



# Final Environmental Assessment

## KŌ'ELE PROJECT DISTRICT AMENDMENT AT KŌ'ELE, LĀNA'I, HAWAI'I

### VOLUME II OF II (Appendices)

Prepared for:  
Lanai Resorts, LLC, a Hawai'i limited liability company  
doing business as Pūlama Lāna'i

February 2022

Copyright © 2022  
by Munekiyo Hiraga



MUNEKIYO HIRAGA

Planning. Project Management. Sustainable Solutions.

EXHIBIT 6b



REF-1

# **Final Environmental Assessment**

## **KŌ'ELE PROJECT DISTRICT AMENDMENT AT KŌ'ELE, LĀNA'I, HAWAI'I**

### **VOLUME II OF II (Appendices)**

Prepared for:

Lanai Resorts, LLC, a Hawai'i limited liability company  
doing business as Pūlama Lāna'i

February 2022

Copyright © 2022

Munekiyo Hiraga



## List of Appendices

- Appendix A.** Project District Comparison Maps
- Appendix A-1.** Proposed Amendments to Maui County Code, Chapter 19.71 Lānaʻi Project District 2 (Kōʻele)
- Appendix B.** Agricultural Impact Report
- Appendix C.** Geotechnical Engineering Assessment Due Diligence Study
- Appendix D.** Flora and Fauna Study
- Appendix E.** Archaeological Literature Review and Field Inspection Report
- Appendix F.** Cultural and Historical Resources Survey
- Appendix G.** Phase I Environmental Site Assessment
- Appendix H.** Socio-Economic Impact Report
- Appendix I.** Traffic Assessment
- Appendix I-1.** Traffic Assessment Addendum
- Appendix J.** Preliminary Engineering Report
- Appendix K.** Hawaiʻi State Plan
- Appendix L.** Countywide Policy Plan



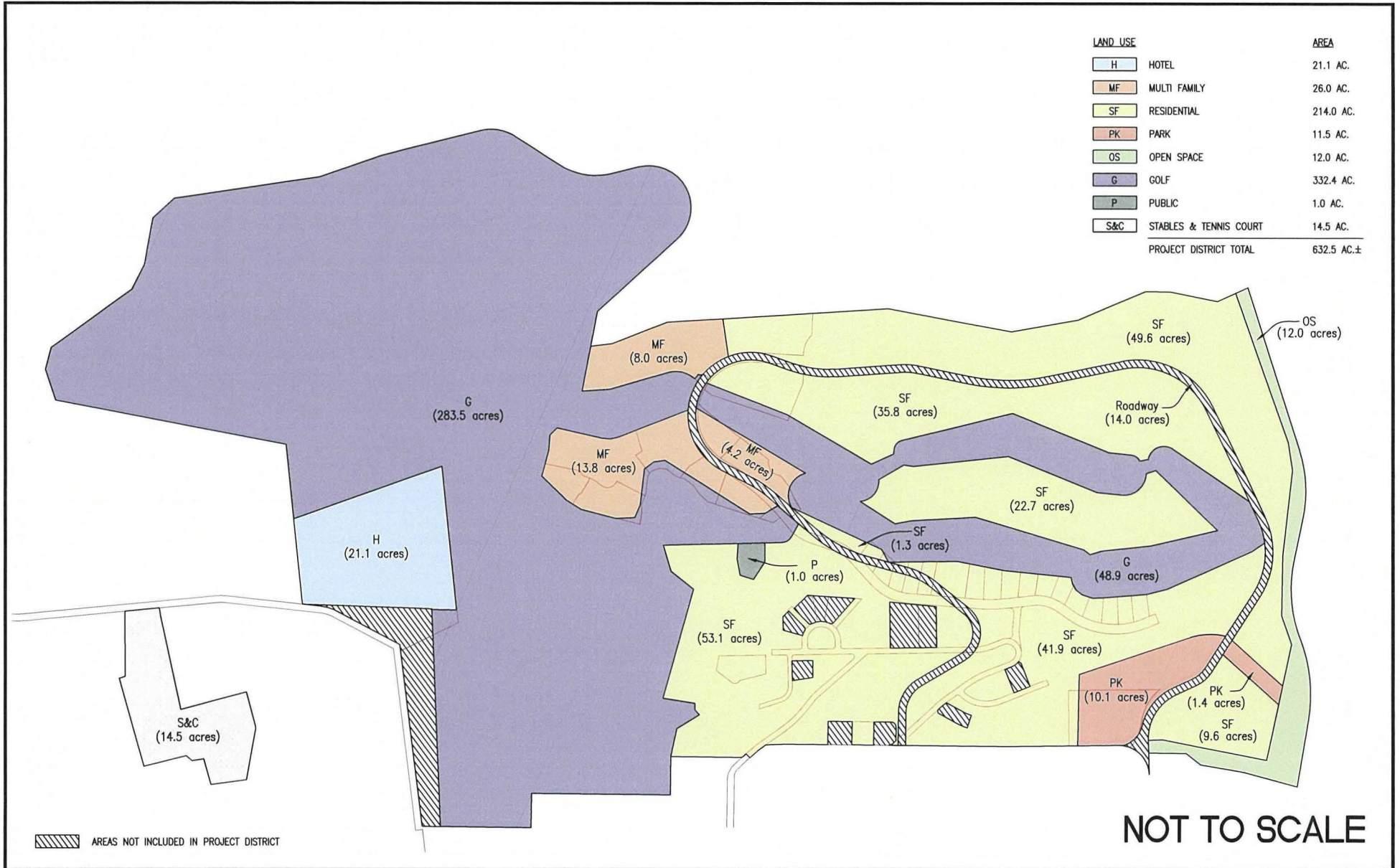
**PROJECT DISTRICT  
COMPARISON MAPS**

**APPENDIX**

**A**

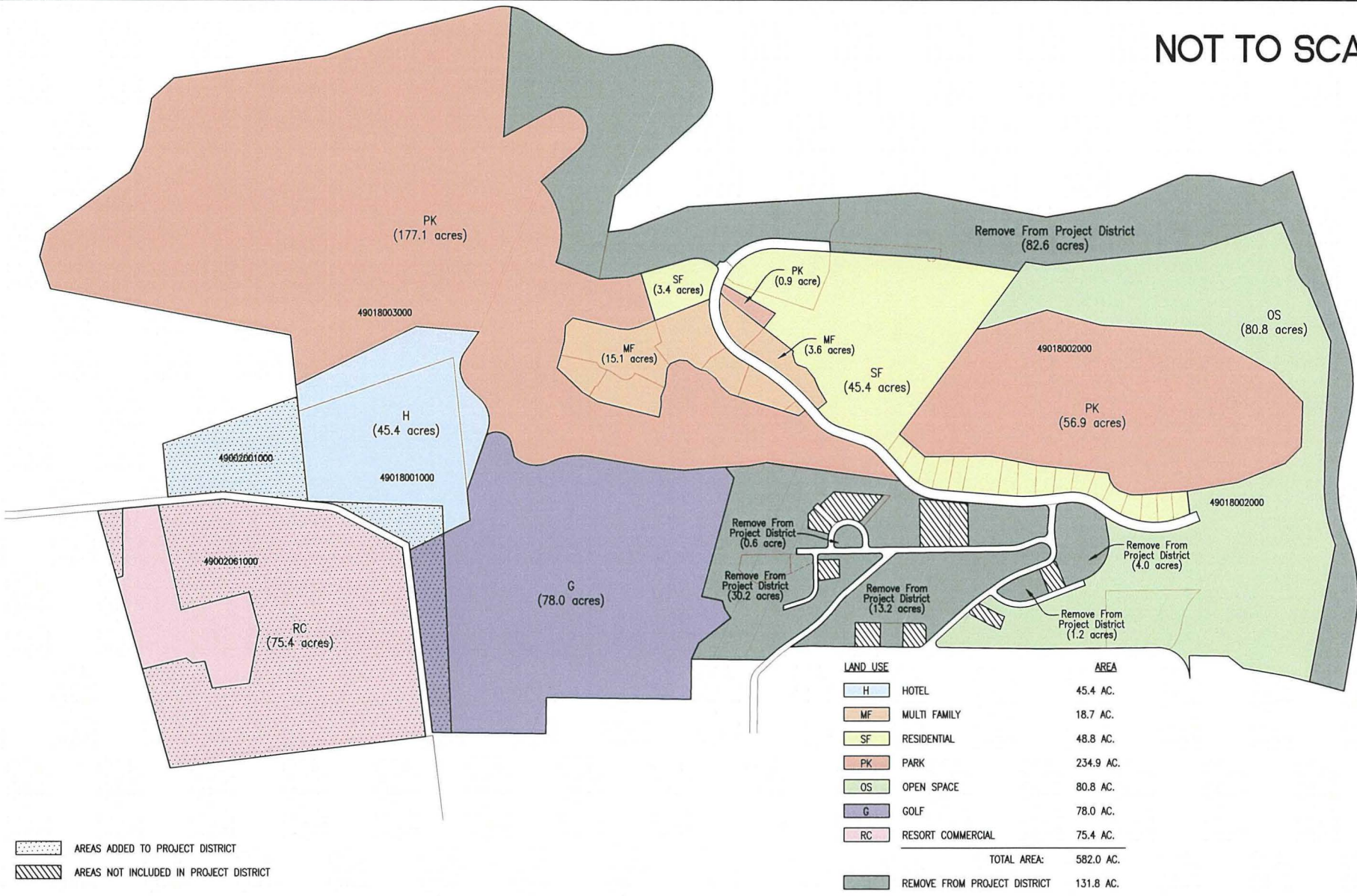


# Existing Kō'ele Project District Map



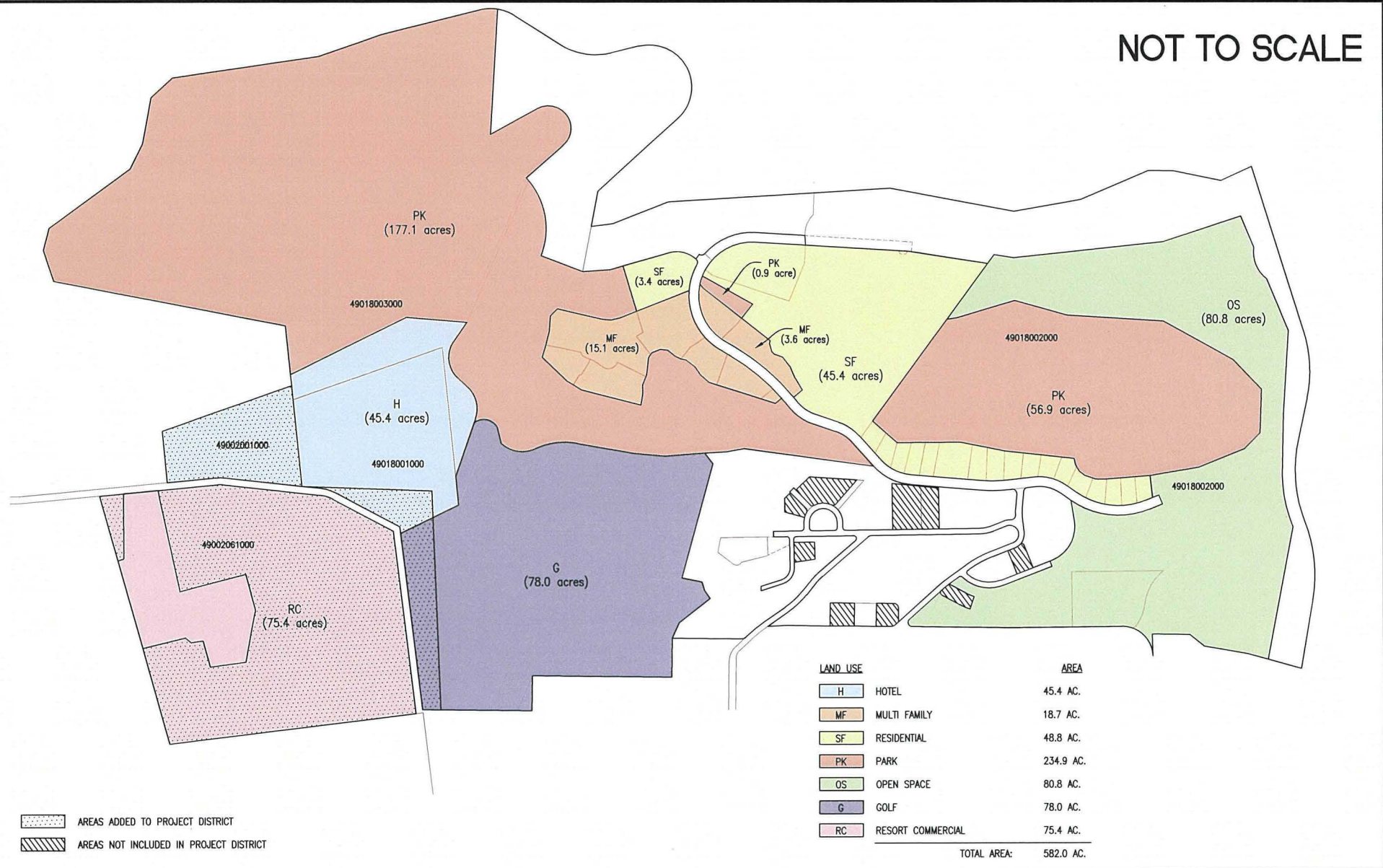
**Transition** Kō'ele Project District Map


NOT TO SCALE



**Proposed Kō'ele Project District Map**

NOT TO SCALE





**PROPOSED  
AMENDMENTS TO MAUI  
COUNTY CODE,  
CHAPTER 19.71 LĀNA‘I  
PROJECT DISTRICT 2  
(KŌ‘ELE)**

**APPENDIX**

**A-1**

**Chapter 19.71 LANAI PROJECT DISTRICT 2 (KOELE)**

**19.71.010 Purpose and intent.**

- A. The purpose and intent of project district 2 at Koele, Lanai, is to provide for a flexible and creative approach to development which considers physical, environmental, social, and economic factors in a comprehensive manner.
- B. The purpose and intent of project district 2 at Koele is to establish a low-density primarily-residential and recreational development with hotel facilities in an upland rural setting.
- C. This project district is to be complementary and supportive of services offered in Lanai city and will provide housing and recreational opportunities to island residents. Uses include, but are not limited to, single-family residential, multifamily residential, hotel, open space, park, resort commercial, and golf course and public.

(Ord. 2139 § 2, 1992; Ord. 1580 § 1 (part), 1986)

**19.71.020 Residential PD-L/2.**

- A. Permitted Uses. Within the residential districts, the following uses shall be permitted:

1. Principal uses:

- a. Single-family detached dwellings;  
~~Short term rental homes, subject to the provisions of chapter 19.65 of this title;~~
- b. Greenhouses, flower and truck gardens, and nurseries; provided there shall be no retailing or transacting of business on the premises;
- ~~a-c. Parks and playgrounds.~~

2. Accessory uses and structures;

- a. Day care nurseries, kindergartens, nursery schools, child care homes, day care homes, day care centers, nurseries, preschool kindergartens, babysitting services, learning pods, home schools, and other like facilities located in private homes used for child care and learning services. These facilities shall serve six or fewer children at any one time on lot sizes of less than seven thousand five hundred square feet, eight or fewer children at any one time on lot sizes of seven thousand five hundred or more square feet but less than ten thousand square feet, or twelve or fewer children at any one time on lot sizes of ten thousand or more square feet;
- b. Trash enclosures;
- c. Garages;
- ~~a-d. Subordinate uses and structures that are determined by the Director of Planning to be clearly incidental and customary to the permitted uses listed herein.~~

3. Special accessory uses:

~~a. Green houses;~~

- a. Accessory dwelling for a lot with .5 acre or more, subject to the provisions of chapter 19.35 of this title.

B. Development standards for residential districts shall be:

- 1. Minimum lot area, six thousand square feet;
- 2. Minimum lot width, sixty feet;
- 3. Minimum building setback:
  - a. Front yard, fifteen feet,
  - b. Side yard, six feet, ten feet for the second story of a structure,
  - c. Rear yard, six feet, ten feet for the second story of a structure;
- 4. Maximum overall net density, two and one-half units per acre;
- 5. Maximum height, two stories not to exceed thirty feet.

(Ord. 1580 § 1 (part), 1986)

**19.71.030 Multifamily PD-L/2.**

- A. Permitted Uses. Within multifamily districts, the following uses shall be permitted:

1. Principal uses:

- a. Single-family detached buildings,
- b. Apartment houses,
- c. Duplexes;

2. Accessory uses and structures.

- a. Day care nurseries, kindergartens, nursery schools, child care homes, day care homes, day care centers, nurseries, preschool kindergartens, babysitting services, learning pods, home schools, and other like facilities located in private homes used for child care and learning services. These facilities shall serve six or fewer children at any one time on lot sizes of less than seven thousand five hundred square feet, eight or fewer children at any one time on lot sizes of seven thousand five hundred or more square feet but less than ten thousand square feet, or twelve or fewer children at any one time on lot sizes of ten thousand or more square feet;
- b. Trash enclosures;
- c. Garages;
- d. Subordinate uses and structures that are determined by the Director of Planning to be clearly incidental and customary to the permitted uses listed herein.

B. Development standards for multifamily districts shall be:

- 1. Minimum lot area, one acre;

2. Minimum lot width, one hundred ten feet;
3. Minimum building setback:
  - a. Front yard, fifteen feet,
  - b. Side yard, ten feet, fifteen feet for two stories,
  - c. Rear yard, ten feet, fifteen feet for two stories;
4. Maximum overall net density, six units per acre;
5. Maximum floor area ratio, 0.5;
6. Maximum height, two stories not to exceed thirty feet.

(Ord. 2139 § 3, 1992; Ord. 1580 § 1 (part), 1986)

#### 19.71.040 Hotel PD-L/2.

A. Permitted Uses. Within hotel districts, the following uses shall be permitted:

1. Principal uses:

- a. Hotel;
- ~~d-b.~~ Automobile parking lots and buildings.

2. Accessory uses and structures:

- a. ~~Trash enclosures;~~
- b. ~~Ground signs;~~
- c. ~~Boundary walls and fences;~~
- ~~a-d.~~ Subordinate uses and structures, which are determined by the Director of Planning to be incidental and customary to the permitted uses listed herein.

~~2-3.~~ Special accessory uses:

- a. The following uses shall be operated as an adjunct to, and as part of, a hotel with said hotel having at least twenty-five rooms. Furthermore, these uses shall be operated primarily as a service to, and for the convenience of, the tenants and occupants of the hotel on which premises such services are located.
  - i. Activities/information center,
  - ii. Bars, nightclubs,
  - ~~iii.~~ Fitness centers,
  - ~~iiii.~~ Flower shops,
  - ~~iv.~~ Eating and drinking establishments,
  - vi. Outdoor recreation
  - vii. Recreational facilities including tennis and other playing courts, horse riding stables, and equestrian trails,
  - ~~v-viii.~~ Spa facilities and support services,
  - ix. Sundry shops,

(Supp. No. 62)

Created: 2021-05-13 14:19:50 [EST]

- ~~vi-x.~~ Swimming pools
- ~~vii-xi.~~ Theater/auditoriums,
- xii. Ticket agencies;
- ~~iiii-xiii.~~ Other accessory business or service establishments that furnish goods or perform services primarily for hotel guests.

b. The shops and businesses may be constructed as separate buildings. However, entrances to shops and businesses shall not front on a street.

B. Special Uses. ~~Other uses may be approved by the Lanai Planning Commission subject to the provisions of section 19.510.070 of this title. The following are declared special uses in hotel districts, and approval of the commission shall be obtained:~~

- ~~1. Other uses of similar accessory retail character.~~

C. Development standards for hotel districts shall be:

1. Minimum lot area, one acre;
2. Minimum lot width, one hundred ten feet;
3. Minimum building setback:
  - a. Front yard, twenty feet,
  - b. Side yard, ten feet,
  - c. Rear yard, fifteen feet;
4. Maximum floor area ratio, 0.8;
5. Maximum lot coverage, forty percent;
6. Maximum height, two stories not to exceed thirty feet, except that the ~~planning director~~ Director of Planning may approve a greater height limitation for a structure where the ~~planning director~~ Director of Planning determines that the increased height will enhance the appeal and architectural integrity of the structure, provided that the additional area created by the excess height shall not be used for habitation nor storage;
7. Maximum overall net density, twelve units per acre.

(Ord. 2139 § 4, 1992; Ord. 1580 § 1 (part), 1986)

#### 19.71.050 Park PD-L/2.

A. Permitted Uses. Within park districts, the following uses shall be permitted:

1. Principal uses:

- a. ~~Noncommercial-p~~ Parks and playgrounds;
- b. Cultural and performing arts facilities;
- c. Fitness courses;
- d. Historical buildings, structures and sites, and sites or areas of scenic interest;
- e. Maintenance areas and structures;
- f. Outdoor recreation and recreational activities;

(Supp. No. 62)

Created: 2021-05-13 14:19:50 [EST]

- g. Picnicking;
- h. Playing courts and playfields
- i. Public utilities;
- j. Recreational and educational centers and facilities;
- k. Sculpture gardens;
- l. Trail activities
- m. Zip line recreational activities;
- ~~e-n.~~ Other similar commercial or noncommercial enterprises or activities that are not detrimental to the welfare of the surrounding area, provided such uses shall be approved by the Director of Planning as conforming to the intent of this chapter.

2. Accessory uses and structures.

- a. Energy systems, small-scale; provided such use shall not cause a detrimental or nuisance effect on neighboring properties;
- b. Light fixtures and light poles; provided lighting or lamp posts and lighting controls shall be full cut-off luminaries to lessen possible sea bird strikes;
- c. Park furniture, including but not limited to benches, picnic tables, and fountains;
- d. Botanical gardens;
- e. Bazaars, fairs, food, wine, film, or other festivals that are special events and temporary in nature. "Temporary" for the purposes of this section shall mean that each festival or event may be held for no more than thirty days in a calendar year;
- f. Restaurants and gift shops;
- g. Pavilions;
- h. Comfort and shelter stations;
- i. Clubhouses for principal recreational uses, including restrooms, check-in counters or kiosks, and other ancillary facilities;
- j. Parking lot, loading and unloading area;
- k. Maintenance facilities;
- ~~e-l.~~ Subordinate uses and structures that are determined by the Director of Planning to be incidental and customary to the permitted uses listed herein.

B. Development standards for park districts shall be:

1. Minimum lot area, two acres;
2. Minimum lot width, one hundred fifty feet;
3. Minimum structure setback:
  - a. Front yard, fifteen feet,
  - b. Side yard, fifteen feet,
  - c. Rear yard, fifteen feet;
- ~~4. Maximum lot coverage, five percent;~~

~~5. Maximum height, one story not to exceed twenty feet.~~

C. Non-potable water shall be used for irrigation to the extent available. Notwithstanding anything to the contrary under chapter 20.30 of this title, high level aquifer groundwater may be used for irrigation in areas where sufficient non-potable water is not available. Areas within Park districts that have continually and lawfully used high level aquifer groundwater for maintenance and irrigation shall be permitted to continue such use, subject to the provisions of section 19.500.110 of this title.

(Ord. 1580 § 1 (part), 1986)

**19.71.055 Golf course PD-L/2.**

A. Permitted Uses. Within the golf course district, the following uses shall be permitted:

1. Principal uses:
  - a. Golf courses except for miniature golf courses,
  - b. Historical buildings, structures, or sites;
2. Accessory Uses and Structures. Accessory uses and structures which include, but which are not limited to, the following:
  - a. One caretaker's dwelling unit,
  - b. Cart barns and other equipment, storage, and maintenance facilities,
  - c. One clubhouse with one snack bar, one restaurant, and a pro shop for the sale and service of golf equipment and materials used for golfing purposes,
  - d. Comfort and shelter stations,
  - e. Golf and driving range including instructional and practice facilities,
  - f. Greenhouses to maintain landscaping on the zoning lot,
  - g. Indoor and outdoor playing courts, swimming pools, and meeting rooms, provided that no major meeting places such as convention halls and athletic complexes such as tennis centers or other permanent spectator accommodations shall be permitted,
  - h. Off-street parking and loading,
  - i. Park furniture,
  - i-j. Public utility,
  - j-k. Weight, massage, sauna, and locker rooms,
  - l. Bazaars, fairs, food, wine, film or other festivals that are special events and temporary in nature. "Temporary" for purposes of this section shall mean that each festival or event may be held for no more than thirty days in a calendar year.
  - ~~k-m.~~ Subordinate uses and structures that are determined by the Director of Planning to be incidental and customary to the permitted uses listed herein. Other accessory uses for which a special use permit has been obtained in accordance with chapter 205 of the Hawaii Revised Statutes.

B. Development standards for the golf course district shall be:

1. Minimum lot area, fifty acres for par three or nine hole; ~~or one hundred ten acres for eighteen hole;~~

2. Minimum building setback, all yards, fifty feet;

3. Maximum height, thirty-five feet; provided that ten feet of additional height may be permitted if a cart barn is located in the basement level of the structure, and provided further that minor utility facilities, vent pipes, fans, chimneys, and energy-savings devices shall be permitted additional height if the item is mounted on the roof of a facility; except that in no event shall this additional height exceed five feet above the governing height limit.

C. Irrigation. Notwithstanding anything to the contrary under chapter 20.30 or 14.08 of this title, golf courses in existence and operation prior to 1991 that have continually and lawfully utilized high level aquifer groundwater for maintenance and irrigation shall be permitted to continue such use, subject to the provisions of section 19.500.110 of this title.

D. ~~Irrigation. No high level aquifer groundwater will be used for golf course maintenance or operation (other than as water for human consumption) and that all irrigation of the golf course shall be through alternative nonpotable water sources, except as may be allowed from time to time as follows:~~

E. ~~The director of the department of public works and waste management, after notification of the chairperson and deputy director of the commission on water resources management, the chair of the Maui County council, the Lanai representative on the Maui County council, any appropriate subcommittee established under one of the Maui County council's standing committees to review water related issues on Lanai, the chair of the Lanai planning commission, and other state and/or county officials as appropriate, may authorize the use of potable groundwater from the high level aquifer if the director finds, in writing, there is an occurrence of an unanticipated event, including but not limited to:~~

2. ~~Chemical contamination of a nonpotable source by chemicals not approved for application to golf courses in accordance with Golf Course Superintendents Association of America standards; or~~

4. ~~Chemical contamination of a nonpotable source resulting in chemical concentrations not approved for golf course application by the Golf Course Superintendents Association of America, excluding, however, naturally occurring concentrations of chemicals or minerals; or~~

5. ~~A water transmission line break resulting in the interruption in the delivery of nonpotable water for golf course irrigation; or~~

6. ~~Failure of the pumping system used to pump nonpotable water; or~~

7. ~~A failure in the sewage reclamation systems which provide irrigation water for the golf course; or~~

8. ~~Draw down of various lakes or reservoirs due to use of that water to fight fires or other similar emergencies; or~~

9. ~~Due to the failure of the main electrical power feed to facilities used to irrigate the golf course with nonpotable water; and~~

10. ~~Under to circumstances shall drought be deemed an unanticipated event such that a permit may be issued.~~

F. ~~Prior to the director approving the use of potable high level aquifer groundwater for golf course irrigation the golf course owner shall have provided to the director:~~

G. ~~Materials, reports and other supporting documents setting forth the facts and/or circumstances which gave rise to the immediate need for golf course irrigation with potable high level aquifer groundwater;~~

H. ~~A plan showing that no continuous physical connection will be made between the potable and nonpotable water systems;~~

I. ~~A remedial plan to restore the use of nonpotable water in as short a time as possible, and shall include manufacturing and/or shipping times of various items needed for the restoration, as appropriate, and~~

~~shall further indicate those items will be obtained and/or shipped by the most expeditious means available; and~~

J. ~~A plan detailing how the following uses will be accommodated, including all sources from which water will be obtained (specifically addressing the use of existing reservoirs and lake water) and a watering/distribution plan, with the priority of uses as follows, such uses being based on a daily average of the historical record of use over the prior twelve month period immediately preceding the unanticipated event:~~

K. ~~Residential/domestic consumption (excluding irrigation uses);~~

L. ~~Commercial, business and resort consumption where potable water is necessarily used;~~

M. ~~Agricultural consumption, and~~

N. ~~Irrigation (including residential and large scale uses such as the golf course). This part of the plan shall address the order in which portions of the golf course shall cease to be watered as the situation continues.~~

O. ~~The permit issued by the director shall:~~

P. ~~Be issued only one time for any single unanticipated event and shall be valid for a period not to exceed thirty calendar days. The director may propose a longer period to the council and the council, by resolution, may indicate its concurrence with the director's determination that the permit should be issued for a period greater than thirty days. If the council does not so concur, the permit shall be valid for a period not to exceed thirty days. The golf course owner is prohibited from applying for a new permit for the same unanticipated event where the original permit has expired and the remedial action has not been completed, and the director is prohibited from issuing any further permits for the same unanticipated event where the original permit has expired and the remedial action has not been completed;~~

Q. ~~Require the golf course owner to submit weekly reports to the director and the council regarding the status of the situation, efforts made to address the situation, and the amount of potable groundwater used from the high level aquifer for that week. Meter readings shall be physically verified of public works and waste management;~~

R. ~~Include any conditions or restrictions appropriate and reasonably related to the circumstances surrounding the use of high level aquifer potable groundwater and the remedial work to be done, and also including the authority to impose a cap on the use of such water based on the historical monthly average of use of nonpotable water, in an amount not to exceed two hundred fifty thousand gallons per day;~~

S. ~~A copy of the permit shall be transmitted to all persons notified pursuant to subsection D1 of this section, the same day it is issued.~~

T. ~~Re seeding or Regrassing. Notwithstanding Ordinance 2066, at such time as the fairways at the golf course are to be reseeded or regressed so as to provide the golf course with more water efficient or better quality grass, the golf course owner may make a request of the county council for the use of potable groundwater from the high level aquifer in an amount up to twenty seven thousand gallons per day per fairway to supplement irrigation water from alternative nonpotable water sources. Such approval shall be by resolution of the council. Such additional water may be used for a period not to exceed twenty eight days per fairway. Only one fairway shall be irrigated with the additional water at any given time. No more than four fairways shall be reseeded or regressed during any calendar year. Fairways shall only be reseeded or regressed between the months of May through October, inclusive. Each fairway shall only be reseeded one time only under the provisions of this section. No continuous physical connection will be made between the potable and nonpotable water systems. In determining whether or not to approve the golf course owner's request, the council shall ensure that an adequate supply of water shall be available~~

for golf course irrigation in accordance with the priority of uses as follows: (1) residential/domestic consumption (excluding irrigation uses); (2) commercial, business and resort consumption where potable water is necessarily used; (3) agricultural consumption; and (4) irrigation (including residential and large scale uses such as the golf course). If, during the reseeding or regrassing of a fairway, an unanticipated event occurs for which a permit is issued pursuant to subsection D of this section, above, the golf course owner may continue to use potable water for reseeding or regrassing, but only to the extent that such cumulative total of potable water permitted to be used pursuant to subsection D of this section and this subsection does not exceed two hundred fifty thousand gallons per day.

(Ord. 2516 § 1, 1996; Ord. 2515 § 1, 1996; Ord. 2139 § 5, 1992)

### 19.71.060 Open space PD-L/2.

A. Permitted Uses. Within open space districts, the following uses shall be permitted:

1. Principal uses:

- a. Forest reserves,
- ~~b. Game reserves,~~
- ~~e.b.~~ Miniature golf courses,
- ~~d.c.~~ Open agricultural uses not requiring intensive cultivation, including orchards, vineyards, nurseries, and the raising and grazing of livestock, provided the raising of other than swine and fighting fowl shall not be permitted.
- ~~e.d.~~ Parks, botanical, ~~sculpture~~, and zoological gardens,
- ~~f.e.~~ Public and quasi-public utility installations and substations,
- ~~g.f.~~ Watersheds, wells, water reservoirs, and water control structures and drainage structures;

2. Accessory uses and structures that are determined by the Director of Planning to be incidental and customary to the permitted uses listed herein.

B. Special Uses. The following are declared special uses in open space districts, and approval of the ~~Maui~~ Lanai planning commission shall be obtained:

1. Public utilities, including temporary sewage treatment plants;
2. Recreational facilities of an outdoor nature, including cultural and historical facilities, with a minimum of five acres;
3. Riding stables and equestrian trails with a minimum of ten acres.

C. Development standards for open space districts shall be:

1. Minimum lot area, five acres;
2. Minimum lot width, two hundred fifty feet;
3. Minimum building setback:
  - a. Front yard, fifty feet,
  - b. Side yard, fifty feet,
  - c. Rear yard, fifty feet;
4. Maximum height, no portion of any building or structure shall exceed thirty feet in height;

Created: 2021-05-13 14:19:50 [EST]

(Supp. No. 62)

5. Maximum lot coverage, ten percent.

(Ord. 2139 § 6, 1992; Ord. 1580 § 1 (part), 1986)

### 19.71.070 ~~Public-Resort Commercial~~ PD-L/2.

A. Permitted Uses. Within ~~public-resort commercial~~ districts, the following uses shall be permitted:

1. Principal uses:

~~a. Utility installations and substations~~ Amusement and recreational activities;

~~b. Catering establishments;~~

~~c. Eating and drinking establishments;~~

~~d. Fitness centers;~~

~~e. Historic buildings, structures and sites, and sites or areas of scenic interest;~~

~~f. Information centers;~~

~~g. Museums;~~

~~h. News and magazine stands;~~

~~i. Outdoor recreation and outdoor recreational facilities;~~

~~j. Parking lots;~~

~~k. Riding stables and riding academies, trails, rodeo corrals and arenas, and equestrian activities and facilities;~~

~~l. Sculptures;~~

~~m. Taxicab, car rental, and U-drive stations and offices;~~

~~n. Tennis and other playing courts;~~

~~d.o.~~ Other uses of similar character providing foods, services, or facilities primarily to guests and transient visitors; provided the Director of Planning may approve such uses as conforming to the intent of this article, subject to such terms and conditions as may be warranted and required by the Director of Planning.

2. Accessory uses and structures.

~~a. Energy systems, small-scale, provided there will be no detrimental or nuisance effect upon neighbors;~~

~~b. Other uses that are determined by the Director of Planning to be clearly incidental and customary to a permitted use;~~

~~2-3.~~ Special uses: Any other business, service, or commercial establishments that is of similar character in rendering sales or performing services to guests, visitors, and residents of the area; provided approval of the Director of Planning is obtained and the use conforms to the intent of this district.

B. Development standards for ~~public-resort commercial~~ districts shall be:

1. Minimum lot area, ~~one-acre~~ six thousand square feet;
2. Minimum lot width, ~~one-hundred-ten~~ sixty feet;

Created: 2021-05-13 14:19:50 [EST]

(Supp. No. 62)

~~3. Minimum yard setback~~ Maximum building height, thirty-five feet, except that vent pipes, fans, chimneys, antennae, and equipment used for small-scale energy systems on roofs shall not exceed forty-five feet;

~~3-4. Minimum building setback:~~

a. Front yard, ~~twenty-five~~ feet,

b. ~~Side and rear yard, zero to ten~~ twenty feet. The ten foot setback applies if property abuts a district zoned R-1, R-2, R-3, or R-0 residential, A-1 or A-2 apartment, two family (duplex) or H-1, H-2, H-M hotel, or any area zoned residential, apartment, or hotel in any project district.

~~b. Rear yard, twenty feet;~~

~~5. Maximum height and minimum setback for freestanding antennae or wind turbine structures, including the length of the rotary blade; maximum height of fifty feet and minimum setback of one foot for each foot in height from all property lines;~~

~~4-6. Mail boxes, trash enclosures, boundary walls and fences, and all ground signs are permitted as accessory structures within the setback area, two stories not to exceed thirty feet.~~

~~C. Landscaping Requirements. In public districts a four-foot wide strip shall surround the perimeter of the structures or buildings.~~

~~(Ord. 1580 § 1 (part), 1986)~~

#### 19.71.080 Land use categories and acreages.

A. The following are established as maximum acreages for various land use categories within the Koele project district:

Residential	<u>214,048.8</u> acres
Multifamily	<u>26,018.7</u> acres
Hotel	<u>21,445.4</u> acres
Open space	<u>12,080.8</u> acres
Public	<u>1.0</u> acres
Park	<u>11,5234.9</u> acres
Golf course	<u>332,478.0</u> acres
<u>Resort commercial</u>	<u>75.4</u> acres

~~(Ord. 2139 § 7, 1992; Ord. 1580 § 1 (part), 1986)~~

#### 19.71.090 General standards of development.

Any tract of land for which development is sought in the project district for Koele shall be subject to the following standards:

A. Steep Slopes.

1. "Steep slopes" are defined as lands where the inclination of the surface from the horizontal is twelve percent or greater prior to any grading.

(Supp. No. 62)

2. A tract master plan shall be provided showing the building envelope, required setbacks, and preliminary drainage plan for each lot within the given tract and shall be reviewed and approved by the planning department during phase III project district review. The planning department may impose mitigative measures to ensure minimum subsidence and erosion on slopes exceeding thirty percent and on portions of the tract which are immediately adjacent to ravines. The tract master plan may include all or any part of the given tract, however phase III approval shall only apply to that part. Prior to the issuance of a building permit for a dwelling on a lot, the grading and erosion control plan for that lot shall be submitted to and approved by the department of public works and waste management, which shall review the final grading plan in accordance with the following criteria:

- a. Individual lot drainage shall conform with the approved phase III preliminary drainage plan;
- b. Erosion control measures to prevent erosion and sedimentation into the adjoining natural drainage way during construction of the home and exterior improvements shall be specified;
- c. A plan shall be submitted for revegetation of all disturbed and exposed slopes. This plan shall show how exposed surfaces will be planted and covered after construction to prevent erosion and sedimentation into the adjoining drainage way; and
- d. The planning department may require additional information if deemed necessary to support any request for phase III approval.

B. Ravines and Ravine Buffers.

1. At least ninety-five percent of all ravines shall remain in permanent open space. At least eighty percent of all ravine buffers shall remain in permanent open space.
2. "Ravines" are defined as valleys with sharply sloping walls created by action of intermittent stream waters. Ravine buffer areas are to be shown on the tract master plan and shall be at least equal to ten percent of the mean depth of the lot measured from the top of the ravine wall.

C. Wetlands. Areas such as swamps, marshes, bogs or other similar lands shall remain as permanent undisturbed open space.

D. Woodlands.

1. No more than sixty percent of existing woodland area shall be cleared. The remaining forty percent shall be maintained as permanent open space which may be enhanced by landscape planting as approved by the planning department.
2. "Woodlands" are defined as areas, including one or more lots, covering one contiguous acre or more, and consisting of thirty-five percent or more canopy tree coverage, where (a) trees have a caliper of at least sixteen inches; or (b) any grove of ten trees or more have calipers of at least ten inches. For the purposes of this section, a "grove" is defined as a stand of trees lacking natural underbrush or undergrowth.

E. Other Resources. Areas of important natural, historical, archaeological, or cultural resources or unique physical features, not otherwise mentioned in this section, shall be identified, and provisions shall be outlined to preserve or improve said resource or feature.

F. Design.

1. At least twenty percent of the lot area of each development shall be in protected open space. This includes areas defined in this section but does not include roadways, streets, and parking lots.
2. Each building and structure shall be designed by a ~~Hawaii registered~~ licensed architect to conform with the intent of the project district.

(Supp. No. 62)

G. Recreational, Community, and Open Space Facilities.

1. Recreational and community facilities shall be provided.
2. Provision shall be made for continuing management of all recreational, community, and open space facilities to insure proper maintenance and policing. Documents to said effect shall be required.

H. Infrastructure. The development shall not burden governmental agencies to provide substantial infrastructural improvements.

I. Landscape Planting.

1. Comprehensive landscaping of the entire development shall be provided, including along streets, within lots, and in open spaces.
2. Landscape planting is to be considered as an integral element to be utilized for visual screening, shade, definition, and environmental control. Furthermore, the use of recycled water is to be considered for irrigation purposes.

J. Signage. A comprehensive signage program shall be designed for the total development area and defined to at least include sizes, format, conceptual design, color schemes, and landscaping.

K. Lighting. Lighting shall be established in a manner so as to not adversely impact the surrounding areas.

(Ord. 2407 § 1, 1995; Ord. 2139 § 8, 1992; Ord. 1580 § 1 (part), 1986)

**19.71.100 Required agreements.**

~~In accordance with section 19.45.050, the applicant shall enter into the following bilateral agreements:~~

- ~~A. A bilateral agreement requiring the applicant to develop and coordinate a training program for all phases of hotel operations; provided, that development other than hotel development within the project district may proceed before the agreement has been executed; and~~
- ~~B. A bilateral agreement requiring the applicant to develop and coordinate an affordable housing program for residents of Lanai; provided, that development other than hotel development within the project district may proceed before the agreement has been executed.~~

~~(Ord. 1580 § 1 (part) 1986)~~

[CLEAN VERSION]

**Chapter 19.71 LANAI PROJECT DISTRICT 2 (KOELE)**

**19.71.010 Purpose and intent.**

- A. The purpose and intent of project district 2 at Koele, Lanai, is to provide for a flexible and creative approach to development which considers physical, environmental, social, and economic factors in a comprehensive manner.
- B. The purpose and intent of project district 2 at Koele is to establish a low-density residential and recreational development with hotel facilities in an upland rural setting.
- C. This project district is to be complementary and supportive of services offered in Lanai city and will provide housing and recreational opportunities to island residents. Uses include, but are not limited to, single-family residential, multifamily residential, hotel, open space, park, resort commercial, and golf course.

(Ord. 2139 § 2, 1992; Ord. 1580 § 1 (part), 1986)

**19.71.020 Residential PD-L/2.**

- A. Permitted Uses. Within the residential districts, the following uses shall be permitted:

1. Principal uses:

- a. Single-family detached dwellings;

~~b. Short-term rental homes, subject to the provisions of chapter 19.65 of this title;~~

~~b. Greenhouses, flower and truck gardens, and nurseries; provided there shall be no retailing or transacting of business on the premises;~~

~~c. Parks and playgrounds.~~

2. Accessory uses and structures;

- a. Day care nurseries, kindergartens, nursery schools, child care homes, day care homes, day care centers, nurseries, preschool kindergartens, babysitting services, learning pods, home schools, and other like facilities located in private homes used for child care and learning services. These facilities shall serve six or fewer children at any one time on lot sizes of less than seven thousand five hundred square feet, eight or fewer children at any one time on lot sizes of seven thousand five hundred or more square feet but less than ten thousand square feet, or twelve or fewer children at any one time on lot sizes of ten thousand or more square feet;

b. Trash enclosures;

c. Garages,

d. Subordinate uses and structures that are determined by the Director of Planning to be clearly incidental and customary to the permitted uses listed herein.

- 
3. Special accessory uses:
    - a. Accessory dwelling for a lot with .5 acre or more, subject to the provisions of chapter 19.35 of this title.

B. Development standards for residential districts shall be:

1. Minimum lot area, six thousand square feet;
2. Minimum lot width, sixty feet;
3. Minimum building setback:
  - a. Front yard, fifteen feet,
  - b. Side yard, six feet, ten feet for the second story of a structure,
  - c. Rear yard, six feet, ten feet for the second story of a structure;
4. Maximum overall net density, two and one-half units per acre;
5. Maximum height, two stories not to exceed thirty feet.

(Ord. 1580 § 1 (part), 1986)

**19.71.030 Multifamily PD-L/2.**

A. Permitted Uses. Within multifamily districts, the following uses shall be permitted:

1. Principal uses:
  - a. Single-family detached buildings,
  - b. Apartment houses,
  - c. Duplexes;
2. Accessory uses and structures.
  - a. Day care nurseries, kindergartens, nursery schools, child care homes, day care homes, day care centers, nurseries, preschool kindergartens, babysitting services, learning pods, home schools, and other like facilities located in private homes used for child care and learning services. These facilities shall serve six or fewer children at any one time on lot sizes of less than seven thousand five hundred square feet, eight or fewer children at any one time on lot sizes of seven thousand five hundred or more square feet but less than ten thousand square feet, or twelve or fewer children at any one time on lot sizes of ten thousand or more square feet;
  - b. Trash enclosures;
  - c. Garages;
  - d. Subordinate uses and structures that are determined by the Director of Planning to be clearly incidental and customary to the permitted uses listed herein.

B. Development standards for multifamily districts shall be:

1. Minimum lot area, one acre;
2. Minimum lot width, one hundred ten feet;

---

(Supp. No. 62)

Created: 2021-05-13 14:19:50 [EST]

- 
3. Minimum building setback:
    - a. Front yard, fifteen feet,
    - b. Side yard, ten feet, fifteen feet for two stories,
    - c. Rear yard, ten feet, fifteen feet for two stories;
  4. Maximum overall net density, six units per acre;
  5. Maximum floor area ratio, 0.5;
  6. Maximum height, two stories not to exceed thirty feet.

(Ord. 2139 § 3, 1992; Ord. 1580 § 1 (part), 1986)

**19.71.040 Hotel PD-L/2.**

A. Permitted Uses. Within hotel districts, the following uses shall be permitted:

1. Principal uses:
  - a. Hotel;
  - b. Automobile parking lots and buildings.
2. Accessory uses and structures:
  - a. Trash enclosures;
  - b. Ground signs;
  - c. Boundary walls and fences;
  - d. Subordinate uses and structures, which are determined by the Director of Planning to be incidental and customary to the permitted uses listed herein.
3. Special accessory uses:
  - a. The following uses shall be operated as an adjunct to, and as part of, a hotel with said hotel having at least twenty-five rooms. Furthermore, these uses shall be operated primarily as a service to, and for the convenience of, the tenants and occupants of the hotel on which premises such services are located.
    - i. Activities/information center,
    - ii. Bars, nightclubs,
    - iii. Fitness centers,
    - iv. Flower shops,
    - v. Eating and drinking establishments,
    - vi. Outdoor recreation,
    - vii. Recreational facilities including tennis and other playing courts, horse riding stables, and equestrian trails,
    - viii. Spa facilities and support services,
    - ix. Sundry shops,
    - x. Swimming pools,

---

(Supp. No. 62)

Created: 2021-05-13 14:19:50 [EST]

- xi. Theater/auditoriums,
  - xii. Ticket agencies;
  - xiii. Other accessory business or service establishments that furnish goods or perform services primarily for hotel guests.
- b. The shops and businesses may be constructed as separate buildings. However, entrances to shops and businesses shall not front on a street.

B. Special Uses. Other uses may be approved by the Lanai Planning Commission subject to the provisions of section 19.510.070 of this title.

C. Development standards for hotel districts shall be:

1. Minimum lot area, one acre;
2. Minimum lot width, one hundred ten feet;
3. Minimum building setback:
  - a. Front yard, twenty feet,
  - b. Side yard, ten feet,
  - c. Rear yard, fifteen feet;
4. Maximum floor area ratio, 0.8;
5. Maximum lot coverage, forty percent;
6. Maximum height, two stories not to exceed thirty feet, except that the Director of Planning may approve a greater height limitation for a structure where the Director of Planning determines that the increased height will enhance the appeal and architectural integrity of the structure, provided that the additional area created by the excess height shall not be used for habitation nor storage;
7. Maximum overall net density, twelve units per acre.

(Ord. 2139 § 4, 1992; Ord. 1580 § 1 (part), 1986)

**19.71.050 Park PD-L/2.**

A. Permitted Uses. Within park districts, the following uses shall be permitted:

1. Principal uses:
  - a. Parks and playgrounds;
  - b. Cultural and performing arts facilities;
  - c. Fitness courses;
  - d. Historical buildings, structures and sites, and sites or areas of scenic interest;
  - e. Maintenance areas and structures;
  - f. Outdoor recreation and recreational activities;
  - g. Picnicking;
  - h. Playing courts and playfields;
  - i. Public utilities;

(Supp. No. 62)

Created: 2021-05-13 14:19:50 [EST]

- j. Recreational and educational centers and facilities;
- k. Sculpture gardens;
- l. Trail activities;
- m. Zip line recreational activities;
- n. Other similar commercial or noncommercial enterprises or activities that are not detrimental to the welfare of the surrounding area; provided such uses shall be approved by the Director of Planning as conforming to the intent of this chapter.

2. Accessory uses and structures.

- a. Energy systems, small-scale; provided such use shall not cause a detrimental or nuisance effect on neighboring properties;
- b. Light fixtures and light poles; provided lighting or lamp posts and lighting controls shall be full cut-off luminaries to lessen possible sea bird strikes;
- c. Park furniture, including but not limited to benches, picnic tables, and fountains;
- d. Botanical gardens;
- e. Bazaars, fairs, food, wine, film, or other festivals that are special events and temporary in nature. "Temporary" for the purposes of this section shall mean that each festival or event may be held for no more than thirty days in a calendar year;
- f. Restaurants and gift shops;
- g. Pavilions;
- h. Comfort and shelter stations;
- i. Clubhouses for principal recreational uses, including restrooms, check-in counters or kiosks, and other ancillary facilities;
- j. Parking lot, loading and unloading area;
- k. Maintenance facilities;
- l. Subordinate uses and structures that are determined by the Director of Planning to be incidental and customary to the permitted uses listed herein.

B. Development standards for park districts shall be:

1. Minimum lot area, two acres;
2. Minimum lot width, one hundred fifty feet;
3. Minimum structure setback:
  - a. Front yard, fifteen feet,
  - b. Side yard, fifteen feet,
  - c. Rear yard, fifteen feet;

C. Non-potable water shall be used for irrigation to the extent available. Notwithstanding anything to the contrary under chapter 20.30 of this title, high level aquifer groundwater may be used for irrigation in areas where sufficient non-potable water is not available. Areas within Park districts that have continually and lawfully used high level aquifer groundwater for maintenance and irrigation shall be permitted to continue such use, subject to the provisions of section 19.500.110 of this title.

(Supp. No. 62)

Created: 2021-05-13 14:19:50 [EST]

---

(Ord. 1580 § 1 (part), 1986)

**19.71.055 Golf course PD-L/2.**

- A. Permitted Uses. Within the golf course district, the following uses shall be permitted:
1. Principal uses:
    - a. Golf courses except for miniature golf courses,
    - b. Historical buildings, structures, or sites;
  2. Accessory Uses and Structures. Accessory uses and structures which include, but which are not limited to, the following:
    - a. One caretaker's dwelling unit,
    - b. Cart barns and other equipment, storage, and maintenance facilities,
    - c. One clubhouse with one snack bar, one restaurant, and a pro shop for the sale and service of golf equipment and materials used for golfing purposes,
    - d. Comfort and shelter stations,
    - e. Golf and driving range including instructional and practice facilities,
    - f. Greenhouses to maintain landscaping on the zoning lot,
    - g. Indoor and outdoor playing courts, swimming pools, and meeting rooms, provided that no major meeting places such as convention halls and athletic complexes such as tennis centers or other permanent spectator accommodations shall be permitted,
    - h. Off-street parking and loading,
    - i. Park furniture,
    - j. Public utility,
    - k. Weight, massage, sauna, and locker rooms,
    - l. Bazaars, fairs, food, wind, film or other festivals that are special events and temporary in nature. "Temporary" for purposes of this section shall mean that each festival or event may be held for no more than thirty days in a calendar year,
    - m. Subordinate uses and structures that are determined by the Director of Planning to be incidental and customary to the permitted uses listed herein.
- B. Development standards for the golf course district shall be:
1. Minimum lot area, fifty acres for par three or nine hole;
  2. Minimum building setback, all yards, fifty feet;
  3. Maximum height, thirty-five feet; provided that ten feet of additional height may be permitted if a cart barn is located in the basement level of the structure, and provided further that minor utility facilities, vent pipes, fans, chimneys, and energy-savings devices shall be permitted additional height if the item is mounted on the roof of a facility; except that in no event shall this additional height exceed five feet above the governing height limit.
- C. Irrigation. Notwithstanding anything to the contrary under chapter 20.30 or 14.08 of this title, golf courses in existence and operation prior to 1991 that have continually and lawfully utilized high level

---

(Supp. No. 62)

Created: 2021-05-13 14:19:50 [EST]

---

aquifer groundwater for maintenance and irrigation shall be permitted to continue such use, subject to the provisions of section 19.500.110 of this title.

(Ord. 2516 § 1, 1996; Ord. 2515 § 1, 1996; Ord. 2139 § 5, 1992)

**19.71.060 Open space PD-L/2.**

- A. Permitted Uses. Within open space districts, the following uses shall be permitted:
1. Principal uses:
    - a. Forest reserves,
    - b. Miniature golf courses,
    - c. Open agricultural uses not requiring intensive cultivation, including orchards, vineyards, nurseries, and the raising and grazing of livestock, provided the raising of swine and fighting fowl shall not be permitted,
    - d. Parks, botanical, sculpture, and zoological gardens,
    - e. Public and quasi-public utility installations and substations,
    - f. Watersheds, wells, water reservoirs, and water control structures and drainage structures;
  2. Accessory uses and structures that are determined by the Director of Planning to be incidental and customary to the permitted uses listed herein.
- B. Special Uses. The following are declared special uses in open space districts, and approval of the Lanai planning commission shall be obtained:
1. Public utilities, including temporary sewage treatment plants;
  2. Recreational facilities of an outdoor nature, including cultural and historical facilities, with a minimum of five acres;
  3. Riding stables and equestrian trails with a minimum of ten acres.
- C. Development standards for open space districts shall be:
1. Minimum lot area, five acres;
  2. Minimum lot width, two hundred fifty feet;
  3. Minimum building setback:
    - a. Front yard, fifty feet,
    - b. Side yard, fifty feet,
    - c. Rear yard, fifty feet;
  4. Maximum height, no portion of any building or structure shall exceed thirty feet in height;
  5. Maximum lot coverage, ten percent.

(Ord. 2139 § 6, 1992; Ord. 1580 § 1 (part), 1986)

**19.71.070 Resort Commercial PD-L/2.**

- A. Permitted Uses. Within resort commercial districts, the following uses shall be permitted:

---

(Supp. No. 62)

Created: 2021-05-13 14:19:50 [EST]

1. Principal uses:

- a. Amusement and recreational activities;
- b. Catering establishments;
- c. Eating and drinking establishments;
- d. Fitness centers;
- e. Historic buildings, structures and sites, and sites or areas of scenic interest;
- f. Information centers;
- g. Museums;
- h. News and magazine stands;
- i. Outdoor recreation and outdoor recreational facilities;
- j. Parking lots;
- k. Riding stables and riding academies, trails, rodeo corrals and arenas, and equestrian activities and facilities;
- l. Sculptures;
- m. Taxicab, car rental, and U-drive stations and offices;
- n. Tennis and other playing courts;
- o. Other uses of similar character providing foods, services, or facilities primarily to guests and transient visitors; provided the Director of Planning may approve such uses as conforming to the intent of this article, subject to such terms and conditions as may be warranted and required by the Director of Planning.

2. Accessory uses and structures.

- a. Energy systems, small-scale, provided there will be no detrimental or nuisance effect upon neighbors;
- b. Other uses that are determined by the Director of Planning to be clearly incidental and customary to a permitted use;

3. Special uses: Any other business, service, or commercial establishments that is of similar character in rendering sales or performing services to guests, visitors, and residents of the area; provided approval of the Director of Planning is obtained and the use conforms to the intent of this district.

B. Development standards for resort commercial districts shall be:

- 1. Minimum lot area, six thousand square feet;
- 2. Minimum lot width, sixty feet;
- 3. Maximum building height, thirty-five feet, except that vent pipes, fans, chimneys, antennae, and equipment used for small-scale energy systems on roofs shall not exceed forty-five feet;
- 4. Minimum building setback:
  - a. Front yard, fifteen feet,
  - b. Side and rear yard, zero to ten feet. The ten foot setback applies if property abuts a district zoned R-1, R-2, R-3, or R-0 residential, A-1 or A-2 apartment, two family (duplex) or H-1, H-2, H-M hotel, or any area zoned residential, apartment, or hotel in any project district.

Created: 2021-05-13 14:19:50 [EST]

(Supp. No. 62)

- 5. Maximum height and minimum setback for freestanding antennae or wind turbine structures, including the length of the rotary blade; maximum height of fifty feet and minimum setback of one foot for each foot in height from all property lines;
- 6. Mail boxes, trash enclosures, boundary walls and fences, and all ground signs are permitted as accessory structures within the setback area.

(Ord. 1580 § 1 (part), 1986)

**19.71.080 Land use categories and acreages.**

A. The following are established as maximum acreages for various land use categories within the Koele project district:

Residential	48.8 acres
Multifamily	18.7 acres
Hotel	45.4 acres
Open space	80.8 acres
Park	234.9 acres
Golf course	78.0 acres
Resort commercial	75.4 acres

(Ord. 2139 § 7, 1992; Ord. 1580 § 1 (part), 1986)

**19.71.090 General standards of development.**

Any tract of land for which development is sought in the project district for Koele shall be subject to the following standards:

A. Steep Slopes.

- 1. "Steep slopes" are defined as lands where the inclination of the surface from the horizontal is twelve percent or greater prior to any grading.
- 2. A tract master plan shall be provided showing the building envelope, required setbacks, and preliminary drainage plan for each lot within the given tract and shall be reviewed and approved by the planning department during phase III project district review. The planning department may impose mitigative measures to ensure minimum subsidence and erosion on slopes exceeding thirty percent and on portions of the tract which are immediately adjacent to ravines. The tract master plan may include all or any part of the given tract, however phase III approval shall only apply to that part. Prior to the issuance of a building permit for a dwelling on a lot, the grading and erosion control plan for that lot shall be submitted to and approved by the department of public works and waste management, which shall review the final grading plan in accordance with the following criteria:
  - a. Individual lot drainage shall conform with the approved phase III preliminary drainage plan;
  - b. Erosion control measures to prevent erosion and sedimentation into the adjoining natural drainageway during construction of the home and exterior improvements shall be specified;
  - c. A plan shall be submitted for revegetation of all disturbed and exposed slopes. This plan shall show how exposed surfaces will be planted and covered after construction to prevent erosion and sedimentation into the adjoining drainageway; and

Created: 2021-05-13 14:19:50 [EST]

(Supp. No. 62)

---

d. The planning department may require additional information if deemed necessary to support any request for phase III approval.

