelsville/Pa`ia
N1

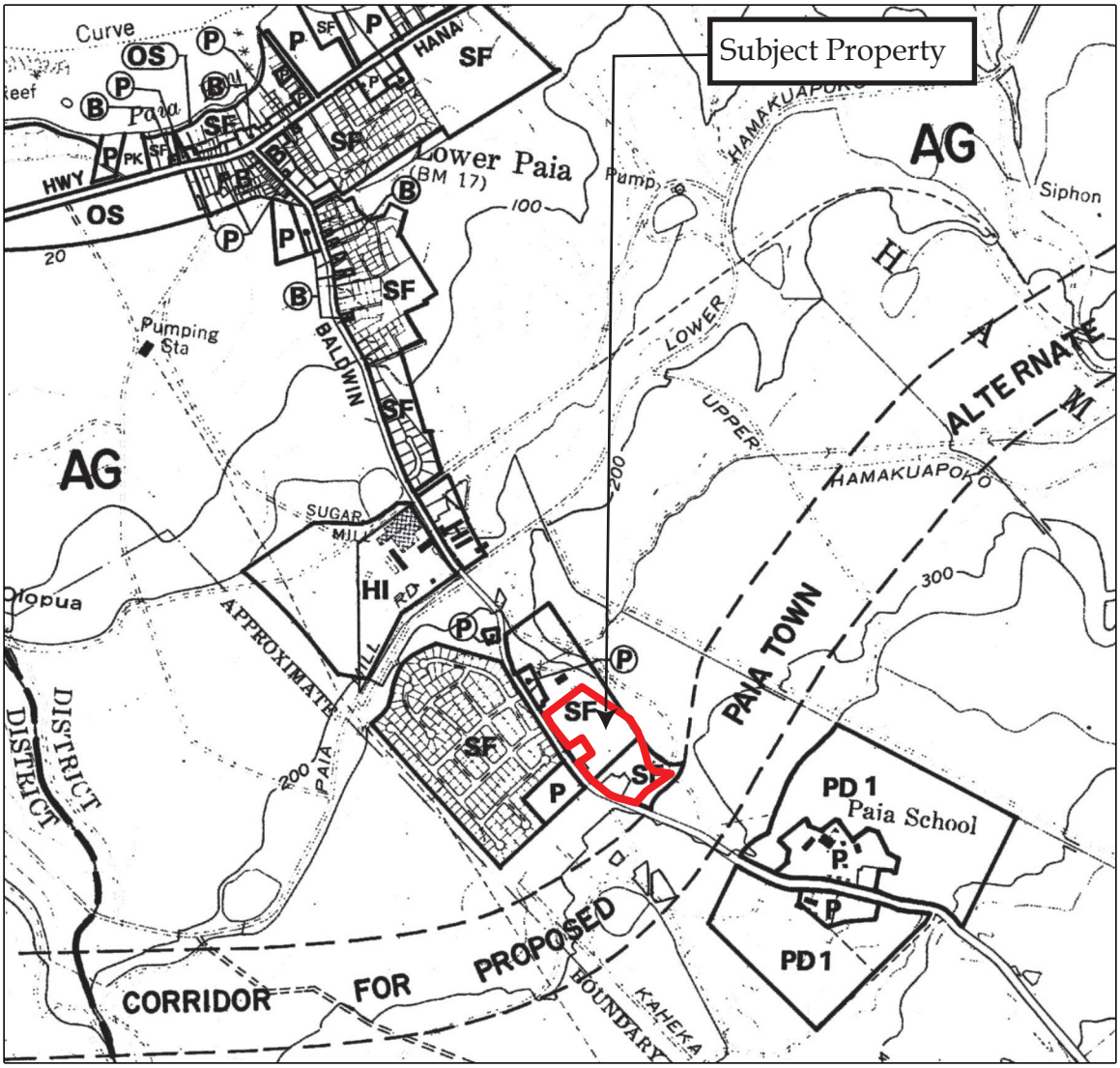
FIGURE 6

Maui Island Plan

Not to Scale

La'akea Community Farm

CHRIS HART & PARTNERS, INC.



LEGEND

LAND USE :

C	CONSERVATION
AG	AGRICULTURAL
R	RURAL
OS	OPEN SPACE
SF	SINGLE FAMILY RESIDENTIAL
MF	MULTI-FAMILY RESIDENTIAL
B	BUSINESS/COMMERICAL
RLI	RURAL-LIGHT INDUSTRIAL
LI	LIGHT INDUSTRIAL
HI	HEAVY INDUSTRIAL
H	HOTEL/RESORT
P	PUBLIC/QUASI-PUBLIC
AP	AIRPORT
PD	PROJECT DISTRICT
PK (GC)	PARK (GOLF COURSE)

MAUI COMMUNITY PLANS

PAIA-HAIKU

COUNTY OF MAUI

APPROVED : _____ DATE

APPROVED : _____ 6-19-95 PLANNING DIRECTOR DATE

PUBLIC HEARING : 9-15,16-93

ADOPTED : MAY 17, 1995

ORDINANCE : 2415 (Bill No. 21-1995)

DATE : _____

REVISED : _____

PAIA-HAIKU

GRAPHIC SCALE FEET 0 1000 2000 3000

NORTH

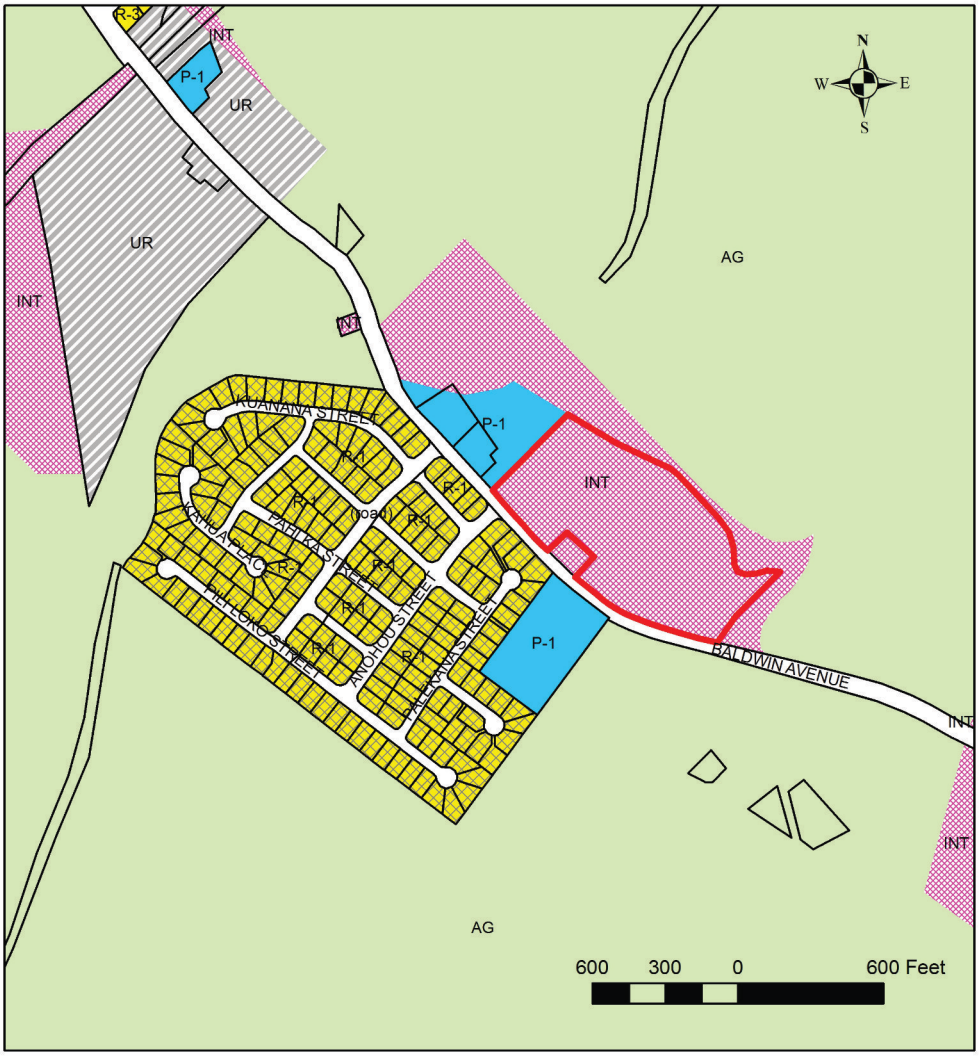
FIGURE 8

Paia-Haiku Community Plan

Not to Scale

La'akea Community Farm

CHRIS HART & PARTNERS, INC.



Maui County Zoning

- R-1 Residential
- R-3 Residential
- AG Agriculture
- UR Urban Reserve
- P-1 Public/Quasi-Public
- Interim

FIGURE 8

County Zoning Map

Not to Scale

La'akea Community Farm

CHRIS HART & PARTNERS, INC.

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND (*Note: legend does not correspond with NFHL*)	
SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:	
	Zone A: No BFE determined.
	Zone AE: BFE determined.
	Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
	Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
	Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
	Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
	Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.
NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.	
	Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
	Zone X: Areas determined to be outside the 0.2% annual chance floodplain.
OTHER FLOOD AREAS	
	Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.

Flood Hazard Assessment Report

www.hawaiinfip.org

Laakea Foundation

Property Information

COUNTY:	MAUI
TMK NO:	(2) 2-5-005:030
WATERSHED:	MALIKO
PARCEL ADDRESS:	639 BALDWIN AVE PAIA, HI 96779

Notes:

Flood Hazard Information

FIRM INDEX DATE:	NOVEMBER 04, 2015
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL:	1500030408E
PANEL EFFECTIVE DATE:	SEPTEMBER 25, 2009

THIS PROPERTY IS WITHIN A TSUNAMI EVACUTION ZONE: NO
FOR MORE INFO, VISIT: http://www.scd.hawaii.gov/

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: YES (MA-0070; MA-0071; MA-0072; MA-0073; MA-0074)
FOR MORE INFO, VISIT: http://dlnreng.hawaii.gov/dam/

0 400 800 ft

FIGURE 9

Flood Hazard Map

Not to Scale

La'akea Community Farm

CHRIS HART & PARTNERS, INC.

SITE PLAN

FIGURE 10.1

La'akea Community Farm

CHRIS HART & PARTNERS, INC.

FIGURE 11
Soils Map

Not to Scale

La'akea Community Farm

CHRIS HART & PARTNERS, INC.

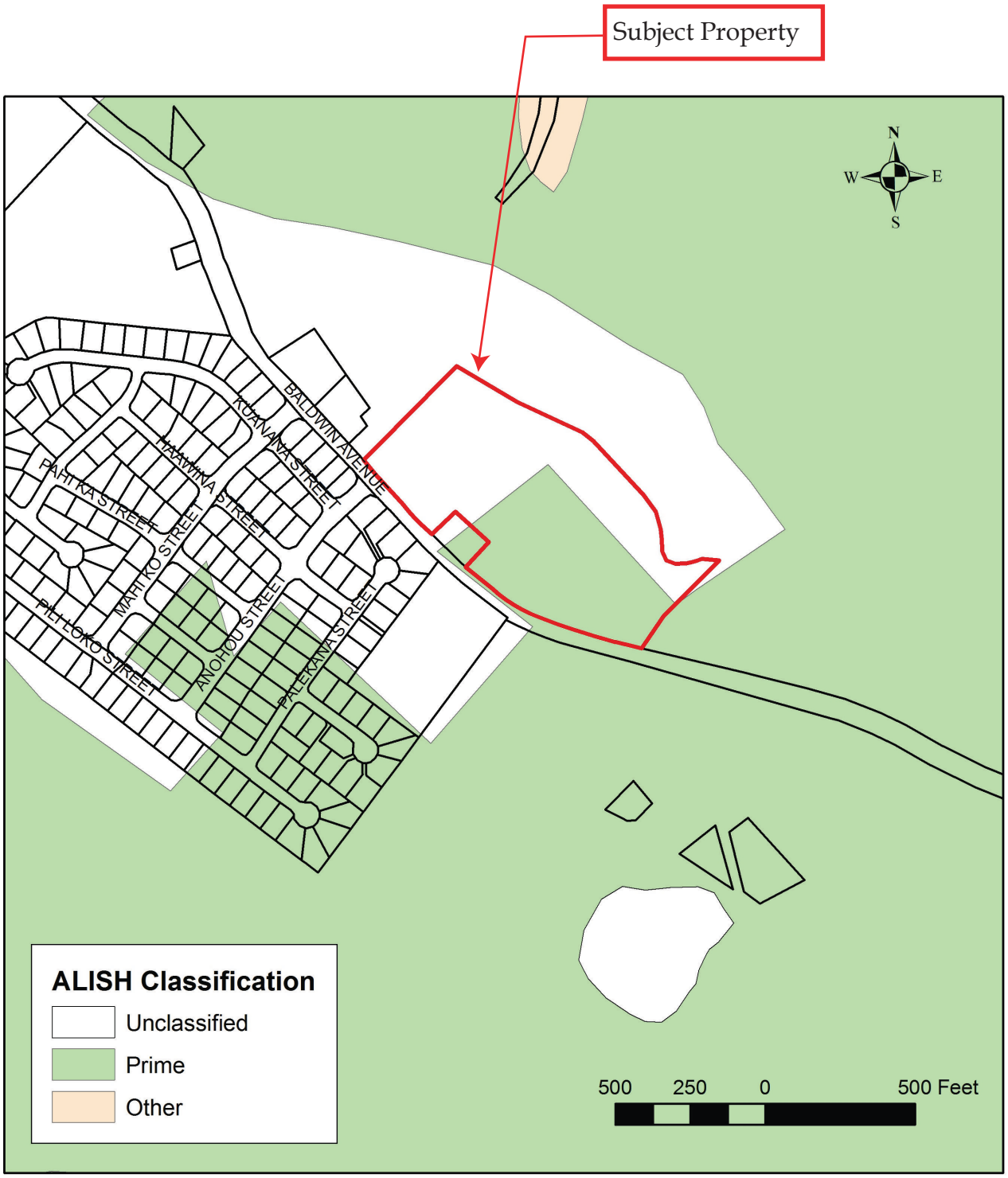


FIGURE 12

Agricultural Lands of Importance to State of Hawaii Map

Scale As Shown

La'akea Community Farm

CHRIS HART & PARTNERS, INC.

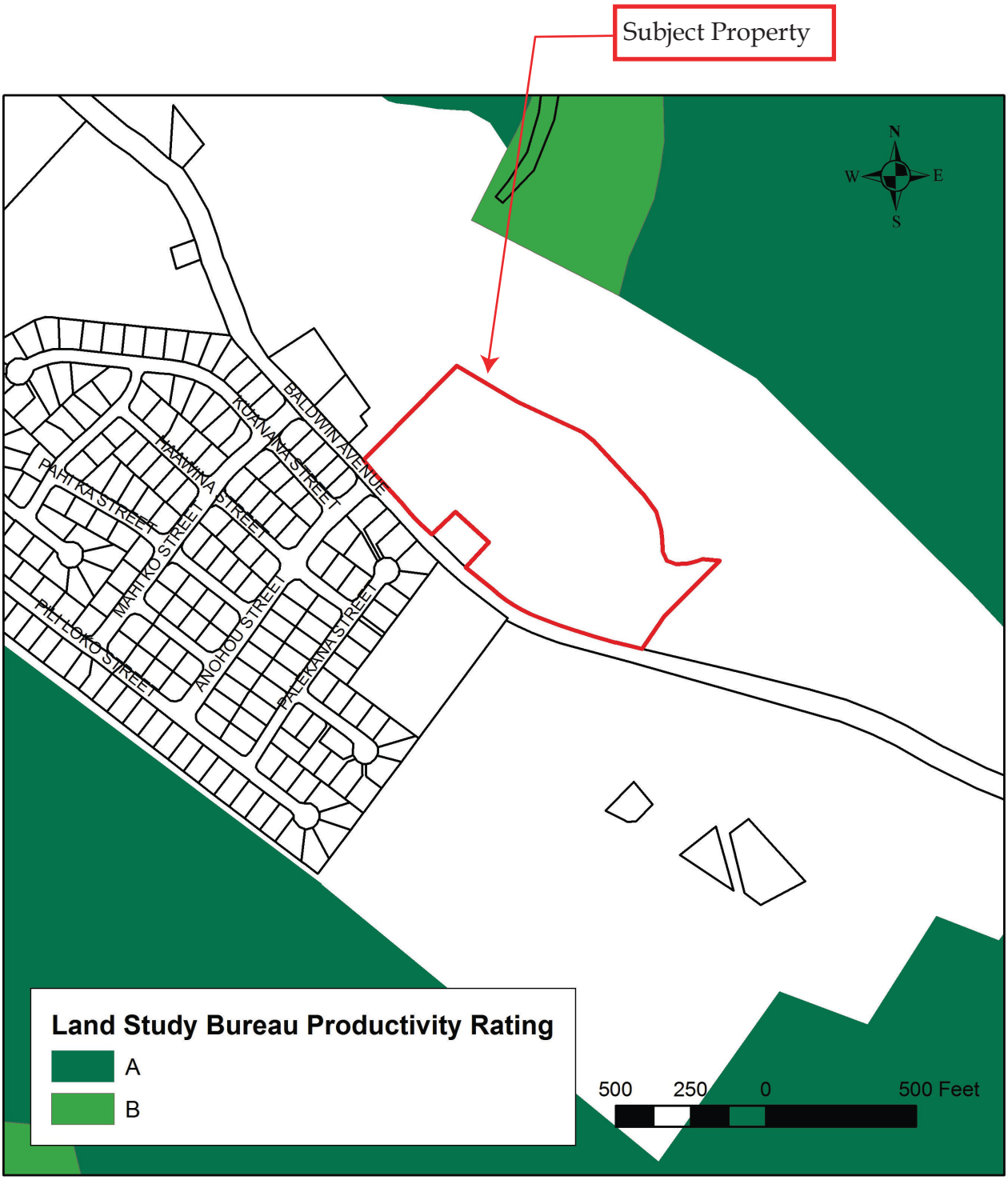


FIGURE 13

Land Study Bureau (LSB) Map

Scale As Shown

La'akea Community Farm

CHRIS HART & PARTNERS, INC.

APPENDICES

APPENDIX A
DRAFT HRS 201H EXEMPTIONS

201H Exemption Requests
for the proposed
La'akea Community Farm Project

The project is 100% affordable single family units for rental housing. The project is seeking the following exemptions pursuant to Section 201H-38, Hawaii Revised Statutes.

These exemptions will automatically terminate if the La'akea Community Farm project has not commenced construction within four (4) years of the date of the 201H Approval. For this purpose construction commencement will be defined as when the owner has obtained grading permits and has executed a construction contract for the project. Extensions to this termination will be granted at the discretion of the County Council and passed by Resolution.

As a 100% affordable housing project the project will seek to reduce fees as per Chapter 2.96.20 of the Maui County Code.

A. Exemption from Title 2, Maui County Code (MCC) Administration and Personnel

1. An exemption from Section 2.96.100.D, MCC, Residential Workforce Housing Policy, shall be granted to permit the La'akea to interview, review the compatibility, and select applicants that would be well-suited for La'akea's mission to provide services to the intellectually and developmentally disabled (IDD) community.

B. Exemption from Title 8, MCC, Health and Safety

1. An exemption from Section 8.04, MCC, Refuse Collection and Landfills, shall be granted to exempt the project from construction waste disposal permit and fees during the construction phase of the project but not long term ongoing operations.

C. Exemption from Title 12, Streets, Sidewalks and Public Places

1. An exemption form Chapter 12.08, MCC, Driveways, shall be granted to exempt the project from driveway permit and inspection fees.

D. Exemption from Title 14, MCC, Public Services

1. An exemption from Section 14.70, MCC, Impact Fees for Traffic and Roadway Improvements in Paia-Haiku, Maui, Hawaii, shall be granted to exempt the project from traffic impact fees.

DRAFT

E. Exemptions from Title 16, MCC, Buildings and Construction

1. The project shall conform to Section 16.04C, MCC, Fire Code; Section 16.16A, MCC, Energy Code; Section 16.18B, MCC, Electrical Code; Section 16.20B, MCC, Plumbing Code; and Section 16.26B, MCC, Building Code; as stated at the time of the filing of the 201H-38 application, not including any subsequent amendments to these sections, or any updates to these sections adopted prior to the issuance of the last building permit for the project. This does not pertain to future renovations of buildings or units, only to new construction.

2. An exemption from Section 16.26B.108, MCC, Building Code; Section 16.18B.107, MCC, Electrical Code; Section 16.20B.103.4, MCC, Plumbing Code, shall be granted to exempt the project from building, electrical, and plumbing permit fees, including inspection fees.

F. Exemptions from Title 19, MCC, Zoning

1. An exemption from Section 19.68.020, MCC, State Land Use District Boundaries, Applications, B.8 shall be granted to exempt the project from the filing fee requirements.

2. An exemption from Section 19.68.020, MCC, State Land Use District Boundaries, Applications, C.2 shall be granted to exempt the project from the notification and timing requirements.

3. An exemption from Section 19.68.030, MCC, State Land Use District Boundaries, Procedures, A shall be granted to exempt the project from the Maui Planning Commission public hearing requirements.

4. An exemption from Section 19.68.030, MCC, State Land Use District Boundaries, Procedures, B shall be granted to exempt the project from the timing requirement for newspaper notification.

5. An exemption from Section 19.36B.020, MCC, Designated number of off-street parking spaces, shall be granted to exempt the project from providing two (2) spaces for each dwelling unit.

6. An exemption from Section 19.36B.090, MCC, Paving and other surfaces, shall be granted to exempt the project from providing asphaltic or concrete surfaces.

DRAFT

G. Exemptions from Title 20, MCC, Environmental Protection

1. An exemption from Section 20.08.090, MCC, Grubbing and Grading Permit Fees shall be granted to exempt the project from payment of grading, grubbing, and excavation permit fees, as well as inspection fees.

I. Exemption from the State General Excise Tax

1. The County of Maui does not object to the Developer seeking an exemption for the State of Hawaii's General Excise Tax in accordance with Section 201H-37, HRS.

DRAFT

APPENDIX B
EARLY CONSULTATION LETTERS

ALAN M. ARAKAWA
Mayor

STEWART STANT
Director

MICHAEL M. MIYAMOTO
Deputy Director

MICHAEL RATTE
Solid Waste Division

ERIC NAKAGAWA, P.E.
Wastewater Reclamation Division

TAMARA FARNSWORTH
Environmental Protection &
Sustainability Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

RECEIVED

JUL 12 2018

CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

CC: Raymond
16/075

July 5, 2018

Mr. Raymond Cabebe
Chris Hart & Partners, Inc.
115 North Market Sreet
Wailuku, Hawaii 96793

SUBJECT: LA'AKEA COMMUNITY FARM
EARLY CONSULTATION
TMK (2) 2-5-005:030, PAIA

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:

   a. None.

2. Wastewater Reclamation Division (WWRD) comments:

   a. Provide information on how the wastewater for the subject project will be discharged. If the developer plans on discharging the wastewater for the subject project to the County sewer system, the following comments apply.
   b. Although wastewater system capacity is currently available as of the date of this letter, the developer should be informed that wastewater system capacity cannot be ensured until the issuance of the building permit.
   c. Wastewater contribution calculations are required before building permit is issued.
   d. Developer is not required to pay assessment fees for this area at the current time.
   e. Developer is required to fund any necessary off-site improvements to collection system and wastewater pump stations.
   f. Show or list minimum slope of new sewer laterals.
   g. Plans shall show a property sewer service manhole near the property line.

h. Indicate on the plans the ownership of each easement (in favor of which party). Note: County will not accept sewer easements that traverse private property.

i. Kitchen facilities within the proposed project shall comply with pre-treatment requirements (including grease interceptors, sample boxes, screens etc.)

j. Non-contact cooling water and condensate should not drain to the wastewater system.

If you have any questions regarding this letter, please contact Michael Miyamoto at 270-8230.

Sincerely,

MICHAEL M. MIYAMOTO
Deputy Director of Environmental Management

DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

ALAN M. ARAKAWA
Mayor

WILLIAM R. SPENCE
Acting Director

JAN SHISHIDO
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX 270-7165 • EMAIL director.hhc@mauicounty.gov

July 9, 2018

RECEIVED

JUL 16 2018

CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

CC: Raymond
16/075

Mr. Jordan Hart
Chris Hart & Partners, Inc.
115 N Market Street
Wailuku, Hawaii 96793

Dear Mr. Hart:

Subject: Early Consultation Request for the Proposed La'akea Community Farm located at 639 Baldwin Avenue, TMK (2) 2-5-005:030, Paia, Maui, Hawaii.

The Department has reviewed the request for Early Consultation for the above subject project. Based on our review, we have determined that the project is subject to Chapter 2.96, Maui County Code, and must comply with all applicable regulations.

Please feel free to contact me at (808) 270-7355 if you have any questions.

Sincerely,

C. BUDDY ALMEIDA
Housing Administrator

cc: Director of Housing and Human Concerns

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 12, 2018

Chris Hart & Partners
Attention: Mr. Raymond Cabebe
115 N. Market Street
Wailuku, Hawaii 96793

via email: rcabebe@chpmaui.com

Dear Mr. Cabebe:

SUBJECT: Early Consultation Letter for the Proposed **La'akea Community Farm Project** located at 639 Baldwin Avenue, Paia, Island of Maui; TMK: (2) 2-5-005:030

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the Engineering Division on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at (808) 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

'18 JUN 19 PM01:01 ENGINEERING

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

June 18, 2018

MEMORANDUM

RECEIVED
LAND DIVISION
2018 JUN 29 AM 10:44
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
__Office of Conservation & Coastal Lands
X Land Division – Maui District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Early Consultation Letter for the Proposed **La'akea Community Farm Project**
LOCATION: 639 Baldwin Avenue, Paia, Island of Maui; TMK: (2) 2-5-005:030
APPLICANT: Chris Hart & Partners, Inc., on behalf of La'akea Foundation

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments by **July 11, 2018.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: _____

Print Name: Carty S. Chang, Chief Engineer

Date: 6/27/18

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji
Ref: Early Consultation Letter for the Proposed La'akea Community Farm Project, 639 Baldwin Avenue, Paia, Island of Maui; TMK: (2) 2-5-005:030

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 6/27/10

DAVID Y. IGE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 14, 2018

Chris Hart & Partners
Attention: Mr. Raymond Cabebe
115 N. Market Street
Wailuku, Hawaii 96793

via email: rcabebe@chpmaui.com

Dear Mr. Cabebe:

SUBJECT: Early Consultation Letter for the Proposed **La'akea Community Farm Project** located at 639 Baldwin Avenue, Paia, Island of Maui; TMK: (2) 2-5-005:030

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on July 12, 2018, enclosed are comments from the Land Division – Maui District on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at (808) 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

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

RECEIVED
LAND DIVISION
2018 JUL 12 AM 10:46
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
MAUI DISTRICT
LAND DIVISION
2018 JUN 21 PM 3:46

June 18, 2018

MEMORANDUM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
X Engineering Division
___Div. of Forestry & Wildlife
___Div. of State Parks
X Commission on Water Resource Management
___Office of Conservation & Coastal Lands
X Land Division – Maui District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Early Consultation Letter for the Proposed **La'akea Community Farm Project**
LOCATION: 639 Baldwin Avenue, Paia, Island of Maui; TMK: (2) 2-5-005:030
APPLICANT: Chris Hart & Partners, Inc., on behalf of La'akea Foundation

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments by **July 11, 2018.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

Attachments

( ) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed: _____

Print Name: Daniel Ornelas

Date: 7/9/18

cc: Central Files

6/25/18

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

LORRIN W. PANG, M.D., M.P.H.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, HAWAII 96793-3378

RECEIVED

JUN 28 2018

CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

CC: Raymond
16/075

June 26, 2018

Mr. Jordon E. Hart
President
Chris Hart & Partners, Inc.
115 North Market Street
Wailuku, Hawai`i 96793

Dear Mr. Hart:

Subject: Early Consultation Letter for the Proposed La'akea Community Farm Located at 639 Baldwin Avenue, Paia, Maui, Hawaii (CHP 16-075) TMK: (2) 2-5-005:030

Thank you for the opportunity to review this project. We have the following comments to offer:

1. Please provide wastewater disposal method for the proposed project. If you have any questions, please call Roland Tejano, Environmental Engineer, at 808 984-8232.

2. Please describe activities in the agricultural processing building. A food establishment permit may or may not be needed. Please contact Antonia DeBevec, Supervising Sanitarian, at 808 984-8283, with details.

It is strongly recommended that the Standard Comments found at the Department's website: http://health.hawaii.gov/epo/home/landuse-planning-review-program/ be reviewed and any comments specifically applicable to this project should be adhered to.

Should you have any questions, please contact me at 808 984-8230 or email me at patricia.kitkowski@doh.hawaii.gov.

Sincerely,

Patti Kitkowski

Patti Kitkowski
District Environmental Health Program Chief

ALAN M. ARAKAWA
Mayor

KA'ALA BUENCONSEJO
Director

BRIANNE L. SAVAGE
Deputy Director

(808) 270-7230
FAX (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

June 29, 2018

RECEIVED

JUL - 6 2018

CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

Cl: Raymond
16/075

Mr. Jordan E. Hart, President
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawaii 96793

Dear Mr. Hart:

SUBJECT: EARLY CONSULTATION LETTER FOR THE PROPOSED LA'AKEA COMMUNITY FARM LOCATED AT 639 BALDWIN AVENUE, PAIA, MAUI, HAWAII, IDENTIFIED BY TMK: (2) 2-5-005:030. (CHP 16-075)

Thank you for the opportunity to review the subject project. The Department of Parks and Recreation (DPR) does not have any comments to offer at this time regarding the project.

Once DPR is provided with a copy of the fully executed 201H HRS affordable housing agreement with the Department of Housing and Human Concerns, we can approve exemption from Maui County Code Section 18.16.320 Parks and Playgrounds.

Should you have any questions or concerns, please feel free to call me, or Robert Halvorson, Chief of Planning and Development, at 270-7931.

Sincerely,

KA'ALA BUENCONSEJO
Director of Parks & Recreation

c: Robert Halvorson, Chief of Planning and Development

KB:RH:bs

ALAN M. ARAKAWA
Mayor

DAVID C. GOODE
Director

ROWENA M. DAGDAG-ANDAYA
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM NO. 434
WAILUKU, MAUI, HAWAII 96793

GLEN A. UENO, P.E., P.L.S.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

JOHN R. SMITH, P.E.
Highways Division

RECEIVED

JUL 12 2018

CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

CC: Raymond
16/075

July 5, 2018

Mr. Raymond Cabebe
CHRIS HART & PARTNERS, INC.
115 North Market Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Cabebe:

SUBJECT: EARLY CONSULTATION REQUEST FOR PROPOSED LA'AKEA COMMUNITY FARM; TMK: (2) 2-5-005:030

We reviewed the subject application and have no comments at this time.

If you have any questions regarding this memorandum, please call Rowena Dagdag-Andaya at 270-7845.

Sincerely,

DAVID C. GOODE
Director of Public Works

DCG:RMDA:da
xc: Engineering Division
S:\DSA\Engr\CZM\Draft Comments\25005030_laakea_community_farm.rtf

OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

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

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

DTS201807031034NA

July 5, 2018

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JUL - 9 2018

CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

CC: Raymond 16/075

Mr. Jordan E. Hart
President
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawaii 96793

Dear Mr. Hart:

Subject: Early Consultation for Proposed Laakea Community Farm Project, Upper Paia, Maui; TMK: (2) 2-5-005: 030

Thank you for the opportunity to provide early consultation comments for the Draft Environmental Assessment (Draft EA) being prepared for the Laakea Community Farm project. The early consultation review material was transmitted to our office via letter dated June 12, 2018.

It is our understanding that the Laakea Foundation operates an integrated community that offers programs and services for intellectually and developmentally disabled youth and adults. The programs provide meaningful opportunities and productive work. They include farming, economic ventures, the arts, and activities of daily living – with homes, community buildings, a farm market, craft studios, and multipurpose buildings. The proposed community farm is an expansion of this program and will also include 18 affordable rental units in upper Paia, Maui.

The Office of Planning (OP) has reviewed the transmitted material and has the following general comments to offer:

1. The Hawaii State Planning Act. Pursuant to Hawaii Administrative Rules (HAR) § 11-200-10(4) – general description of the action's technical, economic, social, and environmental characteristics; this project must demonstrate that it is consistent with State environmental, social, economic goals, and policies. Hawaii Revised Statutes (HRS) Chapter 226, the Hawaii State Planning Act, provides goals, objectives, policies, planning coordination and implementation, and priority guidelines for growth, development, and the allocation of resources throughout the State.

   The Draft EA should include a discussion on the project's ability to meet all parts of HRS Chapter 226. The analysis should examine consistency with these statutes, clarify where

it is in conflict with them, and what steps will be taken for it be in compliance with HRS Chapter 226. If any of these statutes are not applicable to the project, the analysis should affirmatively state such determination, followed by discussion paragraphs.

2. The Hawaii Coastal Zone Management Program. The Coastal Zone Management (CZM) area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" (HRS § 205A-1).

   The Draft EA should include an assessment as to how the proposed action conforms to each of the goals and objectives as listed in HRS § 205A-2. Compliance with HRS § 205A-2 is an important component for satisfying the requirements of HRS Chapter 343.

3. Affordable Rental Housing. As related to rental housing, pursuant to Act 127, Session Laws of Hawaii 2016, a Special Action Team on affordable housing was established to make recommendations on actions to promote affordable rental housing. A key goal of Act 127 is to achieve 22,500 affordable rental housing units by December 31, 2026. As this project proposes 18 affordable rental housing units, the Draft EA should include analysis on how this project aligns with the statewide goals of Act 127.

4. Stormwater Runoff and Erosion Controls. Pursuant to HAR § 11-200-10(6) – identification and summary of impacts and alternatives considered; to ensure that the surface water and nearshore marine resources along the northshore of Maui remain protected, the negative effects of stormwater inundation from this project should be evaluated in the Draft EA.

   Issues that may be examined include, but are not limited to, project site characteristics in relation to flood and erosion prone areas, the potential vulnerability of surface water resources, the soil absorption characteristics of the project area, and the amount of permeable versus impervious surfaces. Assessing the need for mitigation measures in the protection for surface water resources and the coastal ecosystem should take this into account, pursuant to HAR § 11-200-10(7).

   To assist in the development of additional stormwater runoff strategies, OP has developed guidance documents on this subject. We recommend consulting these evaluative tools when developing reductive approaches for polluted runoff. They offer useful techniques to keep land-based pollutants and sediment in place, while considering the management practices best suited for the topography of the area and the types of contaminants potentially affecting nearby water resources. The evaluative tools that should be considered during the design process include:

- Hawaii Watershed Guidance provides direction on mitigation strategies for agricultural activities that include erosion and sediment control, wastewater and runoff from confined areas, nutrient management, pesticide management, and irrigation management measures. http://files.hawaii.gov/dbedt/op/czm/initiative/nonpoint/HI Watershed Guidance Final.pdf; and

- Stormwater Impact Assessments can be used to identify and analyze information on hydrology, sensitivity of coastal and riparian resources, and management measures to control runoff, as well as consider secondary and cumulative impacts to the area. http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_imapct/final_stormwater_impact_assessments_guidance.pdf

OP notes that the parcel in question is located within the State Land Use Agricultural District and may require additional permitting.

1. Special Permit. Pursuant to HRS § 205-2(d) and HRS § 205-4.5, some of the proposed uses (affordable rental housing units, yoga classes, and related recreational activities) may not be permitted uses within the Agricultural District. The Draft EA should discuss the proposed uses relative to the permissible uses in the Agricultural District. Please consult with the County of Maui Planning Department on the proposed uses and the need for a Special Permit.

If you have any questions regarding this comment letter, please contact Joshua Hekekia of our office at (808) 587-2845.

Sincerely,

Leo R. Asuncion
Director

POLICE DEPARTMENT

COUNTY OF MAUI

ALAN M. ARAKAWA
MAYOR

OUR REFERENCE

YOUR REFERENCE

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

TIVOLI S. FAAUMU
CHIEF OF POLICE

DEAN M. RICKARD
DEPUTY CHIEF OF POLICE

CC: Raymond
16/07/5

July 11, 2018

Mr. Jordan E. Hart, President
Chris Hart & Partners, Inc.
115 North Market Street
Wailuku, HI 96793

Dear Mr. Hart:

SUBJECT: Early Consultation for the Proposed La'akea Community Farm

This is in response to the June 12, 2018 request we received for any comments and/or concerns on the above subject.

After reviewing the enclosed information, there are no comments or concerns from the Police perspective at this time. Thank you for giving us the opportunity to comment on the proposed project.

Very truly yours,

Assistant Chief John Jakubczak
For: TIVOLI S. FAAUMU
Chief of Police

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JUL 16 2018

CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

DORIS TODD CHRISTIAN ACADEMY

ESTABLISHED IN 1956

519 BALDWIN AVENUE
PAIA, MAUI, HAWAII 96779
DORISTODDCHRISTIAN.ORG
OFFICE: 808.579.9237
FAX: 808.579.9449

July 16, 2018

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JUL 20 2018

CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

CC: Raymond
16/075

Mr. Jordan E. Hart, President
Chris Hart & Partners Inc.
115 N. Market St.
Wailuku, Hawaii 96793

RE: Response to the Early Consultation Letter for the Proposed La'akea Community Farm located at 639 Baldwin Avenue, Paia, Maui, Hawaii

Dear Mr. Hart,

When I first heard of the La'akea Community Farm project, I was excited about the possibility of having an organization that enables disabled young adults in a farming environment as our neighbor. I am very sympathetic to the need for such an organization as my foster daughter has two disabled young adults who would benefit from such an opportunity. However, the reality of our relationship as neighbors over the past few years has not been without problems. We have had many complaints from students, parents, and teachers.

In 2015 a disabled adult ran into our school campus. One of the farm's caregivers came to take him safely back. The disabled adult was extremely upset and tried to bite the caregiver. The caregiver grabbed one of our teachers and used him as a shield from the aggressive young man. The police were called to settle the situation.

In 2017 a disabled adult, who loves to be around our children and who often wanders into the middle of our games at Paia field, tried to talk to one of our female school staff members. He frequently grabs his private parts when he is on the field around the kids, and he approached her this way as well. The female staff member did not understand what he was saying. The disabled adult became visibly upset and grabbed both of her wrists. One of our male teachers had to get his attention before he let her go. He continually tries to approach her whenever he wanders onto the field. This is a very troublesome situation which necessitates continual vigilance by our staff.

Teachers have reported that workers would occasionally stand at the fence staring and yelling at our students while they were playing on our field or basketball court, which made our students very uncomfortable. For the past two years wild cane grass has taken over that area, and they have not done any work next to our field. Once in a while our students say that they call to them as they are walking up Baldwin Avenue to the Paia gym.

Doris Todd Christian Academy wishes to be a good and responsible neighbor, and we value La'akea's efforts to care for and enhance the lives of disabled adults. It is a noble endeavor that enriches our community. However, at the same time we have a primary responsibility to protect the safety and welfare of our students, staff, and school families. We have valid concerns about a larger, permanent community being built in close proximity to our school. We fear potential situations in which the adults may be unpredictably irrational or unstable. Accordingly, we would like to suggest that the following mitigating measures be incorporated into the project which should be of mutual benefit.

- Establishment of a designated buffer zone along the farm and school boundary.
- Construction of a solid 7 foot wall along the border between the farm and school.
- A high fence around the back of La'akea Farms to prevent wandering down into the gulch area and then up into the school campus.

Finally, especially since young children are involved, the school is always concerned about legal liability in the event that any of the children should get hurt, or be injured in any way. Parents are often overly protective of their children. Accordingly, to help assuage such concerns from the parents, and the school's, I would like you to consider the possibility of allowing the school, and working with the school to acquire an approximate 2-acre strip along our school's mauka border to serve as a permanent buffer zone. The result would be mutually beneficial.

Thank you for the opportunity to provide you with our comments and concerns regarding your well-intended project. If we can be of any assistance to you, please do not hesitate to contact us.

Sincerely yours,

Carolyn J. Moore
Head of School

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

July 11, 2019

Ms. Carolyn J. Moore, Head of School
Doris Todd Christian Academy
519 Baldwin Avenue
Paia, Hawaii 96779

Dear Ms. Moore:

RE: Response to July 16, 2018 Letter regarding the Proposed La'akea Community Farm at 519 Baldwin Avenue, Paia, Maui, Hawaii;

Thank you for your letter dated July 16, 2018. La'akea has been operating the day program at the property next to the Doris Todd Christian Academy for intellectually and developmentally disabled youth and adults for the past nine years. The program has become a valued part of the Paia and Maui community while enhancing the lives of program participants with life opportunities and experience in productive work.

While La'akea is aware the individuals involved in the incidents described in your letter do not comply with social norms due to their unique characteristics, and may be in need of additional consideration and understanding, La'akea staff is certain these individuals are not a threat to members of the public.

La'akea has used these events as an opportunity to reinforce procedures with on-going weekly safety and best practices for behavior modification training and at monthly all crew meetings. Each La'akea participant is also individually monitored at all times by a trained staff member.

To address your concerns, La'akea is proposing following adjustments be incorporated into the Project:

1. There currently is a wire fence already present on La'akea's Baldwin Ave property line. Laakea would extend the existing wire fence along the common property line with Doris Todd Christian Academy to supplement the existing fence that is already present at Doris Todd Academy.
2. Establish a landscaped green space separation area four feet wide of hedge plants such as mock orange, panax, bougainvillea or other appropriate plants between the fence and farming operations.
3. Install a fence along the top of the gulch, in order to prevent wandering into gulch area.

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
www.chpmaui.com

Thank you again for providing us with your response letter. We will be in contact with you to arrange a meeting, if that is agreeable to you. Please contact me at 808-242-1955 or rcabebe@chpmaui.com, if you have any questions.

Sincerely yours,

R. Raymond Cabebe, Vice-President
Land Planner

CC: M. Sarah Menzies
Ms. Susan Graham
Mr. Josh Circle-Woodburn
Project File 16-075

APPENDIX C
ARCHAEOLOGICAL ASSESSMENT

ARCHAEOLOGICAL ASSESSMENT FOR THE PROPOSED LA`AKEA RESIDENTIAL DEVELOPMENT (12.203 ACRES) HĀMĀKUA POKO *AHUPUA`A*, MAKAWAO DISTRICT, ISLAND OF MAUI, HAWAI`I

TMK: (2) 2-5-005:030

Prepared for:

Chris Hart and Partners, Inc.

Prepared by:

Andrée-Michelle Conley-Kapoi, M.A.

(DRAFT)

June 2018

ARCHAEOLOGICAL & ETHNOGRAPHIC CONSULTANTS HAWAI`I, LLC

P.O. Box 865 Makawao, Hawai`i 96768

Phone: (808) 573-5850 ~ andree@archaeoethno.com

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INTRODUCTION

Archaeological and Ethnographic Consultants Hawai`i, LLC (A & E Consultants Hawai`i) conducted an Archaeological Assessment (AA) (an Archaeological Inventory Survey study with no significant findings) at 639 Baldwin Avenue in the in the *ahupua`a* (land division) of Hāmākua Poko, the traditional *moku* (district) of Hāmākua Poko (Hāmākuapoko), current Makawao District, Maui Island, TMK: (2) 2-5-004:001 (Figure 1- Figure 4).

At the request of Chris Hart and Partners, Inc. Archaeological & Ethnographic Consultants Hawai`i, LLC conducted an Archaeological Inventory Survey (AIS) on a 12.203-acre parcel of land. At this time, there was no request from the SHPD to conduct the Archaeological Inventory Survey. Chris Hart and Partners, Inc. is in the process of preparing an HRS Chapter 343 Environmental Assessment (EA) and a 201H application to develop affordable residential housing units on a portion of a 12.203-acre parcel. The proposed rental development will serve low income and disabled persons and families of Maui. The subject parcel is situated in the State Agricultural District, is proposed for Single Family use by the Paia-Haiku Community Plan and is zoned Interim District by the County of Maui. The current development plans to construct 18 homes with a mix of one, two, and nine-bedroom houses. There will be (3) nine-bedroom, (6) two-bedroom, and (9) one-bedroom homes. The development will also include all the associated infrastructure and site amenities such as parking, interior roadways, sidewalks, landscape planting, and necessary drainage (Figure 5).

During the current project, a copy of a letter from the SHPD (LOG NO: 11158 DOC. NO:9403KD28, dated March 24, 1994) was obtained from a staff member (Andrea Hall) at the La`akea Farms. The letter pertained to an earlier proposed project by the County of Maui for the current 12-acre parcel and consisted of a projected affordable housing subdivision (Appendix A). The previously proposed subdivision was in compliance with a condition of the change in zoning approval granted to A & B Properties for the Kahului Industrial Park development. At the time of Don Hibbard's SHPD letter in 1994, the parcel was actively cultivated in sugar cane. Additionally, the letter declares:

> the proposed subdivision is located in the area of the former Store Village, which housed Pā'ia Mill employees. This Village was abandoned, and the homes were either moved or demolished. The area was subsequently plowed for cane cultivation. It is unlikely that any intact historic deposits

associated with the Village are present beneath the plow zone. We therefore believe that this subdivision will have "**no effect**" on historic sites. Please contact Theresa K. Donham at 243-5169 if you have any questions.

The function of this archaeological inventory survey was to identify and document any historic properties present, to assess their integrity and significance, to determine the potential for the project to adversely impact one or more significant historic properties, and to provide "proposed" or "agreed upon" mitigation commitments. Andrée-Michelle Conley-Kapoi, MA, Principal Investigator, and Diane Guerrero, BA, archaeologist/osteologist, conducted the archaeological inventory survey work from February 2nd through February 16, 2018. Associated laboratory work was worked on intermittently from March 28 through April 16, 2018. The timeframe of the project was irregular because the proposal for the project was submitted in September 2017 and A & E Consultants did not hear a response until the end of January 2018. Apparently, there was miscommunication between La`akea Farms and the client. Hence, the current research was conducted when time prevailed in-between other projects that were already scheduled.

No historic properties were encountered during the systematic pedestrian survey of the parcel; However, historic materials were recovered from a previously disturbed matrix during the subsurface testing component of the investigation. The lack of intact cultural deposits and historic properties can conceivably be attributed to widespread land disturbance caused by intensive agricultural activities in the post-Contact historic era. The current investigation process has been documented in detail and has been compiled into the current 'Archaeological Assessment Survey' (AAS) report due to the lack of significant findings. The current research has revealed that the parcel was previously impacted by intensive agricultural practices associated with sugar cane cultivation on the parcel. Black plastic irrigation pipes, and other modern agricultural debris was present in the majority of the trench profiles.

The subsurface trenching component consisted of fifteen stratigraphic trenches excavated throughout the parcel. Historic material associated with plantation camp activities was encountered in TR-1, TR-2, TR-3, TR-5, TR-6, TR-8, and TR-9 in a previously disturbed matrix. During the trenching activities, remnant black plastic pipes and other modern agricultural debris was also encountered throughout all the trenches. The entire project appears to have been impacted by historic development as a plantation village, agricultural activities associated with sugar cane

production, and the modern use of the area as a working farm for children and adults with intellectual/developmental disabilities (IDD).

Based upon the presence of remnant historic material encountered in the backhoe trenches and undocumented sites located directly outside of the project area, Archaeological & Ethnographic Consultants Hawai`i, LLC recommends archaeological monitoring for the proposed project.

SCOPE OF WORK

The subsequent archaeological survey procedures and report is formulated to meet the Hawai`i Revised Statutes established for Archaeological Inventory Survey (AIS) and Archaeological Assessment Survey reports. This study adheres to the guidelines listed below in the Hawai`i Administrative Rules (HAR) Chapters 13-276 and the newly implemented House Bill 830 (Act 224) which amends Chapter 6E-42 (HRS) as of July 2015:

1) Identification of the survey area on a USGS map and stating in text the island, district, and *ahupua`a*;
2) Conduct an archaeological and historical background in reference to the subject property, which shall include: a search of historic maps, written records, Land Commission Award documents, historical photographs, and previous archaeological investigations conducted in the environs. The background research will concentrate on the general land use and settlement patterns documented in the *ahupua`a* and district, specifically during the pre-contact and early historic settlement era;
3) Consultation with community members in reference to past land use of the parcel and potential historic properties within the project area;
4) A comprehensive background research section which will assist in predicting site types that may exist in the vicinities;
5) A complete ground survey (100%) of the project area for the purpose of historic property inventory;
6) Subsurface excavations to determine if subsurface cultural deposits are located in the project area, and if so, document them accordingly;
7) A description of the environment which will include topography, vegetation, geology, soils, hydrology, and climate;

8) Subsurface testing conducted by methodically placed trenches (TR) and test units (TU) (if deemed appropriate);
9) Generating a project area map with trench, test unit, and site boundary locations;
10) Photographs of the general area, exposed soil profiles, and historic properties (if encountered);
11) A stratigraphic analysis of all soil sequences encountered during sub-surface testing;
12) Scaled drawings of exposed soil profiles and historic properties;
13) Discussions of age, function, laboratory results, and significance assessments;
14) Synthesis the accumulated data; and
15) Summarize the cultural resource categories, integrity, and significance evaluations based upon the criteria established by the National and Historic Places;
16) Recommendations founded upon the sum of the information generated during the AIS process to address future mitigation and/or preservation of defined locales.

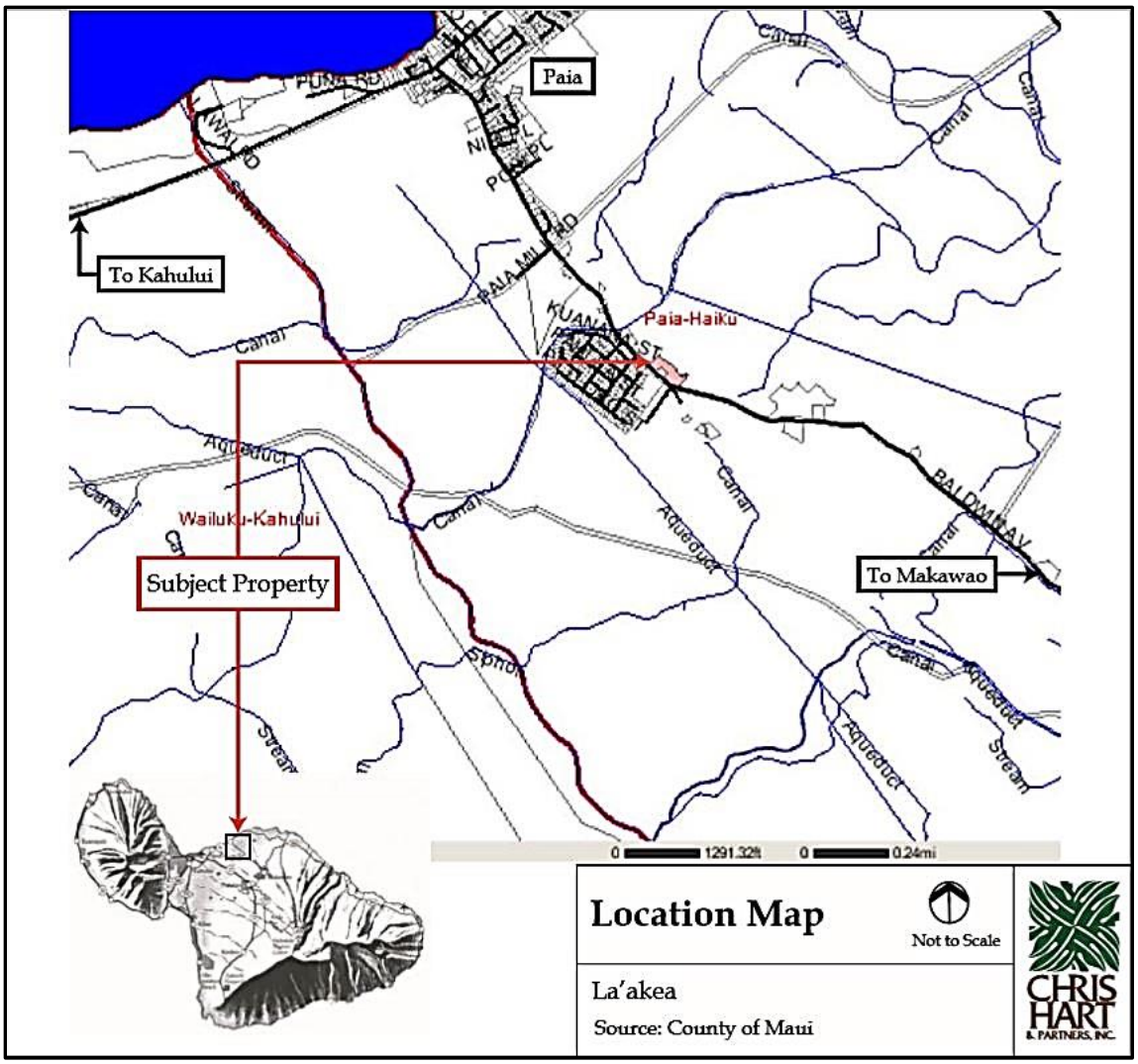

Figure 1. Project Area location map provided by Chris Hart and Partners, Inc.

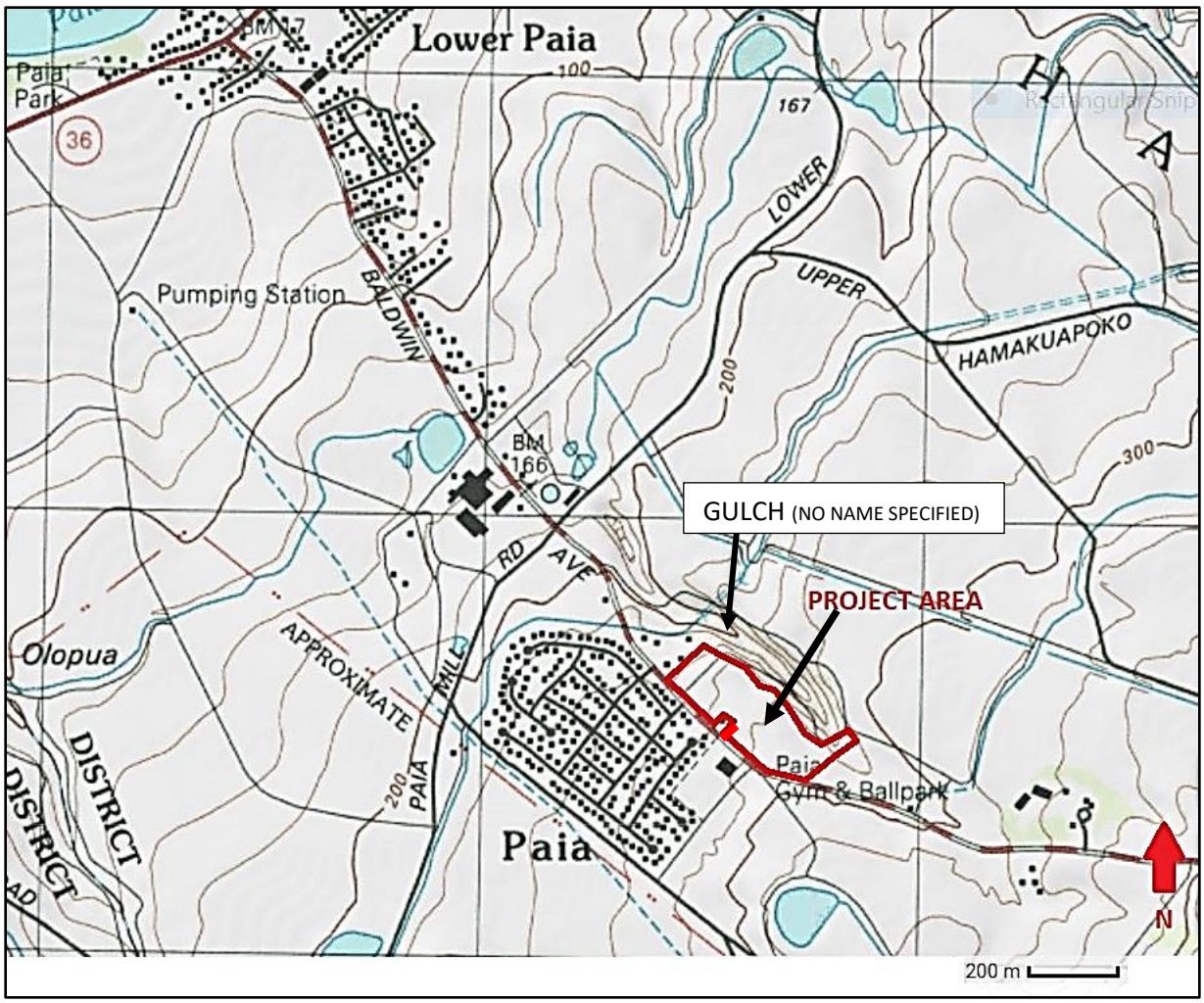

Figure 2. A portion of the United States Geological Survey (USGS) topographic map 7.5 Minute Series, Paia Quadrangle (1997) showing the location of the project area delineated with red boundary lines.