B. Ravines and Ravine Buffers.

1. At least ninety-five percent of all ravines shall remain in permanent open space. At least eighty percent of all ravine buffers shall remain in permanent open space.
2. "Ravines" are defined as valleys with sharply sloping walls created by action of intermittent stream waters. Ravine buffer areas are to be shown on the tract master plan and shall be at least equal to ten percent of the mean depth of the lot measured from the top of the ravine wall.

C. Wetlands. Areas such as swamps, marshes, bogs or other similar lands shall remain as permanent undisturbed open space.

D. Woodlands.

1. No more than sixty percent of existing woodland area shall be cleared. The remaining forty percent shall be maintained as permanent open space which may be enhanced by landscape planting as approved by the planning department.
2. "Woodlands" are defined as areas, including one or more lots, covering one contiguous acre or more, and consisting of thirty-five percent or more canopy tree coverage, where (a) trees have a caliper of at least sixteen inches; or (b) any grove of ten trees or more have calipers of at least ten inches. For the purposes of this section, a "grove" is defined as a stand of trees lacking natural underbrush or undergrowth.

E. Other Resources. Areas of important natural, historical, archaeological, or cultural resources or unique physical features, not otherwise mentioned in this section, shall be identified, and provisions shall be outlined to preserve or improve said resource or feature.

F. Design.

1. At least twenty percent of the lot area of each development shall be in protected open space. This includes areas defined in this section but does not include roadways, streets, and parking lots.
2. Each building and structure shall be designed by a licensed architect to conform with the intent of the project district.

G. Recreational, Community, and Open Space Facilities.

1. Recreational and community facilities shall be provided.
2. Provision shall be made for continuing management of all recreational, community, and open space facilities to insure proper maintenance and policing. Documents to said effect shall be required.

H. Infrastructure. The development shall not burden governmental agencies to provide substantial infrastructural improvements.

I. Landscape Planting.

1. Comprehensive landscaping of the entire development shall be provided, including along streets, within lots, and in open spaces.
2. Landscape planting is to be considered as an integral element to be utilized for visual screening, shade, definition, and environmental control. Furthermore, the use of recycled water is to be considered for irrigation purposes.

---

J. Signage. A comprehensive signage program shall be designed for the total development area and defined to at least include sizes, format, conceptual design, color schemes, and landscaping.

K. Lighting. Lighting shall be established in a manner so as to not adversely impact the surrounding areas.

(Ord. 2407 § 1, 1995; Ord. 2139 § 8, 1992; Ord. 1580 § 1 (part), 1986)



**AGRICULTURAL  
IMPACT REPORT**

**APPENDIX**

**B**



November 17, 2021

On September 29, 2021, the County of Maui Department of Planning submitted the following comment on behalf of the Lānaʻi Planning Commission with respect to our technical study, *Proposed Kōʻele Project District Revisions: Impacts on Agriculture*.

Comment 28:

*(Appendix B, Page 13) The Agricultural Impact Report states on page 13: "Tax revenues derived from County property taxes and State taxes (excise, personal income, cooperate income, and transient accommodations tax)." The word should likely be "corporate." Please revise. Further what is the source of anticipated transient accommodation tax revenue? Is this the Hotel only? Are there other sources?*

We acknowledge the error of "cooperate," it should be "corporate." This letter serves to correct the record.

Signed

Bruce Plasch

Bruce Plasch (Nov 18, 2021 14:06 HST)

Bruce Plasch, Ph.D.  
President  
Plasch Econ Pacific, LLC

Tessa Ng

Tessa Ng (Nov 18, 2021 16:57 HST)

Tessa Munekiyo Ng  
Vice President  
Munekiyo and Hiraga

**REF-22**

April 6, 2021

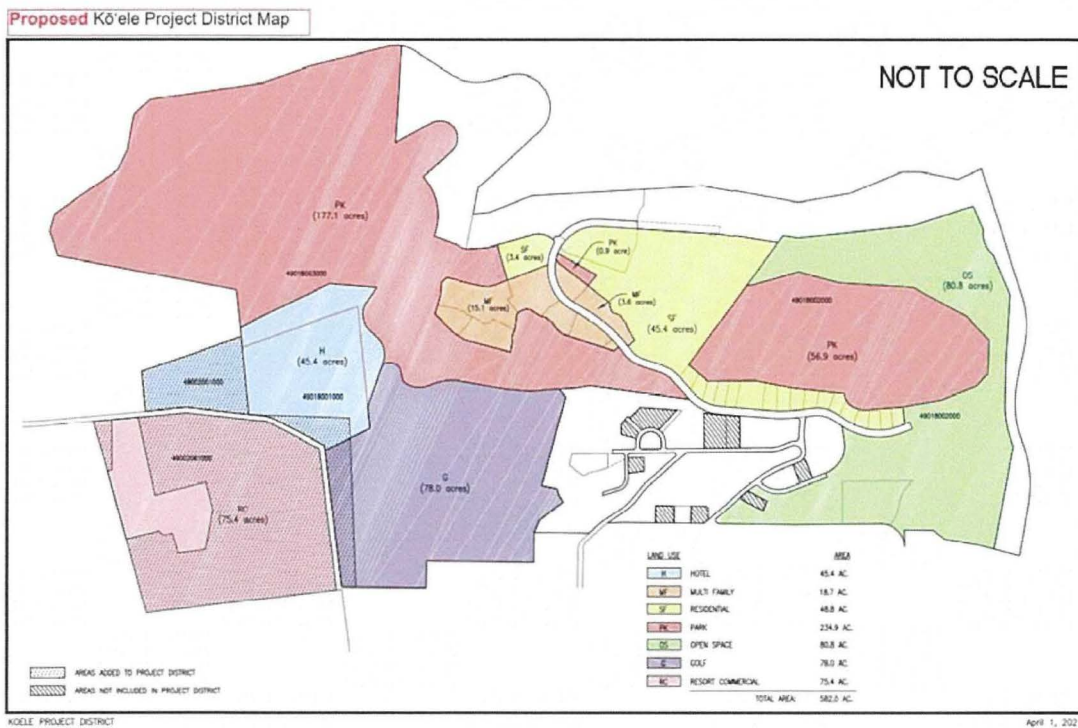
We were originally contracted to complete an Impacts on Agriculture study for the draft Environmental Assessment for the Kō'ele Project District Amendment.

Since the completion of our study, Pūlama Lāna'i has adjusted the uses and associated acres within the project district. This is reflected in the map below.

Additionally, an inconsistency between MCC Chapter 19.71.080 and Ordinance 1581, 2140, and 2852 was identified by Pūlama Lāna'i while finalizing their application. A non-contiguous 14.5 acre parcel (TMK: [2] 4-9-002:061 (portion)) is zoned "Project District" in Ordinance 2852, however, no subdistrict designation is assigned to the 14.5 acres in Ordinance 2852. Furthermore, there is no record of the 14.5 acres in Ordinance 1581, Ordinance 2140, and MCC Chapter 19.71.080, where the subdistricts are identified by the number of acres.

Pūlama Lāna'i has incorporated this 14.5 acre section (identified as "Stables & Tennis Courts" in CIZ Map 2615) into the Proposed Kō'ele Project District Map, it was not identified in earlier maps provided to our firm.

We attest that the results of our technical study, *Proposed Koele Project District Revisions: Impacts on Agriculture* do not change based on the updated map.



Signed

Bruce S. Plasch

Bruce S. Plasch (Apr 7, 2021 10:41 HST)

Bruce Plasch, Ph.D.  
President  
Plasch Econ Pacific, LLC

Tessa Ng

Tessa Ng (Apr 7, 2021 17:27 HST)

Tessa Munekiyo Ng  
Vice President  
Munekiyo and Hiraga

**REF-23**

*PROPOSED KOELE PROJECT DISTRICT REVISIONS:  
IMPACTS ON AGRICULTURE*

---

---

*PROPOSED KOELE PROJECT DISTRICT REVISIONS:  
IMPACTS ON AGRICULTURE*

---

---

*PREPARED FOR:*

Pūlama Lāna‘i

*PREPARED BY:*

Plasch Econ Pacific, LLC and  
Munekiyo Hiraga

**September 2019**

## CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	1
<b>1. INTRODUCTION</b> .....	1
<b>2. PROJECT INFORMATION</b> .....	2
a. Project Location and TMK .....	2
b. Project Description .....	2
c. Land Classifications and Required Approvals .....	2
<b>3. AGRICULTURAL CONDITIONS</b> .....	3
a. Soil Types .....	3
b. Soil Characteristics .....	5
c. Soil Ratings .....	5
d. Slopes .....	7
e. Climatic Conditions .....	7
f. Irrigation Water .....	8
g. Locational Advantages and Disadvantages .....	8
h. Summary of Agricultural Conditions .....	9
<b>4. PAST AGRICULTURAL USES</b> .....	10
<b>5. EXISTING AND FUTURE COMMERCIAL FARMING ON LĀNA‘Ī</b> .....	10
a. Existing Farms and related activities .....	10
b. Agricultural Park .....	10
c. Hydroponic Farm .....	11
<b>6. IMPACT ON AGRICULTURAL OPERATIONS IN THE PROJECT AREA</b> .....	11
<b>7. IMPACT ON THE GROWTH OF AGRICULTURE</b> .....	12
<b>8. OFFSETTING BENEFITS</b> .....	12
<b>9. CONSISTENCY WITH STATE AND COUNTY POLICIES</b> .....	13
a. Availability of Lands for Agriculture .....	13
b. Conservation of Agricultural Lands .....	13
<b>10. REFERENCES</b> .....	14

## CONTENTS

### TABLES

1. Existing and Proposed Acreages of Koele Project District .....	2
2. Koele Project District Revisions .....	3
3. Agricultural Lands of Importance .....	6
4. Land Study Bureau Classification .....	6

### FIGURES

1. Regional Location Map
2. Existing Koele Project District Map
3. Proposed Koele Project District Map
4. State Land Use District Classification Map, Project Area
5. State Land Use District Classification Map, Island of Lāna‘i
6. Lāna‘i Community Plan Map
7. Soil Classification Map
8. Agricultural Lands of Importance to the State of Hawai‘i Map
9. Land Study Bureau Map
10. Lāna‘i Water System
11. Acreage in Crop, Hawaii: 1960 to 2017

### APPENDIX

State and County Goals, Objectives, Policies, and Guidelines Related to Agricultural Lands

## EXECUTIVE SUMMARY

### 1. PROPOSED DEVELOPMENT

Pūlama Lānaʻi proposes revisions to the existing Koele Project District (PD) (the Project) in the Koele area on the island of Lānaʻi, Hawaiʻi. The existing Koele PD consists of approximately 618 acres. Portions of the existing project district will be removed while new lands will be added. Lands which will be added to the Koele PD includes approximately 67 acres of agricultural-designated lands that are proposed to be incorporated into the Koele PD as 57 acres of “Resort Commercial” district and 10 acres of “Hotel” district. The amended Koele PD will consist of approximately 564 acres. The land use allocations within the Project Area are also proposed to be modified.

Although the proposed Koele PD will be 564 acres in its entirety, this report addresses approximately 150 acres (Project Area). About 83 acres of the Project Area are currently within the PD but are designated “Agricultural” by the State Land Use Commission. The current designation of this land will remain, but its use will change from a golf course to a park.

About 67 acres of the Project area are zoned “Agricultural” by Maui County and will be added to the PD as Hotel District (about 10 acres) and Resort Commercial (about 57 acres). State Districting for this land is “Rural”. About 2 acres of the Resort Commercial land will be developed, and about 55 acres will continue to be used for stables, plus occasional commercial events under tents.

The remainder of the Koele PD—which is not designated as “Agricultural” by the State Land Use Commission or Maui County—is not analyzed as it is non-agricultural lands and is not relevant to the analysis of agricultural impacts.

### 2. AGRICULTURAL CONDITIONS

The Project Area has some favorable agronomic conditions: soils are good; solar radiation is moderate; and the trucking distances to Lānaʻi City and Mānele Resort are short.

However, the Project Area is unsuitable for field farming to supply crops to Lānaʻi markets, or for export to Oʻahu or the mainland. The major problems are the lack of irrigation water, the Lānaʻi market is very small, and Lānaʻi farmers are at a competitive disadvantage in supplying the Oʻahu and mainland markets because of shipping costs

### 3. PAST AGRICULTURAL USES

A portion of the Project Area and surrounding fields were used for a pineapple plantation from the 1920s to 1992. Since then, the majority of the Project Area and the surrounding fields have been fallow.

### 4. EXISTING AND FUTURE COMMERCIAL FARMING ON LĀNAʻI

Only one commercial farmer operates on Lānaʻi, selling fresh produce to local stores and the hotels. In addition, some part-time farmers grow crops for personal consumption, and some sell to grocery stores.

The Stables at Koele (Stables) is an equestrian operation located on Kanepuʻu Highway north of Lānaʻi City. The Stables utilize 215 acres of land, with facilities including a 3,800-square foot (sq. ft.) barn, six (6) run-in shelters (288 sq. ft. each), and three (3) 40-foot storage containers. An approximately 55 acre portion of the lands utilized by the Stables will be located within the proposed Koele PD. The Stables keep 48 horses and offer various ranch experiences to guests, including group horseback rides, private horseback rides, horse lessons, pony rides, miniature horse cart rides, and shire carriage rides. In addition to the equestrian experiences, the Stables has a petting zoo with various goats, donkeys, and miniature horses. The Stables plans to add 10 corrientes (steers) and possibly bring in some alpacas, chickens, and additional goats to the property.

There is a plan for a 100-acre agricultural park on the island of Lānaʻi. In 1992, the Land Use Commission required Castle & Cooke’s Lānaʻi Resort to set aside 100 acres for the development and operation of an agricultural park by the State Department of Agriculture and County of Maui for the residents of Lānaʻi. This was a condition for approving the Manele Golf Course. However, there has not been any progress on developing the park due to a lack of interest.

Sensei Farms Lānaʻi is developing a hydroponic farm to supply fresh produce to local markets, and possibly to off-island markets. At full development, the farm will include ten (10) greenhouses that are powered by an off-grid photovoltaic system. One of the major advantages of hydroponic farming is that it requires relatively little water compared to field farming.

### 5. IMPACT ON AGRICULTURAL OPERATIONS WITHIN THE PROJECT AREA

A 55-acre portion of the 215-acre area utilized by the Stables at Koele are proposed to be incorporated into the Koele PD and will be designated for Resort Commercial use. This includes the existing barn and other related facilities. The Stables at Koele facilities will remain in its current location and will be incorporated into the Project District. The Resort

Commercial designation will allow Pūlama Lana'i to utilize the land within the Stables at Koele for parties and events. These events will use a portion of the Stable lands about eight times per year, and will be open air and/or under tents.

In addition, two (2) historic buildings will be relocated to the 55-acre portion of the Stables. These historic properties will to be converted to a museum and a retail shop. Also, a third building may be constructed, resulting in a total of about 30,000 square feet of commercial space (about 2 acres with parking and landscaping). The commercial operations are expected to be compatible uses with the Stables at Koele operation.

Beyond the Stables at Koele, there are no other existing or planned agricultural operations within the Project Area.

Inasmuch as the revised Koele PD will not require relocation of the Stables at Koele facilities, and only about 2 acres of 215 acres of the Stables will be lost, the Project will have no significant impact on existing agricultural operations.

## 6. IMPACT ON THE GROWTH OF AGRICULTURE

About 12 acres of the Project Area will be lost to agriculture, including about (1) 10 acres of land that will be rezoned by the County from Agriculture to Hotel, and (2) about 2 acres that will be developed on land planned for Resort Commercial but are now zoned Agriculture and used for the Stables. An additional 55 acres will be rezoned from Agriculture to Resort Commercial, but nearly all of these lands will continue to be used for the Stables along with occasional commercial events.

There are approximately 18,000 acres of former plantation lands on Lāna'i which remain available for agricultural use, and over 200,000 acres statewide. The loss of about 12 acres of agriculture land on Lāna'i, plus the loss of agricultural land due to other projects (i.e., the cumulative impact), is too small to affect the growth of diversified agriculture on Lāna'i or Statewide.

## 7. OFFSETTING BENEFITS

The loss of 12 acres of agricultural land will be offset by the benefits of the Project to the community, including: (1) employment generated by construction activity and future hotel and commercial operations; (2) offsite economic activity generated by the purchases of goods and services by companies and the families of employees; and (3) tax revenues derived from County property taxes and State taxes (excise, personal income, corporate income, and transient accommodations tax).

## 8. CONSISTENCY WITH STATE AND CITY POLICIES

### a. Availability of Lands for Agriculture

The Hawai'i State Constitution, the Hawai'i State Plan, the State Agriculture Functional Plan, the County of Maui 2030 General Plan, and the County's Lāna'i Community Plan call directly or implicitly for preserving the economic viability of plantation agriculture and promoting the growth of diversified agriculture. To accomplish this, an adequate supply of agriculturally suitable lands and water must be assured.

With regard to plantation agriculture, the Project Area is no longer part of a pineapple plantation. The last pineapple harvest was in 1992.

With regard to diversified agriculture, the Project will not result in the loss of any existing agricultural operation since the Stables will remain, and the Project Area is not currently being cultivated and has not been cultivated since 1992.

Although the Project will reduce the availability of agricultural land by about 12 acres, the Project will not limit the growth of diversified agriculture statewide or on Lāna'i since ample agricultural land is available due to the loss of nearly all plantations in Hawai'i.

### b. Conservation of Agricultural Lands

In addition to the above, State and County policies call for conserving and protecting prime agricultural lands, including protecting farmland from urban development.

It should be noted that many of the State agricultural policies were written before the major contraction of plantation agriculture (from 1981 to 2016), and assume implicitly that profitable agricultural activities eventually will be available to utilize all available agricultural lands. This has proven to be a questionable assumption in view of the enormity of the contraction of plantation agriculture, the abundant supply of farmland that came available for diversified agriculture, and the slow growth in the amount of land being utilized for diversified agriculture.

Furthermore, discussions in the State Agriculture Functional Plan recognize that redesignation of lands from Agricultural to Urban and/or Rural should be allowed "... upon a demonstrated change in economic or social conditions, and where the requested redesignation will provide greater benefits to the general public than its retention in ...agriculture;" that is, when an "overriding public interest exists." The enormous contraction of plantation agriculture, which resulted in the supply of agricultural land far exceeding demand, constitutes a major change in economic conditions. Moreover, the Project will provide community benefits (jobs, tax revenues, etc.) that far exceed the benefits of leaving 12 acres in agriculture. In practice, the Project is expected to have no significant impact on agricultural activity since the Stables will remain, and ample land is available statewide to accommodate the anticipated growth of diversified agriculture.

# KOELE PROJECT DISTRICT REVISIONS: IMPACTS ON AGRICULTURE

## 1. INTRODUCTION

Pūlama Lāna‘i proposes revisions to the existing Koele Project District (PD) (the Project) in the Koele area on the island of Lāna‘i, Hawai‘i. The existing Koele PD consists of approximately 618 acres. Portions of the existing project district will be removed while new lands will be added. Lands which will be added to the Koele PD includes approximately 67 acres of agricultural-designated lands that are proposed to be incorporated into the Koele PD as 57 acres of “Resort Commercial” district and 10 acres of “Hotel” district. The amended Koele PD will consist of approximately 564 acres. Land use allocations within the Project Area are also proposed to be modified.

This report addresses the impacts of the Project on agriculture. Although the proposed Koele PD will be 564 acres in its entirety, this report addresses approximately 150 acres (Project Area). About 83 acres of the Project Area are currently within the PD but are designated “Agricultural” by the State Land Use Commission. The current designation of this land will remain, but its use will change from a golf course to a park.

About 67 acres of the Project area are zoned “Agricultural” by Maui County and will be added to the PD as Hotel District (about 10 acres) and Resort Commercial (about 57 acres). State Districting for this land is “Rural”. About 2 acres of the Resort Commercial land will be developed, and about 55 acres will continue to be used for stables, plus occasional commercial events under tents.

The remainder of the Koele PD—which is not designated as “Agricultural” by the State Land Use Commission or Maui County—is not analyzed as it is non-agricultural lands and is not relevant to the analysis of agricultural impacts.

The material below gives information about the Project, the agricultural conditions of the Project Area, past agricultural uses of the land, the impact of the Project on existing agricultural operations in and near the Project Area, the impact of the Project on the growth of diversified-crop farming, benefits of the Project that would offset adverse agricultural impacts, and consistency of the Project with State and County agricultural policies. The Appendix provides a summary of State and County goals, objectives, policies, and guidelines related to agricultural lands.

## 2. PROJECT INFORMATION

### a. Project Location and TMK

As shown in **Figure 1** (all Figures follow the body of the report), the Project Area is situated northeast of Lāna‘i City. The Project Area is bordered on north by former pineapple lands and mountains, on the east by mountains, on the south by mountains and former pineapple lands, and on the west by Lāna‘i City and former pineapple lands. The Tax Map Keys (TMK) for the Project Area are (2)4-9-018:001(por.), (2)4-9-018:002(por.), and (2)4-9-002:061 (por.). Among these parcels, a 10-acre portion of TMK (2)4-9-018:001, a 57.2-acre portion of TMK (2)4-9-002:061, and a 83-acre portion of TMK (2)4-9-018:003 comprise the 150-acre Project Area that will be addressed in this report.

### b. Project Description

Pūlama Lāna‘i proposes revisions to the existing Koele PD. The proposed revisions include a removal of 129.7-acre lands, an addition of 75.7 acres of land located to the north of the existing Koele PD and changes of the land use allocations within the PD (see **Figure 2**, **Figure 3**, and **Table 1**).

**Table 1. Existing and Proposed Acreages of Koele Project District**

Zoning	Existing	Proposed
Hotel	21.1 acres	39.1 acres
Single Family Residential	214 acres	9.8 acres
Multi Family Residential	26 acres	18.7 acres
Park	11.5 acres	271.7 acres
Open Space	12 acres	89.5 acres
Golf	332.4 acres	78 acres
Public	1 acres	0 acres
Resort Commercial	0 acres	57.2 acres
Removal from Project District	- acres	(129.70) acres
<b>TOTAL</b>	<b>618 acres</b>	<b>564 acres</b>

### c. Land Classifications and Required Approvals

Current land classifications of the Project Area and proposed changes are as follows:

#### State Districts

- Current: Agricultural and Rural (See **Figure 4** and **Figure 5**)
- Proposed: Agricultural and Urban

County Designations

- Lāna‘i Community Plan
  - Current: Project District, Open Space, Agriculture, and Rural (see **Figure 6**)
  - Proposed: Project District
- Maui County Zoning
  - Current: Project District, Agricultural and Interim
  - Proposed: Project District

**3. AGRICULTURAL CONDITIONS**

**a. Soil Types**

As shown in **Figure 7**, the Project Area contains 8 soil types. Their acreages are shown in **Table 2** by their quality as rated by the Natural Resources Conservation Service (NRCS), formerly known as the Soil Conservation Service.

**Table 2. Koele Project District Revisions  
Soil Types and NRCS Ratings**

Soil Types	Acres		NRCS Rating
KcB	70.6	47.0%	Ile
KcC	27.6	18.3%	IIIe
KrB	6.7	4.5%	Ile
KrC	9.3	6.2%	IIIe
KRL	24.8	16.5%	IIIe
LaB	4.2	2.8%	Ile
LaC	0.3	0.2%	IIIe
WoB	6.8	4.5%	Ile
Total	150.4	100.0%	

For each of the 8 soil types, the complete name, the range of slopes, and soil descriptions are:

- **KcB: Kalae silty clay, 2 to 7 percent slopes**

The Kalae Series consists of well drained soils on uplands on the islands of Moloka‘i and Lāna‘i. The KcB soils are gently sloping and occupies smooth uplands. The surface layer is dark reddish-brown silty clay about 15 inches thick. The upper part of subsoil, about 26 inches thick, is dark reddish silty clay that has subangular blocky structure and the lower part, about 21 inches thick, is dark-red and reddish-brown silt loam. The soil is strongly acid. Permeability is moderately

rapid. Runoff is slow and the erosion hazard is slight. The soils are used for pasture and pineapple.

- **KcC: Kalae silty clay, 7 to 15 percent slopes**

The KcC soils are characterized by 7 to 15 percent slopes. Runoff is slow to medium and the erosion hazard is slight to moderate. The soils are used for pasture and pineapple.

- **KrB: Koele silty clay loam, 3 to 7 percent slopes**

The Koele Series consists of well-drained soils on the islands of Lāna‘i, Maui, and Moloka‘i. These soils formed in alluvium derived from basic igneous material. The KrB soils occurs on fans and in drainage ways and the surface layer is dark brown silty clay loam about 18 inches thick. The next layer, 30 to more than 40 inches thick, consists of stratified dark-brown alluvium that ranges from silty clay loam to coarse sandy loam in texture. The soils are slightly acid to medium acid, except that the surface layer is generally very strongly acid in areas used for pineapple.

- **KrC: Koele silty clay loam, 7 to 15 percent slopes**

On the KrC soils, runoff is medium and the erosion hazard is moderate. Workability is slightly difficult because of the slope. This soil is used for pineapple and wildlife habitat.

- **KRL: Koele-Badland complex**

The KRL complex occurs mainly in large gulches. It consists of Koele Soils at the bottom of gulches and Badland on the sides of gulches. The Koele soils are similar to the KrB soil, except that the slope is mainly 7 to 20 percent. These soils make up 60 to 80 percent of the acreage. Badland consists of highly weathered rock and makes up 20 to 40 percent of the acreage.

- **LaB: Lahaina silty clay, 3 to 7 percent slopes**

The Lahaina Series consists of well-drained soils on uplands on the islands of Lāna‘i, Maui, Moloka‘i, and O‘ahu. These soils developed in material weathered from basic igneous rock. They are nearly level to steep. The LaB soils are on smooth uplands. Included in mapping were small areas that are underlain by consolidated sand at a depth below 30 inches. The surface layer is dark-reddish-brown, silty clay about 15 inches thick. The subsoil, about 45 inches thick, is dusky-red and dark reddish brown subangular blocky silty clay and silty clay loam. Permeability is moderate. Runoff is slow and the erosion hazard is slight.

- **LaC: Lahaina silty clay, 7 to 15 percent slopes**

The LaC soils have a profile similar to LaB, except that most of the surface

layer and, in places, part of the subsoil have been removed by erosion. Runoff is medium, and the erosion hazard is severe. This soil is used for sugarcane and pineapple.

- **WoB: Waihuna clay, 3 to 7 percent slopes**

The Waihuna Series consists of well drained and moderately well drained soils on alluvial fans and in depressions on the islands of Lānaʻi and Molokaʻi. These soils formed in old, fine-textured alluvium. The WoB soils occur on Molokaʻi and Lānaʻi. Runoff is slow and the erosion hazard is slight. This soil is used for pineapple.

**b. Soil Characteristics**

The majority of lands in the Project Area exhibits a number of favorable characteristics for farming, including relatively gentle sloping and well drained soils. However, due to lack of available irrigation water, the Project Area is not suitable for intensive field farming. A portion of the Project Area and the surrounding areas were historically used for pineapple production, which requires relatively little water.

**c. Soil Ratings**

Three (3) classification systems are commonly used to rate Hawaiʻi soils: (1) Land Capability Grouping, (2) Agricultural Lands of Importance to the State of Hawaiʻi, and (3) Overall Productivity Rating.

**Land Capability Grouping (NRCS Rating)**

The 1972 Land Capability Grouping by the U.S. Department of Agriculture, NRCS rates soils according to eight (8) levels, ranging from the highest classification level “I” to the lowest “VIII”.

Assuming irrigation, approximately 88.4 acres (59%) of the Project Area have soils that are rated in Class IIe (refer to **Table 2**). Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices. The subclassification “e” indicates that the limitations are due to erosion. Approximately 62 acres (41%) of the Project Area have soils that are rated in Class IIIe. Class III soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.

These ratings ignore the lack of irrigation water for the Project Area.

**Agricultural Lands of Importance to the State of Hawaiʻi (ALISH)**

ALISH ratings were developed in 1977 by the NRCS, UH College of Tropical

Agriculture and Human Resources, and the State of Hawaiʻi, Department of Agriculture. This system classifies land into three (3) broad categories: (a) “Prime” agricultural land which is land that is best suited for the production of crops because of its availability to sustain high yields with relatively little input and with the least damage to the environment; (b) “Unique” agricultural land which is non-Prime agricultural land used for the production of specific high-value crops; and (c) “Other” agricultural land which is non-Prime and non-Unique agricultural land that is important to the production of crops.

Approximately 69.2 acres (46%) of the Project Area have soils that are rated “Unique” and 48.2 acres (32%) of the Project Area are rated “Other” (see **Figure 8** and **Table 3**). The remainder of the Project Area is unclassified.

**Table 3. Agricultural Lands of Importance to the State of Hawaiʻi Classification**

Classification	Acres	
Prime	0.0	0.0%
Unique	69.2	46.0%
Other	48.2	32.0%
Unclassified	33.0	22.0%
Total	150.4	100.0%

**Overall Productivity Rating (LSB Rating)**

In 1967, the UH Land Study Bureau (LSB) developed the Overall Productivity Rating, which classifies soils according to five (5) levels, with “A” representing the class of highest productivity and “E” the lowest.

Approximately 101.8 acres (67.7%) of the Project Area are rated D, 29.3 acres (19.5%) are rated E, and 19.3 acres (12.9%) are rated C (see **Figure 9** and **Table 4**). The low rating reflects the lack of irrigation water for the Project Area.

**Table 4. Land Study Bureau Classification**

Classification	Acres	
A	0.0	0.0%
B	0.0	0.0%
C	19.3	12.9%
D	101.8	67.7%
E	29.3	19.5%
Not Classified	0.0	0.0%
Total	150.4	100.0%

### Summary Evaluation of Soil Quality

The Project Area has lands that are considered relatively good farmland based on the soil quality. Approximately a half of the Project Area is characterized as “Unique” farmland with a small portion of “Other” farmland by ALISH. The entire Project Area is rated II or III by NRCS, indicating that it has moderate or severe limitations for farming. The Project Area has well drained soils that are able to sustain high yields.

It is noted that this evaluation ignores the lack of irrigation water.

#### **d. Slopes**

Most of the Project Area has slopes of less than 8%.

#### **e. Climatic Conditions**

Like other areas in Hawai‘i, the island of Lāna‘i has a mild semitropical climate that is due primarily to three factors: (1) Hawai‘i’s mid-Pacific location near the Tropic of Cancer, (2) the surrounding warm ocean waters that vary little in temperature between the winter and summer seasons, and (3) the prevailing northeasterly tradewinds that bring air having temperatures which are close to those of the surrounding waters.

#### Solar Radiation

The Project Area receives a moderate level of sunshine, with average daily insolation of about 410 calories per square centimeter per day.

#### Rainfall

Average annual rainfall at the Project Area is approximately 32 inches. Most of this rainfall occurs during the winter rainy season (October through April), while the summer months (May through September) are hot and dry.

#### Temperatures

Average temperatures range from the mid-60s in the winter to the low 70s in the summer.

#### Winds

The prevailing surface winds are tradewinds that blow between the islands of Maui and Moloka‘i. This wind increases evaporation and soil erosion on the north and east sides of Lāna‘i. Occasional strong winds can cause crop damage if unprotected by windbreaks.

#### **f. Irrigation Water**

Lāna‘i has five (5) water systems, including two (2) drinking water systems, one (1) brackish water system used for irrigation, and two (2) reclaimed water systems, also used for irrigation (see **Figure 10**). Historically, fields on the island of Lāna‘i were irrigated with a combination of surface water from Maunalei Valley and groundwater from wells once used for pineapple cultivation. Figure 10 presents the existing water system on Lāna‘i.

Due to a limited amount of potable water on Lāna‘i, brackish groundwater and treated wastewater are used to irrigate the golf courses and resort landscaping. Water is not available to support extensive diversified crop farming on Lāna‘i unless the crop requires very little water as was the case with pineapple.

#### **g. Locational Advantages and Disadvantages**

##### Lāna‘i Island Market

The Project Area is well-located for supplying the Lāna‘i Island market because of the relatively short distance from the Project Area to Lāna‘i City (the island’s commercial and population center) and to Manele Resort.

The Lāna‘i Island Market is relatively small: according to the U.S. Census American Community Survey (ACS) 5-Year Estimate, the resident population of Lāna‘i between 2013 and 2017 was estimated to be 3,203.

##### Maui Island Market

Lāna‘i farmers are at a disadvantage when competing against Maui farmers because of inter-island shipping costs, delays, and extra handling. There is no regular barge service between Lāna‘i and Maui Island.

The Maui County market is significant, with about 167,207 residents in 2018.

##### O‘ahu Market

All neighbor island farmers are at a disadvantage when competing against O‘ahu farmers in supplying the Honolulu market due to inter-island shipping costs, delays, and extra handling. In comparing barge and air-cargo services, shipping by barge is less expensive and larger loads can be shipped, but the shipments are slow and infrequent. Air service is faster and frequent, but it is far more expensive, and capacities are limited.

In 2018, O‘ahu’s population was estimated to be about 980,080 residents.

### Mainland Market

Compared to Hawai'i, the mainland market is enormous: in 2017, the U.S. population was estimated to be 325.7 million. In supplying this market with products that can be carried by container ship—i.e., products having long shelf-lives such as coffee, nuts, and canned fruit—most neighbor-island farmers are competitive with farmers on O'ahu. Even though freight from must first be barged to Honolulu then transferred onto a container ship, Matson's overseas shipping service includes inter-island barge service at no additional fee: except for some minor port charges, Matson charges a common fare for all islands. However, Matson does not service Lāna'i, so additional shipping fees are required when exporting to the mainland.

In the case of fresh products that must be shipped by air to the mainland—i.e., products having short shelf-lives such as fresh vegetables, fruits, and flowers—farmers on Lāna'i are at a disadvantage compared to O'ahu farmers because most mainland air cargo is shipped via Honolulu International Airport. Compared to farmers on O'ahu, Lāna'i farmers encounter additional costs, delays, and handling to cover inter-island air-cargo service and transferring the fresh produce from small inter-island aircraft to large overseas aircraft.

In the U.S. mainland market, Hawai'i farmers must also compete against farmers on the mainland and in Mexico, Central and South America, Southeast Asia, etc. Most of the competing farm areas have lower production and delivery costs than Hawai'i does. Competing against Mexico is particularly difficult given existing trade agreements and Mexico's proximity to major U.S. markets.

### Summary of Locational Advantages

In terms of location, farmers on the island are relatively well-situated to supply the small Lāna'i Island market.

However, compared to farmers on O'ahu and the other islands, they are at a disadvantage in supplying the Honolulu and mainland markets.

### **h. Summary of Agricultural Conditions**

The Project Area has some favorable agronomic conditions: soils are good; solar radiation is moderate; and the trucking distances to Lāna'i City and Mānele Resort are short.

However, the Project Area is unsuitable for field farming to supply crops to Lāna'i markets, or for export to O'ahu or the mainland. The major problems are the lack of irrigation water, the Lāna'i market is very small, and Lāna'i farmers are at a competitive disadvantage in supplying the O'ahu and mainland markets because of shipping costs.

## **4. PAST AGRICULTURAL USES**

In 1922, James Dole purchased nearly the entire island of Lāna'i and began developing a plantation for his Hawaiian Pineapple Company, Ltd. (HAPCo). Pineapple was suitable for Lāna'i's agricultural conditions because Lāna'i has fertile soils and pineapple requires relatively little water. For almost 70 years, the island of Lāna'i was the world's largest pineapple plantation with more than 18,000 acres of cultivated lands.

In 1931, Castle & Cooke purchased 21% of the shares of HAPCo, and by 1961 owned the entire company which by then had been renamed Dole Food Company.

In 1980s and 1990s, stiff competition from plantations in Latin America and the Philippines brought declining profitability to the Hawai'i pineapple industry.

In 1985, David H. Murdock purchased Castle & Cooke, which owned approximately 98% of the island of Lāna'i. Pineapple cultivation was slowly phased out, with the final harvest in 1992. By then, the island's economy was shifting from agriculture to tourism.

Since the end of pineapple cultivation on Lāna'i, the Project Area and the surrounding former pineapple plantation lands have been fallow.

## **5. EXISTING AND FUTURE COMMERCIAL FARMING ON LĀNA'I**

### **a. Existing Farms and related activities**

Only one commercial farmer operates on Lāna'i, selling fresh produce to local grocery stores and the hotels. In addition, some part-time farmers grow crops for personal consumption, and some sell to the grocery stores.

The Stables at Koele is an equestrian operation located on Kanepu'u Highway north of Lāna'i City. The Stables utilize 215 acres of land, with facilities including a 3,800-square foot (sq. ft.) barn, six (6) run-in shelters (288 sq. ft. each), and three (3) 40-foot storage containers. An approximately 55-acre portion of the lands utilized by the Stables is located within the proposed Koele PD. The Stables keep 48 horses and offer various ranch experiences to guests, including group horseback rides, private horseback rides, horse lessons, pony rides, miniature horse cart rides, and shire carriage rides. In addition to the equestrian experiences, the Stables has a petting zoo with various goats, donkeys, and miniature horses. The Stables plans to add 10 corrientes (steers) and possibly bring in some alpacas, chickens, and additional goats to the property.

### **b. Agricultural Park**

There is a plan for a 100-acre agricultural park on the island of Lāna'i. In 1992, the Land Use Commission required Castle & Cooke's Lāna'i Resort to set aside 100 acres for the development and operation of an agricultural park by the State Department of Agriculture

and County of Maui for the residents of Lānaʻi. This was a condition for approving the Manele Golf Course. However, there has not been any progress on developing the park due to a lack of interest.

### c. Hydroponic Farm

Sensei Farms Lānaʻi is developing a hydroponic farm to supply fresh produce to local markets, and possibly to off-island markets. At full development, the farm will include ten (10) greenhouses, each of which will cover nearly a half acre (160 feet by 124 feet). One of the major advantages of hydroponic farming is that it requires relatively little water compared to field farming. The greenhouses will be powered by an off-grid photovoltaic system.

A Head House building has been constructed, which includes a lab, conference rooms, a dining room for employees, offices, a locker room, multi-function space, and a kitchen. The kitchen will be used for cooking demonstrations and meal preparation using produce from the hydroponic farm.

## 6. IMPACT ON AGRICULTURAL OPERATIONS IN THE PROJECT AREA

The Koele PD will include 57 acres of proposed Resort Commercial use. Of this, 55 acres are part of the Stables at Koele's 215-acre facility. This 55-acre portion of the Stables of Koele includes the existing barn and other related facilities. The Stables at Koele facilities will remain in its current location and will be incorporated into the Project District. The Resort Commercial designation will allow Pūlama Lānaʻi to utilize the land within the Stables at Koele for parties and events. These events will use a portion of the Stable lands about eight times per year, and will be open air and/or under tents.

In addition, two (2) historic buildings will be relocated to the 55-acre portion of the Stables. These historic properties will be converted to a museum and a retail shop. Also, a third building may be constructed, resulting in a total of about 30,000 square feet of commercial space (about 2 acres with parking and landscaping). The commercial operations are expected to be compatible uses with the Stables at Koele operation.

Beyond the Stables at Koele, there are no other existing or planned agricultural operations within the Project Area.

Inasmuch as the revised Koele PD will not require relocation of the Stables at Koele facilities, and only about 2 acres of 215 acres of the Stables will be lost, the Project will have no significant impact on existing agricultural operations.

## 7. IMPACT ON THE GROWTH OF AGRICULTURE

About 12 acres of the Project Area will be lost to agriculture, including about (1) 10 acres of land that will be rezoned by the County from Agriculture to Hotel, and (2) about 2 acres that will be developed on land planned for Resort Commercial but are now zoned Agriculture and used for the Stables. An additional 55 acres will be rezoned from Agriculture to Resort Commercial, but nearly all of these lands will continue to be used for the Stables along with occasional commercial events.

There are approximately 18,000 acres of former plantation lands on Lānaʻi which remain available for agricultural use.

Statewide, the remaining supply of available farmland released by plantation agriculture exceeds 200,000 acres. This is about 3.7 times the amount of land in crop—about 54,000 acres. About 15,000 acres of the 54,000 acres are used for food crops grown primarily for the Hawaiʻi market, while about 39,000 acres are used primarily for export crops (pineapple, macadamia nuts, coffee, seeds, flowers, etc.).

The supply of available farmland is vast because of the statewide contraction and closure of many sugarcane and pineapple plantations during the past four decades, combined with the subsequent slow growth of diversified-crop farming (i.e., all crops other than sugarcane and pineapple)—see **Figure 11**.

**Figure 11** also shows the growth of diversified-crop acreage. Even though Hawaiʻi has a long history of strong support for its agriculture industry, little growth in diversified-crop acreage has occurred since 1983, with the single exception being seed crops. However, seed acreage has declined in recent years, and the seed-crop industry faces public opposition over their development of genetically modified organisms (GMO) crops.

The lack of significant growth of diversified crops reflects increased competition from overseas resulting from technology and other advances that have improved the delivery of fresh produce (faster, less spoilage, better coordination of supply to demand), along with trade agreements which increased food exports to the U.S. from low-cost producers in Mexico, Central America, South America, and elsewhere.

Following the plantation closures on Oʻahu, vegetable and melon acreage expanded on the capital island, but this was followed by declines on the Neighbor Islands for the farmers who exported to Oʻahu.

The loss of about 12 acres of agriculture land on Lānaʻi, plus the loss of agricultural land due to other projects (i.e., the cumulative impact), is too small to affect the growth of diversified agriculture on Lānaʻi or Statewide.

## 8. OFFSETTING BENEFITS

The loss of 12 acres of agricultural land will be offset by the following community benefits of the Project:

### Construction Activity

- Construction jobs and income associated with Project development.
- Indirect jobs and income generated by purchases of goods and services by construction companies and families of construction workers.

- State tax revenues (excise taxes, personal income taxes, corporate income taxes, etc.) paid by construction companies and workers, and by companies and families that are supported by construction activity.

#### Operations, Full Development

- Employment and income generated by hotel and resort-commercial operations.
- Tax revenues derived from County property taxes and State taxes (excise, personal income, cooperative income, and transient accommodations tax).

## 9. CONSISTENCY WITH STATE AND COUNTY POLICIES

### a. Availability of Lands for Agriculture

The Hawai'i State Constitution, the Hawai'i State Plan, the State Agriculture Functional Plan, the County of Maui 2030 General Plan, and the County's Lāna'i Community Plan call directly or implicitly for preserving the economic viability of plantation agriculture and promoting the growth of diversified agriculture. To accomplish this, an adequate supply of agriculturally suitable lands and water must be assured.

With regard to plantation agriculture, the Project Area is no longer part of a pineapple plantation. The last pineapple harvest was in 1992.

With regard to diversified agriculture, the Project will not result in the loss of any existing agricultural operation since the Stables will remain, and the Project Area is not currently being cultivated and has not been cultivated since 1992.

Although the Project will reduce the availability of agricultural land by about 12 acres, the Project will not limit the growth of diversified agriculture statewide or on Lāna'i since ample agricultural land is available due to the loss of nearly all plantations in Hawai'i.

### b. Conservation of Agricultural Lands

In addition to the above, State and County policies call for conserving and protecting prime agricultural lands, including protecting farmland from urban development.

It should be noted that many of the State agricultural policies were written before the major contraction of plantation agriculture (from 1981 to 2016), and assume implicitly that profitable agricultural activities eventually will be available to utilize all available agricultural lands. This has proven to be a questionable assumption in view of the enormity of the contraction of plantation agriculture, the abundant supply of farmland that came available for diversified agriculture, and the slow growth in the amount of land being utilized for diversified agriculture.

Furthermore, discussions in the State Agriculture Functional Plan recognize that redesignation of lands from Agricultural to Urban and/or Rural should be allowed "... upon a

demonstrated change in economic or social conditions, and where the requested redesignation will provide greater benefits to the general public than its retention in ...agriculture;" that is, when an "overriding public interest exists." The enormous contraction of plantation agriculture, which resulted in the supply of agricultural land far exceeding demand, constitutes a major change in economic conditions. Moreover, the Project will provide community benefits (jobs, tax revenues, etc.) that far exceed the benefits of leaving 12 acres in agriculture. In practice, the Project is expected to have no significant impact on agricultural activity since ample land is available statewide to accommodate the anticipated growth of diversified agriculture.

## 10. REFERENCES

*Act 25, S.B. No. 1158*, April 15, 1993.

County of Maui, Department of Water Supply. *Lanai Water Use & Development Plan, 2011*.

County of Maui, Planning Department. *County of Maui 2030 General Plan Countywide Policy Plan*. 2010.

County of Maui, Planning Department. *Lanai Community Plan*. 2002.

Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delporte, 2013: *Online Rainfall Atlas of Hawai'i*. Bull. Amer. Meteor. Soc. 94, 313-316. doi: 10.1175/BAMS-D-11-00228.1.

Giambelluca, T.W., X. Shuai, M.L. Barnes, R.J. Alliss, R.J. Longman, T. Miura, Q. Chen, A.G. Frazier, R.G. Mudd, L. Cuo, and A.D. Businger. 2014. *Evapotranspiration of Hawai'i. Final report submitted to the U.S. Army Corps of Engineers—Honolulu District, and the Commission on Water Resource Management, State of Hawai'i*.

Harold L. Baker. *Agricultural Lands of Importance in the State of Hawai'i*. University of Hawai'i College of Tropical Agriculture and Human Resources, Honolulu, Hawai'i. 1977.

Hawai'i Agricultural Statistics Service. *Statistics of Hawaiian Agriculture*. Honolulu, Hawai'i. Annual.

[https://www.bizjournals.com/pacific/news/2017/04/03/100-acre-agriculture-park-on-billionaire-larry.html?ana=RSS%26s%3Darticle\\_search&utm\\_source=feedburner&utm\\_medium=feed&utm\\_campaign=Feed%3A+bizj\\_pacific+%28Pacific+Business+News+of+Honolulu%29](https://www.bizjournals.com/pacific/news/2017/04/03/100-acre-agriculture-park-on-billionaire-larry.html?ana=RSS%26s%3Darticle_search&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+bizj_pacific+%28Pacific+Business+News+of+Honolulu%29) (Accessed on November 14, 2018)

Lanai Culture & Heritage Center. *Pineapple of Lāna'i*. <https://www.lanaichc.org/pineapple-history.htm> (accessed on November 6, 2018).

Lanai Water Company. *History*. <http://lanaiwatercompany.com/about-us/history/> (accessed on November 13, 2018)

- 
- Pacific Business News. *100-acre agriculture park on billionaire Larry Ellison's Lanai gaining traction* (April 3, 2017).
- State Land Use Commission. *State Land Use District Maps*. Effective dated December 20, 1974.
- State of Hawai'i, Department of Agriculture. *State Agriculture Functional Plan*. 1991.
- State of Hawai'i. *Hawaii State Planning Act, Chapter 226*, Hawai'i Revised Statutes.
- State of Hawai'i, Department of Agriculture. *Agricultural Lands of Importance to the State of Hawai'i*. 1977.
- The Maui News. *Ellison's hydroponic farm on Lanai is set to open by late '18* (April 1, 2018). <http://www.mauinews.com/news/local-news/2018/04/ellisons-hydroponic-farm-on-lanai-is-set-to-open-by-late-18/> (Accessed on November 14, 2018).
- U.S. Census Bureau. *American Community Survey 5 Year Estimate, 2013-2017*.
- U.S. Department of Agriculture, Soil Conservation Service in cooperation with The University of Hawai'i Agricultural Experiment Station. *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawai'i*. Washington, D.C. August 1972.

FIGURES

1

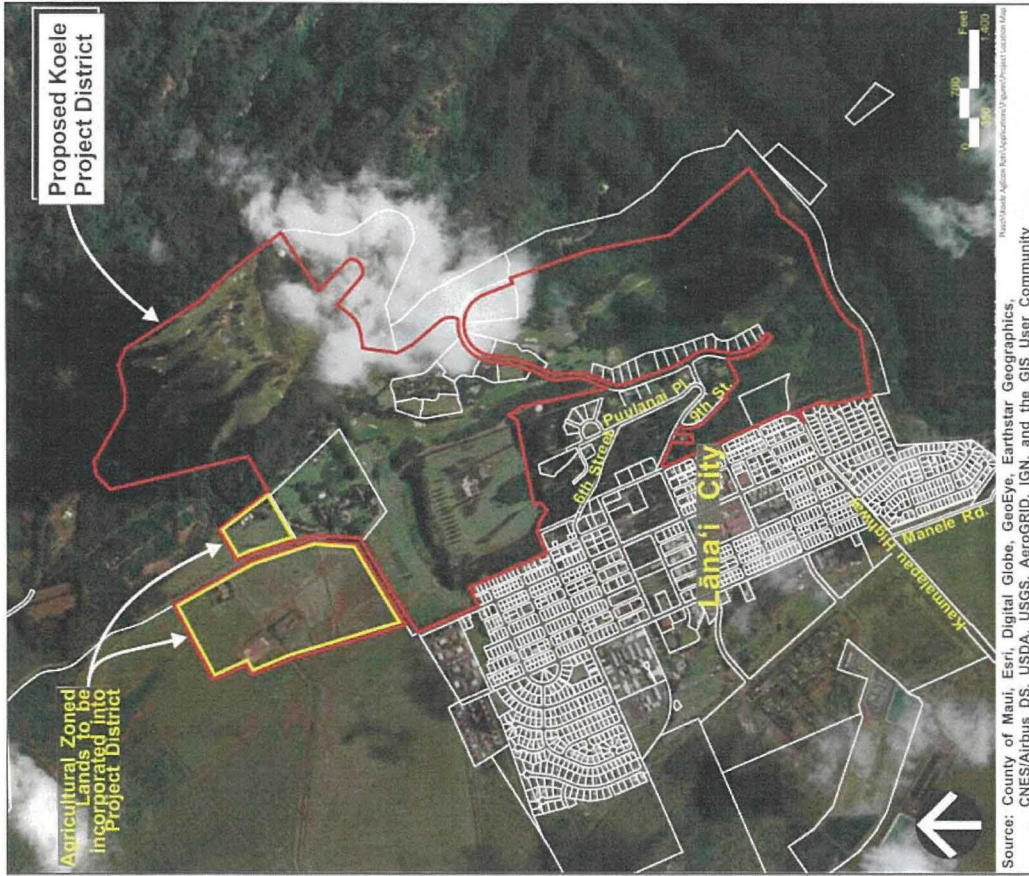


Figure 1. Project Location Map

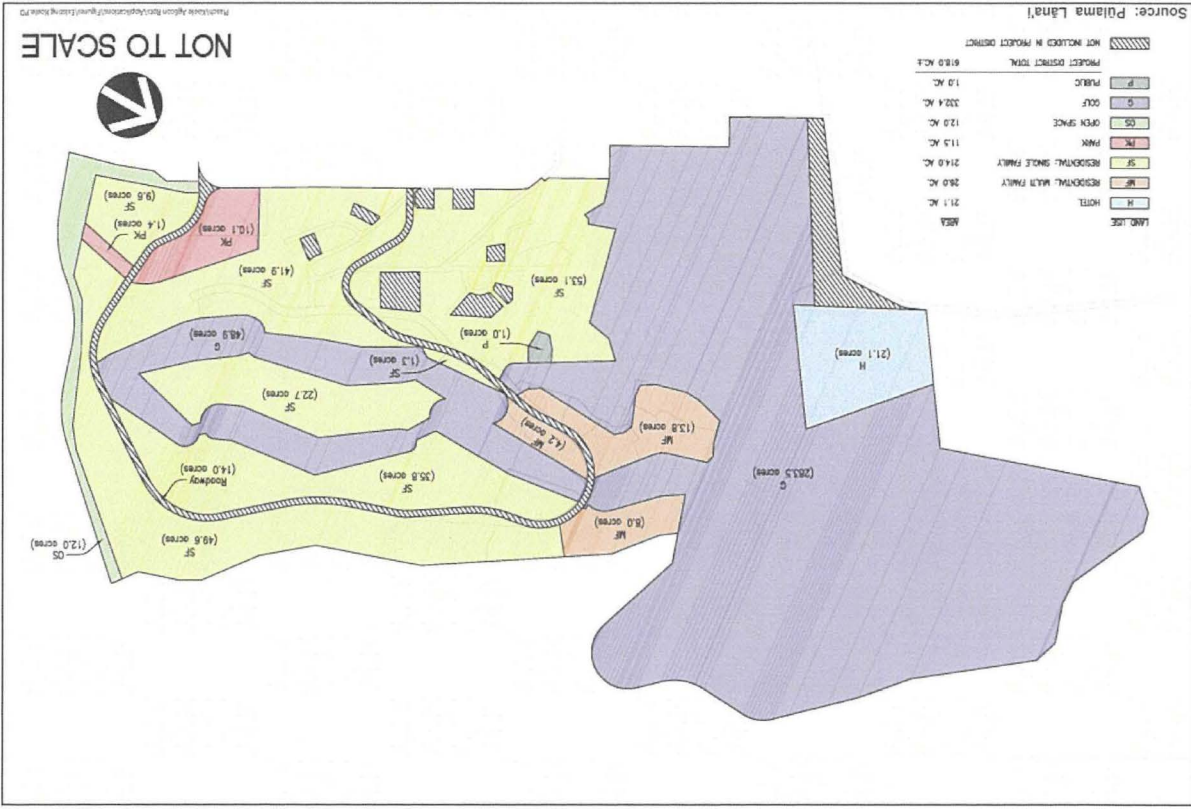


Figure 2. Existing Koele Project District





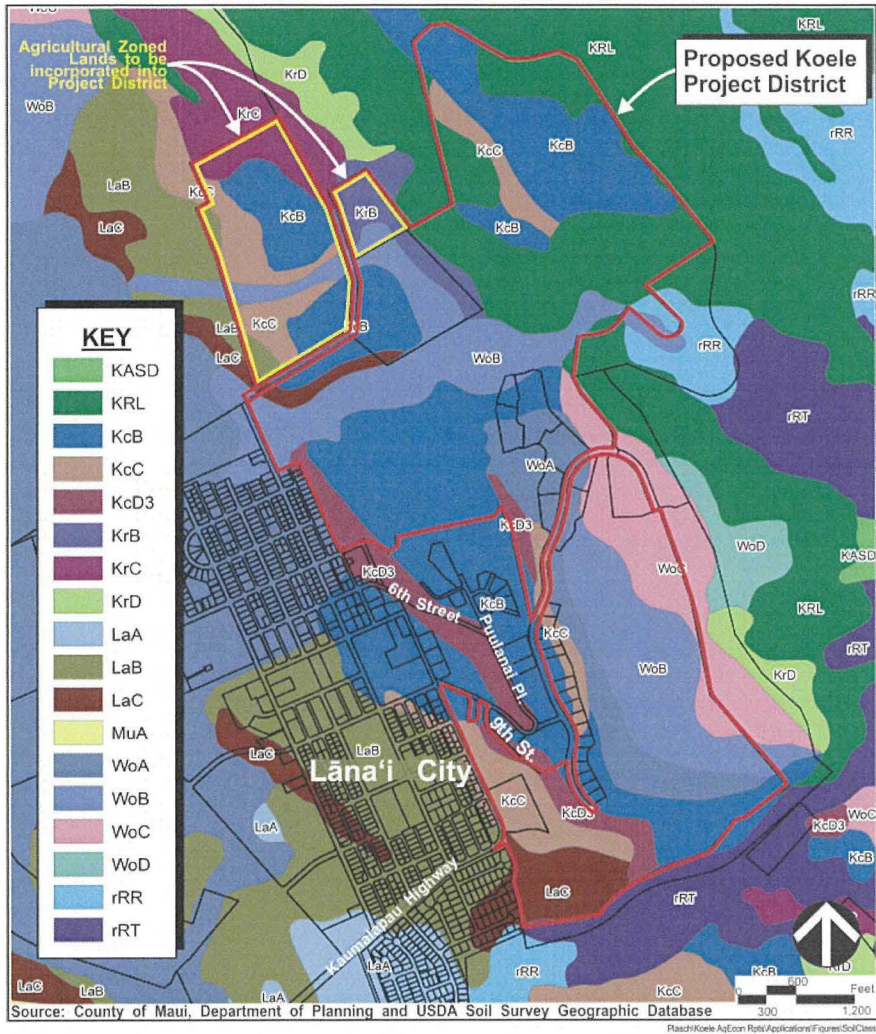


Figure 7. Soil Classification Map

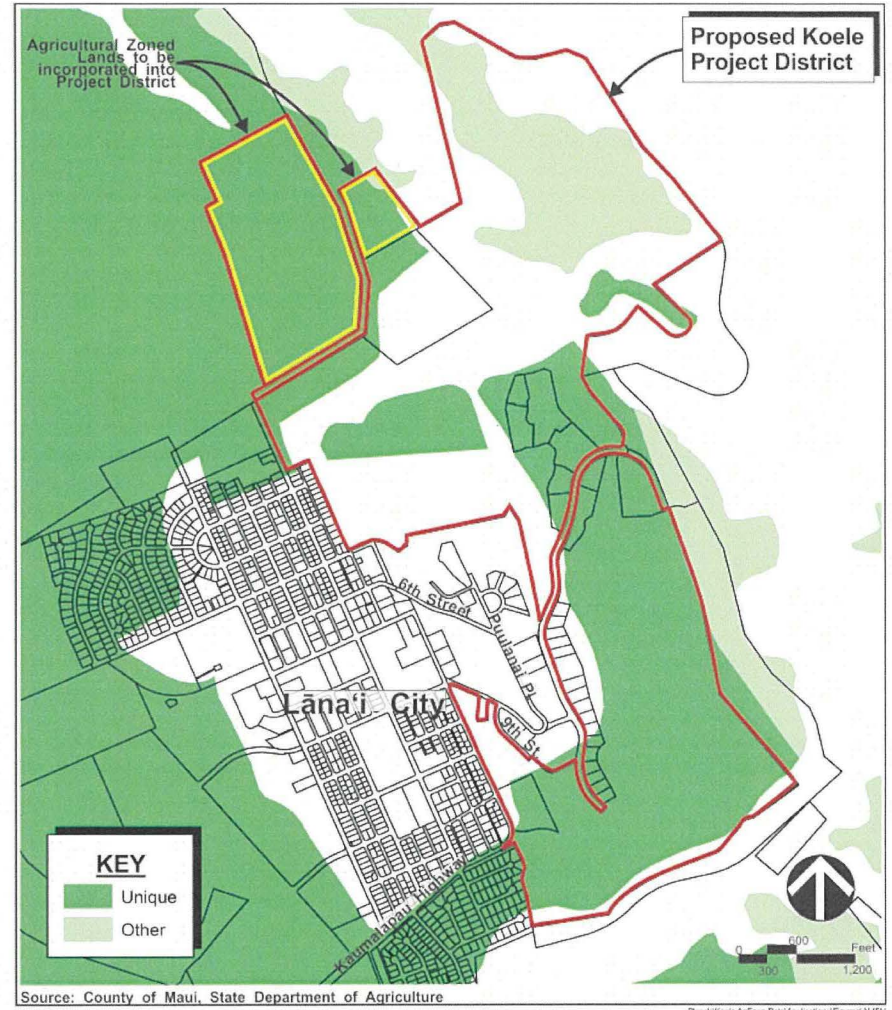


Figure 8. Agricultural Lands of Importance to the State of Hawai'i

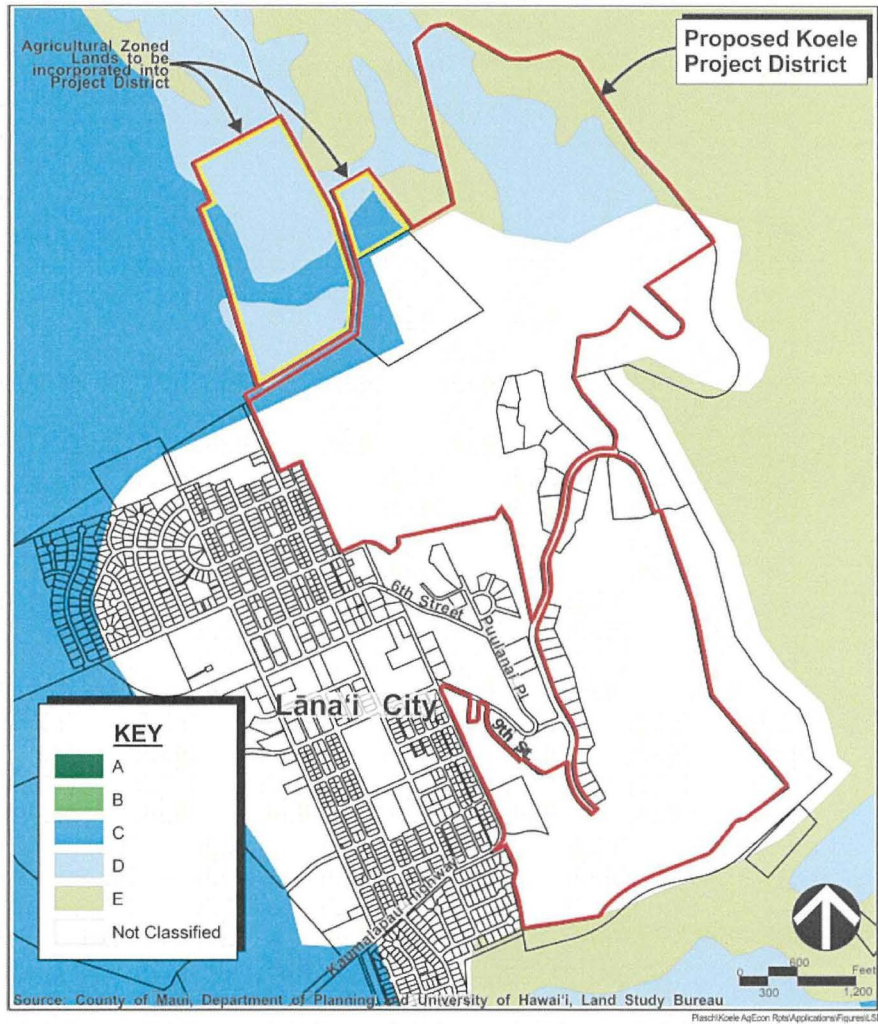


Figure 9. Land Study Bureau Map

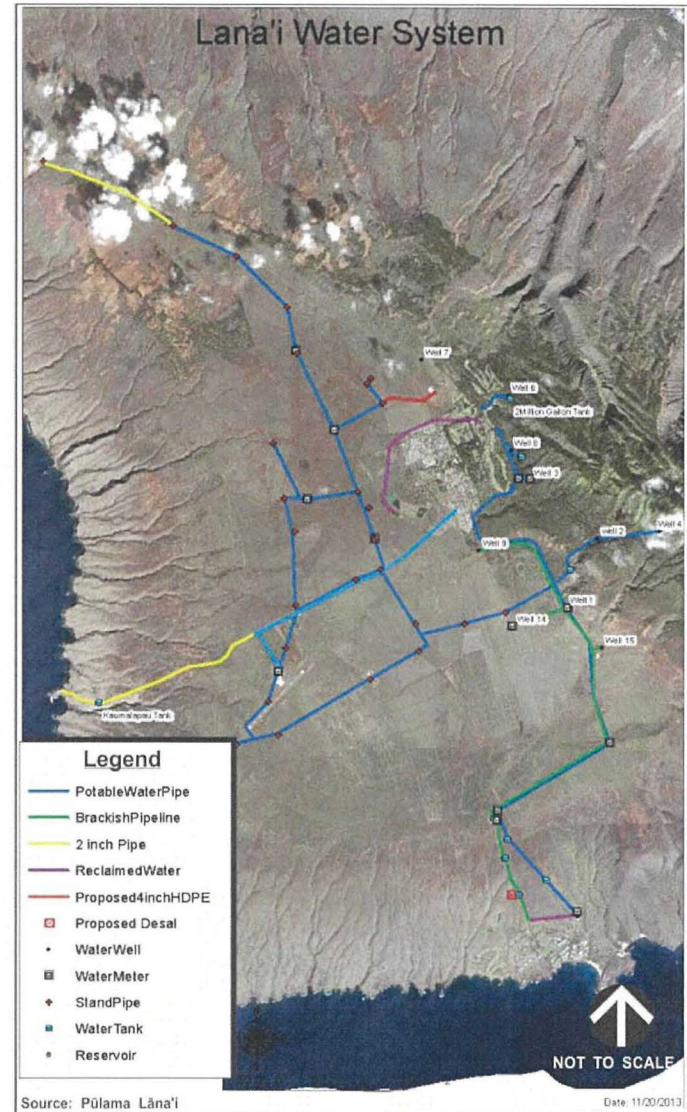


Figure 10. Lāna'i Water System



Figure 11. Acreeage in Crop, Hawai'i: 1960 to 2017

APPENDIX

## APPENDIX

### STATE AND COUNTY GOALS, OBJECTIVES, POLICIES AND GUIDELINES RELATED TO AGRICULTURAL LANDS

#### 1. HAWAII STATE CONSTITUTION (Article XI, Section 3):

*...to conserve and protect agricultural lands, promote diversified agriculture, increase agricultural self-sufficiency and assure the availability of agriculturally suitable lands...*

#### 2. HAWAII STATE PLAN (Chapter 226, Hawaii Revised Statutes, as amended):

##### Section 226-7 Objectives 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:
  - (1) Viability in Hawaii's sugar and pineapple industries.
  - (2) Growth and development of diversified agriculture throughout the State.
  - (3) An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.
- (b) To achieve the agricultural objectives, it shall be the policy of the State to:
  - (2) Encourage agriculture by making best use of natural resources.
  - (10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.
  - (16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.

##### Section 226-103 Economic priority guidelines.

- (c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:
  - (1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.
- (d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:
  - (1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.

A-1

- (10) Support the continuation of land currently in use for diversified agriculture.

##### Section 226-104 Population growth and land resources priority guidelines.

- (b) Priority guidelines for regional growth distribution and land resource utilization:
  - (2) Make available marginal or non-essential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.

#### 3. AGRICULTURAL STATE FUNCTIONAL PLAN (1991)

(Functional plans are guidelines for implementing the State Plan. They are approved by the Governor, but not adopted by the State Legislature.)

Objective H: Achievement of Productive Agricultural Use of Lands Most Suitable and Needed for Agriculture.

Policy H(2): Conserve and protect important agricultural lands in accordance with the Hawaii State Constitution.

Action H(2)(a): Propose enactment of standards and criteria to identify, conserve, and protect important agricultural lands and lands in agricultural use.

Action H(2)(c): Administer land use district boundary amendments, permitted land uses, infrastructure standards, and other planning and regulatory functions on important agricultural lands and lands in agricultural use, so as to ensure the availability of agriculturally suitable lands and promote diversified agriculture.

#### 4. COUNTY OF MAUI 2030 GENERAL PLAN, COUNTYWIDE POLICY PLAN (2010)

##### Countywide goals, objectives, policies and actions

##### F. Strengthen the Local Economy

###### Objective

- 2. Diversify and expand sustainable forms of agriculture and aquaculture.

###### Policies

- b. Prioritize the use of agricultural land to feed the local population, and promote the use of agriculture lands for sustainable and diversified agricultural activities.
- e. Support ordinances, programs, and policies that keep agricultural land and water available and affordable to farmers.

###### Implementing Actions

- c. Create agricultural parks in areas distant from genetically modified crops.

**J. Promote Sustainable Land Use and Growth Management****Objective**

2. Improve planning for and management of agricultural lands and rural areas.

**Policies**

- a. Protect prime, productive, and potentially productive agricultural lands to maintain the islands' agricultural and rural identities and economies.
- c. Discourage developing or subdividing agriculturally designated lands when non-agricultural activities would be primary uses.

**Implementing Actions**

- a. Inventory and protect prime, productive, and potentially productive agricultural lands from competing non-agricultural land uses.

**5. COUNTY OF MAUI, LĀNA'I COMMUNITY PLAN (2016)****C. ENVIRONMENT AND NATURAL RESOURCES****3. Goals, Policies, Actions****Policies**

4. Recognize and support agricultural forestry and game BMPs as key elements to maintain preserve and protect Lana island water and marine resources

**6. REFERENCES**

Act 25, S.B. No. 1158, April 15, 1993.

County of Maui. *County of Maui 2030 General Plan, Countywide Policy Plan*. Adopted by Ordinance No. 3732, effective on March 24, 2010.

Hawaii Department of Agriculture. *The Hawaii State Plan: Agriculture, State Functional Plan*. 1991.

Maui County Council. *Lāna'i Community Plan (2016)*.

State of Hawaii, Office of State Planning, Office of the Governor. *The Hawaii State Plan, 1991*. 1991.



**GEOTECHNICAL  
ENGINEERING  
ASSESSMENT DUE  
DILIGENCE STUDY**

**APPENDIX**

**C**



## GEOLABS, INC.

*Geotechnical Engineering and Drilling Services*

April 28, 2021  
W.O. 7931-00

**Ms. Keiki-Pua Dancil**  
**Pulama Lanai**  
733 Bishop Street, Suite 2000  
Honolulu, HI 96813

**ATTEST LETTER FOR CHANGES  
GEOTECHNICAL ENGINEERING ASSESSMENT  
DUE DILIGENCE STUDY  
KOELE DISTRICT DEVELOPMENT  
ISLAND OF LANAI, HAWAII**

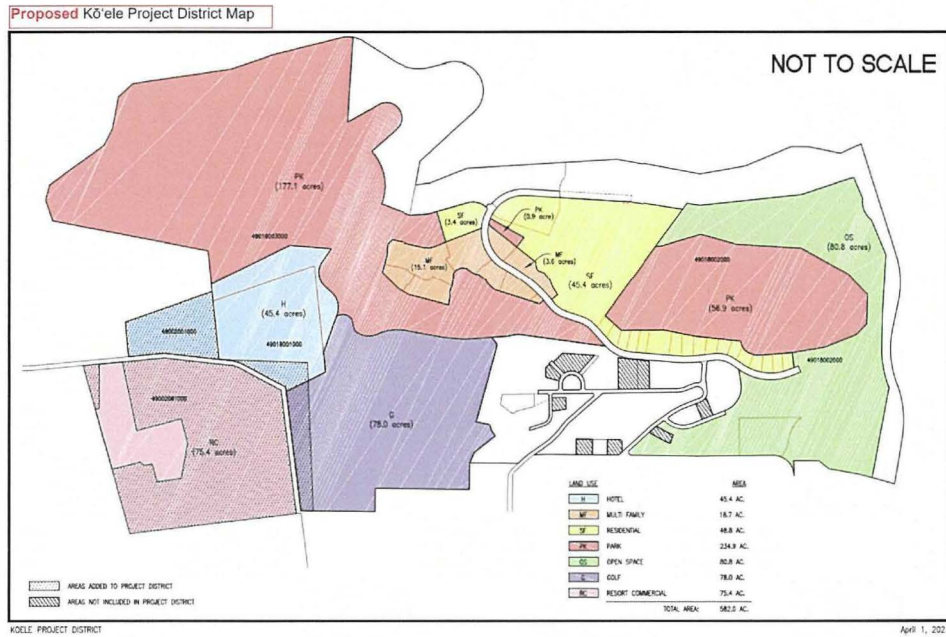
Dear **Ms. Dancil**:

We were originally contracted to complete a Geotechnical Engineering Assessment Due Diligence Study for the draft Environmental Assessment for the Koele Project District Amendment. The assessment report was transmitted to your office on July 18, 2019, entitled as "Geotechnical Engineering Assessment, Due Diligence Study, Koele District Development, Island of Lanai, Hawaii", dated July 18, 2019.

Since the completion of our study, Pulama Lanai has adjusted the uses and associated acres within the project district. This is reflected in the map below.

Additionally, an inconsistency between MCC Chapter 19.71.080 and Ordinance 1581, 2140, and 2852 was identified by Pūlama Lāna'i while finalizing their application. A non-contiguous 14.5-acre parcel (TMK: [2] 4-9-002:061 (portion)) is zoned "Project District" in Ordinance 2852, however, no subdistrict designation is assigned to the 14.5 acres in Ordinance 2852. Furthermore, there is no record of the 14.5 acres in Ordinance 1581, Ordinance 2140, and MCC Chapter 19.71.080, where the subdistricts are identified by the number of acres. Pūlama Lāna'i has incorporated this 14.5-acre section (identified as "Stables & Tennis Courts" in CIZ Map 2615) into the Proposed Kō'ele Project District Map, it was not identified in earlier maps provided to our firm.

We attest that the results of our technical study referenced above do not change based on the updated map.



### LIMITATIONS

The findings and discussions submitted in this letter report are based, in part, upon information obtained from site reconnaissance, literature research, and past experience in the vicinity of the proposed development. It should be noted that it is not possible to observe and/or anticipate all the site conditions based on a brief reconnaissance of the project site and review of literature. Variations of the subsurface conditions from those described in this letter report may occur, and the nature and extent of these variations may not become evident until further design-level geotechnical engineering exploration is conducted at the project site or construction is underway.

A design-level geotechnical engineering exploration should be conducted to confirm and/or modify the preliminary assessments provided herein. Our services on this project were performed in accordance with generally accepted standards of geotechnical engineering practice; no warranty is expressed or implied.

This letter report has been prepared solely for the purpose of assisting our client (Pulama Lanai) in the evaluation and planning of the project only. Therefore, this report may not contain sufficient data, or the proper information, to serve as the basis for detailed design and preparation of construction drawings. A design-level geotechnical exploration will need to be conducted for a detailed project design.

**CLOSURE**

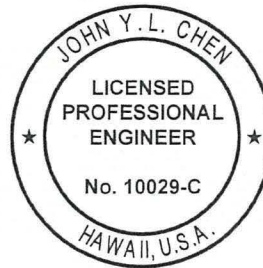
We appreciate the opportunity to provide engineering services to you on this project. If you have questions or need additional information, please contact our office.

Respectfully submitted,

**GEOLABS, INC.**

By

  
**John Y.L. Chen, P.E.**  
Vice President



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION.

JC:

  
SIGNATURE      4-30-22  
EXPIRATION DATE  
OF THE LICENSE

h:\7900 Series\7931-00.jc4



## GEOLABS, INC.

Geotechnical Engineering and Drilling Services

July 18, 2019  
W.O. 7931-00

Ms. Lynn McCrory  
Pulama Lanai  
733 Bishop Street, Suite 2000  
Honolulu, HI 96813

**GEOTECHNICAL ENGINEERING ASSESSMENT  
DUE DILIGENCE STUDY  
KOELE DISTRICT DEVELOPMENT  
ISLAND OF LANAI, HAWAII**

Dear Ms. McCrory:

This letter report presents the findings from our review of the available geological and subsurface information in support of a due diligence study for the proposed Koele District Development project on the Island of Lanai, Hawaii. The project location and general vicinity are shown on the Project Location Map, Plate 1.

The intent of this due diligence study is to inform the owner about potential geotechnical risks involved and the geotechnical considerations that may need to be addressed for the development of the proposed project. The findings presented herein are subject to the detailed geotechnical engineering exploration and limitations noted at the end of this letter report.

### PROJECT CONSIDERATIONS

The project site is an approximate 60 acres open land located along the northwestern side of Lanai City on the Island of Lanai, Hawaii. Based on the information provided, we understand that the development involves expansion of the Koele Resort for a resort commercial facility. Details of the planned development were not available at the time this report was prepared.

Based on the information provided, it is desired to conduct a preliminary geotechnical engineering assessment in support of a due diligence evaluation of the site with respect to the proposed development. The scope of our geotechnical engineering assessment consisted of site reconnaissance, review of the available geological maps and subsurface information from previous explorations conducted in the project vicinity only. A design-level field exploration program was not conducted for this due diligence study.

2006 Kalihi Street • Honolulu, Hawaii 96819  
Phone: (808) 841-5064 • Facsimile: (808) 847-1749 • E-mail: [hawaii@geolabs.net](mailto:hawaii@geolabs.net)

Hawaii • California

Pulama Lanai  
W.O. 7931-00  
July 18, 2019

Page 2

### REGIONAL GEOLOGY

The Island of Lanai is a shield volcano built by eruptions at the summit and along three rift zones more than 1.20 to 1.46 million years ago. The principal rift zone trends northwestward as a broad ridge and is responsible for the conspicuous elongation of the island in that direction. A less conspicuous bulge on the southern side of the island is the result of volcanic extrusion on the southwest rift zone. The rift zones intersect at the island summit. The summit of the shield volcano collapsed to form a caldera from which a shallow graben, bordered by an echelon of step faults, extends south-southeastward toward Manele Bay. Numerous dikes exposed in the sea cliff indicate that this Manele Graben lies along another rift zone.

The caldera was largely, but not completely, filled by lava flows and the present Palawai Basin is a remnant of the caldera. Just to the west of it, Miki Basin (with an average diameter of about 0.9 miles) is a nearly filled pit crater. The top of the ridge between these basins is about 140 feet above the floor of the Palawai Basin. On the south, the floor of Palawai Basin merges with the floor of the Manele Graben, where the most recent lava flows in the caldera overflowed onto the outer slope of the volcano.

The Island of Lanai was built by the extrusion of thin-bedded a'a and pahoehoe tholeiitic basaltic flows that are generally inclined at about 6 to 15 degrees from horizontal (where not disturbed by faulting). Volcanic rocks on the Island of Lanai are grouped as the Lanai Volcanic Series. The near-surface soils generally consist of well-drained, fine-textured and moderately fine-textured soils derived from volcanic ash and the in-situ weathering of the igneous rocks. The formation of the Island of Lanai was also the result of large changes in sea-level that caused submergence and re-emergence of the land mass through geologic time. Faulting and stream erosion in conjunction with changes in sea-level are also responsible for the high sea cliffs along the southern and western coastlines.

The project site is located on the north side of the Palawai Basin and near the northeastern end of the Hoopapalani Hill. Recent agricultural and residential developments created the gentle sloping terrain within the plateau encompassing the Palawai Basin and Miki Basin. Most of the soils in the project area are alluvium and residual/saprolitic soils, derived from the gulch/stream depositions and in-situ weathering of volcanic ash and igneous rock. In general, the residual and saprolitic soils grade to basaltic rock formation with depth.

The project geological map and vicinity are shown on the Project Geological Map, Plate 2.

### DISCUSSIONS AND RECOMMENDATIONS

Based on our experience in the project vicinity and the anticipated subsurface conditions, the proposed development at the planned project limits is feasible in the respect of geotechnical engineering consideration. Several geotechnical considerations listed below may have the potential for impacts on the design and construction of the

GEOLABS, INC.  
Hawaii • California

REF-48

proposed development project and should be thoroughly studied during the project design phase. Based on our experience and a review of the available information for this site, the geotechnical considerations include, but are not limited to, the following. These items are discussed further in the following subsections.

- Site Preparation
- Expansive Soils
- Excavations
- Cut and Fill Slopes
- Other Foundation Considerations

#### Site Preparation

In general, we anticipate that the surface materials at the project site consist of fill materials that have been tilled over during the agricultural and/or ranch operations in the past and/or present. In some areas, recent alluvium may present at the ground surface.

At the on-set of earthwork, areas within the contract grading limits should be cleared and grubbed thoroughly. Vegetation, debris, deleterious materials, and other unsuitable materials, should be removed and disposed of properly off-site to reduce the potential for contamination of the excavated materials.

In general, the subgrades in cut areas and areas designated to receive fills should be scarified to a depth of about 8 inches, moisture-conditioned to above the optimum moisture content, and recompact to a minimum of 90 percent relative compaction. However, it should be noted that excessive moisture in the fill materials and recent alluvium may create pumping ground conditions. Therefore, the contractor should use caution not to overwater when moisture-conditioning fine-grained soils. Where soft or pumping ground conditions are encountered during construction, over-excavation and replacement with suitable fills may be required.

#### Expansive Soils

We anticipate that the near-surface clayey soils at the project site generally exhibit a moderate potential for shrinking and swelling when subjected to moisture fluctuations.

To reduce the potential for appreciable future distress to these lightly loaded slabs-on-grade resulting from shrinking and swelling of the near-surface clayey soils, we envision the slab subgrade to be properly scarified to a minimum depth of 8 inches, moisture-conditioning to at least 2 percent above the optimum moisture content, and recompact to a minimum of 90 percent relative compaction, as appropriate. In addition, a minimum of 12 inches of non-expansive, select granular fill material should be provided below the slab cushion. The non-expansive, select granular fill should also extend beyond the perimeter of the slab a minimum of 24 inches (or extend to the edge of the concrete sidewalk/walkway surrounding the slab, if applicable).

#### Excavations

We anticipate that the on-site clayey soils may be excavated with conventional earthmoving equipment. However, it should be noted that cobbles and boulders could be encountered within the alluvial and/or river deposits. Therefore, some difficult excavation conditions may be anticipated in localized areas during construction. It is possible that the excavation for a portion of the utility line trenches may require the use of hoerams or chipping.

Therefore, selection of the new foundation system for the development would need to consider its constructability with respect to the potential presence of cobbles and boulders.

#### Cut and Fill Slopes

We anticipate that the cut slopes may generally expose the stiff clayey soils at the project site. Based on this assumption, we envision designing the cut slopes with a slope inclination of 2H:1V or flatter.

Permanent fill slopes constructed using the excavated on-site soils or imported fill materials may be designed with a slope inclination of 2H:1V or flatter. Fills placed on slopes steeper than 5H:1V should be keyed and benched into the existing slope to provide stability of the new fill against sliding. The filling operations should start at the lowest point and continue up in level horizontal compacted layers. Fill slopes should be constructed by overfilling and cutting back to the design slope ratio to obtain a well-compacted slope face. In the event over-cutting of a slope occurs, keying and benching requirements should be implemented instead of backfilling the slope to the design grade with sliver fills. The fill slope face should be free of voids, which would allow erosion and migration of fines to occur. In addition, materials greater than 6 inches in largest dimension should not be exposed at the fill slope face.

Construction of earth berms, interceptor ditches, and the use of geotextile fabrics over the fill slope face should be considered to reduce the potential for significant erosion, thus enhancing the long-term stability of the fill slopes. Appropriate slope planting or other permanent erosion control measures to reduce the potential for significant erosion of the exposed slopes (including a permanent irrigation system) should be implemented as soon as possible after the finished slope faces are completed.

#### Other Foundation Considerations

We envision that some one to two stories buildings may be required for the project. Based on the anticipated subsurface conditions at the project site, we believe shallow spread and/or continuous strip footings may be used to support the new buildings for the project. As an alternative, foundations for support of the new structures also may consist of thickened-edge slab footings.

We envision that the building foundations will be supported on clayey fills and/or alluvial materials. Therefore, proper preparation and compaction of the foundation subgrades will be critical during construction. Foundation subgrades should not be exposed to overwatering or inclement weather.

**LIMITATIONS**

The findings and discussions submitted in this letter report are based, in part, upon information obtained from site reconnaissance, literature research, and past experience in the vicinity of the proposed development. It should be noted that it is not possible to observe and/or anticipate all the site conditions based on a brief reconnaissance of the project site and review of literature. Variations of the subsurface conditions from those described in this letter report may occur, and the nature and extent of these variations may not become evident until further design-level geotechnical engineering exploration is conducted at the project site or construction is underway.

A design-level geotechnical engineering exploration should be conducted to confirm and/or modify the preliminary assessments provided herein. Our services on this project were performed in accordance with generally accepted standards of geotechnical engineering practice; no warranty is expressed or implied.


This letter report has been prepared solely for the purpose of assisting our client (Pulama Lanai) in the evaluation and planning of the project only. Therefore, this report may not contain sufficient data, or the proper information, to serve as the basis for detailed design and preparation of construction drawings. A design-level geotechnical exploration will need to be conducted for a detailed project design.

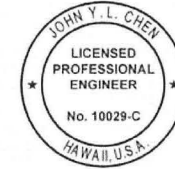
**CLOSURE**

We appreciate the opportunity to provide engineering services to you on this project. If you have questions or need additional information, please contact our office.

Respectfully submitted,

**GEOLABS, INC.**

By   
**John Y.L. Chen, P.E.**  
Vice President



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION

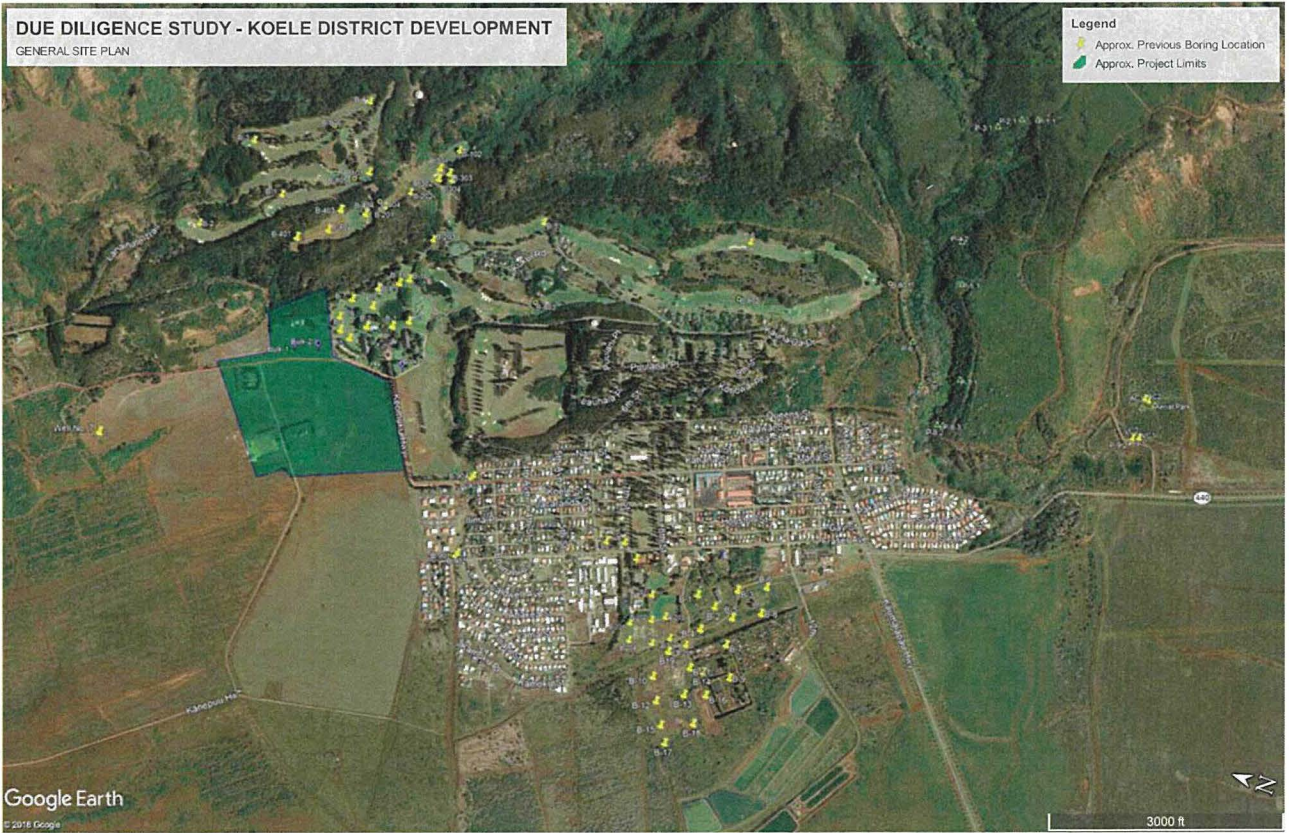
  
SIGNATURE      4-30-18  
EXPIRATION DATE  
OF THE LICENSE

JC:

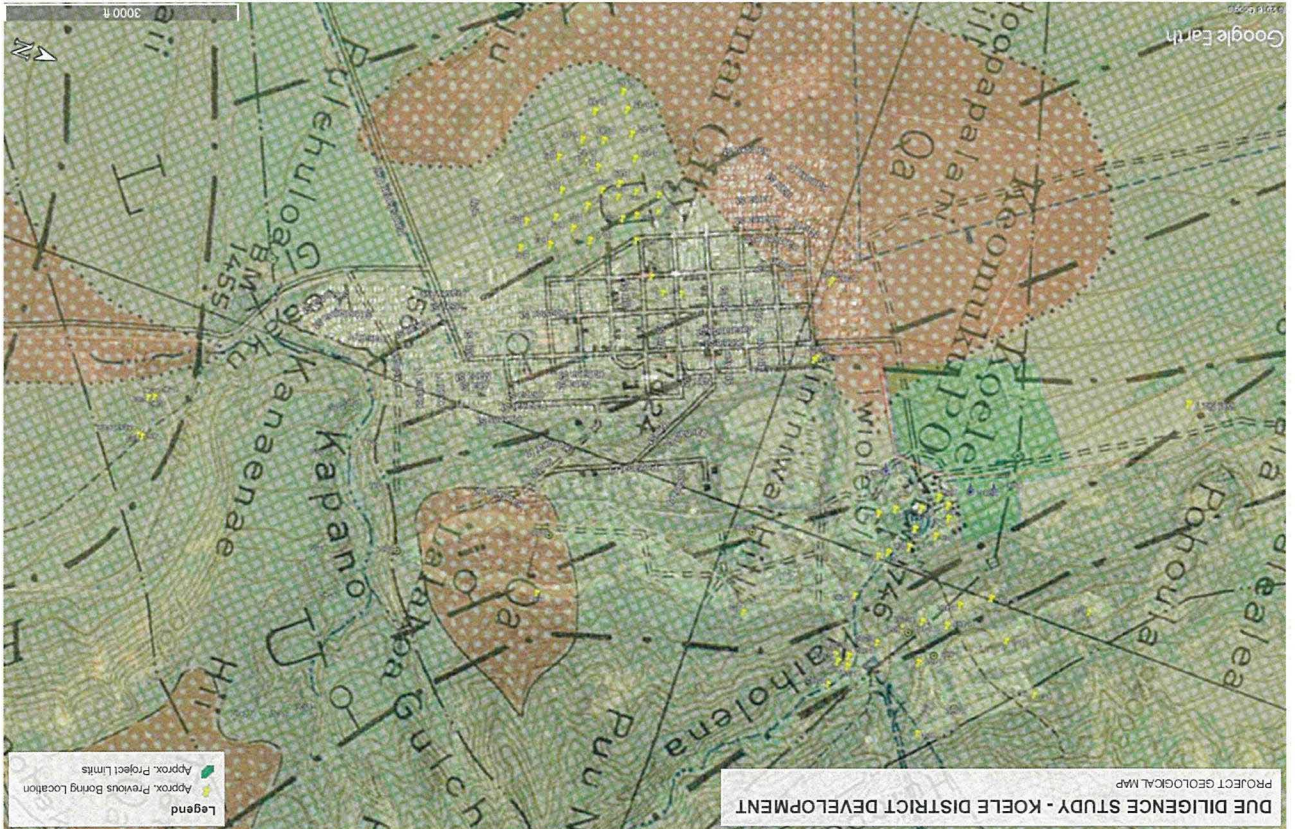
Attachments: **PLATES**  
Project Location Map, Plate 1  
Project Geological Map, Plate 2

h:\7900 Series\7931-00.jc1

PLATES



REF-51





**FLORA AND  
FAUNA STUDY**

**APPENDIX**

**D**



April 6, 2021

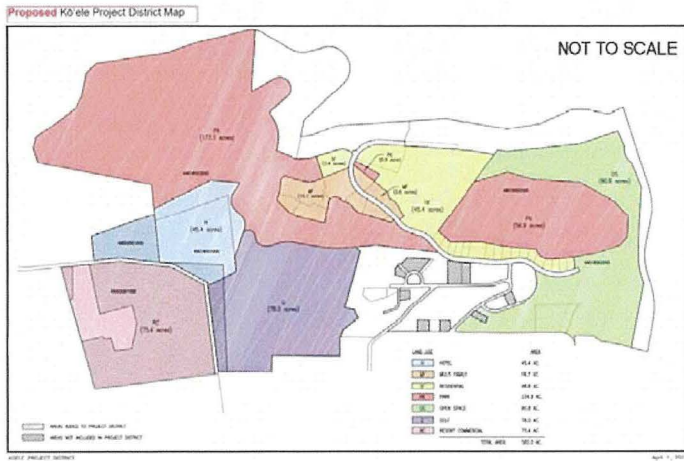
We were originally contracted to complete a Flora and Fauna Study for the draft Environmental Assessment for the Kō'ele Project District Amendment.

Since the completion of our study, Pūlama Lāna'i has adjusted the uses and associated acres within the project district. This is reflected in the map below.

Additionally, an inconsistency between MCC Chapter 19.71.080 and Ordinance 1581, 2140, and 2852 was identified by Pūlama Lāna'i while finalizing their application. A non-contiguous 14.5 acre parcel (TMK: [2] 4-9-002:061 (portion)) is zoned "Project District" in Ordinance 2852, however, no subdistrict designation is assigned to the 14.5 acres in Ordinance 2852. Furthermore, there is no record of the 14.5 acres in Ordinance 1581, Ordinance 2140, and MCC Chapter 19.71.080, where the subdistricts are identified by the number of acres.

Pūlama Lāna'i has incorporated this 14.5 acre section (identified as "Stables & Tennis Courts" in CIZ Map 2615) into the Proposed Kō'ele Project District Map, it was not identified in earlier maps provided to our firm.

We attest that the results of our technical study, *Flora and Fauna Study, Kō'ele P.D.U. Limits Revision, Lāna'i, Hawai'i*, do not change based on the updated map.



Signed

Robert W. Hobby  
Robert W. Hobby (Apr 7, 2021 11:05:11ST)

Robert W. Hobby  
Environmental Consultant

Flora and Fauna Study  
Kō'ele P.D.U. Limits Revision  
Lāna'i, Hawai'i

Robert W. Hobby  
Environmental Consultant  
Kokomo, Maui  
April 2019

Prepared for:  
Lāna'i Resorts, LLC  
dba Pūlama Lāna'i

Kō'ele P.D.U. Limits Revision  
Flora and Fauna Assessment  
Kō'ele, Lāna'i

#### INTRODUCTION

The Kō'ele P.D.U. Limits Revision site is located at the north edge of Lāna'i City on two parcels of land, TMK (2) 4-9-002:001 (10 acres) and TMK (2) 4-9-002:061 (58.3 acres) (see Figure 1). This biological study was initiated by Pūlama Lāna'i to inventory and assess the flora and fauna elements present in fulfillment of environmental requirements of the planning process.

#### SITE DESCRIPTION

The project area is situated on gently sloping land on the east and west sides of Keomoku Highway between the elevations of 1,705 feet and 1,770 feet above sea level. The vegetation consists mostly of open pasture lands with scattered windbreak trees and some shrubland. The soils are characterized as deep, well-drained silty clay soils of the Kalae, Koele and Lahaina series (Foote et al, 1972). Rainfall averages about 35 inches per year, with most occurring during the winter months (Armstrong, 1983).

#### SURVEY OBJECTIVES

This report summarizes the findings of a flora and fauna study of the proposed Kō'ele P.D.U. Limits Revision project area was conducted in April 2019. The objectives of the survey were to:

1. Document what plant and animal species occur on the property or may likely occur in the existing habitat.
2. Document the status and abundance of each species.
3. Determine the presence or likely occurrence of any native flora and fauna, particularly any that are Federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.
4. Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the native flora and fauna in this part of the island.

#### BOTANICAL SURVEY REPORT SURVEY METHODS

A walk-through botanical survey was used to cover this entire project area. All representative habitats were examined including the grassy pastures, shrublands and forest margins. A complete inventory of all plant species was made with special attention focused on native plant species and whether any of these were federally protected Threatened or Endangered species that might require special attention or actions.

#### DESCRIPTION OF THE VEGETATION

The vegetation in the project area consists mostly of open pasture lands with some windbreak trees and small areas of shrubland. A total of 62 plant species were recorded during the survey. Five species were common throughout the project area: Christmas berry (*Schinus terebinthifolius*), lantana (*Lantana camara*), Cook pine (*Araucaria columnaris*), fireweed (*Senecio madagascariensis*) and sand mallow (*Sidastrum micranthum*). Several pasture grasses were evenly distributed but none of these were individually common.

Just one native plant species was seen, the indigenous hala tree (*Pandanus tectorius*) and this tree had been planted alongside an old ranch residence. Plant species are generally restricted to those that are inedible to the herds of deer that are found around this area.

#### DISCUSSION AND RECOMMENDATIONS

The vegetation throughout the project area is dominated by non-native pasture and weed species, none of which are of any conservation interest or concern. No Threatened or Endangered plant species were found during the survey, and no special native plant habitats were found either. As a result, it is determined that developmental projects in this area would not have a significant negative impact on the botanical resources in this part of Lāna'i. No specific recommendations regarding plants are offered.

PLANT SPECIES LIST

Following is a checklist of all those vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within each of four groups: Ferns, Conifers, Monocots and Dicots. Taxonomy and nomenclature of the flowering plants are in accordance with the Manual of the Flowering Plants of Hawaii by Wagner, Herbst & Sohmer (1999) and A Tropical Garden Flora by Staples and Herbst (2005).

For each species, the following information is provided:

1. Scientific name with author citation

2. Common English or Hawaiian name.

3. Bio-geographical status. The following symbols are used:

endemic = native only to the Hawaiian Islands; not naturally occurring anywhere else in the world.

indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

non-native = all those plants brought to the islands intentionally or accidentally after western contact.

Polynesian = all those plants brought to the islands by the Hawaiians during the course of their migrations

4. Abundance of each species within the project area:

abundant = forming a major part of the vegetation within the project area.

common = widely scattered throughout the area or locally abundant within a portion of it.

uncommon = scattered sparsely throughout the area or occurring in a few small patches.

rare = only a few isolated individuals within the project area.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<b>FERNS</b>			
NEPHROLEPIDACEAE (Sword Fern Family)			
<i>Nephrolepis brownii</i> (Desv.) Hovencamp & Miyamoto	Asian sword fern	non-native	rare
POLYPODIACEAE (Polypody Fern Family)			
<i>Phymatosorus grossus</i> (Langsd & Fisch.) Brownlie	laua'e fern	non-native	rare
THELYPTERIDACEAE (Marsh Fern Family)			
<i>Cyclosorus parasiticus</i> (L.) Far W.	maiden fern	non-native	rare
<b>CONIFERS</b>			
ARAUCARIACEAE (Araucaria Family)			
<i>Araucaria columnaris</i> (G. Forster) J.D. Hooker	Cook pine	non-native	common
<b>MONOCOTS</b>			
ARECACEAE (Palm Family)			
<i>Dypsis lutescens</i> (H. Wendl.) Beentje & J. Dransfield	golden fruited palm	non-native	rare
ASPARAGACEAE (Asparagus Family)			
<i>Cordyline fruticosa</i> (L.) A. Chev.	kī, tī	non-native	rare
<i>Dracaena draco</i> L.	dragon tree	non-native	rare
<i>Dracaena marginata</i> Lamarck	marginata	non-native	rare
<i>Dracaena reflexa</i> Lamarck	song of India	non-native	rare
ASPHODELACEAE (Asphodel Family)			
<i>Aloe vera</i> (L.) N.L. Burman	aloe	non-native	rare
CYPERACEAE (Sedge Family)			
<i>Cyperus gracilis</i> R. Br.	McCoy sedge	non-native	rare
<i>Cyperus rotundus</i> L.	nut sedge	non-native	uncommon
<i>Kyllinga brevifolia</i> Rottbol	kili'o'opu	non-native	rare
HELICONIACEAE (Heliconia Family)			
<i>Heliconia bihai</i> (L.) L.	lobster claw heliconia	non-native	rare
MUSACEAE (Banana Family)			
<i>Musa acuminata x balbisiana</i> Colla	banana	non-native	rare
PANDANACEAE (Screw pine Family)			
<i>Pandanus tectorius</i> S. Parkinson ex Z.	hala	indigenous	rare
POACEAE (Grass Family)			
<i>Andropogon virginicus</i> L.	broomsedge	non-native	uncommon
<i>Bothriochloa pertusa</i> (L.) A. Camus	pitted beardgrass	non-native	uncommon
<i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass	non-native	uncommon
<i>Digitaria ciliaris</i> (Retz.) Koeler	Henry's crabgrass	non-native	uncommon
<i>Eragrostis pectinacea</i> (Michx.) Nees	Carolina lovegrass	non-native	uncommon
<i>Eremochloa ophiuroides</i> (Munro) Hackel	centipede grass	non-native	rare
<i>Megathyrsus maximus</i> (Jacq.) Simon & Jacobs	Guinea grass	non-native	rare
<i>Paspalum dilatatum</i> Poir.	Dallis grass	non-native	rare
<i>Sporobolus africanus</i> (Poir.) Robyns & Tournay	smutgrass	non-native	uncommon
STRELITZIACEAE (Bird-of-paradise Family)			
<i>Strelitzia reginae</i> Dryander	bird-of-paradise	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<b>DICOTS</b>			
ANACARDIACEAE (Mango Family)			
<i>Schinus terebinthifolius</i> Raddi	Christmas berry	non-native	common
APIACEAE (Parsley Family)			
<i>Centella asiatica</i> (L.) Urb.	Asiatic pennywort	non-native	rare
ASTERACEAE (Sunflower Family)			
<i>Ageratum conyzoides</i> L.	maile hohono	non-native	rare
<i>Calypocarpus vialis</i> Less.	straggler daisy	non-native	uncommon
<i>Cirsium vulgare</i> (Savi) Ten.	bull thistle	non-native	uncommon
<i>Heterotheca grandiflora</i> Nutt.	telegraph weed	non-native	uncommon
<i>Senecio madagascariensis</i> Poir.	fireweed	non-native	common
<i>Verbesina encelioides</i> (Cav.) Benth. & Hook.	golden crown-beard	non-native	uncommon
BIGNONIACEAE (Bignonia Family)			
<i>Spathodea campanulata</i> P. Beauv.	African tulip	non-native	rare
EUPHORBIACEAE (Spurge Family)			
<i>Euphorbia prostrata</i> Aiton	prostrate spurge	non-native	rare
FABACEAE (Pea Family)			
<i>Acacia confusa</i> Merr.	Formosa koa	non-native	uncommon
<i>Chamaecrista nictitans</i> (L.) Moench	partridge pea	non-native	rare
<i>Desmanthus pernambucanus</i> (L.) Thellung	slender mimosa	non-native	rare
<i>Desmodium incanum</i> DC.	kaimi clover	non-native	uncommon
<i>Desmodium triflorum</i> (L.) DC.	three flowered beggar weed	non-native	rare
<i>Indigofera suffruticosa</i> Mill.	iniko	non-native	rare
<i>Mimosa pudica</i> L.	sensitive plant	non-native	rare
MALVACEAE (Mallow Family)			
<i>Hibiscus</i> x	hybrid hibiscus	non-native	rare
<i>Sida rhombifolia</i> L.	arrowleaf sida	non-native	rare
<i>Sidastrum micranthum</i> (St. Hil.) Fryx.	sand mallow	non-native	common
<i>Triumfetta semitriloba</i> Jacq.	Sacramento bur	non-native	rare
MORACEAE (Mulberry Family)			
<i>Ficus microcarpus</i> L.f.	Chinese banyan	non-native	rare
MYRTACEAE (Myrtle Family)			
<i>Eucalyptus robusta</i> Sm.	swamp mahogany	non-native	uncommon
<i>Psidium cattleianum</i> Sabine	strawberry guava	non-native	rare
<i>Psidium guajava</i> L.	common guava	non-native	uncommon
OXALIDACEAE (Wood Sorrel Family)			
<i>Oxalis corniculata</i>	ihi	Polynesian	rare
PHYTOLACCACEAE (Pokeweed Family)			
<i>Phytolacca octandra</i> L.	southern pokeberry	non-native	rare
PLANTAGINACEAE (Plantain Family)			
<i>Plantago lanceolata</i> L.	narrow-leaved plantain	non-native	rare
RUBIACEAE (Coffee Family)			
<i>Spermacoce assurgens</i> Ruiz & Pav.	buttonweed	non-native	rare

6

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
RUTACEAE (Rue Family)			
<i>Murraya paniculata</i> (L.) W. Jack	mock orange	non-native	rare
SOLANACEAE (Nighthshade Family)			
<i>Solanum linnaeanum</i> Hepper & P. Jaeger	apple-of-Sodom	non-native	rare
VERBENACEAE (Verbena Family)			
<i>Citharexylum spinosum</i> L.	fiddlewood	non-native	rare
<i>Lantana camara</i> L.	lantana	non-native	common
<i>Stachytarpheta australis</i> Modenke	'ōwī	non-native	rare
<i>Stachytarpheta jamaicensis</i> (L.) Vahl	Jamaica vervain	non-native	rare
<i>Verbena litoralis</i> Kunth	ha'u 'ōwī	non-native	rare

7

## FAUNA SURVEY REPORT

### SURVEY METHODS

A fauna survey was conducted in conjunction with the flora survey. All parts of the project area were covered. Observations were made with the assistance of binoculars. Notes were made of species, numbers and status as well as on tracks, scat and signs of feeding. An inventory was made of all of the animal species encountered.

In addition, an evening survey was conducted at two locations to observe crepuscular activities and calls, and to determine any occurrence of the Endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) in the project area.

### MAMMALS

Sign of just two non-native mammal species was observed in the project area. Nomenclature and taxonomy follow Tomich (1986). Several axis deer (*Axis axis*) were seen and abundant sign were found throughout the area in the form of tracks, droppings and antler rubbings. Horses (*Equus caballus*) were also common in the pastures.

A special effort was made to look for evidence indicating the presence of 'ōpe'ape'a or Hawaiian hoary bat by conducting an evening survey at two locations within the project area. A bat detecting device (Batbox III D) was employed, set to frequency of 27,000 Hertz that these bats are known to use when echolocating for flying insects. No bats were detected with the use of this device.

Other non-native mammals likely to frequent this area include rats (*Rattus* spp.), mice (*Mus domesticus*), feral cats (*Felis catus*) and occasionally domestic dogs (*Canis familiaris*).

### BIRDS

Birdlife was moderate in both species diversity and in total numbers seen. Twelve species were observed during two site visits. Nomenclature and Taxonomy follow American Ornithologists' Union (2019). Most common were the common myna (*Acridotheres tristis*) and the zebra dove (*Geopelia striata*). Less common were the house finch (*Carpodacus mexicanus*), gray francolin (*Francolinus pondicerianus*), spotted dove (*Streptopelia chinensis*), northern cardinal (*Cardinalis cardinalis*), Japanese bush warbler (*Cettia diphone*) and the kōlea or Pacific golden-plover (*Pluvialis fulva*). Four other species were rare of occurrence.

Two indigenous, native birds were recorded during the survey, the kōlea which was uncommon, and the 'ākekeke or ruddy turnstone (*Arenaria interpres*) which was rare. Both of these are migratory species that were molting in preparation for their imminent departure to their arctic breeding grounds.

A few other species that might occur in this habitat include the wild turkey (*Meleagris gallopavo*), Erckel's francolin (*Pternistis erckelii*) and nutmeg mannikin (*Lonchura punctulata*).

### REPTILES

Just one non-native lizard, the common garden skink (*Lampropholis delicata*) was observed in ground leaf litter.

### MOLLUSKS

One non-native mollusk, the giant African snail (*Achatina fulica*) was rare.

### INSECTS

Insect life was modest in diversity but rather sparse in total numbers. Eleven species were recorded in six insect Orders. Nomenclature and taxonomy follow Nishida et al (1992). Just one species was common, the monarch butterfly (*Danaus plexippus*), which was seen throughout the project area. Three other species were uncommon, the honeybee (*Apis mellifera*), dung fly (*Musca sorbens*) and long-tailed blue butterfly (*Lampides boeticus*). Seven other species were of rare occurrence.

One insect species was native, the indigenous globe skimmer dragonfly (*Pantala flavescens*) which is common throughout Hawaii.

### DISCUSSION AND RECOMMENDATIONS

The fauna species identified within the project area are mostly non-native organisms that have been purposefully or accidentally introduced to Hawaii since western contact. Two bird species and one insect species, however, were indigenous in Hawaii and are addressed here.

#### Kōlea or Pacific golden-plover and 'ākekeke or ruddy turnstone

These two birds are migratory species that over-winter in Hawaii between September and May but then fly to the arctic where they breed and raise their young through the summer months. Both species show up here in large numbers every year. Neither species is Threatened or Endangered so they don't carry these heightened protections and are not of conservation concern at present.

#### Globe skimmer dragonfly

The globe skimmer is widespread and common in Hawaii in a variety of habitats. It is also known throughout the tropics and subtropics nearly worldwide. While indigenous in Hawaii, it carries no federal protections and is of no special conservation concern.

#### Hawaiian Bats

No endangered Hawaiian bats were detected in the project area at two sampling points during the evening survey. These bats are rare on Lāna'i but they are highly mobile and wide-ranging, and could show up occasionally. The USFWS has guidelines to ensure that these bats are not harmed during their breeding and pupping season should they be detected.

#### 'Ua'u and 'A'o

The Endangered 'ua'u or Hawaiian petrel (*Pterodroma sandwichensis*) and the Threatened 'a'o of Newell's shearwater (*Puffinus newelli*), while not nesting in the project area, do fly over it during dusk to access their burrows high in the mountains and again at dawn to head out to sea. Young birds taking their first fledging flights are inexperienced fliers. They often are disoriented by bright lights and crash into light structures where they become vulnerable to injury and predators. All outdoor lighting on the Koele resort should be shielded so that the light is not visible from above. This is a requirement of the Maui County building code. Further guidance may be provided by the USFWS.

Taking into considerations the above comments and recommendations, the proposed project is not expected to have any significant negative impacts on native fauna in this part of Lāna'i.

#### ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within five groups: Mammals, Birds, Reptiles, Insects and Mollusks. For each species the following information is provided:

1. Common name
2. Scientific name
3. Bio-geographical status. The following symbols are used:
  - endemic = native only to Hawaii; not naturally occurring anywhere else in the world.
  - indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).
  - migratory = bird species that spend the fall and winter months in Hawaii and the spring and summer months breeding in the arctic.
  - non-native = all those animals brought to Hawaii intentionally or accidentally after western contact.
4. Abundance of each species within the project area:
  - abundant = many flocks or individuals seen throughout the area at all times of day.
  - common = a few flocks or well scattered individuals throughout the area.
  - uncommon = only one flock or several individuals seen within the project area.
  - rare = only one or two seen within the project area.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<b>MAMMALS</b>			
CERBIDAE (Deer Family)			
<i>Axis axis</i> Erxleben	axis deer	non-native	common
EQUIDAE (Horse Family)			
<i>Equus caballus</i> L.	domestic horse	non-native	common
<b>BIRDS</b>			
ALAUDIDAE (Lark Family)			
<i>Alauda arvensis</i> L.	sky lark	non-native	rare
CARDINALIDAE (Cardinal Family)			
<i>Cardinalis cardinalis</i> L.	northern cardinal	non-native	uncommon
CETTIIDAE (Warbler Family)			
<i>Cettia diphone</i> Kittlitz	Chinese bush warbler	non-native	uncommon
CHARADRIIDAE (Plover Family)			
<i>Pluvialis fulva</i> Gmelin	Pacific golden-plover/kōlea	indigenous/migratory	uncommon
COLUMBIDAE (Dove Family)			
<i>Geopelia striata</i> L.	zebra dove	non-native	common
<i>Streptopelia chinensis</i> Scopoli	spotted dove	non-native	uncommon
FRINGILLIDAE (Finch Family)			
<i>Carpodacus mexicanus</i> Muller	house finch	non-native	uncommon
PHASIANIDAE (Pheasant Family)			
<i>Francolinus pondicerianus</i> Gmelin	gray francolin	non-native	uncommon
SCOLOPACIDAE (Sandpiper Family)			
<i>Arenaria interpres</i> L.	ruddy turnstone/akekeke	indigenous/migratory	rare
STURNIDAE (Starling Family)			
<i>Acridotheres tristis</i> L.	common myna	non-native	common
THRAUPIDAE (Tanager Family)			
<i>Paroaria coronata</i> Miller	red-crested cardinal	non-native	rare
ZOSTEROPIDAE (White-eye Family)			
<i>Zosterops japonicus</i> Temmink & Schlegel	Japanese white-eye	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<b>INSECTS</b>			
Order ARANAE - true spiders			
ARANEIDAE (Orb Weaver Family)			
<i>Gasteracantha mammosa</i> Koch	Asian spiny-backed spider	non-native	rare
SALTICIDAE (Jumping Spider Family)			
<i>Hasarius adansonii</i> Audouin	Adanson's house jumper	non-native	rare
Order COLEOPTERA -beetles			
COCCINELLIDAE (Lady Beetle Family)			
<i>Coccinella septempunctata brucki</i> Multsant	seven-spot lady beetle	non-native	rare
Order DIPTERA - flies			
CULICIDAE (Mosquito Family)			
<i>Culex quinquefasciatus</i> Say	southern house mosquito	non-native	rare
MUSCIDAE (Housefly Family)			
<i>Musca sorbens</i> Wiedemann	dung fly	non-native	uncommon
SYRPHIDAE (Hoverfly Family)			
<i>Simosyrphus grandicornis</i> Macquart	Australian hoverfly	non-native	rare
Order HYMENOPTERA - bees, wasps, ants			
APIDAE (Honeybee Family)			
<i>Apis mellifera</i> L.	honeybee	non-native	uncommon
SPHECIDAE (Thread-waisted Wasp Family)			
<i>Isodontia apicalis</i> F. Smith	grass-carrying wasp	non-native	rare
Order LEPIDOPTERA - butterflies, moths			
LYCAENIDAE (Gossamer-winged Butterfly Family)			
<i>Lampides boeticus</i> L.	long-tailed blue butterfly	non-native	uncommon
NYMPHALIDAE (Brush-footed Butterfly Family)			
<i>Danaus plexippus</i> L.	monarch butterfly	non-native	common
Order ODONATA - dragonflies, damselflies			
LIBELLULIDAE (Skimmer Dragonfly Family)			
<i>Pantala flavescens</i> Fabricius	globe skimmer	indigenous	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
-----------------	-------------	--------	-----------

**REPTILES**

SCINCIDAE (Skink Family)

*Lampropholis delicata* De Vis

garden skink	non-native	rare
--------------	------------	------

**MOLLUSKS**

ACHATINIDAE (Achatimid Snail Family)

*Achatina fulica* Saussure

giant east African snail	non-native	rare
--------------------------	------------	------



Figure 1. The Kō'ele P.D.U. Limits Revision site  
TMK (2) 4-9-002:001 (10 acres) and TMK (2) 4-9-002:061 (58.3 acres)

Literature Cited

- American Ornithologists' Union. 2019. Check-list of North American Birds. 7<sup>th</sup> edition. American Ornithologists' Union. Washington D.C.
- Armstrong, R.W. 1983. Atlas of Hawaii, Second Edition, University of Hawai'i Press.
- Foote, D.E., E.L. Hill, S. Nakamura, F. Stephens. 1972. Soil Survey of the Islands of Kaua'i, O'ahu, Maui, Moloka'i and Lāna'i. State of Hawai'i. Department of Agriculture, Soil Conservation Service. Washington, D.C.
- Nishida, G.M., G.A. Samuelson, J.S. Strazanac, K.S. Kami. 1992. Hawaiian Terrestrial Arthropod Checklist. Hawaiian Biological Survey. Honolulu.
- Staples, G.W., D.R. Herbst. 2005. A Tropical Garden Flora. Bishop Museum Press. Honolulu.
- Tomich, P.Q., 1986. Mammals in Hawaii. Bishop Museum Press, Honolulu.
- U.S. Fish and Wildlife Service. 2019. Endangered and Threatened Wildlife and Plants. Listings and Occurrences for Hawaii. [www.fws.gov/endangered](http://www.fws.gov/endangered)
- Wagner, W.L., D.R. Herbst, and S.H. Sohmer, 1999. Manual of the Flowering Plants of Hawaii. University of Hawaii Press and Bishop Museum Press, Honolulu.



**ARCHAEOLOGICAL  
LITERATURE REVIEW  
AND FIELD INSPECTION  
REPORT**

**APPENDIX**

**E**



**REF-63**



4348 Wai`alae Ave #254•Honolulu Hawaii`i 96816•T: (808) 392-1617•F: (888) 392-4941•E-Mail: [admin@honuaconsulting.com](mailto:admin@honuaconsulting.com)

April 16, 2021

**Re: *Archaeological Literature Review and Field Inspection for Kō`ele Project District Amendment, Kamoku and Paoma`i Ahupua`a, Lāhaina District, Lāna`i Island***

Archaeological Literature Review TMKs: [2] 4-9-002:001 (portion) & :061 (portion), [2] 4-9-018:001, :002 (portion), :003 (portion), & :004, [2] 4-9-020: 001-008, :010-019, & :020 (portion) and [2] 4-9-021:001-008, & :010

Field Inspection TMKs: [2] 4-9-002:001 (portion), & :061 (portion)

---

To Whom It May Concern,

Honua Consulting, LLC, was originally contracted to complete a Literature Review and Field Inspection for the draft Environmental Assessment for the Kō`ele Project District Amendment. Since the completion of our study, Pūlama Lāna`i has adjusted the uses and associated acres within the project district. This is reflected in Attachment A.