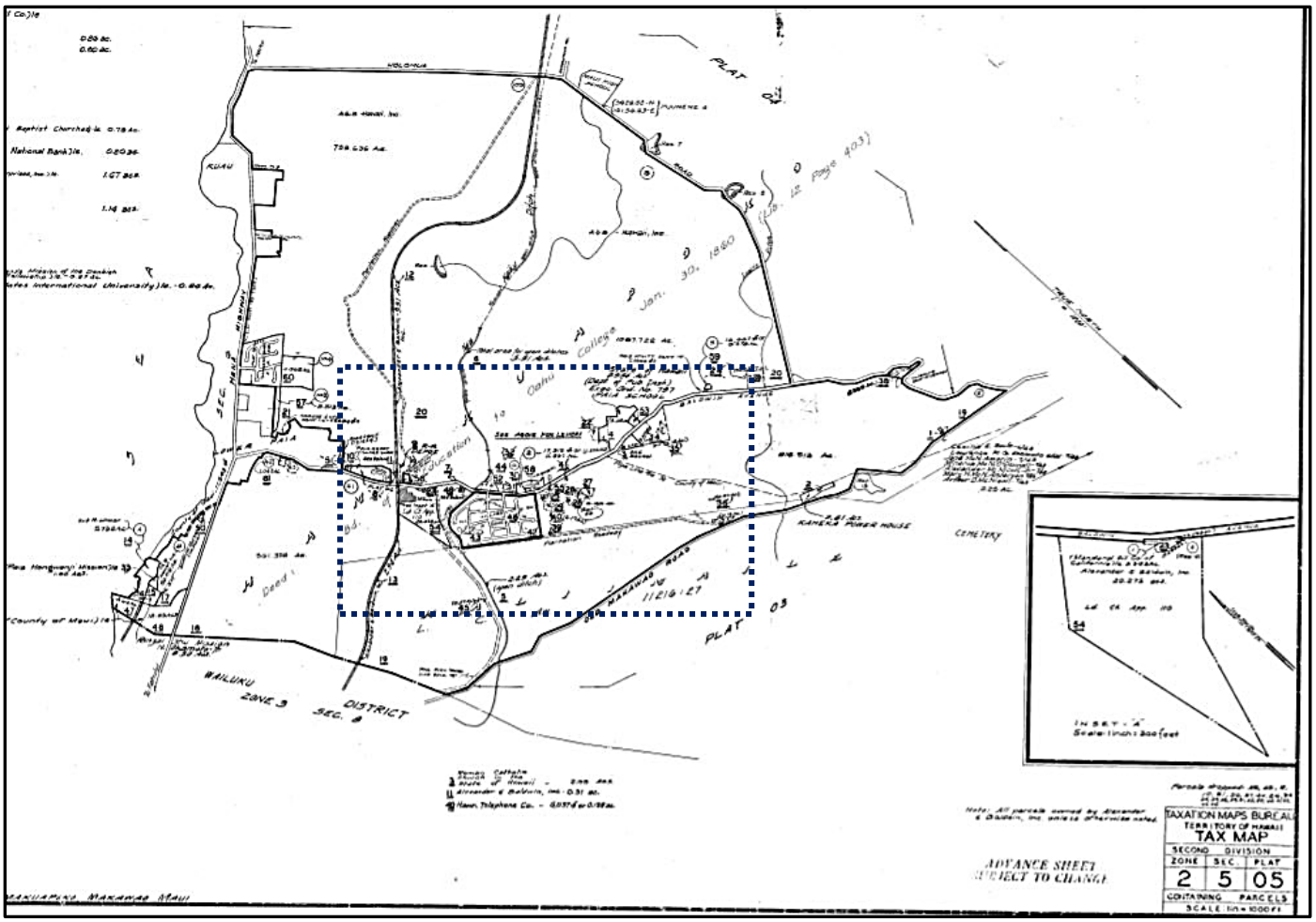

Figure 3. Tax Map Key (TMK) (2009) illustrating the area enlarged in Figure 4.

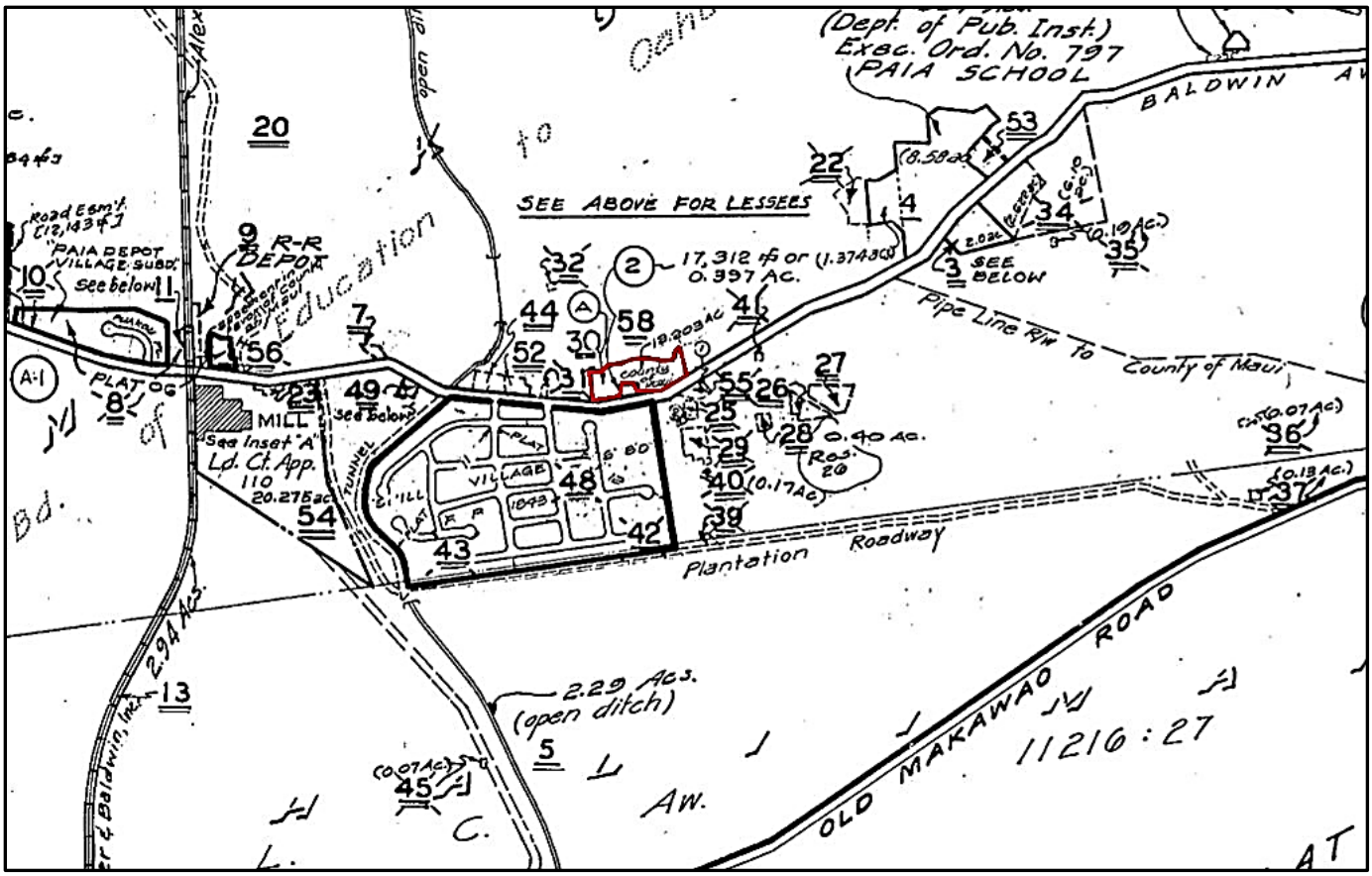

Figure 4. An enlarged portion of the TMK map illustrating the project area in outlined in red.

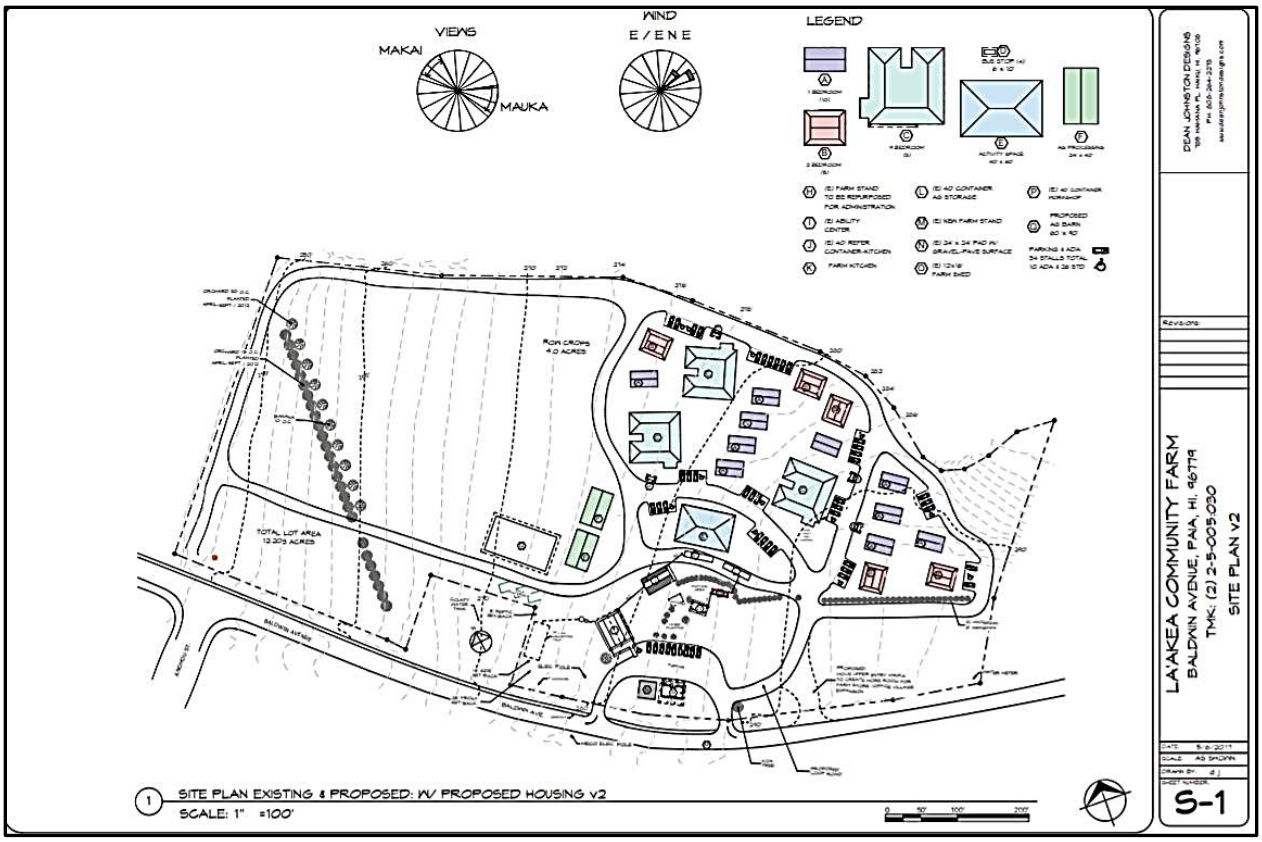

Figure 5. A Site Plan Map depicting existing and proposed (colored) housing for development (site plan provided by Chris Hart and Partners, Inc).

ENVIRONMENTAL SETTING

NATURAL ENVIRONMENT

With a land mass of 1,873 square kilometers, Maui is the second largest Hawaiian island. Maui encompasses lava flows from two separate shield volcanoes. Haleakalā shapes the eastern portion of the island while Pu`u Kukui forms the western section of the island. The project area is situated on the northwest slopes of Haleakalā in the midland region of Hāmākua Poko *Ahupua`a* within the traditional *moku* (district) of Hāmākua Poko, in the modern Makawao District. The Hāmākua Poko section of East Maui was developed from the lava flows of the Kula Volcanic Series during the early to mid-Pleistocene epoch. A large gulch extends in a northwest/southeast direction and the upper ridge bounds the project to the north, northeast, and east (Figure 2). The parcel contains a gently sloping topography to the northwest with semi-level areas of well-drained soils (**Figure 6 - Figure 9**). The project area ranges in elevation from approximately 245 to 295 feet above mean sea level. The average rainfall within the project area is 30 inches per year with temperatures varying from 60° to 80° F.

Figure 6. Overview photograph of project area and County of Maui water tank, view to the north.

Figure 7. Photograph overview of shallow gulch and Pā`ia School (SIHP No. 50-50-04-1630) with white roof, view to the southeast.

Figure 8. Overview photograph to the south with utility lines located along Baldwin Avenue.

Figure 9. Overview photograph of the unnamed gulch located outside of the project area, view to the northeast.

SOILS AND CLIMATE

The sediments within the project area contain a combination of the Paia Series (PcB) and the Iao Series (IbB) (Figure 10). The Paia Series consists of well-drained soils in the Maui Uplands. These soils have evolved in material weathered from basic igneous rock. The soils from this series,

include: Paia silty clay, 3 to 7 percent slopes (PcB), Paia silty clay, 7 to 15 percent slopes (PcC), and Paia silty clay, 7 to 15 percent slopes, eroded (PcC2). The slopes range from gentle to moderate. Elevations range from nearly sea level to 1,000 feet above mean sea level. Precipitation within the project area ranges from 25 to 40 inches per year with most of the rain occurring during the winter and spring months. The mean annual soil temperature is 73° F. Paia soils are geographically associated with Haliimaile, Keahua, and Molokai soils. These soils are used for sugarcane. Small acreages are used for homesites. The natural vegetation consists of lantana, *ilima*, kiawe, Natal redtop, *uhaloa*, and yellow foxtail (Foote *et al*. 1972:106 and 107).

In a representative profile, the surface layer is dark reddish-brown silty clay and clay about 19 inches thick. The subsoil, ~41 inches thick, is dark reddish-brown clay that has angular and subangular blocky structure. The substratum contains a soft, weathered basic igneous rock. Permeability is moderate, the run-off is slow, and the erosion potential is slight (Foote *et al*. 1972:36-107).

The other soil present within the project area (closer to the gulch) consists of soil from the Iao Series (IbB). This series consists of well-drained soils on valley fill and alluvial fans. These soils resulted in alluvium originating from basic igneous rock. These soils are nearly level to moderately sloping and elevations range from 100 to 500 feet. The annual rainfall ranges from 25 to 40 inches. The mean annual soil temperature is 74° F. Iao soils are geographically related with Paia, Pulehu, and Wailuku soils. These soils are used for sugarcane, homesites, and pasture. The natural vegetation consists of bermudagrass, feather fingergrass, *koa haole*, lantana, *and* Natal redtop (Foote *et al*. 1972:46).

In a representative profile, the surface layer is dark brown clay about 15 inches thick. The subsoil, ~45 inches thick, is very dark brown, dark-brown, and very dark grayish-brown clay and silty clay. The substratum is clayey alluvium. Permeability is moderately slow, the run-off is medium, and the erosion potential is slight to moderate (Foote *et al*. 1972:46). In particular, the Iao Cobbly Silty Clay (IbB), 3 to 7 percent slopes has a profile like that of Iao Clay, except the texture of the surface layer and the content of cobblestones (Foote *et al*. 1972:46-47).

According to the soil survey map of the project area, the soil present primarily consists of Paia silty clay, 3 to 7 percent slopes (PcB) with a strip of Iao cobbly silty clay, 3 to 7 percent slopes

(IbB) located along the area directly to the southwest of the gulch. It is probable that the upper portions of the stratigraphy will be heavily disturbed and impacted from intensive agriculture associated with sugarcane cultivation. A more comprehensive soil analysis will be submitted as a part of the result section associated with the trenching activities.

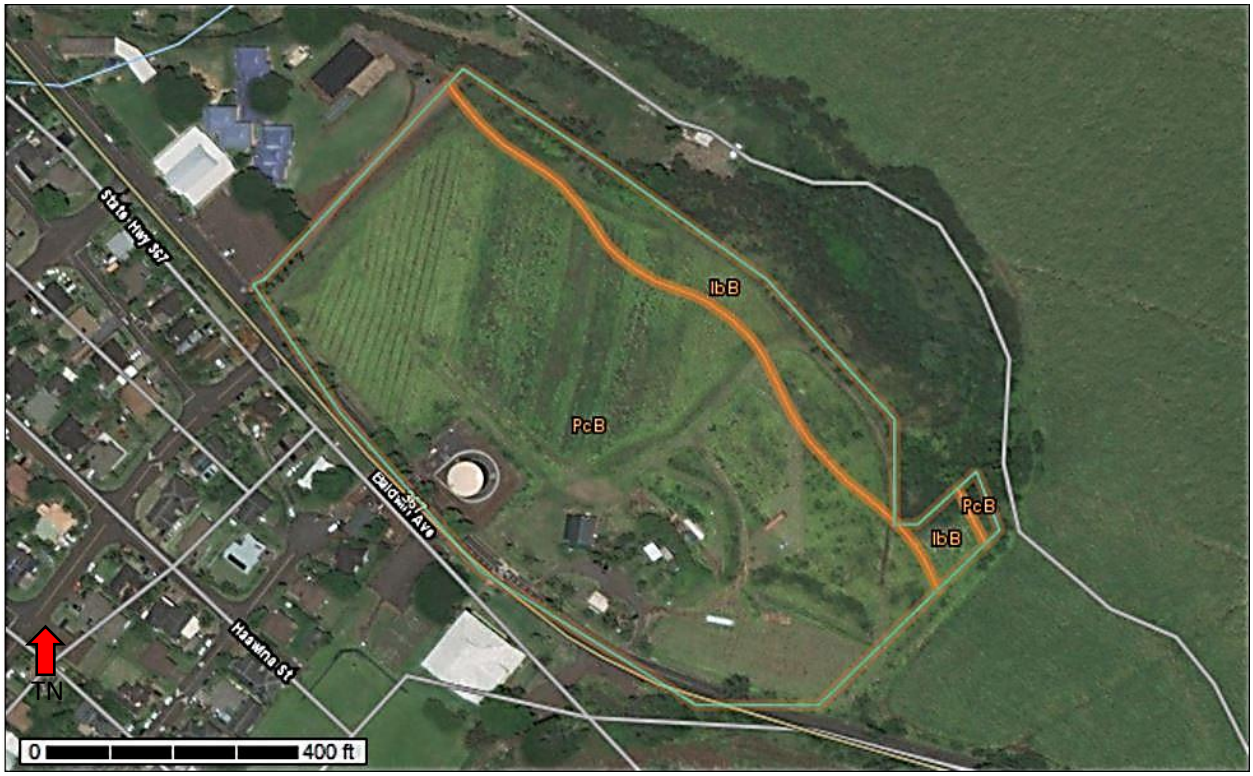

Figure 10. USDA Web Soil Survey map delineating Project Area in gold, (accessed on 2/01/18)

VEGETATION

The majority of the surrounding area consists of gently sloping table land that has been in active sugarcane cultivation for ~sixty years after the demolition of Store Camp. The fallow sugarcane landscape is currently over-run by Cane grass (*Cenchrus purpureus*) with intermittent shrubs of *koa haole* (*Leucaena glauca)* and a variety of non-native grasses and shrub. Larger trees and native species (*ilima*) have been observed outside of the project area inside the adjacent gulch. The vegetation and grasses within the parcel are dense and tall (~ five feet) due to the heavy rain season experienced during the 2017 winter and 2018 spring.

According to Pratt and Gon (1998), the project area may have once supported a native lowland dry and mesic shrubland ecosystem consisting of *pili* (*Heteropogon contortus*) or *kāwelu* (*Eragrostis variabilis*)

grasslands with shrublands of *`a`ali`i* (*Dodonaea viscosa*), *`akia* (*Wikstroemia* sp.), *ko`oko`olau* (*Bidens* sp.), and *`ūlei* (*Ostoemeles anthyllidifolia*).

A modern aerial photograph of the project area illustrates the parcel being void of vegetation except for the County of Maui owned portion containing the water tank (*Figure 10*). Within the last eight years, the majority of the parcel naturally regenerated vegetation consisting of Cane grass (*Cenchrus purpureus*), intermittent shrubs of *koa haole* (*Leucaena glauca,)* and a variety of non-native grasses and shrub (Figure 11 and Figure 12). Other areas around the property have been modified by human activity associated with agricultural activities associated with the La`akea Farm. In particular, the areas around the modified metal shipping containers have a variety species planted by the farm hands (Figure 21 through Figure 14). Vegetation within these cultivated areas consist of: *ti* (*Cordyline fruticose*), *Taro, kalo* (*Colocasia esculenta*), *Ulu*, breadfruit (*Artocarpus altilis*), *Aloe* (*aloe vera*), bamboo (unknown variety), coconut palm (*Cocos nucifera*), elephant ear (*Colocasia*), Traveler's tree (*Ravenala madagascariensis*), orange (*citrus sinensis*), Royal palms (*Roysonea regia*), African Tulip (*Spathodea campanulata*), banana trees (*Musa paradisiaca*), *milo* (*Thespesia populnea*), *loulu* fan palm (*Pritchardia arecina*), and *Kukui* (*Aleurites moluccana*).

Figure 11. Photograph of Cane grass (*Cenchrus purpureus*), view to northeast.

Figure 12. Photograph of Cane grass (*Cenchrus purpureus*) and *koa haole* (*Leucaena glauca*), view to northeast.

Figure 13. Photograph overview of plant cultivation activities associated with the La`akea Farm, view to northeast

Figure 14. Photograph overview of bamboo hedge and organic waste pile, view to east.

BUILT ENVIRONMENT

The project area measures approximately 12 acres and is bound to the north and northeast by a large gulch, to the west/northwest by Doris Todd Christian School property, to the south/southwest by Baldwin Avenue, and to the east/southeast by a fallow cane field. The built environment consists of various types of fencing which primarily delineate the property line. A portion of the fencing in the northeast quadrant of the property should actually be located on the south/southwest portion of the dirt road according to a map provided by La`akea Farms post fieldwork (Figure 42 and Figure 43). Currently, the built environment consists of: a small storefront to sell produce from farm, a kitchen facility, a large indoor activity room, two small offices, two slightly modified shipping containers, and a small open shed structure (Figure 19). As previously noted, the majority of the structures appear to have been constructed by modifying metal shipping containers (Figure 16 through Figure 18). A system of dirt roads (primarily overgrown and unkept) are visible throughout the project area. The water storage tank area is not a part of the current project area and is owned by the County of Maui (Figure 20).

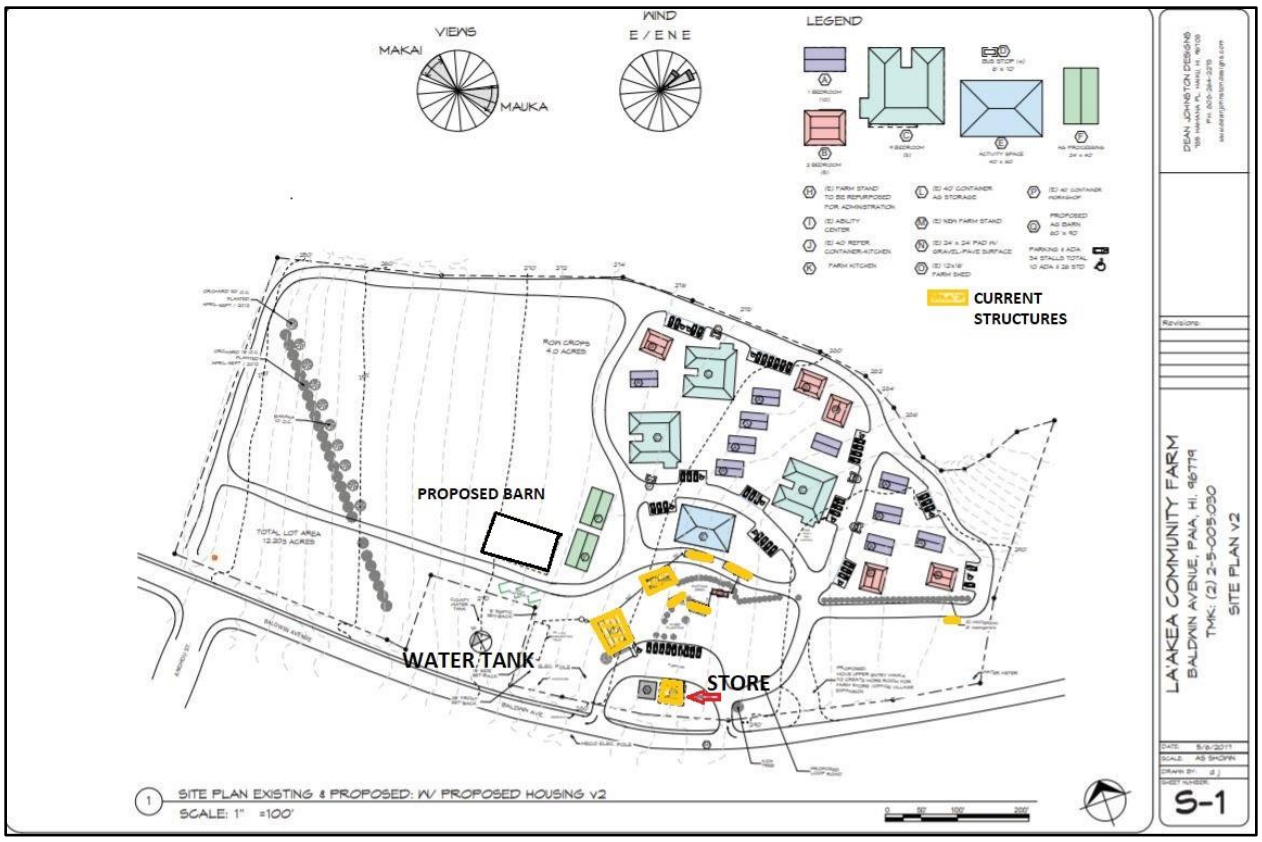

Figure 15. Site plan map with proposed structures in green, purple, pink and blue and current structures in yellow (map modified by A & E Consultants Hawai`i, LLC).

Figure 16. Photograph overview a modified container with porch and an unmodified container in background, view to east.

Figure 17. Overview photograph of the store structure, view to southeast

Figure 18. Overview photograph of a structure constructed of two modified metal containers and a roof, view to southwest

Figure 19. Overview photograph of a wooden shed structure located in the southeast quadrant of the parcel (Pāʻia Gym located in background across Baldwin Ave.), view to west

Figure 20. Overview photograph of the fenced-off Maui County water tank area located in the southern central portion of the project area, view to west

Figure 21. Photograph of central southwest portion of the project area with fencing along Baldwin Ave., view to east

Figure 22. Photograph of a portion fence line located at top of gulch in the northeast portion of the parcel, view to north.

METHODOLOGY

FIELD METHODS

Fieldwork consisted of a 100% systematic pedestrian survey of the 12-acre project area. The archaeological inventory survey consisted of northeast/southwest transects spaced four to five meters apart depending upon vegetation. The transect lines zig-zagged in areas of dense vegetation (6 to 8 feet high cane grass) to ensure adequate coverage. Prior to the survey, it was requested by A & E Consultants that the north/northeast boundary that follows the gulch be marked and/or a small swath cleared. In lieu of clearing the boundary due to lack of workforce and equipment, the Director of La`akea Farms walked the boundary along the gulch and was shown a remnant fence-line at the ridge of the gulch that supposedly marked the property line. It was later determined that a portion of the fence-line (in the northeast section) was not accurately marking the project area. According to a new map provided by La`akea Farms (Figure 42), after the fieldwork was conducted, the property boundary should not have included a portion of the dirt road. The actual boundary was located to the south/southwest of the remnant dirt road (Figure 43). The additional survey boundaries for the parcel were established with landmarks: Baldwin Avenue (south/southwest), Doris Todd Christian Academy property (west/northwest), and the east/southeast boundary was

determined by fence line, dirt road, and using angle and distance in combination with information provided on a topographic map.

The function of this archaeological inventory survey was to evaluate the subject property for the presence or absence of above ground and/or subsurface historic properties and/or isolated artifacts within the subject parcel. Andrée-Michelle Conley-Kapoi, MA, Principal Investigator, and Diane Guerrero, BA, Archaeologist/osteologist, conducted the archaeological inventory survey work from inventory survey work from February 2nd through February 16, 2018. Associated laboratory work was worked on intermittently from March 28 through April 16, 2018. The timeframe of the project was irregular because the proposal for the project was submitted in September 2017 and A & E Consultants did not hear a response until the end of January 2018. The work was completed in-between other projects that were already in progress.

PEDESTRIAN SURVEY

The perimeter of the project area was established by comparing the current landmarks (streets, structures, and fence-lines) with a recent survey map of the property. Field methods consisted of systematic parallel transects across the project in a northeast/southwest (40°/220°). This direction was implemented because it coincided with the angle of the northeast and southwest boundaries. The beginning and the end of the survey intervals were marked with survey flags. Since the vegetation consisted primarily of high grasses, transects were spaced at four meters (m) intervals. The fenced-off area located around the water-tank was not a part of the pedestrian survey because the County of Maui own it.

SUB-SURFACE TESTING

Sub-surface testing was completed by excavating sixteen stratigraphic trenches (TR-1 to TR-16). The trenches were systematically spaced across the parcel and excavated with a *CAT 303.5E* backhoe. The stratigraphic trenches (TR) were placed across the project area in a manner which altered their position from N/S to E/W to obtain the best coverage.

The average trench was ~5.0 meters in length, by 0.7 to 0.8 meters in width, and depths ranging from 1.16 to 1.64 meters. Post-excavation documentation of each trench consisted of photographic recording, soil analysis, stratigraphic profiles of at least one wall, and a detailed written description. Each trench location was placed on a project area map and the location documented

with a handheld Garmin GPS device to plot their locations. All of the trenches were backfilled once the soil profiles were completed.

LABORATORY METHODS

All samples collected during the project were transported to the archaeological firm's office/laboratory for analysis in accordance with HAR §13-279. Artifacts were collected, cleaned, sorted, counted, weighed, and analyzed (both qualitative and quantitative data), with all data recorded on standard laboratory forms. Midden samples were identified to major class. Digital photographs with scales were taken of a representative sample of the diagnostic artifacts.

Soil samples were collected during excavations, labeled, and collected with layer proveniences. No charcoal was collected because all of the samples consisted of flecking and were in a previously disturbed matrix. A representative sample of modern agricultural debris was photographed and documented in the exposed soil profiles. Cultural material observed consisted of modern agriculture debris that was recorded and not collected. Other cultural material consisted of historic artifacts associated with the plantation era. A single *opihi* (*Patellidae*) shell and a cowrie (*Cypraeidae*) shell were also encountered and are presumed to be associated with food consumption during the plantation era due to their context with other historic material. No traditional Hawaiian artifacts were encountered during the current trenching activities.

DOCUMENT REVIEW

The document review consisted of a thorough search and examination of archival sources, historic maps, previous archaeological reports from the SHPD and A & E Consultants Hawai`i libraries, historic photographs, the Waihona `Āina online database, the Kipuka Database, the Alexander and Baldwin Sugar Museum, the Real Tax Office, multiple online sources, including the soil survey website. The information was gathered and processed to develop a predictive model of the types of historic properties that might be encountered during the survey.

CONSULTATION

Consultation component of the archaeological inventory survey procedure has been recommended by the State Historic Preservation Division. This element requires consultation with knowledgeable members of the community regarding past land use and potential historic properties. Oral history interviews conducted with people that grew up in the various Pā`ia

plantation camps has been documented by the Ethnic Studies Oral History Project through the University of Hawai`i in *Stores and Storekeepers of Paia, Puunene, Maui, Volume I (1980*). Additional information about the Store Camp has been documented thoroughly in the Cultural Impact Assessment report for the current project area by Honu Media, LLC (2018) and in a Cultural Impact Assessment for the adjacent Doris Todd Christian Academy (Engledow, 2008).

TRADITIONAL AND HISTORICAL BACKGROUND

PRE-CONTACT TO EARLY HISTORIC

To better understand the pre-contact and early historic era of the general locale of the project area, it is essential to incorporate scientific data founded on archaeological research with traditional knowledge passed down through oral history and historical literature. There are numerous stories, legends, and folklore that give insight to the traditional District of Hāmākua Poko. The Hawaiian people were a part of an oral tradition and did not have a written form until the early 1800's when missionaries assigned Latin characters to their language. Consequently, initial historic accounts are often limited to traveler annotations or notes on old maps.

Natural and cultural resources are the same in Hawaiian culture (Maly Vol I 2001:6). The birth of the Hawaiian Islands and the presence of life are revealed in the context of genealogical accounts. In all forms of the environment, "from the heavens and mountain peaks, to the watered valleys, *kula* (flat sloping lands) and lava plains, and to the shore line and ocean depths were believed to be embodiments of Hawaiian gods and deities" (*ibid*.). Further, "to the old-time Hawaiians, the physical and spiritual world were indivisible" (Rodman 1979: x Foreward).

Kamakau (1961) observed that the ancient Hawaiians were proficient at many trades; they were industrious, skilled agriculturalists, and fishermen. Historic narratives describe hardships forced upon the people under the old system; however, the "people are worse off today (ca. 1867-1869), under the foreign innovations than they were in earlier times" (Maly Vol I 2001: 11). In the old days, the Hawaiians were a strong and hardworking people possessed of much wisdom and they excelled above other peoples of the Pacific in hospitality and kindness *(ibid*.).

Rodman describes the indigenous Hawaiians as all enjoying a special and unique status (1979:7-8). Ancient Hawaiians were expert builders of structures and canoes. They were expert engineers of fish ponds, irrigation ditches and fortifications, as well as designers of idols, tattoo art, *kapa*

cloth, woven mats, weapons, and utensils. Many were great crafters who assembled rare feathers into intricately woven *lei*, helmets, *kahili*, and cloaks.

Cultivation of the land was the ancient Hawaiians' main industry (Maly Vol I 2001: 11). The *kanaka maoli* (native Hawaiians) manufactured and utilized hand-made tools constructed by plants, wood, basalt, bone, and other available resources. The ancient Hawaiian agriculturists tilled large fields with their specialized adzes that cultivated such delicacies as *taro*, sweet potatoes, yams, bananas, sugar cane, and *`awa*. The first food of the harvest was always offered to the Gods (*ibid*.).

Knowledge was passed from generation to generation. The sons were regularly tasked with tilling the ground, fishing, hunting, cooking, and furnishing whatever the women needed. The daughters were skilled artists; gifted at creating *tapa*, rich dyes, and intricate weaving. The gender-based task divisions were apparently common throughout Kaua`i, O`ahu, and Moloka`i, but on Maui and Hawai`i "the women worked outside as hard as the men often cooking, tilling the ground, and performing the duties in the house as well" (Maly Vol I 2001: 12).

The study area is situated on the windward side of North Maui within the traditional *moku* of Hāmākua Poko. Lyons stated that the configuration of land divisions on Maui were not typical. He declared that the districts on Maui were not as simple as those encountered on other islands (Figure 25). Lyons hypothesized that this may have been caused by the irregular shape of the island which was formed from two separate mountains connected by an isthmus. He suggested that the configuration of Maui, "a double island made up of two mountains" was the probable explanation for the large number of districts: Ka`anapali, Lāhainā, and Wailuku in West Maui and Hāmākua Poko, Hāmākua Loa, Ko`olau, Hana, Kīpahulu, Kaupō. Kahikinui, Honua`ula and Kula in East Maui.

'The lands were portioned out into districts (*moku*), sub-districts (*ahupua`a*) and smaller divisions (*`ili*), each ruled over by an agent appointed by the landlord of the next larger division, and the whole under the control of the ruling chief over the whole island'. These divisions were said to have occurred under a *kahuna* (priest) named Kalaiha`ōhi`a during the time of the *ali`i* (chief) Kaka`alaneo during the 15th century A.D.:

> It was during the time of Kakaalaneo of Maui that the division of lands is said to have taken place under the *kahuna* named Kalaihaohi`a (Hew the bark of the *ohia* tree) which portioned out the island into districts, subdistricts, and smaller divisions, each ruled over by an agent appointed by the landlord of the next larger division, and the whole under control of the ruling chief over the whole island or whatever part of it was his to govern (Beckwith: 1970:383).

The economy in Hawai`i was established upon marine exploitation and agricultural production, in addition to collecting plants, birds, and rearing livestock. The *ahupua`a* were divided into lesser, more controllable land sections. Typically, these land divisions extended in a *mauka* (mountain) *to makai* (ocean) direction and boundaries often coincided with naturally created topographic landmarks (gulches, ridges, streams, *etc.*). Within the smaller land sections, the local populace would care for and cultivate their crops to support their *ohana* (family) and provide to those associated through chiefly hierarchy connected with the land. For the most part, the common people that followed the rules and regulations set forth by the *ali`i* (ruling class), had access to both the mountain and ocean resources (Malo 1951:63-67; and Kamakau 1961:372-377).

District land divisions resulted in the rigid structure of a natural and cultural resource management plan, which was strictly adhered to, and was an integral part of the ancient Hawaiian lifestyle. Under the stratified system, the rich lands yielded sufficient carbohydrates, fruits, vegetables, and meat. The surrounding ocean provided a wealth of protein resources. Communities with royal residents exemplified specified labor divisions, demonstrating various occupations on the land and the procurement of marine resources (Malo 1951:63-67 and Kamakau 1961:372-377 in Maly Vol I 2001:8). These access rights were almost uniformly tied to residency on a particular section of land and earned as a result of taking responsibility for stewardship of the natural and cultural environment (Maly, Vol. I, 2001:8).

Although post-1848 maps include the names of four *ahupua`a*, Hāli`imaile, Makawao, Pā`ia, and Hāmākua Poko, within the larger Hāmākua Poko *Moku*, the accounts of the Māhele reference six additional *ahupua`a*. These unmapped *ahupua`a* include: Kaopa, Pānī`au, Hulā`ia, Honohina, Waiawa, and Waiopua (Folio *et al*. 2014:11). Similar to the government survey of lands in Honua`ula (Barrère 1975:41), it is plausible that, as a result of the classification of sizable tracts of land as government lands (W. I. Folk 1990:5) and subsequent sale to sugar interests, the survey

of the *ahupua`a* within Hāmākua Poko *Moku* consolidated the smaller *ahupua`a* in to what is shown on maps today.

Maly verifies that over the generations, the ancient Hawaiians developed a sophisticated system of land and resource management practices (Vol I: 2001: 7). By around 1500 A.D., during the time of Kāka`e and Kaka`alaneo, the island of Maui was divided into eleven or twelve major districts or *mokuoloko,* and smaller sub-divisions, which were then passed down through generations (cf. Malo, 1951:16; Fornander, 1919 Vol. VI2:313; Beckwith, 1970:383; and King 1942). On Maui, the *mokuoloko,* or *moku*, included Hāmākua Poko, Hāmākua Loa, Ko`olau, Hāna, Kīpahulu, Kaupō, Kahikinui, Honua`ula, Kula, Lāhainā, Kā`anapali, and Nāpoko, or Wailuku. Some of the large *moku* were subdivided into smaller land sections known as *`okana* or *kālana*. An example of this is Makawao, between Hāmākua Poko and Kula, which was an independent land section (cf. Lyons 1875 and Coulter 1935).

The most infamous of all of the ancient land divisions, is the *ahupua`a*. *Ahupua`a* (Lit. pig altar) are subdivisions of land that were usually marked by an altar with an image or representation of a pig placed upon it. *Ahupua`a* have been defined as wedge-shaped pieces of land that divided from the center of the island, extending to the ocean fish ponds fronting the land unit. *Ahupua`a* boundaries are defined by topographic or geological features such as *pu`u* (hills), ridges, gullies, valleys, craters, or areas of a particular vegetation growth (cf. Malo 1951:1618; Lyons, 1875; and Boundary Land Commissions).

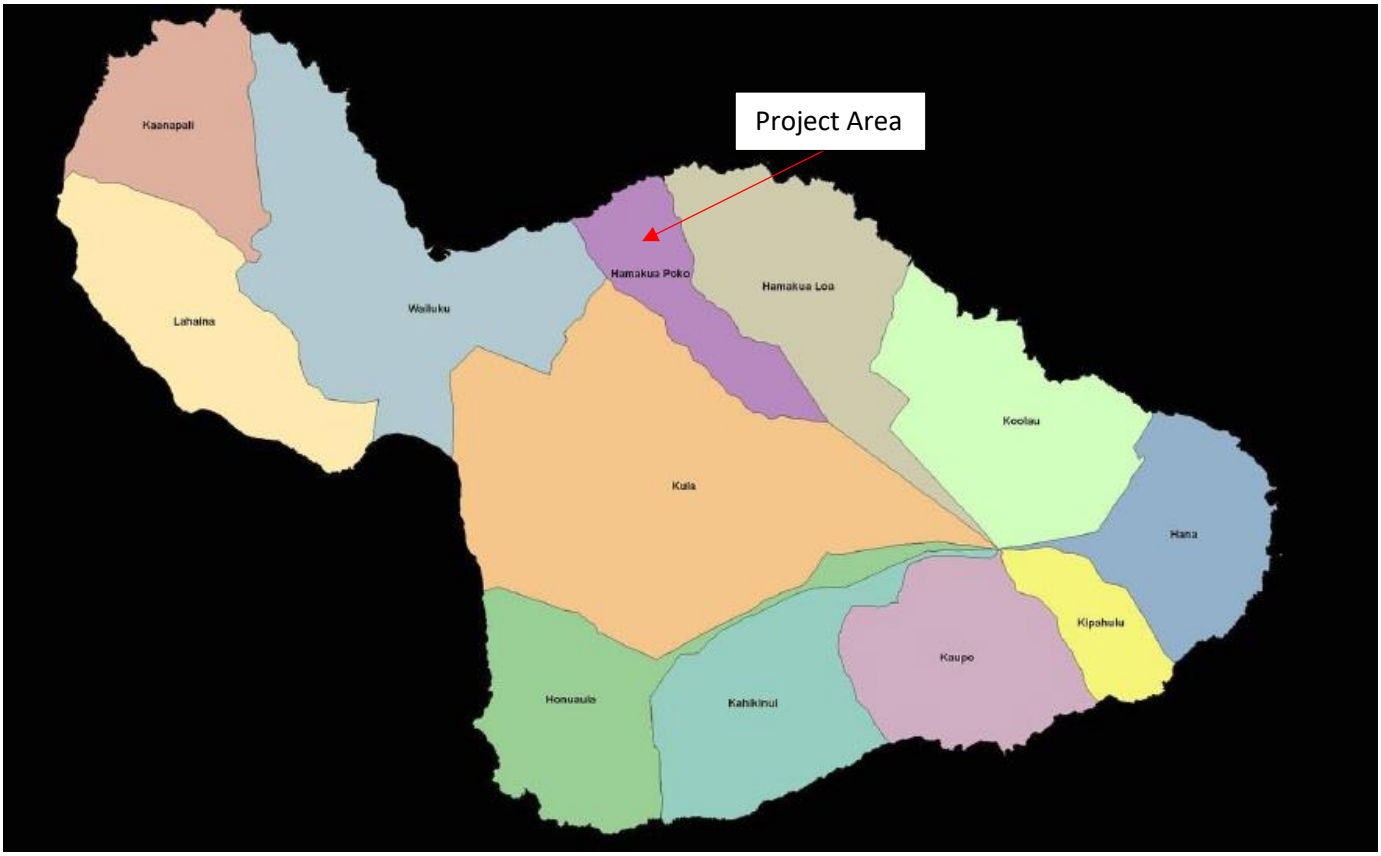

Figure 23. Map illustrating the traditional *moku* (districts) of Maui and the project area location depicted by red arrow (*maui-communities.weebly.com*, accessed on 1/26/2018).

Characteristically, the sub-districts, (*ahupua`a),* are relatively narrow stripes of land running from *mauka* (mountain or inland) to *makai* (the sea), which includes several ecological zones. The zones contained off-and near shore fisheries that included coastal settlement areas, through intensified agricultural areas, through the forested uplands. According to Lyons, "[t]he main idea of the *Ahupuaa*, or primary division, was to run a strip from the shore to the summit of the mountain, in order to give equitable share of all the different products of the soil and sea." (Lyons 1875:111). The Hāmākua Poko *moku* is atypical because it is the only land division that does not extend to Pōhaku Pālaha (a central point in Haleakala) like all the other *moku* of east Maui (*Figure 23* and *Figure 24*).

Ahupua`a* resources not only supported the *maka`āinana (citizen) and *`ohana* (family) who lived on the land, but also contributed to the support of the royal community of regional and/or island kingdoms (Maly, Vol. I, 2001:8-9). Entire *ahupua`a* were under the jurisdiction of each appointed *konohiki* (chief or landlord), who answered to a higher chief, which controlled the *ahupua`a* and

its' resources. In turn, the higher chiefs answered to the *ali`i `ai moku*, a high chief, who claimed the abundance of the entire district, and so on (*ibid.*). Although Hāmākua Poko was traditionally clearly defined as a *moku*, or district; it is commonly referenced as an *ahupua`a* in modern day (*Figure 23 - Figure 25*).

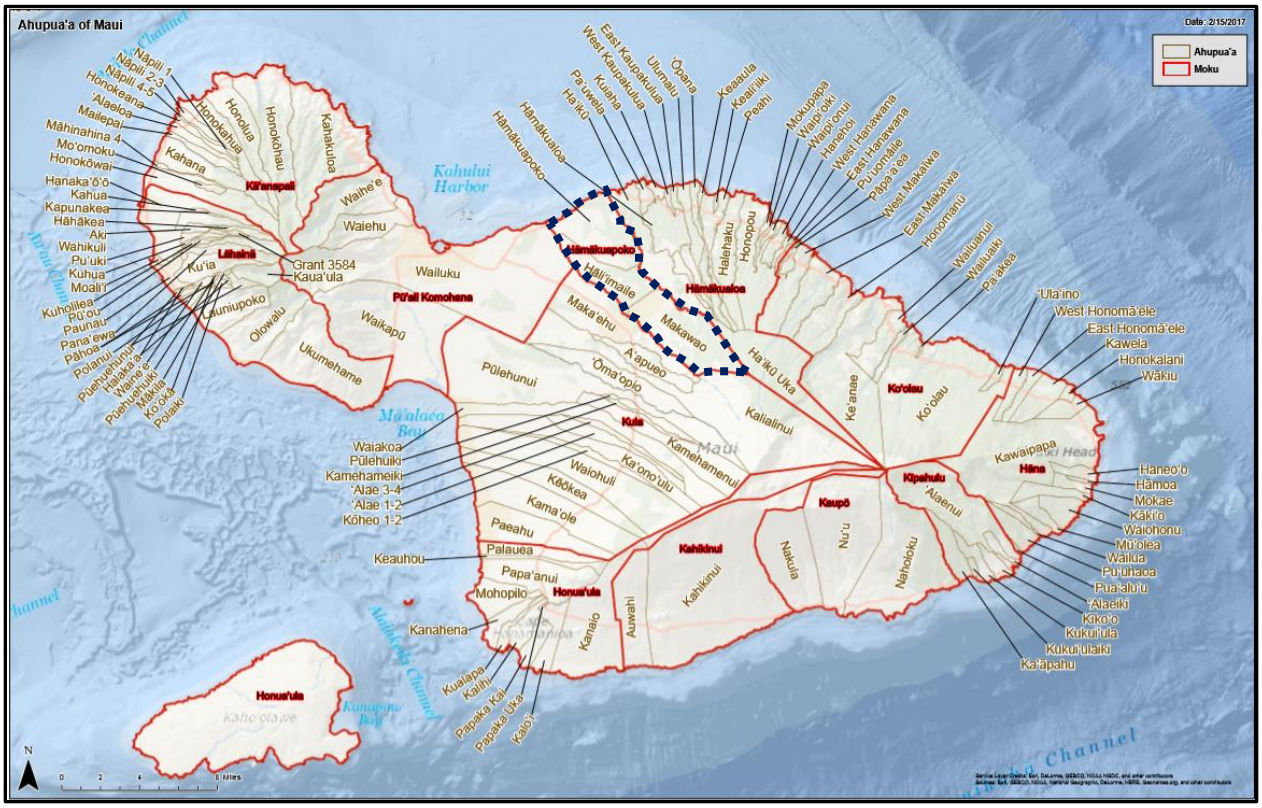

Figure 24. Map illustrating the various *ahupua`a* and *moku* of Maui with Hāmākua Poko Moku delineated with a blue dotted line.

Hāmākua Poko is a *mauka* to *makai* land section, where gently sloping *kula* lands are intersected by small gulches, which meet the sea level along the northern coast line of East Maui. Maliko Gulch forms the eastern boundary between Hāmākua Poko and Hāmākua Loa, a wet area, which had a considerable amount of productive *lo`i* (wetland taro tracts). East of Maliko, the number of named *ahupua`a* is evidence of the large permanent habitation villages once located along the coast (Maly, Vol. I, 2001:7-9). Hāmākua Poko was most likely a favorable region for breadfruit, banana, sugar cane, arrowroot; and for yams and *`awa* in the interior. The slopes between gulches were covered with good soil, excellent for sweet potato planting. The low coastline includes a number of small bays, offering many access points for fishing and aquatic resources. The Alaloa

(long road) that circles the Island; passed through Hāmākua near the shore, crossing streams where the gulches opened to the sea (*ibid*.).

Stream taro, or *lo`i* was planted along the defined watercourses, from the shoreline well up into the higher *kula* land; and dryland taro was harvested throughout the lower forest zone. The number of very narrow *ahupua`a*, thus utilized along the whole of the Hāmākua coast, indicates that there must have been a very considerable traditional Hawaiian population (Maly Vol I and II 2001). A plethora of archaeological features scatter the landscape adjacent to the old water sources throughout East Maui.

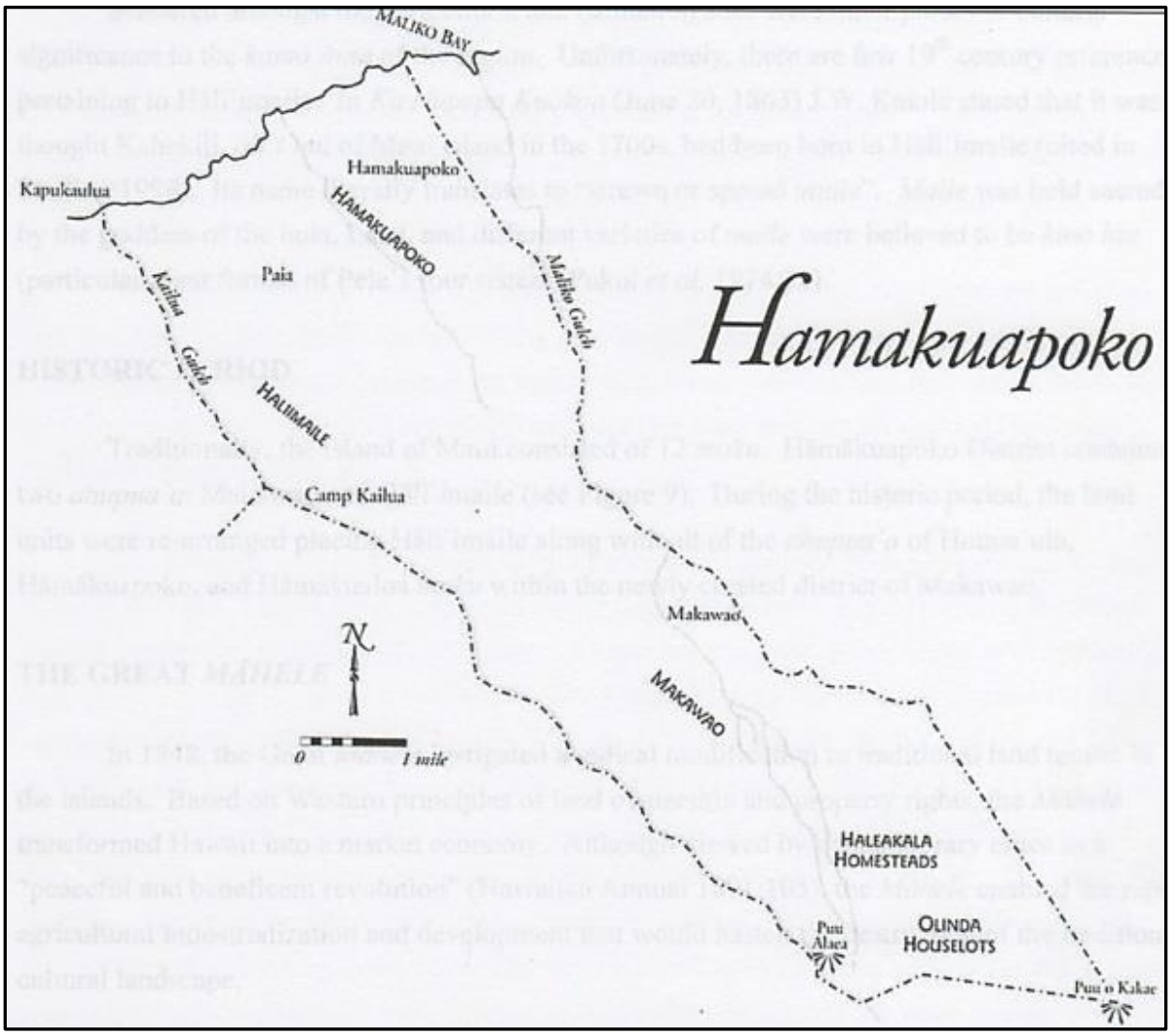

Figure 25. A map portraying Maliko Gulch and the Kailua Gulch establishing boundaries for the Hāmākua Poko *Ahupua`a* (Sterling 1998:16).

The following Table includes details regarding some of the Hawaiian place names located in the Hāmākua Poko Moku [adapted from Folio (2014) and sourced from Ulukau (April 2018), unless otherwise referenced)].

Table 1. Place names and translations encountered in the environs of the project area.