Additionally, an inconsistency between MCC Chapter 19.71.080 and Ordinance 1581, 2140, and 2852 was identified by Pūlama Lāna`i while finalizing their application. A non-contiguous 14.5-acre parcel (TMK: [2] 4-9-002:061 (portion)) is zoned "Project District" in Ordinance 2852, however, no subdistrict designation is assigned to the 14.5 acres in Ordinance 2852. Furthermore, there is no record of the 14.5 acres in Ordinance 1581, Ordinance 2140, and MCC Chapter 19.71.080, where the subdistricts are identified by the number of acres.

Pūlama Lāna`i has incorporated this 14.5-acre section (identified as "Stables & Tennis Courts" in CIZ Map 2615) into the Proposed Kō`ele Project District Map, it was not identified in earlier maps provided to our firm. This is reflected in Attachment A.

We attest that the results, findings, and recommendations of our technical study, *Archaeological Literature Review and Field Inspection for Kō`ele Project District Amendment, Kamoku and Paoma`i Ahupua`a, Lāhaina District, Lāna`i Island* do not change based on the updated map. We further believe the study, as written, provides sufficient information for SHPD to conduct the necessary HRS Chapter 6E-42 historic preservation review of the applicable Project District Application (PD II).

**REF-64**

Please do not hesitate to contact us with any questions or concerns at (808) 392-1617 or [watson@honuaconsulting.com](mailto:watson@honuaconsulting.com).

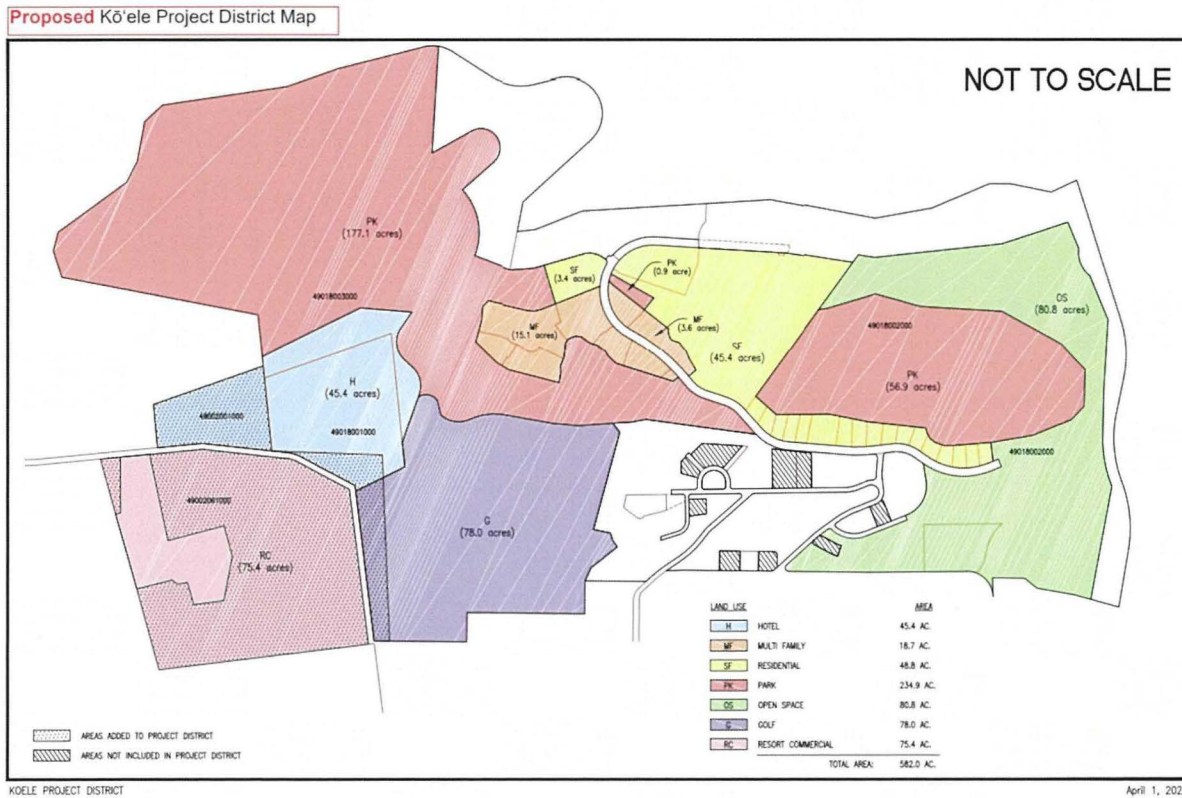
Me ka pono,

A handwritten signature in black ink, appearing to be "Trisha Watson".

Trisha Kehaulani Watson, JD, PhD  
Owner  
Honua Consulting, LLC

Attachment

### Attachment A Revised Proposed Kō'ele Project District Map



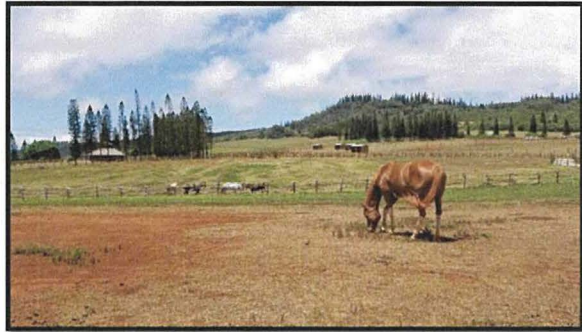
**Archaeological Literature Review and Field Inspection  
for Kō'ele Project District Amendment  
Kamoku and Paoma'i Ahupua'a,  
Lāhaina District, Lāna'i Island,**

**Archaeological Literature Review:**

TMKs: [2] 4-9-002:001 (portion) & :061 (portion),  
[2] 4-9-018:001, :002 (portion), :003 (portion), & :004, [2] 4-9-020: 001-008,  
:010-019, & :020 (portion) and [2] 4-9-021:001-008, & :010

**Field Inspection:**

[2] 4-9-002:001 (portion), & :061 (portion)



Prepared for



Prepared by  
Nathan J. DiVito, B.A.,  
Kepā Maly,  
Rosanna M. R. Thurman, M.A., and  
Trisha Kēhaulani Watson, J.D., Ph.D.



**Management Summary**

Pūlama Lāna'i is proposing to make amendments to the existing Kō'ele Project District. The purpose and intent of the Project District remain unchanged; its existing and continued purpose intends to provide for a flexible and creative approve to development at Kō'ele that is complementary and supportive of services offered in the adjoining Lāna'i City.

By request of Pūlama Lāna'i, this literature review and field inspection was completed for proposed additions to the Kō'ele Project District located at the Four Seasons Resort Lāna'i at Kō'ele in Kamoku and Paoma'i Ahupua'a, Lahaina District, Lāna'i Island, TMK: [2] 4-9-002:061 (portion) and [2] 4-9-002:001 (portion). This project focuses on two adjacent parcels of land to be rezoned and totaling 66.7 acres, including a 57.2 acre property ("Parcel 1") and a 9.5-acre property ("Parcel 2"). Both properties are privately owned by Lāna'i Resorts, LLC. The project area is the same as the areas to be rezoned, including the 57.2 acre (2,491,632 square feet [sq. ft.] or 231,480 square meters [sq. m.] parcel and the 9.5 acre (413,820 square feet [sq. ft.] or 38,445 square meters [sq. m.]) parcel. Parcel 1 is in preparation of a zone change from an Agricultural District to a Resort Commercial District and Parcel 2 is in preparation of a zone change from an Interim District to a Hotel District, similar to the adjoining hotel property to the south. Also included in this report is a literature review that provides a cultural resources inventory for the entire proposed 564-acre Kō'ele Project District. It should be noted that two additional areas in the proposed additions to the Kō'ele Project District, (a 3.1 acre area of TMK: [2] 4-9-018:001 (portion) and a 5.7 acre area of TMK: [2] 4-9-018:003 (portion)) are included in the literature review but are excluded from the field inspection, as the land has been significantly modified and is currently being used by the Four Seasons Resort Lāna'i at Kō'ele as the hotel entrance and as a portion of the Cavendish Golf Course respectively.

This report will be submitted as part of a Phase 1 Application to the Maui County Department of Planning for development of land designated as a Project District on an adopted community plan by the landowner, Pūlama Lāna'i. The application amends the Project District boundary as specified above. No approvals for built structures or activities that would include ground disturbance are being sought at this time. If in the future building entitlements or other agency approvals are sought for the property within the Project District, a separate HRS 6E review will be undertaken at that time and in conjunction with the future activity.

The purpose of this literature review, field inspection, and cultural resources inventory was to determine the land-use history of the area and to identify any potential artifacts, surface architecture, or cultural deposits present on the ground surface of Parcels 1 and 2 and to provide an inventory of cultural resources present in the proposed Kō'ele Project District. In reference to the entire proposed 564-acre Kō'ele Project District, approximately 14 archaeological studies have been conducted to support infrastructure and development projects associated with the Four Seasons Lodge at Kō'ele, the Kō'ele Golf Course, and various other recreational and residential properties. A total of 3 historic properties have been documented within the 564-acre Kō'ele Project District, including the Kō'ele Historic District (SIHP #50-40-98-1004), a scatter of historic ranch-era artifacts associated with the Gay Lālākoa Homestead (SIHP #50-40-98-1595), and secondarily deposited traditional Hawaiian artifacts on the ground surface (SIHP #50-40-98-1596).

Historically, the two subject parcels were used for ranching activities and were later almost entirely under commercial pineapple cultivation. The types of sites typically found in the pineapple fields of the island of Lānaʻi include surface scatters of secondarily deposited traditional Hawaiian artifacts, bases of fire pits that have been truncated by the plow zone, and historic remnants of ranch and plantation-era infrastructure. These were the anticipated site types for this field inspection.

The 57.2 acre parcel (Parcel 1) had not been previously surveyed or studied. Therefore, the parcel did not contain any previously-recorded sites or features.

The 9.5 acre parcel (Parcel 2) is located within the previously-documented Kōʻele District, State Inventory of Historic Places (SIHP) #50-40-98-1004, the former location of the Lanai Ranch Headquarters (circa 1870s-1951), a group of historic ranch-era buildings and structures placed in and around the Four Seasons Resort Lānaʻi at Kōʻele, and associated subsurface deposits consisting of refuse pits and scatters, a charcoal and ash concentration, an imu pit, a possible cistern, and a drywell and cesspool dating to the 1970's. None of the former Ranch Headquarters buildings currently exist on the property, rather, all buildings that contribute to the significance of the site have been moved from their original locations. The district was originally recorded during the Statewide Inventory of Historic Places study conducted in 1974 (Hommon 1974, Wright 1974; Appendix C). Originally, SIHP # -1004 included four buildings (Structures A-D). Two additional structures (Features E-F) were subsumed into the site during an archaeological survey of the Koele Hotel (subsequently named the Four Seasons Resort at Kōʻele) (Kaschko 1986). Two of the houses of SIHP # -1004, recorded as Structures C and D, were moved into the eastern portion of Parcel 2 of the current project area in the late 1980's during the construction of the Four Seasons Resort.

Subsurface deposits associated with SIHP # -1004 were documented during subsequent excavations and monitoring for construction of the Four Seasons Lodge at Kōʻele.

An archaeological inventory survey (AIS) was previously conducted by T.S. Dye and Colleagues in 2017 for a 3.1 acre portion of the 9.5 acre parcel (Parcel 2) (Dye and Maly 2017b). Due to the negative results of the survey it was termed an archaeological assessment. The assessment consisted of a pedestrian survey and the excavation of four backhoe trenches in a single transect across the property. The backhoe trenches documented natural soils only. No historic properties, subsurface deposits, or cultural materials were encountered during the project. The AIS was accepted by the State Historic Preservation Division (SHPD) on July 26, 2017 (Log No. 2017.01361, Doc No. 1707MBF07; Appendix B).

The current field inspection of Parcel 1 included a 100% pedestrian survey of the entire 57.2 acre parcel. During the survey two potential historic properties were documented (Feature Honua 1 and 2) and four secondarily deposited traditional Hawaiian artifacts were collected from three separate locations. A truncated fire pit remnant (Feature Honua 1) containing native charcoalized plants ('ilima [*Sida* sp.] and naio [*Myoporum sandwicense*]) was documented and designated as SIHP #50-40-98-1988. SIHP # -1988 was recorded in the north central portion of Parcel 1. In accordance with HAR 13-284-6, the fire pit was assessed as having integrity of location and significance under Criterion d (have yielded data important to Hawaiian history). Two remnant sections of a plantation-era pineapple road with an associated earthen ditch (Feature Honua 2) were also documented. The plantation-era pineapple road and earthen ditch remnants are typical features of the pineapple fields of the island, yet these sections were heavily eroded, partially in-filled, and

had modern modifications. Therefore, the two road and ditch remnants were assessed as not having integrity or significance and were not assigned a site number.

The field inspection of Parcel 2 included a 100% pedestrian survey of 3.25 acres of the larger 9.5 acre parcel. The portion of the property previously surveyed by Dye and Maly (2017b) was omitted from the current survey area as it was located within an active staging and construction area of the Four Seasons Resort Lānaʻi at Kōʻele. During the surface survey, three potential historic properties were documented in the northeastern corner of Parcel 2, including a historic semi-circular rock wall planter (Feature Honua 3), a historic to modern scatter of rounded basalt cobble imu stones (Feature Honua 4), and a low plantation-era mortar and cobble foundation designated as SIHP #50-40-98-1989 (Feature Honua 5). Features Honua 3 and 4 were assessed as not retaining integrity or significance. SIHP # -1989 (Feature Honua 5) appears to be largely buried by soil, therefore, it is unknown whether the foundation is intact within its original location or if it may yield valuable data. The surface survey within Parcel 2 also documented the presence of two previously-identified historic ranch-era buildings, Structures C and D, of the Kōʻele District (SIHP # -1004). An assessment of the integrity and significance of the two buildings are beyond the scope of this study. The assessment of these structures must be conducted by a qualified architectural historian.

Due to the presence of an intact traditional Hawaiian fire pit remnant (SIHP # -1988) and secondarily-deposited traditional Hawaiian artifacts, plantation-era infrastructural remnants and a foundation (SIHP # -1989), and ranching-era buildings (Structures C and D of SIHP # -1004), it is likely that future construction activities may disturb additional traditional and/or historic subsurface deposits and artifacts. Potential deposits that could be encountered include, but are not limited to, additional fire pit remnants, traditional human burials, animal burials, historic trash pits, and/or buried ranching and plantation-era infrastructure. Therefore, archaeological monitoring is recommended for future construction activities within Parcel 1 and Parcel 2. If construction activities are proposed for Parcel 2 then it is further recommended that prior to start of construction, Structures C and D of the Kōʻele District (SIHP # -1004) be assessed by a qualified architectural historian in coordination with the SHPD. Furthermore, it is recommended that SIHP # -1989 (foundation) be further documented and assessed for integrity and significance during archaeological monitoring.

Fieldwork for this project was performed under the archaeological permit number 19-22 issued to Honua Consulting by the SHPD, in accordance with Hawaiʻi Administrative Rules (HAR) Chapter 13-282. This study is not an archaeological inventory survey (AIS), however, it was written using standards outlined within HAR 13-276 for archaeological inventory surveys and is intended to assist with historic preservation efforts.

## Table of Contents

<b>Management Summary</b> .....	<b>i</b>
<b>Introduction</b> .....	<b>1</b>
1.1 Project Background .....	1
1.2 Environmental Setting .....	7
<b>Traditional and Historical Background</b> .....	<b>10</b>
2.1 He Wahi Mo'olelo No Lāna'i a Kaululā'au: Some Traditions from Lāna'i of Kaululā'au .....	10
2.1.1 Native Lore and Historical Accounts: The Gods Walked the Land—Early Settlement of Lāna'i .....	11
2.1.2 Chiefly Lineages of Lāna'i .....	21
2.2 Historical Events: Transitions in Land Use and Population on Lāna'i .....	24
2.3 Alanui Aupuni: Government Trails and Roadways .....	30
2.4 Land Tenure .....	35
2.4.1 Disposition of Ahupua'a and Konohiki Claims on Lāna'i .....	36
2.5 Ranching Operations on Lāna'i, 1854–1951 .....	55
2.5.1 Lanai Ranch at Kō'ele .....	55
2.5.2 Kō'ele Ranch Cemetery .....	57
2.6 Lāna'i: From Ranch to Pineapple Plantation .....	59
2.7 Land Tenure, Places, and Events in Kamoku Ahupua'a .....	68
2.7.1 Place Names of Kamoku .....	69
2.7.2 Ali'i and Native Tenant Claims from Kamoku Ahupua'a .....	71
2.7.3 Kihāmāniana and the Kō'ele Vicinity .....	73
2.7.4 Lāna'i City .....	80
2.8 Land Tenure, Places, and Events in Paoma'i Ahupua'a .....	87
2.8.1 Place Names of Paoma'i .....	88
2.8.2 Land Tenure in Paoma'i Ahupua'a .....	90
2.8.3 Native Traditions and Historical Accounts .....	117
2.9 Summary of Historical Background .....	126
<b>Previous Archaeological Studies</b> .....	<b>127</b>
3.1 Previous AIS of Parcel 2 (Dye and Maly 2017b) .....	127
3.2 Archaeological Studies in the Kō'ele Project District .....	128
3.2.1 Emory 1924 .....	129
3.2.2 Statewide Inventory of Historic Sites, Hommon 1974 .....	129
3.2.3 Kaschko 1986 .....	138
3.2.4 Hammatt 1987 .....	139
3.2.5 Estioko-Griffin 1988, Pieterusewsky 1988 .....	139
3.2.6 Hammatt and Borthwick 1988 .....	140
3.2.7 Hammatt et al. 1988 .....	140
3.2.8 Borthwick and Hammatt 1989 .....	142
3.2.9 Hammatt and Borthwick 1989 .....	142
3.2.10 Hammatt and Borthwick 1990 .....	142
3.2.11 Borthwick and Hammatt 1992 .....	143
3.2.12 Hammatt and Chiogioji 1992 .....	143
3.2.13 Hammatt and Borthwick 1993a .....	143

3.2.14 Hammatt and Borthwick 1993b .....	143
3.2.15 Hammatt and Chiogioji 1993 .....	143
3.2.16 Hammatt 1996 .....	144
3.2.17 Creed et al. 2000 .....	144
3.2.18 Fredericksen 2002 .....	144
3.2.19 Raymond 2003 .....	144
3.2.20 Hammatt and Shideler 2004, Lee-Greig and Hammatt 2007 .....	144
3.2.21 Conley-Kapoi and Hammatt 2005 .....	144
3.2.22 Lee-Greig and Hammatt 2005 .....	145
3.2.23 Lee-Greig and Hammatt 2006 .....	145
3.2.24 Dagan and Hammatt 2009 .....	145
3.2.25 Hill et al. 2009, Dagan et al. 2009a .....	145
3.2.26 Lee-Greig and Hammatt 2009a, Dagan et al. 2009d .....	145
3.2.27 Lee-Greig and Hammatt 2009b, Dagan et al. 2009b .....	145
3.2.28 Madeus et al. 2010 .....	146
3.2.29 Pfennig et al. 2014 .....	146
3.2.30 DiVito et al. 2015 .....	146
3.2.31 Dye and Maly 2015 .....	146
3.2.32 DiVito et al. 2017 .....	147
3.2.33 Dye and Maly 2017a .....	147
3.2.34 Dye and Maly 2017b .....	147
3.2.35 Dye and Maly 2017c .....	147
3.2.36 Dye and Maly 2018a .....	147
3.2.37 Dye and Maly 2018b .....	148
3.2.38 Dye and Maly 2018c .....	148
3.2.39 DiVito et al. 2019a .....	148
3.2.40 DiVito et al. 2019b .....	149
3.3 Summary of Nearby Historic Properties .....	149
3.4 Summary of Previous Archaeology .....	154
<b>Field Results</b> .....	<b>155</b>
4.1 Methodology .....	155
4.2 Parcel 1 .....	157
4.2.1 SIHP #50-40-98-1988 (Feature Honua 1) .....	159
4.2.2 Feature Honua 2 .....	162
4.3 Parcel 2 .....	164
<b>Lab Results</b> .....	<b>172</b>
5.1 Collected Artifacts .....	172
5.2 Wood Species Identification Results .....	174
5.3 Radiocarbon Dating Results .....	175
<b>Summary</b> .....	<b>176</b>
<b>Significance Assessments and Recommendations</b> .....	<b>178</b>
6.1 Significance Assessments .....	178
6.2 Conclusion .....	180
<b>References Cited</b> .....	<b>181</b>
<b>Appendix A Māhele Data for Kamoku Ahupua'a</b> .....	<b>A-1</b>

**Appendix B Historic Preservation Acceptance Letter for Previous Survey of Parcel 2 (Dye and Maly 2017b) ..... B-1**

**Appendix C State Register Form for Kō‘ele District, SIHP #50-40-98-1004 ..... C-1**

**Appendix D Kō‘ele District, SIHP #50-40-98-1004, Structures C and D (Kaschko 1986:29-30) ..... D-1**

**Appendix E Wood Charcoal Species Identification (WIDL)..... E-1**

**Appendix F Radiocarbon Results..... F-1**

**List of Figures**

Figure 1. Portion of a 2013 Lāna‘i North U.S. Geological Survey (USGS) Topographic Quadrangle Map showing Parcels 1 and 2 ..... 3

Figure 2. Aerial photo showing the location of Parcels 1 and 2 (Orthoimagery 2011)..... 4

Figure 3. Portion of Tax Map Key (TMK); [2] 4-9-002 showing Parcels 1 and 2..... 5

Figure 4. Overview map of the proposed Kō‘ele Project District showing the areas included in the literature review (blue), the two parcels surveyed (Parcels 1 and 2) (red), and the two parcels that were excluded from the field inspection (yellow)..... 6

Figure 5. Portion of a 2013 Lāna‘i North USGS with Soil Series Overlay showing anticipated soils within Parcel 1 ..... 9

Figure 6. 1878 Lanai Government Survey map (Registered Map [RM] No. 1394) (Brown and Monsarrat 1878) ..... 31

Figure 7. 1866 sketch map of Lāna‘i (W.M. Gibson, Hawai‘i State Archives)..... 46

Figure 8. 1873 sketch map depicting disposition of lands of Lāna‘i (W. M. Gibson, Hawai‘i State Archives) ..... 48

Figure 9. A 1938 Hawaiian Pineapple Company Limited map of the Layout of Lanai Ranch with Parcels 1 and 2 highlighted in red (Lāna‘i Culture & Heritage Center Collection 1938) .58

Figure 10. Kō‘ele Ranch Cemetery Index (Courtesy Lāna‘i Culture and Heritage Center) ..... 59

Figure 11. Portion of the Lanai Ranch Paddock Map, September 24, 1947; Detail of Paddock No. 26, Parcels 1 and 2 are outlined in red (Lāna‘i Culture & Heritage Center Collection 1947a)..... 61

Figure 12. Portion of a HAPCo Lāna‘i Plantation Map, October 1947; note the Pineapple Fields located in the vicinity of Parcels 1 and 2 (courtesy of HAPCo Collection, Lāna‘i Culture & Heritage Center Collection 1947b)..... 66

Figure 13. A 1953 Aerial Photograph of the Kō‘ele Area showing Parcels 1 and 2 under Commercial Pineapple Cultivation (Photo courtesy of the Lāna‘i Culture and Heritage Center) ..... 67

Figure 14. Map of the Island of Lāna‘i Naming 13 Ahupua‘a which form the Major Lands of the Island, as well as Historic Trails and Roads (Hawai‘i Territorial Survey Division 1929) 69

Figure 15. Registered Map 2227. Walter E. Wall, Surveyor, December 1903. Note the Land Commission Awards in Kamoku Ahupua‘a ..... 72

Figure 16. Kihamāniania ruins as they appeared in 2008. Photo courtesy of Kumu Pono Associates ..... 73

Figure 17. Kihamāniania Church and School ruins in 1921. Source: Kenneth Emory Collection. Copy work courtesy of Robin Kaye, 1975 ..... 79

Figure 18. Lāna‘i City surrounded by newly planted pineapple fields and dotted by recently planted Cook Island Pines. (Army Air National Guard Photo, October 23, 1929, in the collection of the Lāna‘i Culture & Heritage Center)..... 81

Figure 19. Early families of Lāna‘i City on Lāna‘i Avenue, fronting Dole Park. Courtesy of Castle & Cooke, Inc..... 82

Figure 20. 1874 sketch map of Lāna‘i depicting the disposition of the lands (W. M. Gibson, Hawai‘i State Archives)..... 97

Figure 21. Previously Surveyed and Tested Portion of Parcel 2 with the Location of Backhoe Trenches (Dye and Maly 2017b) ..... 127

Figure 22. Stratigraphic Profiles and Soil Descriptions Obtained from Backhoe Trenches Excavated During the Previous AIS of Parcel 2 (Dyc and Maly 2017b108)..... 128

Figure 23. Portion of a 2013 Lāna‘i North USGS showing locations of previous archaeological studies within 1.5 miles of Parcels 1 and 2..... 130

Figure 24. Portion of a 2013 Lāna‘i North USGS showing previously documented sites within 1.5 miles of Parcels 1 and 2..... 131

Figure 25. Map showing Kō‘ele District features (Kaschko 1986:5), notice the locations of Structures C and D which are later relocated to Parcel 2 of the current project area..... 140

Figure 26. Map showing Test Trench Locations and Features of the Kō‘ele District (Hammatt et al. 1988:5), notice the church (Structure B) has been “relocated” ..... 141

Figure 27. Aerial Photograph Showing Survey Transects across Parcel 1 (Orthoimage 2011).. 155

Figure 28. Aerial Photograph showing Survey Transects Across Parcel 2 and showing the Portion of the Project Area Used as a Construction Staging Area (Orthoimage 2011) .. 156

Figure 29. Aerial Image of Parcel 1 showing Locations of Newly Identified SIHP # -1988 (fire pit), Honua 2 (old plantation road remnants), and secondarily deposited artifacts (Acc #1, 2, 4, and 5) (Esri Imagery)..... 158

Figure 30. Photo of the Stables Building and Associated Landscaping Looking Southeast..... 158

Figure 31. Overview Photo of Vegetation in the Northwest Corner of Parcel 1 Looking East... 159

Figure 32. Overview Photo of Feature Honua 1 (SIHP # -1988) Looking Northeast, Note the Black Plastic Fragments on the Surface and Landscaped Area Around the Tennis Courts in the Background..... 160

Figure 33. Overview of the Central Portion of Parcel 1 from the Eastern Fence Boundary Looking South ..... 161

Figure 34. Overview Photo Showing the Southern Boundary and Southwestern Corner of Parcel 1, Note the Heavy Erosion, Ground Visibility, and the Wooden Tripods Marking the Location of Sewer Manholes..... 161

Figure 35. Photo of Erosion and Black Plastic Fragments along the Central Western Boundary of Parcel 1 Looking East..... 162

Figure 36. Photo of the eastern section of Feature Honua 2 looking west, note the road base material for the pineapple road in the northern profile of the ditch ..... 163

Figure 37. Photo of the western section of Feature Honua 2 looking west, note the concrete chunks near the scale bar in the photo ..... 163

Figure 38. Aerial image showing Parcel 2, features documented during the surface survey, components of SIHP # -1004, and the portion of the project area currently being used as a construction staging area ..... 164

Figure 39. Photo of the construction staging and laydown area showing the northwestern portion of Parcel 2 looking west ..... 165

Figure 40. Overview photo of road and vegetation along the eastern boundary of Parcel 2 looking east..... 165

Figure 41. Modern fence along the southern boundary of the vegetated portion of Parcel 2 looking southwest..... 166

Figure 42. Overview photo of Structure C of SIHP # -1004 looking west ..... 167

Figure 43. Overview photo of Structure D of SIHP # -1004 looking east ..... 168

Figure 44. Overview photo of a historic circular planter rock wall, Feature Honua 3 looking northeast..... 169

Figure 45. Possible date on mortar found within Feature Honua 3..... 169

Figure 46. Overview photo of Feature Honua 4 looking southeast..... 170

Figure 47. Plan view map and photo of Feature Honua 4 ..... 170

Figure 48. Photo of SIHP # -1989 (Feature Honua 5), a plantation-era crushed basalt and mortar foundation looking northeast..... 171

Figure 49. Artifacts collected from Parcel 1: a) Acc #2, basalt flake [both sides]; b) Acc #1, ‘opihī shell; c) Acc # 4, volcanic glass flake; Acc #5, volcanic glass nodule..... 172

Figure 50. Helu 2686 of Ololoa. *Source:* Native Register Volume 6:15..... A-2

Figure 51. Helu 4145 of Kauihou. *Source:* Native Testimony 13:282..... A-3

Figure 52. Helu 6833 of Kaaiaī. *Source:* Native Testimony 13:272-273..... A-4

Figure 53. Helu 6833 of Kaaiaī. *Source:* Māhele Award Book 7:215 ..... A-5

Figure 54. Page 1 of 2. Royal Patent 5137 of Kaaūwaeaina. *Source:* Book 20:501-502..... A-6

Figure 55. Page 2 of 2. Royal Patent 5137 Kaaūwaeaina. *Source:* Book 20:501-502 ..... A-6

Figure 56. Helu 8556 of Kaaūwaeaina. *Source:* Native Register 6:468..... A-7

Figure 57. Helu 8556 of Kaaūwaeaina. *Source:* Native Testimony 13:265 ..... A-8

Figure 58. Helu 8556 of Kaaūwaeaina. *Source:* Māhele Award Book 7:212 ..... A-8

Figure 59. Page 1 of 2. Royal Patent 4800 of Pali. *Source:* Book 19:473-474..... A-10

Figure 60. Page 2 of 2. Royal Patent 4800 of Pali. *Source:* Book 19:473-474..... A-11

Figure 61. Helu 10630 of Pali. *Source:* Native Register 6:526 ..... A-11

Figure 62. Helu 10630 of Pali. *Source:* Native Testimony 13:259 ..... A-12

Figure 63. Helu 10630 of Pali. *Source:* Foreign Testimony 15:40..... A-12

Figure 64. Helu 10630 of Pali. *Source:* Māhele Award Book 7:222..... A-13

Figure 65. Page 1 of 2. Royal Patent 3029 of Nahuina and Keliīhue. *Source:* Volume 14, p. 113-114 ..... A-15

Figure 66. Page 2 of 2. Royal Patent 3029 of Nahuina and Keliīhue. *Source:* Volume 14, p. 113-114 ..... A-16

Figure 67. Sketch map accompanying the Notes of Survey for Royal Patent 3029 of Nahuina and Keliīhue. *Source:* Hawai‘i State Archives..... A-17

Figure 68. Photo showing the original condition and location of Structure C of SIHP # -1004 (Kō‘ele District) (Photo from Kaschko and Athens 1986:29)..... D-1

Figure 69. Photo showing the original condition and location of Structure D of SIHP # -1004 (Kō‘ele District) (Photo from Kaschko and Athens 1986:30)..... D-2



**List of Tables**

Table 1. Forbidden fish of the konohiki and the prohibited woods (Pali 1852).....36  
 Table 2. Disposition of Ahupua'a of Lāna'i (Buke Māhele 1848) .....37  
 Table 3. Names of Lāna'i claimants (Native Register 6, 1848).....38  
 Table 4. Land Commission Awards claimed in Kamoku Ahupua'a.....71  
 Table 5. Place names of Paoma'i found in native accounts and land records.....88  
 Table 6. Māhele Information of Paoma'i and Neighboring Ahupua'a.....91  
 Table 7. Prohibited fish and wood of Paoma'i and neighboring ahupua'a .....92  
 Table 8. Place names of Paoma'i and adjoining lands .....110  
 Table 9. Archaeological studies inclusive of properties within 1.5 miles of Parcels 1 and 2 .....132  
 Table 10. Archaeological Sites Documented Within a 1.5 mile Radius of the Project Area .....151  
 Table 11. Lab Catalogue of Artifacts and Samples Collected from the Surface of Parcel 1 .....173  
 Table 12. Wood Species Identifications from SIHP #-1988 .....174  
 Table 13. Table Listing Radiocarbon Dating Results.....175  
 Table 14. Table Listing Identified Features in the Current Field Investigation Area, Initial Assessments of Integrity and Significance, and Recommendations .....179  
 Table 15. Royal Patent Grants on Lāna'i .....A-14



**Introduction**

**1.1 Project Background**

Pūlama Lāna'i is proposing to make amendments to the existing Kō'ele Project District. The purpose and intent of the Project District remain unchanged; its existing and continued purpose intends to provide for a flexible and creative approve to development at Kō'ele that is complementary and supportive of services offered in the adjoining Lāna'i City.

By request of Pūlama Lāna'i, this literature review and field inspection was completed for proposed additions to the Kō'ele Project District located at the Four Seasons Resort Lāna'i at Kō'ele in Kamoku and Paoma'i Ahupua'a, Lahaina District, Lāna'i Island, TMK: [2] 4-9-002:061 (portion) and [2] 4-9-002:001 (portion). This project focuses on two adjacent parcels of land to be rezoned and totaling 66.7 acres, including a 57.2 acre property ("Parcel 1") and a 9.5-acre property ("Parcel 2"). Both properties are privately owned by Lāna'i Resorts, LLC. The project area is the same as the areas to be rezoned, including the 57.2 acre (2,491,632 square feet [sq. ft.] or 231,480 square meters [sq. m.] parcel and the 9.5 acre (413,820 square feet [sq. ft.] or 38,445 square meters [sq. m.]) parcel. Parcel 1 is in preparation of a zone change from an Agricultural District to a Resort Commercial District and Parcel 2 is in preparation of a zone change from an Interim District to a Hotel District, similar to the adjoining hotel property to the south. Also included in this report is a literature review that provides a cultural resources inventory for the entire proposed 564-acre Kō'ele Project District. It should be noted that two additional areas in the proposed additions to the Kō'ele Project District, (a 3.1 acre area of TMK: [2] 4-9-018:001 (portion) and a 5.7 acre area of TMK: [2] 4-9-018:003 (portion)) are included in the literature review but are excluded from the field inspection, as the land has been significantly modified and is currently being used by the Four Seasons Resort Lāna'i at Kō'ele as the hotel entrance and as a portion of the Cavendish Golf Course respectively. A U.S. Geological Survey (USGS) map, aerial photograph, and Tax Map Key (TMK) show the location of Parcels 1 and 2 (Figure 1 through Figure 3). An overview map of the proposed Kō'ele Project District showing the areas included in the literature review (blue), the two parcels surveyed (red), and the two parcels that were excluded from the field inspection (yellow) is included as Figure 4.

This report will be submitted as part of a Phase 1 Application to the Maui County Department of Planning for development of land designated as a Project District on an adopted community plan by the landowner, Pūlama Lāna'i. The application amends the Project District boundary as specified above. No approvals for built structures or activities that would include ground disturbance are being sought at this time. If in the future building entitlements or other agency approvals are sought for the property within the Project District, a separate HRS 6E review will be undertaken at that time and in conjunction with the future activity.

The purpose of this literature review, field inspection, and cultural resources inventory was to determine the land-use history of the area and to identify any potential artifacts, surface architecture, or cultural deposits present on the ground surface of Parcels 1 and 2 and to provide an inventory of cultural resources present in the proposed Kō'ele Project District. In reference to the entire proposed 564-acre Kō'ele Project District, approximately 14 archaeological studies have been conducted to support infrastructure and development projects associated with the Four Seasons Lodge at Kō'ele, the Kō'ele Golf Course, and various other recreational and residential



properties. A total of 3 historic properties have been documented within the 564-acre Kō'ele Project District, including the Kō'ele Historic District (SIHP #50-40-98-1004), a scatter of historic ranch-era artifacts associated with the Gay Lālākoa Homestead (SIHP #50-40-98-1595), and secondarily deposited traditional Hawaiian artifacts on the ground surface (SIHP #50-40-98-1596).

The 57.2-acre parcel (Parcel 1) had not been previously surveyed or studied. Therefore, the parcel did not contain any previously-recorded sites or features.

The 9.5 acre parcel (Parcel 2) is located within the previously-documented Kō'ele District, State Inventory of Historic Places (SIHP) #50-40-98-1004, the former location of the Lanai Ranch Headquarters (circa 1910-1951) and a group of historic ranch-era buildings and structures placed in and around the Four Seasons Resort Lāna'i at Kō'ele. All buildings that contribute to the significance of the site have been moved from their original locations and placed on the property at Kō'ele. The district was originally recorded during the Statewide Inventory of Historic Places study conducted in 1974 (Hommon 1974, Wright 1974). Originally, SIHP # -1004 included four buildings (Structures A-D). Two additional structures (Features E-F) were subsumed into the site during an archaeological survey of the Koele Hotel (subsequently named the Four Seasons Resort at Kō'ele) (Kaschko 1986). Two of the houses of SIHP # -1004, recorded as Structures C and D, were moved into the eastern portion of Parcel 2 of the current project area in the late 1980's during the construction of the Four Seasons Resort.

An archaeological inventory survey (AIS) was previously conducted by T.S. Dye and Colleagues in 2017 for a 3.1-acre portion of the 9.5 acre parcel (Parcel 2) (Dye and Maly 2017b). Due to the negative results of the survey it was termed an archaeological assessment. The assessment consisted of a pedestrian survey and the excavation of four backhoe trenches in a single transect across the property. The backhoe trenches documented natural soils only. No historic properties, subsurface deposits, or cultural materials were encountered during the project. The AIS was accepted by the State Historic Preservation Division (SHPD) on July 26, 2017 (Log No. 2017.01361, Doc No. 1707MBF07; Appendix B).

Fieldwork for the current project was performed under the archaeological permit number 19-22 issued to Honua Consulting by the SHPD, in accordance with Hawai'i Administrative Rules (HAR) Chapter 13-282. This study is not an AIS, however, it was written using standards outlined within HAR 13-276 for archaeological inventory surveys and is intended to assist with historic preservation efforts.

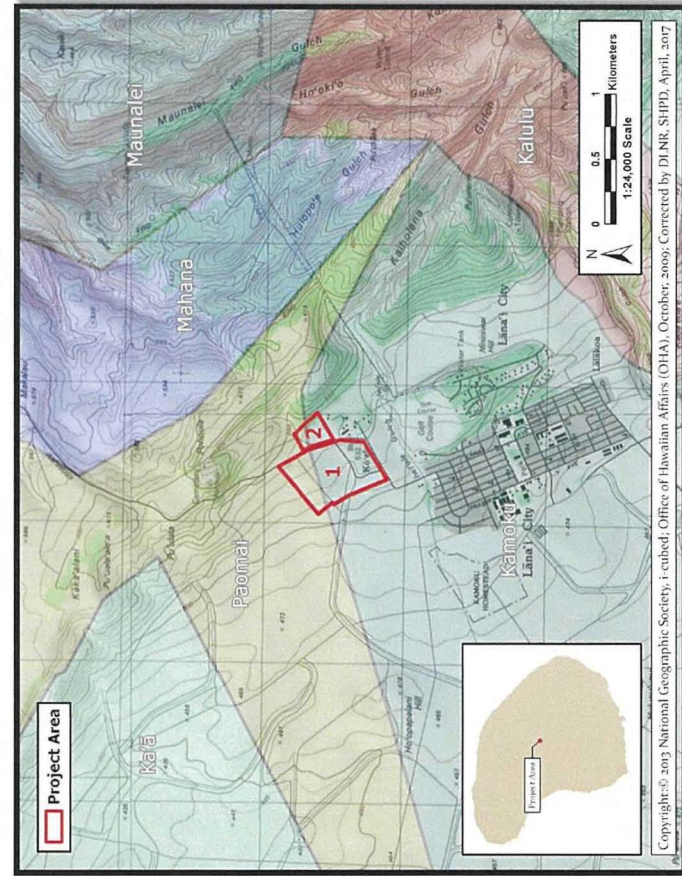


Figure 1. Portion of a 2013 Lāna'i North U.S. Geological Survey (USGS) Topographic Quadrangle Map showing Parcels 1 and 2



Figure 2. Aerial photo showing the location of Parcels 1 and 2 (Orthoimagery 2011)

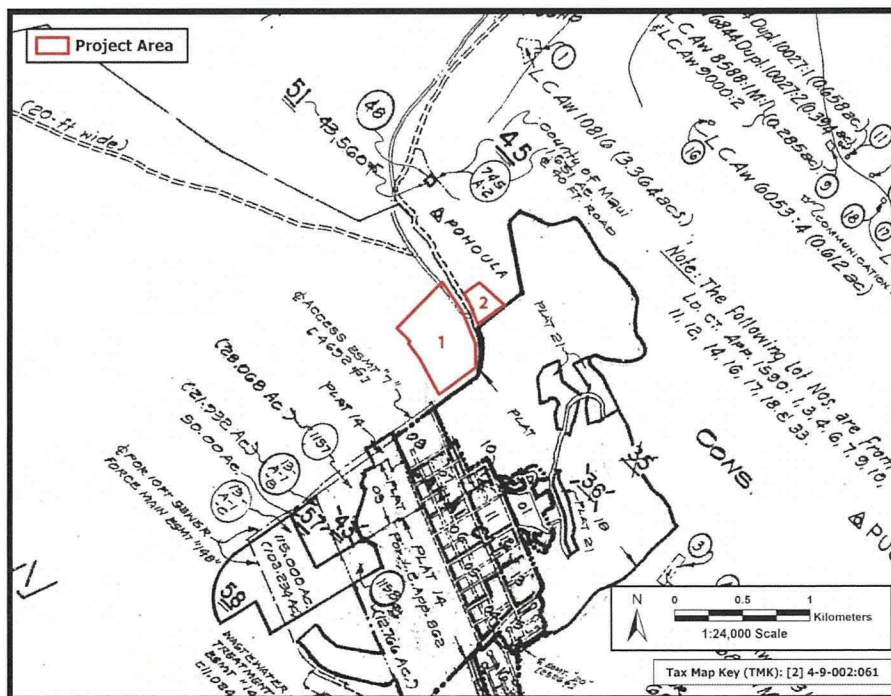


Figure 3. Portion of Tax Map Key (TMK): [2] 4-9-002 showing Parcels 1 and 2

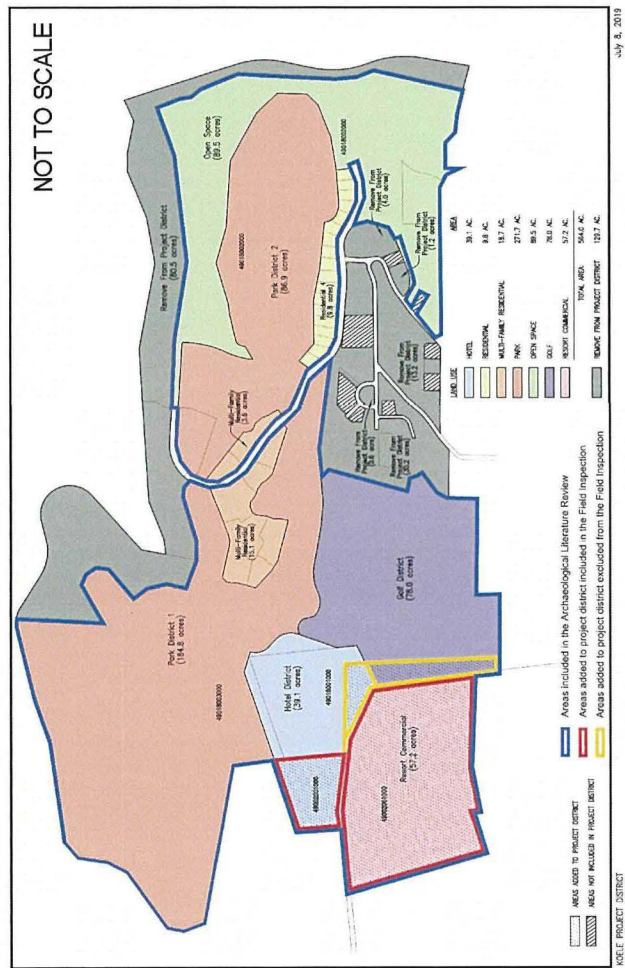


Figure 4. Overview map of the proposed Kō'ele Project District showing the areas included in the literature review (blue), the two parcels surveyed (Parcels 1 and 2) (red), and the two parcels that were excluded from the field inspection (yellow).

## 1.2 Environmental Setting

Lāna'i is the sixth largest of the Hawaiian islands and was formed by a single shield volcano, the caldera of which, Pālāwai Basin, is located approximately 1.8 miles (3 km) to the south of the project area. The project area is located on the flat northwest rift zone in the center of Lāna'i Island (Stearns 1940). They are located at approximately 1,800 ft. above sea level and between 5-7.5 miles (8.3-12 kilometers [km]) from the closest coastlines of the island. The project area is located within the ahupua'a (traditional land division) of Kamoku and Paoma'i, with Kalulu Ahupua'a to the south and Ka'ā Ahupua'a to the north.

The climate of Lāna'i is dry with minimal stream activity. Lāna'i sits within the rain shadow of the larger, higher islands of Maui and Moloka'i. The project area receives a mean annual rainfall ranging between 764 and 789.5 millimeters (mm), with wetter months November through March (Giambelluca et al. 2013). No perennial or intermittent streams are near the parcels.

### Parcel 1

Several soil types have been documented within Parcel 1 and include Kalae silty clay, Koelae silty clay loam, Lāhaina silty clay, and Waihuna clay. They are presented in Figure 5. The most common soil type is found within central north and south portions of Parcel 1 and are identified as Kalae silty clay on slopes ranging from 2-7% (KcB) and 7-15% (KcC). The Kalae soil series consists of well-drained soils on the uplands of the islands of Moloka'i and Lāna'i and developed in material weathered from basic igneous rock (Foote et al 1972:54-55). KcB soils have moderately rapid permeability, slow runoff, and slight erosion hazard. KcC soils have a slight to moderate erosion hazard and run-off is slow to medium. These soil types are typically used for pineapple cultivation and pasture. Natural vegetation on this soil includes guava (*Psidium guajava*), lantana (*Lantana camara*), hilo grass (*Paspalum conjugatum*), yellow foxtail (*Pennisetum glaucum*), Natal redtop (*Melinis repens*), and kikuyu grass (*Pennisetum clandestinum*).

The northwest and southwest portions of Parcel 1 are shown to contain Lāhaina silty clay on slopes ranging from 3 to 7% (LaB). The Lāhaina soil series consists of well-drained soils on the uplands of the islands of Lāna'i, Maui, Moloka'i, and O'ahu and developed from material weathered from basic igneous rock (Foote et al. 1972:78-79). Permeability for this soil is moderate, runoff is slow, and the erosion hazard is slight. This soil type is typically used for sugarcane and pineapple cultivation with smaller acreages used for truck crops, pasture, homesites, and wildlife habitat. Natural vegetation on Lāhaina soils includes bermuda grass (*Cynodon dactylon*), feather finger grass (*Chloris virgata*), 'ilima (*Sida fallax*), kiawe (*Prosopis pallida*), lantana (*Lantana camara*), oi, and 'uhaloa (*Waltheria americana*).

A narrow band of Waihuna clay ranging from 3 to 7% slope (WoB) is shown extending through the center of Parcel 1. The Waihuna soil series consists of well-drained and moderately well-drained soils on alluvial fans and in depressions on the islands of Lāna'i and Moloka'i and formed in old, fine-textured alluvium (Foote et al. 1972:129-130). The runoff for this soil is slow and the erosion hazard is slight. This soil type is typically used for pineapple cultivation. Natural vegetation on Waihuna soils includes Natal redtop (*Melinis repens*), lantana (*Lantana camara*), and guinea grass (*Megathyrsus maximus*).

Parcel 1 is located to the north of the Lāna'i City Country Town Historic District (SIHP #50-40-98-1006) and is not within that designated boundary. Parcel 1 is bordered by Keōmuku Highway on the east and south and Kānepu'u Highway cuts through the northern portion of the



area. The area was previously used for pasture by the Lanai Ranch and for commercial pineapple cultivation by the Dole Hawaiian Pineapple Company. Currently, Parcel 1 is being utilized for pasture and the operations of the Lānaʻi Ranch Equestrian Center at Kōʻele. The built environment of Parcel 1 includes a set of three tennis courts, the stables and associated landscaping, a riding arena, a graded area with rows of shipping containers, and numerous wooden and metal fences dividing the area into paddocks. The utilities are all underground and sewer manholes are present leading from the stables building to Lānaʻi City.

**Parcel 2**

Two soil types have been documented within Parcel 2 and include Koele silty clay loam and Waihuna clay. They are presented in Figure 5. The majority of Parcel 2 is shown to contain Kōʻele silty clay loam (KrC) on 7 to 15 percent slopes (Foote et al. 1972:70) (Figure 5). The Kōʻele soil series consists of well-drained soils on fans and in drainage ways on the islands of Lānaʻi, Maui, and Molokaʻi, formed in alluvium derived from basic igneous material (Foote et al. 1972:70). KrC soils have a moderate erosion hazard and run-off is medium. This soil type is typically used for pineapple cultivation, pasture, and wildlife habitat (Foote et al. 1972:70). Natural vegetation on this soil includes dallisgrass (*Paspalum dilatatum*), lantana (*Lantana camara*), molasses grass (*Melinis minutiflora*), Natal redbtop (*Melinis repens*) and pilipiliula (*Chrysopogon aciculatus*).

The southern portion of Parcel 2 contains Waihuna clay present on slopes ranging from 3 to 7 percent (WoB). The Waihuna soil series consists of well-drained and moderately well-drained soils on alluvial fans and in depressions on the islands of Lānaʻi and Molokaʻi and formed in old, fine-textured alluvium (Foote et al. 1972:129-130). The runoff for this soil is slow and the erosion hazard is slight. This soil type is typically used for pineapple cultivation, pasture, and wildlife habitat. Natural vegetation on this soil includes Natal redbtop (*Melinis repens*), lantana (*Lantana camara*), and guinea grass (*Megathyrsus maximus*).

Parcel 2 is located to the north of the Lānaʻi City Country Town Historic District (SIHP #50-40-98-1006). Parcel 2 was previously used for ranching and subsequently used for commercial pineapple cultivation and is on the periphery of the main pineapple fields used by the Dole Hawaiian Pineapple Company. The majority of Parcel 2 is clear of vegetation and had manicured lawn grass and trees.

Currently, much of Parcel 2 has been graded and is being used as a construction staging area with construction portables, equipment, stockpiled rocks, and other materials observable in the area. The area is delineated by a temporary chain link fence. The only structures in Parcel 2 include two historic houses with an open garage in between. The two houses, components of the Kōʻele District (SIHP # -1004) and identified as the Lanai Company Offices, were moved into the eastern portion of the survey area during the construction of the Four Seasons Resort in the late 1980's. One of the houses is currently occupied by tenants and the other is the office for the Culture and Historic Preservation Division of Pūlama Lānaʻi. Dirt roads run along the eastern and northern portion of Parcel 2. The utilities to the houses in the area are subsurface.

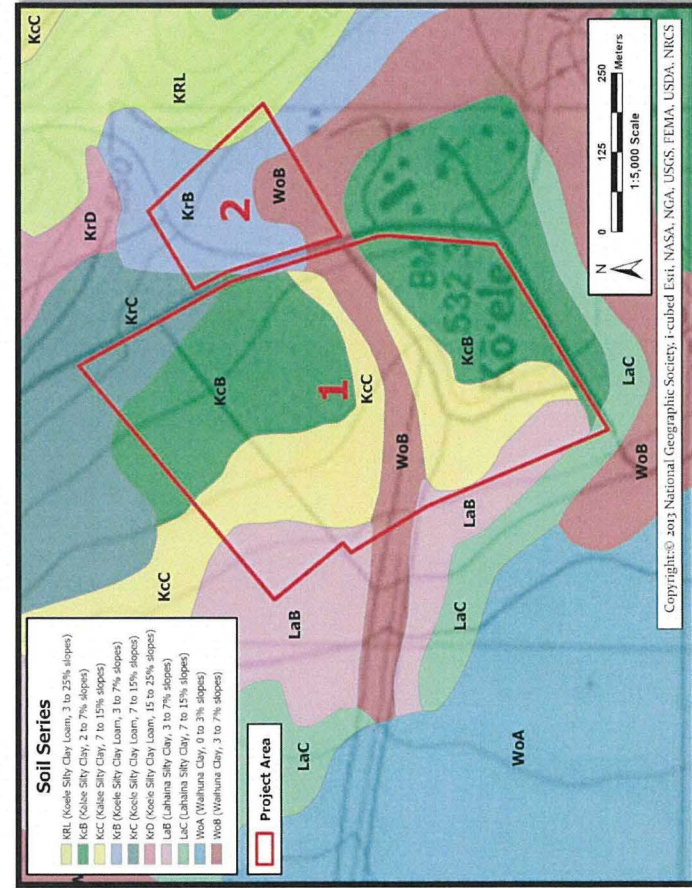


Figure 5. Portion of a 2013 Lānaʻi North USGS with Soil Series Overlay showing anticipated soils within Parcel 1

## Traditional and Historical Background

This section presents a general historic background for the island of Lānaʻi. It was compiled by Kepā Maly, a cultural historian and Hawaiian language expert, and edited and expanded upon by Thomas S. Dye Ph.D., a professional archaeologist with a career spanning over 50 years in Hawaiian and Pacific archaeology. The words, photos, tables, and figures presented below have been used with the permission of the authors. Footnotes are provided by the original authors.

This background is based on firsthand observation of cultural practices in the 1970s, interviews with older kamaʻāina (native-born individuals) at that time, and an exhaustive review of pertinent documentary sources, including records held by Kumu Pono Associates and the Lānaʻi Culture & Heritage Center. The historical narratives cited on the following pages provide readers with access to some of the most detailed and earliest accounts recorded from Lānaʻi. The narratives offer a glimpse into the history recorded from the experience and memory of native residents and eyewitness accounts of those who participated in the events which now make Lānaʻi's history. Some of these historical narratives have been translated from Hawaiian-language accounts for the first time, and other accounts rarely seen since their original date of composition. They are compiled here to provide a more detailed history of the land than has been previously available.

### 2.1 He Wahi Moʻolelo No Lānaʻi a Kaululāʻau: Some Traditions from Lānaʻi of Kaululāʻau

The earliest traditional lore of Lānaʻi describes the arrival of the gods Kāne, Kanaloa, and their younger god-siblings and companions to the southern shores of the island. Later accounts describe the visit of the goddess Pele and members of her family to the windward region of Lānaʻi. Subsequent narratives describe the settlement of Lānaʻi by evil spirits, and the difficulties that the early human settlers encountered in attempts to safely colonize the island. Another tradition relates that in the early 1400s AD, a young Maui chief by the name of Kaululāʻau traveled around Lānaʻi vanquishing the evil ghosts/spirits of the island, making it safe for people to live on Lānaʻi, and is the source of the island's name (Lānaʻi a Kaululāʻau).

By the early 1600s AD, all the islands of the Hawaiian group were settled sufficiently to develop an organized way to manage scarce resources. Each island was divided into political and subsistence subdivisions called ahupuaʻa, which generally ran from the ocean fishery fronting the land area to the mountains. Under the rule of Piʻilani, Lānaʻi was divided into 13 ahupuaʻa. Native tradition describes ahupuaʻa divisions as being marked by stone cairns (ahu) with a carved pig (puaʻa) image placed upon them, and these ancient divisions remain the primary land unit in the Hawaiian system of land management on Lānaʻi today.

The culture, beliefs, and practices of the Hawaiians mirrored the natural environment around them. They learned to live within the wealth and limitations of their surroundings. There is significant archaeological evidence on the island indicating that in the period before western contact, more people lived on the land sustainably—growing and catching all they needed—than currently live upon the island. Several important traditions pertaining to the settlement of Lānaʻi and the beliefs and practices of the ancient residents are commemorated at such places as Kaululāʻau, Kalaehi, Ke-ahi-a-Kawelo, Hālulu, Puʻupehe, Pōhaku ō, Kānepuʻu, Kaʻena iki, Nānāhoa, Haʻalelepaʻakai, and Puhi-o-Kaʻala.

Ancient Hawaiian villages, ceremonial features, dryland agricultural fields, fishponds, and a wide range of cultural sites dot the shoreline of Lānaʻi at places like Keone, Kaumālapaʻu, Kaunolū, Māmaki, Kapalaoa, Huawai, Kapihaʻā, Hulopoʻe, Mānele, Kamaiki, Naha, Kahemanō, Lōpā, Kahalepalaoa, Kaheʻa, Keōmoku, Kaʻa, Hauola, Maunalei (including a wetland taro field system in the valley), Kahōkūnui, Kaiolohia, Kahāʻulchale, Kahue, Lapaiki, Awalua, Polihua, and Kaʻena.

In the uplands, localities at Hoʻopulupuluamoa and Malulani, Kōʻele and Kihamāniania, Kalulu uka, Kaunolū uka, Keālia Kapu, Keālia Aupuni, and Pālāwai were also locations of significant traditional settlements and agricultural endeavors. We also know that over the generations, families with permanent residences in the Lāhaina District of Maui frequented Lānaʻi to take advantage of its rich fisheries.

In the period leading up to 1800 AD, there was a decline in the native population, and in the capacity of Lānaʻi to produce agricultural resources. This was, in part, due to disputes between the rulers of Maui and Hawaiʻi which overflowed onto Lānaʻi in the mid- to late-eighteenth century. In the late-eighteenth century and early-nineteenth century, foreign diseases and influences spread across the islands, leading to a further decline in the population. By the 1840s, there were approximately 600 inhabitants residing on Lānaʻi. By the 1870s, the population hovered around 300 residents, and by the early 1890s, there were just 175 native residents.

#### 2.1.1 Native Lore and Historical Accounts: The Gods Walked the Land—Early Settlement of Lānaʻi

Several traditions pertaining to the gods and people of ancient Lānaʻi were found in a review of Hawaiian-language newspapers. These accounts describe the island condition and the life and practices of Lānaʻi's ancient people. The narratives establish the bond between Lānaʻi and neighboring islands of the Hawaiian group and more distant Kahiki—the ancestral homeland of the gods—as Kāne, Kanaloa, Pele, and others of the god-family shaped the natural environment and lives of the people of the land. Coming into the historic period, readers find significant changes on the land and in the lives of the people of Lānaʻi. Selected accounts are related here that transition readers through the history of Lānaʻi and a native landscape to one of change under western settlement.

##### A Famine on Lānaʻi—an Ancient Prayer Offered by Pakeaulani to the God Kānepaʻina

This tradition tells of two ancient residents of Lānaʻi, a period of famine across the islands, and the death of the population. We learn the name of a god of one of the heiau (traditional place of worship) on Lānaʻi, Kānepaʻina. The word anela (Hawaiianized angel) is used by the writer in place of the traditional words ʻaumakua (family god) or akua (god). Also cited within this account is a pule (prayer) uttered by ancient residents of Lānaʻi.

##### No na Akua ka Wa Kahiko...

Eia mai he wahi moololo no ka malama ana o kekahi anela paha, a mau anela paha, oia hoi

##### About the Gods of Ancient Times

Here is a little tradition pertaining to observances for a certain angel (guardian),

he mau Kane paha. Penei ua wahi moolelo la. Aia ma Lanai ka noho ana o Kaimumahanahana, a me kana keiki o Pakeaulani, a he nui loa no na kanaka ma Lanai ia manawa; a hiki mai ke kau wi, pau aku la na kanaka i ka make a ka ai, a koe elua o Kaimumahanahana, a me Pakeaulani, kokoke make nae ka makuakane. O ka Pakeaulani hana; oia keia. Hele wale aku la no keia e eli wale aku no i kulina uala, a loa ka uala liilii, (he au ia uala) kalua a moa, lawe aku la keia a he wahi heiau a ianei i hana'i kaumaha aku la, alaila, pule aku la, penei kahi hapa o ka pule.

Kini o ke akua  
E ka lehu o ke akua  
E ka pukui akua  
E ka lalani akua  
E kahuli, e kahele  
E ka wahine e moe ana ke alo iluna  
Eia ka ai au a Pakeaulani keiki a  
Kaimumahanahana.

Pau ka pule, hoi keia a imi hou i ai no ke ahiahi, a moa ia ai lawe aku, i lawe aku ka hana, ua pau kela ai, kau keia ai, pule no hoi e like me mamua. I kekahi imu liilii ana a ianei, honi mai la kona makuakane i ke ala o ka uala! I mai la kela, "Auhea hoi kau uala e kuu keiki e aala mai nei?" Pane mai la kela, "He ai ia na kuu akua." Pane hou mai kona makuakane, "Aohe o'u akua, a he akua ka hoi kou?" A hala ae la na la elima o kana hana ana pela, alaila, i ka po kamailio mai la kekahi anela o Kanepaina. I mai la, "Ea, a keia po e panipani aku oe i na pukapuka liilii o ko olua hale, a e noho malie mai kamailio pu me kuu makuakane a pau ae la ka laua kamailio pu ana, a hele aku la ia, 'Owai kou hoa i kamailio mai la.' I aku la oia, 'O kuu akuahoi ia a'u e malama nei.' Aohe liuliu ma ia hope iho, haule mai ana ka ua he nui, ka ua no ia a ao ka po a po ua la nei, a ao ua po nei, malie iho la ka ua. I puka aku ka hana iwaho ua palaku ka Maia,

angels, or perhaps men. The story is this. There was residing on Lāna'i, Kaimumahanahana and his son, Pakeaulani, and there were many people living on Lāna'i at that time. There came a time of famine, and all the people died, leaving only Kaimumahanahana and Pakeaulani, though the father was close to death. Here is what Pakeaulani did. He went and dug up some sweet potato runners and got a few small sweet potatoes (little potatoes growing on a vine), and baked them. He took these things to a heiau and did the following, he worshipped, made the offerings, and prayed. This is a portion of his prayer.

Forty thousand gods  
Four hundred thousand gods  
Assembly of gods  
Alignment of gods  
Those that change, those that move about  
O women that lie face up  
Here is your food, prepared by  
Pakeaulani, son of Kaimumahanahana.

When he finished praying, he went again and sought out food for the evening. He cooked the food and took it, doing the same with all the food until it was done, and set there (at the temple), and he prayed as he had before. He prepared the food in a small imu [underground oven], and his father smelled the scent of the sweet potatoes! He said "Where are your sweet potatoes, that I smell, my son? He answered him, saying, "It is the food of my god." The father then answered, "I don't have a god, but you do?" Five days passed in his (Pakeaulani) doing this same thing, then on the fifth night, an angel, Kānepa'ina, spoke. He said, "Heed me, this night go close the very littlest of the holes in the house of you two, and stay calm, do not speak with your father." When they two were finished speaking, the angel departed. His father asked him "Who was the companion with whom you were speaking?" He answered, "My god whom I have been worshipping." Not long

ua moe ke Ko a ala mai, hele ke anakiu o ka uala a keke, ua hele ka Ape a hilala ka ha; o ke kalo hoi ua makaole kekahi kihapai, a o kekahi pumaia ka ha o ke kalo. Ke kalua iho la no ia o ka ai a moa, kaumaha c aku la keia I ke Akua oia nei, a pau hoi mai la laua nei ai ka uala, ke kalo, a ai no hoi ka mai a maona; o ka laha hou no ia o kanaka o Hawaii nei, ma Lanai wale no. Oia iho la kahi moolelo o ka malama ana o kekahi o na Kane ia mau kanaka..."

Owau no me ka mahalo. John Puniwai.

*Nupepa Kuokoa*, November 8, 1862.  
Translated by Maly.

#### He Mo'olelo no Kaululā'au: A Tradition of Kaululā'au

One of the best known traditional accounts of Lāna'i dates from the early-fifteenth century and associates the island with the ruling chiefs of Maui. In these narratives, a young chief, Kaululā'au, was born to Kaka'alaneo and Kanikaniā'ula. Kaka'alaneo's elder brother was Kāka'e, and Fomander reported that these royal brothers jointly ruled Maui and Lāna'i (Fomander 1973 II:82-83). During Kāka'e and Kaka'alaneo's rule, and for many generations preceding it, anyone who attempted to live on Lāna'i experienced great difficulties, as the island was inhabited by evil ghosts/spirits ruled by their king, Pahulu.

While there are numerous narratives that describe how Kaululā'au came to free Lāna'i from the rule of Pahulu, thus making it safe for people to inhabit the island (Beckwith 1940 and Emory 1969), there are two major versions of this tradition with variations on the events. The best known is the version published by King David Kalākaua in 1888, but the most detailed version was published in the Hawaiian language in 1863 in association with another tradition from Maui, "Ka Moolelo o Eleio".

King Kalākaua's version provides a significant description of Lāna'i and the ability of its people to sustain themselves by working the land and fishing the sea around the island. Through the encouragement of his friend and advisor Walter Murray Gibson<sup>1</sup> the king compiled the traditions found within *The Legends and Myths of Hawaii* (Kalākaua 1990) and described Lāna'i as being

<sup>1</sup> Walter Murray Gibson settled on Lāna'i by early 1862, and came to control most of the land on the island through fee-simple and leasehold title. A friend of many chiefs, some of whom who had been on Lāna'i with Kamehameha I, Gibson recorded a number of traditions from the island, and is generally attributed with the Lāna'i narratives cited by King Kalākaua.

afterwards, a great rain fell. It rained night and day, and through several nights and days until there was calm, then the rains fell lightly. Looking outside to see what had transpired, there was seen ripe mai'a (bananas), kō (sugar cane) lying upon the ground, 'uala (sweet potatoes) spread all about, ape (mountain taro) with long stalks leaning to the side; kalo (taros) which filled the gardens, banana stalks were used as the channels (to irrigate) for the taro. He then cooked the food, and made an offering to his God. When finished, they two ate the sweet potatoes, taro, and bananas until filled. This is how Hawaiians came to once again be spread across Hawaii, only from Lāna'i. So this is one tradition of how the Kāne (gods), was worshipped by these men...

I am with appreciation, John Puniwai.

richly supplied with food crops, natural resources, and fisheries that, but for the presence of the evil beings, made it a desirable place to live.

Excerpts of Kalākaua's version follow, entitled "The Sacred Spear-Point" and "Kelea, the Surf Rider of Maui." These are followed by an excerpt of the Hawaiian-language version of Kaululā'au's legend entitled "Ka Moololo o Eleio."

#### "The Sacred Spear-Point" and "Kelea, the Surf Rider of Maui"

Kaululaau was one of the sons of Kakaalaneo, brother of, and joint ruler with, Kakaē in the government of Maui . . . The court of the brothers was at Lele (now Lāhaina), and was one of the most distinguished in the [island] group.

The mother of Kaululaau was Kanikaniaula, of the family of Kamauaua, king of Molokai, through his son Haili, who was the brother or half-brother of Kcoloewa and Kaupeepee . . .

Kaululaau was probably born somewhere between the years 1390 and 1400. He had a half-sister, whose name was Wao, and a half-brother, Kaihiwala. . . [Kaululaau] had a congenial following of companions and retainers, who assisted him in his schemes of mischief. . . He would send canoes adrift, open the gates of fish-ponds, remove the supports of houses, and paint swine black to deceive the sacrificial priests. He devised an instrument to imitate the death-warning notes of the alae [mudhen bird], and frightened people by sounding it near their doors; and to others he caused information to be conveyed that they were being prayed to death.

Notwithstanding these misdemeanors, Kaululaau was popular with the people, since the chiefs or members of the royal household were usually the victims of his mischievous freaks. He was encouraged in his disposition to qualify himself for the priesthood, under the instruction of the eminent high-priest and prophet, Waolani, and had made substantial advances in the calling when he was banished to the island of Lanai by his royal father for an offence which could neither be overlooked nor forgiven.

At that time Lanai was infested with a number of gnomes, monsters and evil spirits, among them the gigantic moo [lizard], Mooaleo. They ravaged fields, uprooted cocoanut-trees, destroyed the walls of fish-ponds, and otherwise frightened and discomfited the inhabitants of the island. That his residence there might be made enduring, Kaululaau was instructed by the kaulas [prophets] and sorcerers of the court in many charms, spells, prayers and incantations with which to resist the powers of the supernatural monsters. When informed of these exorcising agencies by Kaululaau, his friend, the venerable Waolani, told him that they would avail him nothing against the more powerful and malignant of the demons of Lanai.

Disheartened at the declaration, Kaululaau was about to leave the heiau to embark for Lanai, when Waolani, after some hesitation, stayed his departure, and, entering the inner temple, soon returned with a small roll of kapa [bark cloth] in his hand. Slowly uncurling and removing many folds of cloth, an ivory spearpoint a span in length was finally brought to view. Holding it before the prince, he said:

Take this. It will serve you in any way you may require. Its powers are greater than those of any god inhabiting the earth. It has been dipped in the waters of Po, and many generations ago was left by Lono upon one of his altars for the protection of a temple menaced by a mighty fish-god who found a retreat beneath it in a great cavern connected with the sea. Draw a line with it and nothing can pass the mark. Affix it to a spear and throw it, and it will reach the object, no matter how far distant. Much more it will do, but let what I have said suffice.

The prince eagerly reached to possess the treasure, but the priest withdrew it and continued:

I give it to you on condition that it pass from you to no other hands than mine, and that if I am no longer living when you return to Maui—as you some day will—you will secretly deposit it with my bones. Swear to this in the name of Lono.

Kaululaau solemnly pronounced the required oath. The priest then handed him the talisman, wrapped in the kapa from which it had been taken, and he left the temple, and immediately embarked with a number of his attendants for Lanai.

Reaching Lanai, he established his household on the south side of the island. Learning his name and rank, the people treated him with great respect—for Lanai was then a dependency of Maui—assisted in the construction of the houses necessary for his accommodation, and provided him with fish, poi, fruits and potatoes in great abundance. In return for this devotion he set about ridding the island of the supernatural pests with which it had been for years afflicted.

In the legend of "Kelea, the Surf-rider of Maui," will be found some references to the battles of Kaululaau with the evil spirits and monsters of Lanai. His most stubborn conflict was with the gnome god Mooaleo. He imprisoned the demon within the earth by drawing a line around him with the sacred spear-point, and subsequently released and drove him into the sea.

More than a year was spent by Kaululaau in quieting and expelling from the island the malicious monsters that troubled it, but he succeeded in the end in completely relieving the people from their vexatious visitations. This added immeasurably to his popularity, and the choicest of the products of land and sea were laid at his feet.

His triumph over the demons of Lanai was soon known on the other islands of the group, and when it reached the ears of Kakaalaneo he dispatched a messenger to his son, offering his forgiveness and recalling him from exile. The service he had rendered was important, and his royal father was anxious to recognize it by restoring him to favor.

But Kaululaau showed no haste in availing himself of his father's magnanimity. Far from the restraints of the court, he had become attached to the independent life he had found in exile, and could think of no comforts or enjoyments unattainable on Lanai. The women there were as handsome as elsewhere, the bananas were as sweet, the coconuts were as large, the awa was as stimulating, and the fisheries

were as varied and abundant in product. He had congenial companionship, and bands of musicians and dancers at his call. The best of the earth and the love of the people were his, and the apapani [<sup>2</sup>apapane, Hawaiian honey creeper bird] sang in the grove that shaded his door. What more could he ask, what more expect should he return to Maui? His exile had ceased to be a punishment, and his father's message of recall was scarcely deemed a favor.

However, Kaululaau returned a respectful answer by his father's messenger, thanking Kakaalaneo for his clemency, and announcing that he would return to Maui sometime in the near future, after having visited some of the other islands of the group; and three months later he began to prepare for a trip to Hawaii. He procured a large double canoe, which he painted a royal yellow, and had fabricated a number of cloaks and capes of the feathers of the oo and mamu. At the prow of his canoe he mounted a carved image of Lono, and at the top of one of the masts a place was reserved for the proud tabu standard of an aha alii [chiefly bloodline]. This done, with a proper retinue he set sail for Hawaii. (Kalākaua 1990:209–213)

The tradition continues by describing events in which Kaululā'au participated in battles with various demons similar to those on Lāna'i. His journey took him to the islands of Hawai'i, Moloka'i, and O'ahu prior to his return to Maui.

Upon returning to Maui, Kaululā'au was welcomed home by his father, and learned that Waolani, his priestly instructor and friend, had died. Recalling the promise made to Waolani, Kaululā'au secretly hid the sacred spear-point of Lono with the bones of Waolani. Kaululā'au married Laiea-a-Ewa, a high chiefess of O'ahu, and together they lived out their lives, residing at Kaua'ula in Lāhaina and parented six children (Kalākaua 1990:225).

In the tradition of "Kelea, the Surf-Rider of Maui" (Kalākaua 1990:229–246), mention is made again of Kaululā'au and his adventures on Lāna'i. The account is centered on Kelea, the daughter of Kahekili I, elder cousin of Kaululā'au. It is reported that when Kahekili I ascended to the throne (ca. 1415), he "became king of Maui and Lanai; for during that period the latter island was under the protection of the mois [kings] of Maui, while Molokai still maintained its independence" (Kalākaua 1990:229).

King Kalākaua described the introduction of 'ulu (breadfruit) to Lele, now known as Lāhaina, and Kaululā'au's banishment to Lāna'i:

It was Kakaalaneo who introduced the bread-fruit there from Hawaii . . . For some disrespect shown to his royal brother [Kakae], whose mental weakness doubtless subjected him to unkind remarks, he banished his son Kaululaau to Lanai, which island, traditions avers, was at that time infested by powerful and malignant spirits. They killed pigs and fowls, uprooted coconut-trees and blighted taro patches, and a gigantic and mischievous gnome amused himself by gliding like a huge mole under the huts of his victims and almost upsetting them.

The priests tried in vain to quiet these malicious spirits. No sooner were they exercised away from one locality that they appeared in another, and if they gave the taro patches a rest it was only to tear the unripe bananas from their stems, or rend the walls and embankments of artificial ponds, that their stores of fishes might escape to the sea. Aware of these grievances, Kaululaau took with him to Lanai a

talisman of rare powers. It was the gift of his friend, the high-priest of his father, and consisted of a spear-point that had been dipped in the waters of Po, the land of death, and many generations before left by Lono on one of his altars.

Crowning a long spear with this sacred point, Kaululaau attacked the disturbing spirits, and in a short time succeeded either in bringing them to submission or driving them from the island. The gnome Mooaleo was the most difficult to vanquish. It avoided the prince, and for some time managed to keep beyond the influence of the charmed spear-point; but the monster was finally caught within the boundaries of a circular line scratched with the talisman upon the surface of the earth beneath which it was burrowing, and thereby brought to terms. It could not pass the line no matter how far below the surface it essayed to do so. Heaving the earth in its strength and wrath, it chafed against the charmed restraint that held it captive, and finally plunged downward within the vertical walls of its prison. But there was no path of escape in that direction. It soon encountered a lake of fire, and was compelled to return to the surface, where it humbled itself before the prince, and promised, if liberated, to quit the island for ever. Kaululaau obliterated sixty paces of the line of imprisonment, to enable Mooaleo to pass to the sea, into which the hideous being plunged and disappeared, never to be seen again on Lanai. (Kalākaua 1990:229–230)

#### Ka Moolelo o Eleio (The Tradition of Eleio)

The tradition of Eleio is set in the time of Kaka'alaneo's rule over Maui, Lāna'i, Moloka'i, and Kaho'olawe (ca. 1400), and was published by W. N. Pualewa, in the Hawaiian-language newspaper *Kuokoa* in 1863. The account tells us that Eleio was a famous kūkini associated with the court of the king. He was noted for his ability to travel the circuit of the island, to fetch a choice fish from one district and bring it to the court in another district, keeping it alive. When it was learned that Kelekeleioaka'ula, Kaka'alaneo's wife, was expecting, the king granted Eleio the privilege of naming the child. Eleio stated his desire, that if it was a boy, he should be named Kaululā'au (The-forest-grove). When the child was born, it was indeed a boy, and he was named Kaululā'au. As the child grew, his mysterious manner and mischievous nature created many problems for his parents and the people of Maui. Eventually, the youth was banished from Maui and sent to Lāna'i to fend for himself. At that time in history, Lāna'i was reportedly inhabited by hordes of *akua* under the rule of Pahulu. While on Lāna'i, Kaululā'au was accompanied by his own personal god, Lono. Together, the two traveled about Lāna'i, tricking the ghosts, killing them, and setting the lands free from their dominion.<sup>2</sup>

In this version of the tradition, Kaululā'au traveled around Lāna'i. We are told that he has already killed many of Pahulu's minions, and that Pahulu then feigned friendship with Kaululā'au, telling him that he would help him seek out the other *akua* who remained on the island. Pahulu's real objective was to round up the remaining *akua* to fight and kill Kaululā'au. The party traveled around the island counterclockwise, leaving the Keōmuku region, passing through Ka'ena, Honopū, Kaumālapa'u, Kaunolū, and Mānele. The excerpts below cover the lands of the southern coast of Lāna'i between Kaunolū and Mānele.

<sup>2</sup> Nupepa Kuokoa, October 24 & 31, 1863

### Ka Moolelo o Eleio

A mamuli o keia olele ana a Pahulu; alaila, ua nee io aku no lakou a noho ma Honopu, aia ia wahi ma kahi e ane kokoke aku ana i ka pali o Kaholo, aka, o Kaumalapau nae kahi e pili pu ana me Kaholo.

A hiki lakou nei ma Honopu, a noho malaila i kekahi mau po, aole nae he akua oia wahi, no ka mea, ua kaapuni hele o Pahulu ia mau la a me ia mau po ma ia apana mai o a o, mai ka a uka, aole ona ha lawai iki me ke akua, nolaila, aole o lakou kuleana e noho hou ai malaila.

Nolaila, ua nee hou aku la lakou a noho ma Kaunolu, a malaila a noho loihi hou lakou ma ia wahi, no ka mea, ua ike o Pahulu he wahi akoako ia o ke akua.

Nolaila, olelo aku la o Pahulu ia Kaululaa, "E aho e noho kakou ianei, no ka mea, ua ike mai nei au, aia iluna pono o Kahilikalani ke akua kahi i nohoai. Eia nae ka mea hai aku ia oe e Kaululaa, e luku auanei oe i ka nui o ke akua apau; ao ke akua auanei e kapai'na la o Kanemakua, alaila, mai pepēhi auanei oe iaia no ka mea, he hana nui kana. O kana hana, oia ke kamaaina mau o keia wahi, a nana no e malama i kela i-a o ke kai. Oia ke akua, no ka mea, ina oia e make, aole mea nana e kiai pono i keia lac akua. No ka mea, malama paha e pau io ana ke akua o keia aina ma keia hana au e hana nei, a e noho mai ana paha ka mea i like pu me kou ano a'u e ike aku nei. Alaila, ua koe iho la no ke kumu e laka mai ai o ke akua, a ma ona la e hiki ai ke kaumaha aku, a e lilo o Kanemakua i aumakua lawaia no ia poe."

Alaila, ua maikai ia mea i ko Kaululaa manao. A noho lakou malaila, me ka hana aku i kana oihana mau o ka pepēhi aku i ke akua oia wahi, a malaila hoi o Kaululaa i ao ai i ka pacaea ana i ke akua, e like me ka hana ana o na kanaka o Molokai i pae mai ai ma Kahulehale, a no ka lehulehu o na hana maalae i loaia ia Kaululaa mamuli o ke ao-ao ana mai

### The Tradition of Eleio

Pahulu then flew on ahead, and they went on to stay at Honopū. This place is situated not too far away from the cliffs of Kaholo, though Kaumālapa'u is there, adjoining Kaholo.

They arrived at Honopū, and stayed there several nights. Pahulu had traveled all about the place, from one side to the other of the land, and into the uplands, but he could find no akua in the district. Therefore, they had no reason to stay there for long.

Then they traveled once again, and stayed at Kaunolū. They remained at this place for quite a long time, because Pahulu knew that this was a place where the akua gathered.

Therefore Pahulu said to Kaululā'au, "Let us stay here a while, for I see there atop Kahilikalani, is the place where the akua reside. But this is what I have to tell you, Kaululā'au, that you shall indeed destroy all the akua; but you should not kill the god called Kānemakua, for he has an important job here. His work, is that he is the native of this place, it is he who cares for the fish of the sea. He is the god, and if he should be killed, there shall be no other god who can watch over this godly point. So be careful that you do not destroy the akua of this land as you do your work. From what I have seen, he is perhaps like you in what he does. So let him remain free, that he may be worshipped. Kānemakua will become the god of the fishermen of this place."

Kaululā'au thought this was a good idea. So they dwelt there, and he did his work, killing all the akua of this place. Kaululā'au then instructed them in praying to the gods, as he had done with the men of Moloka'i, who had washed ashore at Kahā'ulehale. So it was that the multitudes do this, as Kaululā'au had been

a kona akua a Lono, nolaila, ua pau na akua i ka make o Kaunolu.

A pau ka lakou hana ana mau Kaunolu, alaila, mano iho la lakou e haalele ia wahi a e nec hou aku ma kekahi wahi hou aku. Nee iki ae lakou a noho ma Mamaki, a malaila i luku ia aku ai...

A pau ke koena o ke Akua o Kaunolu i ka lukuia, a pepēhi pu ia kekahi akua opu ohao, o Kuahulua ka inoa oia akua, a no ka make ana oia akua ia Kaululaa, nolaila, hele hou ae ia lakou a noho ma Manele.

A malaila, ua noho loihi loa lakou i kekahi mau la ame kekahi mau po, a o ka Pahulu hana mau no i ka hele e nana i ke akua mao a maanei. A no ka halawai ole o lakou me ke akua, nolaila, hooholo lakou i ka olelo e pii o Kaululaa ame Lono iuka, a o Pahulu hoi, ua hele loa oia ma kahakai a hiki aku i Naha, a malaila oia e huli ae ai ia Kaululaa ma.

A o Kaululaa ma hoi, hele aku la laua mai Manele aku a pii aku a hiki i Kanauau, a malaila aku no a ke kuahiwi o Kaohai, a hele ae la no malaiala a Kahaalelepaakai, a ma ia kuahiwi aku no ka hele ana a hiki ae i Ohiahale, a malaila aku ka hele ana hiki i ka mauma o Lanaihale, kahi hoi a Kaululaa i kapili ai i ka maka o ke akua i ke kepau.

*Nupepa Kuokoa*, October 24 & 31, 1863

Translated by Maly.

instructed by his god, Lono. Thus vanquished, were the akua of Kaunolū.

So when their work at Kaunolū was completed, they then thought of leaving the place, and they went on a short distance and stayed at Māmaki. And there also destroyed them...

Thus the remaining akua of Kaunolū were destroyed, and there was also killed a god with a protruding belly. The name of this god was Kuahulua. When this god was killed by Kaululā'au, they then continued their journey and stayed at Mānele.

They resided there for some time—a number of days and nights—and as was Pahulu's usual practice he went about looking here and there for the ghosts. Not encountering any, he went to tell Kaululā'au and Lono that they should ascend to the uplands, while Pahulu would travel along the coast to Naha, and from there he would seek out Kaululā'au and his companion.

Kaululā'au folks went from Mānele, ascending up to Kanauau [Kāneua'u (also written Kaniua'u)], and from there up the mountain of Ka'ōhai. From there they went to Kaha'alelepa'akai, and that peak they went to 'Ohī'alalo. And from there they went to the mountain summit of Lāna'ihale, at the place where Kaululā'au glued closed the eyes of the ghosts with the glue.

### Kealaikahiki: “Canoe Man’s Path to Kahiki”

The island of Lāna‘i plays a role in some traditions describing the arrival of the gods and people in Hawai‘i. The famed Kealaikahiki, “canoe man’s path to Kahiki,” reportedly starts at Kaunolū on Lāna‘i.<sup>3</sup> The residency of the god-navigator Kāne‘āpua is commemorated in a place name to this day, as is the place called Miki (Puuomiki), as a source of water, at Kaunolū. Below is one of the traditions of this god and his place in the life of the families of Lāna‘i.

#### He Moololo no Wahanui me Kaneapua ma Lanai

O Wahanui kekahi alii o Oahu i holo i Kahiki. O Wahanui ke alii, o Kīlohi ke kilo, o Moopuaiki ke kahuna a me na hookele moana. I ko lakou holo ana a pae ma Haleolono ma Molokai. I ka wanao holo aku la lakou ma ka pali o Kaholo ma Lanai, i ke ao ana, kaalo ae la lakou ma ka lae o Kaunolu, a ma ka hikina hema iki aku o laila, o ka Lae o Apua, ka inoa oia wahi a hiki i keia la. E noho ana kekahi kanaka o Kaneapua ka inoa. Kahea mai la ua kanaka nei, penei, “Ko ke waa, no wai he waa?” “No Wahanui.”

“O Wahanui ke alii, o wai ke kahuna?” “O Moopuaiki.” “O Moopuaiki ke kahuna, o wai ke kilo?” “O Kīlohi.” “He waa e holo ana i hea?” “He waa e holo ana i Kahikiku, i Kahikimoe, i Kahiki kapakapakaua a Kane, he waa e holo ana e kekekechi i ka houpo o Kane.” “O kou houpo la hoi o ko ke kanaka, ka houpo la hoi o ke akua kechiia iho, a pau ola, a koe make. Pehea la hoi owau kekahi maluna o ka waa?”

Olelo mai o Kīlohi ke kilo. “Ua piha loa ka waa, ao le oe e hiki.” I ka holo ana ma kekahi ma-ka-lae mai, loa i ka ino, me ka makani, a me ka puahiohio, o ka huli waa, hoolana aku la, a komo i ka lulu o Kaunolu, a pae i Kaumalapau.

#### A Tradition of Wahanui and Kāne‘āpua on Lāna‘i

Wahanui was a chief of O‘ahu who went to Kahiki. Wahanui was the chief, Kīlohi was the astronomer, and Mo‘opuaiki was the navigator. They sailed and landed at Haleolono, Molokai. In the early morning, they sailed along the cliff of Kaholo, on Lāna‘i, at daylight, they passed by the point of Kaunolū. Just a little to the south east of there, is the Point of ‘Āpua. That is the name of this place to the present day. There is dwelling there a man by the name of Kāne‘āpua. The man called out, thus, “The canoe, whose canoe is it?” “It is for Wahanui.”

“So Wahanui is the chief, who is the priest?” “It is Mo‘opuaiki.” “So Mo‘opuaiki is the priest, who is the astronomer?” “It is Kīlohi.” “Where is the canoe sailing to?” “The canoe, is sailing to Kahikikū and Kahikimoe, Kahiki of the rain drops of Kāne, to tread upon the bosom of Kāne.” “Your chest is that of a man, and to tread upon the bosom of Kāne, is the end of life, only death will remain. How about if I become one of them upon the canoe?”

Kīlohi, the astronomer said, “The canoe is completely loaded, you cannot come.” As they sailed on by, passing a certain point, a storm arose, along with a wind and water spouts. Lest the canoe be overturned, they sheltered the canoe at Kaunolū, and then landed at Kaumālapa‘u.

In the story of this man, Kāne‘āpua, it is said that he came here from Kahiki. He came with

<sup>3</sup> cf. “He Moololo no Makalei” in *Ka Hoku o Hawai‘i*, January 31 through August 21, 1928.

Ma ka moololo o keia kanaka o Kaneapua, no Kahiki mai no oia, ua hele pu mai me kona mau kaikuaana a no ka wai ole, hooana ia o Kaneapua, e pii i ka wai i uka o Miki, aia no ia wahi mauka o Lanai, aka, he kuko ua mau kaikuaana nei o Kaneapua, i ka aina momona o Kaneapua, oia ka aina i Kahalapiko nolaila, ua haalele ia o Kaneapua i Lanai, a ua moe i ko laila wahine, ua lilo i kupuna no kekahi poe.

Ua hana mau o Wahanui ma a no ka make pinepine, ua hoopili ia maluna o ka waa, ma Kealaikahiki ma Kahoolawe ka holo ana i Kahiki. Ua olelo ia ma ka moololo o Wahanui i holo ai i Kahiki, mai pilikia o Wahanui ma i ka moana a ua nalowale na aina, o Kaneapua ka hookele i loa ai na aina o Kahiki, oia ka hookele akamai loa, ua pau na hoku o ka lani a me ka lewa...

*Nupepa Kuokoa*, January 5, 1867, pg. 1  
Translated by Maly.

his elder brothers, and because there was no water, they sent him to the uplands of Miki, to get some water. It is there in the uplands of Lāna‘i. But because the older brothers coveted the rich lands of Kāne‘āpua, that is the land of Kahalapiko, they abandoned Kāne‘āpua on Lāna‘i. He mated with a woman of that place, and became an elder of some of the people there.

Wahanui folks continued trying [to sail], and frequently came close to dying, as storms came upon the canoe at Kealaikahiki, Kahoolawe, where one sails to Kahiki. It is said in the tradition of Wahanui’s sailing to Kahiki, that there was much trouble that came upon them in the sea. When Kāne‘āpua became the steersman, they reached the lands of Kahiki. He was foremost of the navigators, and knew all of the stars of the sky and heavens...

#### 2.1.2 Chiefly Lineages of Lāna‘i

It was after the events in which Kaululā‘au participated that we see references to chiefly lineages associated with Lāna‘i, and the island fell under the dominion of Maui rulers. The role and fate of Maui’s chiefs in warfare with the chiefs of other islands also spilled over to Lāna‘i in the centuries following Kaululā‘au, and lasted through the time of Kamehameha I. In fact, a review of Lāna‘i’s history since the time of western Contact reveals that the island and its people have been subjected to Maui’s political policies throughout modern times.

Between the time of Kaululā‘au and his immediate peers until the middle 1700s, there are only a few notable references to chiefly associations on Lāna‘i and several passing references—generally one or two liners—to some event in which a chief visited or was associated with Lāna‘i. Samuel M. Kamakau made an interesting reference to Lāna‘i in his discussion of the Hawaiian nation in 1869:

#### Ka Moololo o Hawaii—Helu 108

He aupuni kahiko loa ke aupuni Hawaii ma keia pae aina, aka, he aupuni liilii a mokuahana nae o ka noho ana, a ua lehulchu wale na ‘Ilii Moi ma keia mau pae aina, ao le i

#### The History of Hawaii

The Hawaiian kingdom is an ancient kingdom in these islands, though it was a little kingdom and divided. There were many chiefs and Kings on these islands, the Hawaiian

lilo ka pae aina o Hawaii i ka Moi hookahi, i kekahi elua Moi o Maui, a he alii okoa ko Lanai, a pela ko Molokai, ko Oahu, a me ko Kauai. A ma ko Kamehameha ikaika i ke kaua a na 'Iii i kokua pu iaia ma ke kaua ana, ua huipua ma ke aupuni hookahi ke aupuni Hawaii. Mai ia manawa mai a loa wale mai ia kakou i ka poe o keia wa ke kapaia o keia mau pae moku ke Aupuni Hawaii.

*Nupepa Kuokoa*, March 18, 1869  
Translated by Maly

According to Fornander, a review of genealogies and traditions indicated that Lānaʻi, while “independent at times,” nonetheless shared a “political relation” with Maui a few generations after the cleansing of Lānaʻi by Kaululāʻau. This relationship was probably fortified during the reigns of Kiha-a-Piʻilani and his son Kamalālāwalu (Fornander 1996:94, 207). The research of Kamakau and Fornander makes several passing references to the fact that in ca. 1500 AD, Kiha-a-Piʻilani<sup>4</sup> was for a time forced to hide on Lānaʻi, until the path was open for his taking the throne from a cruel elder brother, Lono-a-Piʻilani. Kiha-a-Piʻilani’s reign was one of progress and peace, though nothing more is mentioned of Lānaʻi (Kamakau 1961:22 and Fornander 1996:87, 206).

Following Kiha-a-Piʻilani’s death, Kamalālāwalu became the king of Maui, attempted to invade the island of Hawaiʻi, and was killed. His son Kauhī-a-Kama took the throne, and was subsequently succeeded by his son, Kauhī. It is during the later years of Kamalālāwalu’s reign that we find reference to a chief of Lānaʻi. Fornander (1916) published an account compiled from native informants whose narratives reference a king named Kūaliʻi who was said to have unified the Hawaiian islands several generations before Kamehameha I. Kūaliʻi was imbued with godlike characteristics, and reportedly lived between ca. 1555 and 1730 AD. He was a sacred chief, feared by all, and famed for his strength. In ca. 1600 AD, Hāloalena was the king of Lānaʻi, though he ruled under the authority of Kamalālāwalu and Kauhī-a-kama. Fornander [1916] reported that

Hāloalena, the chief of Lanai was considered a very good ruler. His great favorite pastime was the collection of the skeletons of birds. When the chief’s bird tax was about due it was the usual custom of the agents to go out and proclaim the chief’s wishes. (Fornander 1916, IV:422)

Hāloalena had the skeletons of the birds cleaned, prepared, and posed for safe keeping in one of several large storehouses on Lānaʻi as his personal treasures. Kauhī, a mischievous son of Kauhī-a-Kama, destroyed all the skeletons and

This was the cause of the hostilities between the king of Lanai and the king of Maui, and the reason why the king of Lanai wanted to be independent and not be any longer under the king of Maui. At this time the chiefs of Lanai were under the control of Kamalālāwalu, king of Maui. (Fornander 1916, IV:424)

<sup>4</sup> Kiha, son of Piʻilani, who lived in about the fifth generation after Kaululāʻau.

Kūaliʻi was drawn into the dispute, and settled it without bloodshed, though Hāloalena and Lānaʻi remained under the Maui kingdom (Fornander 1916, IV:426).

It is not until the 1760s–1770s that we find references to Lānaʻi, its people, and chiefs, having been drawn into the path of war between the kings of Hawaiʻi and Maui. This period of Lānaʻi’s history has a direct impact on the lands of the Kaʻā region, and several prominent native and foreign historians described this time in Lānaʻi’s history. Samuel M. Kamakau’s series on Kamehameha I—which includes background information on the chiefs in historical events predating and during the youth of Kamehameha—names several chiefs from Lānaʻi:

#### Ka Moololo o Kamehameha I—Helu 5

I ka makahiki 1769, oia ka lawe ana o Kalaniopuu ia Hana a me ka puali hikina o Maui. I ka hoi ana o Kalaniopuu i Hawaii, a mahope iho o ia manawa, hele mai la o Kamehameha Nui ka Moi o Maui, a kaua ia Puna ke alii Kiaaina Kalaniopuu i hoono ho ai no ka puali hikina o Maui. He kaua kaulana keia no na aoao elua. Ma ka aoao o Kamehameha Nui, ka Moi o Maui, ua hui pu mai na 'Iii o Molokai, oia hoi o Kaohele, Kaolohaka a Keawe, o Awili, o Kumukoa, o Kapooloku; o na 'Iii o Lanai, oia hoi o Namakeha, o Kalimanuia, o Keliiaa a me na 'Iii o Maui.

*Nupepa Kuokoa*, December 1, 1866.  
Translated by Maly.

Kalaniʻōpuʻu failed in an attempt to take control of Maui in ca. 1778, and took the battle directly to Lānaʻi. Fornander (1996) reported that

Kalaniopuu ravaged the island of Lanai thoroughly, and the Lanai chiefs, unable to oppose him, retreated to a fortified place called “Hookio,” inland from Maunalei. But being short of provisions, and their water supply having been cut off, the fort was taken by Kalaniopuu, and the chiefs were killed. This Lanai expedition is remembered by the name of Kamokuhi. (Fornander 1996:156–157)

Forty-five years after Kalaniʻōpuʻu’s raid on Lānaʻi, his granddaughter, Kēōpūolani, also the sacred wife of Kamehameha I and mother of his acknowledged heirs, died. She had been an early and influential convert to the Protestant mission, and her passing was documented in the *Missionary Herald*.

Keopūolani was greatly beloved by her people . . . Her native disposition was remarkably amiable and conciliatory, and her treatment of her subjects was ever humane.

We are informed by her biographer, who is a missionary at the Sandwich Island, that she was born on the island of Mowee [Maui], in the year 1773; that her father's family had governed the island of Owwhyee [Hawaii] for many generations; and that her mother's family belonged to the islands of Mowee, Woahoo [Oahu], Ranai [Lanai] and Morokai [Molokai]. Her grandfather was the king of Owwhyee when it was visited by Capt. Cook, in 1777 [1778].<sup>5</sup>

## 2.2 Historical Events: Transitions in Land Use and Population on Lānaʻi

In the 1770s, around the time of western Contact with Hawaiians, Kalaniʻōpuʻu, sovereign of Hawaiʻi Island, attempted to take the Maui group of islands by force. Repelled from Maui, the invading force settled on Lānaʻi for a time and reportedly killed many of the native residents and laid the land to waste (Fornanader 1996 and Kamakau 1961). Apparently, Lānaʻi's native population never recovered from this event. In 1804, the first major epidemic brought to the islands on foreign ships swept through the group. It is estimated that by 1805, 150,000 Hawaiians from Niʻihau to Hawaiʻi died.<sup>6</sup> On Lānaʻi the decline didn't end. One estimate of the native population on Lānaʻi in ca. 1793 is 6,000 (Bowser 1880).<sup>7</sup> By 1823, Mission Station Journals estimate the population on Lānaʻi to be between 2,000 and 3,000 people, and by the early 1890s the population was around 200. By 1902, the native population dropped to 80 residents, most of whom were descendants of Lānaʻi's long-term native families. One can only guess how much traditional knowledge of place, practices, and traditions was lost as the population fell from 6,000 to 80 in a little more than a century.

With the exception of the periods from 1854 to 1864 and 1899 to 1901, there were no increases in the population on Lānaʻi. The two periods of increase were tied to western initiatives, the first being an experiment by members of the Mormon Church to establish a station on Lānaʻi between 1854 and 1864. This period led to an increase of more than 300 Hawaiians and a few foreigners, with the majority living in the ahupuaʻa of Pālāwai, and regular travel between the upland settlement and the Mānele landing. The experiment was in decline by 1858, and though there was a revival between late 1861 and 1864, the Pālāwai experiment was terminated, and the native population continued its historic decline. The second period of growth, between 1899 and 1901, occurred when the Maunaloa Sugar Company brought in some 600 non-Hawaiian laborers to operate a sugar plantation along the windward section of Pālāwai Ahupuaʻa.

One significant contribution to the decline in Lānaʻi's ability to support the resident population was the introduction of grazing herbivores—goats, sheep, and cattle—which were raised to provide foreign vessels with a meat source. These animals, along with the Scandinavian roof rat, produced a rapid and devastating impact on the ability of Lānaʻi's forest to draw moisture from the wind-borne clouds and develop groundwater resources. In addition to the introduction of

<sup>5</sup> "Keopuolani, Queen of the Sandwich Islands Died on September 16th, 1823, while in residence at Lāhaina," *Missionary Herald*, July 1825:234–235.

<sup>6</sup> Pacific Commercial Advertiser, Nov. 6, 1864.

<sup>7</sup> Archaeological fieldwork conducted over the last decade supports this estimate, which is higher than that given by Kenneth Emory in 1924.

herbivores, the western demand for staple crops such as potatoes, along with the demand for ʻiliahi (sandalwood) as a trade item, and the hunger for firewood to be used in processing whale blubber, led to the clearing of vast tracts of land. Just as the Hawaiians had no immunities or natural protection from introduced diseases, the native plants, animals, and ecosystems were also unprepared for the impacts of human clearing of the landscape and foraging animals that browsed and trampled everything that was visible, thus killing the land.

In light of the incredible population losses on Lānaʻi, we are fortunate that any traditional knowledge of place survived. A number of historical accounts—those recorded by native residents, visitors, and in various government documents—shed light on a wide range of aspects of the history of Lānaʻi's people. The historical records below provide us with glimpses into the changes on Lānaʻi between ca. 1820 and the early 1900s.

### Lānaʻi in 1823

William Ellis, an English missionary who worked with the early Protestant missionaries in the Hawaiian islands, described Lānaʻi, the nature of its resources, and the estimated population in the early 1820s:

RANAI, a compact island, seventeen miles in length and nine in breadth, lies north-west of Tahaurawe, and west of Lāhaina, in Maui, from which it is separated by a channel, not more than nine or ten miles across. Though the centre of the island is much more elevated than Tahaurawe, it is neither so high nor broken as any of the other islands: a great part of it is barren, and the island in general suffers much from the long droughts which frequently prevail; the ravines and glens, notwithstanding, are filled with thickets of small trees, and to these many of the inhabitants of Maui repair for the purpose of cutting posts and rafters for their small houses.

The island is volcanic; the soil shallow, and by no means fertile; the shores, however, abound with shell-fish, and some species of medusae [jellyfish] and cuttle-fish. The inhabitants are but few, probably not exceeding two thousand. Native teachers are endeavouring to instruct them in useful knowledge and religious truth, but no foreign missionary has yet laboured on this or the neighboring island of Morokai, which is separated from the northern side of Ranai, and the eastern end of Maui, by a channel, which, though narrow, is sufficiently wide for the purposes of navigation. (Ellis 1963:6–7)

A Protestant mission station was established in Lāhaina in 1823, and was responsible for West Maui, Lānaʻi, Molokaʻi, and Kahoʻolawe. Mission station leaders were tasked with overseeing the spiritual, educational, and health needs of island residents. In addition to the Protestant missionaries, Lānaʻi experienced a period of development as a Mormon mission station from late 1853 to early 1864. As noted above, the "experiment" brought an increase in Lānaʻi's Hawaiian population, with Hawaiians from other islands moving to Lānaʻi, and also fostered some significant changes on the island, notably in the area of land tenure. The work of the various missionaries and their associates resulted in the creation of an important record of history on the island. Excerpts of reports, personal journals, and articles published in Hawaiian and missionary papers—documenting Lānaʻi population statistics, land use, health, and development of churches and schools—provide important records from Lānaʻi.

The islands of Lanai and Morokai have, till within a few weeks, been entirely without teachers. To the former [Lānaʻi], I last week sent a man, who is to act as superintendent of four schools, which are to embrace all the people of the island. There are a few people there, who have frequently visited Lāhaina, and when here, have always been in our schools. From among this number, the superintendent is to select four assistants; and thus I hope all the people will have it in their power to learn to read and write, and to acquire, by means of our books, many of the first principles of Christianity. Of the number of pupils which will be embraced in these schools, I can form no estimate, as I have yet received no report, and the island has never been explored by any of our number...

The communications between the two last mentioned islands and Lāhaina, are frequent, and even constant. There is scarcely a day, but canoes pass and repass. Almost the only communication is by canoes, though small vessels occasionally visit Morokai. The inhabitants of those islands have very little communication with any other place except Lāhaina. If therefore they are illuminated at all, they must derive their light from this station. Tawawa [Kahoolawe], too communicates with no other island except Maui, though there are few inhabitants there, and those mostly fishermen, who are not permanent residents.<sup>8</sup>

#### Missionary Visits to Lānaʻi in July 1828

The earliest eyewitness description of travel on Lānaʻi was penned in 1828, when William Richards, in the company of Kamehameha I's sacred daughter, Princess Nahiʻenaʻena, made a visit to the island. The journal notes were forwarded to the secretary of the American Board of Commissioners of Foreign Missions (A.B.C.F.M.)<sup>9</sup> through a communication on December 25, 1834, and the excerpts from the journal cited below describe conditions on Lānaʻi at the time. It is notable that there is a discussion on the practice of people living near the shore, where there is easy access to fisheries and brackish water sources; the occurrence of an upland plantation moistened by the cloud and fog drip—the bench lands above the Pālāwai Basin; and the practice of the people to travel seasonally between the coastal region and the uplands to tend their plantations of dryland kalo and other crops.

As it is especially desirable that you have correct information respecting all our fields of labor, I prepare in this letter to give you some account of Lanai, the little island which lies directly opposite Lāhaina & about seven miles, distant. You will perceive by the accompanying map,<sup>10</sup> that its greatest length is about 17 ½ miles and its greatest breadth is about 12 miles. The land rises from the shore to the interior, and terminates in lofty points. The sides of the mountains are cut up by innumerable ravines or alternate ridges and hollows. But these valleys are not like

<sup>8</sup> August 9, 1825, Letter of William Richards Describes Progress of Instruction—Four Schools Established on Lanai, *Missionary Herald*, June 1826:174–175.

<sup>9</sup> Kepā and Onaona Maly researched the American Board of Commissioners of Foreign Missions (A.B.C.F.M.) collection at Harvard in 2004, and subsequently digitized it for return to Hawaiʻi. This journal, along with thousands of other records of importance to Hawaiian history, have been lost to Hawaiʻi for 177 years and are seen here in print for the first time.

<sup>10</sup> The map referred to by Richards was not found in files with this letter and cannot now be identified.

the valleys on the windward side of the other islands, furnished with openings & rivulets.

There is but one permanent brook on the island, and that is so small that it is all lost in a few small talo<sup>11</sup> ponds, and their fare does not reach the shore except in the wet seasons of the year. There is not a well of good water on the island, except such as are prepared after the manner of the Hebrews. These wells, though few on Lanai, are common at many parts of the Sandwich Islands. They are either natural or artificial pits, sometimes only a few feet in diameter, and at other times many yards. They are so prepared as that when it rains the water for a distance may flow into them. There are steps to go down into them, but they are not often very deep. In places where they are exposed<sup>12</sup> to direct light & from the wind, they are uniformly covered and even where they are not thus exposed they are often covered, to prevent the water from drying up as soon as it would otherwise. Some of these wells are never exhausted even though they are not replenished for eight or nine months. Others which are small, depend entirely on the almost nightly rains which fall on most of the high mountains of the Sandwich Islands, though in many places these rains are little more than heavy dews.

There are many people who make no use of water for washing either themselves or their clothes, except the dew or water on the grass and some times, there is so little of this that they resort to the juice of the succulent plant which they collect. Most of these people however, have two places of residence, and only spend a part of the year on the mountain where there is also a great scarcity of water. In the sea shore, both at Lanai and throughout the islands, with few exceptions, there is a full supply of brackish water, but such as none can drink except those who are accustomed to it. I know not a single well on the Sandwich Islands, supplied with water from the bottom, except such as are on the sea shore on a level with the sea.

Owing to the scarcity of water on Lanai, the inland is barren almost beyond conception. I have recently been quite round the island, and visited every principal village on the island except one, and during my whole tour, I saw but one good well of water; and no spring or brook, and I saw nothing growing which was suitable for food, either for man or beast, and nothing grows except sea weeds and sea grass. I should except a few cocoanut trees and two or three<sup>13</sup> or four have trees.

Most of the people live near the shore for the purpose of taking fish in which the shores of Lanai abound, and a considerable portion of their vegetable food they receive from Lāhaina, in barter for fish. There is however one inland plantation of some extent, which furnishes considerable food. It is watered by the mist or light rain which falls during the night, in sufficient quantities for the growth of potatoes and in wet seasons some upland - taro is raised. There are few people that reside at that place constantly, but considerable number who reside generally on the shore,

<sup>11</sup> Here Richards is referring to *kalo*, or taro.

<sup>12</sup> Page 1 - Reel 797:762.

<sup>13</sup> Page 2 - Reel 797:763.

go up & spend a month or two at a time so as to keep their land under cultivation, and then return again to the sea side where they can have abundance of fish, and water too, such as it is for there is a plenty of that which is brackish.

The numbers of inhabitants on the island, has been estimated at about 1600; but at the present time I think there are not so many though there has been no regular census of the island taken & it is impossible to make such an estimate as can be relied upon.

The island is always under the same governance as the island of Maui, but the direct care of it has for years been given to Kapeleaumoku, an elderly man, who is a member of our church, and a man of established reputation...

In a letter of mine written Oct. 15th, 1828<sup>14</sup> I alluded to a tour around the island of Lanai, made by myself in company with the Princess, and promised a full account of it. The following is from my journal kept at that time, but which was never sent.<sup>15</sup>

**July 24, 1828 – Thursday.**

A few missionaries located at the principal places on each of the islands exert an important influence not only over those inhabitants who receive their constant instruction, but also over all the inhabitants of the several islands. This they do, in part, through the chiefs in part, through native teachers, but principally, in consequence of the roving habits of the people which induce them often to visit the principal places by which means they are brought under the occasional sound of the gospel and for a season under the direct influence of missionary instruction.

The chiefs too are after calling the people to the places where they reside to do work for them. In the winter & spring of 1832, all the able bodied men of Maui, Molokai & Lanai were called to Lāhaina, and most of them spent several weeks there. It is probable that scarcely a year passes in which most of the people are not thus called to the residence of the chiefs.<sup>16</sup>

The following are extracts from the Lāhaina Report dated October 15, 1828. It mentions the people of Lanai assembling for prayer and instruction, as well as population and school enrollment statistics.

You are already aware that this place is the centre of missionary operations for Maui, Molokai, Lanai, and Kahoolawe. Lāhaina is the only place where there is regular preaching. It is, however, by no means the only place where people assemble for religious worship on the Sabbath. There are not less than twenty places on this island, and several on Molokai and Lanai, where people assemble for prayer and instruction. The native teachers take the direction of the meetings, occupying

<sup>14</sup> Page 3 - Reel 797:764.

<sup>15</sup> At this point Richards inserts lengthy narratives from his personal journal of 1828, and his visit to Lāna'i with Chiefess Nahi'ena'ena and the near loss of Kapeleaumoku while traveling from Lāhaina to Lāna'i.

<sup>16</sup> Wm. Richards to Rev. Rufus Anderson, Secretary of the A.B.C.F.M., Recounting Trips to Lanai in 1828 and 1834 [page 17 - Reel 797:778].

the time in reading and teaching the various Scripture tracts and other books, and conclude with prayer. By this course the people are inspired with a reverence for the Sabbath; and though the teachers are themselves extremely ignorant, yet they are able, in this manner, to communicate some instruction, and the people are thereby kept from assembling for vicious purposes, and worse than idle conversation.

**Examination of the Schools**

During the summer and early part of the fall of 1828, subsequently to the arrival of the late reinforcements, owing to an increase of their numbers, the missionaries at Lāhaina were enabled to make tours over Maui and the small island adjacent, for the purpose of preaching the Gospel, examining the schools, and giving the people such counsel and encouragement as their circumstances required...

**No. of Scholars**

Island	Sch'ls.	Male	Fem.	Writers	Readers	Total
Ranai	11	236	249	31	201	485

...A great proportion of the pupils are persons of middle age, and still they have learnt to read the Scriptures. According to the estimate we made, only one fifth of the scholars are under fourteen years of ages.

The people of every district which we visited were addressed particularly on this subject, both by ourselves and the princess [Nahienaena]. We have received the fullest evidence that our exertions have not been in vain. Since our return from the tour of the island, about 5,000 spelling books have been called for, principally to establish schools among children. This increases the whole number enrolled in the schools to about 18,000; viz. 15,500 to this island [Maui]; 1,000 to Molokai; and 700 to Ranai. It is not probable that, with the present population, so large a number as this can ever appear at an examination. But 18,000, we think less than the full number of those who are now enrolled in the schools under the direction of this station...

The population of Maui has been heretofore estimated at 20,000, that of Molokai at 3,000 or 4,000, and that of Ranai at 2,000 or 3,000, making the whole population on these three islands not more than 27,000. The present estimate represents the population as probably amounting to 37,000. Upon comparing with this the number of learners in the schools on these islands, as just given, it will be seen that almost half the whole population, of both sexes, and all ages, are in the schools; a larger portion of the people, probably, than are enjoying the advantages of instruction in any other country on the globe.<sup>17</sup>

<sup>17</sup> *Missionary Herald*, July 1829:208–211.

### 2.3 Alanui Aupuni: Government Trails and Roadways

In the ancient land system, trails crossed the landscape, both mauka to makai and laterally along the shore, and at various elevations. As a result of western Contact, and the development of wagon and horse trails, a more formalized system of roadways was needed. By 1847, King Kamehameha III promulgated a law establishing the Alanui Aupuni kingdom/government road system. Major trails which provided access around islands and between primary places of habitation and business were integrated into the Alanui Aupuni system and maintained through funding from the government and public work days by tenants of the lands through which the roads and trails passed.

Beginning in the mid-1850s, native and foreign residents of Lānaʻi began written documentation of government and community public service efforts in developing a road system that would facilitate not only foot traffic, but also cart/wagon traffic to major locations in the uplands and along the shore of the island. Several Alanui Aupuni routes were identified on Lānaʻi. These included five major points of access, and one for which little information has been found: i) The road from Mānele landing to the uplands through Pālāwai Basin; ii) the road from Pālāwai Basin to Kōʻele; iii) the road from Kōʻele to Awalua, situated in Paomaʻi Ahupuaʻa; iv) the road from Awalua to Keōmoku, crossing the coastal lands of Paomaʻi Ahupuaʻa; v) the road from Keōmoku to Naha, up to Waiakeakua flats and down into Pālāwai; and vi) the road that follows the Kalulu-Kamoku Boundary down to Kaumālapaʻu Harbor.

From these major routes, smaller trails provided native tenants with access to their personal properties and access collection areas. Kingdom Registered Map No. 1394 (Figure 6) is the master map of the Alanui Aupuni on Lānaʻi, and is the basis of the routes that are protected under the Highways Act of 1892.

The earliest communication found to date was penned in 1854, which identifies native resident, Kaaina as the “Road Supervisor” for Lānaʻi. Kaaina reported that public labor of 148 residents over the period of 36 days had been completed on the roads at “(1) Paomai; (2) Maunalei; (3) Kaa; (4) Kaunolu; (5) Palawai; (6) Kaohai.”<sup>18</sup>

As a part of Land Patent Grant 5011, which conveyed all government interest in the public lands on Lānaʻi to Walter Giffard on behalf of Charles Gay, grant conditions included the exclusion of all roads, trails, and right of way:

Reserving therefrom all lands covered by Grants and Land Commission Awards,  
Reserving to Government ownership for public uses, all existing roads, trails and  
right of way.<sup>19</sup>

With the advent of the Hawaiian Pineapple Company, Limited ownership of nearly 99 percent of Lānaʻi, the corporation undertook research and filing of title for all lands on Lānaʻi--those held by the company, and those held by private parties or the government. Land Court Application proceedings of the Hawaiian Pineapple Company, Limited reconfirmed the exclusion of all roads, trails, and right of way, stating: “Also excluding all existing roads, trails, and rights-of-way as shown on Government Survey Registered Map No. 1394.”<sup>20</sup>

<sup>18</sup> *Missionary Herald*, July 1829:208–211

<sup>19</sup> Land Patent Grant 5011, February 1, 1907, p. 476.

<sup>20</sup> Land Court Application No. 862, Map 1, June 5, 1929.

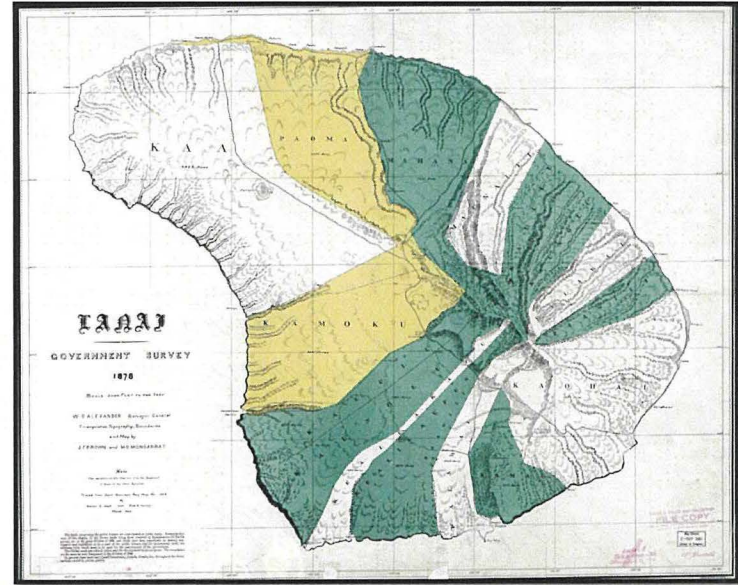


Figure 6. 1878 Lanai Government Survey map (Registered Map [RM] No. 1394) (Brown and Monsarrat 1878)

Historical communications provide background information on the evolution of the Alanui Aupuni through Paomaʻi to Awalua Landing, and connecting with other thoroughfares on Lānaʻi.

The excerpted letter below regards the Lānaʻi road report. It is written by L. Kaaina, the Assistant Road Supervisor, to C. B. Analu on December 14, 1854.

Love to you.