Place Name	Translation	Comment
Akoa	"A small tree resembling *koa*; dye was made from its bark, and to color *tapa*."	Cape or Point Landmark –or Point- along the shoreline
Alelele	"Swift messenger; To skip, jump, fly".	Gulch, Stream, Pond, Springs, Bridge, and Waterfall
Hāli`imaile	*"Maile* vines strewn".	Land Division: *Ahupua`a*, Plantation, Village, and Congregational church at Kāheka, Pā`ia quad
Hāmākua Poko	"Short Hāmākua; view of wide expanse".	Land Division: *Moku* and *Ahupua`a*
Ho`olehua	"Acting the expert; resembling *lehua*". Region north (downslope) of the Haleakalā Government Tract in Olinda. Land Sections on Molokai.	Land Division: *Ahupua`a*
Hulā`ia	"Pushed through," in reference to a union between the gods Kamapua`a and Pele, and the locations where this took place; kula lands; place name on Kauai.	Land Division: *Ahupua`a*
Ka`ili`ili	"The waterworn pebble."	Plantation Village site in Kokomo
Kahalamanuiki		Kula land in Paniau *Ahupua`a*
Kahaupali	"The *hau* trees of the cliff." The region *makai* of Maunaolu school campus.	Land Division: *Ili* LCA land claimant Kaumauma said to be in Pā`ia *Ahupua`a*
Kāheka	"Shallow pool; pool, especially a rock basin where the sea washes in through an opening and salt forms; salt pan; Natural basin or shallow place on hard pan or rock; sea pool."	Gulch, Plantation Village, and Road located in the Haiku Quad
Kailua	"Two seas (probably currents, especially on Hawai`i); Land division, land section, ditch, village, hill (1,269 feet high), gulch, Pā`ia area; stream, Ha`i-kū area, East Maui."	Land Division: *Ahupua`a* Gulch, Village, Hill- Name for the western boundary gulch of Hāmākua Poko.
Kalena	"The yellow; [**Ka**: radiate or go out from the center, and ***lena***: yellow; to tighten]; to stretch out for drying, as a hide; to spread out, as a cloth."	Freshwater Pool located at the base of Pi`iholo
Kaluanui	"The big pit." Place name; Village and Plantation. In 1883 B. D. Baldwin managed- control 833 acres, 250 under cultivation, 541 used as pasture land.	Name of the Baldwin Sugarcane Plantation and Pasture Present-day Hui Noeau Visual Arts Center
Kamole	"The main root." The *kuleana* at Hāmākua Poko are Kamole, Kauhikoa, Apee, Kaluanui, Puuiki, these are for the school house. Listed as wife/*wahine* in the genealogy of O Puukahonua.	The location of Ditch Man's house (Plantation era) Located in Pā`ia *Ahupua`a*
Kaopa	"Lame; stiff; rheumatic; painful stiffness or rheumatic affection of the limbs, which makes it difficult for one to stand or walk".	Land Division: *Ahupua`a*

Kapalaea	***Ka***: the *palaea*: pliers; ***kapa***: the daubing with *`alaea* (***pala***: to smear, daub; ***`alaea***: red, ocherous earth); a species of fish (*Thalassoma purpureum*) when very small the fish is often known as *olani*, *olale*, or *palaea*; when small it is called *awela*, and when large, *hou*.	Said to be the original site of the Haleakalā Ranch in Makawao
Kapukaulua	"The *ulua* (fish) hole."	Landmark; coastal point in Pā`ia (Baldwin Beach) Potential *Kū`ula*, or fishing shrine
Kauhiana	**Kauhi**: `akia; shrub (*Wikestroemia monticola*), an intoxicating shrub endemic to East Maui whose bark was used to poison fish in fresh water [***ana***: cave; grotto].	Land Division: *`Ili of Kauhiana located in Hal`iimaile Ahupua`a.*
Kaun`a	"Place without taboo; the plant without root; Var. of a marine mollusk of the family *Vermetidae* (no *okina*) a pointed, poisonous shell, making a dangerous wound; Var. of *kauna`oa* (*pākalakala)*- a rough seaweed (*Galaxaura rugosa*) that looks like the native dodder, or Kā`uno`a, (*Cuscuta sandwichiana*)."	Location of a 4-acre Elementary School (six buildings) during 1920-1965 Currently utilized as a Community and Senior Center
Kawa`apae	The place name for the rise above Kaluanui: the former home site of J. Walter and Frances Cameron (Sterling 1998: 97).	Kekahuna (LCA claimant) states: "My kuleana is at Hali`imaile and Hāmākua Poko. At Haliimaile it is in Mahana, Kawaapae, and Kukuiohana. The kuleana at Hāmākua Poko are Kamole, Kauhikoa, Apee, Kaluanui, Puuiki, these are for the school house, how about Kekahuna, does he not have any rights?"
Keonekapo`o	"The booming of waves on [the] sand."	Land Division: *Ahupua`a* Location of SIHP 50-50-05-1171 referred to as Baldwin Beach Burials and Artifacts; Human burials eroding out of sand bank Latitude: 20-54-58 Longitude: 156-24-11
Kōkomo	"Village, Ha`i-kū qd., Maui; said to have been originally Koa-komo, *lit.*, *koa* tree entering; sinking; entering in; full to the limit; full to the verge of sinking."	Famous for the *uapokoa* winds.
Ku`aihulumoa	"Butchered chicken feathers," a gulch which runs past Makawao and joins Maliko Gulch" (Sterling 1998).	Gulch
Kū`au	"That part of an implement which is held in the hand when used; the stick or mallet with which the *tapa* is beaten out; the handle of a knife, file, auger, etc;"	Village and Land Section Landing where sugar from the Hal`iimaile and Pā`ia Sugar Plantations was shipped
La`akea	Hawaiian name meaning "Holy Light".	Present-day name for project area
Lelekawa	"The act of jumping from a precipice to destroy life, or of jumping from a precipice into deep water as a pastime"; Chief Kihapiilani was famous throughout Maui as an expert in the sport (up to 500-600 feet high cliffs).	Point along the shoreline- north of Pā`ia Bay

Lilinoe	"Goddess of the mists of Haleakala (sister of Poliahu); fine misty rain."	Name for the area of the J. Walter Cameron estate above Kaluanui
Maka`ehu	"Dusty-eye; dust; faint; difficult to see; reddish hair; the region of the Makawao-Kula boundary adjacent to Kapalaea"	Land Division: *Ahupua`a*- Current-day Pukalani town
Makani	"A wind priesthood with powers over mystic spirits" (Rodman 1979).	Road and land section
Makawao	"Forest beginning; Land section, village, park, elementary school, stream, and forest reserve, Ha`i-kū qd; view of wide expanse".	Land Division: *Moku*, *Ahupua`a*, and present-day District
Māliko	"Budding season"	Land Division: *Ahupua`a* Gulch, Stream, and Bay: sugar was shipped from the Landing during the Plantation era
Mauna`olu	"Cool mountain"; **Mauna**: mountainous region; high hill. **`olu**: "Cool, refreshing; soft, supple, flexible, pliant, elastic, slack, springy; pleasant, comfortable, at ease; polite, kind, courteous; coolness; softness, grace, slackness; comfort, amenities; courtesy, kindness; please, satisfy, pacify."	The site of Maunaolu Seminary, a school and College for women, established at the present site in 1900.
Nukukahawai	"The mouth or entrance; the mouth of a shallow rushing stream, a kahawai.	Name used to define a boundary in the Buke Mahele*: at Hāmākua Poko to pile of stones, at* Nukukahawai
Olopua	"Heartbroken, lovelorn; Land section of Pā`ia; large native tree (*Osmanthus sandwicensis*), to 19 m high, in the olive family- it bears narrow or oblong leaves, yellowish flowers, and blue fruits; the hard wood, dark-brown with black streaks, was used for spears, adze handles, and digging sticks (also the canoe haft was usually made from *hau* or *olopua* wood)"	Name used to define a boundary (rock) in the Buke Mahele (a rock was called Olopua)
Pā`ia	"noisy, fenced in, stuck; to be guarded; to be taken care of; to be protected; the sides of a house; the surroundings, that is, the inside walls of a house; deaf; unable to hear - Quadrangle, village, bay, and school;	Village, Plantation, and Sugar Mill
Paholei	"Legendary name for *kava* (Piper methysticum), the intoxicating plant of Polynesia."	Name for a place in Hāli`imaile where early paniolo (cowboys) trained horses. Referred to as the *ilima-covered plain of Paholei*
Pālau`ili	Possibly defines the land section, or *'Ili* of- **Palau**: "name on the island of Maui of the yam, (elsewhere called *uhi*)"; or- "a variety of taro"; or- "war club; wooden implement with convex cutting edges, for cutting off ends of *taro* corm for planting (also pālau kōhi)"; or-knife; or- "to lie; to misrepresent; to deceive."	Name of area of Makawao Union Church (constructed in 1917).

Paliuli	"Green cliff; one of two legendary hills under the powers of Kāne and Kanaloa; the cliff under which the lizard-god, Kihanuilulumoku, slept; the "Paradise" where the first man (Kumu-honua) and woman (Ke-ola-ku-honua), lived" (borrowed from Folio *et al*. 2014: 15); and "a legendary land of plenty and joy".	The present-day site of Rainbow Park (Sterling 1998:97) Name for the Robert Hind sugar mill, probably taken from the "Legend of Kepakailiula" (Fornander 1917a:498), which described a place in Puna Hawai`i where "the sugar cane grew until it fell over and rose again" (Folio *et al*. 2014: 15)
Paniau	"Coconut-leaf rib fence. Land section; enclosed by current".	Land Division: *Ahupua`a* - LCA Claimant and Konohiki of *Ahupua`a* named -Nalaipuleho- the Clt. is *Konohiki* of the first, under Lunalilo, the son of Kanaina; and of the second, under Government. He has no rights in these lands if Wm. Lunalilo or the Govt. take away his Konohikiship (Helu 3331; FT 7:431-not awarded).
Pāpāi`a	"An offering or place for offering, as of *kava*"	Place name that may refer to a fishing site or a Ku`ula (Fishing Shrine)
Pi`iholo	"Mountain (2,260 feet above mean sea level), road, and Girl Scout camp, Ha`i-kū quad; *Lit.*, climb run; to ascend rapidly." Area known for the *Ukiukiu* rains and *kukui* trees.	Plantation- The present-day site of Baldwin homes and family-owned ranch lands along the slopes of Piiholo
Po`okela	"A chief; a prince or chief among men; a superior either by birth or by great exploits; the greatest, chief, highest among a number of persons; official dignity or insignia."	Site of early Protestant congregational church located on a sharp rise, east of Makawao town
Pu`ualaea	**Pu`u**: Hill of **`Alaea**: "water-soluble colloidal ocherous earth, used for coloring salt, for medicine, for dye, and formally in the purification ceremony called hi`uwai; any red coloring matter; brick-red soil containing hematite; red rain [red of the rainbow]; flesh like redness, especially the dark red meat close to the spine of some fish; Annatto dye plant *(Bixa orellana*); tribe or clan; people in a district who have intermarried; Bad breath, halitosis; fore part of thigh; long narrow thigh muscle."	Land Section at Hāmākua Poko (located at 19.58n and 155.15w)
Puhinali	**Puhi:** "A puffing; a blowing; an eel; a current of air driven through a narrow aperture; an uncut foreskin; to breathe hard; to blow the (conch) shell or trumpet; to blow up; to spout water; to puff tobacco smoke; to puff at one in a way of contempt: to treat insolently; to extract by distillation, as in the distilling of liquor from the root of the *ti* plant." **Nali**: to bite, seize suddenly; to make a strong muscular effort, as in pulling up a bush, climbing a steep hill, or rowing hard against the wind."	Place name near the present-day Maui Veterans Cemetery (near Kailua Gulch)- Possibly the name of an area- wind- The location of an old path or trail at Hāmākua Poko

Pu`umakani	"Windy hill".	Place name of the hill where the Mauna`olu campus is located
Pu`unēnē	"Goose hill." A cinder cone that was demolished and quarried for construction material during World War II.	Name of a Village, Plantation Camp, Sugar Mill, Airport, Hospital, and Dump.
Pu`u o Kāka`e	"Hill of Kāka`e"; **Kāka`e**: order of Maui *kahuna*; the name of a Maui Chief who was either the son of Kaka`alaneo or one and the same; the name of a star."	The name of a wooded hill located in Olinda
Pu`upili	**Pu`u**: Hill. **Pili**: "the long, coarse grass used in thatching houses; so called from the easy manner in which the seeds are detached from the stalk and adhere to a person's clothes; the adhering or uniting of one thing with another; (house shingles); the grass, pili, in covering houses; relation; that which belongs to; a nearness to; a resembling; a likeness; a wager; a bet; a nearness to; a belonging to."	*From Kalolena, which is an awawa kai, the boundary runs mauka to Puupili.*
Pukalani	"Heavenly gate or door; Land section."	Name of an upcountry town-mostly developed post-Plantation era
Wa`aluawai	"Canoe water hole."	Land section-regional place name *makai* of the Historic Makawao Cemetery
Wai`alalā	"Screaming water; water of the Hawaiian crow; the raven (*Corvus tropicus*): so, named from its cry, resembling that of a child; cry of young animals; a crying; weeping; a bleating of flocks; the squealing of hogs; the tuber of a potato vine which is found outside of the hill, or at the end of a root."	
Waiawa	"Milkfish water; bitter water; *ava* pond".	Land Division: *Ahupua*`a
Waihou	"New water". 3820 feet amsl; 186-acre grove of pine trees with a looping trail called Waihou Springs with a network of caves.	Name and location of fresh-water springs in upper Olinda/Pi`iholo Managed by Na Ala Hele State of Hawai'i Trail and Access Program
Waiopua	"Water of cloud banks; a disease; pulmonary consumption; name of an internal disease among Hawaiians"	Land Division: *Ahupua*`a The spring water that the people drink at Waiopua, Hāmākua Poko, has been mixed with the water that the animals drink because there has been so much rain.
Wawau	"To scratch; to pinch with the fingers; hence, to be quarrelsome; recorded as an insulting term similar to dumb brute; probably cognate with an old name for Ra`i-ātea in the Society Islands (Borabora), for an inland area at Vai-taha, Tahu`ata, Marquesas, and for Vav`u, an island in the Ton-gan group".	Place name (Point) near present-day Sprecklesville- Refers to the name of a star- Lonokaehu's (of Maui) ancestors traveled from this place in the Southern island groups- Paau and Pili (said to have been white *kahunas*) were travelers to Hawai`i from Wawau in between A.D. 1100 to 1200

Historically, Moses (Mose) Manu recorded several lengthy traditions for the native newspaper *"Nupepa Ka Oiai*o", translated by Kepa Maly (Maly 2003: 84-88). The following excerpt from February 23, 1894, recounts the travels of Makanikeoe, who sought out caves, and tunnels that served as underground trails in the study area:

> Makanikeoe and his companions landed at Keawaiki (Lāhainā), and after surfing, they desired to adorn themselves with garlands of *lehua,* which they wore upon their heads and necks. The red of *lehua* blossoms was so bright that the ocean's surface reflected their color and looked like a *kapa pa`i`ula* (a highly prized, red-dyed *kapa*), or like the *lehua* blossoms that glow in the *`ulalena* rains of Pi`iholo… From this place he then traveled to the cool pond of Kālena and then he went to the top of the hill, Pi`iholo, from where he could look out upon the beauty of the land. While he was atop Pi`iholo the *`ūkiukiu* mist rains and the *`ulalena* surrounded him, and the *līhau* dropped from the leaves of the *koa* of Kokomo and the famous *kukui* grove of Liliko`i.

Manu goes on to describe that upon that hill he saw two young women sitting along the side of `Alelele Stream. Startled, the women dove into the stream and entered a cave, then shortly appeared below Wai`alalā. The women took their mysterious body forms and Makanikeoe learned that their names were Lauhuki and Kili`oe, and that "they were the *mo`o* guardians of the cool waters of Kālena and all of the ponds at Makawao" (Maly 2003:85). Makanikeoe then passed through the cave and continued underground until he reached the ocean at Māliko. He arose at the eastern point of Māliko Bay, which is the boundary between Hāmākua Loa and Hāmākua Poko. Continuing through Kū`au and Pā`ia, he arrived at Kapuka`ulua, (the boundary between Hāmākuapoko and Wailuku). At this headland, he saw a deep pit in the sea, which he entered and followed to the ponds of Kanahā and Mauoni (December 28, 1894).

The subject area was imperiled by many famous battles. As the classic book *Ruling Chiefs of Hawai`i* (1961) explains, Kahekili was the younger brother of Kamehameha-nui, (both sons of Kekaulike- the ruling chiefs on Maui at that time). The infamous Kahekili prepared for battle and Kahahana, (the ruling chief of O`ahu and Molokai), assisted. Their rival was Big Island's Kalani`opu`u, whose troops were expected to enter Wailuku at Kakanilua, but Kahekili's men rose at dawn and covered the sandhills of Kama`oma`o. The forces of Kalani`opu`u, who anticipated the battle to occur at Kakanilua, were surprised by the spears, javelins, and other missiles that caught them off-guard. "Death-dealing weapons poured down like a swift rainstorm beating the

sides of the fisherman's canoe and agitating the surface of the sea like a cloudburst over the deep ocean" (Kamakau 1961: 87). The story continues:

> The terrified soldiers were surrounded and took to flight; they were driven by Ka-hekili's men like leaves before a whirlwind. The plains of Kama`oma`o became like a fishpond through whose sluice gate the sea flooded, Ka-lani-`opu`u's men [became] like the mullet driven by the sound of beating into the sluice gate of `Uko`a; and the sea rose up to the walls. Like the fiery petals of the *lehua* blossoms of Piiholo were the soldiers of Ka-hekili, red among the leaves of the *koa* trees of Liliko`i or as one glimpses them through the *kukui* trees of Ha`iku. Like the creeping branches of the *`ulei*, so moved the cloaked warriors, young and middle-aged, over the *`ilima*-covered plain of Paholei. A chill seized Ka-lani-`opu`u as he crouched in the canoe, mourning the dead who lay like fish stupefied by the poison spread by the great fisherman, Ka-hekili. Like grasshoppers on the plain, easily to be caught by women, so they lay in the heat of the sun snuggled close to the blossoms of the grasses.

Some of Kamehameha the Great's chiefs, such as Alapa`imaloiki and Kauhiwawaeono, were murderers, who broke the law against killing men. These chiefs were said to go out with their men to catch people for shark bait. If they encountered someone out at night, they murdered them. The chiefs kept the victim's body until it decayed, then use the remains for shark bait. One of the victims was a beautiful woman of North Kona named `Ele`ele on the rocks at Honokohau. The two murderous chiefs killed many other people in this way at the various locations where they stayed. "At Keala and Kalahiki in South Kona, at Hāmākua Poko on Maui, and at Pu`uloa on Oahu, people were killed by them for shark bait" (Kamakau 1961: 232).

Historical records document that ancient Hawaiian chiefs, such as the Pi`ilani line, frequented Hāmākua Poko. Lonoapi`ilani mistreated his brother, Kihaapi`ilani (Kiha), and in order to protect himself, Kiha and his wife fled to Moloka`i, and Lāna`i, and eventually returned to Maui in secret. The two brothers had engaged in conflicts to take the Kingdom of Maui. Kamakau (1961) states that for a time, the couple lived in the uplands of Honua`ula, Kula, and Makawao. The chiefly couple lived in secret on the charity of others at the remote boundary of Honua`ula and Kula, at Ke`eke`e. Kiha was befriended by a woman of the place, named Laie, and she welcomed them. Many people came there to play games and to go swimming in a pool called Waimalino. Kula and a part of Makawao were waterless lands, so Waimalino became a place where all enjoyed

themselves and danced hula (Maly Vol I 2001:26). After gathering enough sweet potato slips to plant an enormous patch to feed the people of the land, Kiha's identiy was revealed to some local inhabitants. The locals claimed "The secrets of the god we cannot tell others, because you have been mistreated. The man that can help you lives below Hāmākua Poko, at Pa`ia… and the chief who made efforts at farming was pleased" (Maly Vol I 2001:23-25).

Hāmākua Poko shorelines are known for extensive traditional human burial grounds. Referenced by Folio (2014:20); the sand dune deposits of Hāmākua Poko were noted in the 1840s as traditional Hawaiian burial grounds by H.T. Cheever in a trip from Makawao to Wailuku (Cheever in Sterling 1998:97):

> In returning from Makawao to Wailuku, a distance of twenty miles, you may take a romantic path down to the sea by the way of Ha`ikū…and you will ride over fine white sand-hills, as pure and crinkled as a drift of new-fallen snow, and as beautiful and barren, too…One sand-hill in that vicinity has been an old burying-ground or battle-place, now laid bare by the winds. Skulls, having jaws in perfect preservation, with thirty-four teeth sound and all the bones of the human body, some of them of gigantic size, lie bleaching all around…

Commonly referred to by locals as "skull beach", significant traditional Hawaiian burial places along the Hāmākua Poko shoreline have been subject to formalized scientific and cultural studies since the 1960s.

Additional reference was made to the area through accounts of an ancient story woven into song. This particular song was for the benefit of the Girl's School at Makawao during the time of Governor John M. Kapena (Maly 2003:146):

Chorus— *Pele makes a rustling*
A rumbling noise in the Pit. [page 81]
The goddess looks askance
While Pahulu ran and dived into the sea.

Verse I.— *Bring us some money*
To assist Makawao.
We have a hundred
To help her with

The verses refer to the Maui chiefs Pahulu and Kaululaau, who fought and killed the ghosts of Lana`i. The song roused a great deal of enthusiasm for the benefit of the opening of the neighboring

Maunaolu Girl's School. The amount received for the opening concert was almost two hundred dollars, a very large amount of money, at the time. Maunaolu Girl's School was part of a larger area set aside for education or schooling endeavors, which includes the subject area.

Eventually, the old land divisions changed for taxation, educational, and judicial purposes. The differences between names and boundaries of ancient geographic districts in common usage, and those referred to in the *Mahele* of 1848 and in the *Laws* of 1840 and 1847, were again adjusted by act of the legislature in the Civil Code of 1859 (Section 498). In the Maui group, the twelve ancient districts of the island of Maui were reduced to four by combining Kā`anapali with Lāhainā (Coulter 1935:216-217). The entire *moku* of Hāmākua Poko, Hāmākua Loa, and Honua`ula, in addition to the bulk of Kula, and the island of Kaho`olawe were all collapsed and formed the newly created district of Makawao (*Figure 26*).

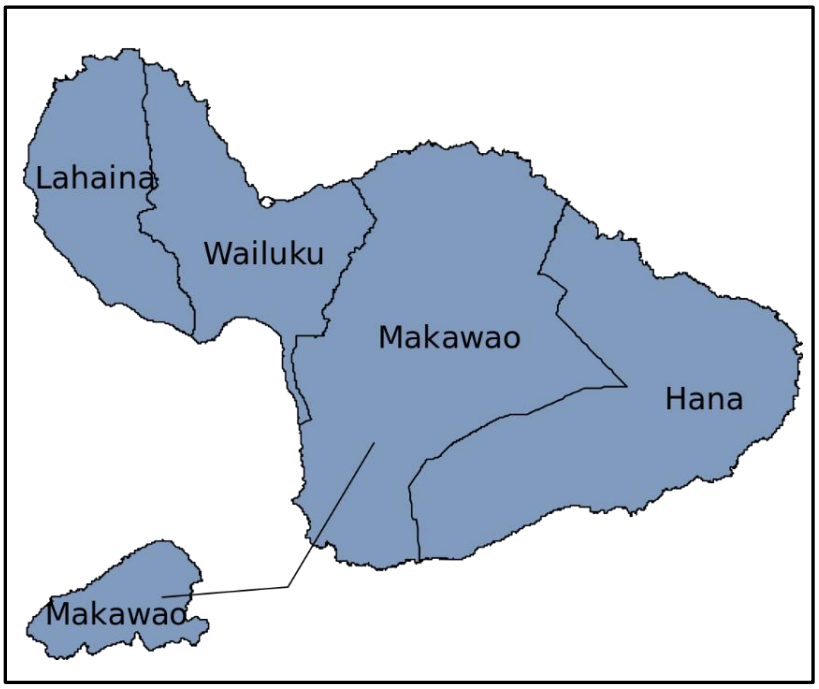

Figure 26. A map depicting the current Makawao District

MID TO LATE-1800'S

THE GREAT MĀHELE

The "Great Mahele" marked the end of traditional land use. "The most important event in the reformation of the land system in Hawaii was the separation and identification of the relative rights of the king, the chiefs, and the *konohikis*, in the lands within the Islands…In the preface to its Principles adopted in 1846, as a suggestion to an equitable distribution of lands within the Islands,

the Land Commission had recommended the separation of equally valuable lands into three parts: one part to be retained by the king, one part to be set aside to the chiefs and the *konohikis* (chiefs), and the third part to be distributed to the tenants or common people" (Chinen 1958:15). During the Māhele in 1848, Crown Lands were divided between the Royalty, Government, and the commoners.

During the Māhele, Land Commission Awards (LCA) were granted by ministers representing the Kingdom of Hawaii's Department of the Interior. Testimony was needed to establish title to real property was recorded by the Native Register, where claimants would provide traditional proof of ownership and the Foreign Register where boundary survey evidence would support traditional claims. At the end of the Māhele, naturalized foreign citizens were given the right to purchase land. Eventually, this Western concept of private ownership resulted in more lands belonging to non-Hawaiians than to native Hawaiians between the years of 1850 to 1865 (Moffatt and Fitzpatrick 1995:51 as in Conley-Kapoi *et al*. 2011:24).

In 1848, there were approximately 88,000 Hawaiians, but only 14,195 applications were made for land… of the 14,195 *kuleana* claims, only 8,421 were awarded. The *Maka`ainana* received less than 1% of the land. Countless Native Hawaiians lost their land use rights as a result of the Great Māhele of 1848, with the establishment of a system of private land ownership. Many landless Native Hawaiians signed on as laborers in the emerging sugar industry, which began on Maui in the 1820s. Within a short time, large tracts of land were turned over to commercial agriculture, primarily sugarcane cultivation (Kame`eleihiwa 1992:295).

Ancient Hawaiian ways were overtaken and co-mingled with modern ways. New restrictions were made that impacted access to Hawaiian resources. The following proclamation prohibits specific types of fish and wood. April 24, 1848 correspondence from S. M. Kamakau (Tax Assessor in Kipahulu, Maui) states to Keoni Ana (Minister of the Interior) some concerns regarding prohibition of Hawaiian natural and cultural resources:

> ...The Minister of the Interior has directed that there are only two things which the *Konohiki* can prohibit, one tree in the mountains, and one taboo fish in the sea. But the prohibiting of shrimp, and the mud-fish in the streams against everyone would be all right, if the water where the mud-fish, the water where the shrimp, and where the mud-fish

school, and the water where the olona grow, the *lauhala* bushes grow, belong to their *kuleana*. But making the restrictions on the places where the people have a ridght is all wrong. Because the Konohiki's and the rights of the people enter the streams, though the prohibition has been made from the mountains and the sea, as to the streams... [HAS – Int. Dept. Misc. from Ulukau].

The Interior Department of Lands organization regulated land use and tenure at the time. Historic documentation clearly prohibits specific types of fish and wood. Meanwhile; missionary, plantation, and ranching life were all in full effect.

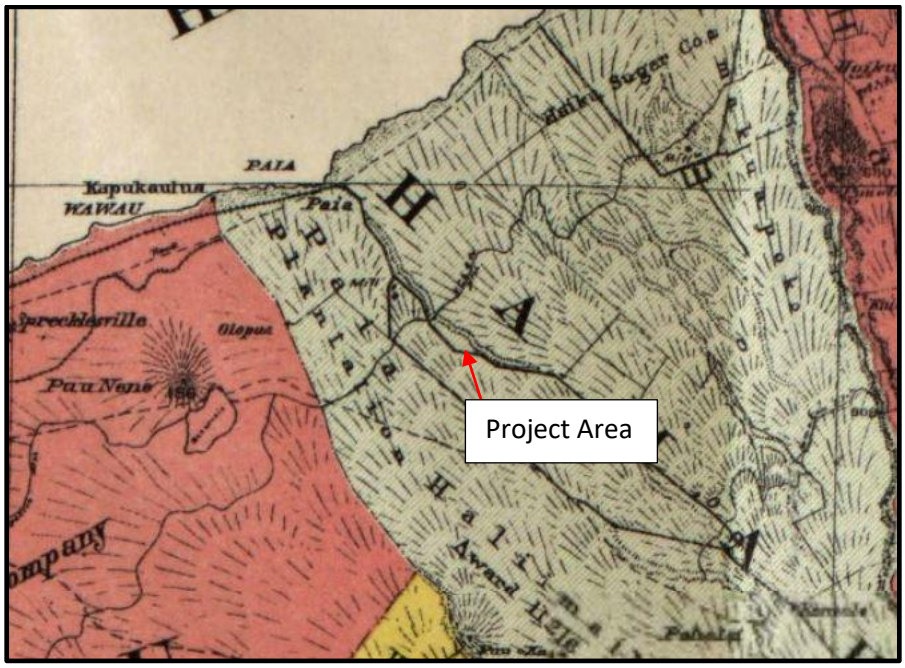

Figure 27. Enlarged section of the Hawaiian Government Survey Map depicting the project area in association with place names and natural features (Dodge 1885/updated Donn 1903)

During the nineteenth century, the Hawaiian land tenure system underwent a complex series of changes influenced by the Māhele of 1848 and related documents. "While it is clear that the Māhele was accomplished by building on existing indigenous structures and place divisions, it also modified the structure that it built upon. There is evidence that changes in land administration happened throughout the nineteenth century, both before and after the Māhele" (Gonshor and Beamer 2014:58). The early maps by missionaries and Hawaiian surveyors offer proof that changes also occurred prior to the Māhele. It appears that many *ahupua`a* became consolidated during the 1830s and 1840s explaining the disappearance of many *ahupua`a* that are on the pre-

Māhele maps and early land lists but are not listed in the Māhele Book (Gonshor and Beamer 2014:80).

Preceding the Māhele, in 1845 and 1846, property located in the Makawao District was offered for sale fee simple to Native Hawaiians for a dollar an acre, in parcels ranging from five to ten acres (Donham, 1990:6). The parcels sold were recorded as Grants and are not registered in the Indices of Land Commission awards initiated in 1848 during the Māhele (Donham 1990:6). The Land Grants associated with the project area appear to be associated with the pre-Mahele experimental land award programs. According to Smith in Donham: (Donham, 1990: A-3 and A-4):

> It will be remembered that the year 1845, during which the new land law was written and in part enacted, was distributed by an anti-foreign agitation, accompanied by a rather pointed suggestion that lands be given or sold to the common people and that the legislative committee, in its reply to the petitions of the people, approved the idea of selling land to Hawaiian subjects. This was directly in line with suggestions contained in Dr. Judd's report as minister of the interior, and there were frequent allusions to the subject in the proceedings of the legislature. The agitation among the people probably hastened the decision of the government to make an experimental beginning without waiting for the new law to go into operation. The places selected for the experiment were the Makawao district of Maui [emphasis own] and Manoa Valley on Oahu.
>
> During the King's tour of Maui in December 1845, and January 1846, the party visited Makawao and it was announced that the entire district of Maui with the exception of McLane's plantation, was to be offered for sale to the people in fee simple [emphasis own]. Rev. J.S. Green, pastor of the Hawaiian church at Makawao, undertook to manage the business of selling the land. In afterwards relating his experience in connection with the project, Green said he called the people together, showed them the instructions from the government, and explained the plan to them.
>
> A few of them purchased at once, others had less confidence that lands thus purchased would be secure, but soon abandoned their scruples, while others still could not for a long time, be persuaded that there was not some catch to it—some design to enrich the chiefs at their expense. But nearly all of these were finally talked out of their suspicions and took up each a small piece of land (letters in Polynesian, July 14, 1849).
>
> Another missionary, Rev. Richard Armstrong, assisted the enterprise by making surveys. The land was sold at $1 per acre, and nearly 100 parcels were taken up, most of them ranging from 5 to 10 acres. Altogether about 900 acres were purchased by the people of the district (Kukendall 1968:283).

Foreign missionaries Richard Armstrong (surveyor) and Jonathan Smith Green (agent for Kamehameha III) were responsible for recording the land sales and assisting in establishing Kingdom boundaries. Moffat and Fitzpatrick (1995:73) agree that the lands of Makawao were common land where no other claims by *ali`i* or *konohiki* would have to be resolved (Donham 1990c: B-4). The Makawao Land Grant parcels were among the first in all of Hawai`i to be sold to individuals. Foreign missionaries Richard Armstrong (surveyor) and Jonathan Smith Green (agent for Kamehameha III) were responsible for recording the land sales and assisting in establishing Kingdom boundaries (**Table 2**). Note, that Richard Armstrong was a major player in the Hāmākua Poko Sugar Plantation leases and ownership; while Johnathan Smith Green received 22.17 acres for the Po`okela Church (#67), 87.70 acres (#68), and 98.93 acres (#833) for wheat farms. The Makawao Land Grant parcels generally consisted of approximately 20 acres

The following information adapted from Waihona `Āina (2002) summarizes the documented Makawao Land Grants:

Table 2 . Land Grants documented within the Hāmākua Poko Moku.

LAND GRANT NUMBER	CLAIMANT	COMMENTS	ACREAGE
	C.B. Andrews	**Church**	
	S. Moo		
	Kamaka		
			4,260 Ac.
56	**Paele**		**2.93 Ac.**
57	**Kaima**		
58	**Maile**		
64	**McLane**	**Sugar Plantation**	**318 Ac.**
65	**Kaleihonu**		
67	**J.S. Green**	**Po`okela Church**	**22.17 Ac.**

68	**J.S. Green**	**J.S. Green Wheat Farm**	**87.70 Ac.**
75	**Jackson**		
79	**Kalawe**		**11.10 Ac.**
82	**Palalu**		
84	**Kekoa**		**18.82 Ac.**
84	**Kalaiohua**		**19.79 Ac.**
86	**Kahainapule**		**35.06 Ac.**
90	**Kalia**		**13.11 Ac.**
102	**Uwe**		
107	**Kaukauohi**		**12.90 Ac.**
157	**McLane**	**Sugar Plantation**	**370 Ac.**
216	**Boardman**	**Adjacent to Lilikoi Plantation**	
249	**Kamanaulu**		
313	**Lopa**		
314	**Kamanohili**		
315	**Hakalaau**		
316	**Kimo**		**20.80 Ac.**
317	**Kahanapule**		**21.10 Ac.**
318	**Kekalo**		
319	**Ohule**		**12.61 Ac.**
320	**Honuaakaha**		**19.22 Ac.**
321	**Keawe**		**35.56 Ac.**

322	**Keakaikawai**		**43.56 Ac.**
323	**Kalawe**		
324	**Naheana**		
325	**Honolulu**		
326	**Kuli**		**25.12 Ac.**
327	**Aneru**	**East Maui Female Seminary**	
328	**Nuhole**		
329	**Moanonio**		
330	**Makua**		**19.20 Ac.**
331	**Opu**		**20.75 Ac.**
332	**Kawila**		**16.39 Ac.**
498	**Limaimoku**		
499	**Kaaea**		
504	**Kekina**		
597	**Lono**		
598	**Kanekailua**		
599	**Kiaipu**		**68.95 Ac.**
600	**Nunu**		**17.20 Ac.**
601	**Uwekalohe**	**Dairy**	**16.60 Ac.**
602	**Kalawaiahou**		
603	**Opunui**		**35.59 Ac.**
767	**Holliday**		

768	**Kekahuna**		**56.75 Ac.**
769	**Kaupuaiai**		
770	**Kapai**		
833	**Model Farm**	**J.S. Green Wheat Farm**	**98.93 Ac.**
1725	**John Smith**		**15.75 Ac.**
1817	**Kupaiuli**		
2008	**D. Ii**	**Po`okela Church**	
2009	**M.E. Green**		
2130		**Haleakala School**	
2285	**Kauwe**		
2472	**Ihu**		
2639	**Conde**		
2840	**Kekua**		
3084	**Jas. Makee**	**Portion of Laniwai**	
4937	**H.P. Baldwin**	**Portion of Olinda**	**70.50 Ac.**

In 1848, Jonathan Green became an agent for the Kingdom and collected monies due the government. These parcels were registered as a Land Grants and were not included on the Indices of Land Commission Awards lists (Donham 1990b). **Table 3** illustrates a variety of land uses encountered within Pā`ia during this epoch, as well as referencing notable natural resources (springs), plants (*`ulu, hala, `o`hia, `uala, wiliwili*, and potato) and animals (goats and cows). Additionally, it specifies various *`ili* land division names that are no longer used and are not depicted on any of the earlier maps utilized during the current research.

The largest land claim within the Hāmākua Poko *Moku* was issued to Kekau`ōnohi, the granddaughter of Kamehameha I and the great-granddaughter of Ali`i Nui Kekaulike of Maui and

consisted of the entire *ahupua`a* of Hali`imaile. After the Great Māhele, she was granted seventy-seven land parcels and was the largest landholder after the King. Land Commission Award (LCA) 11216, Apana 27 (Royal Patent 7512) consisted of 4,230 acres and was awarded on the 26th day of 1880 (www.waihona.com).

Table 3. A list of Land Commission Awards in Hāmākua Poko *Moku* with "Pā`ia" listed as the *ahupua`a*

LCA#	RP#	Claimant(s)	Ahupua`a	`Ili	Land Claim	Awarded Lands (acres)
0412	2342	Kekahuna	Pā`ia  Ha`ikū	Kamole Kukuiwahaea Kapuna	2 `*apana* 1 *lo*`i 1 *kula*	1 `*apana* (9.07) *see 5421 and 4945 on Maui & Molokai
11216, `*Apana* 27	7512	Miriam Kekauonohi	Hāli`imaile	(all)	The entire Hāli`imaile *Ahupua`a*	(4,230)
04945*M	N/A	Kekahuna	Pā`ia Ha`ikū	Kamole Kapuna	2 `*apana*	4945 Molokai parcels only. Other parcels awarded to Kekahuna in Awards 4142 and 5421
05325	2341	Kiha	Pā`ia, Hāli`imaile, Ha`ikū	Kahinahina, Kakalaioa, Mokuoi	**Pā`ia:** 14 cultivating lots some *kula*. (1 uncultivated *kula* named Mokuoi) with one piece for goats 1, `*uala*, 3 fresh water springs for drinking, 1 cattle enclosure **Ha`ikū**: 3 *lo*`i with the *pali* planted in potato	5 `*apana* (7.74)
05326	2438	Kalaeloa	Pā`ia	Kukuaupuni	1 `*apana*, 11 `*ulu*, *hala* trees, 4 `*ōhi*`a tree stump, *wiliwili* stumps	Not Awarded
05443B	2352	Wili	Paniau, Pā`ia	Ohia, Kahanui, KuaPā`ia, Ekapaniu	6 `*apana* (3 in Pā`ia and 3 in Paniau) *kula* lands `*Apana* 5 and 6 bordered by *pō`alima*	6 `*apana* (12.35)
06387	N/A	Kawiheleole	Pā`ia	Kamole	1 `*apana* * land use not indicated	Not Awarded

06510	N/A	Apiki	Pā`ia	Kuhao, Kikalapaakea, Poala	3 *kula*	Not Awarded
06510CC	N/A	Poupou	Pā`ia Paniau	Ohia, Koaie	Pā`ia: 1 *kula* Paniau: 1 *kula*	Not Awarded
06510DD	2344	Kaumauma	Pā`ia Paniau	Kahaupali, Kahalemanuiki	Pā`ia: 1 *kula* Paniau: 1 *kula*	Not Awarded Paniau: 1 `*apana* (1.39)
06510HH	2214	Poka	Paniau, Pā`ia, Hali`imaile	Halamanunui, Puhiele, Poala, Kauhiana	4 `*apana kula*	**`*apana* at Halamanunui, Paniau and Poala at Pā`ia (Paniau) (awarded 13.29 acres) ***`*apana* at Puhiele and Kauhiana, Pā`ia (Paniau) *Ahupua*`a (Not awarded)
06536	2212	Huna	Pā`ia	Waiaku	1 `*apana* 1 *kula*	1 `*apana* (2.6)
07970	5026	Kanehailua	Pā`ia	Makahuna Paihiili, Pahihi	6 plots for farming	2 `*apana* (subdivided into four)
08468	2349	Kamakaala	Pā`ia	Aupuni, Kakalawa, Piilani	1 house lot 6 cultivated plots	3 `*apana* (12.38)

"While the king and his advisers both pushed the commercial development of agriculture, their purposes probably differed. Kamehameha III often spoke of the need to strengthen the Hawaiian population, bolster the independence of the nation through trade and export, and build the financial capacity of the new government. Western advisers such as William Lee envisioned a radical change in the moral economy. Pursuing a cultural goal of "civilization," they interjected narrower New England ideals of yeoman farmers, free labor, and private property in their advice to the king on how best to maintain independence and build a new economy" (Maclennan, 1995:35).

Life in rural Hawaii began to change after the Māhele and many Hawaiians hesitantly sought work in the emerging plantations. A boom in commercial agriculture—particularly in potatoes and sugar, coincided with the California gold rush in 1850-51. In 1851, Makawao had seven

plantations, however, after the depression, there were only two in 1857 (East Maui Plantation and the Brewer Plantation). The East Maui Plantation was eventually bought by C. Brewer & Company and closed in 1885 (Ruzicka and Cosson, 2006:3-4).

In 1853, the Kingdom of Hawai`i set aside the approximate 5,000-acre *ahupua`a* of Hāmākua Poko for the benefit of the Board of Education. The Taxation Act of 1850 established that one-twentieth of all unappropriated public lands "the income of which was to be used for designated school purposes…during the next few years considerable acreage was sold to procure money for educational purposes" (Wist 1889:60). In 1860, the Hāmākua Poko *Ahupua`a* was given to the Trustees of O`ahu College. With the exception of a few Native Hawaiian *kuleana* parcels, the majority of the *ahupua`a* was sold in 1861 by the Trustees of O`ahu College to the Ha`iku Sugar Company (Burns 1991b:54) (*Figure 29*). The Ha`iku Sugar Company then sold a large tract of coastal lands to a Native Hawaiian Hui comprised of 28 individuals (Folio *et al*. 2014).

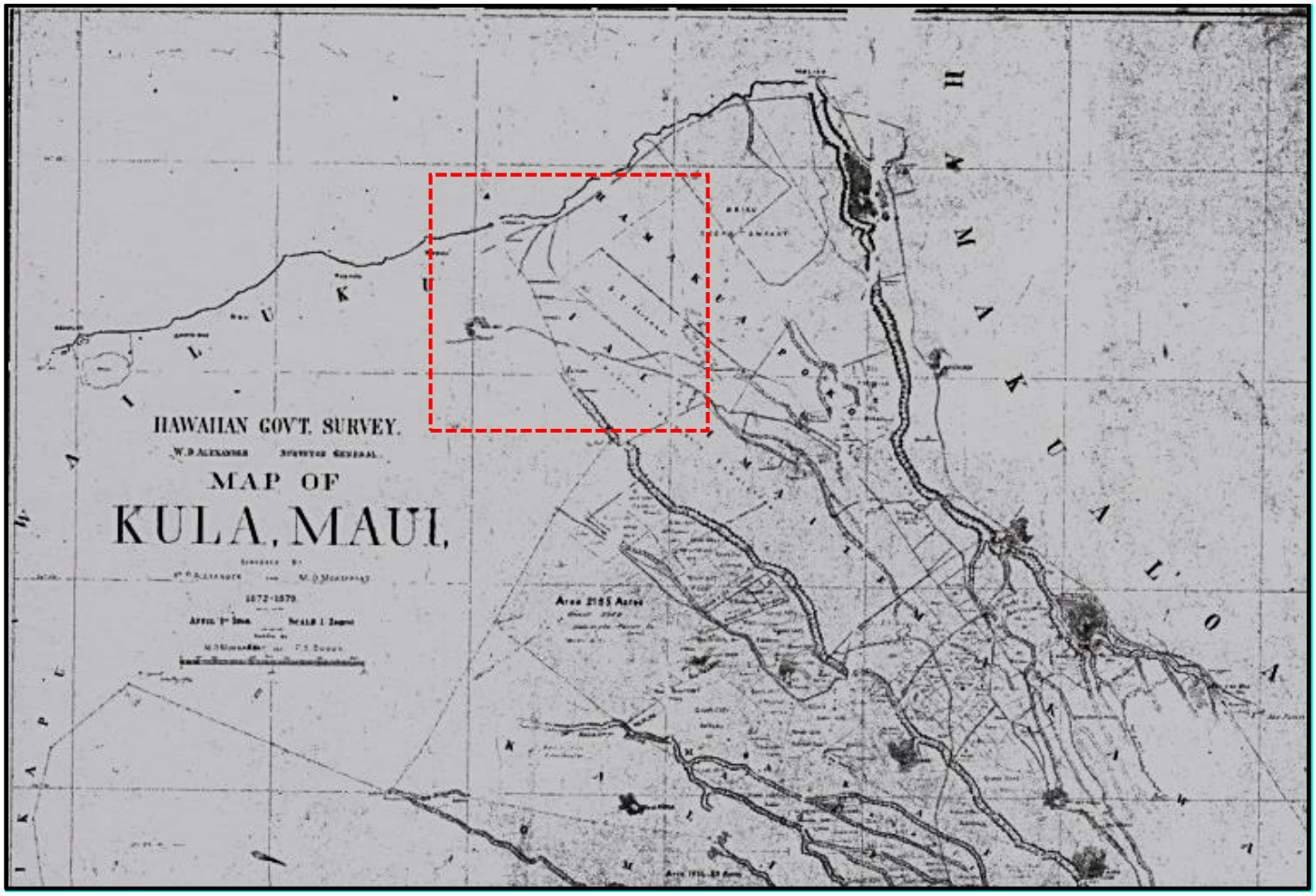

Figure 28. A Hawaiian Government Survey Map of Kula (1872-1879) with area enlarged and updated in Figure 29

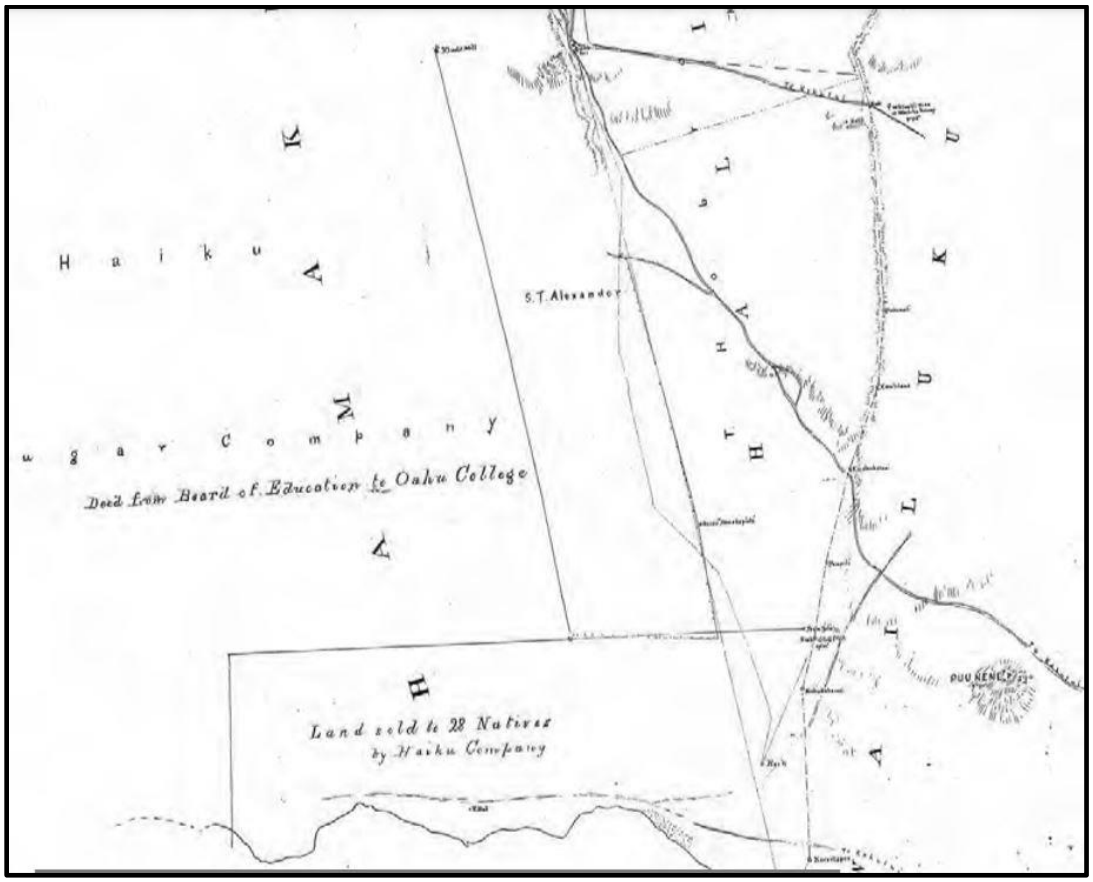

Figure 29. An enlarged an updated portion of the Figure 27 map illustrating the Haiku Sugar Company as owners and the coastal land section sold to the 28 Natives (Native Hui).

In 1870, Samuel T. Alexander formed the Pā`ia Plantation under the name Samuel T. Alexander & Company. With Baldwin, he purchased 561 acres between Pā`ia and Makawao, where they cultivated sugarcane. In 1871 Alexander managed the Ha`ikū Sugar Mill which had been constructed in 1861 by Castle & Cooke. The Reciprocity Treaty of 1875 abolished tariffs on sugar exported to the United States. Pā`ia was and a steady supply of water was needed to raise the sugarcane. Alexander proposed a 17-mile-long irrigation aqueduct that diverted water from that part of Haleakalā to their plantation. He negotiated a lease of water rights from King Kalākaua and solicited funding from other associates. Initially, it was supposed to be a 20-year lease for $100 per year. His brother James conducted the survey and work was initiated on the aqueduct in 1876 and was completed in 1878. After completion of the aqueduct, the company prospered by selling water to adjacent plantations, and was later retitled Alexander & Baldwin Plantation. In 1884,

Alexander arranged for the partners to buy the small American Sugar Refinery in California, and later organized a group of Hawaiian planters named the Sugar Factors which became the California and Hawaiian Sugar Company (C&H). Between 1872 and 1900, the business took over more land and sugar mill operations. In 1898, Alexander and Baldwin acquired a governing interest in one of its rival companies, Hawaiian Commercial & Sugar Company (HC&S) from Claus Spreckles. By 1899, the firm bought two of Maui's railroad lines (https://en.wikipedia.org accessed 6/02/18).

Early businesses catered directly to plantation workers and the scene relatively quickly transformed into bustling villages with unique residential character, when joined by schools, churches, and theaters (*Figure 30*) (Bartholomew and Bailey 1994:109). In the 1890s, the Chinese immigrants made up a large part of the plantation labor force and consequently, owned and operated the majority of the Pā`ia businesses. The first Japanese immigrants arrived in Hawai`i in 1868. Over 19,900 Japanese immigrants arrived in the year 1899, and many took over field positions and plantation businesses formerly run by Chinese contract laborers and merchants (Kodama-Nishimoto *et al*. 1995). The Pā`ia Plantation Store was in operation since 1896 and supplied everything for the plantation workers and their families. According to *Figure 32* and *Figure 33*, a smaller satellite store, the 'Pā`ia Store Camp' was once located in the central northern portion of the project area.

Figure 30. An aerial photograph depicting the density of plantation era structural development in the 'Upper Pā`ia' region in the late 1950's.

EARLY to MID 1900's

The subject area was part of the land holdings sold by the Trustees of O`ahu College to the Haiku Sugar Company, so it had become part of the successful plantation. The annexation of Hawai`i (1890) as a Territory of the United States made it possible for Hawaiian sugar and pineapple to enter the U. S. market free of protective tariffs, such as those levied against other sugar-producing countries (Taussig 1919:118 as in Folio *et al.* 2014). Subsequently, both the sugar and pineapple production throughout Maui drastically increased, particularly in Hāmākua Poko and Hali`imaile.

By 1900, the largest and most influential organizations of the upper Pā`ia region were the Ha`iku Sugar Company and Pā`ia Plantation. In order to keep up with the growing operations, the Pā`ia and Haiku Plantations changed their railroad gauges from 30 to 36 inches; to match those operated by HC&S Company and the Kahului Railroad Company. A huge influx of immigrant workers caused an outbreak of smallpox in 1900, resulting in the controlled burning of specific village areas in both Pā`ia and Kahului (Folio *et al.* 2014:66-67). In 1903-1905, the Maui Agricultural Company was formed by a merger with the Pā`ia Plantation and the Ha`iku Sugar Company, which was owned by Harry A. Baldwin.

Around the mid-1920s, more areas of Maui Agricultural Company lands located in the Makawao region were evaluated as inadequate for growing sugar cane. Pineapple cultivation was ramping up. In 1932, the Maui Agricultural Company merged with the Haleakalā Pineapple Company to create the Maui Pineapple Company. In 1948, Maui Agricultural Company merged with the HC&S Company, which formed the Territory's largest sugar plantation and sugar producer in the United States.

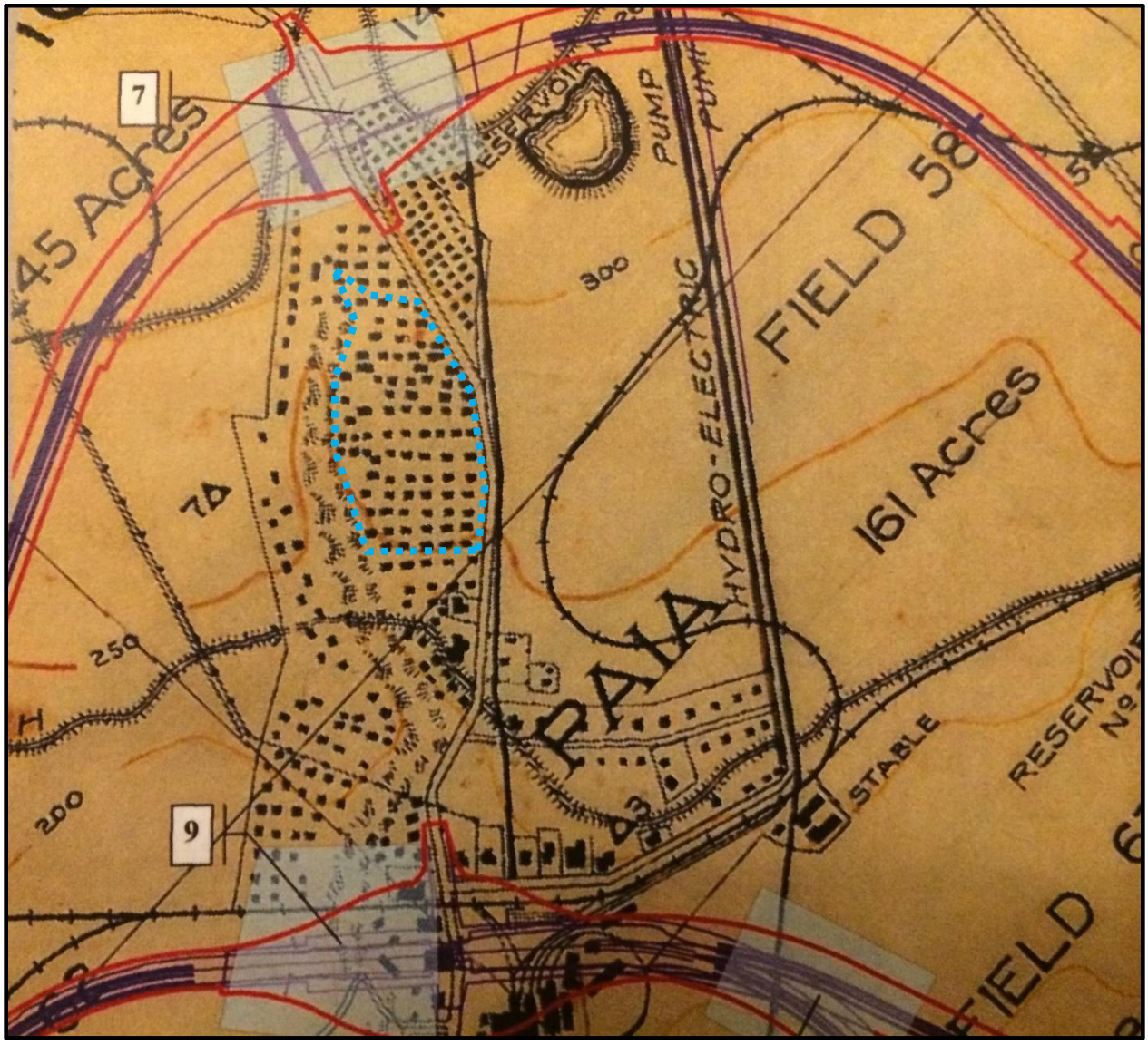

Figure 31. A portion of the Hawaiian Commercial & Sugar Company's Plantation illustrating the Store Camp (depicted with blue dotted outline) under A & B possession (circa 1917) (note: no 'Japanese Cemetery' or 'Korean Church' illustrated on this map).