I have heard your orders by the mouth of Pualewa, saying, that my road report which was sent is wrong, is it true that it is wrong?

This is my explanation now in order to make it clear. The number of labor days was 36, persons subject to road tax 148, 1 man paid in full \$2.00. Government tools and implements with me, none. This is how those 36 working days were arrived at. Here in Lanai, 6 roads were repaired,--at (1) Paomai; (2) Maunalei; (3) Kaa; (4) Kaunolu; (5) Palawai; (6) Kaohai.

On each road were 6 days work, multiply 6 roads, will equal 36 days work as above described, that is the number of work days.

The persons subject to road tax are 148, multiplied by 6 days for each person, will be 888 days. The 888 days, all the 36 days were worked.

Here is another, in case you wish to write about the ballots, you send them right away by Pali's boat, so that I may be able to publish notice about the ballots here for the road. I will not be able to go to Molokai, I have appointed acting judge, Koiku, he is going to Molokai to publish the notice of the ballots for the representatives.

After the election day here, I will go to gather up the ballots.

This is mine to you, with thanks.<sup>21</sup>

Walter M. Gibson was, for a time, the acting Superintendent of Roads on Lānaʻi. During that time, he wrote the following, dated December 22, 1876, to I. Mott-Smith:

I was assured by your predecessor in office, His Ex. W. L. Mochonua, that a certain proportion of the road monies appropriated for Maui, Molokai, and Lanai, would be set apart for Lanai, and according to the recommendation of Mr. Meyers road superintendent for Molokai, and Lanai. I understood the amount for Lanai to be \$600. This could not be drawn at the time, but I was assured, both by your predecessor, and the late Minister of Finance that I might commence certain needed improvements on a road leading from Awalua to Manele on Lanai, with full assurance that in return of Mr. Meyers from the coast in December as expected, the proportion of public money designated for Lanai roads would be paid to me. Will your Excellency, kindly inform me, what action I may expect of your Department in this matter.<sup>22</sup>

An article from the Hawaiian Gazette entitled "Legislative Appropriation for Roads on Lanai," and published on August 4, 1880, indicated that \$2,000 was appropriated for Lānaʻi.<sup>23</sup>

Another letter regarding the roads was written by Henry H. Gibson to H. A. P. Carter, Minister of the Interior, on September 12, 1881.

Dear Sir:

I beg to submit herewith a statement in relation to roads on Lanai.

A highway leading from the landing of Manele in the S.E. end of the island, and terminating at the landing of Awalua on the N.W. end of the island, a distance of about fifteen miles, is known as a government road (ala nui aupuni). For a distance of about a quarter of a mile leading from Manele, and for about the same distance leading from Awalua, the road is impassable for a vehicle on account of masses of volcanic rock or aa. It would require an amount of labor and blasting at these two ends of the road that would cost about \$400 each, or a total of \$800.

Another government road, "ala nui aupuni," leads from the landing of Maunalei in the N. side of the island, into an upper valley, where a junction is formed with the Manele and Awalua road. Part of the Maunalei road is an ancient paved ala nui through the aa. This is much broken up and not passable for a vehicle. A horse can barely pick his way along such a road. Labor and blasting material to the amount of about \$300 would be required to put the road in good travelling order. In the

<sup>21</sup> Hawai'i State Archives, Interior Department Roads, Misc. Box 146.

<sup>22</sup> Hawai'i State Archives, Interior Department, Roads.

<sup>23</sup> *Hawaiian Gazette*, August 4, 1880, supplement, p. 5.

interior of the island where the soil is easily worked, and there are not obstructing rocks, road work is easy, yet the road readily washes into gulches, and there are places where stone and other material should be hauled to make permanent repairs.

The sum of \$1400 cash for labor of men and use of carts; and about \$100 for blasting material could at this time be applied advantageously in making good roads on Lanai; and I ask permission of Your Excellency to draw on the Department for the repair and completion of these roads.<sup>24</sup>

The following is correspondence from F. H. Hayselden to J. A. Hassinger, Chief Clerk of the Interior Department. Hayselden wrote to Hassinger on August 24, 1893, requesting reimbursement for funds expended for the roads.

Your favor of 19th, in regard to Lanai Roads is to hand. Also copy of instructions of May 2nd. There is as you say some misunderstanding in regard to the amt. to be expended. You will perhaps remember that before authorizing me to make repairs on Lanai Roads you enquired of one of your clerks for the amt. to the credit of Lanai Road acct. in Interior Department books, and if I remember rightly it was with the special deposit in your safe upwards of \$500.00. I stated at the time that we should need the whole of it, but upon consultation with the Minister it was decided to advance me then \$200.00 of said amt. further advances to be made as the work went on. The work done mostly on the Awalua road, eleven miles in length, was absolutely necessary and we now have a good road there. It had to be worked all over for five miles of its length and I consider it was most economically done, had I not felt sure that the amt. of the credit of Lanai Roads was not wholly available I should have hesitated to commence the work, however, I can only do as you request, send you vouchers for the \$200.00 advanced and for the \$57.40 you held as special deposit according to copy of instruction of May 2nd, 1893; original of which I have been hunting for but cannot find as it is mislaid somewhere. But I trust that when His Excellency the Minister of the Interior has a spare moment that you will explain matters to him. But before doing so please look up on your books for the amt. to credit of Lanai Roads and which by law cannot be used for any other purpose and if you find it as I say, I hope His Excellency will authorize the expenditure of the same through me or accept my vouchers for what has been expended on the roads.<sup>25</sup>

The legislature revisited road appropriations in 1898.

The House amendments to the current accounts appropriation bill were resumed where left off yesterday, with the following results:<sup>26</sup>

Roads and Bridges:

...Road from Kocle to Awalua, Lanai. \$500.

<sup>24</sup> Hawai'i State Archives, Interior Department, Roads – Molokai & Lanai.

<sup>25</sup> Hawai'i State Archives, Interior Department, Roads Box 46.

<sup>26</sup> "The Senate This Morning: Lanai Road Appropriations," *Evening Bulletin*, June 23, 1898, p. 1.

A. Kaaloa wrote the following newspaper article in 1897, describing the progress of the road building.

There was started again work on our roads this year, on the 22nd day of March, on the road that runs to the boat landing of Awalua to Koele. It has been two weeks or more, and this week the work began on the road from Maunalei. S. K. Peleaumoku is the supervisor. In the past years, our landlord was the road supervisor, for many years past. Only recently has our friend in the Maaa winds of Kahalepalaoa been given the task.

This is the first time that a native has been given this work to do, it has not been known to have happened in the Interior Department before, that someone's name was taken at his place of residence. He has taken the work with skill and thoroughness. Blessings upon the one who does this work.

A. Kaaloa

In the Kumumaomao wind of Kecomoku, Lanai.<sup>27</sup>

Cecil Brown, a representative of William M. Gibson, wrote to James A. King, Minister of the Interior, about funds for the Lānaʻi roads on April 18, 1899.

Sir: I note that there is to the credit of Lanai Road account a sum approximating \$144, and also an appropriation by the last Legislative assembly of \$500 more.

This last amount I believe was for a specific road, i.e. from Koele to Awalua, the then landing for Lanai. The conditions now however, are changed, for since the appropriation was made, the landing at Awalua has been wiped out, and the buildings and pens there and the road have been washed away by freshets, so that as a landing Awalua is no longer a port.

Representing as I do as Administrator of the Estate of W. M. Gibson, the largest interests on the Island of Lanai, I beg to draw your attention to the following facts:

The principal business with the estate I represent, is, that of raising cattle and sheep, and the wool of said sheep. You will by reference to the tax books find that we pay the majority of taxes on said Island.

In consequence of high winds and floods of rain, the Awalua road has been for the past year practically useless. So much so that last year's clip of wool is still in warehouse in the interior of the island.

On May the 1st next, shearing will commence, and within 3 months another clip of wool will be taken off.

This wool and also the clip of last year must be transported to a landing where a steamer can take it. The only port now available is Manele on the south east point of Lanai.

I would therefore ask Your Excellency to direct that the \$500 appropriated for (road from Awalua to Koele) be applied to the road from Koele to Manele.

I have seen Mr. Hassinger and he has a map that will more fully explain the requirements.

<sup>27</sup> A. Kaaloa, "New Work is Progressing on the Roads of Lanai Kaululaau." *Ka Makaanana*. April 26, 1897, p. 3. Translated by Maly.

I will guarantee that the money will be properly and economically expended, and I will furnish Your Excellency detailed bills of expenditure properly endorsed and authorized.<sup>28</sup>

## 2.4 Land Tenure

The Māhele ʻĀina of 1848 set the foundation for fee-simple property rights in the Hawaiian Islands. As a part of major ethnographic work conducted by Kepā and Onaona Maly for the development of the Lānaʻi Culture & Heritage Center, a full history of land tenure on Lānaʻi in the period between 1848 and 1960 has been conducted and made available to the public.<sup>29</sup>

The narratives below summarize the Māhele ʻĀina on Lānaʻi, drawn from a review of all records compiled as a part of the Māhele ʻĀina of 1848, with subsequent actions of the Land Commission and government through issuance of Royal Patents on the Awards.

### Māhele ʻĀina Statistics on Lānaʻi

A total of 110 claims which could be verified for Lānaʻi were recorded. These include both chiefly and commoner/native tenant claims.

- 105 claim records were located in the volumes of the Native Register.
- 88 claim records were located in the volumes of the Native Testimony.
- 2 claim records were located in the volumes of the Foreign Register.
- 21 claim records were located in the volumes of the Foreign Testimony.
- 64 of the claims were surveyed and recorded in the Māhele Award Survey Books.
- 51 claim records were recorded in the volumes of the Royal Patent Books.

The combined claims from Lānaʻi represent 331 separate documents (some overlapping in records of the Native and Foreign Books):

- 56 claims were awarded. Of those awarded, five claimants were chiefly awardees, who received entire ahupuaʻa.
- 51 awards made to native tenants and individuals of lower chiefly lineage, totaled a little over 600 acres of the approximately 89,000 acres of land on Lānaʻi.

### Place Names Referenced in Claims by Applicants

A total of 86 place names for the island of Lānaʻi are in the records provided to the Land Commissioners. Place Names from Kamoku are Aumoku 1 & 2, Iwiolo, Kaumalapau, Kulelelua (Kalelelua), Makaliili, and Mooloa.

<sup>28</sup> Hawaiʻi State Archives ID Roads, Molokai & Lanai.

<sup>29</sup> Lānaʻi Culture & Heritage Center, <http://www.lanaichc.org/>.

**2.4.1 Disposition of Ahupua'a and Konohiki Claims on Lāna'i**

As a part of the Māhele, the king and chiefs were required to file their claims for personal lands, determine how to pay for their lands—usually by giving up certain lands, in lieu of cash payment—and to claim the kapu (taboo) fish and wood of their land. The latter items were the konohiki (headman of an ahupua'a) rights to resources with which the konohiki would sustain themselves and generate revenues for their support. In eliciting claims and documentation of rights, the chiefs began submitting letters for the record to the Minister of the Interior.

There were only limited letters submitted for Lāna'i. Of particular interest is a letter dated August 26, 1852 from Noa Pali to Keoni Ana, Minister of the Interior, documenting the kapu or konohiki fish and trees for 11 of Lāna'i's 13 ahupua'a (Table 1).

Table 1. Forbidden fish of the konohiki and the prohibited woods (Pali 1852)

Konohiki	Land	Fish	Wood
Mataio Kekuaanaoa	Ka'ā	Uhu	Koko ('Akoko)
Mataio Kekuaanaoa	Kaohai	He'e	Naio
Nahaolelua	Maunalei	He'e	Kukui
Kanaina	Paoma'i	He'e	'Aiea
Haalelea	Pālāwai	Anae	'Ahakea
Kaco	Kcālia (Kapu)	Uhu	—
Kaahou	Kama'o	He'e	Koko ('Akoko)
I'i	Kalulu	He'e	'Ahakea
Pali	Kamoku	Uhu	Koko ('Akoko)
Pali	Kcālia (Aupuni)	Uhu	Koko ('Akoko)

Your Highness, this is for you to decide in your office.\*  
 \*Hawaii State Archives, Interior Department Lands

**Buke Māhele (Land Division Book), 1848**

In preparation for the final division of lands between the king, konohiki, and government, a Buke Māhele was kept as a log of the agreed upon division. This book is the basis of the Crown and Government land inventory now known as the Ceded Lands. There are 13 ahupua'a on Lāna'i. Disposition of 10 ahupua'a was recorded in the Buke Māhele (1848) and before the Land Commissioners. Three ahupua'a were apparently dropped through an oversight on the part of the king, Commissioners, and staff. Titles confirmed at the close of the Land Commission are presented in Table 2.

Table 2. Disposition of Ahupua'a of Lāna'i (Buke Māhele 1848)

Ahupua'a	Claimant	Disposition	Buke Māhele (1848)
Ka'ā	Victoria Kamamalu	Awarded	Page 4, Jan. 27, 1848
Kalulu	Daniela Ii	Crown	Testimony of M. Kekauonohi, Dec. 1847
Kama'o	Kahanaumaikai	Government	Page 47, Jan. 31, 1848
Kamoku	No record	Crown	Record of Boundary Commission 1877
Kaohai	M. Kekuaiwa (M. Kekuaanaoa)	Awarded	Page 14, Jan. 27, 1848
Kaunolu	Keliiahonui	Government	Page 130, Feb. 9, 1848; Page 209, Mar. 8, 1848
Kcālia Aupuni	Kahanaumaikai	Government	Page 47, Jan. 31, 1848; Page 209, Mar. 8, 1848
Kcālia Kapu	Iosua Kaco	Awarded	Page 34, Jan. 28, 1848
Mahana	Wm. C. Lunalilo	Government	Page 22, Jan. 28, 1848
Maunalei	Pane (Fanny Young)	Awarded	Page 161, Feb. 12, 1848
Pālāwai	M. Kekauonohi	Awarded	Page 26, Jan. 28, 1848
Paoma'i	No record	Crown	Testimony of C. Kanaina, Dec. 1847
Pawili	Wm. C. Lunalilo	Government	Page 21, Jan. 28, 1848; Page 207, Mar. 8, 1848
'Ili of Kaumalapau 1 & 2	Oleloa (wahine)	Government	Page 105, Feb. 7, 1848; Page 209, Mar. 8, 1848

The following is a translation of a Land Commission document from the Native Register. It is from the claimants on Lāna'i and describes the land to which they stake claim.

Aloha to you Commissioners who Quiet Land Claims of the Hawaiian Kingdom. We hereby petition to enter our claims on the Island of Lanai.

Here are our claims — moo (planting parcel) lands; kula (open plains and planting) lands; the mountains; the wood, woods to be taken under the Konohiki; fishes, fishes to be taken under the Konohiki; the length is from the moana (open ocean) to the fishery of Kaholo; from one fishery to the other fishery. We are the people in the Ahupuaa of Palawai, Pawili, Kaunolu, Kalulu, Maunalei and Mahana. Here are our names (Table 3).

That is the end.<sup>30</sup>

Table 3. Names of Lāna‘i claimants (Native Register 6, 1848)

Helu (Number)	Name	Helu	Name	Helu	Name
10024	Lono	10042	Nakalo	10025	Kaneakua
10043	Paele	10026	Papalua	10044	Kapahoa
10027	Nalimu	10045	Haalu	10028	Oawa
10046	Nalci	10029	Apolo (See O)	10047	Pauahi
10030	Napuulu	10048	Haole	10031	Palaaui
10049	Moo	10032	Pakele (See O)	10050	Wailaia
10033	Kaia	10051	Kalamau	10034	Nakuala
10052	Kuakaa	10035	Naehulua	10053	Kapuhi
10036	Paoao	10054	Elikai	10037	Pamioa
10055	Kunea	10038	Kaiole	10056	Keaka
10039	Puupai	10057	Ohoe	10040	Pohano
10058	Kaunele (See O)	10041	Kanekeleia		

**Boundary Commission Surveys and Testimonies**

Following the Māhele ‘Āina, there was a growing movement to fence off land areas and control access to resources which native tenants had traditionally been allowed to use. By the 1860s, foreign land owners and business interests petitioned the Crown to have the boundaries of their respective lands—which were the foundation of plantation and ranching interests—settled. In 1862, the king appointed a Commission of Boundaries, a.k.a. the Boundary Commission, whose task was to collect traditional knowledge of place, pertaining to land boundaries and customary practices, and determine the most equitable boundaries of each ahupua‘a that had been awarded to ali‘i, konohiki, and foreigners during the Māhele. The commission proceedings were conducted under the courts and as formal actions under the law. As the commissioners on the various islands undertook their work, the kingdom hired or contracted surveyors to begin the surveys, and in 1874, the Commissioners of Boundaries were authorized to certify the boundaries for lands brought before them.<sup>31</sup>

In the period of 1876–1877, William D. Alexander, Surveyor General; M. D. Monsarrat, Assistant Surveyor; J. F. Brown; and party surveyed the entire island of Lāna‘i, traveling with

<sup>30</sup> Helu 10041 (Recorded with Helu 10024), Kanekeleia (and Lono et al.), Palawai, Native Register 6:510–511, Lanai, February 12, 1848, translated by Maly.

<sup>31</sup> W. D. Alexander in Thrum’s Hawaiian Annual, 1891:117–118.

elder native tenants. Alexander’s field book,<sup>32</sup> covering late March and early April 1876, contains his notes, compiled through interviews and fieldwork. The book provides readers of the present day with glimpses into the cultural and natural landscape of Lāna‘i, and identifies several elder informants on Lāna‘i. Of particular importance is documentation of traditional sites such as heiau, areas of residence, burial sites, shrines, former ‘ua‘u (dark-rumped petrel [*Pterodroma phaeopygia sandwichensis*], an endangered sea bird) nesting grounds, and trails. In the record are also found a number of place names and descriptions of features not mentioned in other documentary sources.

Unfortunately, few of the narratives recorded in Register Book No. 153 made it into the formal proceedings and documents of certification authorized by the Boundary Commission. The court proceedings focused on metes and bounds, relying on the authenticity and accuracy of the documentation provided by the surveyors. Thus, the notes copied verbatim from Register Book No. 153 provide us with the background as to how the boundaries were determined, and identify significant cultural resources of Lāna‘i.

The following from Register Book No. 153 are notes on Lāna‘i boundaries at Halepalaoa. It is dated March 28, 1876. Note that Alexander uses macron accents-kahakō-on certain place and people names as indicated.

Kaumalapau & Kalama are both Ilis of Kamoku. Three lands run across from sea to sea, viz., Palawai, Kalulu, & Kaunolu...

**April 1.**

Appr. Elevation of the water shed near the road from Maunalei to Kamoku = 1750 ft.

Appr. Elevation of the Koele station 1550 ft...

**April 3rd. 76. Monday.**

Keliihue widow of Nahuina, was born on Kalulu, & testifies that the boundary between Kalulu and Kamoku comes down from a hill known as Puunene down the North bank of the Kapano valley to the Govt. road, passing near Kawaonahale’s house, keeping straight on across a side ravine coming in from the north, called Keaakū, to the top of the north wall of the Palawai crater at a place called Pulehulua, near Keliihananui’s house.

**Kamoku**

Thence it skirts to the northwestern slope of the crater till it meets the old road to the sea, which it follows down to Kaumalapau Harbor. Papalua another old resident agrees with the above in the main, but declares that from Pulehulua the boundary runs to a rocky eminence called Puu Nanaihawaii, where he says that Makalena set up his compass. From thence he says it runs to the site of an old heiau called Ka Ili o Lono, near which Papalua’s house formerly stood, near the present road. Kaaiia, an old kamaaina, insane however, points out a pile of rocks nearly on a line between these two points called Kuanai, to which he says he guided Makalena. From the

<sup>32</sup> Register Book No. 153; copied from the collection of the State Survey Division.

Ili o Lono the line follows the old road to the neighborhood of Kaunalapau Harbor. The whole of the harbor belongs to Kamoku. Starting from the edge of the pali on the south side of the harbor, the line follows the ridge on the south side of Kaunalapau ravine till it meets the old road.<sup>33</sup>

Primary records in the Boundary Commission collection from Lānaʻi were recorded from 1876 to 1891. The records include testimonies of elder kamaʻāina who were either recipients of kuleana in the Māhele, holders of Royal Patent Land Grants on the island, or who were the direct descendants of the original fee-simple title holders, as recorded by the surveyors/commissioners. The resulting documentation covers descriptions of the land, extending from ocean fisheries to the mountain peaks, and also describe traditional practices; land use; changes in the landscape witnessed over the informants' lifetime; and various cultural features across the land.

The native witnesses usually spoke in Hawaiian, and in some instances, their testimony was translated into English and transcribed as the proceedings occurred. Other testimonies from Lānaʻi have remained in Hawaiian, untranslated, until development of a manuscript for the Lānaʻi Culture & Heritage Center.<sup>34</sup> Translations of the Hawaiian-language texts below were prepared by Kepā Maly. The descriptions and certificates of boundaries for the ahupuaʻa of Lānaʻi are from the notes of W. D. Alexander, who worked for the Boundary Commission. The notes, dated 1875-76, give boundary information collected from kamaʻāina. The following are excerpts from Alexander's notes.

**At Halepalaoa March 28th, '76.**

Hoa, an old Kamaaina states that the boundary between Kaohai and Paawili begins at the inlet of the sea a little south of the Church, & thence follows the bottom of the kahawai to the top of the mountain.

Kaunalapau & Kalama are both Ilis of Kamoku. Three lands run across from sea to sea, viz., Palawai, Kalulu, & Kaunolu...

**April 3rd. 76. Monday.**

Keliihue widow of Nahuina, was born on Kalulu, & testifies that the boundary between Kalulu and Kamoku comes down from a hill known as Puunene down the North bank of the Kapano valley to the Govt. road, passing near Kawaonahale's house, keeping straight on across a side ravine coming in from the north, called Keaaku, to the top of the north wall of the Palawai crater at a place called Pulchuloo, near Keliihanani's house.

**Kamoku**

Thence it skirts to the northwestern slope of the crater till it meets the old road to the sea, which it follows down to Kaunalapau Harbor.

Papalua another old resident agrees with the above in the main, but declares that from Pulchuloo the boundary runs to a rocky eminence called Puu Nanaihawaii, where he says that Makalena set up his compass.

<sup>33</sup> W. D. Alexander, "Lanai (Memo.)," 1875-1876, Register Book No. 153, p. 14-24.

<sup>34</sup> See <http://www.lanaiche.org>.

From thence he says it runs to the site of an old heiau called Ka Ili o Lono, near which Papalua's house formerly stood, near the present road. Kaaiai, an old kamaaina, insane however, points out a pile of rocks nearly on a line between these two points called Kuanaipu, to which he says he guided Makalena.

From the Ili o Lono the line follows the old road to the neighborhood of Kaunalapau Harbor. The whole of the harbor belongs to Kamoku. Starting from the edge of the pali on the south side of the harbor, the line follows the ridge on the south side of Kaunalapau ravine till it meets the old road.<sup>35</sup>

Below is a letter from M. D. Monsarrat, a surveyor, to W. D. Alexander dated 1877. There is some description of Monsarrat's process, as well as the areas of Lānaʻi which he has already surveyed.

**Palawai, Lanai**

Since writing my last letter I have found an old Kamaaina by the name of Pali who has been absent for some time. He gives his age at ninety nine and is pretty helpless as I had to lift him off and on his horse. I could not get him to come for less than two dollars a day but I think that he is worth it as he seems to be very honest. He puts Kamoku boundary the same as Keliihue and not wrongly as Papalua did.

I have surveyed Kaunolu boundary on this side of the mountain, also both sides of Palawai from the top of the mountain to the South wall of Palawai crater from there to the sea. I will leave until I return from the other side of the mountain, where I intend starting early Monday morning. Don't you think that I had better survey the boundary between the government land of Kamao and Kaohai which is very short and will survey with Paawili on the upper side of the island to Palawai form a survey of Kaohai. I have started to carry a set of triangles around from Puu Manu to Halepalaoa and find that it can be done with little effort and few triangles. When I was in Lāhaina Mr. Gibson spoke of having me stop here and complete the survey of the island as he is very anxious for a map.

It is beginning to get very dry here and water scarce. Potatoes are also very scarce and expensive. Pai ai are a dollar apiece in Lāhaina now having jumped from seventy five cents since I came over...

As soon as I finish Kaunolu I will send you the notes of survey as the minister of interior is very anxious to get them. Mr. Gibson is going to start his men shearing at Palawai in a few day[s]. Hoping to hear from you soon. I remain yours.<sup>36</sup>

The following Boundary Commission document gives testimonies of the surveyor Monsarrat, as well as the *kamaʻāina* Pali on the boundaries of lands on Lānaʻi. Pali states that he was the konohiki of Kamoku.

<sup>35</sup> W. D. Alexander, LANAI (Memo.), 1875-76, Register Book No. 153, p. 14-23. Pages 1-13 in this book contain memos and maps of land holdings at Nuʻuanu, Oʻahu. Lānaʻi notes begin at page 14. Alexander also uses macron accents on certain place and people names as indicated in the citations here.

<sup>36</sup> M. D. Monsarrat (Surveyor) to W. D. Alexander (Surveyor General), June 2, 1877, Hawaiʻi State Archives, DAGS 6 Box 1 - Survey.

### Hooponopono Palena Aina a ke Komisina

Ma ka la 14 o Julai, a.d. 1877, ua waiho mai o Prof. W.D. Alexander he palapala noi i ke Komisina Palena Aina o Maui, no ka hooponopono ana i na palena o kahi mau aina i pau i ka Anaia o ka Mokupuni o Lanai. Oia hoi o "Palawai" no W.M. Gibson Esq. "Kaohai" no Ka Mea Kiekie R. Keelikolani; "Kalulu," "Kamoku," he mau Aina Lei Alii; "Kamao," "Kealia," "Pawili," & "Kaunolu," he mau Aina Aupuni.

Ma ka la 17 o Sepatemaba, A.D. 1877, ua noho ka Aha a ke Komisina e hoolohe no ke noi maluna'e. O M.D. Monsarrat (Hope Ana Aina Aupuni) ka mea i hiki mai ma ka aoao o ka mea noi. A no ka mea hoi nana no i Ana ia mau aina apau. A ua hoomana pu ia mai no hoi oia e Jno. O. Dominis e lawelawe imua o ke Komisina ma na mea e pili ana i na Aina Lei Alii ma Lanai.

Hoohikiia a olelo mai:

Na'u no i Ana keia mau aina a pau; ua hele pu au me na kamaaina ma na palena apau o keia mau Aina. A ua lokahi lakou apau, ua pono, a ua pololei ka'u ana ana. O Rev. N. Pali ko'u alakai nui nana i kuhikuhi, a ua make iho nei kekahi. No ka hiki ole ana mai o Pali i keia la, ua hoopono ka Aha a hiki mai oia noho hou.

Ma ka la 30 o Sepatemaba 1877, ua hiki mai o Pali, a ua noho hou ka Aha. Hoohikiia o Pali a olelo mai:

O Pali au, he kamaaina au no Lanai, na ko'u mau makua i kuhikuhi mai ia'u. A no ko'u noho konohiki ana hoi malalo o Kauikeaouli maopopo loa ia'u na palena. Noho Konohiki au no "Kalulu," "Kamoku." He mau aina Aupuni o Kamao, Kealia, Pawili, ame Kaunolu. Maopopo loa ia'u.

Palawai Ahupuaa, Island of Lanai, Boundary Commission Volume No. 1, p. 108-110, No. 34, Keena Kiaaina o Maui, Lāhaina, September 17, 1877.

Translated by Maly.

### Decision of Boundaries by the Commission

On the 14th day of June, A.D. 1877, Prof. W.D. Alexander, set before the Boundary Commissioner of Maui, an application to Certify the boundaries of several lands which have all been surveyed on the Island of Lanai. They being, "Palawai" of W.M. Gibson Esq. "Kaohai" of Her Highness R. Keelikolani; "Kalulu" and "Kamoku," Crown Lands; "Kamao," "Kealia," "Pawili," & "Kaunolu," Government Lands.

On the 17th day of September, A.D. 1877, the Commission convened to hear the above applications. M.D. Monsarrat (Assistant Government Surveyor) was present on behalf of the applicant. Also as the one who Surveyed all of the lands. Jno. O. Dominis was authorized to bring the matter forward to the Commission by those adjoining the Crown Lands on Lanai.

Sworn and stated:

I surveyed all these lands; I went along all the boundaries of these lands with natives. They were all in agreement, My surveys are correct and true. Rev. N. Pali was my primary guide, he pointed out things, others have since passed away.

Because Pali did not arrive this day, the Commission moved Await his arrival before reconvening.

On the 30th day of September, 1877, Pali arrived, and The Commission reconvened. Pali Sworn and stated:

I am Pali. I am a native of Lanai, my parents pointed them (the boundaries) out to me. And as a result of my having been Land overseer under Kauikeaouli, the boundaries are known to me. I was the Konohiki of "Kalulu" and "Kamoku." Kamao, Kealia, Pawili, and Kaunolu are Government lands. I know them well.

The following is a decision by the Commissioner of Land Boundaries recorded by the Boundary Commission.<sup>37</sup> It certifies the land boundaries of Lāna'i as determined by the survey of Monsarrat. The translation is by Kepā Maly.

### Olelo Hooholo

Ke hooholo nei au. O na palena o na aina apau ma Lanai i anaia e M.D. Monsarrat, oia hoi o "Palawai" no W.M. Gibson, "Kaohai" no ka Mea Kiekie R. Keelikolani, "Kalulu" a me "Kamoku" he mau aina Lei Alii ame "Kamao," "Kealia," "Pawili" & "Kaunolu" he mau aina Aupuni, e like me na ana pakahi i hoikeia maloko nei, ua pono a ua pololei.

Kakauia ma Lāhaina i keia la 30 o Sept. 1877.

Komisina P. A. Apana Elua, ko H. P. A.

### Decision

I hereby move. The boundaries of all the lands on Lanai, surveyed by M. D. Monsarrat, they being, "Palawai" of W. M. Gibson, "Kaohai" of Her Highness, R. Keelikolani, "Kalulu" and "Kamoku" Crown Lands, and "Kamao," "Kealia" [Aupuni], "Pawili" & "Kaunolu," being Government lands, as uniformly surveyed and given within, are right and correct.

Signed at Lāhaina, this 30th day of Sept. 1877.

Commissioner L. B., Second District, of the H. I.

The following are the metes and bounds of Kamoku Ahupua'a as surveyed by Monsarrat.

Commencing at a pile of stones over a cross cut in a large stone on South side of Kaumalapau Harbor on edge of gulch. The boundary runs:

1. N 86° 27' E true 3254 feet along Kalulu up South edge of gulch to a stone marked with a cross on edge of gulch a little above a branch that comes into the main gulch from the South. Thence:
2. N 88° 46' E true 5225.9 feet along Kalulu, up South edge of gulch to a cross cut in a stone on South edge of same. Thence:
3. N 84° 40' E true 2594 feet along Kalulu to head of gulch. Thence:
4. N 72° 43' E true 2080 feet along Kalulu to a cross cut in a stone amongst a lot of stones at the former site of an old Heiau called "Ili o Lono." Thence:
5. N 46° 19' E true 10144.4 feet along Kalulu up road to a point a little North of a cactus clump marked by two triangular pits.
6. N 65° 44' E true 4939 feet along Kalulu along North edge of crater to a red wood post on the North wall of the crater at a place called Pulehulua near Keliihanani's house.
7. Thence along Kalulu down across a small ravine (coming in from the North called Keaaku) to Government Road and up the N.W. edge of the Kapano valley, passing near Kawaonahale's house to a point on ridge marked with four triangular pits and ditch thus:

<sup>37</sup> Boundary Commission Volume No. 1, Palawai Ahupua'a, Island of Lanai, p. 113.

said point being a little east of Puu Nene and bearing N 44° 53' E true 8052 feet from above mentioned red wood post. Thence:

8. N 45° 49' E true 1067.9 feet along Kalulu across valley passing to the S. E. of a water hole called Kaiholena to a red wood post on ridge that comes down from the central mountain range. Thence:
9. N 62° 37' W true 6742.5 feet along Paomai down above mentioned ridge and across valley into a small ridge and down said ridge to a red wood post at end of same.
10. S 84° 37' W true 1316.8 feet along Paomai to a cross cut in a stone.
11. S 74° 8' W true 6258 feet along Paomai passing to the North of a couple of Hala clumps to two Triangular pits at an old house site.
12. S 74° 07' W true 3045 feet along Paomai to a cross cut on a stone at head of gulch.
13. N 86° 6' W true 1368 feet along Paomai down South side of gulch.
14. S 83° 45' W true 1455 feet along Paomai to a cross cut in a stone.
15. S 74° 9' W true 920 feet along Paomai.
16. N 55° 12' W true 898 feet Paomai across gulch to a red wood post a little West of a cactus clump; here ends the Crown land of Paomai. Thence:
17. S 65° 58' W true 1617 feet along Kaa down North side of gulch to a cross on a stone.
18. S 64° 57' W true 2040 feet along Kaa down North side of gulch to a cross on a stone. Thence:
19. S 70° 33' W true 3590 feet along Kaa to a point 10 feet East of a large rock with cross cut on it. Thence:
20. S 68° 53' W true 1664 feet along Kaa to Sea Shore. Thence:
21. S 1° 55' W true 13460 feet along sea shore to point of Commencement.

Area 8291.09 Acres.

Surveyed by M.D. Monsarrat, Assistant

Hawaiian Government Survey

Lanai, June 1877.<sup>38</sup>

An Interior Department letter from 1878 gives a list of the lands and length of coastline of Lānaʻi. It states that Kamoku, a crown land, has 1.54 mi. of coastline.<sup>39</sup>

The following is a series of correspondence regarding Walter M. Gibson's desire to lease government lands on Lānaʻi. The first is a letter written by Gibson in which he first expresses his desire to lease Lānaʻi land.

<sup>38</sup> Kamoku Ahupuaʻa, District of Lāhaina, Island of Lanai, Boundary Commission, Maui, Volume No. 1, p. 114–115. No. 37—A. Survey of the Crown Land of "Kamoku" Lanai.

<sup>39</sup> Hawaiʻi State Archives, Interior Department Letter Book, Vol. 15:110.

On March 23, 1866, Walter M. Gibson applied to the Minister of the Interior, F. W. Hutchinson, for a lease on the government lands on Lānaʻi, including lands in Kamoku. With his application, Gibson submitted a sketch map, included here as Figure 7.

In compliance with your request I have the honor to lay before the Department, a statement respecting Government lands on Lanai.

There are six ahupuaas of land belonging to Government on the island, named: Kamao, Paawili, Kealia, Kalulu, Kaunolu, and Kamoku; comprising about 24,000 acres, with a population of 80 persons. About one eighth of this surface is good arable "dry" land; perhaps one half is more or less adapted for grazing; and the remaining three eights, the portion bordering on the beach, an utter barren waste.

I made application to the Department in October 1862 to lease all of these lands. My application was favorably entertained by the Department, but owing to want of proper surveys, a lease was not made out at the time, as I was informed by letter, written by authority of His Majesty, then Minister. A copy of this letter, dated Feb. 20th, 1863 is enclosed.

Feeling myself fortified by a guarantee from the Department, I proceeded to make improvements; to enclose lands with stone wall, to make roads, construct dwelling for laborers, and cultivate on the Government lands, until my operations were interrupted by a lease of Kamoku, the most important of these lands, by the Department, to another party. I had expended much labor on Kamoku, which was thus rendered fruitless.

However, I would still propose to the Government to lease the five lands, Kamao, Paawili, Kealia, Kalulu, and Kaunolu. They are now mere commons, upon which roam many thousand head of sheep and goats that do not yield one cent of revenue to the Government...

Accompanying this, a rough draft map of Lanai.<sup>40</sup>

<sup>40</sup> Hawaiʻi State Archives, Interior Department Lands.

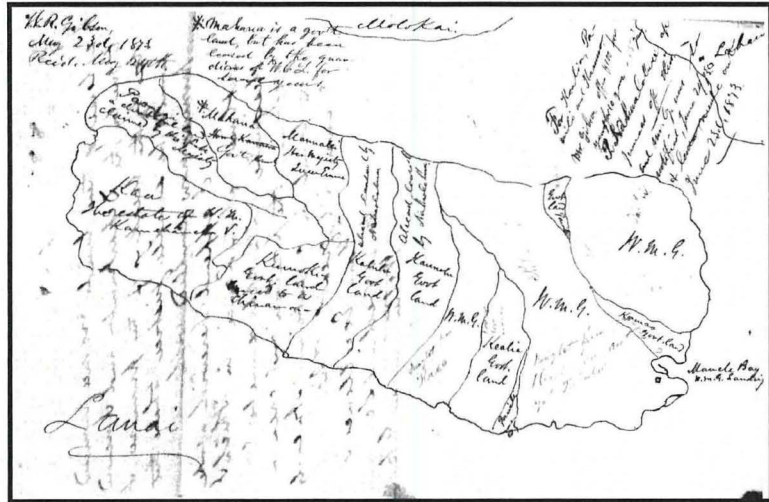


Figure 7. 1866 sketch map of Lānaʻi (W.M. Gibson, Hawaiʻi State Archives)

Six months later, on September 18, 1866, Gibson applied again to the Minister of the Interior.

I beg to be informed if the Government lands in this island have been rented or leased. A certain number of natives whom I opposed in their destruction of the little shrubbery of the island, in order to make charcoal, assert that the land is in their possession, and have attempted to subject me to a great deal of annoyance.

I cannot believe in the truth of their assertion that such a lease has been made, in view of the pledge given to me by your predecessor in office, his Majesty.

I am not at all anxious to lease all the Government lands on Lanai. The bulk of these lands, comprised in the districts named Kaunolu, Kalulu and Kamoku, can be better utilized by the native residents at present, and I should waive any pretensions I may have in respect to them; but the smaller lands of Kamao, Paawili, and Kealia, which comprise about one fourth of the Govt. lands, I desire to lease, as they adjoin my own lands.

Your Excellency will observe in the rough draft map I left at the Interior Office, that the lands of Pawili and Kealia are enclosed between my lands of Palawai and Kealia Kapu. Kamao is a barren corner, lying between my lands Palawai, and the leased land Kaohai. There are not more than half a dozen families residing on these

small lands, and little or no stock upon them, and they may be properly detached from the bulk of the Govt. lands on the Western half of the island, where the chief part of the population resides.

I trust that some equitable adjustment of these lands will shortly be made, and I beg to be notified respecting any contemplated disposal of them by lease or otherwise...

P.S. It is proper to mention that I have made improvements on Kamao, Pawili, and Kealia, and it would be an act of gross injustice were I to be dispossessed of the advantages to be derived from them, without being allowed a proper opportunity to enter into competition for leasing the lands upon which the improvements are situated, especially in view of the solemn pledge given me by the Interior Department.<sup>41</sup>

The following correspondences detail the matter of leasing government lands on Lānaʻi to Gibson. The first is from Chas. T. Gulick, Interior Department clerk, to P. Nahaolelua, the governor of Maui and regards the receipt of Gibson's application. The attached sketch mentioned is included here as Figure 8.

Ua loa mai i ke Keena nei, he palapala noi na Walter Murray Gibson (Kipekona) e makemake ana e hoolimalima i ke kahi mau Aina Aupuni ma Lanai. Eia ko lokou mau inoa: Kamao, Pawili, Kealia Aupuni, Kaunolu ame Kalulu. I ke wa ia L. Kamehameha ke Kalaiaina, ua ae mai no oia iaia no ka hoolimalima i ua mau aina nei, a mahope iho o kona pa ana a me ka hana ana i ke kau wahi pono maluna o ka aina, aka, i kona noho alii ana, ua hoonele ia, ua o Kipekona. Ua waiho pu mai no hoi o Kipekona i ka palapala a Stephen Spencer, ke kakauolelo a ke Kuhina Kalaiaina e hooia aku ana ia Kipekona i ka ae ana o ke 'Iii, oiai kona wa e noho ana ma ka Oihana. E nana iho oe iloko o keia hana a e hoike koke mai i kou manao e pili ana no kana noi. Ke hooili ia aku nei he kii, e hoomaopopoana i ka waiho ana o na Aina. Aole no he kii pololei loa aka ma ke ano nui no nae.

There was received at this Office, an application from Walter Murray Gibson (Kipekona), desiring to lease some of the Government Lands on Lanai. Here are their names: Kamao, Pawili, Kealia Aupuni, Kaunolu and Kalulu. At the time that L. Kamehameha was the Minister of the Interior, he agreed to lease the lands to him, should he build the walls at appropriate places on the land. But when he became King, Gibson was deprived of the right. Gibson has sent the application to Stephen Spencer, secretary of the Minister of Interior, who confirms that the King agreed to it when he was in the office. Will you please look into this and tell me what you think about this request. There is attached, a sketch that shows the location of the lands. It is not an accurate sketch but gives a general rendering.

Hawaiʻi State Archives, Interior Department Book, Volume 12:251–252.  
Translated by Maly.

<sup>41</sup> Hawaiʻi State Archives, Interior Department Lands.



hookuuia maila na makua ale no ka mea i hoailonaia a o na keiki paa aku iloko ka Pa, aka aia no i Lanai ka poe i ike ia Gibson i ka hana penci.

Nolaila he hai wale aku no keia i ko'u manai, aole kupono keia Hoa Hoolimalima ke aeia mai nae keia olelo a ka mea iaia ka mana o keia hana oia hoi o ke Kuhina Kalaiaina "E. O. Hall." A he nui no ka poe kanaka o Lanai e noho ana maluna o keia mau aina, aka he mahalo au ia Gibson i ka hana akamai.

Hawai'i State Archives, Interior Department Lands  
Translated By Maly.

Governor Nahaolelua writes again to Gulick on June 5, 1873.

Ua loa mai ia'u kau palapala o ka la 2, o June nei, ua ike au i na mea i haia mai. He nui io no ka poe e noho ana ma kekahi o keia mau aina o Kalulu, ame Kaunolu, a ma Pawili kekahi mau mea, a o Kamao ame Kealia, aole maopopo loa ia ia'u, no ka mea ua ano huikau ko lakou noho ana.

A ma ka ninau hoi no ko lakou mau kuleana a noho hoolimalima paha, he kuleana no kakahu poe o lakou, aka he kuleana liilii no.

Nolaila, ua hoolimalima no kakou i ua mau aina nei me ke Aupuni mamuli no nae o ke Kauoha a ke Kuhina Kalaiaina ia'a e like no me keia manawa. A no ka'u mau wahi holoholona o wau no kekahi i uku ia Hoolimalima ana.

Iloko oia hoolimalima ana, ua hookaa pono no kanaka ina makahiki Eha, a i ka lima o ka makahiki, ua koe nae \$265. i kaa ole mai, a o ka nui o na Dala i kaa mai \$1735.00. Oia iho la ka loa ame ke koena.

Ina no e lilo o Kalulu ame Kaunolu ia Gibekona a kahi no ia i lehulehu ai ona kanaka, aole no he nui loa o na kanaka ma Lanai, oia wale no ka'u mea hai aku.

Hawai'i State Archives, Interior Department Lands

there, he came back. The owner of the sheep went to get his, and only the parent sheep which had the mark was released, and the ewes were kept in the pen. But, they are still on Lanai who saw Gibson doing this.

Therefore, I am only letting you know what I think, that the lease to this fellow is unsatisfactory. If this report, however, is acceptable to the one in authority over such matters, that is, the Minister of the Interior, "E.O. Hall." And there are quite a number of natives living on these lands. But I do admire Gibson for being so smart.

Your letter of the 2nd day of June was received, and I note what is said. It is true that there are quite a number of persons living on some of these lands of Kalulu and Kaunolu, and there are some on Pawili, and I am not quite familiar with Kamao and Kealia, because their living together is rather mixed up.

As to inquiry about their awards or occupancy under lease. Some of them have awards, but they are small ones. Therefore, they leased these lands from the Government but under the instructions of the Minister of the Interior to me, the same as now. And about my animals, I too have paid towards said lease.

During that lease, the natives paid properly for four years, and during the fifth year, there was a balance of \$265. which remained unpaid. The amount of money that was paid was \$1735.00 that is the receipts and the balance.

If Kalulu and Kaunolu are given to Gibson, those are the places where there are a number of natives. There are not very many natives on Lanai. That is all I wish to tell you.

Translated by Maly.

Governor Nahaolelua writes the following to the Minister of the Interior, E. O. Hall, on June 13, 1873.

Ua loa mai ia'u kau palapala, ua ike au ina olelo i haia mai. E pono nae e helu aku au ia oe ina aina o Lanai a pau: Pawili, Kamao, eha Kealia, Kaunolu, Kalulu, Kamoku & Paomai, pau na aina aupuni a lilo aku la ia Gibesona, Eono aina, a koe iho la Ekolu aina.

Aka, ua pono iho la no ia e like me ka mea i holo ia oukou, a o ka uku Kupono i ko'u manai oia mau aina eono, Elua Haneri Dala i ka makahiki, a o na aina hou i koe no ka hoolimalima mua, Elua Haneri ia. Oia ko'u manao...

Hawai'i State Archives, Interior Department Lands.  
Translated by Maly.

E. O. Hall responds to Governor Nahaolelua on June 16, 1873 with the following letter, which proposes a rental rate to be paid by Gibson for government lands on Lāna'i.

Ua loa mau kau palapala o ka la 13 o Iune nei. Me neia na manao o ke 'Lii a me na Kuhina, no na aina ma Lanai.

O na aina o Kaunolu a me Kalulu, no na makaainana ia mau aina, a nau no e ohi i na dala, e like ma na makahiki i hala.

O na aina o Kealia, Pawili 2, a me Kamao, e hoolimalima ia Gibesona no na dala \$100.00 i ka makahiki. Pehea ia?

O ka aina o Kamoku, ua lilo i ka Pake; pela kuu lohe. Pehea? Ehia mak. ka lilo ana, a ehia dala i ka mak.

O ka aina o Mahana, he aina aupuni ia. Ia wai la ka lilo ana i keia manawa? Ua manao ia C. Kanaina. Aole ka.

O Paomai, ua ninau no wau ia oe no keia aina. E pane mai, ke oluolu oe...

In the context of the land description it appears that Pawili 2 is the section of Pāwili that runs into the basin, between Pālāwai and Keālia Aupuni. Based on surveys and testimony, this section of

I received your letter, and noted what is said therein.

I have better give you a list of all the lands on Lanai: Pawili, Kamao, four Kealia, Kaunolu, Kalulu, Kamoku & Paomai. These are all the Government lands, and Gibson has acquired six lands, and three lands remain.

But it is all right according to what have been decided by you people. And the proper rent for these six lands, according to my belief, is Two Hundred Dollars per annum, and for the remaining lands for the first lease Two Hundred. That is what I think.

Your letter of the 13th of June, has been received. This is the opinion of the King and the Ministers, regarding lands of Lanai.

The lands of Kaunolu and Kalulu, the residents shall occupy those lands, and that you collect the rent of same, as had been the custom for the past years.

The lands of Kealia, Pawili 21 and Kamao, shall be leased to Gibson at \$100.00 a year. How about that?

The land of Kamoku is occupied by a Chinaman, so I hear. How many years was it leased for, and how much a year?

That land of Mahana is a Government land. Who is occupying it at the present time? It was thought that C. Kanaina had it. It is not so.

As to Paomai, I have already inquired of you in regard to this land. Would you kindly reply...

Pāwili crosses from windward to leeward Lānaʻi, but on the leeward side is cut off from the coast near the 'Eho'ehonui boundary marker.

Hawaiʻi State Archives, Interior Department Book, Volume 12:276.  
Translated by Maly.

Then, in 1899, after the death of Gibson, Gibson's estate trustee Cecil Brown wrote to J. F. Brown, the Commissioner of Public Lands, to extend the lease of government lands of Lānaʻi.

Cecil Brown Administrator and Trustee of the Estate of W.M. Gibson, deceased, with the Will annexed. Hereby makes tender the surrender to the Hawaiian Land Commission, leases held by the Estate of W.M. Gibson of Government lands as follows to wit on condition hereafter stated.

1. Lease No. 168 of the lands of Pawili, Kamao and Kealia Aupuni Rental \$150.00 per Annum. Expires June 23rd, 1908.
2. Lease No. 220 Lands of Mahana, Rental \$100.00 per Annum. Expires November 1st, 1907.
3. Lease No. 279 Land of Kaunolu, Rental \$250.00 per Annum. Expires February 9th, 1907.

Also the land of Kalulu as tenant at will, Rental \$200.00 per annum.

The Estate paying for the four leases \$700.00 per annum.

It is hereby proposed to surrender the said leases provided a new lease will be granted for the whole area of lands in said four leases be granted to the Administrator of said Estate of W.M. Gibson at an annual rental of Twenty Five Hundred (\$2500.00) Dollars for a term of lease of Twenty One years from date hereof.

To be granted without Competition.

J. F. Brown writes to Sanford B. Dole, proposing that grazing and sugarcane cultivation might be possible on the lands leased to the W. M. Gibson Estate in the following letter, dated March 9, 1899.

Enclosed please find copy of an application on behalf of W.M. Gibson Estate for surrender and for releasing of certain Public Lands held by Gibson Estate on the Island of Lanai.

The total area concerned in this application is about 29,341 acres.

The larger part of this is grazing and mountain land but a portion on a rough estimate not less than 2000 acres might be adapted to cane growing if supplied with water. This area of 2000 acres, say below 600 feet level, would be found on the lands of Mahana, Kaunolu and Kalulu named above, these being on N.E. side where plantation site is proposed. The lands of Paawili, Kamao and Kealia may or may

not be included in proposed plantation site. If so included, the possible cane area would be largely increased. I do not understand that any authority exists under the law for the lease without competition asked for by applicants, but for the satisfaction of applicants who desire the matter to be brought before the Executive, I would respectfully refer the same to their opinion at a convenient early date.<sup>42</sup>

The document below conveys lands (fee-simple and leasehold), livestock, and personal property on the island of Lānaʻi from the Gibson Estate to Charles Gay, as ordered by court decision.

This Indenture made this 28th day of August A.D. 1902, between Albert Barnes, Commissioner, of Honolulu, Island of Oahu, Territory of Hawaii of the first part, and Charles Gay of Makaweli, Island of Kauai, in said Territory, of the second part.

Whereas, in proceedings duly taken in the Circuit Court of the First Judicial Circuit of said Territory at Chambers in Equity, by and between Gustave Kunst, designs of S.M. Damon, J.H. Fisher, and H.E. Waity, copartners under the firm name of Bishop & Company, Plaintiffs and H.N. Pain and Elise S. U. Neumann, sole devisee and Executive under the last Will and testament of Paul Neumann, deceased, and Henry Holmes, Trustee of Elsie S.V. Neumann, and S.M. Damon, S.E. Damon and H.E. Waity, copartners doing business under the firm name and style of Bishop & Company defendants to enforce the Decree of Foreclosure and Sale theretofore made and filed in the suit of S.M. Damon et al vs. Cecil Brown, Administrator with the Will annexed of Walter Murray Gibson and Trustees of the Estate of said Walter Murray Gibson, deceased, under said Will et al., it was ordered adjudged and decreed by an order made on the 24th day of June A.D. 1902 by the Honorable George D. Gear, Second Judge of the said Circuit Court that the said Decree of Foreclosure and Sale be enforced by a sale of all and singular the real and personal property and assets of the estate of the said Walter Murray Gibson, deceased, hereinafter set forth, and that the same be sold at public auction in said Honolulu at the front door of the Court House (Aliioli Hale), by and under the direction of the said Albert Barnes, who was by said Decree appointed a Commissioner to sell the said property and was duly authorized to give public notice of, make arrangements for and conduct the sale as set forth in said order.

And whereas, the said Commissioner, pursuant to the said order and direction, after giving public notice of the time and place of sale as in said order required did, on the sixteenth day of August A.D. 1902, at the front door of the Court House (Aliioli Hale) in said Honolulu expose to sale at public auction all and singular the said premises and property with the appurtenances at which sale the said premises and property hereinafter described were sold to the said Charles Gay for the sum of One Hundred and Eight Thousand Dollars (\$108,000.00) that being the highest sum bid for the same, and Whereas the proceedings of said Commissioner in the premises were duly reported to the said court, and the sale approved and confirmed on the 25th day of August A.D. 1902, as by the records of said court more fully appears, and the said Commissioner was thereupon by an order of said

<sup>42</sup> FO & Ex. 1899 Pub Lands Comm.

court then made, directed to execute to said Charles Gay a conveyance of said premises and property, pursuant to the sale so made as aforesaid...

And the said Albert Barnes, Commissioner, as aforesaid, doth hereby covenant with the said Charles Gay and his heirs and assigns that notice of the time and place of said sale was given according to the order of said Court, and that the said premises and property were sold accordingly at public auction as above set forth.

**Schedule “A”**

**Fee Simple.**

First. All that tract or parcel of land situate on the Island of Lanai, containing Five Thousand Eight Hundred and Ninety-Seven and 1-10 (5897, 1-10) acres, and known as the Ahupuaa of Palawai, and comprised in Royal Patent No. 1093...

Fourteenth. All that land described in Royal Patent 4767, L.C.A. 10041 conveyed by John S. Gibson to W.M. Gibson by deed dated July 17, 1876 of record in liber 47 fol. 49...

**Leases**

First. All leases of land on the Island of Lanai held by said Walter Murray Gibson on August 31st, 1887, so far as he had the right to assign the same without incurring any forfeiture...

**Personal Property**

First. All those flocks of sheep on the 20th day of June A.D. 1902 or thereabouts of mixed ages and sexes, on said day depasturing, running or being upon the said Island of Lanai and also all that herd of cattle and all horses on said 20th day of June, 1902, also depasturing and running upon the said Island of Lanai on said day, all formerly belonging to the Estate of Walter M. Gibson, deceased, together with all the natural increase of the said flocks and herds, and also all the wool, then upon the said sheep and which has since that time been produced and shorn from said sheep, and their said increase save and except such sheep, cattle and wool as have been sold with the consent of the said plaintiff.

Second. All wool presses, wagons, carts, harnesses, tools implements, chattels and effects belonging to said Walter Murray Gibson on said August 31st, 1887, situated on the Island of Lanai, at said time and now in and upon said lands or any of them.

The flocks of sheep and their increase are now estimated at about 18,000 head.

The herd of cattle with their increase are now estimated at about 240 head.

The herd of horses with their increase are now estimated at about 210 head.

In witness whereof the said Albert Barnes has hereunto set his hand and seal the day and year first above written.<sup>43</sup>

<sup>43</sup> Bureau of Conveyances, Liber 242, p. 91–95.

**2.5 Ranching Operations on Lāna‘i, 1854–1951**

Goats, sheep, cattle, the European boar, and horses were introduced to the islands between 1778 and 1810. During those early years, Kamehameha I and his chiefs placed kapu over the newly introduced animals to ensure that their populations would grow. In the fifty-year period from 1780 to the 1830s, populations of these non-native animals—like the hipa (sheep) and pua‘a bipi or pipi (wild steer or cattle), and kao (goats)—grew to become a great nuisance to the Hawaiian population, and had devastating effects on the Hawaiian environment.

Records indicate that the first of these introduced ungulates were brought to Lāna‘i around the 1830s, where a few native tenants, living under landed chiefs, managed the populations. In 1848, a new system of land management was instituted in the Hawaiian Kingdom, and individuals of means were granted large tracts of land. When fee-simple title to land was granted to native Hawaiians and foreign residents who had sworn oaths of allegiance to the king, formal efforts at controlling the hipa, pipi, kao, and other grazers were initiated.

Initially, Mormon elders brought livestock to Lāna‘i as a part of their effort to establish a mission in the uplands at Pālāwai. In 1862, Walter Murray Gibson took over the Mormon settlement, and focused the livestock efforts on herds of sheep and goats, of which nearly 100,000 roamed the island, almost uncontrolled by the 1890s. As a result, Lāna‘i suffered from rapid deforestation and a drying up of the island’s water resources. This impacted every other aspect of life on Lāna‘i and was one of the contributing factors to the continual decline in the native population of the island.

**2.5.1 Lanai Ranch at Kō‘ele**

During the early history of ranching on Lāna‘i, ranch headquarters were established in the Pālāwai Basin but in the mid-1870’s they were moved to Kō‘ele where they remained until the ranch was closed down in 1951 (Hammatt et al. 1988:23-36). The ranch manager’s house at Kō‘ele was built around 1880 for W.M. Gibson’s daughter Talula and her husband, Fred Hayseldon, who managed the ranch until the end of the century when financial difficulties forced sale of the ranch. It was eventually bought up in fee by Charles Gay in 1902-1903. Shortly after moving into the ranch manager’s house at Kō‘ele in 1904, Gay established a laborer’s camp behind the manager’s house, moving plantation houses from a defunct sugar company camp at Keomoku. The reservoir that today serves as a water feature on the Lodge grounds was also constructed at that time. In 1908, it was estimated that half of Lāna‘i Island’s population of 150 lived at Kō‘ele.

From 1910 to 1951, Lāna‘i ranch operations focused on cattle and a steady decline in the population of other livestock. The steady transition to cattle grazing led to the eradication of tens of thousands of goats, sheep, and pigs—many driven over the cliffs of Ka‘āpahu in Ka‘ā—in an effort to reduce impacts on the steadily decreasing pasturage. In 1914, the Maui News reported on a visit by rancher-investor J. T. McCrosson to Lāna‘i under the heading “Big Improvements on Lanai.” McCrosson makes specific reference to the leeward pastures on the island, extending from the 150 ft. to 1,000 ft. elevation.

I spent a week on Lanai inspecting the ranch. The lee side of the island is greener that it has been for years. The finest Pili grass pastures in the Territory extend in a broad belt the whole length of the island, from 150 feet above sea level to about 1000 feet elevation. The belt varies from a quarter to two miles wide. Up in the shallow crater that occupies the center of Lanai a good many hundred acres have

been plowed and planted in Rhodes grass and Paspalum. It formerly took twenty acres of the wild pasture land to support a bullock. The Paspalum pastures now fatten fifty head of stock on every hundred acres.<sup>44</sup>

In 1929, L. A. Henke published *A Survey of Livestock in Hawaii* (1929), which included the following description of the Lānaʻi Ranch operations. Henke notes that a water line system and extensive fences were made on the island. Describing the basic ranching operations on Lānaʻi, Henke reported:

The Island of Lanai, while primarily given over to the growing of pineapples since 1924, still has an area of 55,000 acres of fairly well grassed but rocky and rather arid country extending in a belt around the 55 miles of coast line of Lanai, that are utilized as ranch lands and carry about 2,000 Herefords and 180 horses. This belt is from two to four miles wide and extends from the sea to about 1,000 feet in elevation.