While Lower Pā`ia included many privately owned and operated businesses, Upper Pā`ia was a plantation town Pā`ia in those days was a busy town, with a train depot, a public school and Japanese language schools, churches and a Hongwanji mission, sports facilities, hotels, a theater, and banks. After the original Pā`ia Store burned down in 1910, a larger new store was built, with departments that contained groceries, men's furnishings, dry goods, Japanese food, and other items. The town was divided into neighborhoods called camps or villages, with names such as Skill Camp, Spanish Camp, Hawaiian Camp, Nashiwa Camp, and Store Camp (Figure 32 - Figure 35) (Engledow, 2008:17). The "Pā`ia Store" was a much larger store in comparison to the smaller camp stores—such as the "Pā`ia Camp Store" once located within the project area (*Figure 32*). The location of the larger Pā`ia Store was situated down Baldwin Avenue towards Lower Pā`ia directly across the street from the Pā`ia Mill (Figure 34).

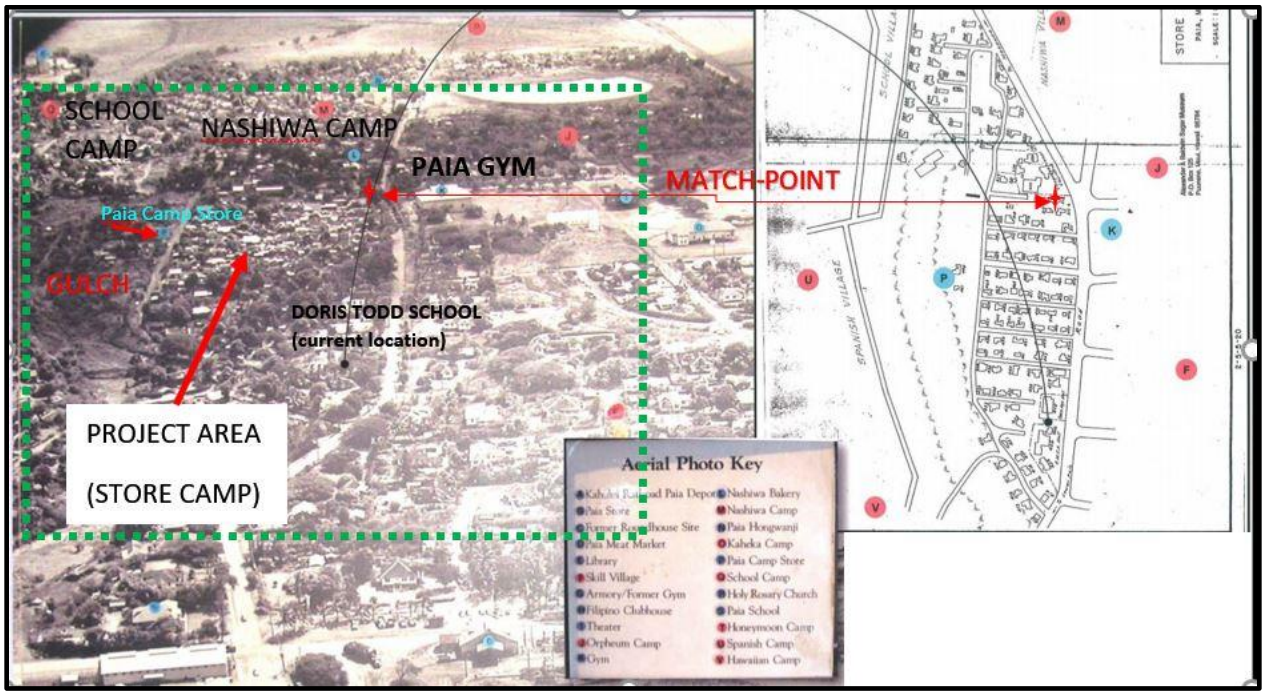

Figure 32. An aerial photograph of Store Camp in 1957 on left with a match point (red star) to correlate with a detailed planview map of Store Camp (or Store Village) (green dotted line depicts boundary of map area on right), courtesy of A & B Sugar Museum.

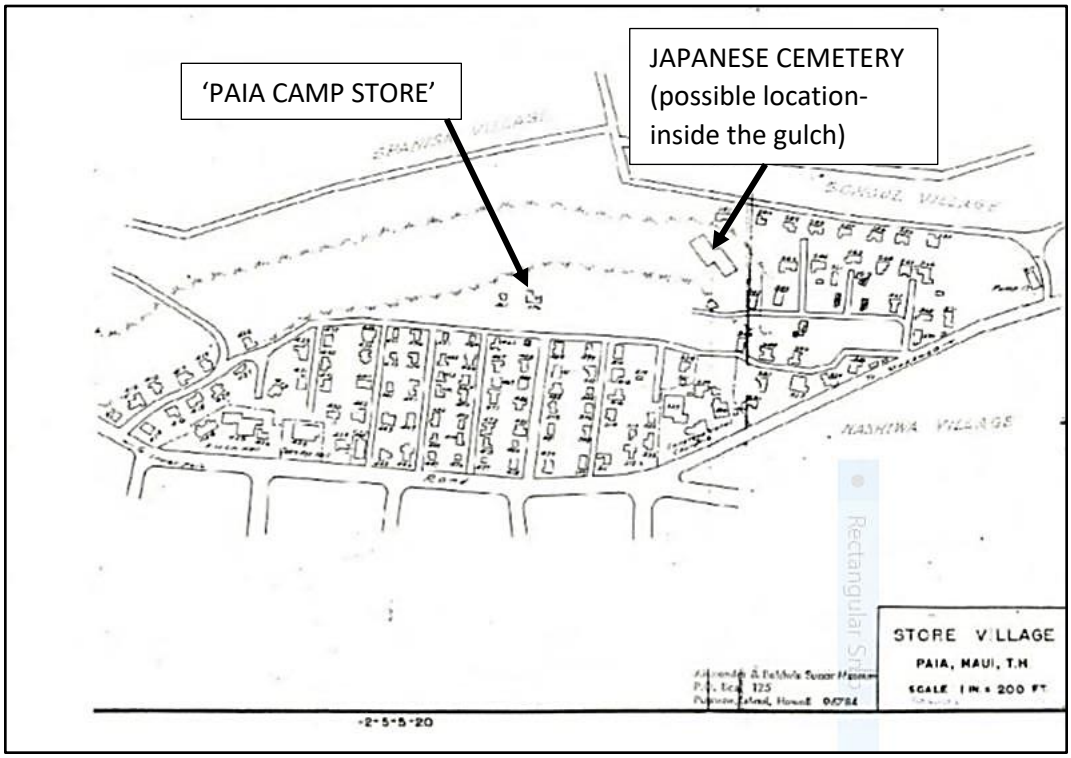

Figure 33. Enlarged planview map of the Store Camp (Store Village) with project boundary roughly outlined with red dots, courtesy of A & B Sugar Museum (nd).

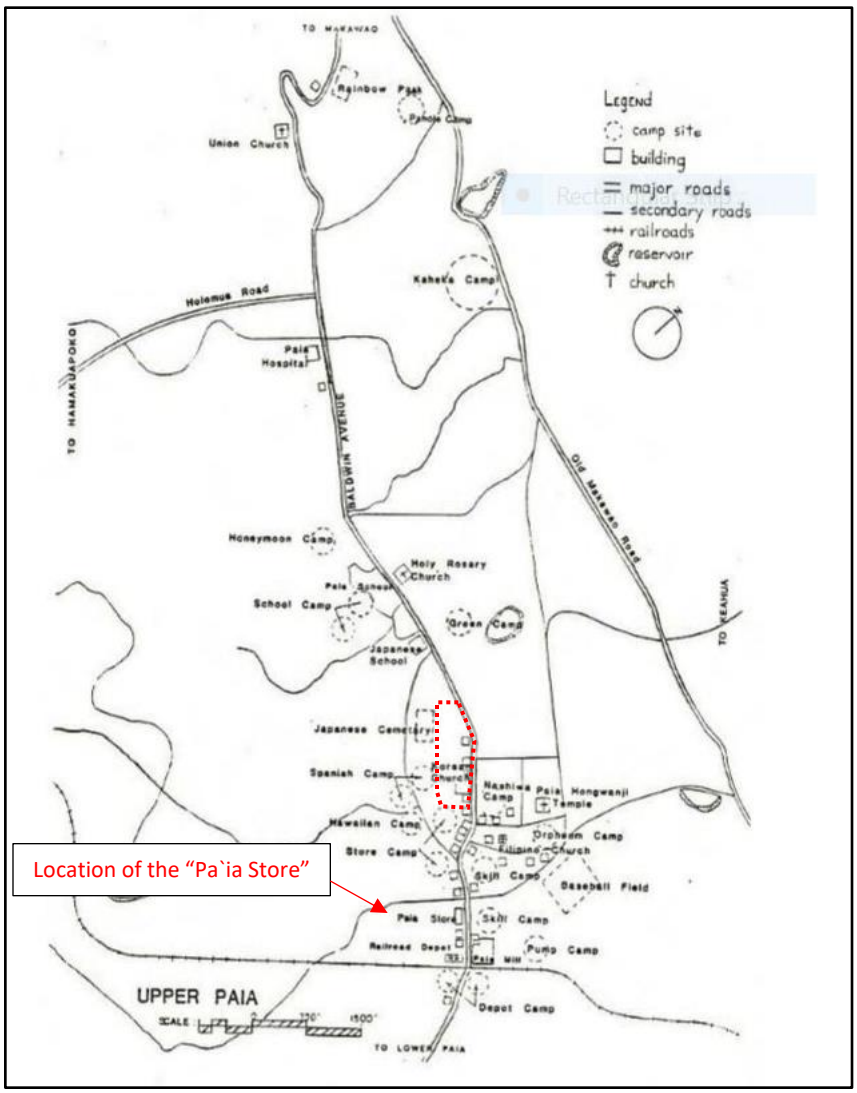

Figure 34. A map of plantation camps in "Upper Paia" which illustrates a Korean Church and a Japanese Cemetery in the environs of the project area, courtesy of A & B Sugar Museum (information on this map does not coincide with other maps of the area).

Figure 35. An example of the type of plantation houses that once existed as a part of the Store Camp, courtesy of A & B Sugar Museum.

Oral history interviews conducted with people that grew up in the various Pā`ia plantation camps has been documented by the Ethnic Studies Oral History Project through the University of Hawai`i in *Stores and Storekeepers of Paia, Puunene, Maui, Volume I (1980*). Additional information about the Store Camp has been documented thoroughly in the Cultural Impact Assessment report for the current project area by Honu Media, LLC (2018) and in a Cultural Impact Assessment for the adjacent Doris Todd Memorial Christian Day School (Engledow, 2008). The reader is referred to those reports for additional information about the plantation era life in Pā`ia.

Beginning in 1950, the plantation system of regional labor villages and camps was phased out in favor of fee-simple home ownership (Folio *et al.* 2014). Majority of the sugar cane operations and plantation population were subsequently transferred to Kahului, where HC&S made it possible for workers to buy their own land in "Dream City". Hawai`i became a State in 1959 when tourism replaced agriculture as Maui's main enterprise.

The population of Pā`ia fell dramatically after the building of what was then called "New Kahului," a master-planned community in Kahului whose first units were occupied in 1950. Otherwise known as “Dream City”, the new development stemmed from dissatisfaction of the workers’ single walled plantation homes in the strikes of 1946. The newly constructed houses and planned community were the response of Harry and Asa Baldwin of HC&S. The camps were deserted and systematically demolished and the land was put back into cane (Engledow, 2008:25). By 1960, the Pa`ia Town census showed 2,149 residents, with 926 in Lower Pā`ia Village. The 1970 census found only 541 in Pā`ia Town, with 1,105 in Lower Pā`ia Village (*ibid*:18).

MODERN LAND USE

The project area was utilized to grow sugarcane after the Store Camp was abandoned (during the 1950’s) and the structures were demolished and tilled into the soil. Sugarcane was cultivated on the property up until 2000 when the Paia Mill was closed.

The La`akea Foundation is a 501(c)(3) and has acquired the use of the property from the County of Maui since 2005. Currently, the property is used as a residential and vocational community for youth and adults with intellectual/developmental disabilities (IDD) as a place to work, learn and thrive as a part of an *`ohana*. The La`akea Farm is an active farm and has a small retail shop to sell their produce.

PREVIOUS ARCHAEOLOGY RESEARCH

EARLY ARCHAEOLOGICAL INVESTIGATIONS

A summary of previous archaeological research conducted in general environs of the project area is provided below with a brief description of the study and results. A map of the previous archaeological projects in the immediate environs is provided in *Figure 36*

Thomas Thrum documented *heiau* during his research conducted on the island of Maui from 1909 to 1918. One hundred and twenty-one religious structures were recorded on Maui. Ten years later (1928), the Bishop Museum contracted Mr. Winslow Walker to carry out a systematic island-wide survey. This research and documentation consisted of primarily large sites and *heiau*.

Archaeological research work has been conducted in the environs of the general project area at a relatively early date by Thomas Thrum (1909), John Stokes (1909-1916), and Winslow Walker (1931). They were responsible for conducting the first archaeological investigations in the

traditional district of Hāmākua Poko. These early studies resulted in the documentation of the Kailua *Heiau* (Site 58) located west of Pā`ia Road near the Kailua Gulch (Figure 36). According to Walker, this site consisted of a platform measuring fifty feet by eighty feet and was probably destroyed by sugarcane farming activities (Walker in Sterling 1998:97). Walker recorded two additional sites in the general area: Site 228 (a small L-shaped enclosure measuring 66' in length by 47' with an associated platform) located in the *`A`apueo ahupua`a* and Site 227 (Poohinahale *Heiau*) located in the Ōma`opio *ahupua`a* (Sterling 1998:258). The archaeological surveys also included the documentation of *heiau* and fishponds (Figure 36).

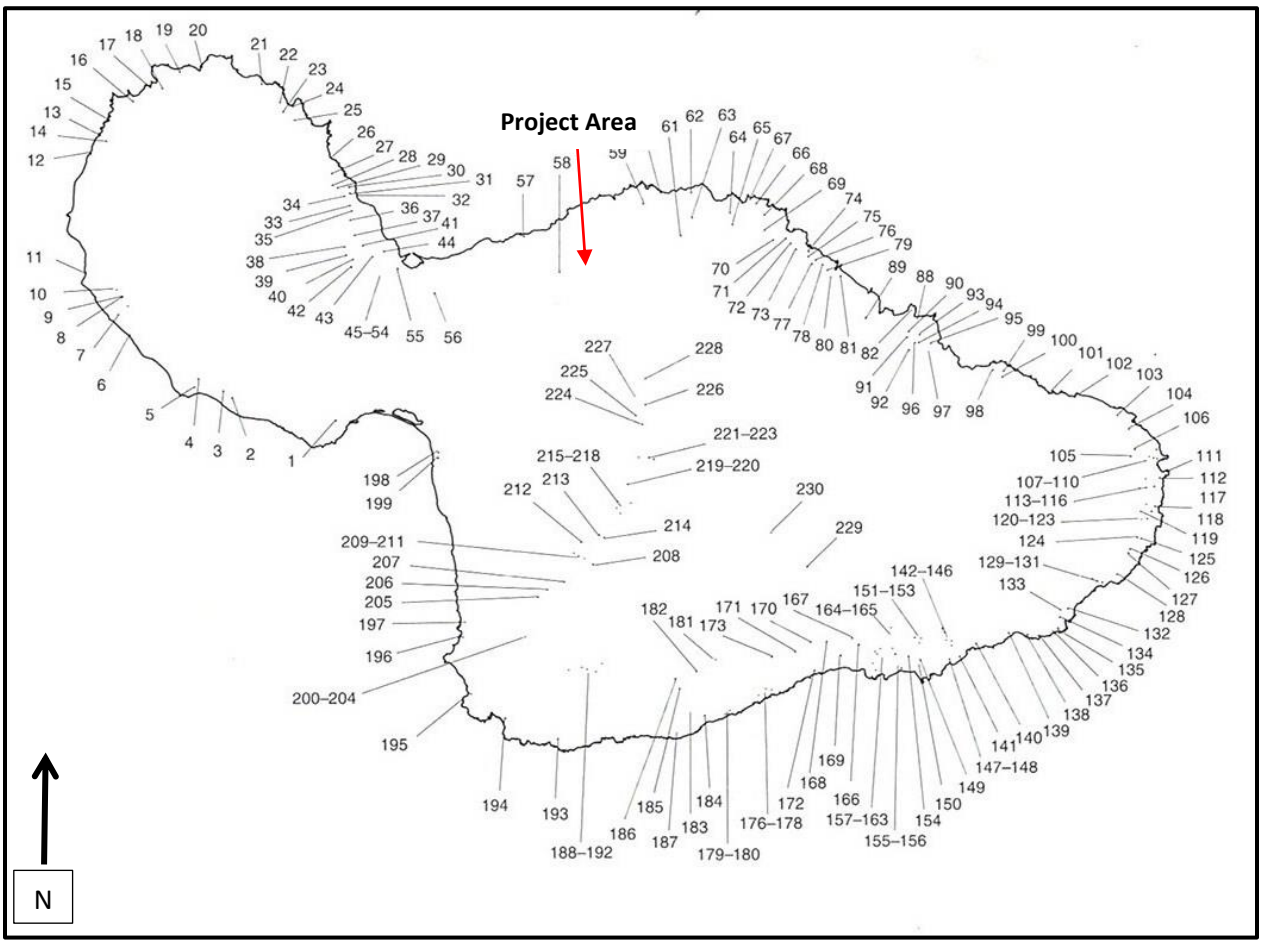

Figure 36. Walker *heiau* site locations, (red arrow denotes approximate project area) (adapted from Sterling 1998).

MODERN ARCHAEOLOGICAL INVESTIGATIONS

In 1987, Clark and Toenjes conducted archaeological monitoring for the Pā`ia sewer line which inspected over 3.54 miles of stratigraphic profiles in the exposed trenches. Archaeological sites documented in the coastal portion of Pā`ia consisted of Sites: 50-50-05-1779, -1780, -1781 (Figure

37). All three of these sites contained sub-surface cultural deposits that included: fish, marine midden, mammal bone, charcoal, and volcanic glass. There were no burials associated with any of these deposits. The sites were inferred as being associated with traditional food preparation/consumption activities and Site -1780 yielded a calibrated radiocarbon date range from A.D. 1420 to 1810.

Site: 50-50-05-1258 (formerly TS.50-Ma-B25-2,) was recorded to the northeast of Pā`ia Bay and consists of a shoreline habitation site. This location is also referred to as the "Pā`ia House and Grave Site" and consists of two features [a rectangular boulder house foundation and a rectangular soil and coral filled pit (possibly a burial)] (State of Hawai`i 1974). A variety of historical and traditional artifacts were recorded in association with this site and reflect multiple layers of occupation.

The Kaulahau Burial Site (Site: 50-50-05-1064) is situated at Tavares Bay and contains traditional clay-pit and sand-dune burials. Ongoing research has revealed two occupational layers which include a pre-Contact cultural deposit and numerous Native Hawaiian burials. Currently, there have been over forty burials removed from this location due to the eroding shoreline. Charcoal samples retrieved from the cultural deposit in the dune has yielded dates from A.D. 1,100 (Borthwick 1990).

Other previously documented history properties located in the 'Lower Pā'ia' area include: The Ho`okipa Platforms (SIHP# 50-50-05-1255), Ho`okipa Park Graves (SIHP#50-50-05-1271), Kū`au Landing (SIHP# 50-50-05-2954), numerous sub-surface cultural deposits (SIHP#50-50-05-1782), inadvertent human burial (SIHP# 50-50-05-4242), the Mary K. Punohu Cemetery (SIHP# 50-50-05-7481), and a World War II era pillbox (SIHP# 50-50-05-4482).

Two additional archaeological investigations were conducted in the Ku`au area that resulted in negative findings: an archaeological reconnaissance survey on approximately 69 acres of cultivated cane proposed for development in Ku`au (TMK: 2-5-005-021) (Folk 1990) and a monitoring project that involved the demolition of an existing structure and construction of new dwellings (Hunt and Dega 2006).

Provided below are additional archaeological projects located along the coastline on Maui's Northshore from Pā`ia Bay to the Kahului Airport region.

The Baldwin Beach burial site, State Site 50-50-05-1171 (formerly TS.50-Ma-C9-3) consists of a burial located alongside the western section of Henry Baldwin Park beach. According to 1978 State of Hawai`i records, human remains have been eroding out of this site for an extended period (Clark and Toenjes 1987:11). This site was revisited in 1984 and 1985 and human remains were not identified at this time.

Frederickson *et al*. (1988) conducted a 34-acre archaeological inventory survey in Spreckelsville (Wailuku District). Nine test trenches and five auger holes were excavated to detect the presence or absence of subsurface cultural materials. All excavations were void of cultural remains.

Cultural Surveys Hawai`i, Inc. (Toenjes *et a*l. 1991) conducted subsurface testing at Site 50-50-04-2849, a cultural deposit, for the proposed approach "clear zone", north end of runway 2-20 at Kahului Airport (Wailuku District). Radiocarbon dating of this site yielded an age ranged from A.D. 1230 to1765. A radiocarbon sample from a cultural deposit from the shoreline yielded a date range between A.D. 410 to A.D. 615, one of the oldest dates recovered from an archaeological site Hawai`i, (if reliable).

International Archaeological Research Institute, Inc. (Welch 1991) conducted subsurface testing for Kanaha Beach Park addition and Kanaha Airport transient apron, Kahului Airport (Wailuku District). A total of 82 backhoe trenches were excavated throughout the project area and were void of cultural material.

Cultural Survey Hawai`i, Inc. (Folk *et al.* 1993) conducted testing for subsurface deposits in the Federal Aviation Administration Vortac Site, Kahului Airport (Wailuku District). A total of twelve backhoe trenches were excavated throughout the project area, and no subsurface cultural remains or deposits were exposed.

Cultural Survey Hawai`i, Inc. (Folk *et al.* 2000) conducted an inventory survey of sugarcane lands proposed for development at Spreckelsville (Wailuku District). Subsurface testing was deemed unwarranted in the sugarcane fields. No sites were identified in the 200-acre project area, but no subsurface investigations were undertaken.

Scientific Consultant Services, Inc. (McGerty *et al.* 2003) conducted and inventory survey for Phase II of the Spreckelsville-Baldwin Park bikeway (Wailuku District). No surface structures or areas of exposed deposits or scatters were identified during the survey. Since Phase II of the

bikeway corridor extends along previously developed areas, subsurface testing was deemed unwarranted.

O'Rourke (2005) conducted an archaeological inventory survey of 1400 square meters within the boundaries of the Maui Country Club. The survey was conducted in preparation for the expansion of the Clubhouse. The study documented a portion of a "late 19th / early 20th century railroad berm" (Site 50-50-05-5563), a cistern (Site: 50-50-05-5561), and a partial burial located in sand fill associated with the cistern (State Site: 50-50-05-5563). Earlier, the original Clubhouse structure, designed by C. W. Dickey, was given Site: 50-50-05-5502 as a historic structure. This original structure was destroyed by a *tsunami* in 1950.

Archeological Services Hawaii, LLC (ASH) (Panteleo 2004) conducted an archaeological inventory survey of a portion of a 71-acre parcel of land in Spreckelsville, Wailuku *Ahupua`a* and District, Maui Island. Due to extensive previous ground altering activities, subsurface sampling through backhoe trenching was implemented. No significant cultural remains were encountered during trenching, and no further work was recommended beyond construction monitoring. Due to the presence of human burials and other significant archeological sites in the immediate vicinity, archaeological monitoring was conducted by ASH between March and December of 2006, where no historic properties were discovered.

Cultural Surveys Hawai`i, Inc. conducted archaeological monitoring in 2010 for the cesspool conversion project at Pā`ia Elementary School. During the archaeological monitoring of four excavation areas, the stratigraphic sequence for each area consisted of different sets of fill events. Additionally, there were two small deposits of historic glass bottles and broken pieces of ceramic-ware collected from two different trenches. Monitoring results confirmed high levels of prior soil disturbance and various phases of import fill episodes (Hill *et al*. 2010).

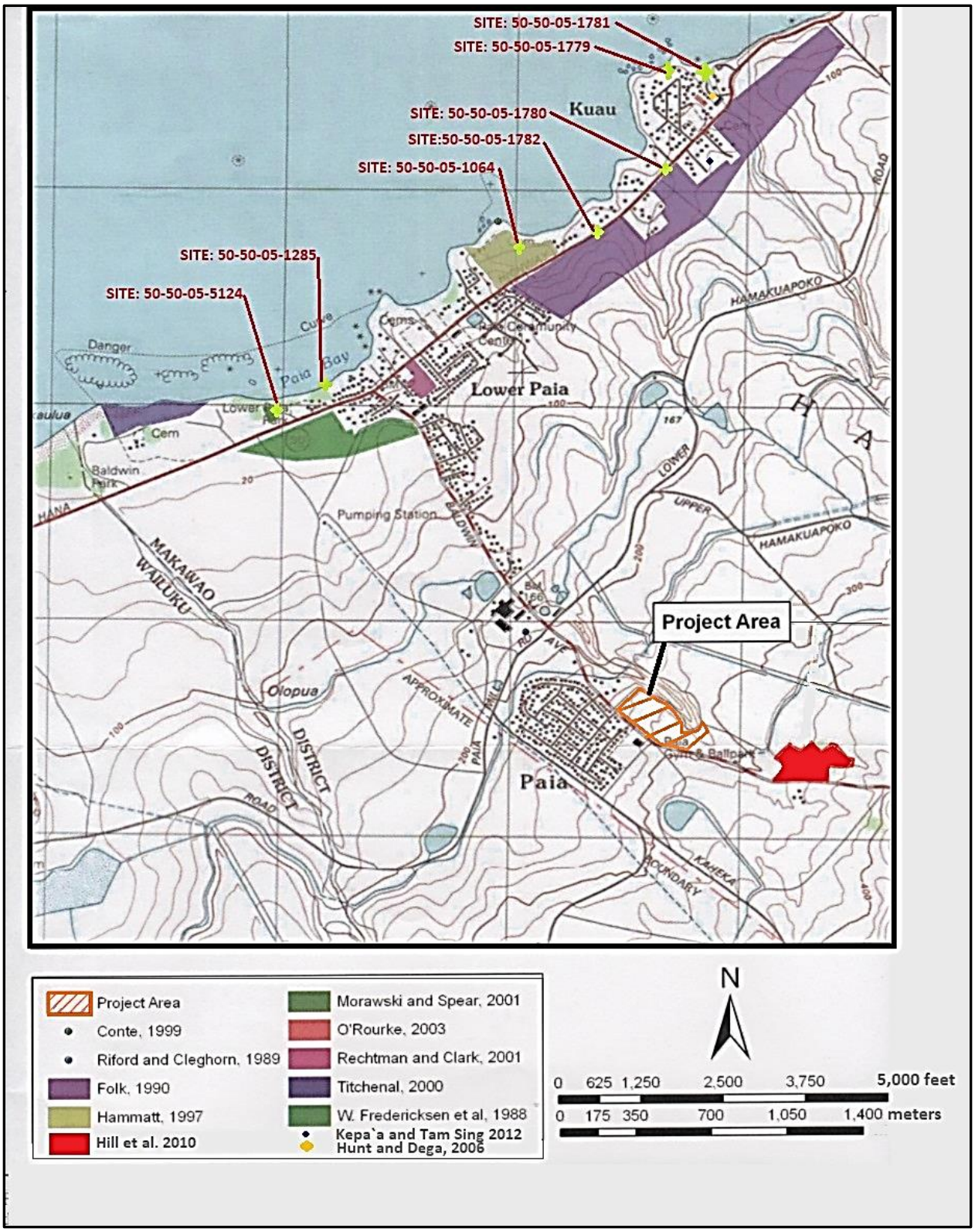

Figure 37. U.S.G.S. topographic map depicting previous archaeological studies conducted within close proximity to the project area (adapted from Hill *et al*. 2010 and modified).

ADDITIONAL ARCHAEOLOGICAL HĀMĀKUA POKO *AHUPUA`A* STUDIES

Provided below are several archaeological investigations conducted in the environs of the upper portion of Baldwin Avenue between the elevations of ~1,150 to 1,500 feet amsl.

In 2016, Scientific Consultant Services conducted an Archaeological Inventory Survey on the 133.7-acre parcel located on the southwest side of Baldwin Avenue (Figure 38). Three previously documented archaeological sites, encountered during the McGerty & Spear project in 2006, were re-identified in the un-named gulch. The sites consisted of: SIHP 50-50-05-6017 (a pre-Contact period terrace wall); SIHP 50-50-05-6027 (Historic period agricultural/ranching complex containing eight features); and SIHP 50-50-05-5994 (New Hāmākua Ditch built in 1920). Twenty trenches were also excavated to investigate for subsurface historic properties and resulted in negative findings. Preservation was recommended for these three sites located within the gulch.

Pantaleo conducted an Archaeological Inventory Survey for the Grove Ranch Subdivision in 2004. During the 56-acre surface survey, two historic properties were identified and consisted of a Portuguese oven (SIHP 50-50-06-5554) and a concrete foundation of a cattle-weigh scale (SIHP 50-50-06-555). The sites were dated to the late 1800's and 1920s. Additionally, twenty backhoe trenches were systematically excavated across the parcel in the fallow pineapple field and resulted in negative findings. Passive preservation was recommended for the Portuguese oven.

Directly to the west of the Hali`imaile Village, Folk and Hammatt carried out a 55-acre Archaeological Inventory Survey in 1998. No sites of cultural significance were encountered except for modern irrigation ditches. The ditches were described as 'local inter-reservoir connections' whose removal would not impact the Historic source ditches (Hamakua, Lowrie, Kauhikoa, and Haiku) in the area (Folk and Hammatt, 1998).

In 1990, Donham conducted an Archaeological Inventory Survey of Parcel 5, in the upper portions of the Hali`imaile *ahupua`a*. This AIS was a study for a potential site for a new upcountry high school along with four other potential locations. During the AIS of Parcel 5, a quadrangular basalt adze was identified at the northern boundary of Hali`imaile *Ahupua`a* (Figure 38). The parcel was approximately 35 acres and cultivated in pineapple during Donham's study.

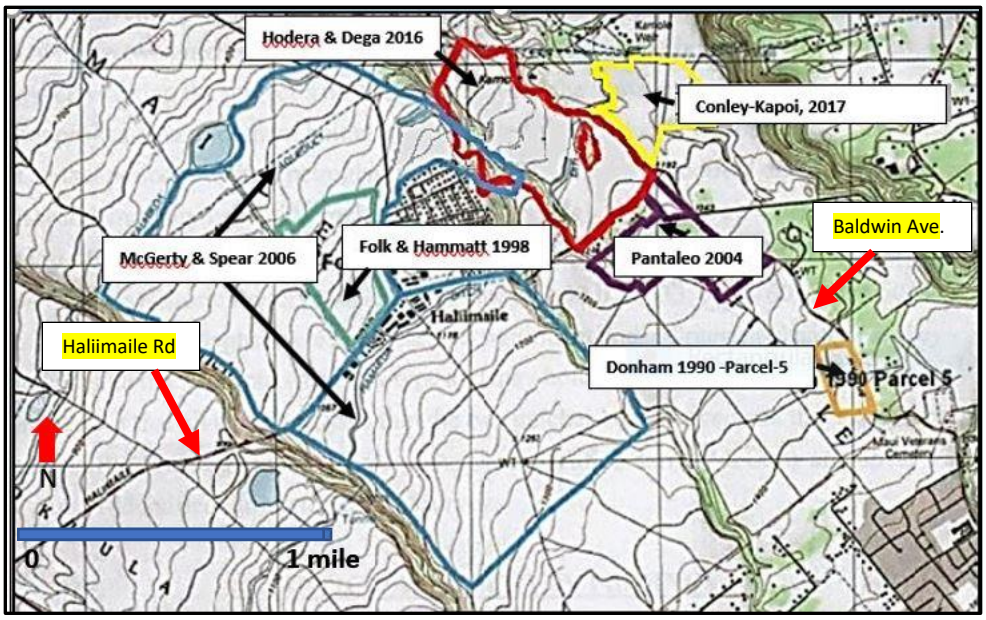

Figure 38. U.S.G.S. topographic map depicting previous archaeological studies conducted in the upper elevation area of Hāmākua Poko at the intersection of Baldwin Avenue and Hali`imaile Road.

SETTLEMENT PATTERNS

In the past three and a half decades, there has been an array of Hawaiian chronological systems offered (Newman 1969, Cordy 1974, 1981, Hommon 1976, 1986). In a 1997 study, Kolb *et al*. incorporated the four-period archipelago sequence proposed by Kirch (1985:298-308) with data acquired from heiau (religious temples) excavations (Kolb 1991, 1994a). Kolb's research resulted in the proposal of a six-period chronology consisting of: Colonization (A.D. 300-600), Developmental (A.D. 600-1200), Formation (ca. A.D. 1200-1400), Consolidation (ca. A.D. 1400-1500), Unification (ca. A.D. 1500-1650), and Annexation (ca. A.D. 1650-1820) (Kolb *et al*. 1997:10).

Settlement patterns and land use along the windward coast of Maui, appear to correspond to other similar regions in the Hawaiian Islands. The project area is situated in the midland section of the Hāmākua Poko *Ahupua`a*. The pre-contact site density for this region was expected to be minimal based on background research; However, this area is known to contain early historic sites associated with irrigated sugar cultivation. Pre-contact traditional sites that may have been present in this area would likely have been impacted or destroyed by extensive soil disturbance associated with historic sugar cane agricultural activities. Pre-contact sites in this region would probably consist of remnant dryland agricultural activities, temporary and permanent habitation, ceremonial

structures, and animal husbandry. The likelihood of these sites within the project area are slight; however, there is a much greater possibility of site remnants inside the gulch area located directly outside of the project area to the north/northeast.

Historical accounts in the early post-contact era, suggest that the traditional settlement pattern in the area consisted of agricultural use including dryland and possibly wetland cultivation in large gulches. Some of the dryland agricultural items being cultivated in this region may have consisted of: sweet potatoes, bananas, sugar cane, *`ulu* (*Artocarpus altilis*) and *Kukui* (*Aleurites moluccanus*). Wetland cultivation accessed water from the surrounding streams and utilized the water to create an intricate network of *kalo lo`i* (taro patches). C14 dating results suggest that there was an increased population and intensification of land use spanning the 1400s to the 'historic period'. "The settlement pattern included permanent habitation along the coast and inland, along the main drainages. The valley bottoms were intensively cultivated with irrigated *taro* and the slopes with dry-land crops.

PREDICTIVE MODEL

Based on the archaeological studies conducted in the environs of the project area, as well as, the traditional and historic background, potential site types could be associated with both pre- and post-Contact era activities. Pre-Contact sites types identified in surrounding areas include: Hawaiian habitation and ceremonial structures, terraces, agricultural features, wall segments, trail sections, hearths, cultural materials, trash pits, and post-holes. According to an 1872-1879 Government Survey Map and a later 1885 map of the area (Figure 28 and Figure 29), there were no roads or trails depicted within the project boundaries. Traditional Hawaiian burial features identified in the Hāmākua Poko region have thus far been encountered along the coast line. Currently, there are no traditional human internments documented in the midland portion of the Hāmākua Poko *ahupua`a*--although, they could exist. Burials documented in this region are associated with sugar and pineapple plantations. Most of the archaeological sites documented in the surrounding areas appear to be associated with undisturbed gulches, which have not been impacted by prior earth moving equipment. Typically, the area within the gulches was not subject to severe soil disturbance caused by intensive agricultural practices associated with sugarcane cultivation.

Due to the extensive soil disturbance caused by the plantation era habitation camp and sugar cane cultivation, the probability of encountering an intact historic property is minimal. It is, however, probable that cultural remains associated with the plantation camp and agricultural material from sugarcane cultivation may be encountered in a highly disturbed matrix.

RESULTS OF FIELD WORK

PEDESTRIAN SURVEY SUMMARIES FROM THE CURRENT PROJECT

Archaeological and Ethnographic Consultants Hawai'i, LLC (A & E Consultants Hawai`i) conducted the preliminary set up of excavation areas and the archaeological inventory survey work, from February 2nd through February 16, 2018. Associated laboratory work was worked on intermittently from March 28 through April 16, 2018. The property boundaries to the south/southwest were delineated by Baldwin Ave., to the west/northwest by the Doris Todd Christian Academy property, and to the south/southeast by a remnant fence and fallow cane field. The only boundary that was not easily discernable from the maps provided was the boundary along the gulch to the north/northeast.

Prior to the initiation of the pedestrian survey, A & E Consultants Hawai`i requested La`akea Farms to provide a professional map of the parcel or to mark the back boundary along the gulch by clearing a swath or delineating it in a visible manner. Their response was they did not have the resources to do such a task. In lieu of physically marking the back boundary in question, A & E Consultants was shown by La`akea Farms Director a remnant fence-line that supposedly marked the boundary at the top of the gulch. Post fieldwork, La`akea Farms provided A & E Consultants Hawai`i with a map which illustrated that the property boundary was not at the top of gulch. According to the map, the property line is located on the southwest side of the dirt access road (*Figure 42* and *Figure 43*). The reason the boundary for the property in this area was such a concern, was based on an old map (*Figure 34*) which illustrated a possible "Japanese Cemetery" in the general area. Hence, this area was of interest during both the pedestrian survey and the sub-surface excavations.

The complete parcel was cautiously inspected above and below the surface for structural remains, artifacts, cultural material scatters, and sub-surface cultural deposits and buried structural components. As suspected, the pedestrian survey and subsequent sub-surface trenching activities

resulted in a collection of historic material from the area that represents the property being utilized as a plantation camp up until at least 1957 and later as an agricultural field for sugar cane.

The only remnant, intact structural component encountered was located in an area associated with TR-18. It became evident after the excavation, that the initial property boundaries shown to the archaeologist by La`akea Farms were not correct. Hence, the remnant cement steps are located **outside of the project area**. Also located outside of the project area within the gulch (Figure 39 and Figure 40) was an upright cement slab with Japanese characters and a rough cut large stone bowl. The bowl and upright appear to be of a ceremonial nature. The stone bowl appears to have been possibly strapped down at an earlier date because there are metal hinges adhered to cement pieces on either side of the bowl (Figure 41). Although there was an upright slab documented, it was not established if it was a burial marker or if any burials are still located in this area. The area was cleared of vegetation and photographed.

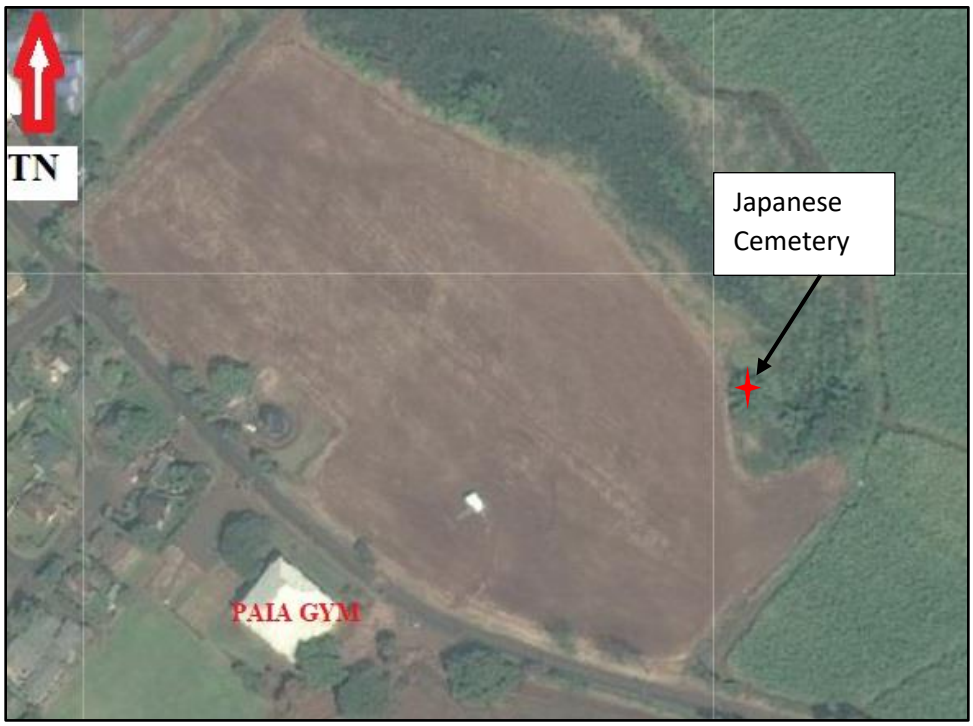

Figure 39. An aerial overview of the parcel ~10 years ago post clearing of vegetation and showing the location of possible remnant Japanese Cemetery located **outside** of the project area.

Figure 40. An overview photograph of the slope that extends from the dirt road down to area with an upright cement slab with Japanese characters and a large stone bowl, view to east (**area is outside of project area**).

Figure 41. An overview photograph of a possible Japanese religious site located inside the gulch and **outside of the project area** in an area depicted as "Japanese Cemetery" on one map, view to the east.

Figure 42. A detailed map of the project area with area of enlarged inset (Figure 43) depicted in red dots.

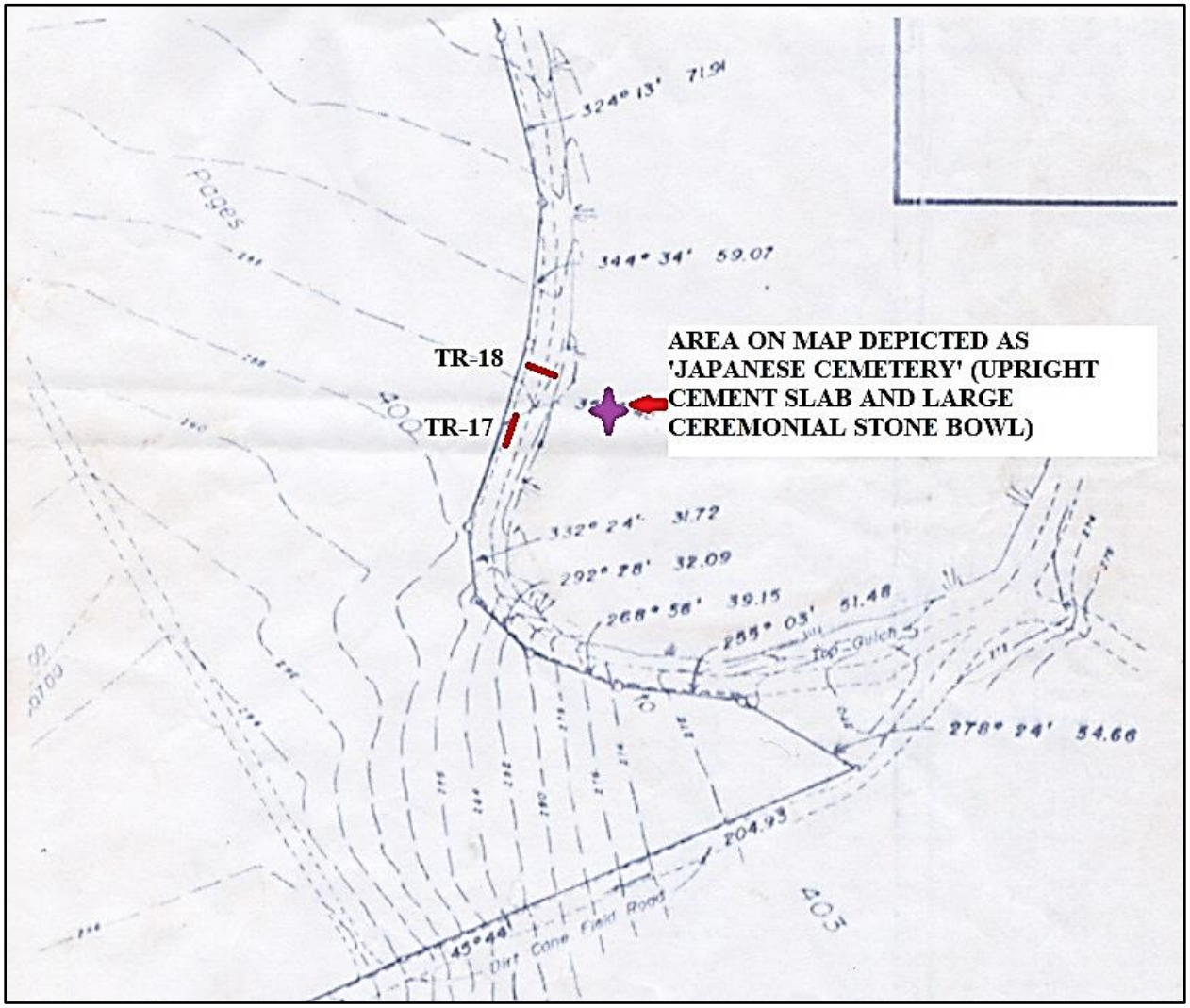

Figure 43. A project area survey map illustrating that the dirt road on the north/northeast portion of the project area is located outside of the parcel area.

TRENCH EXCAVATION SUMMARIES

A total of sixteen stratigraphic backhoe trenches (TR-1 through TR-16) were excavated to a sterile layer and/or decomposing bedrock. Trench locations were systematically placed across the parcel for best coverage using a professional surveyor. The testing strategies were based upon other AIS testing designs utilized in the general vicinity recently. The average trench length was five meters with an average width of 0.75 meters. The trench depths varied from 1.18 to 1.80 meters below surface. Trench locations were established using professional surveyor and documented on a map provided by the developer. Field notes, soil descriptions, and stratigraphic profiles were

documented for each trench. Cultural material encountered consisted remnant debris from previous agricultural activities and habitation activities associated with the plantation camp that was once located within the parcel.

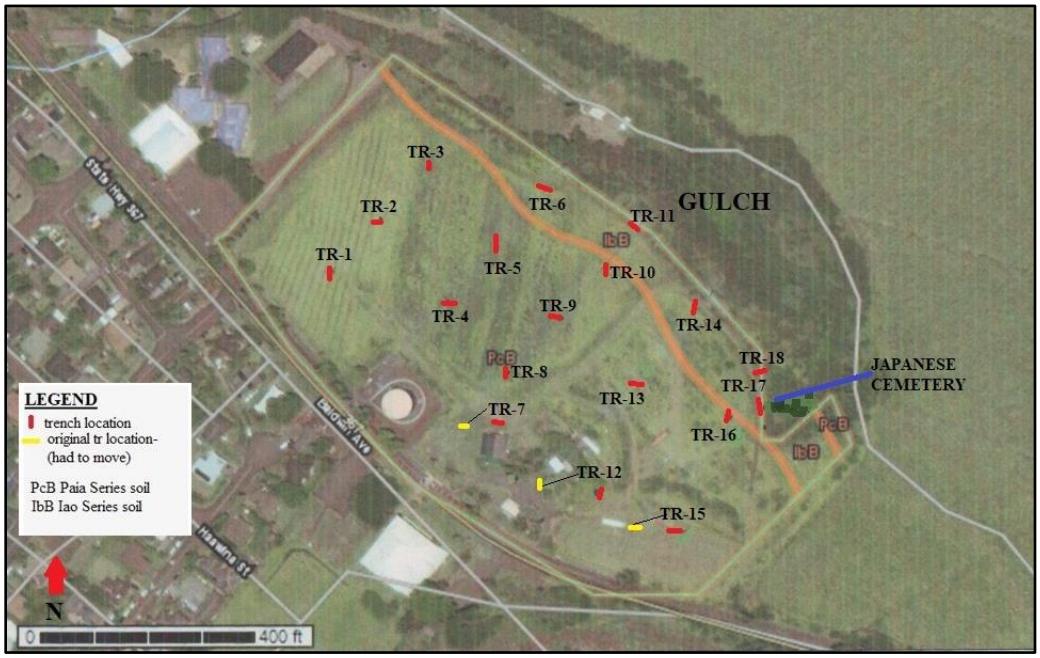

Figure 44. A soil survey map depicting trench locations in red (TR-7, -11, and -5 had to be moved from original location depicted in yellow) (TR-17 and TR-18 are outside of project area)

STRATIGRAPHY

The sediments within the project area contain a combination of the Paia Series (PcB) and the Iao Series (IbB) (Figure 44). The Paia Series consists of well-drained soils in the Maui Uplands. These soils have evolved in material weathered from basic igneous rock. The soils from this series, include: Paia silty clay, 3 to 7 percent slopes (PcB), Paia silty clay, 7 to 15 percent slopes (PcC), and Paia silty clay, 7 to 15 percent slopes, eroded (PcC2). In a representative profile, the surface layer is dark reddish-brown silty clay and clay about 19 inches thick. The subsoil, ~41 inches thick, is dark reddish-brown clay that has angular and subangular blocky structure. The substratum contains a soft, weathered basic igneous rock. Permeability is moderate, the run-off is slow, and the erosion potential is slight (Foote *et al*. 1972:36-107).

The other soil present within the project area (closer to the gulch) (TR-6, TR-11, and TR-14) consists of soil from the Iao Series (IbB). This series consists of well-drained soils on valley fill and alluvial fans. These soils resulted in alluvium originating from basic igneous rock (Foote et

al. 1972:46). In a representative profile, the surface layer is dark brown clay about 15 inches thick. The subsoil, ~45 inches thick, is very dark brown, dark-brown, and very dark grayish-brown clay and silty clay. The substratum is clayey alluvium. The Iao Cobbly Silty Clay (IbB), 3 to 7 percent slopes has a profile like that of Iao Clay, except the texture of the surface layer and the content of cobblestones (Foote *et al*. 1972:46-47).

BACKHOE TESTING RESULTS

TRENCH-1 (TR-1)

Stratigraphic Trench-1 was in the west/southwestern portion of the project area (Figure 44). The stratigraphic trench measured 5.2 meters (m) in length, by 0.75 meters in width, with a maximum depth of 1.32 meters below surface (mbs). The trench was orientated north/south and contained three stratigraphic layers (Figure 45 and Figure 46). Dense cane grass rootlets were observed in Stratum I and the upper portion of Stratum II. Cultural material consisted of black plastic dripline fragments, charcoal flecks, a sample of a grayish cement substance, and a yellow ceramic fragment (Figure 47). Layers I and II are a part of the till zone and contain previously disturbed soil associated with sugar cane cultivation.

Layer I: (0-28 cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; wavy topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of weathered black plastic dripline fragments from agricultural activities, a sample of a grayish cement material, and a yellow ceramic fragment (Figure 47). Long term sugarcane cultivation has impacted Layer I.

Layer II: (28-82 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine to medium rootlets; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking associated with agricultural activities.

Layer III: (82-132 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; one medium root; terrestrial origin. This stratum contained approximately five

percent sub-angular basalt pebbles and a decomposing bedrock boulder at base of trench. There was no cultural material visible in this layer.

Figure 45. A representative soil profile photograph of TR- 1, view to east

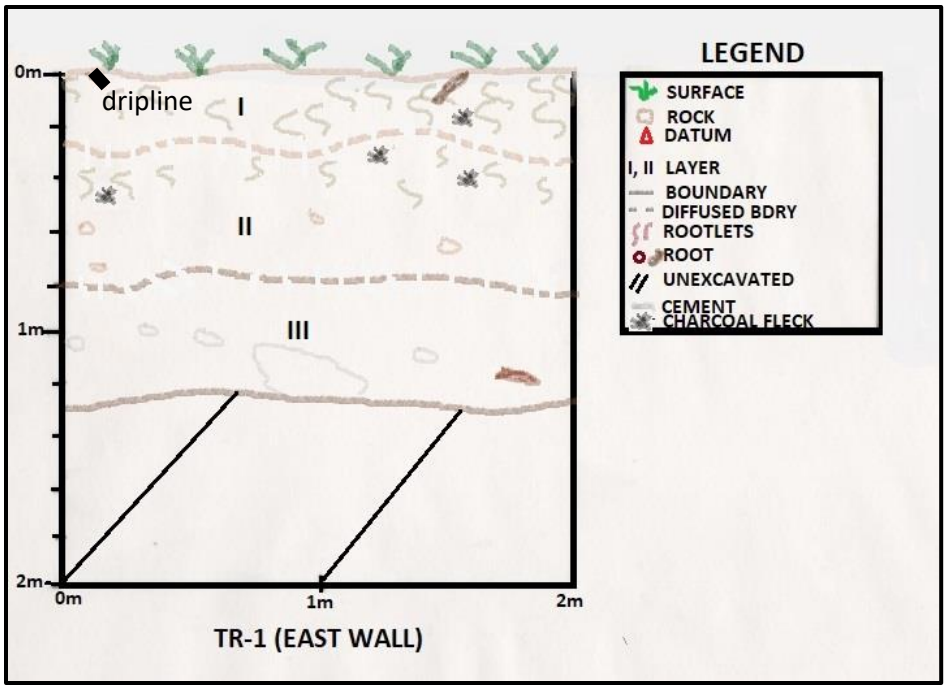

Figure 46. Stratigraphic Trench- 1, soil profile of east wall

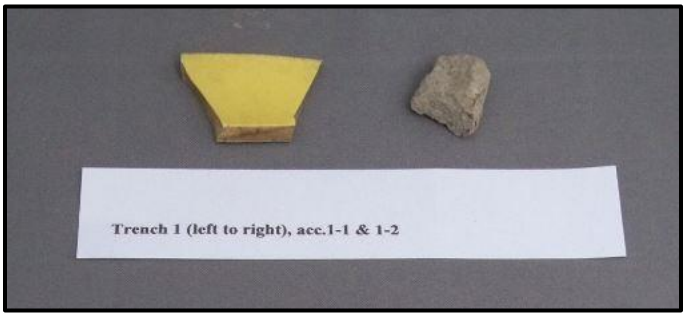

Figure 47. An overview photograph of artifacts collected from TR-1.

TRENCH-2 (TR-2)

Stratigraphic Trench-2 was in the central western portion of the project area (Figure 44). The stratigraphic trench measured 4.8 meters (m) in length, by 0.84 meters in width, with a maximum depth of 1.48 meters below surface (mbs). The trench was orientated north/south and contained three stratigraphic layers (Figure 48 and Figure 49). Dense cane grass rootlets were observed in the upper portion of Stratum I. This trench contained black plastic dripline fragments and charcoal flecking associated with long term agricultural activities (sugarcane). Additionally, there was a piece of white glazed earthenware and a partial plastic comb encountered in Layer I (Figure 50). Layers I and II are a part of the till zone and contain previously disturbed soil associated with sugar cane cultivation.

Layer I: (0-28cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of black plastic dripline fragments, charcoal flecking, a piece of white glaze earthenware (6 cmbs), and a partial plastic comb on the surface.

Layer II: (28-82 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine to medium rootlets; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking possibly associated with agricultural activities.

Layer III: (82-132 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; many fine roots; terrestrial origin. This stratum contained approximately five percent sub-angular basalt pebbles and a decomposing bedrock boulder at base of trench. Few roots were visible. There was no cultural material visible in this layer.