The total area of the Island is about 140 square miles and it ranges in height from sea level to about 3,376 feet elevation, with an average annual rainfall on a great part of the uplands of about 34 inches.

In 1922 before the upper lands were given over to the more profitable pineapples an area of some 2,000 acres had been planted to Pigeon peas (*Cajanus indicus*) and Paspalum dilatatum. On the lower, rather rocky, present ranch lands the algaroba tree (*Prosopis juliflora*) is valuable because of its bean crop, and Koa haole (*Leucaena glauca*) and Australian salt bush (*Atriplex semibaccata*) are considered desirable forage crops. It is planned to further improve the lower pastures by additional planting of the above crops and by light stocking and resting present pastures.

In the future the ranch will not do much more than raise beef and saddle horses for the pineapple plantation needs. The ranch, though a part of the Hawaiian Pineapple Company's property, still operates as the Lanai Company, Ltd.

The Hawaiians formerly herded goats, probably for their skins on the uplands of Lanai, and some agricultural work was done by Walter Murray Gibson, who arrived in 1861, in connection with the Mormon Church. Gibson acquired considerable land and when he died in 1888 his daughter, Talula Lucy Hayselden, became the owner. Gibson and the Hayseldens developed a sheep ranch on the island, much of which was then owned by the Government and by W.G. Irwin.

Irwin later acquired the Government lands and the Hayseldens about 1902 sold out to Charles Gay and nearly the whole island of 89,600 acres was combined under the ownership of Charles Gay, which passed to Irwin in 1910 and from him to John D. McCrosson and associates in the same year, when the Lanai Company, Ltd., was formed. Their interests were sold in 1917 to H.A. and F.F. Baldwin, who in turn sold the property to the Hawaiian Pineapple Co., Ltd., in December 1922, who are the present owners.

<sup>44</sup> *Maui News*, October 24, 1914, p. 5, c. 1.

Mr. Gay continued with the sheep ranch started by Gibson and Hayselden, probably carrying as high as 50,000 at times, but when the Lanai Company, Ltd., was started in 1910 they changed to cattle and put in extensive provisions for water and fences, and a count in April 1911, gave 20,588 sheep and 799 head of cattle. At the end of 1920 there were only 860 sheep and early in 1923 a count showed that the number of cattle had increased to 5,536 and besides 4,462 had been sold during the previous five years. Reduction of the herd to make room for pineapples was started on a large scale in 1924, and from the end of 1922 to October 1928, 6,764 head of cattle were sold.

Mr. Moorhead was manager for the Hayseldens, Mr. Gay managed his own property for a time, Lt. Barnard was manager for the Lanai Company in 1910, and G.C. Munro, the present manager, took charge in 1911. (Henke 1929:51-52)

A 1938 map of the ranch headquarters drawn up by the Hawaiian Pineapple Company shows the layout of the settlement at Kōʻele (Figure 9). It includes the manager's house and associated outbuildings, the ranch office, several garages, a stable with associated outbuildings, and a second house with a greenhouse and laundry. The laborer's camp consisted of a dozen houses, a club house, a bath house and laundry, and a toilet. Buildings 1053 to 1056 on the map would have been present within Parcel 1 and include a slaughterhouse, a hide house, a feed building, and pig pens associated with Building 1056.

Ranching was a part of Lānaʻi's history for close to 100 years, in the period from ca. 1854 until closure of the ranch in 1951. The ranch ended operations when the Hawaiian Pineapple Company decided to focus all its efforts on the pineapple plantation. The ranch manager's house was torn down a few years after the ranch closed and most other buildings were either demolished or moved from their original locations. This also includes any structures present in Parcel 2. When plans for building the Lodge at Kōʻele were implemented in the late 1980's, only two houses from the ranch headquarters remained, and were subsequently moved to the eastern portion of Parcel 2. The church, which stands today at a new location close to the road, was originally located north of the reservoir between the ranch manager's house and the laborer's camp.

### 2.5.2 Kōʻele Ranch Cemetery

One area of particular cultural-historical sensitivity is a small cemetery for Kōʻele Ranch workers and their families that was established in Paomaʻi Ahupuaʻa around 1875 during W. M. Gibson's tenure at Kōʻele. An earlier western-style cemetery at Kihamāniana, dating back at least to the 1830s, had previously served the purpose. Initially, burials in the Kōʻele Ranch Cemetery were either unmarked or were marked with perishable materials, but since 1935 many of the burials have been marked with headstones and stone or concrete monuments. The permanently marked burials were inventoried by HAPCo through at least 1980, (Figure 10), resulting in a record of more than 30 burials at the cemetery. The exact number of burials in the cemetery is not known. Unmarked burials before 1935 were not inventoried by HAPCo and the cemetery has remained active since it was last inventoried. Similarly, the boundaries of the cemetery have not been established (Hammatt and Borthwick 1989a:33-34) and it may be the case that the cemetery straddles the boundary between Paomaʻi and Kamoku.

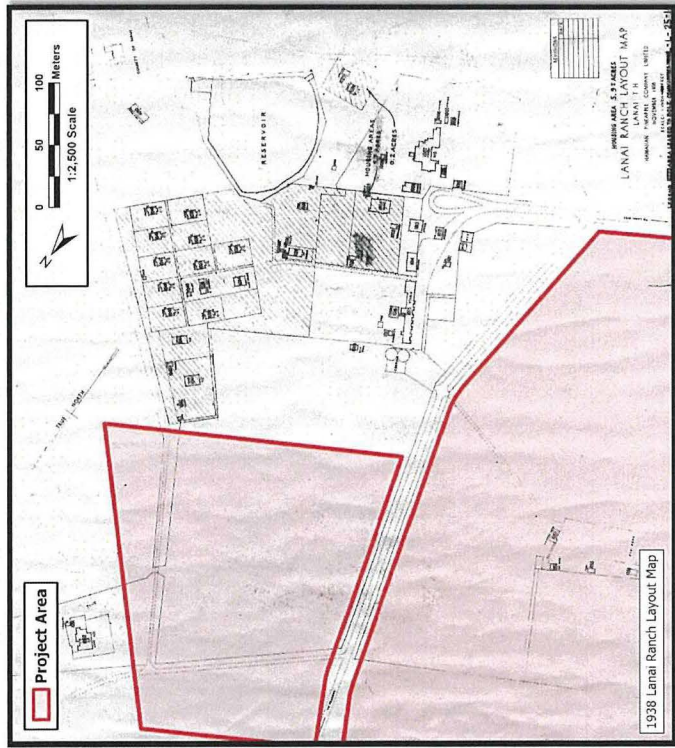


Figure 9. A. 1938 Hawaiian Pineapple Company Limited map of the Layout of Lanai Ranch with Parcels 1 and 2 highlighted in red (Lānaʻi Culture & Heritage Center Collection 1938)

58

RANCH CEMETERY			
NAME	DEATH DATE	AGE	REMARKS AND/OR RELATIONSHIP
1. Ben Kehaleam	4/23/35	47 (about)	
2. Hoochali Kauhane Apiki	6/10/35	82	
3. Baby Kaopuiki	1/17/36	1 day	
4. Timothy Richardson	4/19/37	5 Mo. (Ernest/Rebecca-parents)	
5. David Kawai Ohumukina	19/9/37	68	
6. Ernest Samson Richardson	5/8/42	9 yrs. (Ernest/Rebecca-parents)	
7. Hannah Kauhane Kukuloulou	10/7/42	64 "	(Ernest's - Dad's)
8. Frank Noa Kaopuiki	8/15/43	5 days (Louise Kaopuiki-mother)	
9. George Kwon	6/15/43	21 (William Kwon - Brother)	
10. Lucy Mikula A. Kaula	2/14/44	56	
11. Mary Fauchi Kaula	2/28/44	1 yr. (Robert & Kamali - Parents)	
12. Henry K. Gibson	12/6/42/8/46	77	
13. Simon Kaukahi	12/11/46	66	
14. Nestico Benarua	7/21/49	47 (Maboa-Wife & Robert-Son)	
15. Ron Sean Shin	1/14/50	65	
16. Eliza Manoa Fujimoto	1/21/50	43 (Clarence - Son)	
17. Annie Shin	3/19/51	51 (Sam Shin - Son)	
18. Alice Lincoln Kahalaiki	10/10/53	57	
19. James L. Kaula	11/20/53	56 (Hannah Richardson-daught)	
20. Hannah Kahaleam	3/24/54	58 (Joseph - Son)	
21. Ki Hong Kwon	11/19/61	79 (William Kwon - Son)	
22. George Kwon	1/2/70	Stillborn ( " - father)	
Lorraine Homelani Kaopuiki	3/4/72		(Louise - Mother)
Jesse Kauwenaole			2 in 1 plot (Maggie Kauwenaole-Mother)
William Kauwenaole, Jr.			
Jacob Apiki			
Ernest Keliikuli (baby)			(Martha - Mother)
Koleka Mook	2/14/26		(Betty Kahochalahala-daug)
Martha Pimoku	7/4/32		
Anson & Roy Kwon	8/18/80	0	Anson & Sandy Jean Kwon
<i>Jesse &amp; Mary Kehaleam - Remains in our grave</i>			

Figure 10. Kōʻele Ranch Cemetery Index (Courtesy Lānaʻi Culture and Heritage Center)

## 2.6 Lānaʻi: From Ranch to Pineapple Plantation

By the time of the Māhele ʻĀina in the late 1840s, it was recognized that goats and sheep were impacting the lands and practices of native tenants, and that there was some money to be made from the animals. Several native tenants of Lānaʻi cited goats in the kuleana claims. In the 1850s, Mormon elders who settled in Pālāwai Basin began importing additional livestock, and informal, free-range ranching was underway. In the early 1870s King Kamehameha IV and Walter Murray Gibson formalized the ranching venture focusing on sheep and goats,<sup>45</sup> with smaller herds of cattle, horses, pigs, and fowl. The king's operation focused on sheep, and Awalua landing on the coast of Paomaʻi served as the port for imports and exports.

By 1875, Gibson's ranching operation centered around Kōʻele, with the "home pastures taking in upper Kamoku and Paomaʻi." Gibson's heirs continued the ranching operation, and also

<sup>45</sup> Hawaiʻi State Archives, M-88. Records of Lot Kamehameha.



ventured into several other fields of agriculture, including the raising of vegetables in the Kōʻele uplands for Honolulu markets, and development of a sugar plantation in the Maunalei-Kahalapalaoa region of windward Lānaʻi.

The following item from a newspaper indicates that the ranching business was bustling.

Business on Lanai. By arrival from the wool-growing island of our friend W. M. Gibson, we learn that one day during last week, three vessels were lying at anchor in the harbor of Awalua, busily engaged, the Kamaile in loading wool, the Warrick in discharging freight for the ranch, and the Kapiolani in loading sheep.<sup>46</sup>

In 1902, Charles Gay secured his first interest in the Lānaʻi land assets. He also began to develop more cattle on the ranch lands. Subsequent to Gay's tenure, ranching operations steadily moved away from sheep to cattle. This was particularly important following an outbreak in 1913 of cerebrospinal meningitis among the sheep herds. The ranch improved the cattle herd, and operations focused on cattle and pigs. When the ranch was finally closed by Hawaiian Pineapple Company, Limited in 1951, grazing had been restricted to the slopes beyond the ca. 20,000 acres dedicated to pineapple cultivation in a series of paddocks that encircled the island. Figure 11 is a portion of the 1947 Lanai Ranch Paddock Map, depicting Ranch Paddock 26 covering the current project area.

The ranch operated on some 55,000 acres of land which extended from the shore to around the 1,000 foot elevation along the leeward side, with Kōʻele serving as the ranch hub.

Mr. Gay continued with the sheep ranch started by Gibson and Hayselden, probably carrying as high as 50,000 at times, but when the Lanai Company, Ltd., was started in 1910 they changed to cattle and put in extensive provisions for water and fences, and a count in April 1911, gave 20,588 sheep and 799 head of cattle. At the end of 1920 there were only 860 sheep and early in 1923 a count showed that the number of cattle had increased to 5,536 and besides 4,462 had been sold during the previous five years. Reduction of the herd to make room for pineapples was started on a large scale in 1924, and from the end of 1922 to October 1928, 6,764 head of cattle were sold (Henke 1929:52).

Charles Gay picked up the ranching program on Lānaʻi from the heirs of Walter Murray Gibson. Between 1903 and 1907, Gay secured fee-simple title to 99% of the land on Lānaʻi, but his ranch was in debt beyond its ability to generate income. Verging on bankruptcy, Gay conveyed all of his Lānaʻi assets to his creditor W. G. Irwin and Company on September 7, 1909.<sup>47</sup> Gay remained on Lānaʻi with residences at Kōʻele and Keōmoku, while Irwin explored opportunities for new business ventures on the island.

<sup>46</sup> "Notes of the Week," *Pacific Commercial Advertiser*, May 15, 1875, p. 3.

<sup>47</sup> Bureau of Conveyances, Liber 316, p. 474-479.

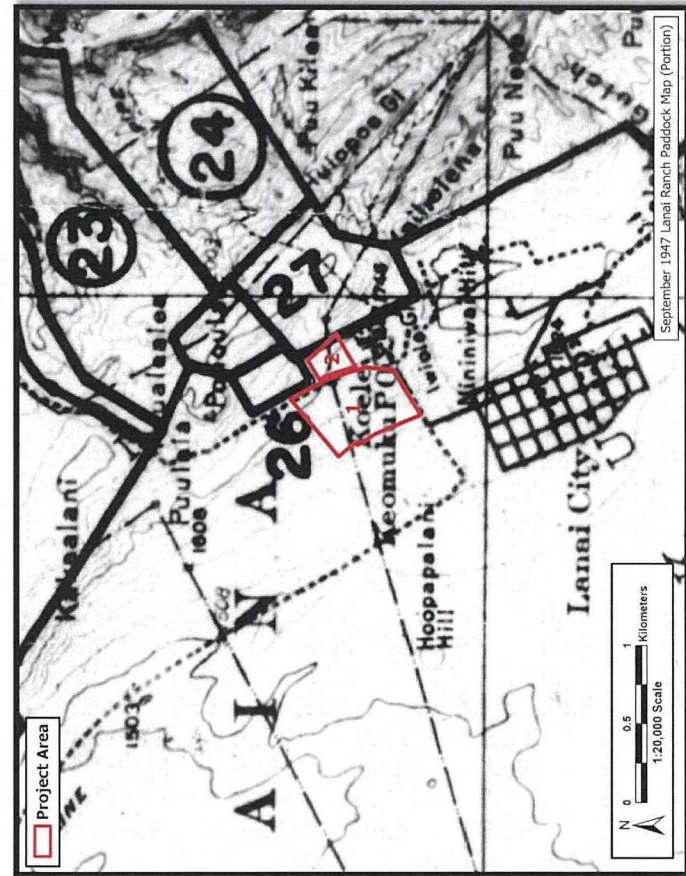


Figure 11. Portion of the Lanai Ranch Paddock Map, September 24, 1947; Detail of Paddock No. 26, Parcels 1 and 2 are outlined in red (Lānaʻi Culture & Heritage Center Collection 1947a)

On April 28, 1910, Cecil Brown and Robert Shingle, partners with J. T. McCrosson, purchased Irwin's Lāna'i interests, and formed the Lanai Company, Limited and Lanai Ranch.<sup>48</sup> Through this transaction, all of Lāna'i, except for small native holdings, were conveyed to the new partnership.

In 1910, Ralph Hosmer, Superintendent of Forestry in the Territory of Hawai'i, conducted an investigation of Lāna'i, and provided the following assessment.

The following report is drawn up by the Division of Forestry of the Territorial Board of Agriculture and Forestry at the request of the Lanai Company, under the offer of assistance to tree planters contained in Circular No. 1 of the Division of Forestry. Its purpose is to outline a comprehensive program of forest protection and forest planting for the Island of Lanai. From its nature such work must be done gradually. It is not the expectation that all the recommendations in this report will be carried out at once; rather that the several parts of the plan can be put into effect as the property is developed and as opportunity offers...

#### The West End of the Island

As the result of continued overstocking in former years, a large section at the western end of Lanai has now reached a condition that makes it not only of little value in itself but a menace as well to the better land in that vicinity. The problem is how best to check the present waste and restore this section to a permanently productive condition. It is a situation that demands the most energetic measures, but from work that has already been done there is every reason to believe that the reclamation of this section can be successfully accomplished.

From the head of the Maunalei gulch there extends toward the west end of the island a flat topped ridge having an average elevation of about 2000 feet. On the windward side the slope is fairly regular down to the north shore of the island. On the south there is a sharp descent into the extension of the Great Basin that lies to the west of Koele. The area in question is a belt of varying width, principally from the west branch of the Maunalei Gulch to a point somewhat to the north of the hill on the land of Kaa known as Kanepuu. Blowing down the channel between West Maui and Molokai, the full force of the trade wind is concentrated on this portion of Lanai. The soil cover once broken, erosion by wind and rain goes on a pace. The upper layers of soil being lost the surface is worn down to hardpan or to the only slightly less compact subsoil. In places where the soil is somewhat more sandy, dunes are forming the unless speedily checked will spread and render valueless still further areas. With the example of Kahoolawe as a warning the Lanai Company cannot afford not to undertake prompt and strenuous measures of reclamation. The extent and character of the damage over the exposed areas is by no means uniform. The area may in fact be divided into four main sections; (1) The land between the main road and a line roughly parallel thereto, from the crest of the ridge down across the basin in the Paomae [Paomai] Gulch, where it is proposed to construct the dam and storm water reservoir; (2) the section of "bad lands", including the dunes, immediately to the west of this line; (3) the slope on the southern side of the crest of the ridge, above the Basin; and (4) the section along the crest and extending

<sup>48</sup> Bureau of Conveyances, Liber 333, p. 153-164; and Liber 338, p. 2-6.

toward Kanepuu, already reclaimed through the planting of Manienie grass. On the windward slope of the ridge are several groves of native trees, the remnants of the old time forest. These groves consist mostly of the Wild Olive Ulupua [Olopuia] ([*Osmanthus*] *sandwicensis*). Other trees are Lama ([*Diospyros*] *Maba sandwicensis*) and in scattering groups, Halapepe (*Dracaena* [*Pleomele* spp.]).

The object in the reclamation of this area should be to restore it to a condition of permanent productiveness. It is primarily a questions of finding suitable grasses and other soil binding plants that can in time be themselves used for grazing, or that when they have checked erosion can be made to give place to other plants of greater forage value. Comparatively little of this area is suitable for any agricultural crop. Part of it should be kept permanently in forest, both because trees are the most valuable crop that such land can produce and also because groves in the more exposed parts would afford protection to the better land. It goes without saying that the groves now on the land form a starting point.

The solution of this problem rests in the establishment of certain grasses and other soil binding plants, rather than in tree planting pure and simple. That much work is feasible and will yield results is amply proved by the Manienie grass planting done by Mr. Morehead.<sup>49</sup>

As early as 1910, the Lanai Company was also exploring the possibility of pineapple cultivation on the island, as reported in the *Hawaiian Gazette*:

Several thousand pineapple tops have been sent to Lanai by the Lanai Company to develop its pineapple enterprise. The pineapple experiment on Lanai has been successful. The first ones raised weighed about eight and a half pounds each, but later ones were not so heavy, on account of the rows being too close. The industry will be developed on the island and made one of the principal by crops.<sup>50</sup>

By November 28, 1910, it was reported that nearly 7,000 pineapple plants had been planted on Lāna'i.<sup>51</sup>

In 1911, George C. Munro was hired as the new ranch manager, and operations quickly shifted to cattle operations and work in stabilizing the landscape through planting of *eucalyptus*, black wattle, *ironwood*, and various grasses; his work also extended up the mountain lands, and led to the planting of thousands of Cook Island Pine seedlings as a means of drawing moisture out of the clouds and recharging the diminishing aquifer.

The efforts at developing diversified agriculture on Lāna'i in this period failed, and in 1917 Lāna'i was once again on the market. In January 1917 it was reported that both the Hawaiian Pineapple Company and Libby, McNeill & Libby were exploring the possibility of purchasing Lāna'i for pineapple cultivation. The sale did not progress, and on March 3, 1917, Frank and Henry

<sup>49</sup> Ralph S. Hosmer, Superintendent of Forestry, "A Report on Possibilities of Forest Work on the Island of Lanai, Territory of Hawaii," Board of Agriculture and Forestry, Division of Forestry, September, 1910. Drawn up by request for The Lanai Company.

<sup>50</sup> *Hawaiian Gazette*, November 22, 1910, p. 8.

<sup>51</sup> *Evening Bulletin*, November 22, 1910, p. 3.

Baldwin purchased the entire island, along with all the Lanai Ranch lands, livestock, and personal property for \$588,000.<sup>52</sup>

In 1922, Ulupalakua Ranch, which also operated ranching on the island of Kaho‘olawe, came on the market. The Baldwin brothers wanted to add the ranch to their already substantial Maui holding, so they offered the island of Lāna‘i with all the ranching assets for sale. This time James Dole’s Hawaiian Pineapple Company (HAPCo) stepped up and on December 5, 1922, the Hawaiian Pineapple Company, Limited purchased all of the Baldwin holdings on Lāna‘i.<sup>53</sup>

The purchase price of the island was \$1.1 million. In 1923, Dole began development of the Lāna‘i plantation, and land in Kamoku was selected for the new city, with the ranch operations continuing to run out of Kō‘ele. Nearly \$2 million was spent on improvements to the island, for the development of macadamized roads and the town of Lāna‘i City. In 1926, Dole hosted a tour of the plantation and developing city. The 150-person tour of politicians, businessmen, and friends were impressed with the progress that had been made in the short time on Lāna‘i (Smith and Dougherty 1926).

Lāna‘i had been often overlooked because the appearance of the island from offshore was dry and desolate, but Dole saw that inland are some arable lands. There were 20,000 acres of land suited to pineapple on the island of Lāna‘i--Hawaiian Pineapple Company considered it as the last of the desirable acreage left in Hawai‘i. The soil and conditions were desirable, but many improvements had to be made. Many miles of cactus had to be dragged out and removed from the landscape. The Hawaiian Pineapple Company built a harbor at Kaunalapau with a breakwater made of a solid rock cliff that they had busted and transferred. Roads from the fields to the harbor were paved. One of Hawaiian Pineapple Company’s old photos shows neat rows of pineapple, with Lāna‘i City in the background. Lāna‘i City was developed for the workers that were brought over (Hawaiian Pineapple Company Ltd. 1927:17–23).

In 1927, HAPCo began the process of confirming title to all of its Lāna‘i land holdings and recording them through the Land Court System. The notice reproduced below, dated May 11, 1928, pertains to Land Court Application No. 862 and is entitled “Identifying Ownership of all Lands on Lanai.” It refers to all ahupua‘a, kuleana, and grant parcels on the island. Eventually some 20,000 ac. of the top lands of Lāna‘i came under the plow of the pineapple plantation.

To all whom it may concern: Hawaiian Pineapple Company, Limited, a Hawaiian corporation, hereby gives notice that on the 11th day of May 1928, it filed an application in the Land Court of the Territory of Hawaii to have its title to certain land, in said application described, registered and confirmed pursuant to Chapter 186 of the Revised Laws of Hawaii 1925.

Said land is the Island of Lanai, Territory of Hawaii, U.S.A., lying between 20° 44’ and 20° 57’ North Latitude and 156° 45’ and 157° 02’ West Longitude (as shown on Government Survey Registered Map No. 1394), containing an area of 88,953 acres, or 139.0 square miles, more particularly described as follows:

<sup>52</sup> Bureau of Conveyances, Liber 468, p. 189–194.

<sup>53</sup> Bureau of Conveyances, Liber 659, p. 412–416.

The following Ahupuaa’s cover the Island of Lanai, and with the exceptions of Exclusions 1 to 32-B (inclusive) are owned by the Hawaiian Pineapple Company, Limited.<sup>54</sup>

- |  |                  |
|--|------------------|
| 1. Paomai – Grant 5011 to Walter M. Giffard  | Area 9078 Acres  |
| 2. Mahana – Grant 5011 to Walter M. Giffard  | Area 7973 Acres  |
| ...  |                  |
| 12. Kamoku – Grant 5011 to Walter M. Giffard | Area 8291 Acres  |
| 13. Kaa – R.P. 4475, L.C.A. 7713, Ap. 29, to | Area 19468 Acres |

Victoria Kamamalu

By the mid-twentieth century, the current project area became dominated by commercial pineapple cultivation. Figure 12 is a portion of a 1947 HAPCo field map, with details of the lands in the upper Paoma‘i-Kamoku region and numbered fields. Figure 13 is a 1953 aerial photograph showing the project area almost entirely under commercial pineapple cultivation. At the time the plantation absorbed the ranch lands, turning them into cultivated pineapple fields, surface features were destroyed. Notice Parcel 2 of the current project area is adjacent to the old Koele Ranch Headquarters of the Lanai Company Cattle Ranch, however, no structures are present within the current project area.

<sup>54</sup> Bureau of Conveyances, Liber 939, p. 133–157.

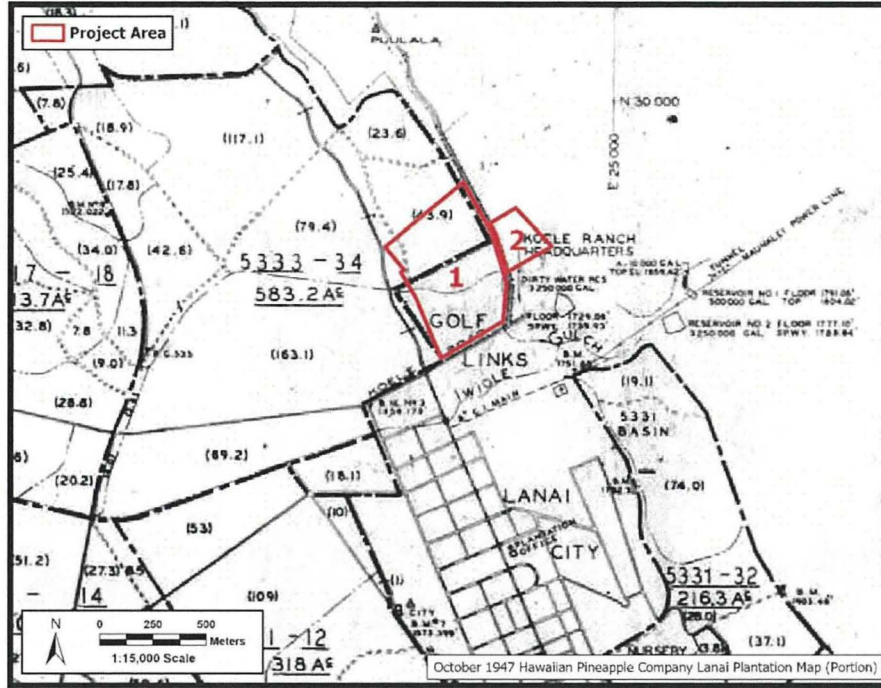


Figure 12. Portion of a HAPCo Lānaʻi Plantation Map, October 1947; note the Pineapple Fields located in the vicinity of Parcels 1 and 2 (courtesy of HAPCo Collection, Lānaʻi Culture & Heritage Center Collection 1947b)



Figure 13. A 1953 Aerial Photograph of the Kōʻele Area showing Parcels 1 and 2 under Commercial Pineapple Cultivation (Photo courtesy of the Lānaʻi Culture and Heritage Center)



**Kalamanui** The big torch (Site 72).

**Kamoku** The district or cut off section. One of thirteen ahupua'a that make up the island of Lāna'i (Boundary Commission records).

**Kaumālapa'u** Soot placed in the planting field (Site 73). A bay and ancient village site. The present-day harbor was first opened in 1925, and it has served as the working harbor for Lāna'i since that time.

**Ke'a'akū** Interpretive, the brave or upright one. A small valley that joins Kapano Gulch on inland side of Pūlehuloa, Kamoku Ahupua'a (Site 81) (Boundary Commission records).

**Keahi'āloa** The long burning fire (Site 15 & 75). The place where Kawelo burned the excrement of the Moloka'i priest, Lani-kāula.

**Keone** The sand (Site 69).

**Ki'ei** To peer, peep (Site 70). A small bay.

**Kihamāniania** To sneeze and shudder (Site 85). Formerly a place associated with priestly lines, reportedly a training area of warriors. A hill with the ruins of a Protestant church and school house (construction started in 1840). Also the site of an old cemetery. Alternative spelling: Kihamānienic.

**Kō'ele** Black or darkness drawn down (Site 88). Said to be named for the heavy, moisture laden clouds which would come down the mountain gulches. These clouds and fog were so thick that one could not see but a few feet in front of oneself. Site of the former Kō'ele Ranch—headquarters of the Lāna'i Ranch from 1870 to 1951.

**Ku-a-nā-īpu** Interpretive, upright gourds, a section of land between Pu'u Nānā i Hawai'i 'Ili o Lono, near the Kalulu and Kamoku boundary (Boundary Commission records).

**Lālākoa** *Koa* (*Acacia koa*) tree branch (Site 83). Formerly a forested area and, in the early 1900s, site of the Charles Gay family home.

**Makapā'ia** Enclosed point (Site 82). Overlooking Kapano Gulch.

**Naupaka** The *Scaevola* plant (Site 67). A small perched valley.

**Nininiwai** Pouring water (Site 86). Formerly one of the important agricultural areas of old Lāna'i natives. Later, the location where the first pineapple were planted on Lāna'i.

**Paliama** Literally, Cliff of Mano. A gulch that forms a boundary between Kamoku and Ka'ā.

**Pueo** Owl. An 'ili of land in Kamoku Ahupua'a, near the boundary with Kalulu.

**Pūlehu-joa** To broil (cook) for a long time (Site 80). Hill and bank that forms a northern wall of Pālāwai Crater, near the Kalulu-Kamoku boundary. Not far from Keliihananui's house (Boundary Commission records).

**Pu'u kauila** *Kauila* tree hill (Site 74). A boundary point between Kalulu and Kamoku Ahupua'a.

**Pu'ukoa** *Koa* tree hill (Site 76). A low hill on the flat lands below Hulupu'unui.

**Pu'unānāihawai'i** Hill from which to look to Hawai'i (Site 77), a high prominence in Kamoku Ahupua'a close to the boundary with Kalulu (Boundary Commission records).

**Pu'unēnē** Goose hill.

### 2.7.2 Ali'i and Native Tenant Claims from Kamoku Ahupua'a

Kamoku means literally “the district or cut-off portion” (Pukui et al. 1976:82). Emory explains that the ahupua'a “was once cut off from a number of ahupuaas for the use of the whole district, hence its name” (Emory 1969:31). Kamoku is located on the leeward side of the island and includes 8,291 acres. It is bounded by the ocean on the southwest and the mountains on the northeast. On the north, it is bounded by the ahupua'a of Ka'ā, and on the south, by Kalulu Ahupua'a. Kamoku was noted for its upland forest and springs, with areas the Hawaiians developed into an extensive forested dryland agricultural system. Temporary and long-term residences, from which the rich fisheries fronting the ahupua'a were accessed, were spotted around the sheltered coves along the shore.

Pali was the konohiki of Kamoku under the Kamehamehas, and at the time of the Māhele, Kamehameha III retained the ahupua'a as Crown Land. Uhu was the kapu fish, and koko (*Euphorbia* spp.) was the kapu wood. Table 4 lists Land Commission Awards (LCA) of native tenants who between 1847–1855 filed claims for kuleana (fee-simple property rights for commoners) lands in Kamoku. The claims reveal some of the activities that occurred in the lands of Kamoku. Registered Map 2227 (Figure 15) shows the claims in Kamoku. Oleloa, a woman of chiefly lineage, claimed the important spring-watered bay of Kaumālapa'u, an 'ili of Kamoku, but relinquished it to the government during the Māhele (see Appendix A). The current project area is located within the 'ili of Kaumālapa'u.

Table 4. Land Commission Awards claimed in Kamoku Ahupua'a

LCA Helu	Claimant	Land	Claims
2686	Oleloa	Kaumalapau at Kamoku	—
4145	Kauihou	Pālāwai & Kamoku	1 house lot, cultivated land
6833	Kaai	Kalulu & Kamoku	1 house lot
8556	Kaauwaeaina	Pueo at Kamoku	1 pauku (section)
10630	Pali	Kamoku	Several moku mauu (grasses), sweet potato and gourd fields

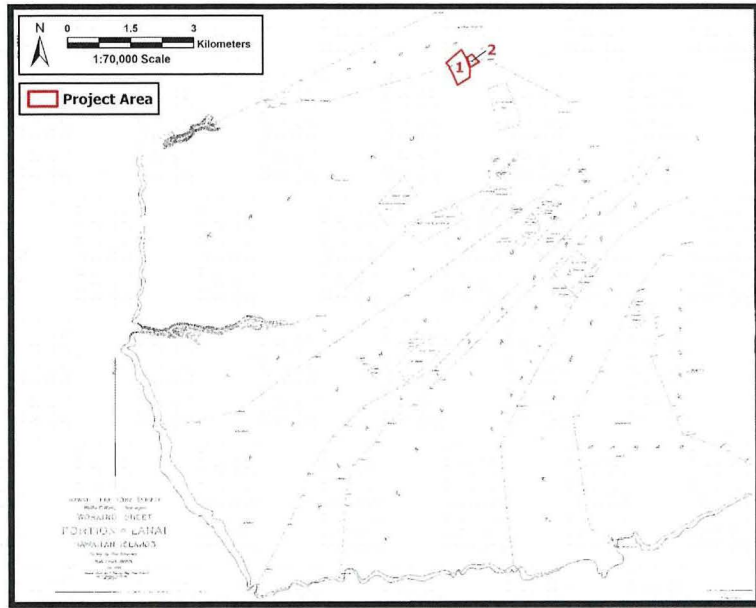


Figure 15. Registered Map 2227. Walter E. Wall, Surveyor, December 1903. Note the Land Commission Awards in Kamoku Ahupua'a

At the time that fee-simple property rights were established in the Hawaiian Kingdom, Kamoku Ahupua'a was identified as 'Āina Lei Ali'i (Crown Lands) having been retained by Kamehameha III in the Māhele 'Āina of 1848. In 1906, Territorial Governor George R. Carter entered into an exchange agreement which conveyed Kamoku, along with seven other ahupua'a on Lāna'i, to Charles Gay. Thus, with the exception of kulcāna 'āina and Royal Patent Grant lands, all of the ahupua'a of Kamoku became private property, eventually transferring to the Hawaiian Pineapple Company, Limited (HAPCo) and subsequently to the present ownership. It is within the uplands of Kamoku Ahupua'a, at Kō'ele and Kihāmāniana, that the earliest western residences were established, and in 1923, James Dole selected Kamoku as the site for building Lāna'i City.

There are several resources on the cultural landscape and in the archival records which help us understand some of the history of Kamoku. Among these are place names, the occurrence of the ancient ahupua'a trail ala pi'i uka, the traditional boundary alignment markers between Kalulu and Kamoku Ahupua'a, and parcels of land which were at one time held by native tenants. Appendix

A provides original source materials and translations done by Kepā Maly of documents associated with Māhele claims in Kamoku Ahupua'a.

### 2.7.3 Kihāmāniana and the Kō'ele Vicinity

Situated on the edge of Lāna'i City, on the side of Iwi'ole and the old Cavendish golf course, are found the ruins of the oldest historic structure in Lāna'i City. Under the growth of ironwood and Christmas berry trees are the walls, made of stone and coral mortar, of an old church and schoolhouse, on which construction began in 1840. On the makai side of the ruins is an historic cemetery, marked only by some simple stone alignments and depressions in the ground.

While the Kihāmāniana vicinity was the main upland settlement on Lāna'i in the early to mid-nineteenth century, by the late 1860s the population was dispersed. In the 1870s, business interests, in the form of ranching, became established in the Kō'ele vicinity, and the Kihāmāniana Church and schoolhouse fell into disuse. Based on the recollections of elder kama'āina, we know that the cemetery continued to be used by native families in the area through the early 1900s. To date, only limited documentation pertaining to the construction and uses of this site have been found, however, a research project is being undertaken in association with development of the Lāna'i Culture & Heritage Center which hopes to uncover more interesting historical facts. Figure 16 shows a photo of the Kihāmāniana School ruins.

At present, only a few historical accounts of the Kihāmāniana area, dating from 1840 to 1917, and the memory of elder kama'āina of Lāna'i, who learned about the location from their kūpuna, provide information on the site. Provided below are native texts that are translated by Kepā Maly.

Kaliliaumoku, the resident teacher at Kihāmāniana in the 1840s, wrote the following article to readers of the Hawaiian newspaper *Ka Nonanona* in which he described the difficulty in getting the stone house for the church and school constructed:



Figure 16. Kihāmāniana ruins as they appeared in 2008. Photo courtesy of Kumu Pono Associates

Auhea oukou e ka poe kukulu luakini o keia pae aina, e nana mai oukou i ka makou hana ana i keia luakini; o ka ha keia o ka makahiki o ka hana ana o keia hale, aole i paa, ua hiolo kekahi aoao, ke hana hou nei nac makou, ke halihali nei makou i ke one; ua moa ka puna; o ka uhau hou koe.

I ko'u nana ana ma keia hana, nui ka hemahema: eia ka loihi o kahi o ka wai i waiho ai, hookahi mile a me ka hapa ka loihi o ka wai.

Eia ka loihi o ka puna a me ke one, eha mile a me ka hapa ka loihi ma ka aoao komohana, pela no hoi ke kii aku i ke one ma ka aoao hikina.

Eia ka loihi o ka pohaku, elua mile ka loihi.

Eia ka pohaku kokoke he kahi ilalo e like me ka ai, pela e loa'a i ka pohaku, nui ka hemahema o ka makou hana.

Ke ake nei ko makou manao e paa ko makou luakini, kahi e hai ia ai ka olelo a ke Akua. Aole no hoi e pono loa ka hale maoli ma keia wahi, no ka nui o ke anuanu, aole e pono na malihini ke hele mai me kahi kihei wale no: eia ka pono me ke kapa mahuahua ka pono.

Nolaila o keia hale pohaku ka pono loa no keia wahi. Eia no keia hemahema, o ka laau ole, he kakaikahi ka laau loloa loa: aia eha kaloa, a me ka iwilei alaila hiki.

Nui ko makou makemake e paa ko makou luakini i keia makahiki.

Aka, aole i ikka ka manawa. O kekahi poe o makou i hana i keia hale, ua hele aku kekahi poe.

Ua make kekahi mau hoahanau ekolu i ai i ke kino o ka Haku.

O kekahi luakini o makou, aia ma ka aoao hikina o keia aina, aole hemahema loa e like me keia hale; ua kokoke no ka puna a me ke one, a me ka pohaku, a me ka wai, hookahi wale no mea hemahema, o ka wahie, oia wale no ka mea kii aku i kahi loihi.

Hear ye, o people who build churches in these islands, you should look to us and our work at this church. This is the fourth year of work on this house. It is not completed. One side collapsed, and we have built it again. We had to carry the sand, bake the coral, and the building yet remains to be done.

As I look at this work, there are many problems. The place for the water is far away. The water is about one and one half miles distant.

Here is the distance for the coral and the sand. It is four and one half miles distant, on the south side, and also if it is gotten from the east side.

Here is the distance to the stones, two miles away.

Here the stones that are close, are gathered like the taro, that is how the stones are gathered. Our work is very unskilled.

In our thoughts, we desire to complete our church, a place in which the word of God may be spoken. The native houses are not adequate in this place, for it is very cold, and not good for the visitor come with only a shoulder wrap. Here is what is needed, a strong (thick) clothing.

Therefore there is a great need for the stone house in this place. Here also is this difficulty, there is no timber. The long wood for timber is but scattered about. If it was perhaps four (feet) long, and a yard, then it could be done.

We greatly desire to complete our church this year.

But it shall not be seen at this time. The people who are making this house, some of them have gone away.

Three of the brethren have died, and are in the body of the lord.

One church of ours is there on the eastern side of this island, it is not in difficulty like this house. It is close to the coral, the sand, the stones, and the water. The only difficulty is the fire wood, that is the only thing which is gotten from some distance away.

Eia kahi olelo ninau, ina i manao oukou i kuu hoike ana i ka hemahema o keia hale, he pono paha, he hewa paha keia hoike ana a'u?

Na'u na Kaliliaumoku.  
Kumu ao Kihamaniania.

"The Difficulties of a Church on Lāna'i," *Ka Nonanona*, March 23, 1843, p. 106.  
Translated by Maly.

So here is a question, if you who think of my testimony about the difficulties of this house, is it right, or is it wrong what I have explained?

Done by me, Kaliliaumoku.  
Teacher at Kihamāniania.

Shortly after the stone church and schoolhouses on Lāna'i were built, Reverends Cochran Forbes and Dwight Baldwin visited Lāna'i. This being Forbes's first visit, the scenery was new to him, and he took the time to describe the land and people in his journal. The full entry is not cited here, as it places in context and relationship, the settlement of Kihamāniania with other settlements on Lāna'i.

Sept. 24. On the 20th left home about sunrise for Ranai [Lāna'i] in company with Bro. Baldwin. Kaoluloo took us over in his boat. We had a very pleasant sail, until within some 3 miles of the landing when the fresh trades spattered us a little.

We landed safely however, after about 3 hours sail, at Kaunolu [this being the section of Kaunolu on the Keōmoku side of the island], where there is a meeting house. The same evening we met with and preached to a congregation of about 125 persons, and next day held four meetings with them. They appeared very attentive to the truth. Our congregation was about 180 on the Sab.

Monday morning after meeting with them we went by canoe to Maunalei, the place of the teacher Waimalu. There we again met with the people of that neighborhood & prepared to ascend the mountains to visit the people on the south side. The north side is a miserable, arid barren rocky place, except a few rods of low sandy soil, evidently made by the wash of the sea, on which grows a sparse, coarse kind of grass.

When we reached the high land we found the air much more cool & invigorating and after we had crossed the ridge the soil became better and vegetation more lively. There is an extensive piece of tableland there, perhaps 10 miles one way & 3 or 4 the other, on which are very few stones. There we spent the night & met with the people, near 200 in all who had come together to hear & see the strangers. Pali the Lunaauhau [tax collector] for the whole island resides at this place called Kihamaniania. His influence is manifestly good. We found several pious people around him & himself a good man. He told us that his little children only 6 & eight years old had read the Bible through. He also gave us a list of all the men—the women & children on the island, the whole numbering 584 inhabitants. Most of the children are in school and very few of them who are 12 years old that cannot read.

The atmosphere was cool & invigorating at Kihamaniania. We spent the night there and early in the morning held another meeting with them, after which we left amid many greetings for the seaside at Kaohai, Pia's place.

We travelled constantly only stopping once to hold meetings at the place of Kamalulu [presumably in Pālāwai], who teaches a school and is Lunakanawai [Magistrate] for the whole island. He showed us his prison, after meeting. It was a

large hole in the side of the hill, some 10 feet in diameter and about 20 feet deep. He said he put prisoners in there when they became rebellious and required punishment. Sometimes he had two in at once but rarely more than one.

He had a turkey baked for us and a fowl roasted which he set before us with sweet potatoes sufficient & two watermelons. After dinner we pursued our course over a rolling country of hill & valley and just as the sun reached the top of the hills which then fell behind us we began to descend to the sea, and by dark reached Kaohai, where Pia had the people of all that neighborhood assembled under some kou trees at his door, and though our feet & limbs ached with the journey we must first sit down and hold a meeting with them which we did & I trust good was done altho' we were all so tired that it was with difficulty we got about & got up when we once had sat a few minutes. Pia then had a decent supper set for us on a table with dishes, plates, knives & forks, & some of Sam & Mow's bread. After supper he had water poured into his bathing tub (a half hoghead or butt) from the sea where each of us bathed, which much refreshed us. We then retired for the night and enjoyed a refreshing sleep.

This morning again I talked to the people and after breakfast Pia got his whaleboat rigged and we started for Lāhaina, having a gentle sea breeze. But the surf rolls in so heavily at Kaohai that it was with difficulty we got out. I was expecting two or three times to be swamped, but the boat rode through every surf safely so that by the goodness of God we got safely to sea and reached Lāhaina safely before 12 o'clock, where we found our families all well after an absence of 4 ½ days. (Forbes 1984:168-169)

In a short article submitted to the native newspaper *Ka Hae Hawaii* in 1856, we learn about the lesson work, and the names of the teachers at both Kihamāniania and Maunalei schools. At Kihamāniania, Solomon Kaho'ohalahala, who later became the island magistrate, was the resident teacher. The Kaho'ohalahala family still maintains its generational attachment and residency on Lāna'i.

E ka Hae Hawaii c:

Aloha oe:—I ka Poaha, oia ka la 25 o Dekemaba, he hoike kula ma Lanai nei. I ka hora eiwa o ke kakahiaka, o ke kula o Maunalei ka mua.

O S. Halekai ke kumu, 19 haumana: ma ka A 5; ma ka Heluhelu 14; ma ka Helunaau 14; ma ka Hoikehonua 7; ma ka Huinahelu 7; ma ka Palapalaaina 7.

Hora 10 1/2, hoike ke kula o Kihamāniania, S. Kahoohalahala ke kumu, 34 haumana: ma ka A 22; ma ka Heluhelu 12; ma ka Palapalaaina 12; ma ka Huinahelu 12; ma ka Hoailonahelu 5; ma ka Pa ko li 9.

To the Hae Hawaii:

Aloha to you:—On Thursday, that is the 25th day of December, there was a school exhibition on Lāna'i. It was at nine o'clock in the morning, and Maunalei school was the first.

S. Halekai is the teacher, there are 19 students: 5 in Science; 14 in Reading; 14 in Mental Arithmetic; 7 in Geography; 7 in General Arithmetic; and 7 in Mapping.

At 10:30 o'clock, the School at Kihamāniania did its exhibition. S. Kahoohalahala is the teacher, and there are 34 students: 22 in Science; 12 in Reading; 12 in Mapping; 12 in General Arithmetic; 5 in Written Arithmetic; and 9 in music.

Done by me, R. Koiku.

Nau na, R. Koiku.  
Kahalepalaoa. Dek. 31, M.H. 1856.

Kahalepalaoa. Dec. 31, 1856

*Ka Hae Hawaii*, March 4, 1857.  
Translated by Maly.

In the following two short articles, penned by native residents, associates of church in the Lāhaina District, we learn that the Kihamāniania Church and School, as well as that at Maunalei, had fallen into disuse, disrepair, and had become home to goats, sheep, and dogs. The first article is called "Luakini ole ma Lanai" which means "There is no church on Lana'i."

Ma ka mokupuni au o Lanai i loko o na la mua o Sepatemaba ma ka la Sapati ua hele au i ka pule ma Maunalei, aia malaila kahi e hoomoana ai na Ekalesia me kuu manao he Luakini malaila, i ko'u ike ana he lanai wale no a puni, he hakahaka a nahaha ma kau wahi, he opala a he lepo kahi e noho ai, a he nui na ilio i komo pu, a noho pu me na Ekalesia a e nui ana na Kao a me na hipa ke hiki i ka wa ua, a pela no mauka o Kihamāniania, he hale pohaku a paa loa i ka wa e ola ana o Kaliliaumoku, a me Malulu a i keia wa ua lilo i hale holoholona...

S. W. Nailiili  
Puehuehu, Lāhaina.

*Nupepa Kuokoa*, October 20, 1866, p. 4.  
Translated by Maly.

The second article is entitled "Ka holo ana e Kaapuni ia Hawaii. . ." which translates as "A Journey around Hawaii..."

Okatopa 21. Ua loa na waapa e holo ana i Lanai, a poeleele e holo ai o Mrs. Kapuuhonua a me Luku, ua kauoha mai o Lota Kuaihelani ia'u e malama ia laua ma Lanai. Aoole no he lalau o laua ma keia hele ana, a aumoe kau ai ma Manele, a malama ia e ke kaikaina o Mr. Pualewa.

Okatopa 23. Ma ke awakea, ua lawe ia mai na lio ekolu no makou, a pii aku makou i uka o Kihamānianie, ua mahalo au ia uka o Lanai, he aina maikai ia he lepo o uka, aoole he aa nui, he

I was on the island of Lāna'i in the first days of September. On the Sabbath day I went to the service at Maunalei, for there is a place established there in the Church, and I thought that there was a Church there. But when I saw it, there was only a shelter, for it is broken apart and scattered about. There is rubbish and dirt where one sits, and there are many dogs which enter as well, and reside in the Church. There are also many goats and sheep that enter in when it rains. It is the same at Kihamāniania, where there is a stone house made in the time when Kaliliaumoku and Malulu were living. But in this time, it has become a house for animals...

S. W. Nailiili  
Puehuehu, Lāhaina.

October 21. A boat was gotten to travel to Lāna'i. It was dark when Mrs. Kapuuhonua, Luku (and I), sailed. Lot Kuaihelani instructed me to care for them on Lāna'i. That they should not wander about. Around midnight we landed at Mānele, and were cared for by the younger brother of Mr. Pualewa.

October 23. At noon, we took three horses for ourselves, and we ascended to Kihamānianie. I admire the uplands of Lāna'i, it is a good land. There is dirt in the uplands, not

maikai wale no. O Lanai ka oi o na mukupuni uuku o ka maikai loa.

Okatopa 24. Ua hele nui mai na kanaka e lohe i na mea hou, a pau ka'u hai ana, ua haawi mai lakou i na dala \$4.00. Eia ko'u kahaha. Aole he halepule maemae ma Lanai, ua nahaha o Kihamanienic, he moe ia e na kao i ka wa ua. Aloha nui me Rev. N. Pali a me S. Kahooalahala...  
(na Rev. Kaukau)

*Nupepa Kuokoa*, November, 16 1867, p. 4.  
Translated by Maly.

In 1917, members of the Congregational Churches visited Lāna'i. One of the visitors was the part-Hawaiian Reverend Steven Desha, who had also visited Lāna'i in his youth. In an article published in the Hawaiian-language newspaper *Ka Hoku o Hawaii*, Desha described the Kihamāniania-Kō'ele vicinity, and the relationship of the Kihamāniania facility to others on the island of Lāna'i. An excerpt from Desha's Hawaiian texts and the translation follow below. The article is entitled "Ka Huakai i na Hono a Piilani."

He mau makahiki i ke ola ana o ka mea e kakau nei keia huakai i hoohala ai ma keia Mukupuni o Kaululā'au i na la opio, a ia manawa he aneane cono hale kula o keia mukupuni, oia hoi he hookahi hale kula ma Awalua, he hookahi ma Paomai, ka Home o ko'u Ohana i noho ai, a he hookahi no hoi i Maunalei, he hookahi no hoi i kahi kokoke i Kahalepalaoa, a he hookahi i uka o Kihamaninia, a he hookahi no hoi i Palawai. A ina la hoike nui o ka makahiki, e hui ana kela mau kula ma Kahalepalaoa Luakini, a malaila e hoike ia ai na kula like ole, a i kekahi makahiki hoi ma ka Luakini iuka o Kihamaninia e hoike ai, a i maluna o ka 250 mau haumana o keia mau kula e hoike ia ai, a he la laukanaka maoli no ia o ua Mukupuni nei o Kaululā'au. I keia ike hou ana aku nei hou ua nele na wahi i noho ia e na kanaka i ke kanaka ole, a he mehameha wale ka aina ma na wahi lehulehu...

*Ka Hoku o Hawaii*, October 11, 1917, p. 3  
Translated by Maly.

lots of stones, it is very good. Lāna'i is foremost of the good, small islands.

October 24. Many people came together to hear the news, and my speaking was completed, they gave \$4.00. Here is what astonished me. There is not a clean church on Lāna'i. Kihamānianic is broken apart, and the goats sleep in it when it rains. Aloha nui to Rev. N. Pali and S. Kaho'ohalahala.  
(By Rev. Kaukau)

There were some years past in the young life of the writer of this journey to the Island of Kaululā'au, a time when there were six school houses on this island. There was one at Awalua; one at Paoma'i, the place where my family resided; one at Maunalei; one close to Kahalepalaoa; one in the uplands at Kihamāniania; and one at Pālawai. And on the days of the annual exhibition (of skills), the schools would all gather together at the Church of Kahalepalaoa, where the schools would exhibit their knowledge. Then the next year, they would gather at the Church in the uplands at Kihamāniania to exhibit their knowledge. There were more than 250 students in these schools who participated in the exhibitions. Indeed, those were days when there were many people living on the Island of Kaululā'au. Now, upon seeing it once again, those places have no people, it is without people. All about, the land is silent...

In 1921, Kenneth Emory conducted his survey of cultural resources on Lāna'i. During the course of his fieldwork, he visited Kihamāniania and took a photograph of the site (Figure 17). His photograph shows us a very different setting than the one we see today. More of the walls were standing, and the ground about the area was completely open, clear of trees, with only low grass surrounding the region. This was a result of years of sheep and cattle grazing, for these lands made up some of the important pasturage of the Lanai Ranch. Of the Kihamāniania ruins, Emory reported:

Two Protestant stone meeting houses were begun on Lanai in 1842. One of them was finished in 1851 and represents the ruins at Kihamaniania, near Koele. The other church, at Maunalei, seems not to have been finished in 1858. (Emory 1969:9)



Figure 17. Kihamāniania Church and School ruins in 1921. Source: Kenneth Emory Collection. Copy work courtesy of Robin Kaye, 1975

#### Kama'āina Knowledge

Over the years, members of elder Hawaiian families of Lāna'i have passed down their recollections that, at one time, the lands around Kihamāniania (the Kō'ele vicinity) were an important area of residence for the people of Lāna'i. In traditional times, the lands in the Kihamāniania, Kō'ele, Kaiholena, and Nininiwai area were noted for their agricultural resources which supported the life of the people. This was in part a result of the environmental conditions of the region, and the traditional place names, themselves, tell us something about the environment.

**Kō'ele** Pronounced with a long ō, and a break between the ō and e. Elder kama'āina of Lāna'i say that Kō'ele was named because of the cool, moisture-laden breeze and clouds which blow off of Lāna'i Hale, darkening the land. In this case, kō means windborne, the 'ele means darkness

(Kō'ele — Darkness-borne upon the wind). These dark mists carried with them. The life-giving waters which settled upon the land, and made it an area capable of sustaining the people of the land.

**Kiha-mānania** Also written Kiha-mānienie, is said to describe someone sneezing in fits. The name was perhaps given as a result of the cold, moist nights of the area.

**Ka'iholena** Named for a native type of banana (The-iholena), which was a choice crop of the area.

**Ninini-wai** Describes the dripping (pouring) water, resulting from the moist clouds and mist which came down the mountain slopes, and enabled the cultivation of crops.<sup>55</sup>

In the early 1970s, Abraham Pi'ianā'i—a elder Hawaiian descendant of the chief Pi'ianā'i'a that resided on Lāna'i during the occupation by Kamehameha I—said that in his 'ohana, there was a tradition about Kihamānania in times before the making of the church and school. Abraham's father and sister were both born on Lāna'i in the late nineteenth century, and are descended from the Chinese resident who at one time held the government lease on Kamoku Ahupua'a.

#### 2.7.4 Lāna'i City

The story of Lāna'i City begins when James Dole purchased nearly the entire island of Lāna'i in November 1922, as a part of the holdings of the Hawaiian Pineapple Company, Ltd. Prior to 1922, the lands on which the city would be built had been grazed as part of the old Lāna'i Ranch operations, and a large horse paddock at Kaumaikahōkū dominated the pre-city landscape. Plans for building Lāna'i City were drawn up in early 1923, as Dole and his partners set out to make Lāna'i the world's largest pineapple plantation. Coming from Connecticut, Dole was familiar with the design of the "town square" and grid system of laying out streets in such a way that everything was connected to the "green" or park in the middle of town. Under Dole's tenure, the Lāna'i plantation and city grew, and at one time the island supported nearly 20,000 acres of cultivated pineapple, making it the world's largest plantation. For seventy years, from 1922 to 1992 when the last harvest took place, the name "Lāna'i" was synonymous with pineapple.

Between 1924 and 1929, Lāna'i City blossomed upon the landscape; most of the buildings and streets which we still see today were constructed during this short period (Figure 18). By March 1924, the general layout of Lāna'i City was established and some 40 buildings—many of which remain in the present-day Lāna'i City—were built or were under construction.

<sup>55</sup> From Kepā Maly's notes and personal communications with elder members of the Cockett, Ka'ōpūiki, Kauiā, Kauwēna'ole, and Richardson families in the 1970s and 2006.



Figure 18. Lāna'i City surrounded by newly planted pineapple fields and dotted by recently planted Cook Island Pines. (Army Air National Guard Photo, October 23, 1929, in the collection of the Lāna'i Culture & Heritage Center)

In the early years of the plantation, the largest group of immigrant laborers was made up of skilled Japanese carpenters and stone masons. Their initial work was undertaken on an almost barren landscape, overgrazed by years of sheep, goat, and cattle pasturing.

Following a brief and successful experiment in planting pineapple on Lāna'i by Charles Gay, James Dole, president of the Hawaiian Pineapple Company, purchased the island of Lāna'i for \$1.1 million dollars in 1922. In 1923, he sent engineers to begin the design of Lāna'i City, the

Kaumālapa‘u Harbor, fields, and facilities which would support the envisioned pineapple plantation. Between 1923 and 1925, the city was laid out. It included houses for individual families and group homes for single men; a hospital dispensary; a theater; stores; churches; a hotel; offices; and labor yards. Outlying plantation camps, overlooking Pālāwai, at Miki, Quarry Camp and Kaumālapa‘u, were also built. The Kaumālapa‘u Harbor was also built during this time. As this work was going on, and housing became available, tracts of land in Pālāwai were being cleared of stones and boulders both by hand and with livestock, and then planted in pineapple.

In 1926, James Dole and a large group of island politicians and business backers visited Lāna‘i. They were greeted by the new residents of the island, who were mostly of Japanese origin. By 1930, the population of plantation employees and their families included 965 Japanese, 867 Filipinos, 102 Koreans, 82 Puerto Ricans, 78 Chinese, 46 Caucasians, and 43 Portuguese. There was also a population of 173 Hawaiians, mostly representative of the old native families, but few were working directly for the plantation (Figure 19).