Figure 48. A representative soil profile photograph of TR- 2, view to west

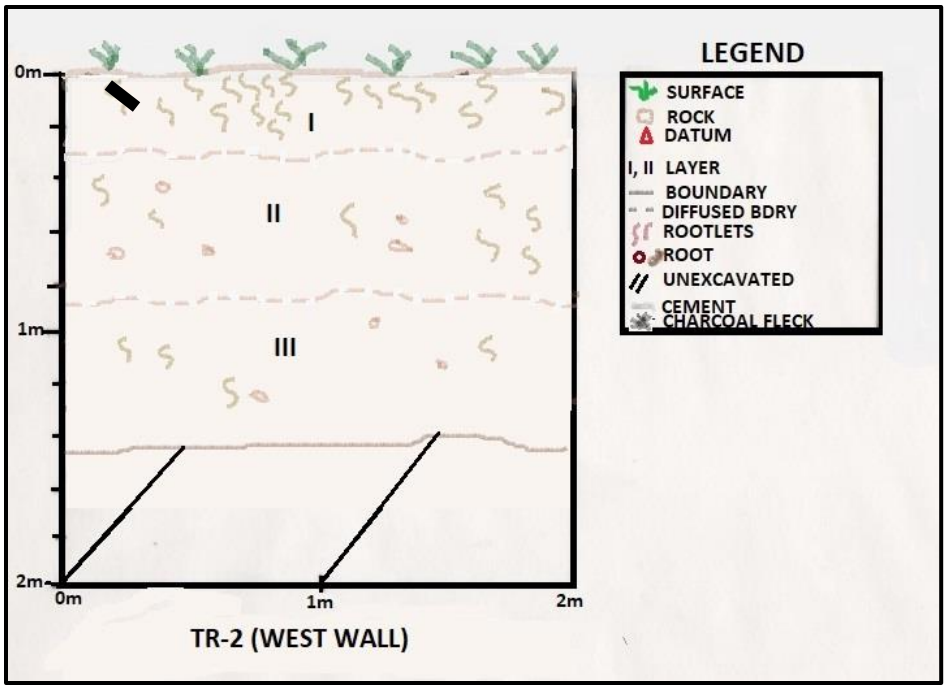

Figure 49. Stratigraphic Trench-2, soil profile of west wall

Figure 50. An overview photograph of artifacts collected from TR-2.

TRENCH-3 (TR-3)

Stratigraphic Trench-3 was in the northwestern portion of the project area (Figure 44). The stratigraphic trench measured 4.6 meters (m) in length, by 0.80 meters in width, with a maximum depth of 1.64 meters below surface (mbs). The trench was orientated north/south and contained three stratigraphic layers (Figure 51 and Figure 52). Dense cane grass rootlets were observed in Stratum I. Cultural material consisted of black plastic dripline fragments, charcoal flecking, and a cement fragment with sand inclusions. Layers I and II are a part of the till zone and contain previously disturbed soil associated with sugar cane cultivation.

Layer I: (0-32cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than one percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of weathered black plastic dripline fragments, charcoal flecks, and a cement fragment with sand inclusions (Figure 53).

Layer II: (32-90 cmbs) 5YR 3/3 - 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine rootlets; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking and weathered black plastic dripline fragments.

Layer III: (90-162 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; few fine roots; terrestrial origin. This stratum contained less than one percent sub-angular basalt pebbles. This layer was void of any cultural material.

Figure 51. A representative soil profile photograph of TR-3, view to west

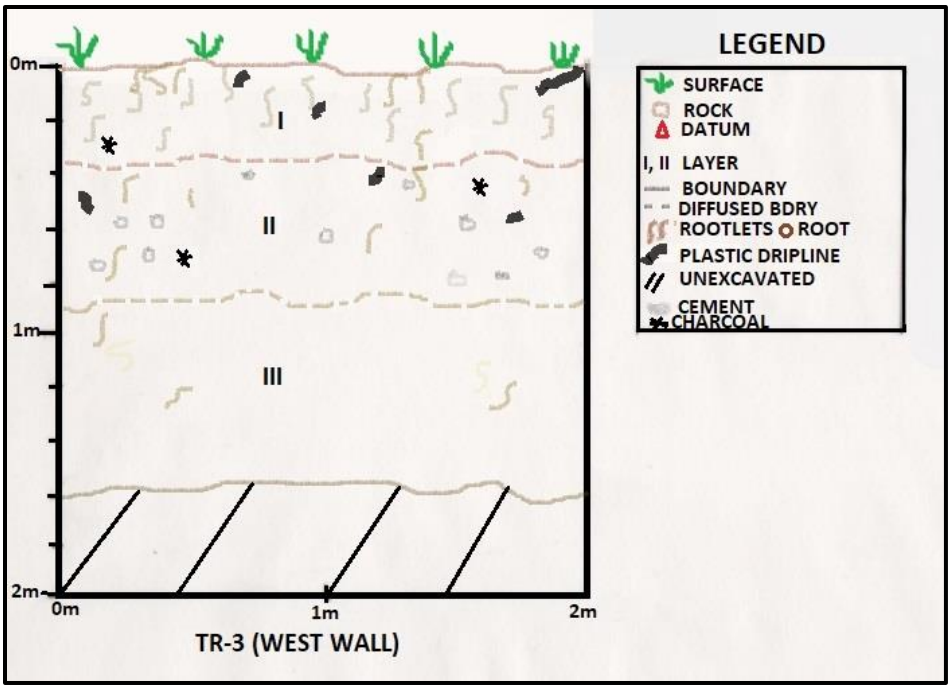

Figure 52. Stratigraphic Trench-3, soil profile of north wall

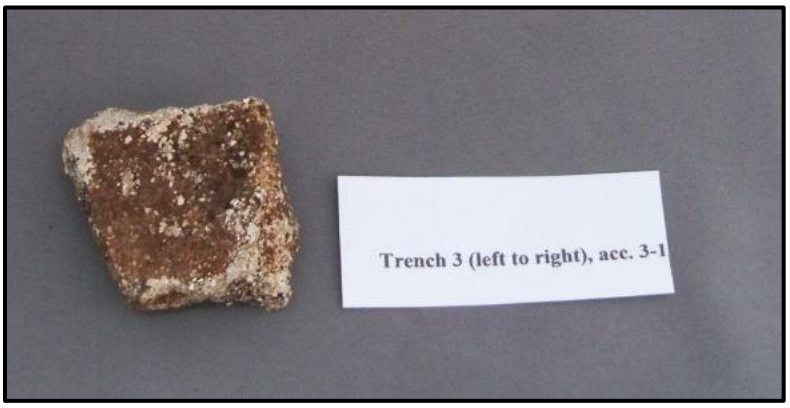

Figure 53. An overview photograph of an artifact collected from TR-3.

TRENCH-4 (TR-4)

Stratigraphic Trench-4 was in the central southwestern portion of the project area (Figure 44). The stratigraphic trench measured 4.4 meters (m) in length, by 0.86 meters in width, with a maximum depth of 1.34 meters below surface (mbs). The trench was orientated east/west and contained two stratigraphic layers (Figure 54 and Figure 55). Dense cane grass rootlets were observed throughout Stratum I and upper portions of Stratum II. This trench contained black plastic dripline fragments in Layer I and charcoal flecking associated agricultural activities (sugarcane) in Layer II. Both layers contained previously disturbed soil and are part of the till zone associated with sugar cane cultivation.

Layer I: (0-32cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; wavy topography. This stratum contained less than two percent sub-angular basalt pebbles and few small cobbles. Fine rootlets were dense and common in the upper thirty-five centimeters. Cultural material consisted of weathered black plastic dripline fragments from agricultural activities.

Layer II: (32-68cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine rootlets; terrestrial origin diffused lower boundary; wavy topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking associated with agricultural activities.

Layer III: (68-134 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; few fine roots; terrestrial origin. This stratum contained less than one percent sub-angular basalt pebbles. This layer was void of cultural material.

Figure 54. A representative soil profile photograph of TR-4, view to north

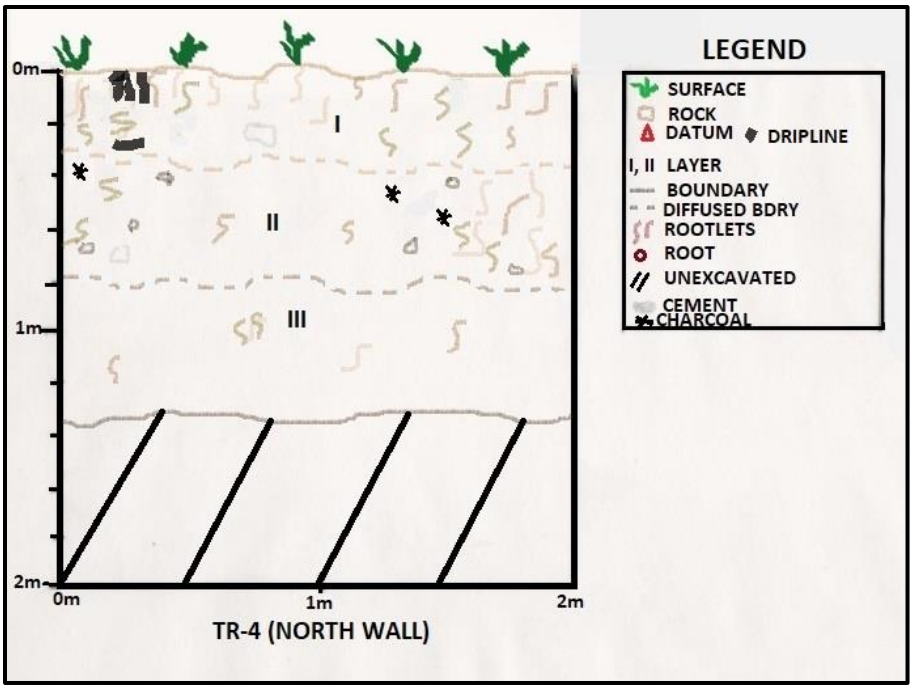

Figure 55. Stratigraphic Trench-4, soil profile of north wall

TRENCH-5 (TR-5)

Stratigraphic Trench-5 was in the central portion of the project area (Figure 44). The stratigraphic trench measured 4.8 meters (m) in length, by 0.70 meters in width, with a maximum depth of 1.42 meters below surface (mbs). The trench was orientated north/south and contained three stratigraphic layers (Figure 56 and Figure 57). Dense rootlets were observed throughout Stratum I and the upper portion of Stratum II. Cultural material consisted of a partial ceramic doorknob, two celadon bowl fragments, a white glazed porcelain bowl rim, and an *opihi* shell in Layer I and black plastic dripline fragments and charcoal flecking in Layers I and II. The upper two layers contained previously disturbed soil and are part of the till zone associated with previous sugar cane cultivation.

Layer I: (0-34 cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of a partial ceramic doorknob located at 16 cmbs in the western wall, two celadon bowl fragments, a white glazed porcelain bowl rim, an *opihi* shell (Figure 58), weathered black plastic dripline fragments, and charcoal flecking.

Layer II: (34-72 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine rootlets; terrestrial origin; diffused lower boundary; wavy topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of weathered black plastic dripline fragments and charcoal flecking.

Layer III: (72-140 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; occasional fine rootlets; terrestrial origin. This stratum contained approximately ten percent sub-angular basalt gravels and pebbles. There was no cultural material in this layer.

Figure 56. A representative soil profile photograph of TR-5, view to east

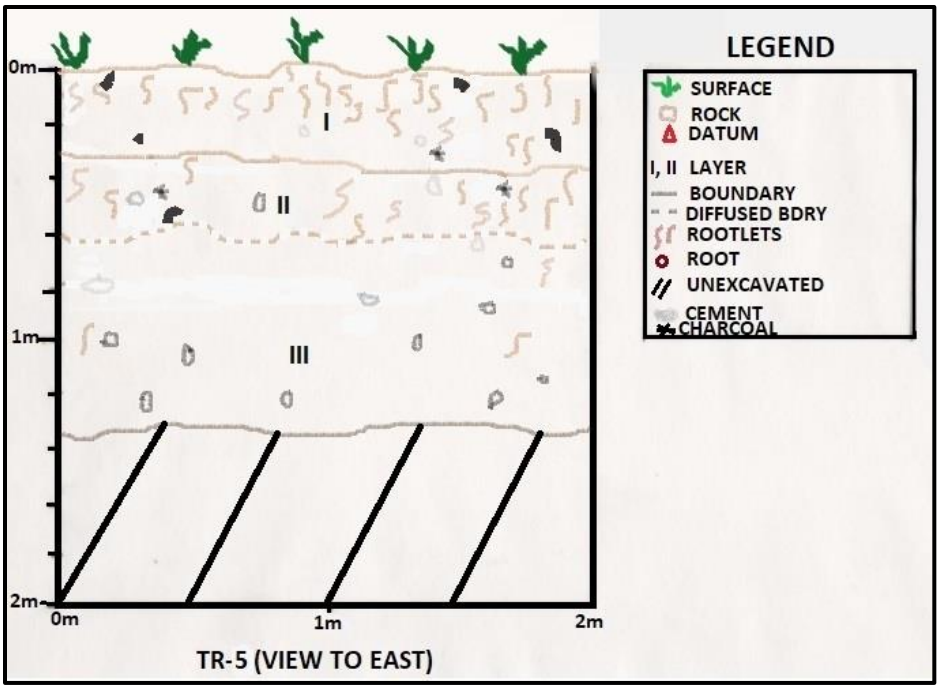

Figure 57. Stratigraphic Trench-5, soil profile of east wall

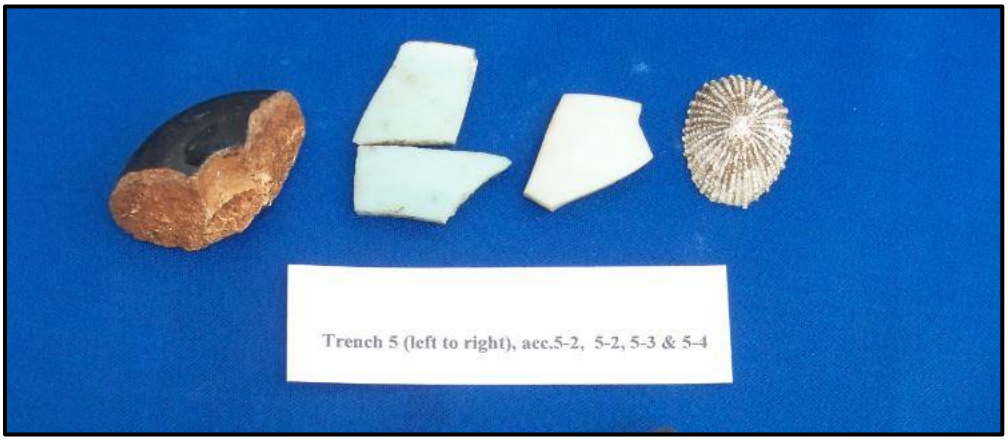

Figure 58. An overview photograph of artifacts and possible marine midden collected from TR-5.

TRENCH-6 (TR-6)

Stratigraphic Trench-6 was in the central northern portion of the project area (Figure 44). The stratigraphic trench measured 4.6 meters (m) in length, by 0.72 meters in width, with a maximum depth of 1.56 meters below surface (mbs). The trench was orientated east/west and contained three stratigraphic layers (Figure 59 and Figure 60). Dense grass rootlets were observed throughout Stratum I and the upper portion of Stratum II. Cultural material consisted of an *opihi* shell, a *cowrie* shell, a cement fragment with gravel inclusions, three pieces of glass, black plastic dripline fragments,

and charcoal flecking (Figure 61). There were also two natural basalt flakes collected and dismissed. Long term sugarcane cultivation and earlier activity associated with the Store Village plantation era camp have impacted Layers I and II. The soil matrix in this trench was a part of the Iao cobbly silty clay (IbB) series.

Layer I: (0-32cmbs) 10YR 3/3, dark brown and 10YR 4/1, dark gray (dry); clay; massive; very hard, firm; no cementation; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper fifty centimeters. Cultural material consisted of an *opihi* shell, a *cowrie* shell, a cement fragment with gravel inclusions, an aqua bottle glass fragment, weathered black plastic dripline fragments and charcoal flecking.

Layer II: (32-59 cmbs) 10YR 2/2, very dark brown, 10YR 3/2, very dark grayish brown (when rubbed), and 10YR 3/3, dark-brown (dry); clay; medium and course, sub-angular blocky structure; very hard, firm; very sticky and very plastic; no cementation; abundant roots; terrestrial origin; gradual lower boundary; wavy topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of weathered black plastic dripline fragments and charcoal flecking associated with past agricultural activities.

Layer III: (59-156 cmbs) 10YR 3/3, dark-brown and 10YR 3/2, very dark grayish-brown (dry); silty clay; massive; hard, firm, sticky and plastic; few roots; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; many fine roots; terrestrial origin. This stratum contained approximately many (~15 percent) sub-angular basalt pebbles and decomposing bedrock boulder at base of trench. There was no cultural material in this layer.

Figure 59. A representative soil profile photograph of TR-6, view to north

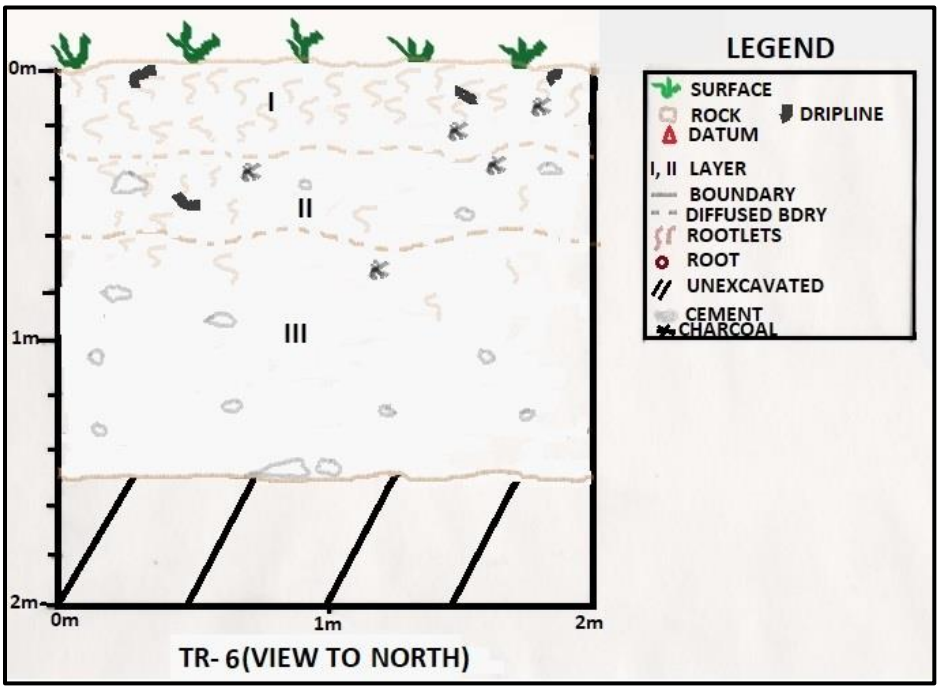

Figure 60. Stratigraphic Trench-6, soil profile of north wall

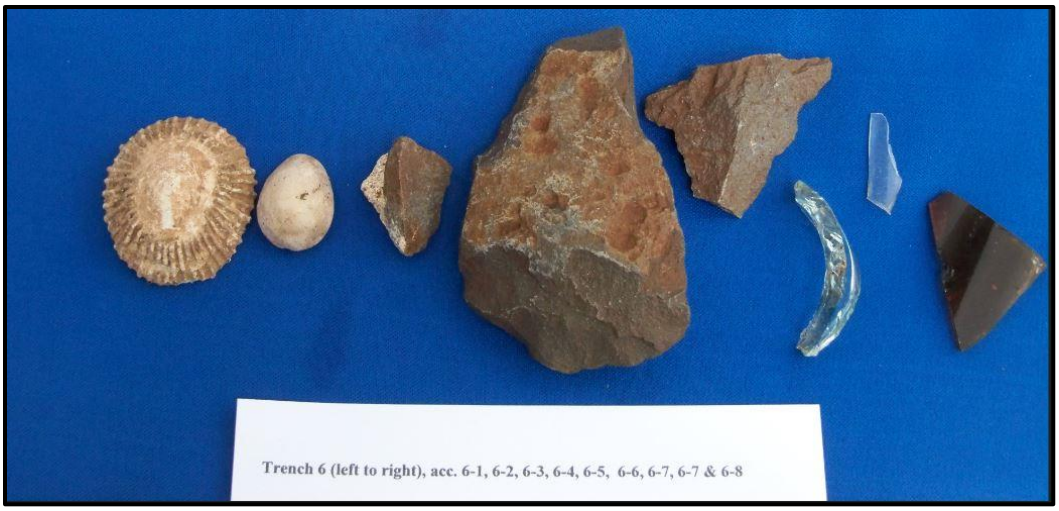

Figure 61. An overview photograph of artifacts and possible marine midden collected from TR-6.

TRENCH-7 (TR-7)

Stratigraphic Trench-7 was in the central southwestern portion of the project area (Figure 44). The stratigraphic trench measured 4.7 meters (m) in length, by 0.71 meters in width, with a maximum depth of 1.50 meters below surface (mbs). The trench was orientated southeast/northwest and contained two stratigraphic layers (Figure 62 and Figure 63). The trench was repositioned to avoid the road. Fine rootlets and charcoal flecking were observed throughout Stratum I and II. Layers I and II contained previously disturbed soil and are part of the till zone associated with sugar cane cultivation.

Layer I: (0-32 cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than one percent basalt gravels. Fine rootlets were common throughout the layer. Cultural material consisted of sparse charcoal flecking.

Layer II: (32-150 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine to medium rootlets; terrestrial origin. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of sparse charcoal flecking in the upper portion of the layer.

Figure 62 . A representative soil profile photograph of TR-7, view to southwest

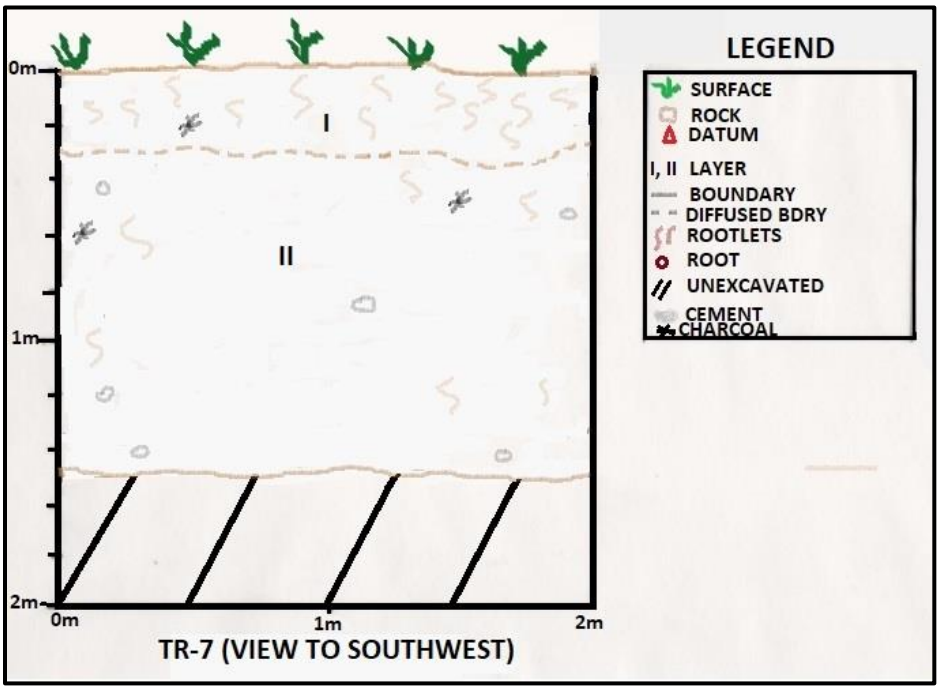

Figure 63. Stratigraphic Trench-7, soil profile of southwest wall

TRENCH-8 (TR-8)

Stratigraphic Trench-8 was in the central southwest portion of the project area (Figure 44). The stratigraphic trench measured 4.8 meters (m) in length, by 0.71 meters in width, with a maximum depth of 1.15meters below surface (mbs). The trench was orientated northeast/southwest and

contained three stratigraphic layers (Figure 64 and Figure 65). Dense rootlets were observed throughout Stratum I and II. Cultural material consisted of a white porcelain plate rim fragment (Layer I) and sparse charcoal flecking in the upper two layers. Layers I and II are part of the till zone associated with sugar cane cultivation and have been previously disturbed.

Layer I: (0-37 cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; wavy topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper sixty centimeters. Cultural material consisted of a white porcelain, whiteware plate rim fragment and sparse charcoal flecking (Figure 66).

Layer II: (37-90 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine rootlets; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking associated with agricultural activities.

Layer III: (90-115 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; sparse fine roots; terrestrial origin. This stratum contained approximately five percent sub-angular basalt pebbles. No cultural material was present in this layer.

Figure 64. A representative soil profile photograph of TR-8, view to northwest

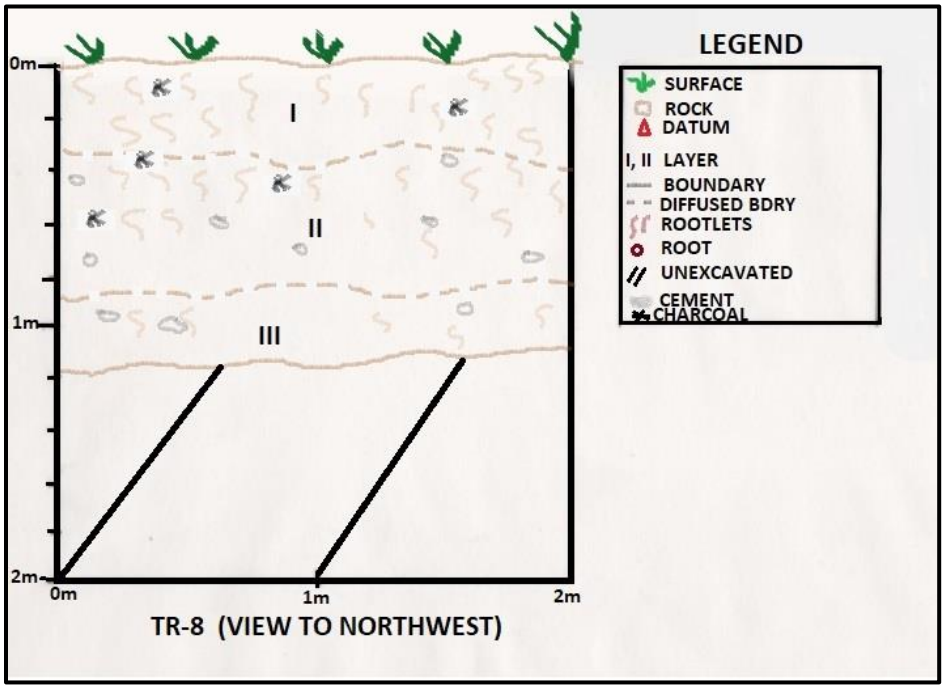

Figure 65. Stratigraphic Trench-8, soil profile of northwest wall

Figure 66. An overview photograph of an artifact collected from TR-8.

TRENCH-9 (TR-9)

Stratigraphic Trench-9 was located in the central portion of the project area (Figure 44). The stratigraphic trench measured 5.0 meters (m) in length, by 0.70 meters in width, with a maximum depth of 1.8 meters below surface (mbs). The trench was orientated east/west and contained three stratigraphic layers (Figure 67 and Figure 68). Dense cane grass rootlets were observed in throughout Stratum I and the upper portion of Stratum II. Cultural material consisted of a bowl fragment on the surface and sparse charcoal flecking in the upper portion of Layer II. Layers I and II contained previously disturbed soil and are part of the till zone associated with agricultural use.

Layer I: (0-21 cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; wavy topography. This stratum contained less than one percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of a blue on white transferware bowl fragment on the surface (Figure 69).

Layer II: (21-122 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine to medium rootlets in the upper portion of the layer; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking associated with agricultural activities.

Layer III: (122-130 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no

cementation; sparse fine roots; terrestrial origin. This stratum contained less than one percent sub-angular basalt pebbles. No cultural material was present in this layer.

Figure 67. A representative soil profile photograph of TR-9, view to south

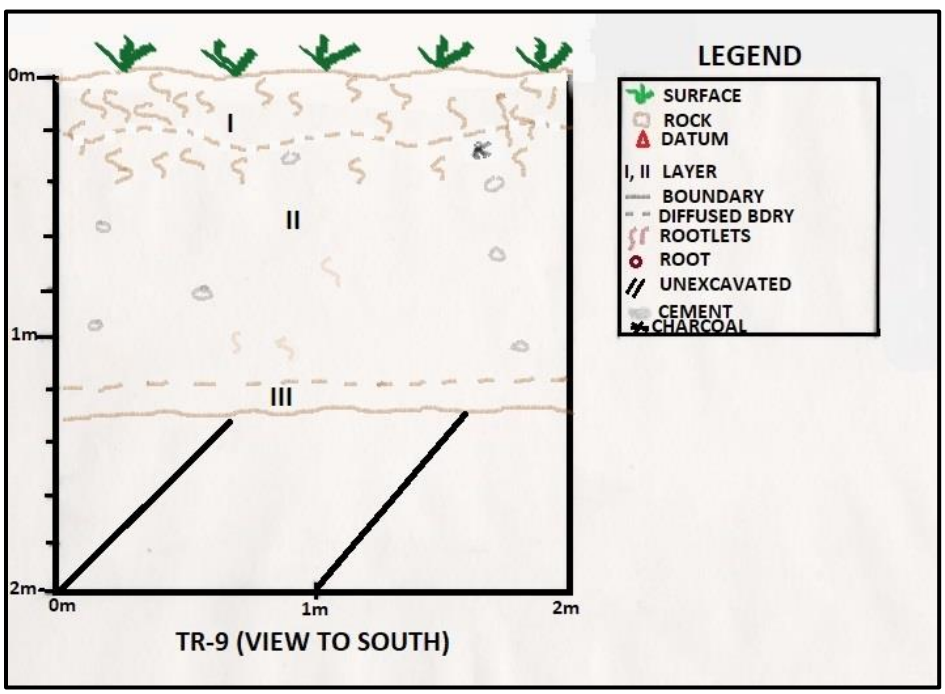

Figure 68. Stratigraphic Trench-9, soil profile of south wall

Figure 69. An overview photograph of an artifact collected from TR-9.

TRENCH-10 (TR-10)

Stratigraphic Trench-10 was in the central north/northeast portion of the project area (Figure 44). The stratigraphic trench measured 5.0 meters (m) in length, by 0.73 meters in width, with a maximum depth of 1.20 meters below surface (mbs). The trench was orientated east/west and contained three stratigraphic layers (Figure 70 and Figure 71). Dense cane grass rootlets were observed in throughout Stratum I and the upper portion of Stratum II. This trench contained black plastic dripline fragments and charcoal flecking associated with long term agricultural activities (sugarcane). Layers I and II contain previously disturbed soil and are part of the till zone associated with agricultural use.

Layer I: (0-23 cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; wavy topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of weathered black plastic dripline fragments from agricultural activities.

Layer II: (23-80 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine to medium rootlets; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than two percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking associated with agricultural activities.

Layer III: (80-120 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; occasional fine roots; terrestrial origin. This stratum contained less than two percent sub-angular basalt pebbles. There was no cultural material in this layer.

Figure 70. A representative soil profile photograph of TR-10, view to south

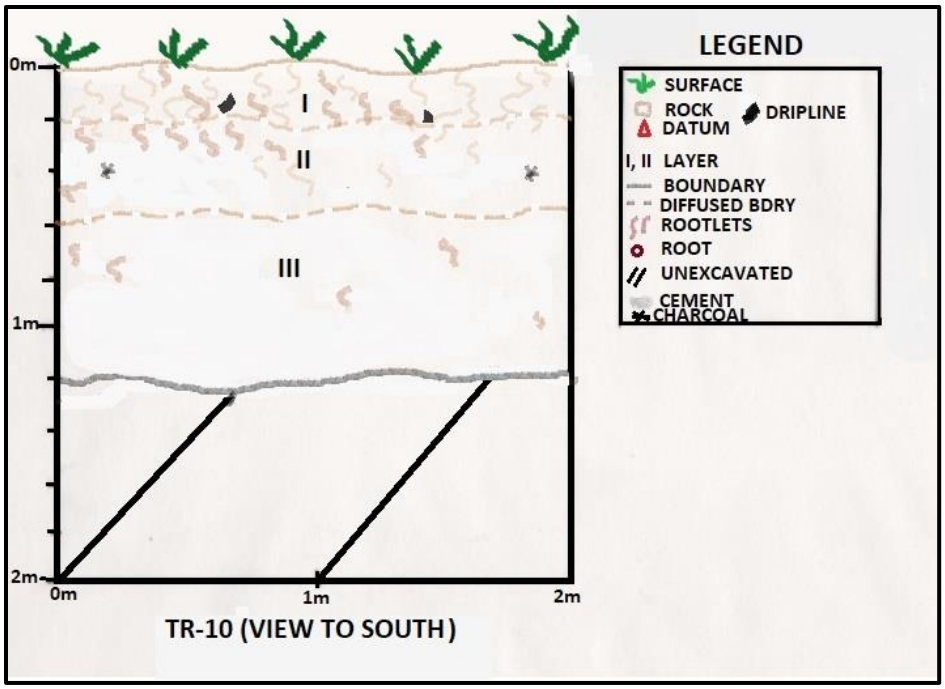

Figure 71. Stratigraphic Trench-10, soil profile of south wall

TRENCH-11 (TR-11)

Stratigraphic Trench-11 was located in the central north/northeast portion of the project area (Figure 44). The stratigraphic trench measured 4.0 meters (m) in length, by 0.70 meters in width, with a maximum depth of 1.30 meters below surface (mbs). The trench was orientated east/west and contained three stratigraphic layers (Figure 72 and Figure 73). Dense grass rootlets were observed throughout Stratum I and II. This trench was void of cultural material. Layers I and II contain previously disturbed soil and are part of the till zone associated with agricultural use. The soil matrix in this trench was a part of the Iao cobbly silty clay (IbB) series.

Layer I: (0-22 cmbs) 10YR 3/3, dark brown and 10YR 4/1, dark gray (dry); clay; massive; very hard, firm; no cementation; terrestrial origin; diffused lower boundary; smooth-wavy topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper fifty centimeters. No cultural material was present in this layer.

Layer II: (22-60 cmbs) 10YR 2/2, very dark brown, 10YR 3/2, very dark grayish brown (when rubbed), and 10YR 3/3, dark-brown (dry); clay; medium and course, sub-angular blocky structure; very hard, firm; very sticky and very plastic; no cementation; abundant roots; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained ~twenty percent sub-angular basalt pebbles and a decomposing basalt large cobble. No cultural material observed.

Layer III: (60-130 cmbs) 10YR 3/3, dark-brown and 10YR 3/2, very dark grayish-brown (dry); silty clay; massive; hard, firm, sticky and plastic; few roots; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; many fine roots; terrestrial origin. This stratum contained approximately many (~10 percent) sub-angular basalt pebbles. There was no cultural material observed in this layer.

Figure 72. A representative soil profile photograph of TR-11, view to north

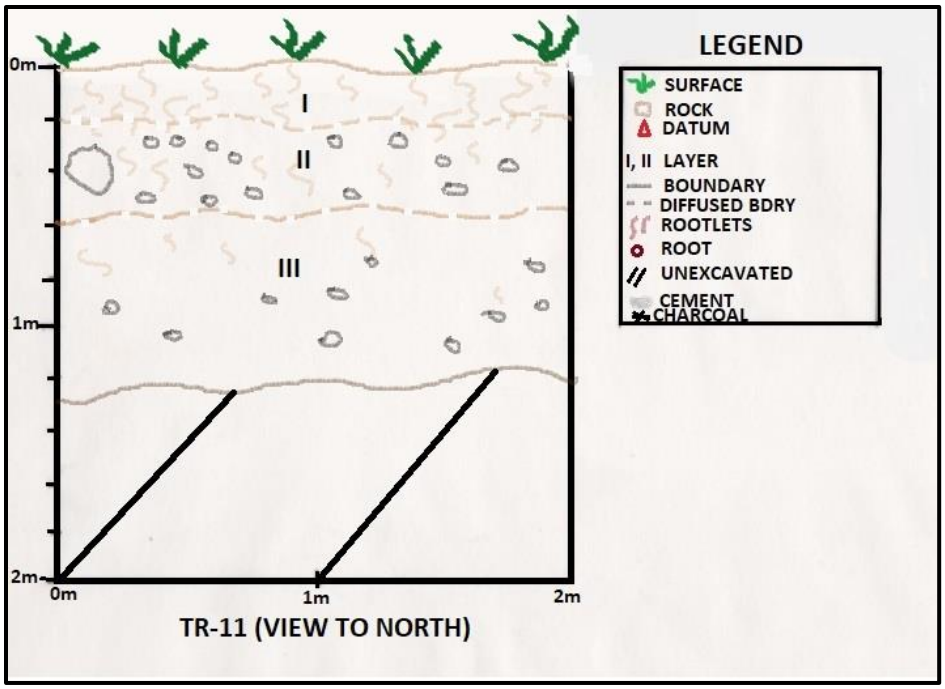

Figure 73. Stratigraphic Trench-11, soil profile of north wall

TRENCH-12 (TR-12)

Stratigraphic Trench-12 was in the southeast portion of the project area (Figure 44). The stratigraphic trench measured 5.4 meters (m) in length, by 0.74 meters in width, with a maximum depth of 1.17 meters below surface (mbs). The trench was orientated northeast/southwest to avoid the active garden area. This trench contained three stratigraphic layers (Figure 74 and Figure 75). Dense cane grass rootlets were observed in throughout Stratum I and the upper portion of Stratum II. Cultural material consisted of sparse charcoal flecking. Layers I and II contain previously disturbed soil and are part of the till zone associated with agricultural use.

Layer I: (0- 18 cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; irregular topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of sparse charcoal flecks.

Layer II: (18-108 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine to medium rootlets; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking.

Layer III: (108-117 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; occasional fine roots; terrestrial origin. This stratum contained less than one percent sub-angular basalt gravels. There was no cultural material observed in this layer.

Figure 74. A representative soil profile photograph of TR-12, view to northwest

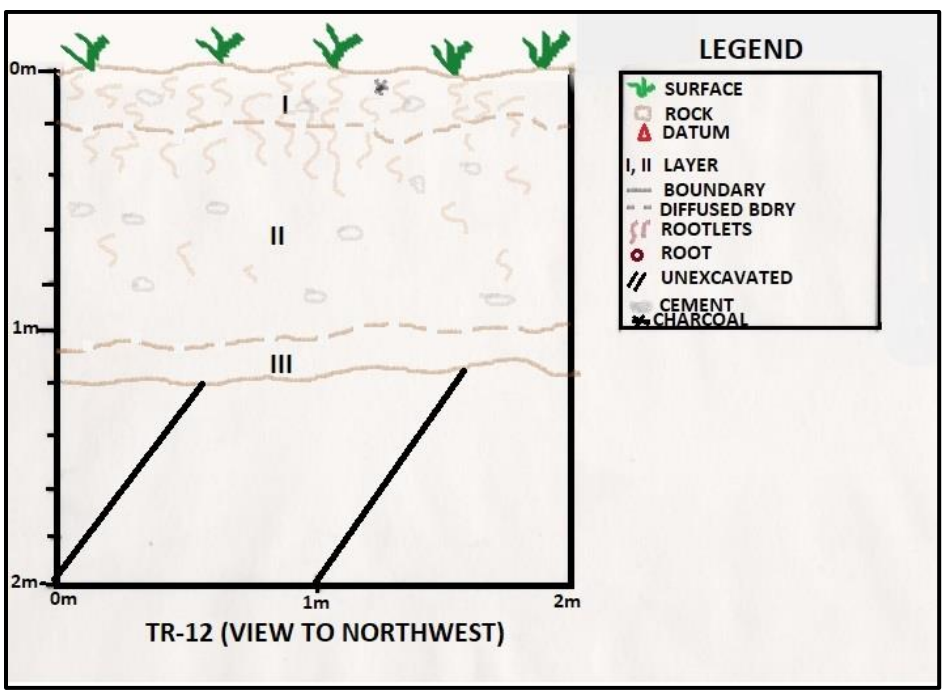

Figure 75. Stratigraphic Trench-12, soil profile of northwest wall

TRENCH-13 (TR-13)

Stratigraphic Trench-13 was in the central southwestern portion of the project area (Figure 44). The stratigraphic trench measured 5.2 meters (m) in length, by 0.73 meters in width, with a maximum depth of 1.28 meters below surface (mbs). The trench was orientated east/west and contained three stratigraphic layers (Figure 76 and Figure 77). Dense cane grass rootlets were observed in throughout Stratum I and the upper portion of Stratum II. This trench contained black plastic dripline fragments and charcoal flecking associated with long term agricultural activities (sugarcane). Layers I and II contain previously disturbed soil and are part of the till zone associated with agricultural use.

Layer I: (0-18 cmbs) 10YR 3/3, dark brown/10YR 4/1, (dark gray) (dry) clay; massive, very hard, firm; very sticky and very plastic; no cementation; terrestrial origin; diffused lower boundary; wavy topography. This stratum contained less than one percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of weathered black plastic dripline fragments from agricultural activities in Layer I.

Layer II: (18-76 cmbs) 10YR 2/2 very dark grayish brown; clay; (very dark grayish brown, 10YR 3/3) when rubbed, moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation, abundant fine rootlets; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than eight percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking in the upper portion of the layer.

Layer III: (76-128 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; occasional fine roots; terrestrial origin. This stratum contained approximately five percent sub-angular basalt pebbles. There was no cultural material observed in this layer.

Figure 76. A representative soil profile photograph of TR-13, view to south

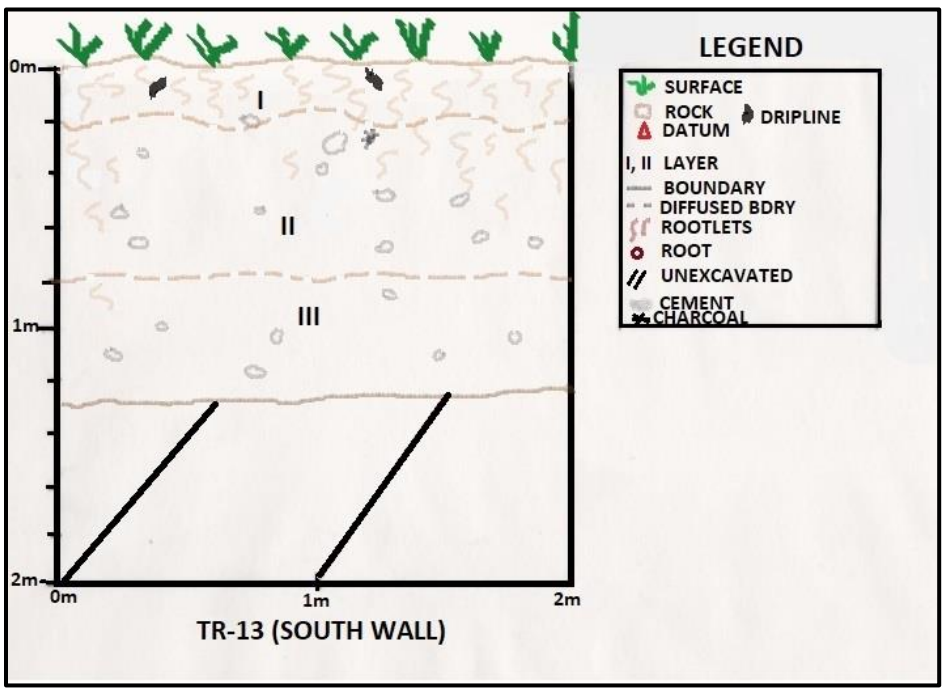

Figure 77. Stratigraphic Trench-13, soil profile of south wall

TRENCH-14 (TR-14)

Stratigraphic Trench-14 was in the northeast portion of the project area (Figure 44). The stratigraphic trench measured 5.3 meters (m) in length, by 0.70 meters in width, with a maximum depth of 1.18 meters below surface (mbs). The trench was orientated north/south and contained

three stratigraphic layers (Figure 78 and Figure 79). Dense cane grass rootlets were observed throughout Layer I. This trench contained black plastic dripline fragments and charcoal flecking in the two upper layers. Layers I and II contain previously disturbed soil and are part of the till zone associated with agricultural use. The soil matrix in this trench was a part of the Iao cobbly silty clay (IbB) series.

Layer I: (0-34 cmbs) 10YR 3/3, dark brown and 10YR 4/1, dark gray (dry); clay; massive; very hard, firm; no cementation; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of weathered black plastic dripline fragments and charcoal flecking from agricultural activities.

Layer II: (34-110 cmbs) 10YR 2/2, very dark brown, 10YR 3/2, very dark grayish brown (when rubbed), and 10YR 3/3, dark-brown (dry); clay; medium and course, sub-angular blocky structure; very hard, firm; very sticky and very plastic; no cementation; common roots; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of weathered black plastic dripline fragments and charcoal flecking associated with past agricultural activities.

Layer III: (110-118 cmbs) 10YR 3/3, dark-brown and 10YR 3/2, very dark grayish-brown (dry); silty clay; massive; hard, firm, sticky and plastic; no roots; weak, sub-angular blocky structure; hard friable, sticky, and plastic; sticky; no cementation; occasional fine roots; terrestrial origin. This stratum contained approximately one percent sub-angular basalt pebbles. This layer was void of cultural material.

Figure 78. A representative soil profile photograph of TR-14, view to west

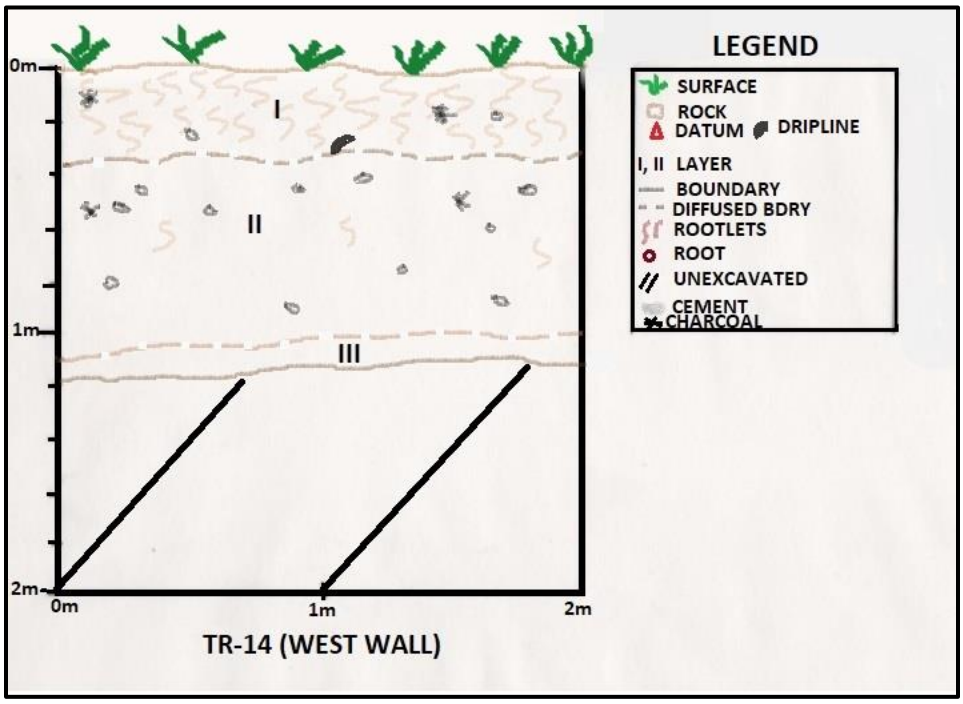

Figure 79. Stratigraphic Trench-14, soil profile of west wall

TRENCH-15 (TR-15)

Stratigraphic Trench-15 was in the southeast portion of the project area (Figure 44). The stratigraphic trench measured 5.6 meters (m) in length, by 0.74 meters in width, with a maximum depth of 1.2 meters below surface (mbs). The trench was orientated east/west and contained three

stratigraphic layers (Figure 80 and Figure 81). Dense rootlets were observed throughout Stratum I. Cultural material consisted of charcoal flecking in Layer I. Layers I and II contained previously disturbed soil and are part of the till zone associated with agricultural use.

Layer I: (0-31cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than one percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of sparse charcoal flecking.

Layer II: (31-90 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine to medium rootlets; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than three percent sub-angular basalt pebbles. There was no cultural material observed in this layer.

Layer III: (90-120 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; occasional fine rootlets; terrestrial origin. This stratum contained approximately one percent sub-angular basalt gravels. There was no cultural material in this layer.

Figure 80. A representative soil profile photograph of TR-15, view to north

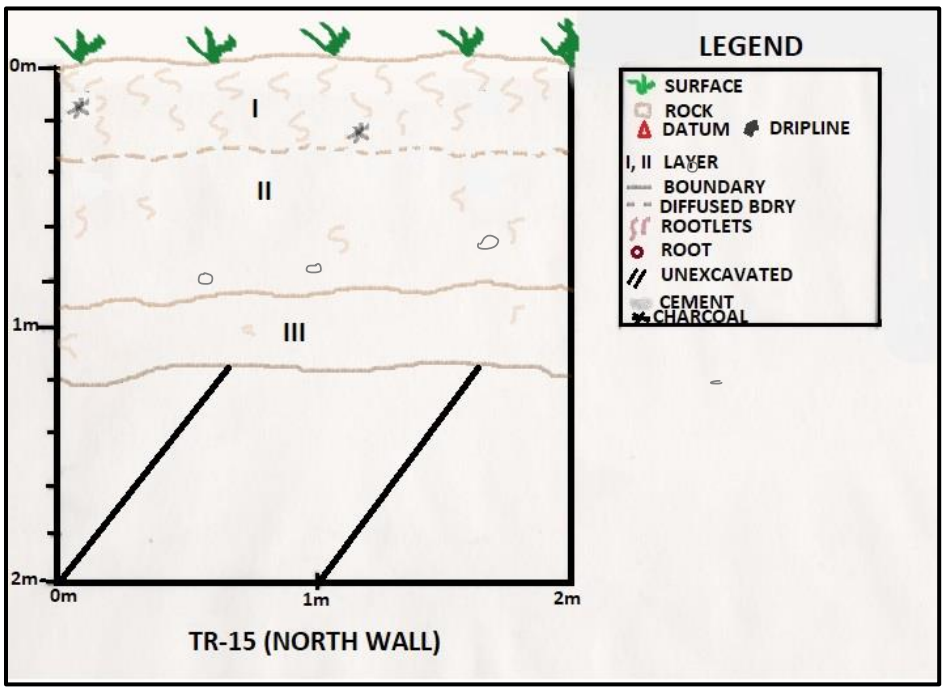

Figure 81. Stratigraphic Trench-15, soil profile of north wall

TRENCH-16 (TR-16)

Stratigraphic Trench-16 was situated in the northeast portion of the project area (Figure 44). The stratigraphic trench measured 5.0 meters (m) in length, by 0.70 meters in width, with a maximum

depth of 1.23 meters below surface (mbs). The trench was orientated east/west and contained three stratigraphic layers (Figure 82 and Figure 83). Dense rootlets were observed in throughout Stratum I. This trench contained charcoal flecking in the upper two layers. Layers I and II have also been previously impacted by years of sugar cane cultivation.

Layer I: (0-26 cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than one percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper twenty centimeters. Cultural material consisted of charcoal flecking.

Layer II: (26-68cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; common fine rootlets; terrestrial origin; gradual lower boundary; smooth topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking possibly associated with agricultural activities.

Layer III: (68-123cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; few fine roots; terrestrial origin. This stratum contained approximately one percent sub-angular basalt pebbles. There was no cultural material observed in this layer.

Figure 82. A representative soil profile photograph of TR-16, view to north

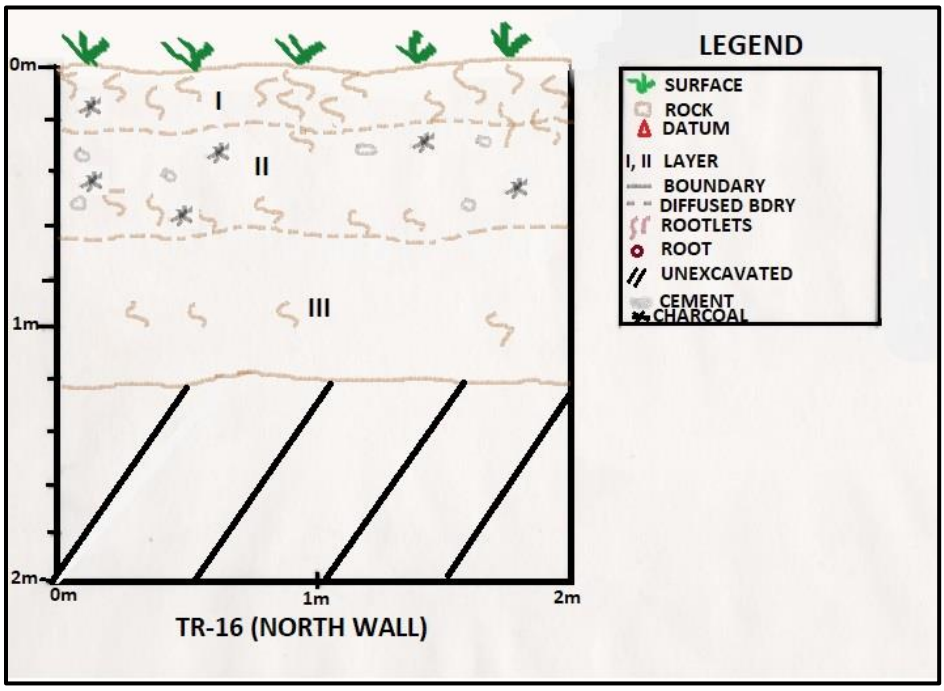

Figure 83. Stratigraphic Trench-16, soil profile of north wall

SUMMARY OF SUBSURFACE TESTING

Sixteen strategically placed backhoe trenches were excavated to evaluate sub-surface conditions in the project area. Excavation results did not reveal any evidence of pre-contact activity within

the boundaries. It did, however, reveal historic material from the Store Village plantation camp and agricultural debris from sugar cane cultivation after the plantation camp was abandoned and turned into agricultural land. The upper two layers of soil were disturbed extensively by long term soil manipulation from agricultural pursuits. Cultural material was encountered throughout Layers I and II.

Due to a property line discrepancy founded upon inaccurate information provided to the archaeologist by La`akea Farms, two excavation trenches were placed outside of the project area (Trench-17 and Trench-18). It was not until after the fieldwork was conducted that an accurate map of the property was provided by La`akea Farms (Figure 42 and Figure 43). A & E Consultants notified La`akea Farms that a portion of the dirt road was going to be flagged off and excavated manually and would not be able to be utilized until the fieldwork was completed. This prompted a neighboring property owner [Charlie (would not provide last name)], to come and speak with us. Charlie's agricultural land is situated inside the gulch to the northeast of Doris Todd Christian School. Charlie stated that the dirt road was not part of the La`akea Farms property. Once the north/northeast property boundary along the gulch was in question, La`akea Farms was asked again to either provide a more accurate map or to mark the property line. A detailed survey map was provided and substantiated Charlie's claims and illustrated that the dirt road was outside of the parcel. At that point, the manual excavation of TR-18 was terminated and the trenches were documented and backfilled. A small trench on the backside of the steps was also investigated to ensure the structure did not continue to the southwest. Detailed information regarding Trench-17 and Trench-18 is presented in APPENDIX B. In summary, there was no evidence of burials or any other religious items in either of these trenches. Cultural material collected from the trench represented plantation camp era activities. One datable item in TR-17 consisted of a Target Brownie Six-20 camera that was manufactured between 1941 to 1946.

The two areas excavated outside of the project area were TR-17 and TR-18. These two trenches were located on the dirt road directly to the southwest of the top of the gulch. This area was considered highly sensitive because an earlier map (*Figure 34*) depicting a "Japanese Cemetery" in the area was not very detailed and it was not possible to decipher the exact extent of this possible cemetery area. The archaeological subsurface testing was designed in a manner to help substantiate

a boundary for the potential "Japanese Cemetery" noted on one of the old plantation maps of "Store Village".

LABORATORY ANALYSIS FINDINGS

The majority of the cultural material observed consisted of modern day black plastic hoses used for sugar cane cultivation. Agricultural debris was documented in 56% of the trenches; however, it was not collected because it was associated with modern-day agricultural activities. The historic material analysis was based on a collection of eighteen items. All of the items were collected from the project area during trenching activities. The artifacts were allocated a consecutive accession number and analyzed at the laboratory of A & E Consultants Hawai`i, LLC (Table 4). The cultural material gathered from the trenches consisted of plantation camp era relics associated with structural components and habitation activities associated with the Store Village (Store Camp) Figure 84, Figure 85, and Figure 86. Of the 18 items collected, 7 pieces (39%) were houseware items (dishes: plates, cups, and bowls); 5 pieces (28%) were associated with structural items from the plantation era houses (cement, door knob, and light bulb frag.); 3 pieces (16%) food consumption remains (*opihi* and cowrie shells), 2 pieces (11%) beverage bottle glass fragments, and 1 piece (5%) of personal grooming item (comb). In general, the items recovered appear to be associated with either the structural components of the plantation era houses or daily activities associated with plantation era habitation activities (eating, drinking, and personal hygiene).

Table 4. A table of artifacts collected during trenching activities during the archaeological investigation.

ACC. #	TRENCH	LAYER/ LEVEL	CMBS	COUNT	DATE Collected	L (cm)	W (cm)	TH (cm)	WT (g)	NOTES
1-1	TR-1	Surface=S (I)	--	1	2/1/18	1.8 – 3.4cm	2.5	0.5	4g	EARTHENWARE-RIM-YELLOW GLAZE
1-2	TR-1	S	--	1	2/1/18	24	20	3.8	--	24X20CM IN DIA. GRAY CEMENT DEPOSIT
2-1	TR-2	S	--	1	2/1/18	5.3	1.1-2.2	0.3-0.6	2g	PLASTIC COMB-FRAGMENT-CLEAR YELLOWED HUE
2-2	TR-2	I	6	1	2/1/18	1.2-2.5	2.0-2.2	0.4	2g	EARTHENWARE WHITE GLAZED FLAT FRAGMENT, PLATE
3-1	TR-3	I	13	1	2/1/18	4.0-4.7	3.6	2.0	46g	CEMENT PIECE WITH SAND INCLUSIONS

3-2	TR-3	I		--	2/1/18	--	--	--	--	--
5-1	TR-5	I	16	1	2/1/18	4.5	2.0	2.2	24g	EARTHENWARE- DOOR KNOB-BROWN GLAZE
5-2	TR-5	I		2	2/1/18	2.5 2.0	2.0 1.5	0.3 0.3	2g 2g	CELADON, THIN WALLED-BOWL OR CUP-FRAGMENT
5-3	TR-5	S	--	1	2/1/18	5.4	2.5	0.3	2g	VITREOUS CHINA PORCELAIN, THIN WALLED- WHITE GLAZED, BOWL OR CUP RIM
5-4	TR-5	S	--	1	2/1/18	3.1	2.5	1.5	2g	*OPIHI* SHELL-*PATELLIDAE-CELLANA SP.*
6-1	TR-6	S	0-32	1	2/1/18	4.6	4.0	0.2	10g	*OPIHI* SHELL, PATELLIDAE-*CELLANA SP.*
6-2	TR-6	I	0-32	1	2/1/18	2.5	2	0.3	4g	COWRIE SHELL, CYPRAEIDAE SP.
6-3	TR-6	I	0-32	1	2/1/18	2.9	1.7	2.0	8g	CEMENT PIECES WITH GRAVEL INCLUSIONS
6-4	TR-6	I	0-32	--	2/1/18	--	--	--	--	BASALT SUB-ANGULAR COBBLE- natural- void
6-5	TR-6	I	0-32	--	2/1/18	--	--	--	--	BASALT SUB-ANGULAR PEBBLE natural- void
6-6	TR-6	I	0-32	1	2/1/18	5.0	1.5	0.5	8g	GLASS- AQUA COLOR-MACHINE MADE-ABM-BOTTLE- BODY PORTION WITH ILLEGIBLE EMBOSSING-BEVERAGE
6-7	TR-6	II	32-59	1	2/1/18	2.7	0.9	0.2	0.2g	GLASS-CLEAR CONCAVED - VERY, VERY THIN FRAGMENT, (LIGHT BULB?)
6-8	TR-6	II	32-59	1	2/1/18	3.6	1.7	0.3	6g	GLASS-BROWN COLOR-MACHINE MADE-ABM-BOTTLE-BASE WITH STIPPLING ALONG DIAMETER BASE-AND NUMBER EMBOSSING-BEVERAGE
8-1	TR-8	S	--	1	2/1/18	2.3	1.7	0.4	2g	PORCELAIN, WHITEWARE, PLATE RIM
9-1	TR-9	S	--	1	2/1/18	3.6	1.7	0.5	9g	BLUE FLOWERED, GEOMETRIC DESIGN, BOWL SIDE

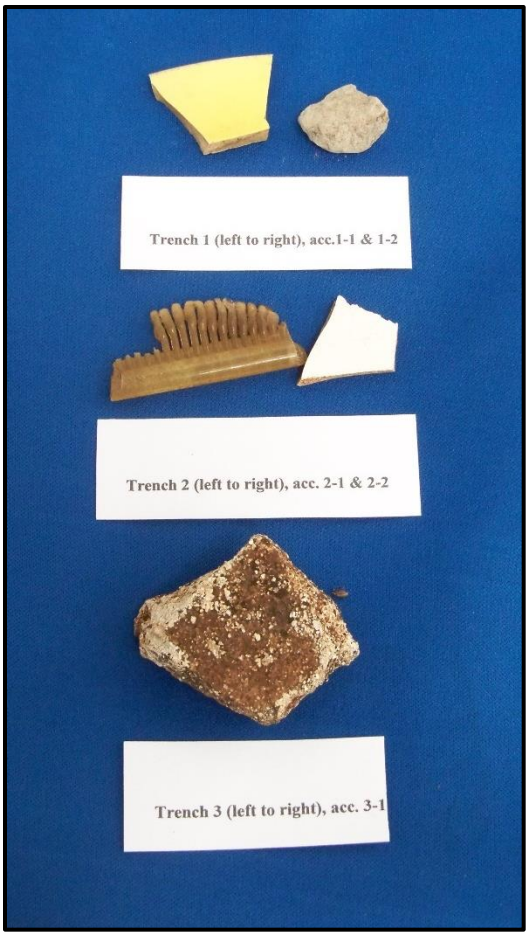

Figure 84. An overview photograph of artifacts collected from Tr-1, TR-2, and TR-3.

Figure 85.. An overview photograph of artifacts and cultural remains collected from TR-5 and TR-6 (note: basalt pieces are natural and not modified.

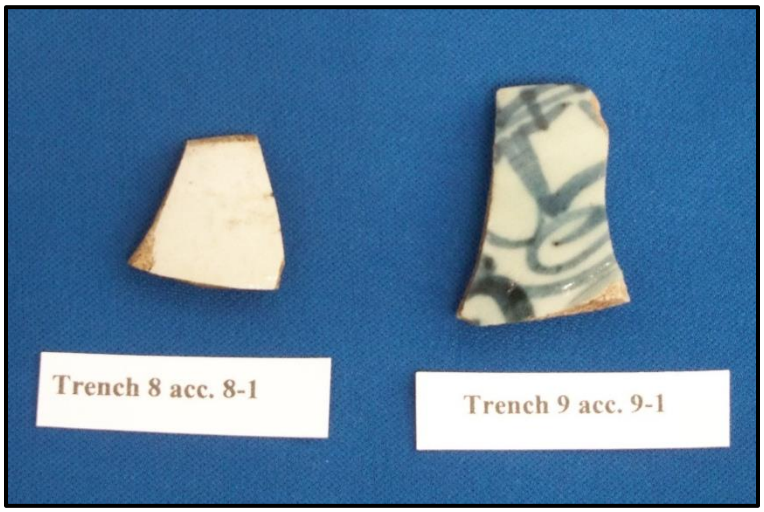

Figure 86. An overview photograph of artifacts collected from TR-8 and TR-9.

SUMMARY AND CONCLUSIONS

Sixteen strategically placed backhoe trenches were excavated to evaluate sub-surface conditions on the subject property. Excavation results did not reveal any sub-surface evidence of pre-Contact or early historic-era activity within the project area. Soil encountered has been disturbed extensively by soil manipulation by agricultural activities and plantation era habitation activities. Cultural material observed and documented was related to both modern agricultural activities associated with sugar cane cultivation (~1960 – 2000) and plantation camp era activities associated with the Paia Store Camp (~ the early 1900s to 1960). Pieces of black plastic hose fragments were evident in Layers I and II. In addition, there were historic plantation era artifacts associated with plantation era structures, houseware, and possibly food remains were encountered in a disturbed Layer I and Layer II matrix. A variety of old maps included in this report illustrate various phases of structural development within the project area. The assortment of maps seems to indicate that there were no structures within the parcel up until at least 1905. A 1917 map illustrates approximately 100 plantation houses within the project area (*Figure 31*). Later maps show a slight decrease in plantation houses to approximately seventy and two new structures (a building in the gulch referred to as a Japanese Cemetery and the Paia Store Camp building).

Cultural material documented from the trenches consisted predominantly of agricultural debris in 56% of the trenches; however, it was not collected because it was associated with modern-day agricultural activities. The cultural material collected from the trenches consisted of plantation camp era relics associated with structural components and habitation activities associated with the Store Village.

During the current investigation, there were no historic properties documented within the project area. There were, however, three historic properties noted outside of the project area. TR-18, bisected a dirt road and was in close proximity (~15 meters) to the area of the possible Japanese Cemetery located inside the gulch. Although the trench did not reveal any components of the possible cemetery extending under the road, it did reveal an intact section of cement steps probably associated with the Store Village plantation camp. The other two historic properties were located within the gulch and consisted of an upright cement slab with Japanese characters and a large stone cut bowl on top of a cement slab (APPENDIX B).

Based upon the current archaeological research, it does not appear that supplementary examination of the subject parcel would contribute significantly to the data or interpretation of the region; However, based

upon the close proximity of the possible Japanese Cemetery and a possible Korean Church being located under the current farm store building, archaeological monitoring during construction activity appears to be warranted—at minimum in and around those two areas. Established on the aforementioned reasons, A & E Consultants Hawai`i, LLC recommends archaeological monitoring for the proposed project.

PROJECT EFFECT

For this inventory survey investigation, the entire parcel was subject to a systematic pedestrian inspection and sub-surface testing. The project area's surrounding built environment is developed as residential, a school, agricultural fields, and a gym and field across the street. Although there were no significant historic properties encountered within the parcel, a possible Japanese cemetery was documented in the gulch to the north/northeast of the northeast boundary. Due to the religious nature of this historic property, it is advised to have an established buffer and possibly a natural vegetation barrier to separate development from the historic religious site. This would be the primary area of concern in reference to this project having an impact on a known historic property.

MITIGATION RECOMMENDATIONS

Based upon the results of the current pedestrian survey, sub-surface testing, and documentation of a possible Japanese cemetery being located less than fifteen meters from the northern border, Archaeological & Ethnographic Consultants Hawai`i, LLC recommends archaeological monitoring during excavation work during the proposed construction. Although the property has been impacted by extensive agricultural ground disturbing events, historic debris from the plantation camp is also present throughout the property.

ARCHIVING AND CURATION OF COLLECTED MATERIALS

In the event that human burials are encountered during the course of the project and are removed per the request of SHPD, all skeletal remains and any associated artifacts will be temporarily curated in a clean and secured location approved by the SHPD and the Maui/Lāna`i Island Burial Council, until a burial treatment plan prepared in accordance with HAR 13-300-33 has been reviewed and approved and re-interment arrangements have been made. Materials not associated with burials will be temporarily stored at the contracted archaeologist's facilities until an appropriate curation facility is selected in consultation with the County of Maui and SHPD.

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APPENDIX A

JOHN WAIHEE
GOVERNOR OF HAWAII

RECEIVED
LAND USE & CODES
'94 MAR 31 P12:22
COUNTY OF MAUI
WAILUKU, HI 96793

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

KEITH AHUE, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCE

DEPUTIES

JOHN P. KEPPELER II
DONA L. HANAIKE

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION DIVISION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

March 24, 1994

Mr. Glen Ueno
Department of Public Works
Division of Land Use and Codes Administration
250 South High Street
Wailuku, Hawaii 96793

LOG NO: 11158
DOC NO: 9403KD28

Dear Mr. Ueno:

SUBJECT: **County of Maui, Historic Preservation Review of the Pa'ia Store Village Subdivision (LUCA File No. 2.2217) Hamakuapoko, Makawao, Maui**
TMK: 2-5-05: 20 por.

Thank you for the opportunity to comment on the proposed subdivision at Store Village, Pa'ia.

The purpose of the subdivision is to create a large lot (12.2 acres) along Baldwin Avenue, to be dedicated to the County of Maui for affordable housing. The proposed subdivision is in compliance with a condition of the change in zoning approval granted to A & B Properties for the Kahului Industrial Park development.

The proposed subdivision area is currently being cultivated for sugar cane. It is located directly east of the Skill Village residential subdivision.

An archaeological reconnaissance survey was conducted of the Skill Village Subdivision area prior to its development (*Archaeological Reconnaissance, Skill Village Development, Paia, Maui*, R. Bordner 1981). Bordner identified historic plantation homes and a Portuguese oven within the Skill Village project area.

The proposed subdivision is located in the area of the former Store Village, which housed Pa'ia Mill employees. This Village was abandoned, and the homes were either moved or demolished. The area was subsequently plowed for cane cultivation. It is unlikely that

any intact historic deposits associated with the Village are present beneath the plow zone. We therefore believe that this subdivision will have "no effect" on historic sites.

Please contact Ms. Theresa K. Donham at 243-5169 if you have any questions.

Sincerely,

DON HIBBARD, Administrator
Historic Preservation Division

KD:jen

APPENDIX B

Trenches Excavated Outside of Project Area Due to a Boundary Discrepancy

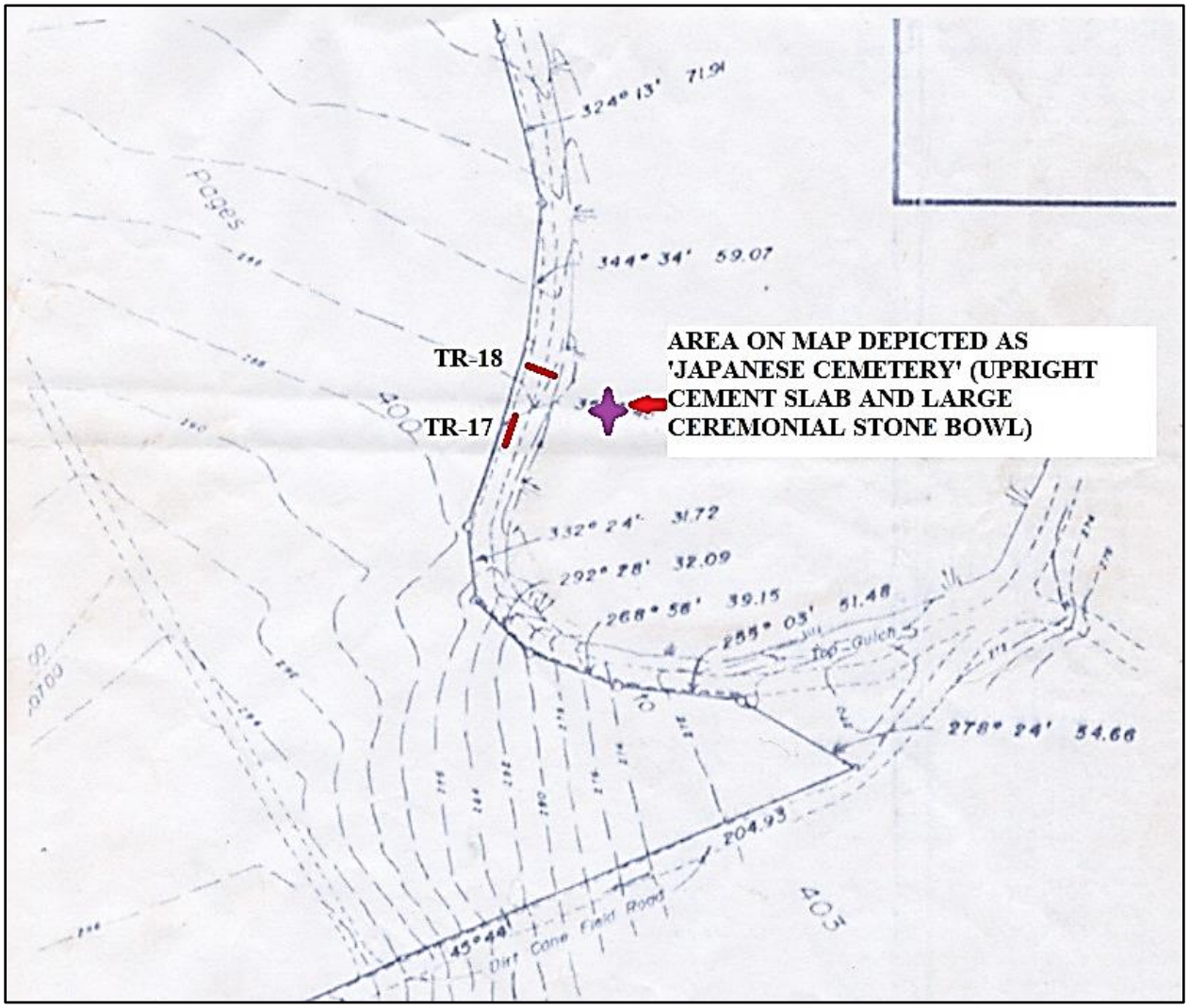

Figure 87. A project area survey map illustrating that the dirt road on the north/northeast portion of the project area is located outside of the parcel area.

TRENCH-17 (TR-17)

Due to property boundary discrepancy, Stratigraphic Trench-17 was located outside of the project area to the northeast of the property line (Figure 44 and Figure 87). The stratigraphic trench measured 5.4 meters (m) in length, by 0.73 meters in width, with a maximum depth of 1.45 meters below surface (mbs). The trench was orientated northwest/southeast and contained three stratigraphic layers (Figure 88 and Figure 89). Roots and rootlets were observed throughout Stratum I and the

upper portion of Stratum II. This trench contained charcoal flecking and historic material associated with the Store Camp plantation village.

Layer I: (0-29 cmbs) 10YR 3/3, dark brown and 10YR 4/1, dark gray (dry); clay; massive; very hard, firm; no cementation; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than two percent sub-angular basalt pebbles. Medium and fine rootlets were common in the upper thirty centimeters. Cultural material consisted of numerous items associated with plantation camp habitation activities (refer to Table 5). Long term sugarcane cultivation and earlier activity associated with the Store Village plantation era camp have impacted Layer I.

Layer II: (29-114 cmbs) 10YR 2/2, very dark brown, 10YR 3/2, very dark grayish brown (when rubbed), and 10YR 3/3, dark-brown (dry); clay; medium and course, sub-angular blocky structure; very hard, firm; very sticky and very plastic; no cementation; occasional roots; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than five percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking probably associated with past agricultural activities.

Layer III: (114-145 cmbs) 10YR 3/3, dark-brown and 10YR 3/2, very dark grayish-brown (dry); silty clay; massive; hard, firm, sticky and plastic; few roots; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no cementation; many fine roots; terrestrial origin. This stratum contained approximately many (~40 percent) sub-angular basalt pebbles.

Figure 88. A representative soil profile photograph of TR-17, view to southwest

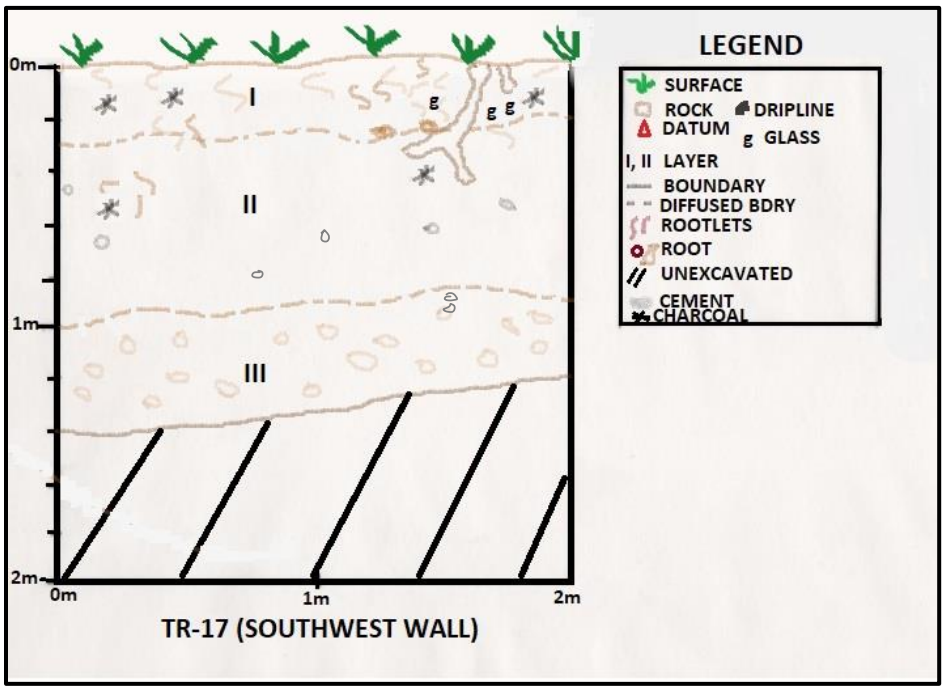

Figure 89. Stratigraphic Trench-17, soil profile of southwest wall

Figure 90. An overview photograph of some of the artifacts collected from TR-17.

Kodak Brownie Target Six-16 Circa 1941

Figure 91. A photograph of the type of camera that was excavated from TR-17, made from 1941- 1946

TRENCH-18 (TR-18)

Due to property boundary discrepancy, Stratigraphic Trench-18 was located outside of the project area to the northeast of the property line (Figure 44 and Figure 87). The trench measured approximately 4.5 meters (m) in length, by 3 meters in width, with a maximum depth of 2 meters below surface (mbs). The trench was orientated northeast/southwest and contained three stratigraphic layers. Roots and rootlets were observed in throughout Stratum I and the upper portion of Stratum II. This trench contained charcoal flecking and historic material associated with the Store Camp plantation village.

Stratigraphic Trench-18 was located outside of the project area (Figure 44). The stratigraphic trench measured ~4 meters (m) in length, by 3 meters in width, with a maximum depth of 2 meters below surface (mbs). The trench was orientated north/south and contained three stratigraphic layers and a layer of agricultural debris and soil on top of gulch edge. Dense rootlets were observed throughout Stratum I. Cultural material consisted of numerous items associated with plantation camp habitation activities (refer to Table 5). Long term sugarcane cultivation and earlier activity associated with the Store Village plantation era camp have impacted Layer I.

Layer I: (0-32 cmbs) 5YR 3/2-3/3, dark reddish brown; silt clay; weak, fine, granular structure; hard, friable, sticky, and plastic; no cementation; terrestrial origin; diffused lower boundary; wavy topography. This stratum contained less than two percent sub-angular basalt pebbles. Fine rootlets were dense and common in the upper forty centimeters. Cultural material consisted of numerous items associated with plantation camp habitation activities (refer to Table 5) and weathered black plastic dripline fragments from agricultural activities. Long term sugarcane cultivation and earlier activity associated with the Store Village plantation era camp have impacted Layers I and II.

Layer II: (32-78 cmbs) 5YR 3/3 – 3/4 dark reddish-brown; clay; moderate, fine, sub-angular blocky structure; hard, firm; sticky and plastic; no cementation; abundant fine to medium rootlets; terrestrial origin; diffused lower boundary; smooth topography. This stratum contained less than ten percent sub-angular basalt pebbles. Cultural material consisted of charcoal flecking possibly associated with agricultural activities.

Layer III: (78-152 cmbs) 5YR 3/3 dark reddish-brown; clay; weak, sub-angular blocky structure; moderate; fine, angular; and sub-angular blocky; hard friable, sticky, and plastic; sticky; no

cementation; many fine roots; terrestrial origin. This stratum contained approximately 20 percent sub-angular basalt pebbles. There was no cultural material visible in this layer.

Figure 92. A pre-excavation photograph of the exposed cement associated with TR-18, view to northwest

Figure 93. An overview photograph of cement stairs exposed during the excavation of TR-18, view to southwest

Figure 94. An overview photograph of TR-18 which was being excavated to find the extent of the stairs and to ensure that there was no evidence of a cemetery extending outside of the gulch area, view to northwest

Figure 95. An overview photograph of showing area of TR-17 and Tr-18 backfilled, view to northwest.

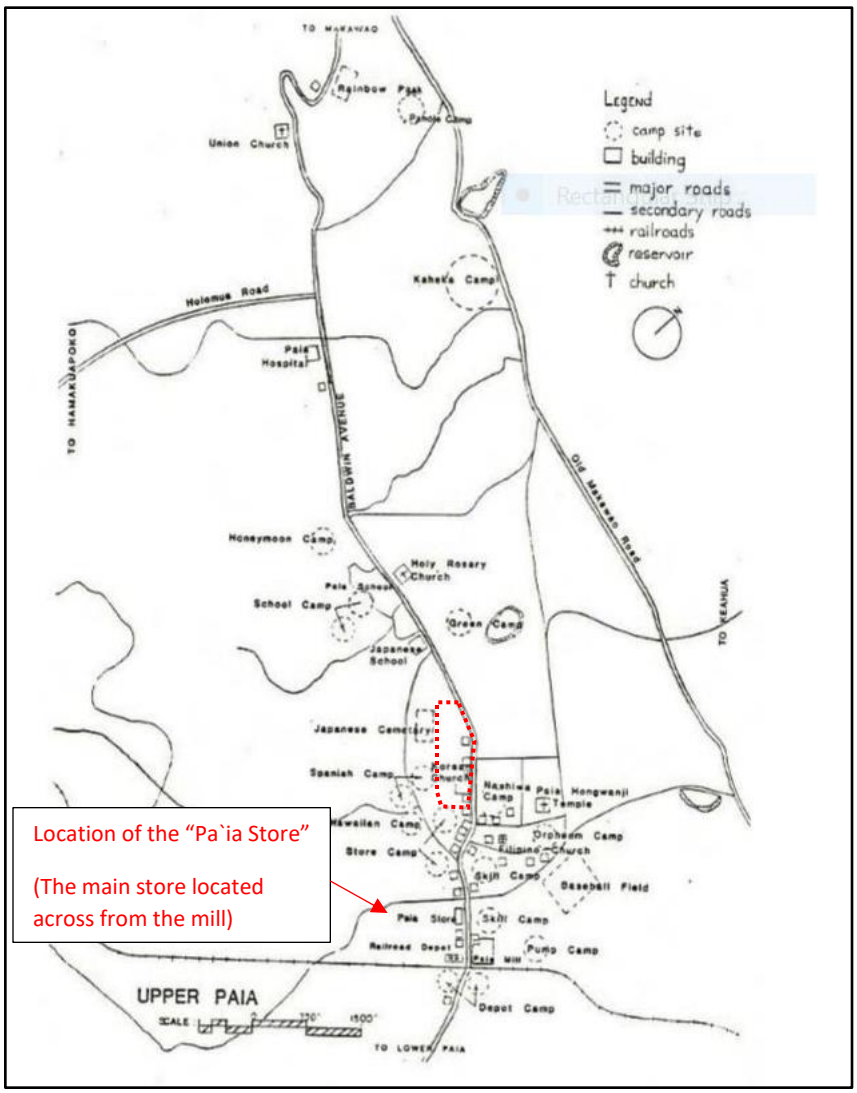

Figure 96. A map of plantation camps in "Upper Paia" which illustrates a Korean Church and a Japanese Cemetery in the environs of the project area, courtesy of A & B Sugar Museum (information on this map does not coincide with other maps of the area).

Figure 97. Area inside gulch containing an undocumented Japanese cemetery (after weed eating), view to north

Figure 98. An overview photograph of stone bowl and upright cement slab with Japanese characters, view to east

Table 5. A table of artifacts collected during the trenching activities associated with TR-17 and TR-18

ACC. #	TRENCH	LAYER	CMBS	DATE COL'D	FIELD REC.	DESCRIPTION	COUNT
17-1	TR-17	I	0-29	02/FEB/18	DG	PORCELAIN, BLUE ON WHITE TRANSFERWARE, MADE IN JAPAN PLATE	1
17-2	TR-17	I	0-29	02/FEB/18	DG	PORCELAIN, BLUE ON WHITE TRANSFERWARE, MADE IN JAPAN PLATE	3
17-3	TR-17	I	0-29	02/FEB/18	DG	STONEWARE, BLUE ON WHITE TRANSFERWARE, BOWL-BASE	2
17-4	TR-17	I	0-29	02/FEB/18	DG	STONEWARE, BLUE ON WHITE TRANSFERWARE,	4
17-5	TR-17	I	0-29	02/FEB/18	DG	GLASS, CLEAR BOTTLE BASE, ABM MACHINE MADE	1
17-6	TR-17	I	0-29	02/FEB/18	DG	GLASS CLEAR WITH YELLOW HUE, BASE WITH EMBOSSED DESIGN PATENT (?0918)	1
17-7	TR-17	I	0-29	02/FEB/18	DG	GLASS, DK OLIVE GREEN, WINE-BOTTLE FRAGMENT	1
17-8	TR-17	I	0-29	02/FEB/18	DG	GLASS, AQUA BOTTLE- CROWN TOP-MACHINE MADE ABM-BEVERAGE	2
17-9	TR-17	I	0-29	02/FEB/18	DG	GLASS-CLEAR WITH PINK HUE, THICK FLAT FRAGMENTS,	2
17-10	TR-17	I	0-29	02/FEB/18	DG	METAL NAILS-2 WITH COMPLETE HEAD/TOP-2 PIECES	4
17-11	TR-17	I	0-29	02/FEB/18	DG	METAL BOTTLE CAP/TOP, SILVER PLATED OVER COPPER	1
17-12	TR-17	I	0-29	02/FEB/18	DG	METAL WIRE	1
17-13	TR-17	I	0-29	02/FEB/18	DG	KODAK-TARGET BROWNIE SIX-20 MODEL-METAL FACE, LEVER, & GLASS OPTIC PIECE	6
17-14	TR-17	I	0-29	02/FEB/18	DG	*PATELLIDAE, CELLANA SANDWICHES*	3
17-15	TR-17	I	0-29	02/FEB/18	DG	*THAIDIDAE, DRUPA SP.*	1
17-16	TR-17	I	0-29	02/FEB/18	DG	PLASTIC-SHOWER CAP	1
18-1	TR-18	I	0-32	02/FEB/18	DG	GLASS MARBLE 1950'S VITRO-TRI-COLOR – OPAQUE WHITE- PALE GREEN-COBALT BLUE STRIPE SEMI-CIRCLED	1
18-2	TR-18	I	0-32	02/FEB/18	DG	CEMENT PIECES WITH SAND AND BASALT GRAVEL INCLUSIONS	6
18-3	TR-18	I	0-32	02/FEB/18	DG	RED BRICK WITH CEMENT ADHERED (SAME CEMENT WITH SAND INCLUSIONS)	1
18-4	TR-18	I	0-32	02/FEB/18	DG	BASALT-FINE GRAIN-SMALL SUB-ANGULAR COBBLE	1
18-5	TR-18	I	0-32	02/FEB/18	DG	RIBBED RUBBER-PROBABLE TIRE TREADS	2
18-6	TR-18	I	0-32	02/FEB/18	DG	METAL-NAILS-2.5" AND 3.5"- WITH COMPLETE HEAD/TOP	2
18-7	TR-18	I	0-32	02/FEB/18	DG	GLASS-FLAT-CLEAR-THIN-WINDOW PANE AND/OR PICTURE FRAME	2
18-8	TR-18	I	0-32	02/FEB/18	DG	GLASS-CURVED SHOULDER-YELLOW HUE, CONDIMENT JAR	1
18-8	TR-18	I	0-32	02/FEB/18	DG	GLASS-BROWN, BEER, 1/2 BOTTLE BASE WITH STIPPLING &EMBOSSED WITH 68 AND E2	1
18-9	TR-18	I	0-32	02/FEB/18	DG	porcelain, BLUE ON WHITE- TRANSFERWARE-1 BOWL RIM AND 2 BODY SHARDS	3
18-10	TR-18	I	0-32	02/FEB/18	DG	PORCELAIN, THICK WALLED, WHITE GLAZE-MONOCHROME-BOWL BASE	1

18-11	TR-18	I	0-32	02/FEB/18	DG	EARTHENWARE, THICK WALLED, LIME GREEN GLAZE-MONOCHROME INTERIOR AND EXTERIOR-WALL FRAGMENT TO BOWL OR CUP	1
18-12	TR-18	I	0-32	02/FEB/18	DG	EARTHENWARE, THICK WALLED, TRANSFER PRINT-WHITE GLAZE EXTERIOR-BLUE ON WHITE SCENIC DEPICTION-BOWL RIM	1
18-13	TR-18	I	0-32	02/FEB/18	DG	EARTHENWARE, THIN WALLED RIM –RED ON WHITE-RED BAND ALONG THE EXTERIOR AND INTERIOR RIM	1
18-14	TR-18	I	0-32	02/FEB/18	DG	EARTHENWARE, THICK WALLED, TRANSFER PRINT-WHITE GLAZE EXTERIOR-GREEN FLORAL PRINT INTERIOR-BOWL RIM	1

The cultural material gathered from TR-17 and TR-18 consisted of plantation camp era relics associated with structural components and habitation activities associated with Store Village (Store Camp) (Table 5). Of the 58 items collected,18 pieces (31%) were houseware items (dishes: plates, cups, and bowls); 16 pieces (28%) were associated with structural items from the plantation era houses (cement, nails, wire, windowpane, and brick frag.); 4 pieces (6%) food consumption remains (*opihi* and *drupa* shells), 8 pieces (14%) beverage bottle glass fragments, 2 pieces (3%) unidentified glass fragments, 1 piece marble (2%), 6 pieces of camera (10%), 1 piece shower cap fragment (2%), and 1 piece tire fragment (2%). In general, the items recovered appear to be associated with either the structural components of the plantation era houses or daily activities associated with plantation habitation activities (eating, drinking, entertainment, transportation, and personal hygiene). The additional information gathered from TR-17 and TR-18 is consistent with the data from Trench-1 to Trench-15. Information gathered from TR-18 also suggests that there is the possibility of encountering intact portions of structural components from the Store Camp plantation era. Trenching activities closer to the edge of the gulch may have experienced less disturbance.

APPENDIX D
CULTURAL IMPACT ASSESSMENT

La‘akea Farms and Foundation
Cultural Impact Assessment

TMK: (2) 2-5-005: 030 (Portion)

by
Katherine Kama‘ema‘e Smith
Honu Media, LLC
Historical Consultant

February 1, 2018

Prepared for
La‘akea Farms and Foundation
639 Baldwin Avenue
Hāmākuapoko, Maui, Hawai‘i

La‘akea Farms and Foundation
Cultural Impact Assessment
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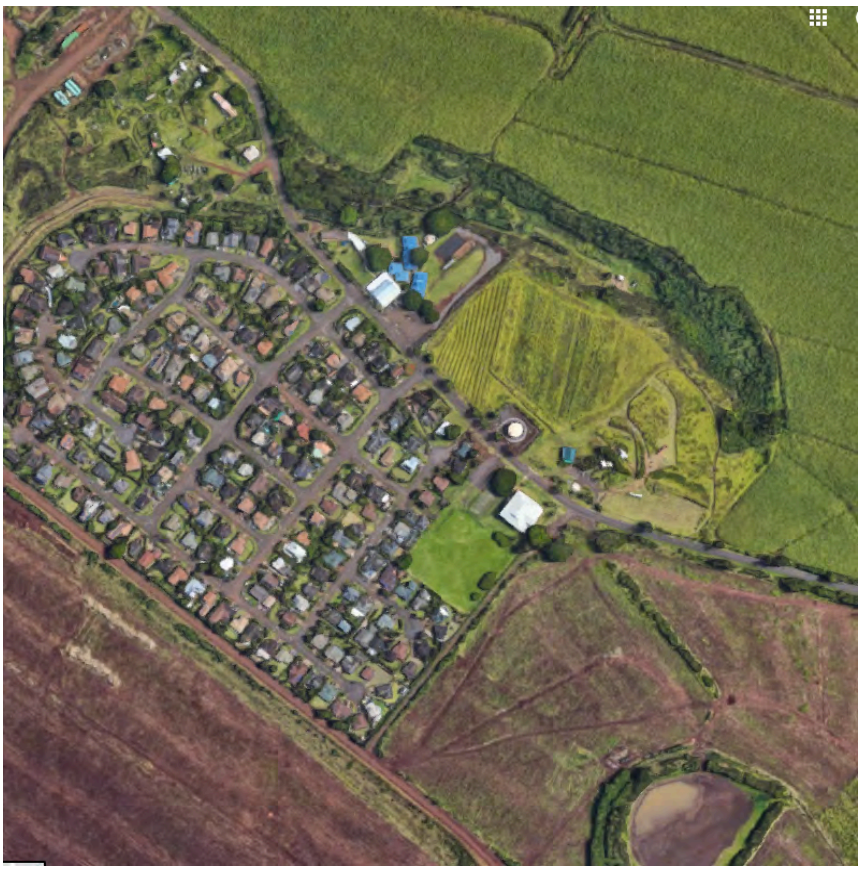

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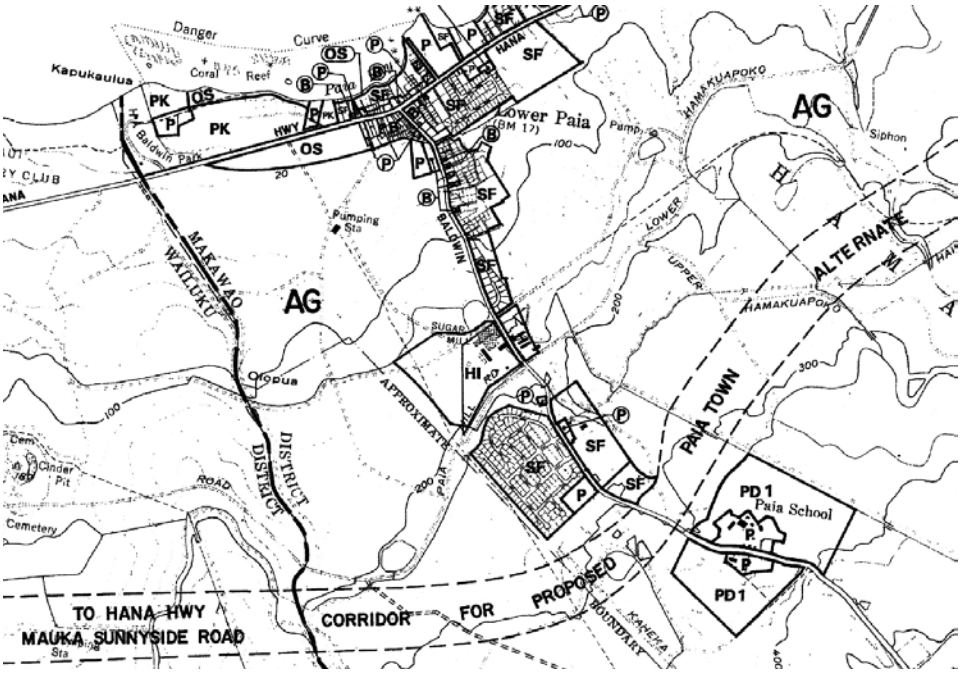

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A. Pre History

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B. Other Post Contact Historical Fragments pertaining to Hāmākuapoko

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C. Upper Pā‘ia Historic Period

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<u>Kamehameha passes through Hāmākuapoko</u>
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<u>A view from the Sea</u>
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H. P. Baldwin's Beginnings as a Planter in Pāʻia

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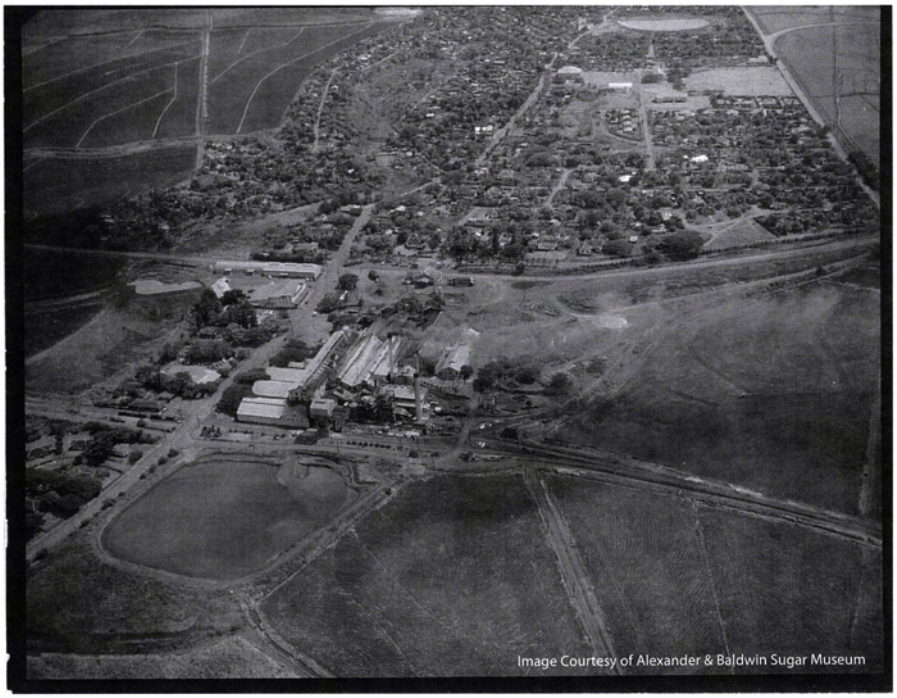

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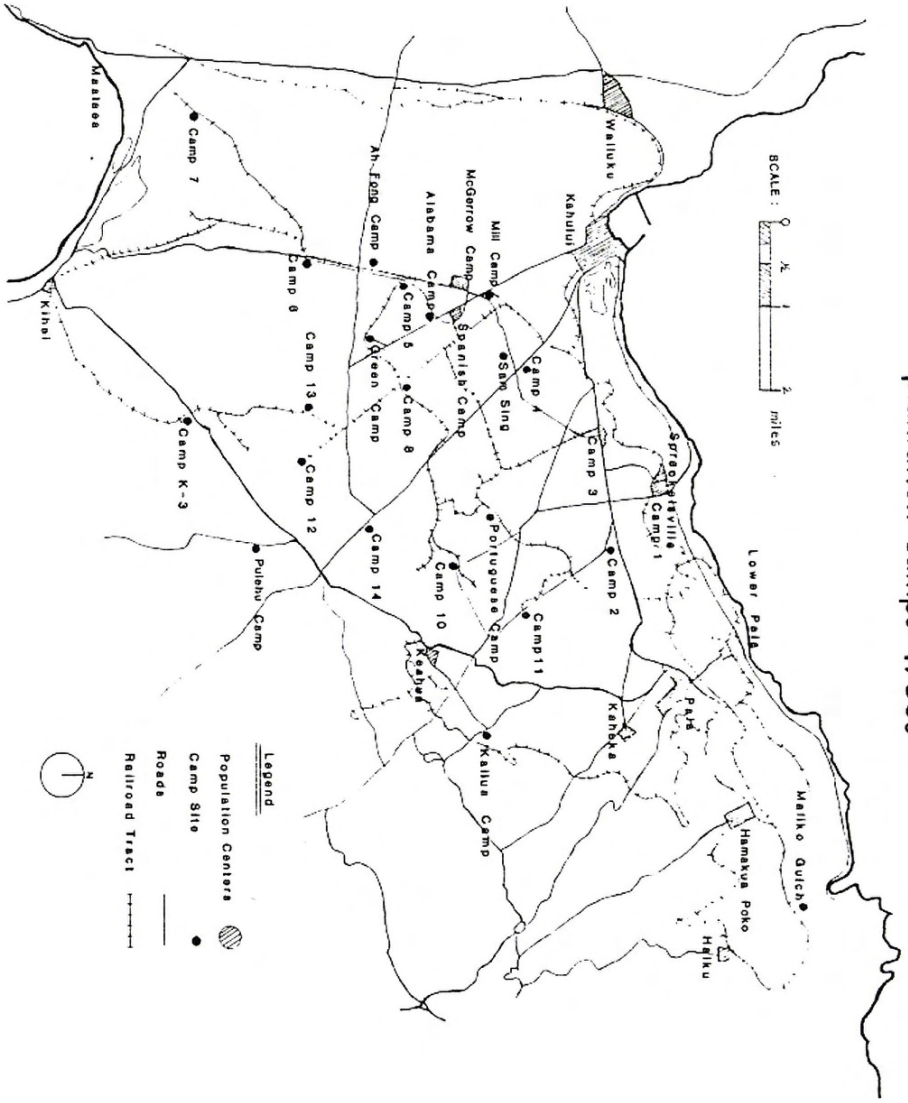

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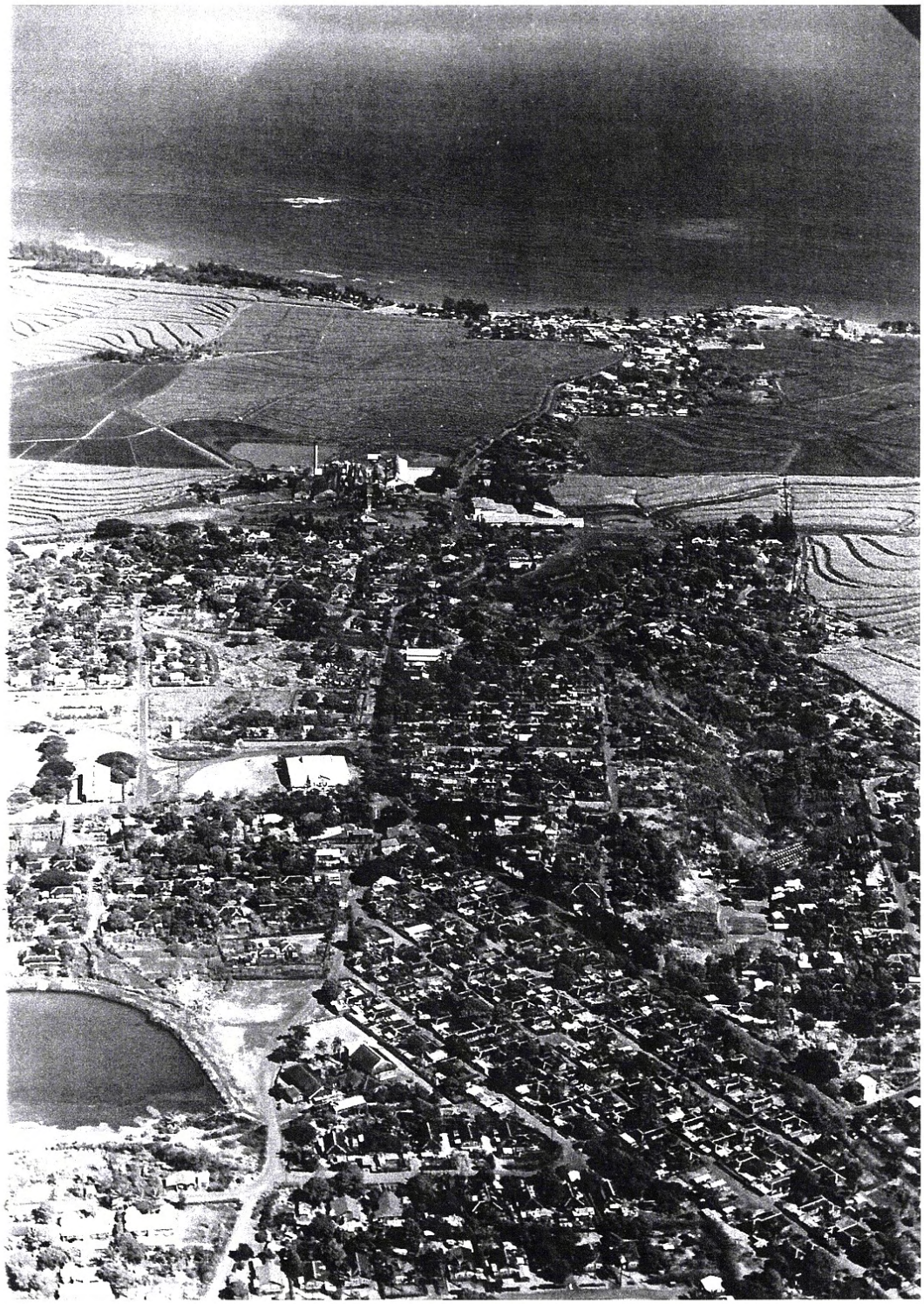

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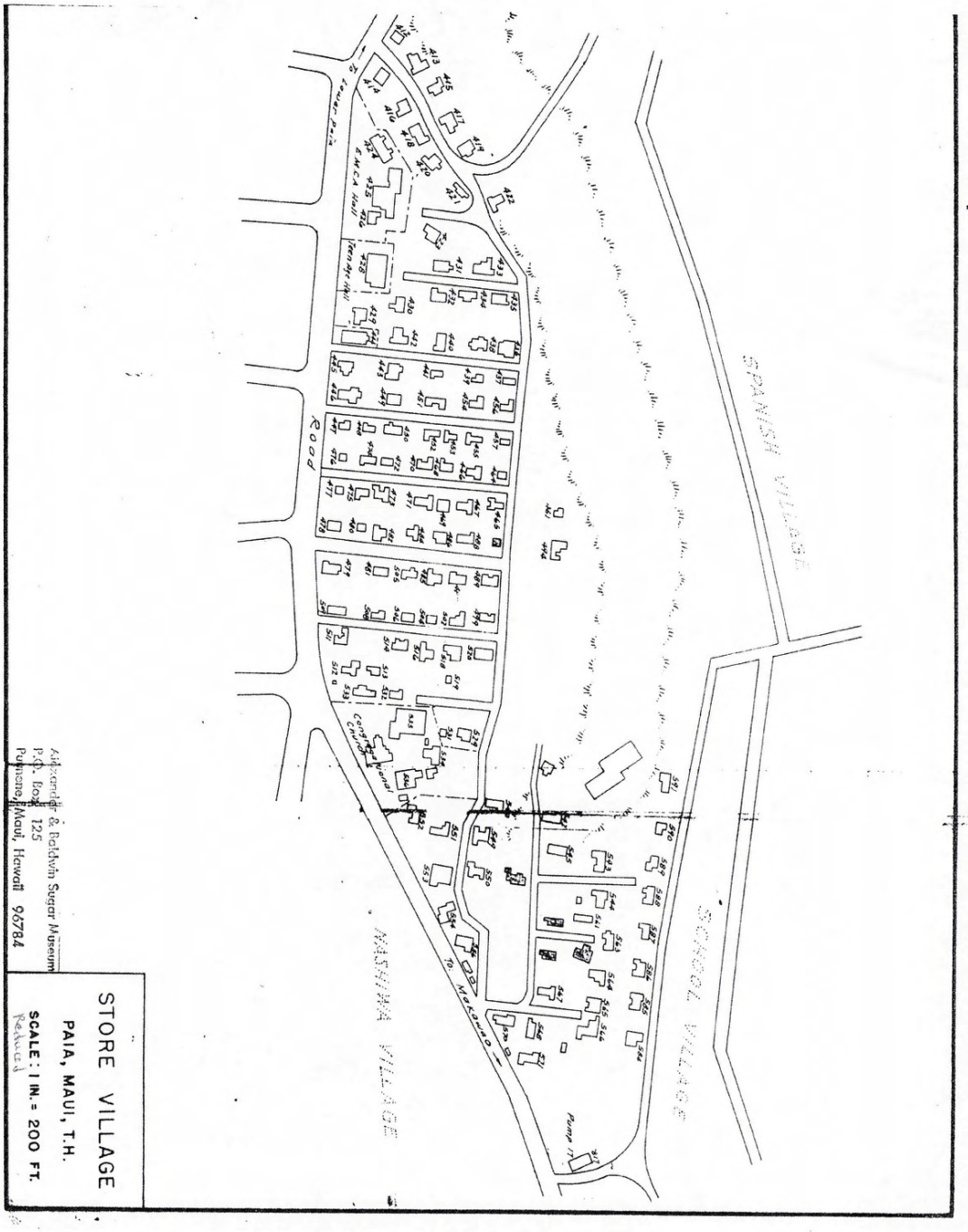
Community of 10,000 at Pāʻia Plantation

[illegible] Maui [illegible] ʻakala and [illegible] Maui [illegible]

Pāʻia Plantation [illegible] Pidgin [illegible] Pa[illegible] Land [illegible] Kula [illegible] Puʻunene Rice and [illegible] land [illegible]

Plantation [illegible] arrived [illegible] *furo* and Puʻunene [illegible] a rich [illegible] Pāʻia Mill [illegible]



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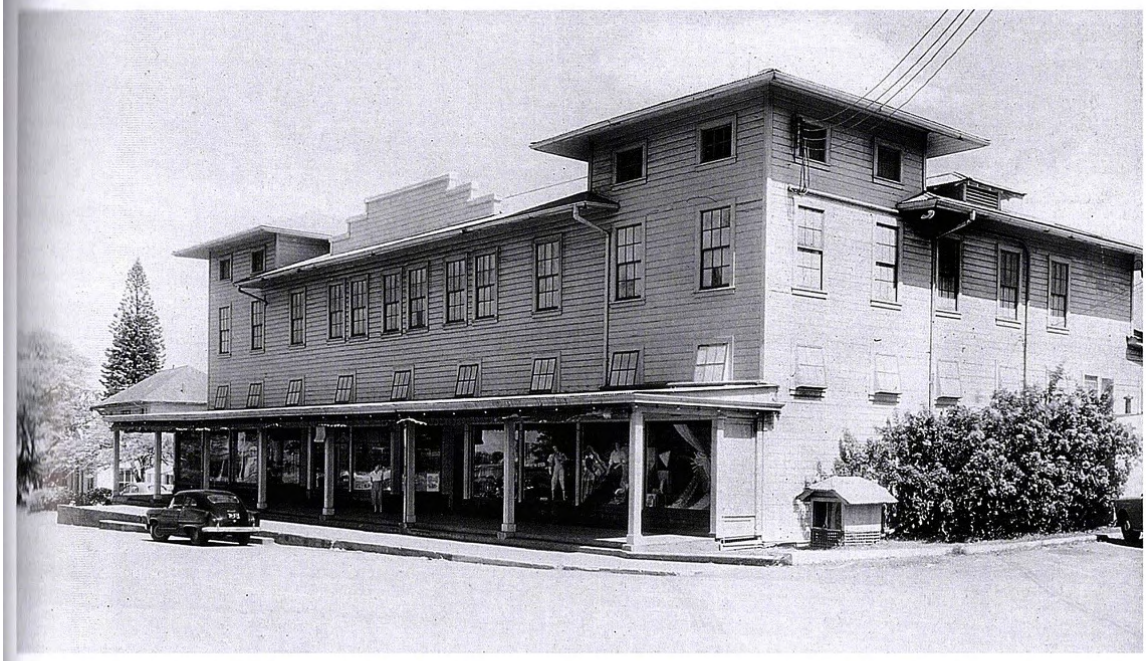
The Stores



Pāʻia Store, built after a fire in 1910 to replace the original 1896 store. Plantation stores sent peddlers into the camps to take orders for delivery and accepted the worker ID tags known as "bangos" for credit purchases. ABSM

23 **Paia Store**
One of the island's largest retailers, Paia Store also operated six branches in outlying camps for the convenience of plantation camp residents. The main store was organized by departments—men's furnishings, dry goods, Japanese foods and other goods. Bookkeeper Tom Dye and assistant manager Andrew Moodie pose here in 1941. The establishment closed in 1961, along with the other Hawaiian Commercial & Sugar Co. plantation stores. Today concrete steps across from Paia Mill still mark the old store's location. *Mary Moodie Collection / Maui Historical Society*

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[illegible] Pāʻia [illegible] and [illegible] Pāʻia and [illegible] in *Exploring Historic Upcountry* [illegible]

[illegible] Kaʻaka and [illegible] Pāʻia Pa[illegible]

- [illegible] Maui [illegible] Kula [illegible] Pāʻia [illegible] Makawao District [illegible] Maui Land and [illegible] MK [illegible] Maui [illegible] Kula [illegible] Pāʻia [illegible] Maui [illegible]

- District [illegible] Maui [illegible] District [illegible] Pāʻia [illegible] District [illegible] Pāʻia [illegible]

- [illegible] a Draft [illegible] a [illegible] Pāʻia Maui [illegible] Maui [illegible] MK [illegible] Maui [illegible]

Chronology of Immigration to Hawaiʻi in the 19th and 20th Centuries

[illegible] Kona and Ka[illegible] Maui [illegible] Kula [illegible] Pāʻia [illegible] Maui [illegible] Kula [illegible] Pāʻia [illegible]

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POPULATION IN 1900 AND IN 1910, BY AGE, GROUPS, SEX, AND COLOR OR RACE—Con.

Color or race.	Under 21 years of age.			21 years of age and over.			All ages.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1910.									
Hawaiian	5,513	5,404	10,917	7,926	7,198	15,124	13,439	12,602	26,041
Caucasian Hawaiian	2,956	2,813	5,769	1,482	1,521	3,003	4,438	4,334	8,772
Asiatic Hawaiian	1,363	1,391	2,754	449	531	980	1,812	1,922	3 734
Portuguese	6,599	6,508	13,107	4,974	4,222	9,196	11,573	10,730	22,303
Porto Rican	1,315	1,216	2,531	1,563	796	2,359	2,878	2,012	4,890
Spanish	610	569	1,179	468	343	811	1,078	912	1,990
Other Caucasian	2,359	2,244	4,603	6,896	3,368	10,264	9,255	5,612	14,867
Chinese	3,453	2,930	6,383	13,695	1,596	15,291	17,148	4,526	21,674
Japanese	12,989	11,016	24,005	41,794	13,875	55,669	54,783	24,891	79,674
Korean	400	306	706	3,531	296	3,827	3,931	602	4,533
Black	14	15	29	106	23	129	120	38	158
Mulatto	177	181	358	118	61	179	295	242	537
All other	1,355	245	1,600	994	142	1,136	2,349	387	2,736
Total	39,103	34,838	73,941	83,996	33,972	117,968	123,099	68,810	191,909

[illegible]

[illegible] Pā‘ia Mi[illegible] akai [illegible] Pā‘ia [illegible] [illegible]

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[illegible] Pā‘ia [illegible] Pā‘ia Ma[illegible] Pā‘ia Ri[illegible] Maka[illegible]

Pā‘ia Hongwanji Temple finished up a daylong celebration of its fiftieth anniversary with *mochi* rice cakes tossed from the roof to members below. ABSM

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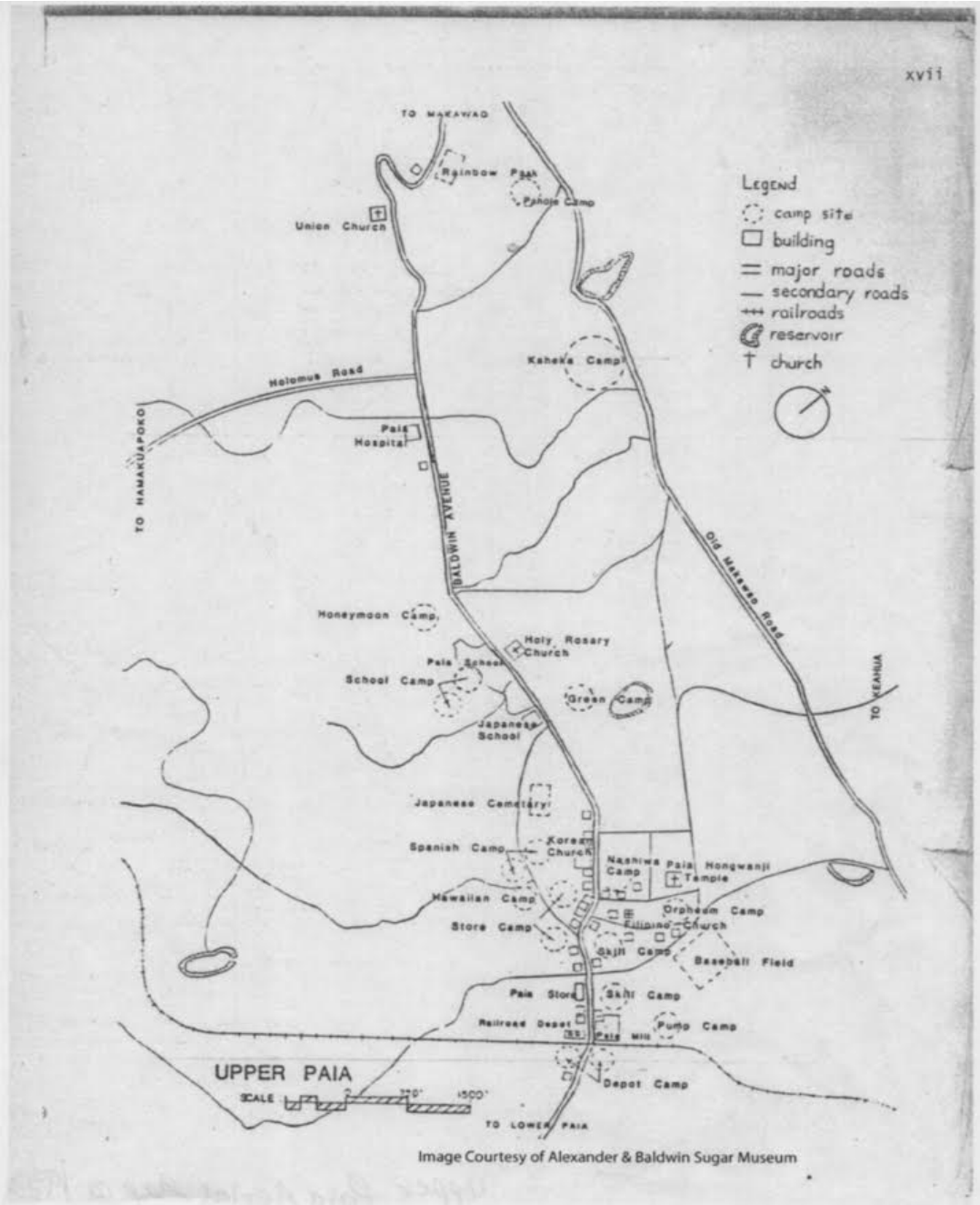

Upper Pāʻia Christian Churches

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End of the Plantation Camp Era

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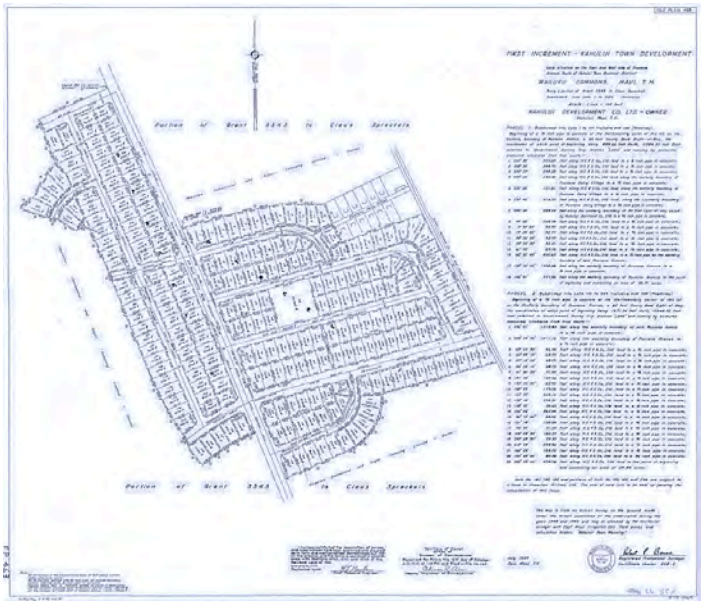

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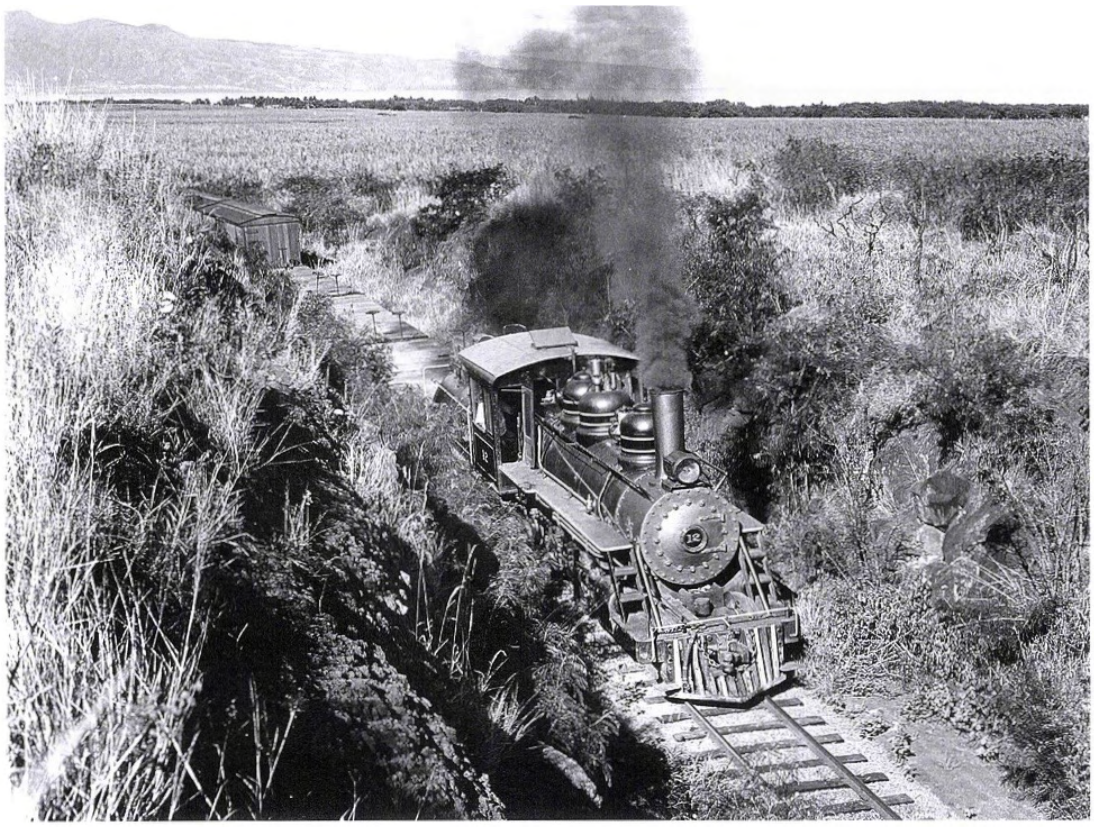

An engine chugs its way between Pā‘ia and Kahului. ABSM

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The Twilight of Hawaiian Sugar

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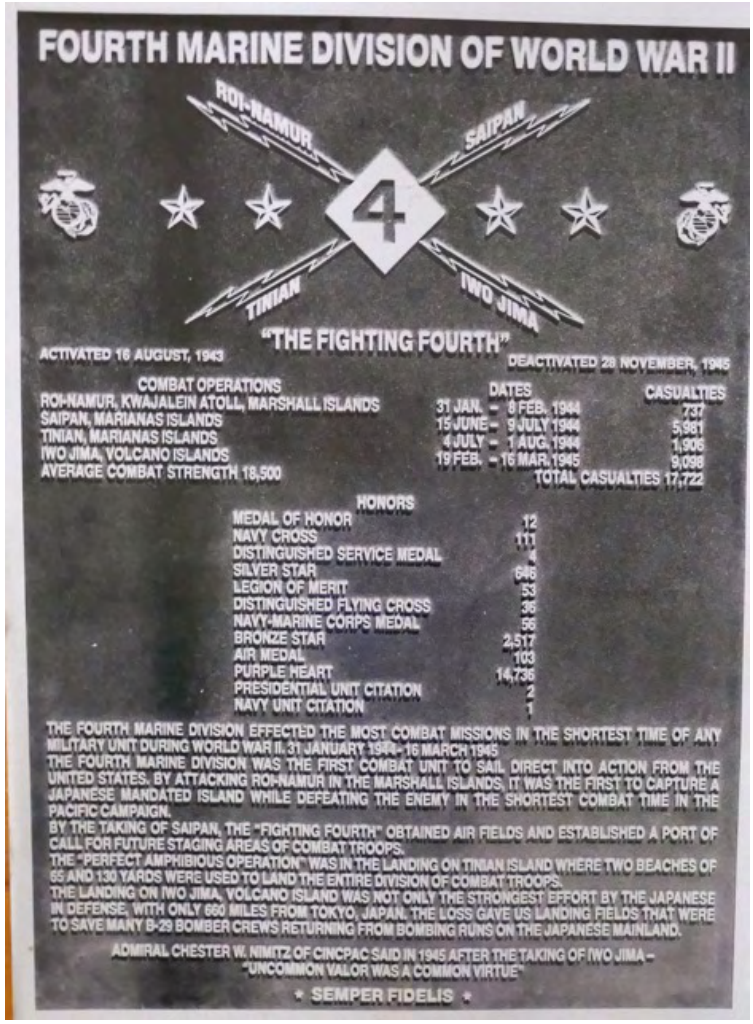

FOURTH MARINE DIVISION OF WORLD WAR II

ROI-NAMUR · SAIPAN · TINIAN · IWO JIMA

"THE FIGHTING FOURTH"

ACTIVATED 16 AUGUST, 1943

DEACTIVATED 28 NOVEMBER, 1945

COMBAT OPERATIONS	DATES	CASUALTIES
ROI-NAMUR, KWAJALEIN ATOLL, MARSHALL ISLANDS	31 JAN. – 8 FEB. 1944	737
SAIPAN, MARIANAS ISLANDS	15 JUNE – 9 JULY 1944	5,981
TINIAN, MARIANAS ISLANDS	4 JULY – 1 AUG. 1944	1,906
IWO JIMA, VOLCANO ISLANDS	19 FEB. – 16 MAR. 1945	9,098
AVERAGE COMBAT STRENGTH 18,500		TOTAL CASUALTIES 17,722

HONORS	
MEDAL OF HONOR	12
NAVY CROSS	111
DISTINGUISHED SERVICE MEDAL	4
SILVER STAR	646
LEGION OF MERIT	53
DISTINGUISHED FLYING CROSS	36
NAVY-MARINE CORPS MEDAL	56
BRONZE STAR	2,517
AIR MEDAL	103
PURPLE HEART	14,736
PRESIDENTIAL UNIT CITATION	2
NAVY UNIT CITATION	1

THE FOURTH MARINE DIVISION EFFECTED THE MOST COMBAT MISSIONS IN THE SHORTEST TIME OF ANY MILITARY UNIT DURING WORLD WAR II. 31 JANUARY 1944 – 16 MARCH 1945

THE FOURTH MARINE DIVISION WAS THE FIRST COMBAT UNIT TO SAIL DIRECT INTO ACTION FROM THE UNITED STATES. BY ATTACKING ROI-NAMUR IN THE MARSHALL ISLANDS, IT WAS THE FIRST TO CAPTURE A JAPANESE MANDATED ISLAND WHILE DEFEATING THE ENEMY IN THE SHORTEST COMBAT TIME IN THE PACIFIC CAMPAIGN.

BY THE TAKING OF SAIPAN, THE "FIGHTING FOURTH" OBTAINED AIR FIELDS AND ESTABLISHED A PORT OF CALL FOR FUTURE STAGING AREAS OF COMBAT TROOPS.

THE "PERFECT AMPHIBIOUS OPERATION" WAS IN THE LANDING ON TINIAN ISLAND WHERE TWO BEACHES OF 65 AND 130 YARDS WERE USED TO LAND THE ENTIRE DIVISION OF COMBAT TROOPS.

THE LANDING ON IWO JIMA, VOLCANO ISLAND WAS NOT ONLY THE STRONGEST EFFORT BY THE JAPANESE IN DEFENSE, WITH ONLY 660 MILES FROM TOKYO, JAPAN. THE LOSS GAVE US LANDING FIELDS THAT WERE TO SAVE MANY B-29 BOMBER CREWS RETURNING FROM BOMBING RUNS ON THE JAPANESE MAINLAND.

ADMIRAL CHESTER W. NIMITZ OF CINCPAC SAID IN 1945 AFTER THE TAKING OF IWO JIMA – "UNCOMMON VALOR WAS A COMMON VIRTUE"

* SEMPER FIDELIS *

Camp Maui and the "Fighting Fourth" 4th marine Division in WWII

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APPENDIX E
PRELIMINARY ENGINEERING AND DRAINAGE REPORT

PRELIMINARY ENGINEERING REPORT

FOR

LA`AKEA COMMUNITY FARM

Paia, Maui, Hawaii

T.M.K.: (2) 2-5-005: 030

Prepared for:

Andrea Hall Rodgers
La`akea
P.O. Box 790994
Paia, Hawaii 96779

Prepared by:

OTOMO
ENGINEERING, INC.

CONSULTING CIVIL ENGINEERS
305 SOUTH HIGH STREET, SUITE 102
WAILUKU, MAUI, HAWAII 96793
PHONE: (808) 242-0032

January 2018

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PRELIMINARY ENGINEERING REPORT
FOR
LA`AKEA COMMUNITY FARM
T.M.K.: (2) 2-5-005: 030

1.0 INTRODUCTION

The purpose of this report is to provide information on the existing infrastructure, which will be servicing the proposed project and to also evaluate the adequacy of the existing infrastructure and anticipated improvements, which may be required for the proposed project.

The subject parcel is identified as T.M.K.: (2) 2-5-005: 030, which encompasses an area of approximately 12.203 acres. The project site is bound by Baldwin Avenue to the south and abandoned cane fields to the north, east, and west.

The existing site is currently developed and used for farming, the La`akea Foundation's office, outdoor spaces for its day program activities, and a farm stand.

The proposed development is an 18-unit affordable housing project, consisting of ten (10) one-bedroom units, five (5) two-bedroom units, and three (3) nine-bedroom units. Onsite amenities will include a yoga/dance studio, meeting spaces, and a recreational community center. Associated improvements include grading, driveways, paved parking, utility connections, and landscaping.

2.0 EXISTING INFRASTRUCTURE

2.1 ROADWAYS

Hana Highway, to the north of the project, is a two-way, two-lane roadway owned by the State of Hawaii. It is the roadway that links Central and East Maui. At its terminus in Kahului, near Maui Mall, Hana Highway transitions into Kaahumanu Avenue.

Baldwin Avenue is a two-way, two-lane collector roadway between Paia Town and Makawao. It begins west of the project site at its intersection with Hana Highway and continues to Makawao where it transitions into Olinda Road at Makawao Avenue. The project currently has two driveways coming off Baldwin Avenue.

The Paia Bypass Road is a one-lane, one-way eastbound roadway from Hana Highway west of Paia Town to Baldwin Avenue.

2.2 DRAINAGE

The elevations on the site range from approximately 246 feet above mean sea level along the parcel's westerly boundary to approximately 300 feet above mean sea level at the parcel's northeasterly corner. Slopes on the parcel average approximately 4.9%.

According to Panel Number 150003 0408E the Flood Insurance Rate Map, revised September 25, 2009, prepared by the United States Federal Emergency Management Agency, the subject parcel is situated in Flood Zone X, which represents areas that are outside of the 0.2% annual chance flood plain.

According to the Soil Survey Geographic Database for the Island of Maui, State of Hawaii (September 2014), prepared by the United States Department of Agriculture, Natural Resources Conservation Service, the soils within the project site are classified as Paia silty clay, 3 to 7 percent slopes (PcB). PcB is characterized as having moderate permeability, slow runoff, and slight erosion hazard.

Onsite runoff generally sheet flows in a southeast to northwest direction across the property, toward adjoining properties to the northwest. It is estimated that the existing 50-year, 1-hour storm

runoff from the project site is 12.64 cfs, corresponding to a runoff volume of 23,508 cf.

2.3 SEWER

There are no County wastewater facilities currently serving this area. There is an existing septic system serving the property and its current uses. The existing upper Paia community residences are serviced by individual private wastewater systems.

2.4 WATER

Domestic water and fire flow is provided by the County's water system. There are existing 6-inch, 8-inch, and 12-inch waterlines fronting the property along Baldwin Avenue. There is an existing fire hydrant along Baldwin Avenue, across the existing driveway. There is an existing 1-inch water meter presently serving to this parcel.

Domestic water and fire flow for this area are serviced from the 300,000-gallon tank on Baldwin Avenue located at approximately 465 feet above mean sea level. The source for the water system is the Mokuhau wells located in Happy Valley.

2.5 ELECTRIC, TELEPHONE, AND CABLE TV

There are existing overhead electrical, cable, and telephone lines along Baldwin Avenue that service the area.

3.0 ANTICIPATED INFRASTRUCTURE IMPROVEMENTS

3.1 ROADWAYS

Access for the proposed project will be from the existing westerly driveway and a new driveway mauka of the existing easterly driveway.

The following are the recommendations and conclusions from the Draft Traffic Assessment prepared by The Traffic Management Consultant dated December 7, 2017:

- Traffic mitigation measures are not recommended at this time.
- The PM peak hour traffic volumes at the intersection of Hana Highway and Baldwin Avenue with the proposed project are not expected to meet the AASHTO volume guide for an exclusive left-turn lane on northbound Hana Highway.
- The intersections of Hana Highway at Baldwin Avenue and the Paia Bypass Road at Baldwin Avenue are not expected to be significantly impacted by the development of the proposed La`akea Community Farm during the AM and PM peak hours of traffic.
- The site access driveways on Baldwin Avenue are expected to operate at satisfactory Levels of Service during the AM and PM peak hours of traffic with the proposed project.

3.2 DRAINAGE

After the development of the proposed project, it is estimated that the 50-year, 1-hour storm runoff will be 20.94 cfs, corresponding to a runoff volume of 45,238 cf. The increase in runoff will be 8.30 cfs, corresponding to an increase in runoff volume of approximately 21,730 cf (45,238 cf - 23,508 cf).

The project will not involve significant alterations to the existing drainage pattern. Runoff from the project site will be collected by various methods, such as vegetated swales and/or grated inlet catch basins and conveyed to onsite retention basins at various locations on the property. The proposed total retention system will accommodate at least the increase in surface runoff due to the proposed development. The retention basins will be located in areas to minimize direct release of surface runoff into downstream

properties. Overflow from the retention basins will be allowed to continue downstream along the existing drainage pattern and will therefore not have an adverse effect on downstream properties.

The design intent of the development plan will be to utilize the existing topography as much as possible and limit the need for extensive grading. Development of the project will include the implementation of site specific best management practices (BMPs) during construction to provide erosion control and minimize impacts to downstream properties. BMPs may include:

1. Prevention of cement products, oil, fuel, and other toxic substances from falling or leaching into the water.
2. Prompt and proper disposal of all loosened and excavated soil and debris material from drainage structure work.
3. Retention of existing ground cover until the last possible date.
4. Stabilization of denuded areas by sodding or planting as soon as possible.
5. Implementation of sediment trapping measures and basins.
6. Control of access and vehicular movement across disturbed areas.
7. Early construction of drainage features.
8. Minimization of construction time.

The project will also include post-construction BMPs, which will improve the quality of storm water runoff from the proposed development.

The proposed drainage and BMP plan will be designed in accordance with Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui and Chapter 111, Rules for the Design of Storm Water Treatment Best Management Practices.

3.3 SEWER

The community area will be required to install its own individual wastewater system designed to meet the requirements of the State of Hawaii, Department of Health. Permits will be applied for with the building permit.

3.4 WATER

In accordance with the Department of Water Supply's Domestic Consumption Guidelines, the average daily demand for the project is approximately 54,970 gallons per day (See Appendix B). Fire flow demand for the residential development is 1,500 gallons per minute for a 2-hour duration.

There is an existing fire hydrant along Baldwin Avenue, across the existing driveway.

Domestic water and fire flow calculations will be prepared and submitted during the building permit process. Water meter and fire protection improvements will be made as necessary to meet the requirements of the Department of Water Supply and Fire Department.

3.5 ELECTRIC, TELEPHONE, AND CABLE TV

The proposed electrical, telephone, and cable TV distribution systems for the proposed development will be installed from the existing overhead facilities on Baldwin Avenue that currently service the area and existing onsite facilities. Within the project site, the electric and telephone systems will be installed in accordance with the utility companies' rules and regulations.

APPENDIX A

HYDROLOGIC CALCULATIONS

Hydrologic Calculations

Purpose: Determine the increase in onsite surface runoff due to the development of the project site based on a 50-year, 1-hour storm.

A. Determine the Runoff Coefficient (C):

DRAINAGE AREA CHARACTERISTICS:

ROOF AREAS:

Infiltration (Negligible)	=	0.20
Relief (Hilly)	=	0.06
Vegetal Cover (None)	=	0.07
Development Type (Roof)	=	0.55
C	=	0.88

PAVEMENT AREAS:

Infiltration (Negligible)	=	0.20
Relief (Flat)	=	0.00
Vegetal Cover (None)	=	0.07
Development Type (Pavement)	=	0.55
C	=	0.82

LANDSCAPE/UNIMPROVED AREAS:

Infiltration (Medium)	=	0.07
Relief (Flat)	=	0.00
Vegetal Cover (Good)	=	0.03
Development Type (Landscape)	=	0.15
C	=	0.25

EXISTING CONDITION:

Roof Area = 0.127 Acres
Paved Area = 0.206 Acres
Landscaped Area = 11.870 Acres
WEIGHTED C = 0.27

DEVELOPED CONDITION:

Roof Area = 1.096 Acres
Paved Area = 2.000 Acres
Landscaped Area = 9.107 Acres
WEIGHTED C = 0.40

B. Determine the 50-year 1-hour rainfall:

i_{50} = 2.8 inches

Adjust for time of concentration to compute Rainfall Intensity (I):

Existing Condition:

T_c = 31 minutes
I = 3.836 inches/hour

Developed Condition:

T_c = 24 minutes
I = 4.291 inches/hour

C. Drainage Area (A) = 12.203 Acres

D. Compute the 50-year storm runoff volume (Q):

Q = CIA

Existing Conditions:

Q = (0.27)(3.836)(12.203)
= 12.64 cfs

Developed Conditions:

$$Q = (0.40)(4.291)(12.203)$$

$$= 20.94 \text{ cfs}$$

The increase in runoff from a 50-year, 1-hour storm is expected to be 20.94 cfs - 12.64 cfs = 8.30 cfs due to the development of the proposed project. The corresponding storage volume is 45,238 cubic feet - 23,508 cubic feet = 21,730 cubic feet.

Hydrograph Report

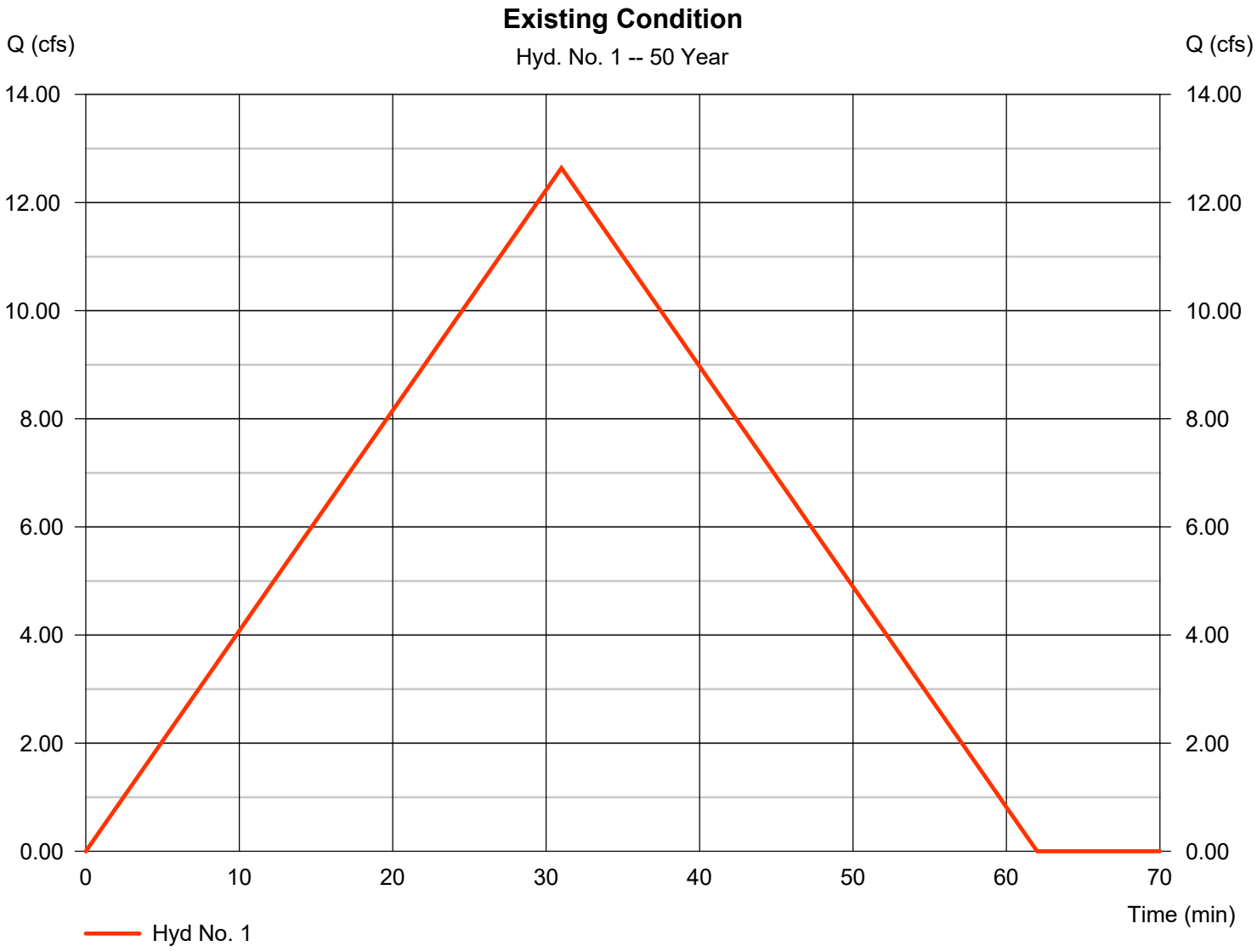
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v11 Wednesday, 01 / 17 / 2018

Hyd. No. 1

Existing Condition

Hydrograph type	= Rational	Peak discharge	= 12.64 cfs
Storm frequency	= 50 yrs	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 23,508 cuft
Drainage area	= 12.203 ac	Runoff coeff.	= 0.27*
Intensity	= 3.836 in/hr	Tc by User	= 31.00 min
IDF Curve	= 2-8.IDF	Asc/Rec limb fact	= 1/1

* Composite (Area/C) = [(0.127 x 0.88) + (0.206 x 0.82) + (11.870 x 0.25)] / 12.203



Hydrograph Report

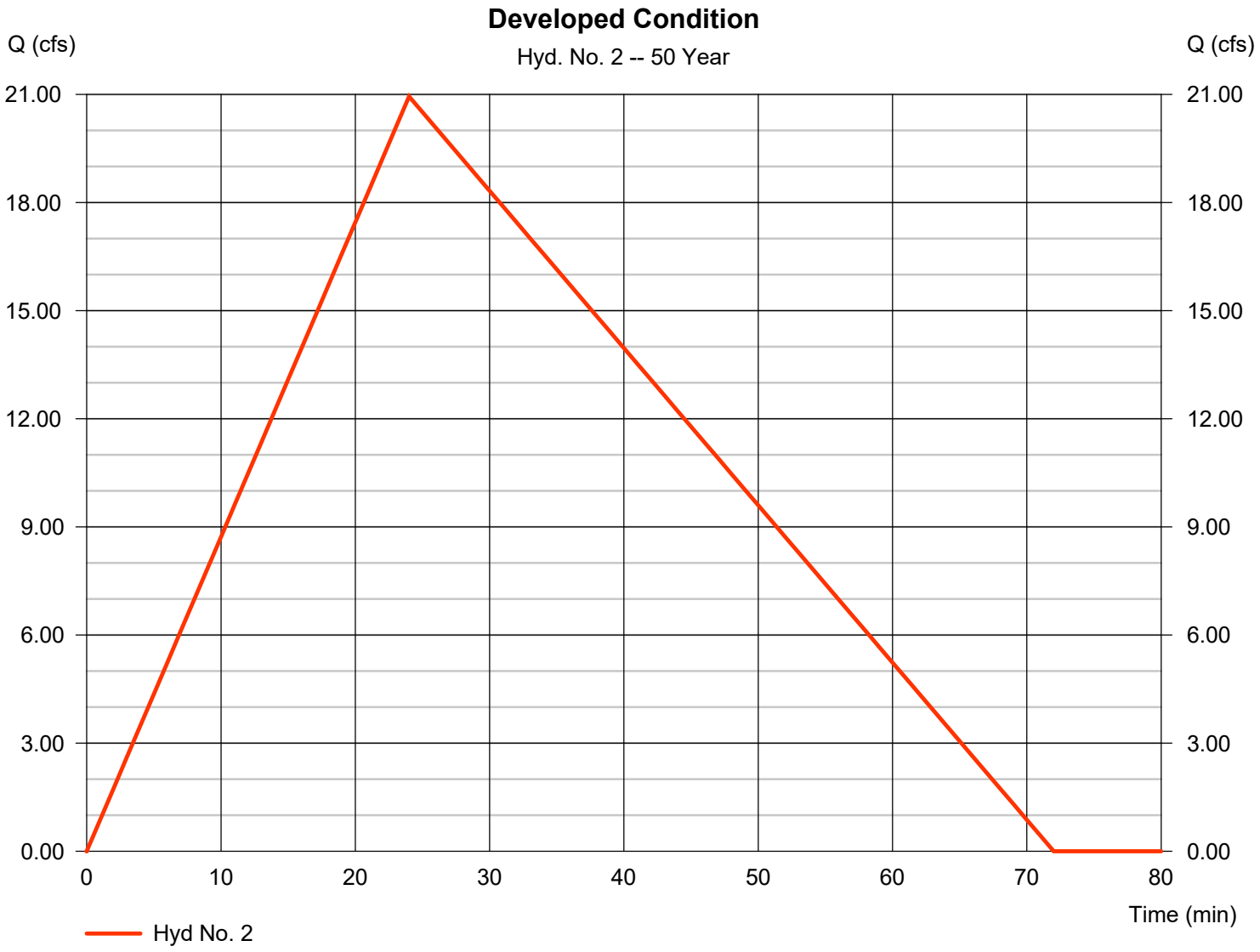
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v11 Wednesday, 01 / 17 / 2018

Hyd. No. 2

Developed Condition

Hydrograph type	= Rational	Peak discharge	= 20.94 cfs
Storm frequency	= 50 yrs	Time to peak	= 24 min
Time interval	= 1 min	Hyd. volume	= 45,238 cuft
Drainage area	= 12.203 ac	Runoff coeff.	= 0.4*
Intensity	= 4.291 in/hr	Tc by User	= 24.00 min
IDF Curve	= 2-8.IDF	Asc/Rec limb fact	= 1/2

* Composite (Area/C) = [(1.096 x 0.88) + (2.000 x 0.82) + (9.107 x 0.25)] / 12.203



APPENDIX B

WATER DEMAND CALCULATIONS

WATER DEMAND CALCULATIONS

Project Data:

6.043 acres Agriculture

6.160 acres Residential:

- 15 single-family residences (one and two bedrooms)
- 3 multi-family residences (nine units/residence)
- Administration Stand (384 sf)
- Ability Center (1,748 sf)
- Activity Center (2,400 sf)

Daily Consumption Guidelines (per 2002 Water System Standards):

Agriculture = 5,000 gallons/acre

Single Family Residential = 600 gallons/unit or 3,000 gallons/acre

Multi-family Low Rise = 560 gallons/unit or 5,000 gallons/acre

Commercial/Residential Mix = 140 gallons/1,000 sf

Average Daily Demand (ADD):

Agriculture = 5,000 gallons/acre x 6.043 acres = 30,215 gallons

Residential = 3,000 gallons/acre x 6.160 acres = 18,480 gallons

OR

Single Family = 600 gallons/unit x 15 units = 9,000 gallons

+

Multi Family = 560 gallons/unit x 27 units = 15,120 gallons

+

Commercial/Residential = 140 gallons/1,000 sf x (384 sf + 1,748 sf + 2,400 sf)

= 635 gallons

Residential = 24,755 gallons

Average Daily Demand is 54,970 gallons.

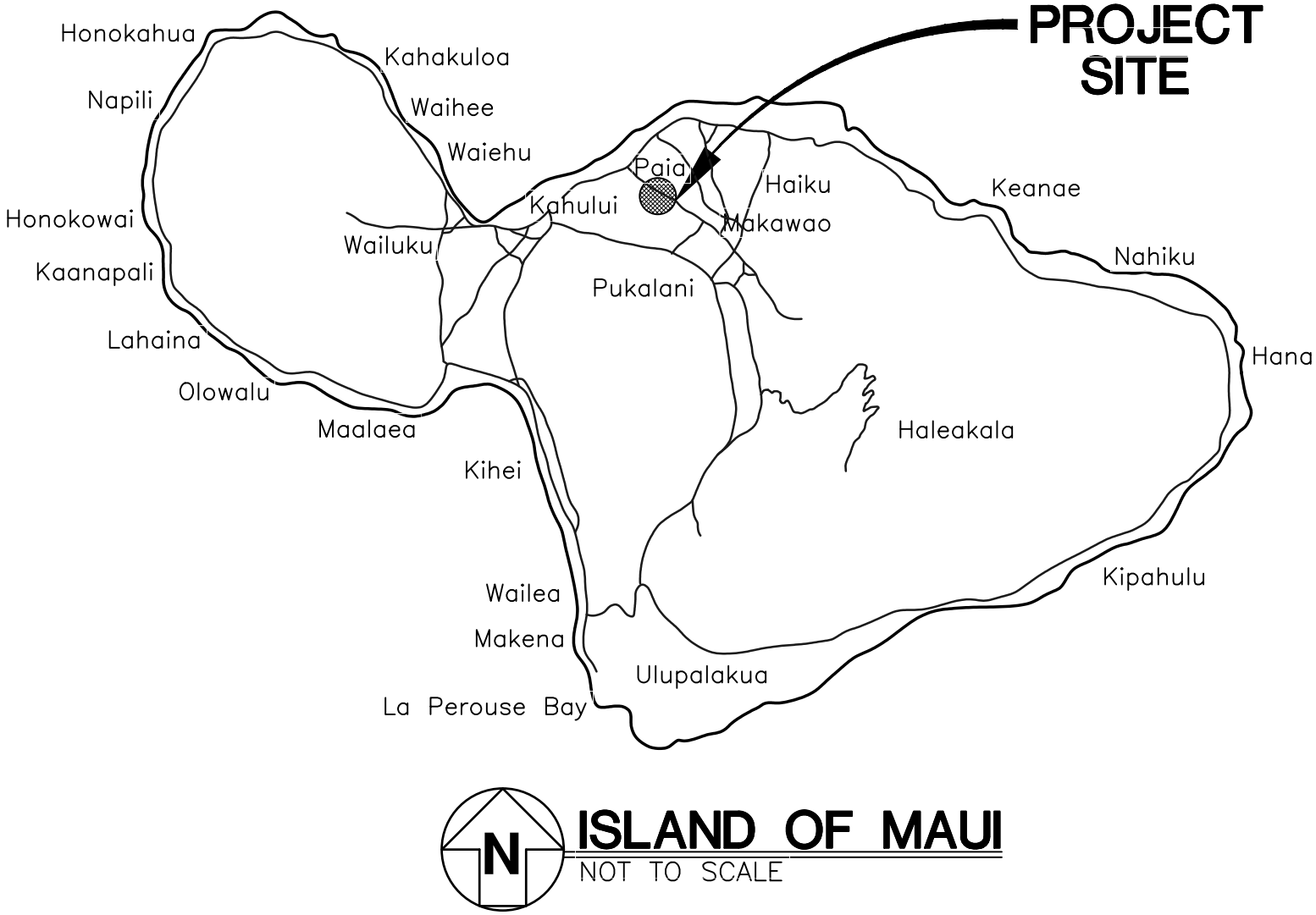
EXHIBITS

1 Location Map

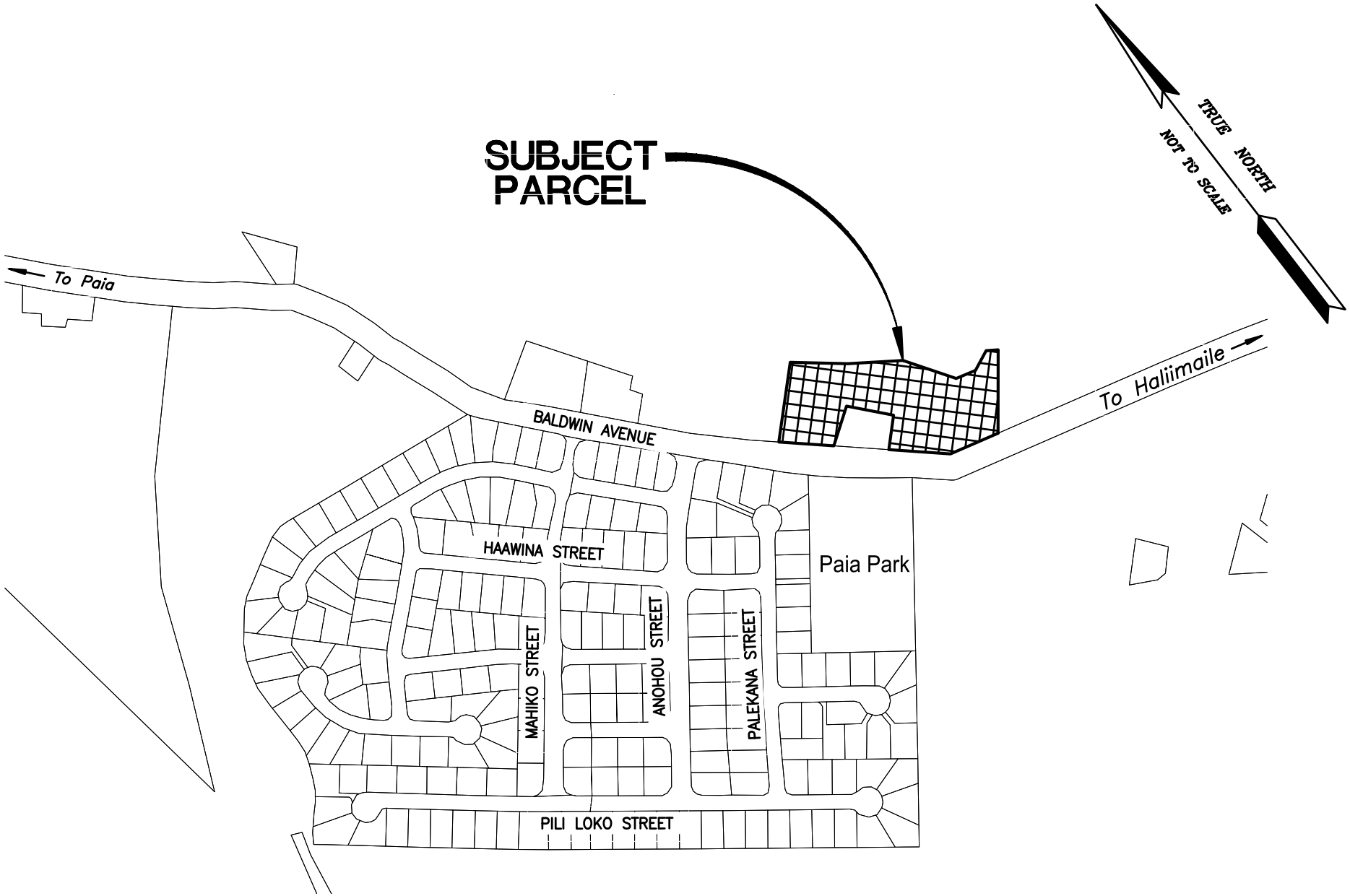
2 Vicinity Map

3 Soil Survey Map

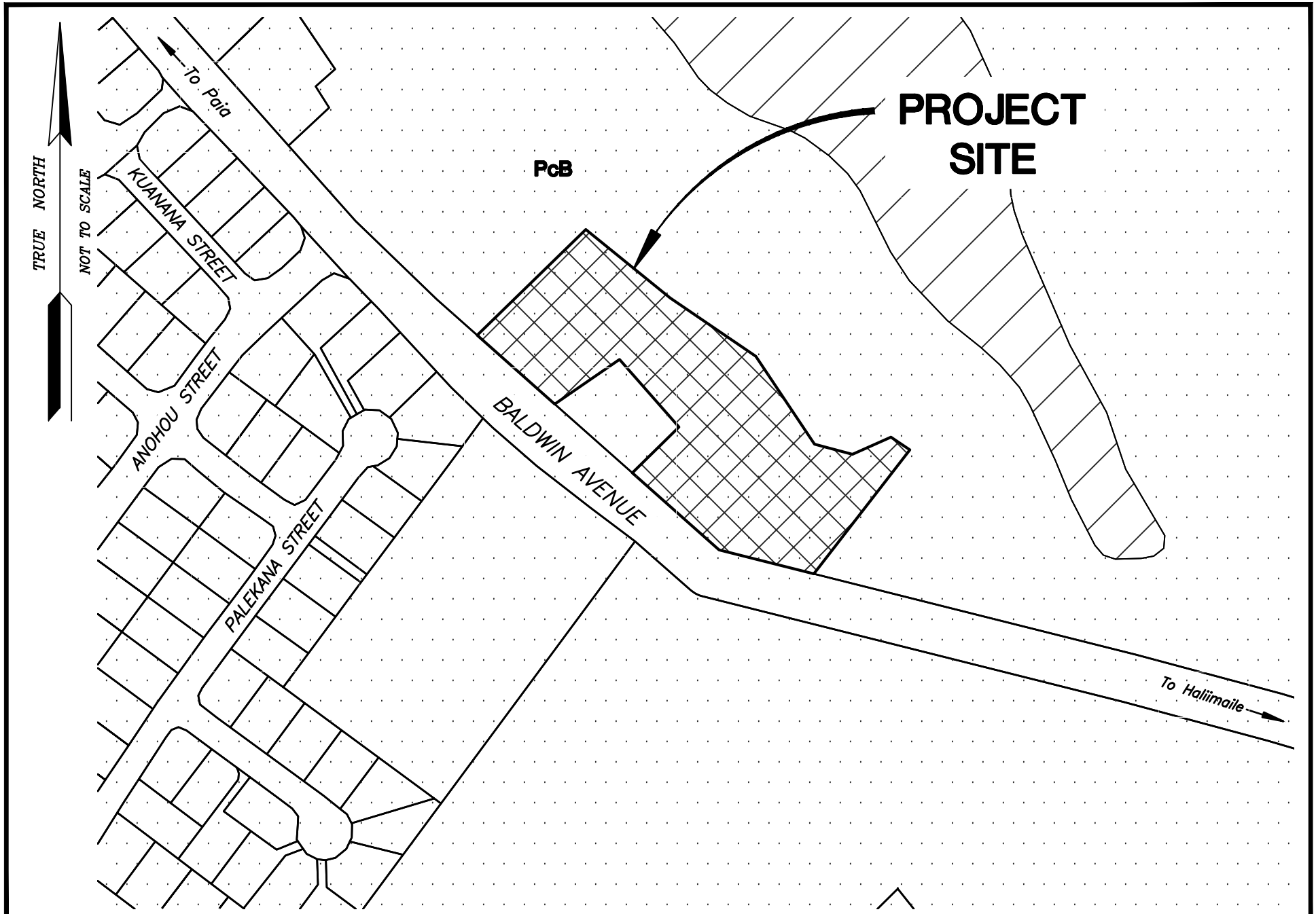
4 Flood Insurance Rate Map



LOCATION MAP
EXHIBIT 1



VICINITY MAP
EXHIBIT 2



SOIL SURVEY MAP
EXHIBIT 3

Flood Hazard Assessment Report

www.hawaiinfip.org

Property Information

COUNTY:	MAUI
TMK NO:	(2) 2-5-005:030
WATERSHED:	MALIKO
PARCEL ADDRESS:	639 BALDWIN AVE PAIA, HI 96779

Notes:

Flood Hazard Information

FIRM INDEX DATE:	NOVEMBER 04, 2015
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL:	1500030408E
PANEL EFFECTIVE DATE:	SEPTEMBER 25, 2009

THIS PROPERTY IS WITHIN A TSUNAMI EVACUTION ZONE: NO
FOR MORE INFO, VISIT: http://www.scd.hawaii.gov/

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: YES (MA-0070; MA-0071; MA-0072; MA-0073; MA-0074)
FOR MORE INFO, VISIT: http://dlnreng.hawaii.gov/dam/

0 200 400 ft

Disclaimer: The Hawaii Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use, accuracy, completeness, and timeliness of any information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR, its officers, and employees from any liability which may arise from its use of its data or information.

If this map has been identified as 'PRELIMINARY', please note that it is being provided for informational purposes and is not to be used for flood insurance rating. Contact your county floodplain manager for flood zone determinations to be used for compliance with local floodplain management regulations.

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND
(*Note: legend does not correspond with NFHL)*

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- **Zone A**: No BFE determined.
- **Zone AE**: BFE determined.
- **Zone AH**: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- **Zone AO**: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- **Zone V**: Coastal flood zone with velocity hazard (wave action); no BFE determined.
- **Zone VE**: Coastal flood zone with velocity hazard (wave action); BFE determined.
- **Zone AEF**: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- **Zone XS (X shaded)**: Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- **Zone X**: Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

- **Zone D**: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.

APPENDIX F
TRAFFIC ASSESSMENT REPORT

DRAFT TRAFFIC ASSESSMENT REPORT

FOR THE PROPOSED

LA`A KEA COMMUNITY FARM

TAX MAP KEY: (2) 2-5-005:030

PAIA, MAUI, HAWAII

I. Introduction

A. Project Description

The La`a Kea Foundation is proposing to develop an eighteen-unit affordable residential housing project on its property in Paia, Maui, Hawaii. The proposed residential project will consist of ten (10) one-bedroom detached units, five (5) two-bedroom detached units, and three (3) nine-bedroom detached units, for a total of 47 bedrooms. The one-bedroom units will contain one person per unit. The two-bedroom units will contain up to three persons per unit. The nine-bedroom unit will contain 9 persons.

Onsite amenities will include a yoga/dance studio, meeting spaces, and a recreational community center in several structures totaling about 4,220 square feet of gross floor area (SFGFA). The agricultural facilities for processing and storage will total about 10,000 SFGFA. The agricultural activities of the proposed project are expected to employ up to 30 persons. For the purpose of this Traffic Assessment Report, the proposed project is expected to be fully built out and occupied by the Year 2027.

The 12.203-acre property is identified as Tax Map Key: (2) 2-5-005:030. Access will be provided by two (2) existing one-way driveways on Baldwin Avenue. Figure 1 depicts the location map. The property is depicted on the Tax Map on Figure 2. The site plan is depicted on Figure 3.

The existing site is currently used for farming, The La`a Kea Foundation's main headquarters and office, a farm stand, and outdoor spaces for their day program activities.

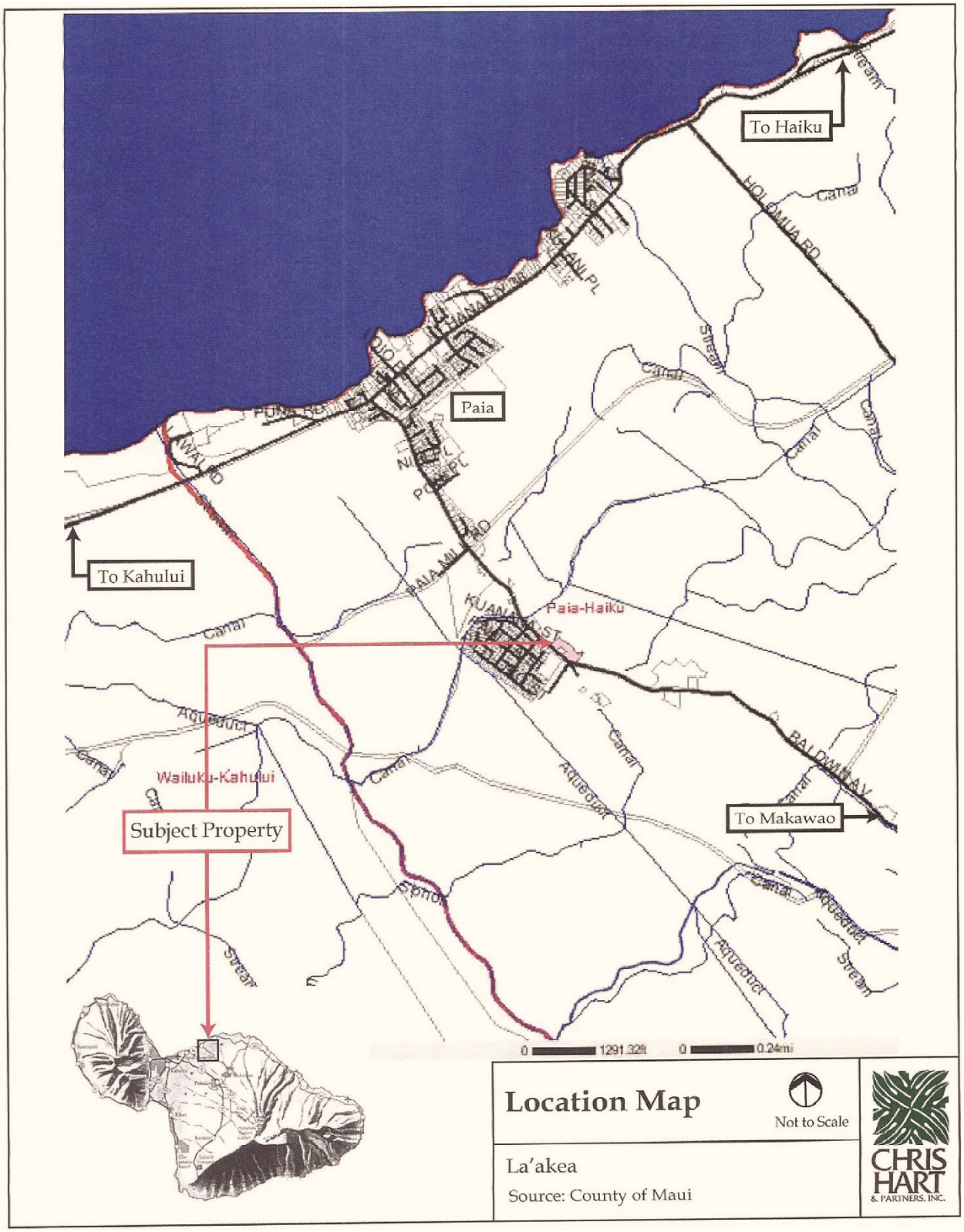


Figure 1. Location Map

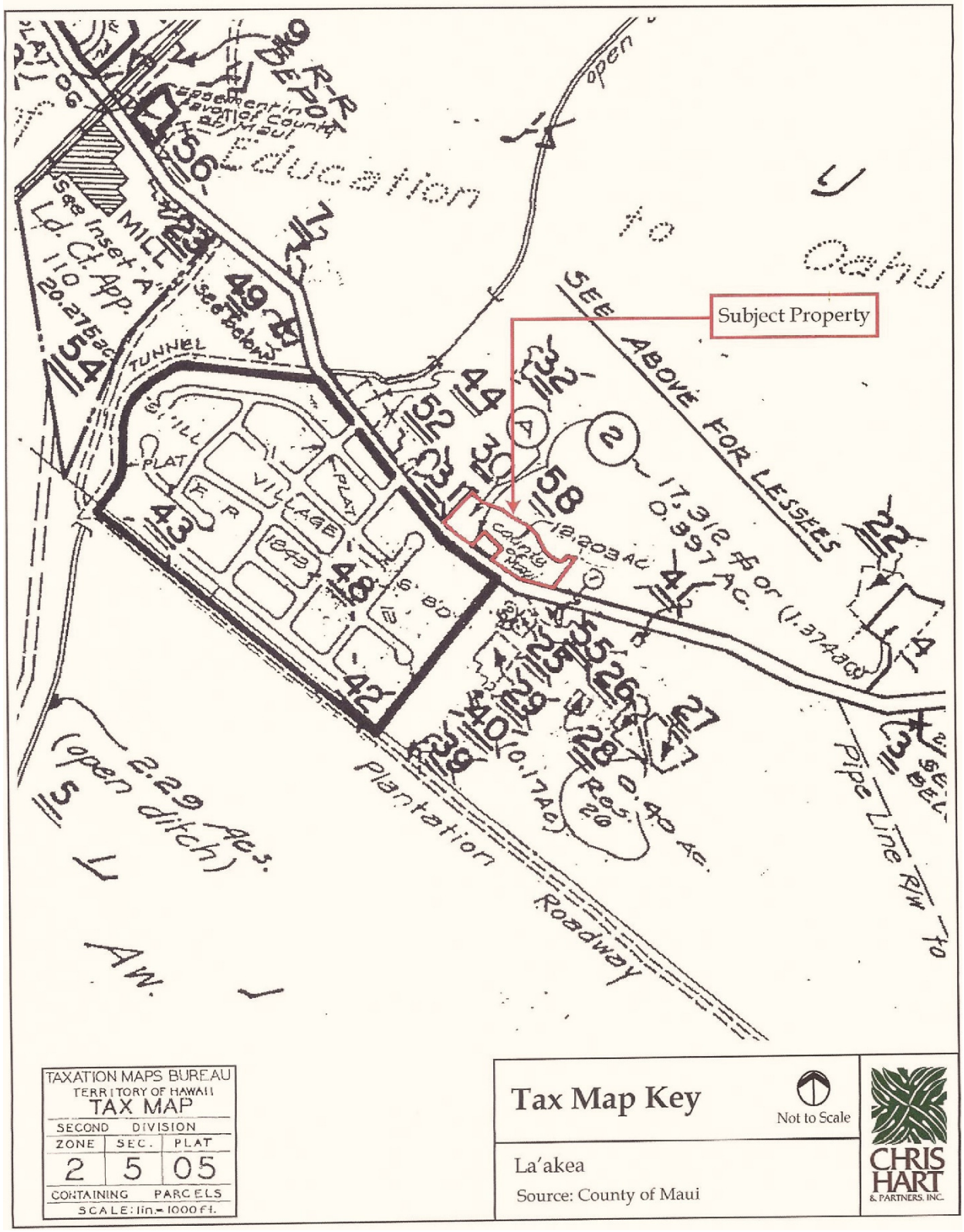


Figure 2. Tax Map

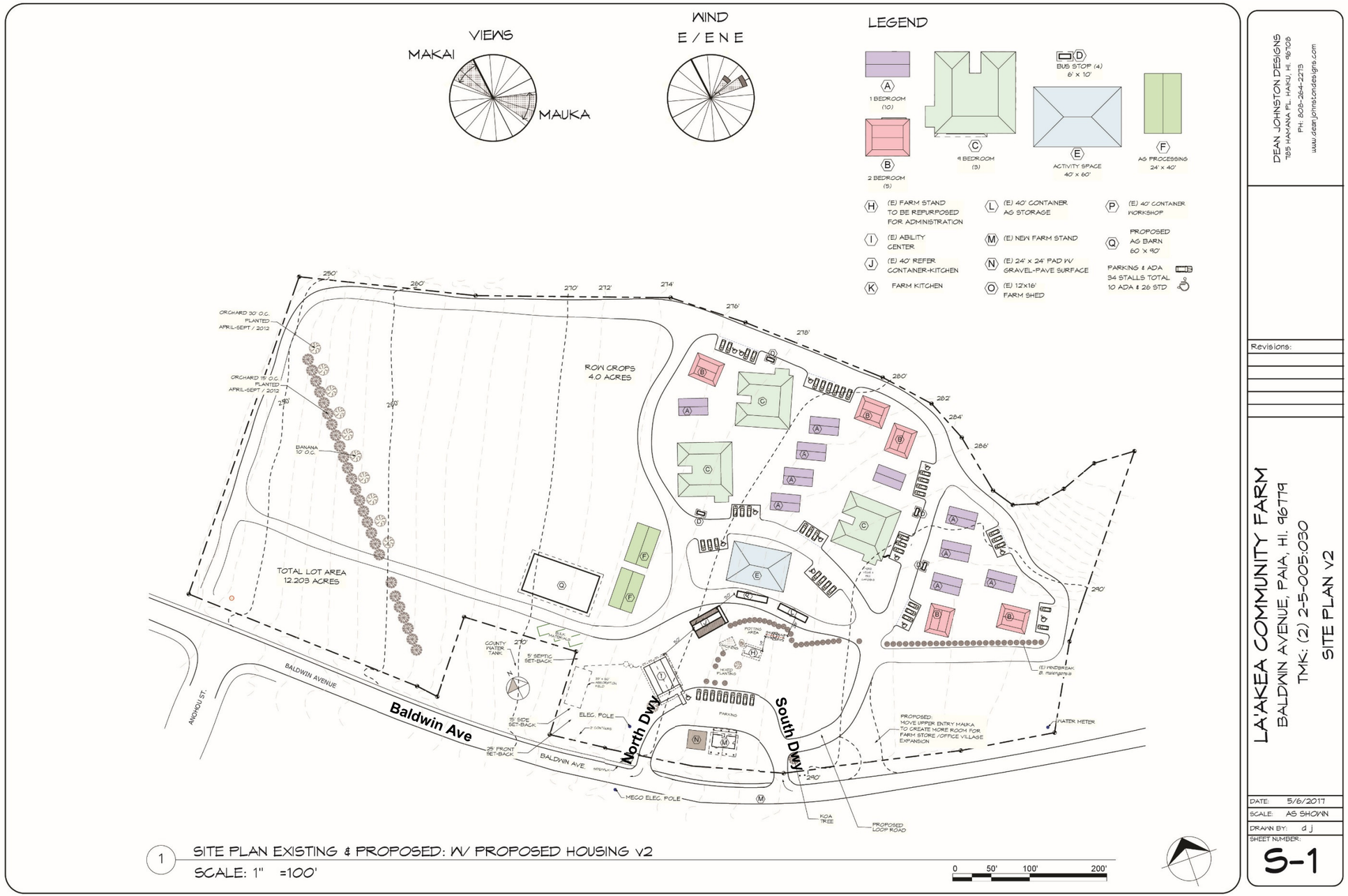


Figure 2. Site Plan

B. Purpose and Scope of the Study

The purpose of this study is to assess the traffic impacts resulting from the proposed development of the La`a Kea Community Farm. This report presents the findings and recommendations of the study. The scope of this study includes:

1. Evaluation of the existing roadways and the AM and PM peak hour traffic conditions.
2. Development of the trip generation characteristics of the proposed project.
3. Analysis of the 2027 traffic conditions without the proposed project.
4. Identification and assessment of traffic impacts resulting from the development and full occupancy of the proposed project.
5. Recommendation of measures, as necessary, that would mitigate the traffic impacts identified in this study.

C. Methodologies

1. Capacity Analysis Methodology

The highway capacity analysis, performed in this study, is based upon procedures presented in the Highway Capacity Manual, 6th Edition (HCM6), published by the Transportation Research Board. HCM6 defines the Level of Service (LOS) as "a quantitative stratification of a performance measure or measures representing quality of service." HCM6 defines the six (6) Levels of Service from the traveler's perspective, ranging from the best LOS "A" to the worst LOS "F". LOS translates the complex mathematical results of highway capacity analysis into an A through F grading system to simplify the roadway performance for non-technical decision makers.

LOS's "A", "B", and "C" are considered satisfactory Levels of Service. LOS "D" is generally considered a "desirable minimum" operating Level of Service. LOS's "E" and "F" are undesirable conditions. Intersection LOS is primarily based upon average delay (d) in seconds per vehicle (sec/veh). The LOS delays at unsignalized intersections, which includes stop-controlled intersections and roundabouts, are generally shorter than signalized intersections, due to the drivers' expectation and acceptance of longer delays at higher-volume signalized intersections. Table 1 summarizes the HCM6 LOS criteria.

Table 1. Intersection Level of Service Criteria (HCM6)			
LOS	**Signalized Control**	**Unsignalized Control**	**Description**
	Delay d (sec/veh)		
A	d≤10	d≤10	Control delay is minimal.
B	10<d ≤20	10<d≤15	Control delay is not significant.
C	20<d≤35	15<d≤25	Stable operation. Queuing begins to occur.
D	35<d≤55	25<d≤35	Less stable condition. Increase in delays, decrease in travel speeds.
E	55<d≤80	35<d≤50	Unstable operation, significant delays.
F	d>80	d>50	High delays, extensive queuing.

HCM6 utilizes a peak hour factor (PHF), which converts the peak 15-minute traffic volume into an hourly volume. For the purpose of this study, the peak hour traffic analysis is based directly upon the peak 15-minute traffic flows entering the study intersection, which is multiplied by four (4) to convert the 15-minute peak volumes into 60-minute peak volumes.

Synchro is a traffic analysis software that was developed by Trafficware Corporation. Synchro is an intersection analysis program that is based upon the HCM6 methodology. Synchro was used to calculate the Levels of Service for the intersections in the study area. Worksheets for the capacity analysis, performed throughout this report, are compiled in the Appendix.

2. Trip Generation

The trip generation methodology is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in Trip Generation, 9th Edition. The ITE trip rates are developed by correlating the total vehicle trip generation data with various activity/land use characteristics, such as the vehicle trips per hour (vph) per 1,000 square feet of gross floor area. The trip generation characteristics for the proposed project are based upon the ITE trip rates during the peak hours of adjacent street traffic for a single-family detached housing and for a recreational community center. ITE does not publish trip generation rates for agricultural activities. The trip rates for agricultural activities were based upon a previous study prepared by The Traffic Management Consultant for agricultural activities on the island of Oahu.

3. Left-Turn Lane Guide

The left-turn lane assessment on a two-lane highway is based upon A Policy on Geometric Design of Highways and Streets, 2011, published by the American Association of State Highway and Transportation Officials (AASHTO). The AASHTO guide analyzes the combination of the left-turn volume (minimum of 5 percent of the advancing volume), the advancing volume (left-turn, through and right-turn volume totals), the opposing volume (left-turn, through and right-turn volume totals), and operating speed (minimum 40 miles per hour). The AASHTO guide is based upon the "Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections", Highway Research Record 211, Highway Research Board, 1967, by M. D. Harmelink. The Harmelink left-turn volume warrant analyzes the probability of the arrival of an advancing vehicle slowing and/or stopping behind a vehicle, that is waiting to turn left from the through lane.

II. Existing Conditions

A. Roadways

Hana Highway is a two-way, two-lane, State of Hawaii roadway, which provides access to the communities of Paia, Haiku, and Hana. The posted speed limit on Hana Highway in Paia is 20 miles per hour (mph).

The Paia Bypass Road is a one-lane, one-way eastbound roadway from Hana Highway, west of Paia Town, to Baldwin Avenue, south of Paia Town. The Paia Bypass Road is stop-controlled at its Tee-intersection with Baldwin Avenue.

Baldwin Avenue is a two-way, two-lane, collector roadway between Paia Town and Makawao. Baldwin Avenue is signalized at its Tee-intersection with Hana Highway. The posted speed on Baldwin Avenue is 20 mph.

B. Existing Peak Hour Traffic Volumes and Operating Conditions

1. Field Investigation and Data Collection

Turning movement traffic count surveys were conducted at the intersection of Hana Highway and Baldwin Avenue on September 19-21, 2017, during the peak periods of traffic – from 6:00 AM to 9:00 AM and from 3:00 PM to 5:30 PM. The turning movement traffic count surveys also included the pedestrians crossing at the intersection. During the same periods, turning movement traffic count surveys were conducted on Baldwin Avenue at the Paia Bypass Road and at the La`a Kea Community Farm site access driveways. The traffic count data are presented in the Appendix.

2. Existing Weekday AM Peak Hour Traffic

The existing AM peak hour of traffic occurred from 7:30 AM to 8:30 AM on Hana Highway. Hana Highway carried over 1,200 vehicles per hour (vph), total for both directions. Baldwin Avenue carried about 500 vph, total for both directions, in Paia Town. The Paia Bypass Road carried 100 vph. In the vicinity of the La`a Kea Community Farm, Baldwin Avenue carried about 400 vph, total for both directions, during the AM peak hour of traffic.

The intersection of Hana Highway and Baldwin Avenue operated at an overall LOS "C", during the existing AM peak hour of traffic. The through movement on eastbound Hana Highway operated at LOS "D". The other traffic movements at the intersection operated at satisfactory Levels of Service, i.e., LOS "C" or better.

The Paia Bypass Road operated at LOS "B" at Baldwin Avenue, during the existing AM peak hour of traffic. The existing site access driveways were closed during the existing AM peak hour of traffic. The existing AM peak hour traffic volumes are depicted on Figure 4.

3. Existing Weekday PM Peak Hour Traffic

The existing PM peak hour of traffic occurred between 3:45 PM and 4:45 PM on Hana Highway. Hana Highway carried about 1,300 vph, total for both directions. Baldwin Avenue carried over 500 vph, total for both directions, in Paia Town, during the existing PM peak hour of traffic. The Paia Bypass Road carried about 300 vph. In vicinity of the La`a Kea Community Farm, Baldwin Avenue carried about 300 vph, total for both directions, during the PM peak hour of traffic.

During the existing PM peak hour of traffic, the intersection of Hana Highway and Baldwin Avenue operated at an overall LOS "C". The through movement on eastbound Hana Highway operated at LOS "D". Long traffic queues were observed on eastbound Hana Highway at Baldwin Avenue. The other traffic movements at the intersection operated at satisfactory Levels of Service.

The Paia Bypass Road operated at LOS "B" at Baldwin Avenue, during the existing PM peak hour of traffic. The existing site access driveways operated at LOS "A" at Baldwin Avenue. Figure 5 depicts the existing PM peak hour traffic volumes.

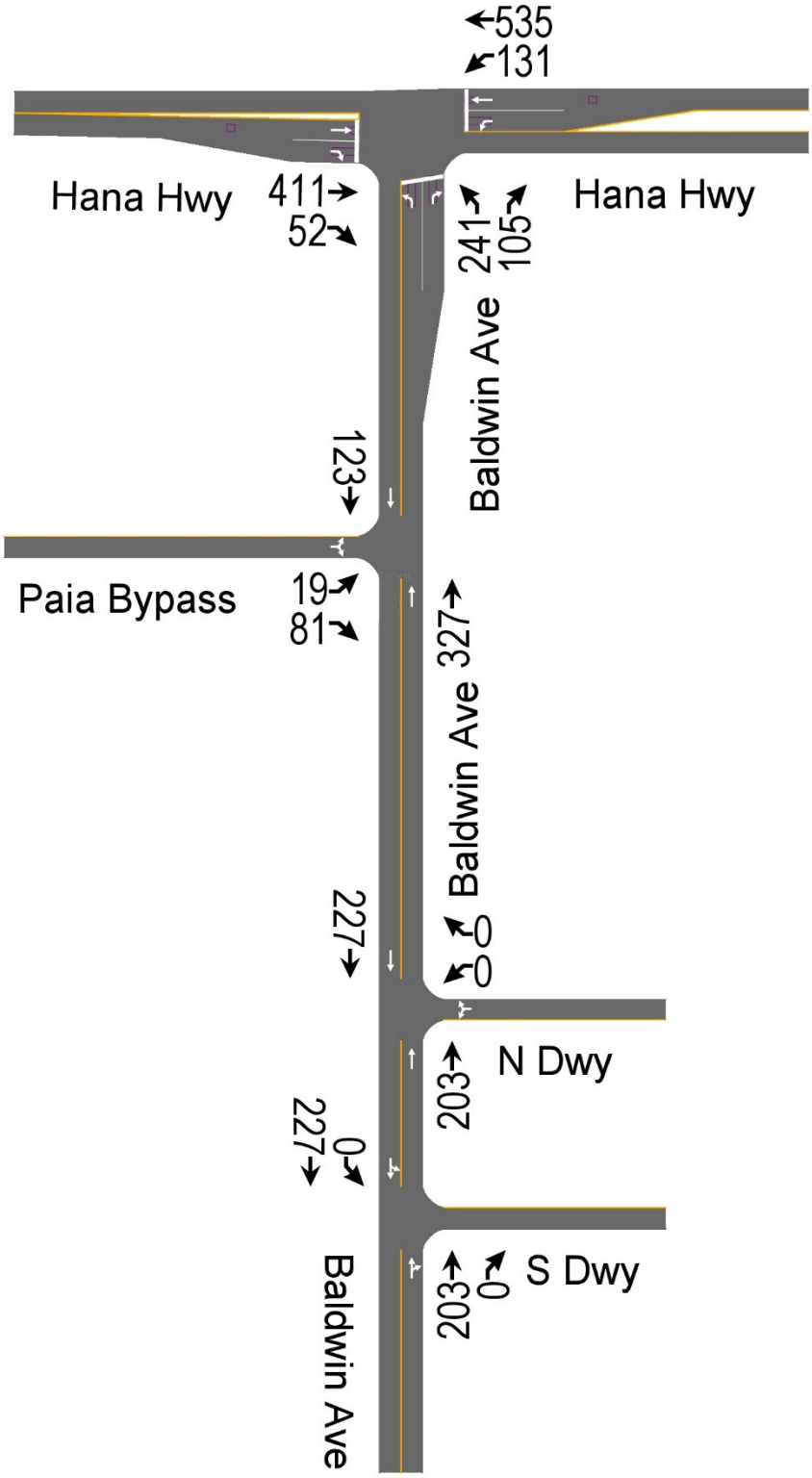


Figure 4. Existing AM Peak Hour Traffic

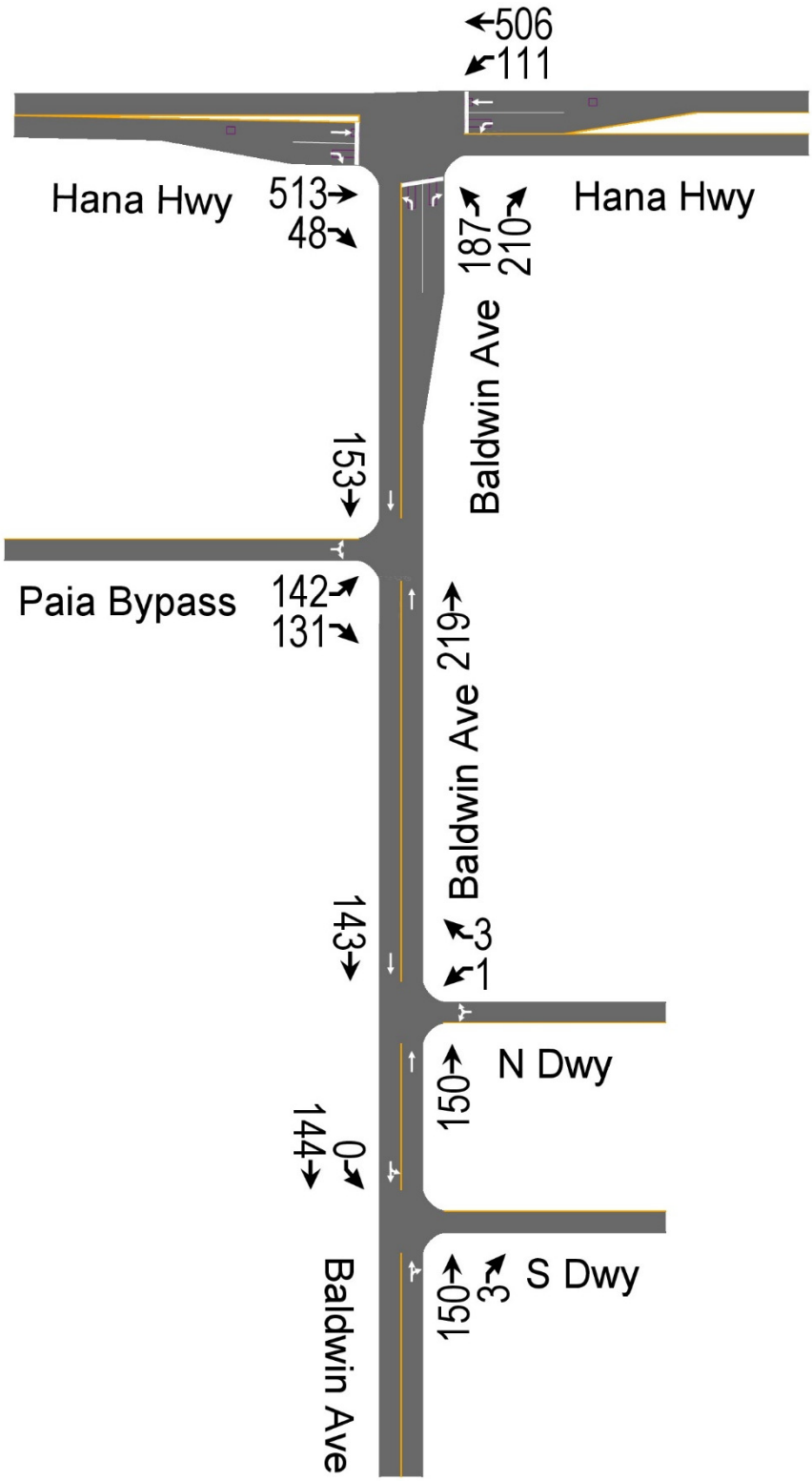


Figure 5. Existing PM Peak Hour Traffic

III. Future Traffic Conditions Without Project

A. Background Growth in Traffic

The Maui Long-Range Land Transportation Plan (MLRLTP) was prepared by the State of Hawaii Department of Transportation (DOT), in cooperation with the Maui County Department of Public Works and Planning Department. The MLRLTP developed long-range travel forecasts for the island of Maui. The MLRLTP anticipated that traffic on Hana Highway, east of Kahului, would increase by 10.5 percent between the Base Year 2007 and the Horizon Year 2035, i.e., about 0.37 percent increase in traffic per year. For the purpose of this analysis, an average growth factor of 1.037 was uniformly applied to the existing (Year 2017) AM and PM peak hour traffic volumes to estimate the Year 2027 peak hour traffic without the proposed project.

B. AM Peak Hour Traffic Analysis Without Project

During the AM peak hour of traffic without the proposed project, the intersection of Hana Highway and Baldwin Avenue is expected to continue to operate at LOS "C". The eastbound through movement on Hana Highway is expected to continue to operate at LOS "D". The other traffic movements at the intersection are expected to operate at satisfactory Levels of Service.

The Paia Bypass Road is expected to operate at LOS "B" at Baldwin Avenue, during the AM peak hour of traffic without the proposed project. The AM peak hour traffic volumes without the proposed project are depicted on Figure 6.

C. PM Peak Hour Traffic Analysis Without Project

The intersection of Hana Highway and Baldwin Avenue is expected to operate at LOS "C", during the PM peak hour of traffic without the proposed project. The through movement on eastbound Hana Highway to Baldwin Avenue is expected to continue to operate at LOS "D". The other traffic movements at the intersection are expected to operate at satisfactory Levels of Service.

The Paia Bypass Road is expected to operate at LOS "B" at Baldwin Avenue. The site access driveways are expected to operate at LOS "A", during the PM without the proposed project. The PM peak hour traffic volumes without the proposed project are depicted on Figure 7.

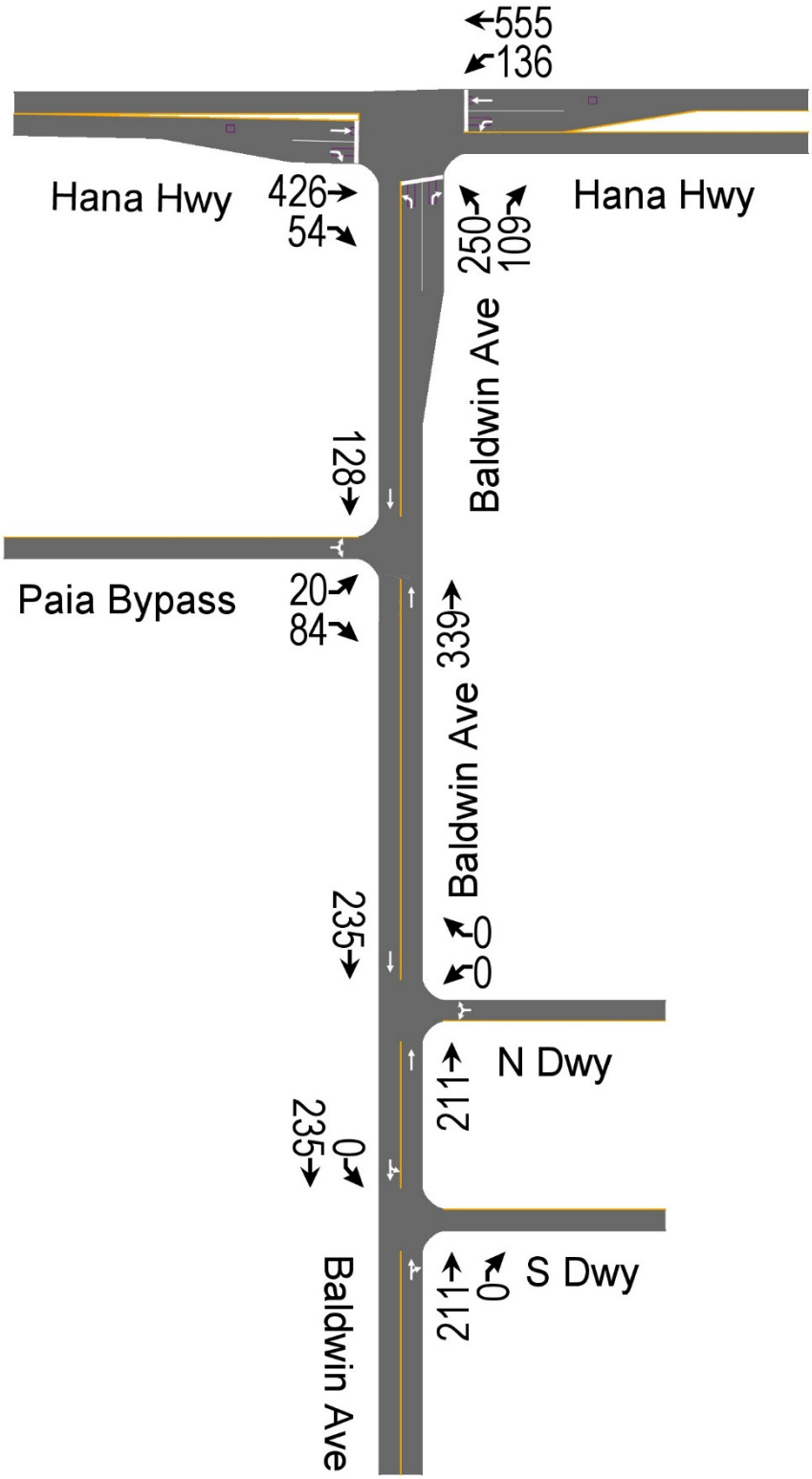


Figure 6. AM Peak Hour Traffic Without Project

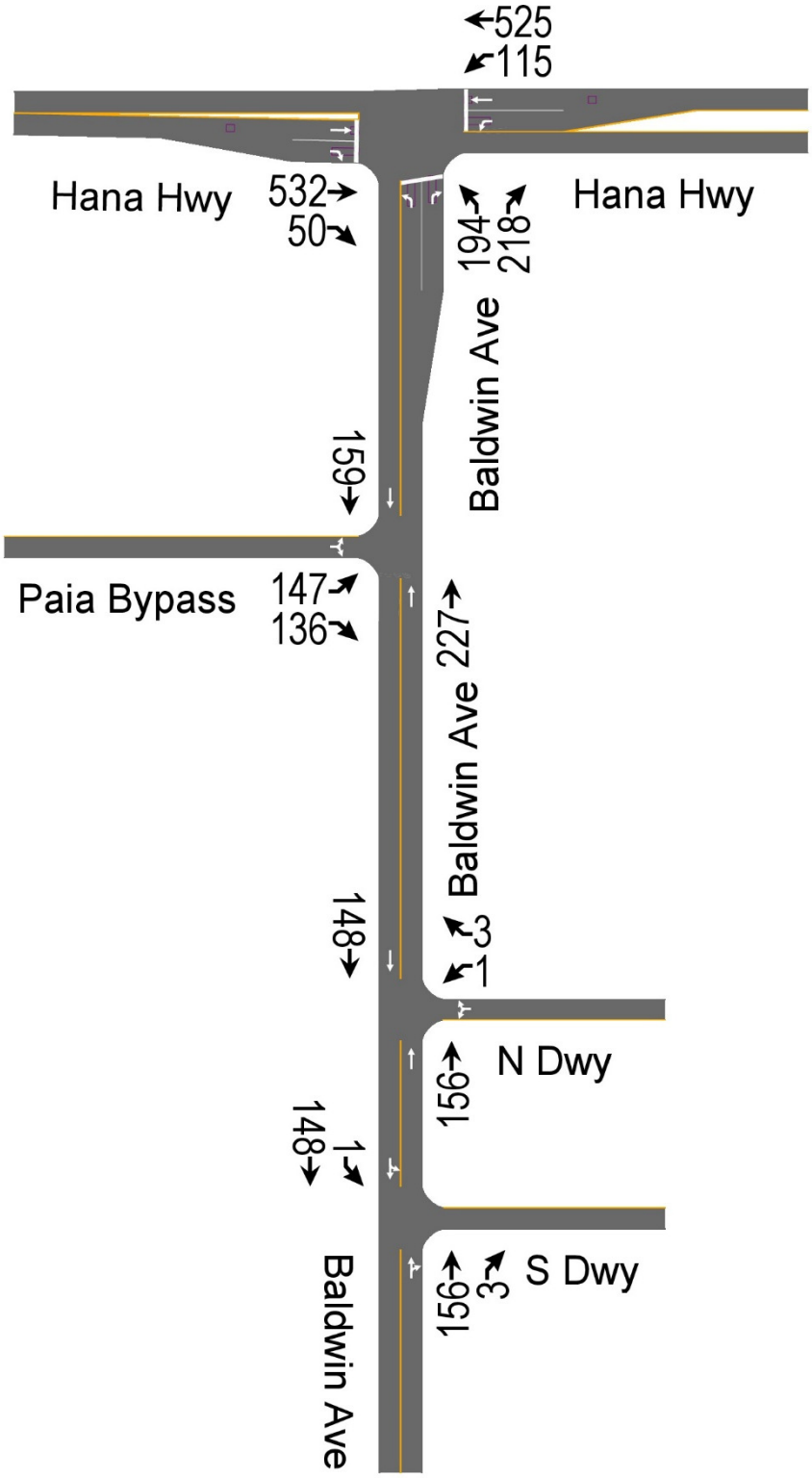


Figure 7. PM Peak Hour Traffic Without Project

IV. Traffic Impact Analysis With Project

A. Site-Generated Traffic

A portion of the trips between the residential component and the recreational community center can be expected to generated within the project site. However, to remain conservative, the trip generation characteristics for each land use activity were analyzed independently of each other. Table 2 summarizes the ITE trip rates for single-family detached housing (vph/person) and a recreational community center (vph/1,000 SFGFA). The trip rates for agricultural activities (vph/employee) were based upon a previous study prepared by The Traffic Management Consultant for agricultural activities in Kunia on the island of Oahu.

Table 2. Trip Generation Characteristics

Land Use (ITE Code)	Units	AM Peak Hour (vph)			PM Peak Hour (vph)		
		Enter	Exit	Total	Enter	Exit	Total
Single-Family Detached Units (210)	52 Persons	5	11	16	23	12	35
Recreational Community Ctr. (495)	4,220 SFGFA	6	3	9	6	6	12
Agricultural Activities	30 Employees	20	2	22	1	19	20
Totals		31	16	47	30	37	67

The proposed La`a Kea Community Farm is expected to generate 47 vph and 67 vph, during the AM and PM peak hours of traffic, respectively. The AM and PM peak hour site traffic assignments are depicted on Figures 8 and 9, respectively.

B. AM Peak Hour Traffic Impact Analysis With Project

The AM peak hour traffic operations with the proposed project at the intersections of Hana Highway at Baldwin Avenue and the Paia Bypass Road at Baldwin Avenue are not expected to be significantly affected by traffic generated from the proposed project.

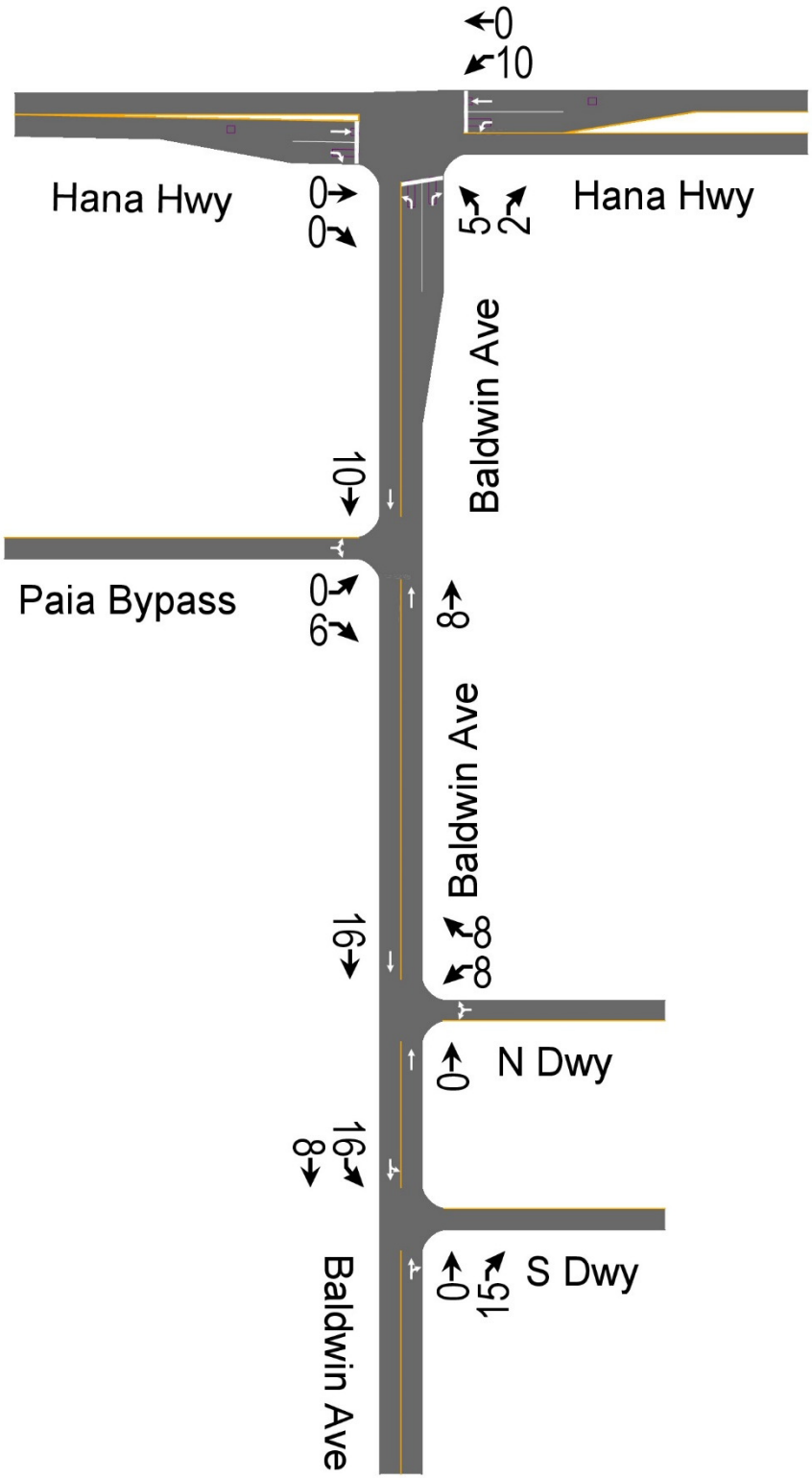


Figure 8. AM Peak Hour Site Traffic Assignment

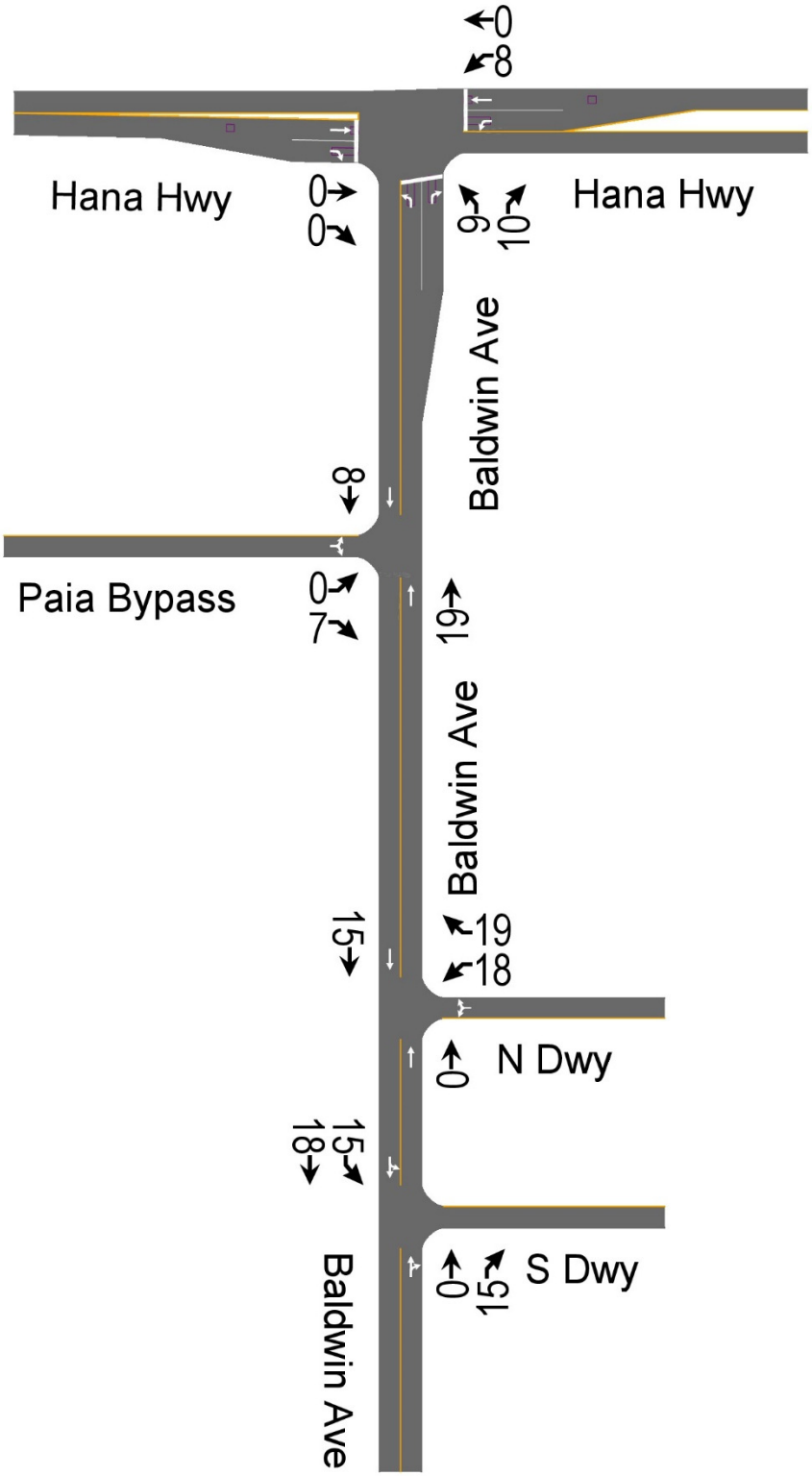


Figure 9. PM Peak Hour Site Traffic Assignment

The North Site Access Driveway is expected to operate at LOS "B" at Baldwin Avenue, during the AM peak hour of traffic with the proposed project. The left-turn movement from southbound Baldwin Avenue into the South Site Access Driveway is expected to operate at LOS "A". The left-turn demand from Baldwin Avenue to the South Site Access Driveway is not expected to meet the AASHTO guidelines for an exclusive left-turn lane. The AM peak hour traffic with the proposed project is depicted on Figure 10.

C. PM Peak Hour Traffic Impact Analysis With Project

The PM weekday peak hour traffic operations at the intersection of Hana Highway at Baldwin Avenue are not expected to be significantly affected by traffic generated from the proposed project. The Paia Bypass Road is expected to operate at LOS "C, during the PM peak hour of traffic with the proposed project.

The North Site Access Driveway is expected to operate at LOS "B" at Baldwin Avenue, during the PM peak hour traffic with the proposed project. The left-turn movement from southbound Baldwin Avenue into the South Site Access Driveway is expected to operate at LOS "A". The PM peak hour left-turn demand from Baldwin Avenue to the South Site Access Driveway is not expected to meet the AASHTO guidelines for an exclusive left-turn lane. Figure 11 depicts the PM peak hour traffic volumes with the proposed project.

V. Recommendations and Conclusions

A. Recommendations

Traffic mitigation measures are not recommended at this time.

B. Conclusions

The PM peak hour traffic volumes at the intersection of Hana Highway and Baldwin Avenue with the proposed project are not expected to meet the AASHTO volume guide for an exclusive left-turn lane on northbound Hana Highway. The intersections of Hana Highway at Baldwin Avenue and the Paia Bypass Road at Baldwin Avenue are not expected to be significantly impacted by the development of the proposed La`a Kea Community Farm, during the AM and PM peak hours of traffic. The site access driveways on Baldwin Avenue are expected to operate at satisfactory Levels of Service during the AM and PM peak hours of traffic with the proposed project.

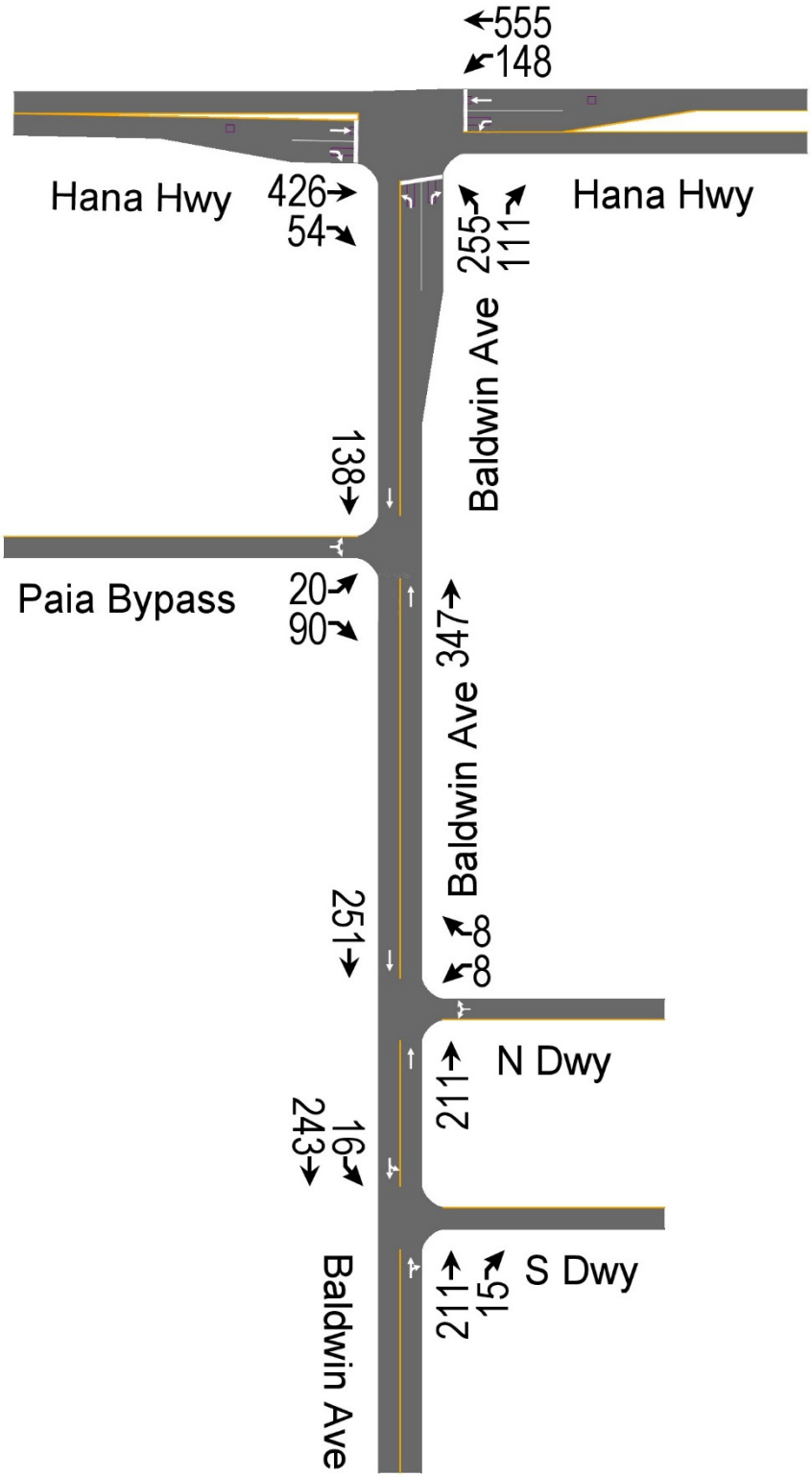


Figure 10. AM Peak Hour Traffic With Project

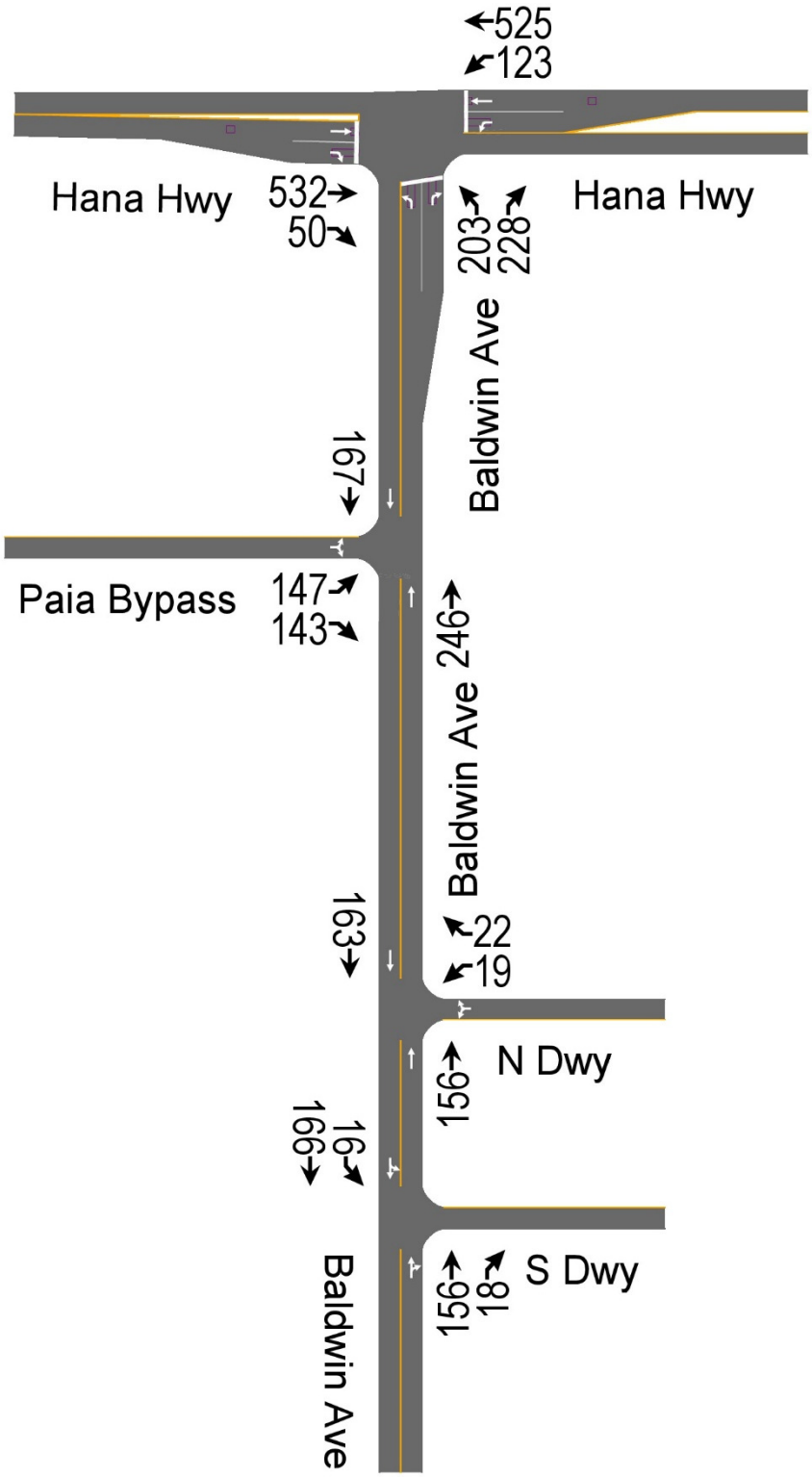


Figure 11. PM Peak Hour Traffic With Project

APPENDIX G
PLANNING DEPARTMENT DETERMINATION LETTER, OCTOBER 6, 2015

ALAN M. ARAKAWA
Mayor

WILLIAM R. SPENCE
Director

MICHELE CHOUTEAU McLEAN
Deputy Director

COUNTY OF MAUI

DEPARTMENT OF PLANNING

October 6, 2015

Ms. Hall Rodgers
P.O. Box 790994
Paia, Hawaii 96779

SUBJECT: PROPOSED FARM DWELLINGS TO BE OPERATED AS RESIDENTIAL FACILITIES, LOCATED AT: 0 BALDWIN AVE, PAIA, HAWAII TMK: (2) 2-5-005:030

Dear Ms. Rodgers:

The Department of Planning (Department) has received your letter dated September 21, 2015 seeking clarification for the above use of land. We offer the following response:

1. The above property is located in an area with the following designations:
   A. State Land Use District: Agriculture
   B. Community Plan: Single Family
   C. County Zoning: Interim

2. The State Agriculture District allows as farm dwellings are a permitted use. A farm dwelling is defined by the state to be a single-family dwelling located on and used in connection with a farm. Each farm dwelling can be occupied by a single family. The state does not have a specific limit on the number of farm dwellings that can be located on a single lot.

3. The County Interim zoning district allows for one single-family dwelling per 6,000 square feet of land. Each single-family dwelling can be occupied by a single family.

4. Maui County Code §19.04.040 defines a family as follows:

   A. *"Family" means an individual living alone or a group of two or more persons related by blood or marriage and their legal issue living together as a single housekeeping unit in a dwelling unit and in which two boarders, unrelated by blood may be living on a long-term residential basis. A family may also be defined as no more than five unrelated persons living together as a single*

housekeeping unit. In addition, eight or fewer persons who reside in residential facilities monitored and/or licensed by the state pursuant to chapter 46-15.3 of the Hawaii Revised Statutes shall constitute a family. Resident managers, supervisors or operator and operator's family shall not be included in the resident count. Underline added for emphasis.

5. Therefore, the combined zoning regulations for the state and county on the above lot would allow:

   A. One farm dwelling per 6,000 square feet of land provided each farm dwelling is used in connection with a farm. .

   B. Each farm dwelling can be occupied by a single family that meets the above county definition of a family. Based on your proposed group homes being licensed by the state and each farm dwelling consisting of group home with eight or fewer residents, the county definition of a family appears to be met.

The above information is accurate as of the date of this letter; it could change at any time depending on future code revisions. Should you have any questions or concerns on this letter, you may contact Paul Critchlow, Planner, at paul.critchlow@mauicounty.gov or 270-5795.

Sincerely,

for Carolyn Cortez

JOHN S. RAPACZ
Planning Program Administrator

For: WILLIAM SPENCE
Planning Director

xc: Carolyn Cortez, Staff Planner (PDF)
Paul Critchlow, Staff Planner (PDF)
15/General File
WRS:JSR:PBC:GAN
K:\WP_DOCS\PLANNING\LTR\2015\4962_FarmDwellingGroupHomes\Response.doc

September 21, 2015

Mr. William Spence, Director
Department of Planning
One Main Plaza Building
2200 Main Street, Suite 315
Wailuku, HI 96793

Dear Mr. Spence:

RE: Determination of Number of Group Homes Permitted for the La'akea Foundation, located at Paia, Maui, Hawaii; TMK (2) 2-5-005: 030

Thank you again for taking the time to meet with us on July 17, 2015. As a follow up to our meeting, I am witting to confirm the number of allowable group homes on the subject property as discussed.

The subject parcel lies in the State **Agricultural** District, is proposed for **Single-Family** use by the Paia-Haiku Community Plan and is zoned **Interim District** by Maui County.

Copy
our letter

The above referenced property is proposing a total of up to four (4) multi-resident group homes that will not exceed eight (8) residents and up to eight (8) single-resident homes. All proposed homes will be constructed to house residents and employees necessary to support the primary agricultural practices on the property which are integral to the long term success of the La'akea Foundation. The subject property is a total of 12.20 Acres. Pursuant to Maui County Code §19.02A.030 – Permitted Property Uses, the minimum lot area for a single family dwelling is 6,000 square feet.

As the total number of group homes proposed is below the quantity allowed on the subject property by the aforementioned code and are in support of the primary agricultural site uses, I am respectfully requesting a determination that the proposed group home quantity be allowed and be determined by the County's Interim Zoning Provisions.

Thank you for your consideration, should you have any additional questions or require additional information, please feel free to contact me at andrea@laakea.org or at (808) 281-3463.

Sincerely,

Andrea Hall Rodgers
Executive Director

Cc:
Ms. Faith Okuma
Mr. Joshua Circle-Woodburn