Figure 19. Early families of Lāna‘i City on Lāna‘i Avenue, fronting Dole Park. Courtesy of Castle & Cooke, Inc.

A series of articles published in the *Maui News* between 1926 and 1939 provide us with eyewitness accounts of the growth and development of the Lāna‘i pineapple plantation operations and city. Several of these articles are cited below. The first, published in the *Maui News* on February 3, 1926, told readers of the visit by James Dole and his associates, as he unveiled the plantation and city to all Hawai‘i. The account, describing development which had occurred on Lāna‘i between 1923 and January 1926, reads:

Sunday was show day at Lanai, the Hawaiian Pineapple Company having chartered the Inter-Island steamer Kilauea to take almost 150 prominent Honoluluans to see what it has done with the property it purchased from Baldwin interests in the way of pineapple developments. The Governor and other territorial officials as well as some of the city and county officials were in the party. The Kilauea sailed from Honolulu at 10 o‘clock Saturday night and discharged her passengers at Kaumalapau at 6 Sunday morning. Awaiting them were some 40 automobiles and they were taken about in cars for their sightseeing trip, most of which were brought with them from Honolulu. James D. Dole, president of the company personally conducted the party. The motorcade started at 7:50 headed by H. Bloomfield Brown in charge of affairs for the company on the island.

Dinner was served at noon and there was speech making, among the speakers being the Governor. A heavy rainfall cut short the sightseeing trip and the Kilauea sailed on her return trip at 3:30. The Hawaiian Pineapple Company has spent for purchase of the property and its development more than \$3,000,000 and the visitors were much impressed with what has been done on the property.

**Statistics Furnished**

The following facts and figures as to Lanai are taken from a folder which was prepared for the excursionists:

Island of Lanai, 140 square miles, 90,000 acres; located 65 miles southeast of Honolulu; estimated pineapple land, 15,000 to 20,000 acres; option on Lanai taken September 5, 1922; option exercised December 5, 1922; population at that time about 150; present population, 1000; elevation of Lanai City, 1650 feet; building of Lanai City commenced August 1923; number of schools, two; attendance, 150; seven miles of asphalt macadam road to Lanai City, eight to 12 inches thick, and 200 feet wide, widened at turns; maximum grade of road to Lanai City, about 6per cent; water supply lifted 750 feet by electric pump from tunnels in bottom of Maunalei gulch; water brought in six inch redwood pipe through three riders by three tunnels, aggregating 5300 feet in length; capacity of old Kaiholena reservoir, 500,000 gallons; capacity new Kaiholena reservoir, 3,900,000 gallons; electric power generated by 100 KW oil engine generator set, generated at 440 volts, transmitted at 2300 volts; capacity moving picture theater, 450; Kaumalapau harbor development work commenced September 1923; length of break water 300 feet; tonnage of rock in breakwater, 116,000; minimum depth of Kaumalapau harbor, 27

feet; depth of Kaunalapau harbor entrance, 65 feet; length of wharf, 400 feet; number of cattle on ranch at present time, 4000.<sup>56</sup>

By 1930, the population on Lānaʻi totaled 2,356 residents. In the mid-1930s, efforts in expanding the amount of acreage were made, and new laborers, primarily of Filipino and Japanese background, settled on Lānaʻi. All planting, picking, weeding, and most field clearing was done by hand. There were no pineapple picking machines. The pickers picked by hand, loaded bags, walked to the end of the rows and then loaded the pineapples in boxes. The boxes were then hand loaded onto trucks and driven down to Kaumālapaʻu, where cranes would load the truck bins onto the barges for shipping to the cannery at Iwilei in Honolulu.

Later, *Maui News* articles document the following descriptions of Lānaʻi City, the island community, and plantation operations, noting that 16 years after Dole's acquisition of Lānaʻi, the island had become the world's largest pineapple plantation. The following reports on the success of the Lānaʻi venture were published in 1938 and 1939:

Ten years ago, Lanai was just another unimportant island on the map of the Hawaiian group; today the Hawaiian Pineapple Co. operates on it the largest pineapple plantation in the world, to supply fruit for its cannery in Honolulu, also the largest in the world.

Ten years ago, Lanai's population was approximately 600, and about 4,000 acres were under cultivation. Today the land under cultivation, has increased five-fold to 20,000 acres, and the island's population has grown to an estimated 3,500.

The five year period from 1925 to 1930 was one of great building activity on Lanai as the pineapple company conducted an extensive building program to provide housing for the hundreds of workers who were arriving almost on every boat to make their homes on the island.

Homes for married couples were erected by blocks, in numerical order. There were model two bedroom homes, with large airy living rooms and spotless kitchens, running water, electricity and spacious grassed yards.

Single men's houses were divided in two by a partition with three furnished rooms in each section. All these houses were supplied with running water and electricity. They were laid out to provide ample space around each house.

Attractive as these homes were eight years ago, they are now being remodeled and made better, finer homes. More spacious rooms are being added and sanitary toilets and baths installed.

These new homes are painted cream white inside and out, with doors stained walnut. Each contains six rooms, four of which are 10 by 12 foot bedrooms with built in drawers and closets. The living room has a floor space of 12 by 16 feet, and the kitchen is 14 by 16 feet. All have built in cabinet cases and pantries. All are supplied with running water.

<sup>56</sup> January 31, 1926: Developments on Lānaʻi Visited by Businessmen and Government Officials. "Hawaiian Pineapple Company Runs Excursion to its property and Entertains Visitors," *Maui News* Editorial, February 3, 1926, p. 1, c. 2.

Sanitary toilets, baths and wash basins are installed in all of the homes.<sup>57</sup>

A story elsewhere in this issue of the *Maui News* describes some of the progress which is being made on all sides on Lānaʻi Isle. It is a story of the building of a happy community and reflects credit on all who are having a hand in the Pineapple Isle's development.

The cooperation which has been forthcoming from everyone is a splendid example of the Lanai spirit and in the years to come, this little Island will be as famous for its spirit as any other place in the Territory.

More power to Dexter Fraser and the hundreds of Lanai residents who are supporting him in his efforts to make Lanai City the finest in all the land.<sup>58</sup>

The following *Maui News* article is from August of 1938. In the article, many of the developments occurring on Lānaʻi are described. The article is entitled "Lanai Sees Big Things Ahead Under Leadership of Dexter 'Blue' Fraser."

County recognition of Lanai, signalized by last weekend's visit of the board of supervisors to look over the site for a \$30,000 road to Keomuku is only an incident in the development of a community that has made rapid strides during the past few years under the leadership of Dexter "Blue" Fraser, Hawaiian Pineapple Co. superintendent on the Pine Island.

The Lanai of today is a community of happy people, working in harmony for the better island. Moral of Hawaiian Pineapple Co. employees is high. Everyone is pulling together, and this unanimity of purpose has resulted in a way of life for the people of the island that stands as a model for other communities in the Territory.

#### Painting the City.

The physical aspect of Lanai City has been improved recently by a program of renovation and modernization. When the board of supervisors arrived on Lanai last Saturday for an inspection trip, members of the party saw a neat city, freshly painted in green and white, shaded by cool evergreens.

The painting program is not quite complete, but even now there is an appearance for fresh cleanliness. The city is, as it always has been, spotless. Crews of men are assigned to keep the community clean from fallen leaves, weeds, and refuse and to trim the lawns which surround each of the comfortable homes in which the pineapple workers live.

Aside from the County's projected road to Keomuku, the plantation is doing a bit of road work itself. About a month ago, work was started on a project to eliminate some of the dangerous hair pin curves on the Lanai City-Kaunalapau road and widen it to provide ample room for the large pineapple trucks which haul fruit to the port for shipment to the cannery in Honolulu.

<sup>57</sup> 1938: "Hawaiian Pine Improves Conditions on Lanai Isle. The past ten years have brought phenomenal development to the island of Lanai under the guidance of the Hawaiian Pineapple Co., which is creating ideal working conditions for its employees." *Maui News* Editorial, January 22, 1938, p. 1, c. 2.

<sup>58</sup> *Maui News* Editorial, January 22, 1938, p. 8, c. 2.



### Have Safety Program.

Safety has become almost a fetish on Lanai. There is a safety committee composed of community leaders. Workers are invited to submit suggestions and as result of the committee's activities, guards have been placed on machinery, instruction has been given in first aid, and safety first signs have been conspicuously posted.

In the fields mechanical loading machines have relieved some of the back breaking toil which heretofore has been the bane of the field worker. These machines are by no means perfected as Hawaiian Pine freely admits, but progress is being made and experiment is constantly in progress.

In order to correct one deficiency discovered in the fields, the company is now spending about \$500 on each loading machine, an outlay of \$10,000 for the twenty loaders now in operation. With the pineapple marked as uncertain as it is, Hawaiian Pine is proceeding carefully. There is a definite trend toward improvement in quality. Marginal fields have been abandoned for the time being. Small pineapples, lacking in quality, are left in the fields.

Carrying out the quality idea, Hawaiian Pineapple Co. is now replanting after the first crop rather than after the third as has been the practice in the past.

### Athletic Program.

Community life is becoming more pleasant as the years go by. An extensive program of athletics has been developed. This reached its peak during the summer picking months when Maui and Hawaii send young men to Lanai to work in the fields. Most of these are high school students, and many of them are athletes who have found that work in the fields is an ideal conditioner for football and other strenuous sports.

At present, two Maui high school football teams are on Lanai preparing for the forthcoming season under the direction of their coaches...

The Lanai City golf course has recently been remodeled and is becoming increasingly popular. The course is laid out on the slope above the city, which offers a number of good natural hazards, not the least of which is the road to Koele, which cuts through the course. This is no course for the exclusive use of the "big shots." Anyone on the island may use it if he chooses, and the result has been a growing interest in golf...

### Lions Active.

Lanai also is finding that the Lions club is filling a definite community need. This organization has been particularly active and only recently sponsored an eye clinic in which more than 100 individuals had their eyes examined...

The fine spirit that has developed on Lanai is due in no small part to the fine leadership of Mr. Fraser. He is universally beloved. He joins enthusiastically in the life of the community. His wise, just dealing with his employees has made him a respected friend of everyone on the island.



The board of supervisors found last weekend how persistent Blue Fraser can be despite his constant joviality and penchant for playing schoolboy pranks. 87 If someone started to a joke about two Scotchmen, Mr. Fraser somehow or other swung the conversation about so that he could get in another, "Now about the Keomuku road."

Mr. Fraser, the board found, is determined that Lanai shall have full and complete recognition as an integral part of Maui County, and that extends to the budget meetings when the money is being passed out.

### Voters Total 507.

Lanai is becoming a political factor not to be overlooked. Mr. Fraser pointed out on a number of occasion: There are 507 voters on the island at present, nearly twice as many as there were in the 1966 election. One of the reasons for the increase is that Lanai youngsters are reaching voting age. This portion of the electorate, Mr. Fraser points out, is keenly interested in government affairs and exercises its voting privilege with discretion.

Mr. Fraser and other Lanai leaders recognize that the \$30,000 available for Lanai roads "is only a fly speck," to use Mr. Fraser's expression. "But it is a start," he went on to say.

Jim Munro readily agreed with County officials that it would be desirable to spend \$5,000 or more of the amount for a complete survey, even if it does mean less road to start with. Lanai is confident that the board, having once recognized Lanai's needs will augment the \$30,000 as time goes by and that eventually the county will do more for the Pineapple Island than replace a \$67 cesspool cover.

Uncertainty of the pineapple market on the mainland, Lanai regards as "one of those things." But it is not allowed to interfere with the community's peace of mind, solidarity and intense joy of living in a land where every factor is favorable and better days loom just ahead.<sup>59</sup>

## 2.8 Land Tenure, Places, and Events in Paoma'i Ahupua'a

Paoma'i is an ahupua'a in the northern region of Lāna'i of over 9,000 ac. Its unusual boundaries are explained in native traditions as the routes of the runner Pao. Several place names have been documented for Paoma'i; however, none is specific to the proposed project location. One of the most notable traditions of Lāna'i, in which the story of how honu (turtles) first came to Hawai'i is told, is associated with the coastal region of Polihua in the Ka'ā-Paoma'i vicinity.

No native tenant claims were filed in the Māhele for Paoma'i; the ahupua'a was identified as a Crown Land. The ahupua'a was leased by W. M. Gibson and later bought by Charles Gay; both individuals used the land for ranching. During the mid to late nineteenth century, the area was improved with government roads to ease the transport of goods from the area. Gay eventually sold

<sup>59</sup> *Maui News* Editorial, August 17, 1938, p. 1, c. 4; and p. 6, c. 1-3.

the land to Hawaiian Pineapple Company, Ltd., and Paoma'i lands were used for pineapple cultivation.

This section reviews the traditional place names of Paoma'i, the history of the land during the Māhele, various native traditions, and informative historic accounts. In addition, an account is provided of the ranch-era cemetery that was established when Kō'ele was the commercial hub of the island.

### 2.8.1 Place Names of Paoma'i

During his field work in 1921–1922, Kenneth Emory compiled a gazetteer of place names, which were also keyed with numbers to identify their location and features associated with each site. Emory (1969) referenced early maps, records and interviews with elder native residents of the island at the time. Since then a more thorough review of historical/archival documentation has been conducted as a part of developing the Lāna'i Culture & Heritage Center, thus many place names and stories associated with them have been added to the collection.

Table 5 includes place names found in native accounts and land records, with reference to site numbers assigned by Emory (1969).

Table 5. Place names of Paoma'i found in native accounts and land records

Place	Interpretation	Emory (1969)
Awalua	Two harbors/landings	287
Awalua iki	Little Awalua	288
Halalala	Passed away/on	268
Hale o Lono	Shrine of Lono	290
Hawai'ilānui	Hawai'i's big day	275
Honowai/Honowae	Water cove	286
Honua'ula	Red earth	272
Ho'opāpālani	Touching the heavens	262
Kahue	The gourd	270
Kaiholena	The yellow flesh banana	89
Kaka'alani	Name of wind	
Kalapu'u	Cut hill	20
Kanāele	The boggy area	283
Ka'okana	The land section	277
Ka'ōnini	Name of a gentle breeze	281
Kaunu-a-Kāne	The altar of Kāne	280
Kealakaha	The shoreline path	278

Place	Interpretation	Emory (1969)
Keonehe'che'e	The sliding sands/cinder	19
Keonohau		269
Kuamo'o	Ridge line	273
Kukui	Kukui tree	267
Kukuikāhi	Single kukui tree	21
Laepālolo	Clay point	289
Lapaiki	Little ridge	284
Makaiwa	Frigate bird eyes, or mother of pearl eyes of an image	271
Nāimuhui	The joined/combined ovens	265
Ōpū	Clump	73
Panau	Rocking/moving up and down	
Paopao	Hollows, dug out areas	279
Pōhakuloa	Distant or long stone	285
Poho'ula	Red hollow/depression	263
Pōkeana		282
Pu'u'āle'ale'a	Hill of glee	264
Pu'u Kauwela	Hill in the heat	
Pu'u Lā'au	Wooded hill	179
Pu'ulala	Diagonal hill	
Umikililoa		274
Wāhia'ahu	Broken cairn	276

### 2.8.2 Land Tenure in Paoma'i Ahupua'a

Information pertaining to native residency and land tenure in Paoma'i Ahupua'a is fragmented, and most comes from historical accounts penned after 1840. The following narratives provide a summary of the land history.

Paoma'i Ahupua'a (literally "sick Pao") is situated in the northern region of Lāna'i, and contains 9,078 acres. It is bounded by Mahana on the east, and by Ka'ā on the west. The ahupua'a extends from the reef-lined fisheries, across the kula lands, and into the forest region. Major villages were located along the coast, where access to fisheries and nearshore water sources sustained the people. A significant portion of the Lāna'i dry forest could be found on the kula lands, and gulches hosted seasonably collectible potable water. The forest cover in the uplands supplied people with access to necessary resources for daily life and sheltered crops cultivated there. Several places in the uplands of Paoma'i were noted as gathering places for chiefly and community events. Paoma'i was identified as belonging to Kamehameha III at the outset of the Māhele, though Charles Kana'ina made a claim for the ahupua'a on behalf of his son, William C. Lunalilo. The kapu fish was he'e, and the kapu wood was 'aiea (*Nothocestrum*). No one held specific title to Paoma'i at the close of the Māhele, but it later appeared in the government land inventory and was sold as a Royal Patent Grant.

No claims by native tenants for kulcana in Paoma'i were identified in the records of the Māhele. Among the kingdom records found in collections of the Hawai'i State Archives which include references to Paoma'i are the following communications:

Aloha oe,

Ke hai aku nei au i na inoa o na aina ponoī o ka Moi e like me kau i kauoha mai ai i'au. Eia no ka papa inoa o na aina, a me na mokupuni ma lalo iho.

... Mokupuni Lanai

Helu 4 Paomai.

Mokupuni o Kahoolawe Helu 5...

Oia ka'u i ike, a i lohe, a i kaulana no hoi, no Kamehameha I, K. II. I. III...<sup>60</sup>

The preceding is translated below.

Aloha to you,

I hereby tell you the names of the lands the rightly belong to the King, as you instructed me to do so. Here is the list of names of the lands and the islands, below:

Island Lanai

Number 4. Paomai.

<sup>60</sup> N. Namauu to G. P. Judd, Clerk, Na Aina Ponoī o ka Moi, Lanihuli Hale, Dekemaba 15, 1847. Hawai'i State Archives, Interior Department Lands.

Island of Kahoolawe, Number 5...<sup>61</sup>

In December of 1847, C. Kana'ina reported the following to the Minister of the Interior. The original Hawaiian is on the left, and the translation is on the right.

Na Aina Ponoī o ka Moi a'u i ike ai, a i lohe ai ma keia Pae Aina:	The King's own lands that I have seen and heard of in these Islands.
...Helu 4 Mokupuni o Lanai	Number 4. Island of Lanai.
Kaunolu	Kaunolu
Kaohai	Kaohai
Kalulu	Kalulu
Paomai	Paomai

Hawai'i State Archives, Interior Department Lands.

Translated by Maly.

#### Buke Māhele (Land Division Book), 1848

In preparation for the final "division" of lands between the king, konohiki, and government, a Buke Māhele was kept as a log of the agreed-upon division. This book is the basis of the Crown and Government land inventory now known as the Ceded Lands. There are thirteen ahupua'a on Lāna'i. Disposition of ten ahupua'a was recorded in the Buke Māhele (1848) and before the Land Commissioners. Three ahupua'a were apparently dropped through an oversight on the part of the king, commissioners, and staff. The Buke Māhele records from Paoma'i and its three major neighbors provide the details on tenure in Table 6.

Table 6. Māhele Information of Paoma'i and Neighboring Ahupua'a

Ahupua'a	Claimant	Disposition	Buke Mahele (1848)
Ka'ā	Victoria Kamamalu	Awarded	Page 4, Jan. 27, 1848
Kamoku	No record	Crown	Record of Boundary Commission (1877)
Mahana	Wm. C. Lunalilo	Government	Page 22, Jan. 28, 1848
Paoma'i	No record	Crown	Testimony of C. Kanaina, Dec. 1847

The konohiki, prohibited fish, and prohibited wood for Paoma'i and neighboring ahupua'a are listed in Table 7.<sup>62</sup>

<sup>61</sup> Translated by Maly.

<sup>62</sup> Hawai'i State Archives, Interior Department Lands, 1848.

Table 7. Prohibited fish and wood of Paoma'i and neighboring ahupua'a

Aina	Konohiki	Ia Hoomalu	Laa Hoomalu
Mahana	Kukaloloua	He'e	'Ahakea
Paoma'i	Kauila	He'e	Naio
Ka'a	Kaawa	Uhu	Naio

Noa Pali reported the prohibited fish and wood to Keoni Ana, Minister of the Interior, in the following, dated August 26, 1852.

Ia kapu o na konohiki me ka laau hoomalu. E like ke ke kanawai.

Konohiki	Aina	Ia	Laa
Makaio Kuanaoa	Ka'a	Uhu	Koko...
Kanaina	Mahana	He'e	'Ahakea
	Paoma'i	He'e	'Aiea...
Pali	Kamoku	Uhu	Koko...

E ka mea kiekie nau e hooponopono keia ma kau keena

Noa Pali<sup>63</sup>

The report is translated below.

Forbidden fish of the konohiki and the prohibited woods. According to law.

Overseer:	Land:	Fish:	Wood:
Makaio Kuanaoa	Ka'a	Uhu	Koko...
Kanaina	Mahana	He'e	'Ahakea
	Paoma'i	He'e	'Aiea...
Pali	Kamoku	Uhu	Koko...

Your highness, you straighten this out in your office.

<sup>63</sup> Hawai'i State Archives, Interior Department Lands.

### 2.8.2.1 Native Tenants and Land Tenure in Paoma'i

Records of the kingdom and subsequent government bodies contain documentation pertaining to residency, land use practices, and eventual fee-simple property rights. While no native tenant claims for kuleana were found in the books of the Mahele 'ina, kingdom land records provide us with information on residents who came to live on Paoma'i by the 1870s. Records prior to the 1870s offer little on the life and practices of early Paoma'i resident. But on May 16, 1873, a group of 35 Hawaiians petitioned King Lunalilo regarding the Hawaiian lessee of Mahana, named Maeha, who was granted a lease (Lease No. 220) for the entire ahupua'a of Mahana. Through their petition we learn that the 35 petitioners and families had moved from Mahana to Paoma'i, and their petition describes the plight of the people. They also raised their concerns about the possible leasing of Paoma'i to the foreigner Walter Murray Gibson.

O makou o ka poe nona na inoa malalo nei kekahi o kou makaainana na kauwa aou e noho kuewa ana maluna o Paomai, Mokupuni o Lanai.

Ke noi aku nei makou ia oe e oluolu oe e ae mai ia Paomai nei e hoolimalima makou me oe ma ka uku au e hai mai ai i ko makou mau luna ia Kamai, Kalili, Iwiolo.

O makou he poe Kupa makou no ka aina ua noho a kulaiwi, aole no ka pono io o keia a makou e noho nei. Ke noho nei makou me ka hoomanawanui i ka wi no ko kamkou, no ko makou aloha i ka wahi i maa ia makou a mai ko makou mau Kupuna mai a mau makua a hiki wale ia makou.

Eia ko makou mau pilikia e hai aku ia oe i ka wa ia olua ka aina a moku ia wa, i ka lilo au nei ia Maeha ua Kipaku ia mai makou aia makou ma Paomai nei e noho nei.

I keia wa hou ke lohe hou nei no makou e hele mai ana ka haole e kipaku hou ia makou, aole makou e noho ma Paomai nei ina e nele mai ia oe e kii hele loa ana ka manu o Kaula, aohe punana e hoomoe ai.

I ko makou noonoo ana a me ka hoomaopopo ana o na malihini ka poe mai na aina e mai, ua lilo lakou i poe koikoi ma ka aina a o makou la ua like makou me na uhini i ko lakou mau maka.

E ike ia kakou hookanaka o kipa hewa ke aloha i ka Ilipuakea.

Ua oki.

Na ka Hui hoolimalima,<sup>64</sup>

- |           |                |
|-----------|----------------|
| 1. Kamai  | 19. Kahalemake |
| 2. Iwiolo | 20. Apaki      |
| 3. Kalili | 21. Kukololoua |
| 4. Hau    | 22. Paahao     |
| 5. Iosepa | 23. Namilimili |
| 6. Kala   | 24. Uilama     |
| 7. Paa    | 25. Kimo       |

<sup>64</sup> Hawai'i State Archives, Interior Department Lands.

- |                     |                |
|---------------------|----------------|
| 8. Lawaole          | 26. Keonehana  |
| 9. Nawai            | 27. Holokahiki |
| 10. Puniai          | 28. Pia        |
| 11. Kahaulekini     | 29. Namauu     |
| 12. Lukela          | 30. Kalawaia   |
| 13. Naehu           | 31. Kailikea   |
| 14. Waiahao         | 32. Aikake     |
| 15. Kahoolealeamaka | 33. Kauwila    |
| 16. Palau           | 34. Kaai       |
| 17. Kaaialii        | 35. Keawe      |
| 18. Kawika          |                |

The petition is translated below.

Greetings to you,

We, the undersigned, some of your subjects, and your servants who are living as trespassers on Paomai, Island of Lanai.

We make application to you, that you be kind and consent that Paomai be leased to us by you upon such rent that you may inform our representatives, Kamai, Kalili and Iwiolo.

We are natives of the land and have lived and become long residents, not because of the land that we have been living on being of much benefit. We are living in great fortitude and in famine, because of our love of the place which we are used to from our grandparents and parents, and down to us.

These are our troubles of which we inform you, at the time you had the land and were leasing, we were satisfied then. When it was acquired by Maeha, we were driven off and we are now living here on Paomai.

At this time, we are hearing again that the foreigner is coming to drive us off again, we are not to stay on Paomai. If we are denied by you, then the birds of Kaula will go for all time, as there is no nest to rest on.

According to our thought and understanding, the strangers from foreign countries have become more important people in the land, and we are like grasshoppers in their eyes.

Recognize us fellow men, or love will by mistake visit the Whiteskin.

It's ended.

Done by the Leasehold Association...<sup>65</sup>

Subsequent communications provide further documentation on the petition by the above cited natives, the eventual lease of Paoma'i to W. M. Gibson, and the subsequent sale of the government's land interests to Charles Gay in 1906.

<sup>65</sup> Translated by Maly.

The correspondence below, dated June 12, 1873, is from Edwin O. Hall, Minister of the Interior, to P. Nahaolelua, governor of Maui.

Ua noi mau kekahi kanaka o Lanai he 35, e hoolimalima ia laku ma ka inoa o Kamai, Kalili a me Iwiolo, kahi aina, o Paomai ka inoa. Certain natives on Lanai, about 35, have applied to have leased to them, in the name of Kamai, Kalili and Iwiolo, a certain land, Paomai by name.

He aina aupuni anei keia? Ina pela, ua lilo anei ia i ka hoolimalima paha i na makaainana, ma ka ohi makahiki, e like me na aina aupuni e ae o Lanai, au i hoike mai nei ma kau palapala o ka la 5 o Iune nei. Is this a Government land? If so, is same held by the residents under a tenancy at will, as is the case with other Government lands on Lanai, of which you made report upon in your letter of the 5th of this June.

E hai mai oe i kou manao no keia mea.

Ke manao nei au, ina e ohi mau ana kahi mau dala i keia manaawa, no na makaainana mai, he pono ia. O ka lilo no ia. Give your thoughts in regard to this matter. I am of the opinion, if a certain amount could be collected from the residents at the present time, it would be a good thing, and the occupancy thereof must be granted...

E.O. Hall

Hawai'i State Archives, Interior Department Book, Volume 12:273  
Translated by Maly.

P. Nahaolelua responds to E. O. Hall in the correspondence below, dated June 13, 1873.

I have better give you a list of all the lands on Lanai: Pawili, Kamao, four Kealia, Kaunolu, Kalulu, Kamoku & Paomai. These are all the Government lands, and Gibson has acquired Six Lands, and three land remain.

But it is all right according to what have been decided by you people. And the proper rent for these six lands, according to my belief, at Two Hundred Dollars per annum, and for the remaining lands for the first lease Two Hundred. That is what I think... P. Nahaolelua.<sup>66</sup>

The following correspondence from Walter Murray Gibson to H. A. Widemann, Minister of the Interior, documents his desire to lease some lands on Lāna'i, including Paoma'i. The letter is dated April 15, 1874. Gibson also included a sketch map, which is included here as Figure 20.

I desire to lease the following Government lands situated upon the island of Lanai

- The Ahupuaa of Kaunolu
- The Ahupuaa of Kalulu
- The Ahupuaa of Paomai
- The Ahupuaa of Mahana

Also the Ahupuaa of Kamoku, which is now under lease, nearly expired.

<sup>66</sup> Hawai'i State Archives, Interior Department, Lands.

I make this application on the ground that it is due as an act of justice on the part of the government, to concede to me a lease of these lands. I received a promise from the Interior Department that I should have a lease of these lands, and in consequence of this assurance, addressed to me Feb. 20th, 1863 by S. Spencer, Chief Clerk, by authority of the then Minister, H. R. H. Prince L. Kamehameha. I was led to make many improvements, such as opening a road to a landing, making fences, and other works;—all of which proved a loss in consequence of the denial by a succeeding Minister of a lease as promised by his predecessor: and this took place, notwithstanding the solemn assurance from the Department, “that no under advantage will be taken, if you should proceed to enclose and cultivate any portion of the Government land, (of Lanai), or that you will assume any risk by so doing.”

It is true, I received a lease from your Excellency’s immediate predecessor of a few small government lands, but these are mere unimportant strips, or areas within my own lands, and unavailable to anyone else, and no portion of the lands above mentioned, which were especially promised, and upon which I had made some improvements.

I will pay the rents priced by the Government, semi-annually in advance.<sup>67</sup>

An Interior Department memo regarding Gibson’s application to lease Lāna’i lands is dated June 9, 1874.

The application on lease:

- The Ahupuaa of Kaunolu
- The Ahupuaa of Kalulu
- The Ahupuaa of Kamoku
- The Ahupuaa of Mahana
- The Ahupuaa of Paomai

As the chief portion of natives on Government lands on Lanai, reside on Kaunolu and Kalulu on the northern side of the mountain ridge, therefore Mr. G. proposes to reserve natives, to be rented to them, all of Northern Kaunolu and Kalulu,—the summit of the ridge to be the dividing line between such lands, and the northern portion of these two districts, and he desires to confine his application to lease government lands on Lanai at present to the southern points of Kaunolu and Kalulu, with the sea of Kamoku on expiration of present lease.<sup>68</sup>

<sup>67</sup> Hawai’i State Archives, Interior Department Lands.

<sup>68</sup> Hawai’i State Archives, Interior Department Lands.

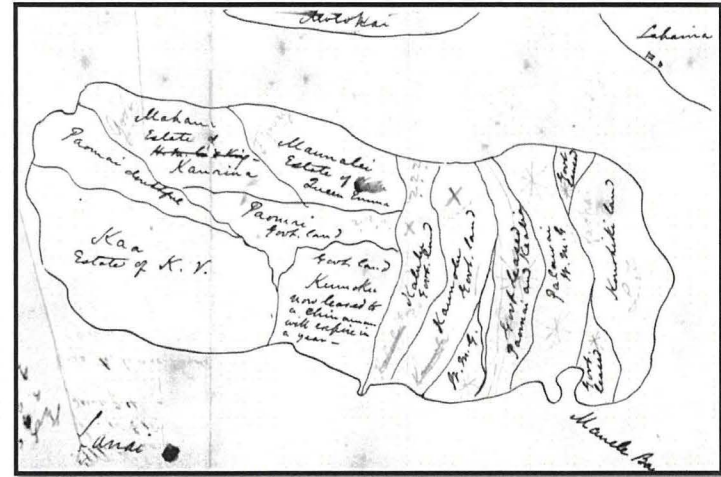


Figure 20. 1874 sketch map of Lāna’i depicting the disposition of the lands (W. M. Gibson, Hawai’i State Archives)

On August 17, 1874, after acquiring the lease for Paomai, Gibson released the following statement in a Hawaiian newspaper, forbidding natives from the land.

Wherefore, a lease for the lands of Kaa and Paomai, Island of Lanai, has been secured by me, I now forbid all people from releasing their livestock, Horses, Cattle, Sheep, Goats, Pigs and Turkeys, to roam on these lands. Those who trespass will be prosecuted as allowed by the law.<sup>69</sup>

This indenture, dated September 30, 1874, documents the lease agreement between Wm. L. Green, the Minister of the Interior, and Walter Murray Gibson. The twenty-year lease includes the ahupua’a of Paomai’i.

This Indenture made this 30th day of September A.D. 1874 between His Excellency W. L. Green His Hawaiian Majesty’s Minister of the Interior for and in behalf of the Hawaiian Government of the first part and Walter Murray Gibson of the Island of Lanai of the second part. Witnesseth that for and in consideration of the rents covenants and agreements hereinafter reserved and contained on the part and behalf of the said party of the second part, his executors administrators and assigns to be paid kept and performed he the said party of the first part hath demised and leased

<sup>69</sup> Walter M. Gibson, “Na Aina Ma Lanai,” *Nupepa Kuokoa*, Augate 29, 1874, aoao 3. Translated by Maty.

and by these presents doth demise and lease unto the said party of the second part his executors administrators and assigns.

All that tract or parcel of Land situate on the Island of Lanai one of the Hawaiian Islands known as "Paomai." To have and to hold all and singular the said premises above mentioned and described with the appurtenances thereunto belonging unto the said party of the second part his executors administrators and assigns for and during the term of Twenty Years to commence from the first day of August A.D. 1874, the said party of the second part his executors administrators and assigns yielding and paying therefore from and immediately after the commencement of the said term and during the continuance thereof unto the said party of the first part and his Successors in office the annual rent of Fifty (\$50) Dollars over and above all leases changes and assignments to be levied or imposed thereon by Legislative Authority the first payments of the said rent to be made on the first day of August next ensuing the date last mentioned and the said party of the second part for himself and his executors administrators and assigns does consent grant promise and agree to and with the said party of the first part and his Successors in Office by these presents in manner following that is today that he the said party of the second part his executors administrators and assigns shall and will well and truly pay or cause to be paid unto the said party of the first part or his Successors in office the said annual rent above reserved according to the true intent and meaning of these presents clear of and over and above all taxes impositions changes and assessments whatsoever and also that he the said party of the second part his executors administrators and assigns shall and will from time to time during the term of this present demise bear, pay, and discharge all taxes, changes impositions and assessments and ordinary and extraordinary which may hereafter at any time during the continuance of the said term be laid, imposed, assessed or charged on the said demised premises on any part thereof on upon any improvements made on to be made thereon on which may be imposed on changes on the said party of the first part on his Successors in effect for or in respect of the said premises or any part thereof and shall and will indemnify the said party of the first part and his successors in office, if from and against all damages, costs and changes which he made at any time sustain or be put to by reason of any neglect in the due and punctual discharge and payment of the said taxes impositions charges and assessments.

And also that he the said party of the second part his executors administrators and assigns shall and will bear, pay and discharge at his own cost and expense all costs and charges for fencing the whole on any part or parcel of the above demised premises if such fencing should be so required by any law now in force or that may be hereafter enacted by Legislative authority, and shall and will indemnify the said party of the first part and his successors in Office of from and against all damages, costs, expenses and charges which he may at any time sustain by reason of any neglect or refusal of the party of the second part his executors administrators and assigns in the performance of the promises and agreements last aforesaid and also that he the said party of the second part his executors administrators and assigns shall not nor will at any time during the term hereby granted, do or commit or permit to be done any willful or voluntary waste spoil or destruction in and upon the above

demised premises on any part thereof or cut down trees now growing, or being, or which shall hereinafter grow or be in and upon the above demised premises or any part thereof and will at the end on other sooner determination of the said term hereby granted peaceably and quietly lease and yield up unto the said party of the first part his successors in office all and singular the premises hereby demised with all erections buildings and improvements of whatever name or nature now on or which may be hereafter put set up erected and placed upon the same in as good order and condition in all respect (reasonable use wear and tear excepted) as the same one at present or may hereafter be put by the said party of the second part his executors administrators and assigns. And also that he the said party of the second part, his executors or administrators or any of them shall not nor will at any time during the continuance of the said tm demise let set, assign over the said premises or any part thereof to any person or persons whatsoever for any term or time whatsoever without the license and consent of the said party of the first part or his Successors in office in writing under his or their hands first had and obtained for such purpose and the said party of the first part for himself and his Successors in office doth covenant and agree to and with the said party of the second part his executors administrators and assigns by these presents that the said party of the second part his executors administrators and assigns shall or may at all times during the said term hereby granted by and under the annual rent, covenants, conditions and agreements herein contained peaceably and quietly have, hold, occupy all and singular the said premises hereby demised and every part and parcel thereof with the appurtenances (except as before excepted) without the let trouble hindrance molestation interruption and denial of the said party of the first part his Successors in office or of any person or persons whatsoever lawfully claiming or to claim the same or any part or parcel thereof. Provided always and these presents are upon this condition nevertheless and it is the true intent and meaning of these presents that if it shall happen that the annual rent herein before reserved shall be behind and unpaid in part or in all by the space of Thirty Days after the same ought to be paid according to the reservation aforesaid and no sufficient distress can or may be found in and upon the premises whereby the same with the arrears thereof (if any shall happen to be) can be made on if the said party of the second part his executors and administrators shall demise, set, let or assign the said premises or any part thereof to any person or persons for any term or time whatsoever without the license or consent of the party of the first part or his Successors in Office first had and obtained in writing or if the said party of the second part his executors administrators and assigns shall not well and truly observe, keep and perform all and singular the covenants and agreements on his part to be observed kept and performed according to the true intent and meaning of these presents that then and from thenceforth in any of the said cases it shall and may be lawful to, and for the said party of the first part and his Successors in Office without warrant on other legal proofs into and upon the said hereby demised premises or any part thereof in the name of the [illegible] and the same to have again, repossess, and enjoy as in his first and former estate and right. This Indenture in anything hereinbefore contained to the contrary thereof in any wise notwithstanding. In witness whereof

the parties to these presents have hereinto set their hands and seals the day and year first above written...<sup>70</sup>

Subsequently, Gibson published another announcement in the Hawaiian newspaper on October 3, 1874, declaring his lease of Paoma'i, and forbidding the release of livestock onto his leased land.

The one whose name is below, and obtained a leases for a term of twenty years for the land of Paomai on the island of Lanai, therefore All people are notified that they may not release their livestock, horses, cattle, sheep, goats, pigs and turkeys without permission, or they will be prosecuted pursuant to the law.

Walter M. Gibson (Kipikona)  
Honolulu, Oct. 1, 1874.<sup>71</sup>

The indenture below, dated January 1, 1878, records the lease from the Commissioners of Crown Lands to Walter M. Gibson. The twenty-year lease includes the lands of Kamoku and Kalulu, with Paoma'i.<sup>72</sup>

This Indenture, made this first day of January, A.D. 1878 between the Commissioners of Crown Lands of the first part, and Walter M. Gibson of Lanai of the second part. Witnesseth, that for and in consideration of the rents, covenants and agreements herein after reserved and contained, on the part and behalf of the said party of the second part, his executors, administrators and assigns, to be paid, kept and performed, they, the said parties of the first part, by virtue of the authority in them vested, by the Act entitled "An Act to relieve the Royal Domain from Encumbrances, and to render the same inalienable," approved January 3rd, 1865, have demised and leased . . . unto the said party of the second part . . . All those tracts and parcels of land, situated in Island of Lanai, one of the Hawaiian Islands, known and described as follows, to wit:

The Ahupuaas of Kamoku, and Kalulu, except the timber trees, and all young trees fit and proper to be raised and reserved for timber trees, now growing or being, or which shall hereafter grow, or be in and upon the above demised premises . . . together with free liberty of ingress and regress, to and for the said parties of the first part, and their successors in office . . . for and during the term of Twenty years, to commence from the first day of January a.d. 1878 . . . paying there for, from and immediately after the commencement of the said term . . . unto the said parties of the first part . . . the yearly rent of Four Hundred dollars, payable semi-annually, over and above all taxes...

Jno O. Dominis,

<sup>70</sup> Bureau of Conveyances, Liber 40, p. 356-359.

<sup>71</sup> Walter M. Gibson, "Aina ma Lanai!" *Nupepa Kuokoa*, Okatoba 3, 1874, aoao 3. Translated by Maly.

<sup>72</sup> Receipt of rents paid on Kamoku and Kalulu are recorded from May 19, 1882 through July 2, 1888. Beginning August 1, 1882, receipts of payment for lease of Crown Land of Paomai are recorded through August 21, 1888.

Commissioner and Land Agent.<sup>73</sup>

According to the Interior Department,<sup>74</sup> the following are the lengths of the coastlines for the lands listed, followed by the disposition of the land.

Kamoku	1.54 Mile	Crown
Kaa	11.52 Miles	H.R.H. Keelikolani
Paomai	5.56 Miles	Crown

In the letter below, dated September 9, 1887, Robert Hoapili Baker, governor of Maui, writes to L. A. Thurston, Minister of the Interior, because the natives of Lāna'i have inquired about the status of government lands.

Aloha to you – I have been instructed by the natives of Lanai, to inquire of your excellency about some Government lands there on the island of Lanai: Kalulu, Kaunolu, Kamao, Mahana, Kamoku and Paomai. Because the above named lands are still under lease to W. M. Gibson, and now the natives living on these lands are in trouble. Therefore, I ask your excellency, are these lands above listed under lease to W. M. Gibson, or not?

They wish to know the truth about this from your honor, they trusting that their rights and benefits are with you.<sup>75</sup>

The following excerpt is from a correspondence by W. D. Alexander to L. A. Thurston. In it, Alexander identifies Paoma'i Ahupua'a as a Crown Land. The letter is dated January 18, 1889.

Dear Sir – By some inadvertence I omitted the land of Paomai, Lanai, area 9079 acres, in the list of unassigned lands occupied by the Commissioners of Crown Lands.<sup>76</sup>

The indenture below records a twenty-five-year lease from the Commissioners of Crown Lands to F. H. Hayselden. The lease includes the ahupua'a of Kamoku and Paoma'i.

This Indenture, Made this Nineteenth day of December, A.D. 1890. Between The Commissioners of Crown Lands of the first part, and F. H. Hayselden of the second part. Witnesseth, that for and in consideration of the rental, covenants and agreements hereinafter reserved and contained on the part and behalf of the said party of the second part, his executors, administrators and assigns, to be paid, kept and performed, they, the said parties of the first part, by virtue of the authority in them vested, by the act entitled, "An Act to Relieve the Royal Domain from Encumbrances, and to render the same Inalienable," approved January 3d, 1865,

<sup>73</sup> Hawai'i State Archives, Series 369, Vol. 1 Crown Land Leases.

<sup>74</sup> Hawai'i State Archives, Interior Department Letter Book, 1878, Vol. 15:110.

<sup>75</sup> Hawai'i State Archives, Interior Department Lands.

<sup>76</sup> Hawai'i State Archives, Interior Department Lands.

have demised and leased, and by these presents do demise and lease, unto the said party of the second part, his executors, administrators and assigns, all of those tracts and parcels of lands situate on the Island of Lanai, Hawaiian Islands, known as the Ahupuaas of Kamoku and Paomai, by their ancient boundaries or as may be hereafter determined by legal authority; excepting therefrom all of the Kulcanas and rights of native tenants; and especially canceling and annulling those certain indentures of Lease of the same premises made between the Commissioners of Crown Lands and W. M. Gibson dated January 1st, 1878 and August 1st, 1874 [see leasehold records in dates referenced above] except the timber trees, and all young trees fit and proper to be raised and preserved for timber trees now growing or being or which shall hereafter grow, or be in and upon the above demised premises, or any part there; together with free liberty of ingress, egress, and regress to and for the said parties of the first part, and their successors in office.

To Have and to Hold, all and singular, the said premises above mentioned... unto the said party of the second part... for and during the term of Twenty five (25) Years, to commence from the First day of January A.D. 1891... Paying therefore the yearly rental of Five Hundred (\$500.00) Dollars, over and above all taxes, charges and assessments to be levied or imposed upon the said premises by Legislative Authority.<sup>77</sup>

When Walter Murray Gibson died in 1888, his estate was inherited by one of his children, a daughter Talula who married Frederick Hayselden. Prior to Gibson's death, Hayselden had been appointed administrator of the assets. In 1896, the liens held on the Gibson estate were in arrears and foreclosure proceedings initiated. Reference to leasehold and fee-simple land title, including Paoma'i Ahupua'a, was found in the foreclosure notice:

In the Circuit Court of the First Judicial Circuit, Republic of Hawaii. In equity - S. M. Damon, J. H. Fisher and H. E. Waity. Copartners under the firm name of Bishop and Company, plaintiffs, vs. Cecil Brown, Administrator with the will annexed of the Estate Walter Murray Gibson, and Trustee of the Estate of said Walter Murray Gibson, deceased, under said will, and Jane Walker, Executrix under the will of J. B. Walker, deceased, and H. E. McIntyre, in his own behalf, and as Executor under the will of said J. S. Walker; Talula Lucy Hayselden, and Frederick H. Hayselden, her husband; Wilder's Steamship Company, a corporation; Walter H. Hayselden, Lucy T. Hayselden, Frederick H. Hayselden, Junior, a minor; David Kalakaua Hayselden, a minor; and Rachel K. Hayselden, a minor, defendants.--Foreclosure Proceedings.

Pursuant to decree of foreclosure and sale, made in the above entitled suit and Court, May 11th. A.D. 1896, notice is hereby given that the property hereunder described will be sold at public auction at the Court House (Aliioli Hale) in Honolulu, Island of Oahu, Hawaiian Islands, on Wednesday, August 26th, at 12 o'clock Noon, said sale to be confirmed by said Circuit Court.

<sup>77</sup> Bureau of Conveyances, December 19, 1890, Lease No. 167, Liber 128, p. 276-279. Carried over from leasehold agreements dated September 30, 1874 and January 1, 1878.

List of The Property... Leaseholds.

First.—Lease No. 167 from the Hawaiian Government of Paomai containing 9078 acres, and of Kamoku, containing 8291 acres, expiring January 1, 1916, annual rental \$500, payable semi-annually in advance...

Personal Property. As follows:

The sheep, cattle and horses belonging to the said estate of W. M. Gibson on said Island of Lanai, numbering 24,000 sheep, more or less, 550 cattle, more or less, 200 horses, more or less; also all wool presses, wagons, carts, harnesses, tools, implements, chattels, household furniture and effects belonging to the estate of W. M. Gibson, situate on said Island of Lanai...

Maps of the property to be sold can be seen at the Hawaiian Safe Deposit and Investment Company, 408 Fort street, Honolulu, and for further information apply to the undersigned.

P. C. Jones, Receiver.

Office with the Hawaiian Safe Deposit and Investment Company.

Dated Honolulu, May 25, 1896.<sup>78</sup>

The following is from a 1901 report of the Governor of Hawai'i.<sup>79</sup> The report lists lands known as Crown Lands that are now classed as public lands, one of which is Paoma'i.

Lanai		
Paomai	Acres	9,000.00
	Lease No.	167
	Annual Rental	[combined with Kamoku]
	Expires	Jan. 1916
	--Acres taken for settlement purposes	
	Estimated Value	\$12,000.00
	Remarks	Grazing land

**2.8.2.2 Exchange of Government and Crown Lands on Lāna'i to Charles Gay**

When Charles Gay and family began to purchase the Gibson-Hayselden land interests on Lāna'i, Gay recognized that if they were to make a go of their business efforts that they would need to hold title to the majority of land on the island. The initial acquisition began in August 1902, with subsequent conveyances recorded between 1903 and 1927. While Charles Gay was purchasing land on Lāna'i he was also mortgaging the properties to continue acquisition of larger holdings. This kept him in debt to a number of parties. Walter Giffard, a friend of Gay's, and also an officer of W. G. Irwin and Company, which already owned the ahupua'a of Ka'ā and Ka'ōhai, and held mortgages under the Hayseldens, was quietly enlisted by Gay to assist with brokering a land exchange to bring the public lands on Lāna'i under Gay's ownership.

<sup>78</sup> "Lanai - Notice of Sale Under Decree of Foreclosure and Sale," *Hawaiian Gazette*, June 23, 1896, p. 4.

<sup>79</sup> Hawai'i State Archives, 1901, p. 12.

In June 1903, the Commissioner of Public Lands agreed to allow the Gibson heirs to transfer interest in the public lands to Charles Gay. In 1906, Territorial Governor George R. Carter and James Pratt, Commissioner of Public Lands in the Territory, engaged in the land exchange deal with Charles Gay. Gay would transfer valuable pieces of land in the Honolulu District to the territory in consideration of title of the government lands on Lānaʻi, covering Paomaʻi and seven other ahupuaʻa, to him in fee-simple. Giffard and Irwin and Company agreed to facilitate the exchange. Representative Lincoln McCandless sued Carter, Pratt, and Gay on the premise that the public lands on Lānaʻi should be granted to homesteaders. A court case evolved, and important documentation regarding environmental conditions, failed business efforts, residency of the native population on Lānaʻi, and assessments of the land on Lānaʻi were recorded. The case went all the way to the United States Supreme Court, which found in favor of the territory and Charles Gay, and resulted in the extinguishing of all government claims on public lands on Lānaʻi.

The public lands recorded under the name of Walter Giffard via Land Patent Grant No. 5011 were transferred to Charles Gay on February 10, 1907 for \$1.00. On April 10, 1907, Gay mortgaged the entire Lānaʻi holding to W. G. Irwin Company, combining all outstanding debts to the amount of \$337,279.98. The debt owed by Gay to Irwin, along with the degraded landscape and inability of the ranch operations to support economic gains, placed the family under extreme financial distress. On September 7, 1909, with foreclosure looming, Gay deeded all of the Lānaʻi holdings and assets to W. G. Irwin and Company.<sup>80</sup>

The narratives below, ordered chronologically, include selected documentation on the initial acquisition of Lānaʻi lands by Charles Gay, and the series of transfers of Paomaʻi and other “ceded” lands from the territorial government to his private holdings. Gay quickly lost financial control and the lands transferred to other parties, eventually becoming the holdings of the Hawaiian Pineapple Company, Ltd., in 1922.

The following is an excerpt from a commissioner’s deed conveying William M. Gibson’s estate to Charles Gay. The document was recorded on August 28, 1902. Included in Gibson’s estate are lands, livestock, and other personal property on the island of Lānaʻi.

This Indenture made this 28th day of August A.D. 1902, between Albert Barnes, Commissioner, of Honolulu, Island of Oahu, Territory of Hawaii of the first part, and Charles Gay of Makaweli, Island of Kauai, in said Territory, of the second part...

Leases

... Second. All the property conveyed by Frederick H. Hayselden on January 24th A.D. 1891, to wit. That certain Indenture of Lease of the Ahupuaa of Kamoku and Paomai, on the Island of Lanai made by and between the Commissioners of Crown Lands of the first part and said Frederick H. Hayselden, of the second part, dated December 19th, 1890, of record in liber 128, fols. 276–279.

The lease document from September 1902 excerpted below transfers the lease of Crown Lands of Kamoku and Paomaʻi from F. H. Hayselden to J. F. Colburn.

The Indenture executed this Twelfth day of September A.D. 1902, between Frederick H. Hayselden, party of the first part, and John F. Colburn, party of the

<sup>80</sup> Bureau of Conveyances, Liber 316, p. 474–479.

second part, both of the City of Honolulu, Island of Oahu, Territory of Hawaii. Witnesseth: That the said party of the first part, for and in consideration of the sum of Ten Dollars, (\$10.00), to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, hath bargained and sold, and doth by these presents, sell, assign, transfer and set over unto the said party of the second part, that certain Indenture of Lease executed on or about the 19th day of December, A.D. 1890, of record in Liber 128, pages 276 et seq., wherein and whereby the then Commissioners of Crown Lands demised and leased unto the said party of the first part, those certain lands situated on the Island of Lanai, in the then Kingdom, and in the present Territory of Hawaii, more particularly known and described as the Ahupuaas of Kamoku and Paomai, together with all and singular the rights and equities of said party of the first part to and under said lease, and in and to the lands described therein and to the possession of said lands, and all erections and improvements that have been placed thereon by said party of the first part, or by any other person acting or claiming under said party of the first part in the premises; and all other the additions to and improvements upon said lands, as the same exist at this date. To have and to hold the said described lease, rights, equities and premises unto said party of the second part for and during all the rest, residue and remainder of the term limited in and by said described lease, and to his executors, administrators and assigns. And said party of the second part, for himself, his executors, administrators and assigns in consideration of this foregoing assignment, doth hereby covenant and agree to and with the said party of the first part, and his executors and administrators, that the said party of the second part, will well and truly keep, observe and perform all and singular the covenants and agreements in said recited lease expressed and made this obligatory upon the lease therein named, to wit; the said party of the first part.

In witness whereof, the said party of the first and second parts have hereunto, and to another instrument of even date and tenor, set their hands and seals, at Honolulu aforesaid, the day and year first hereinabove written.<sup>81</sup>

On July 18, 1906, James Pratt, Commissioner of Public Lands, wrote to George R. Carter, governor of the Territory of Hawaiʻi, regarding land exchange on Lānaʻi. An excerpt of the letter is below.

I beg leave to acknowledge receipt of your letter of 13th inst., re Public Lands of Lanai, and in reply to same will state that about three weeks ago Mr. Giffard again brought up the subject of exchange of Bishop Wharf and approaches for balance of Lanai lands. He stated that the smallest sum he could purchase the wharf for was \$125,000.00 and this amount was about \$15,000.00 in excess of the value of Lanai lands, in opinion of Mr. Irwin...

His first agreement with Gay, (I understand) was to sell his 29000 acres for \$80,000.00, then it is stated that he cut the figure to \$60,000.00 and now Mr. Giffard says \$40,000.00. Mr. Irwins’ lands have no running water thereon, and that portion

<sup>81</sup> Bureau of Conveyances, Liber 240, p. 159–160.

(about 500 acres) that might be classed as agricultural land (if watered) has no water shed from which the storm waters could be conserved.

The Government property covers very nearly the entire water shed and reservoir sites, and also practically all the natural running water. With a proper conservation of water, plus the natural precipitation (at an average elevation of 1600 feet above sea) our land, to the extent of about 7500 acres could be cultivated in pines or other products that do not require so great a quantity of water as sugar cane must have.

Prior to the occupancy of Lanai by the present lessee, rain water conserved in cisterns satisfied all demands for ordinary purposes about the ranch houses of W. M. Gibson, F. H. Hayselden and other residents of the upper plateau.

This would indicate that there is a considerable and regular rainfall on these lands, and, as 30 to 50 inches annually is fully sufficient for many crops, I believe that I make no mistake in classing about 7500 acres of our land in neighborhood of "Koele" as "Agricultural," leaving about 39000 acres "Pastoral," and 1000 acres "Forest and Water reserve."

Mr. Irwins land (without water) is and always will be classed as Pastoral land unless handled with the Government lands.

The principal owners on Lanai at this time are as follows:

Hawaii Terr.	about 47,298.14
W.G. Irwin et als	about 29,103.10
Chas Gay	about 11,055.24
Kuleanas & Grants	about 1,497.53
Total	88,954.01

I believe that the comparative real values are about as follows:

Government	130,000.00
Irwin	40,000.00
Gay	20,000.00
Kuleanas & Grants	12,000.00

In case it is believed that there is a good opportunity at this time to dispose of these lands at a fair valuation, I would respectfully suggest that the best way to settle their value would be to send a couple of good men over there and let them appraise the premises.<sup>82</sup>

On September 29, 1906, Paul Jarrett wrote to Jas. W. Pratt, the Commissioner of Public Lands, regarding his observations of lands on the island of Lānaʻi. He gives descriptive classifications of the types of lands and assigns values to them.

In compliance with your request for appraisalment of the Public Lands on the Island of Lanai for Pasturage purposes, I beg to submit the following report which I have carefully prepared according to my personal observation of these lands and

<sup>82</sup> Hawaii'i State Archives. DLNR 2-21.

investigation as to their climatic conditions; and from data obtained at your office regarding names, acreage and location of these lands on the map of Lanai island:

...

PAOMAI 9078 A[acres]

No Kul[eana].

About 7818 acres are situated on the windward side and this area consists of land that is very barren, being most exposed to the trade winds, of the Public Lands on Lanai, the only vegetation being a few scattered and stunted Pua and Hualama trees growing upon the top section of this land. A very large gulch runs from top to bottom of this windward section, and the lower portion is very stony and cut up by ravines and gulches, with sandy soil near the beach. I value this windward section of about 7818 acres at 50cents per acre = \$3909.

About 1260 acres of this land is situated on the leeward side of the island and this area is fairly good land being slightly exposed to the trade winds. It is covered with Pilipiliula grass, although this grass is not fattening for livestock. At the extreme top boundary of this section which is very narrow, is a small sprinkling of scrubby trees. I value this leeward section of about 1260 acres at \$1.50 per acre = \$1890.

The following article carries a long, but explicit title: "Calls a Halt on the Lanai Deal. L. L. McCandless Secures a Temporary Injunction Restraining the Governor and the Land Commissioner from Carrying Out the Proposal to Exchange Lanai Government Lands for Land in Other Parts of Territory." It was published on December 15, 1906 in the *Pacific Commercial Advertiser*.

The proposed exchange of the government lands on the island of Lanai has been checked. Late yesterday afternoon Senator L. L. McCandless secured an injunction from Circuit Judge Robison, preventing Governor Carter and Land Commissioner Pratt from carrying out the proposed exchange. The move by McCandless was a big surprise and caused a great deal of comment in official circles this morning when the details of the course became known.

Senator McCandless opposition to the proposed exchange whereby Charles Gay or probably the Spreckels interests will secure complete control of the island, is well known. The island comprises 86,698 acres of land and out of this over 47,000 acres are government land. One special reason for McCandless opposing the government allowing its control of the island to pass, is the fact that there [are] at least two good harbors on the island. All water front control would pass from the Territory if the transfer be made.

The allegations in the bill in equity are of some length. The bill first sets forth the usual facts that McCandless is a resident of the territory, that Carter is governor and Pratt land commissioner. It then continues:

"First. All those certain public lands known as and called Kamoku containing an area of 8,291 acres, and those public lands known as Paomai containing an area of 9,078 acres all of said lands being now leased to Charles Gay by the Territory of Hawaii under Government Lease No. 167, dated December 19th, 1890, for the term

of 25 years, said lease expiring January 1st, 1916, at an annual rental of \$500 lawful money of the United States of America...

“And your orator further showeth unto your Honor that the island of Lanai, Territory of Hawaii, contains a total area of not more than 86,400 acres and that out of said total area of 86,400 acres the Territory of Hawaii holds as public lands only the lands above described by name containing a total area of 47,669 acres, that said 47,669 acres constitutes more than one-half of the total area of said island of Lanai; “And your orator further showeth unto your Honor that on the 28th day of November, 1906, the respondent herein George R. Carter, as Governor of the Territory of Hawaii caused to be promulgated the following order, to wit:

“LANAI LANDS. Notice is hereby given that having decided an exchange of the Public Lands on the Island of Lanai to be advisable, the Commissioner of Public Lands is prepared to receive offers of other lands that are equal in value to those of Lanai, and of greater immediate service to the Territorial government, from any responsible person, up to and including Saturday, the fifteenth day of December, 1906.

G.R. Carter  
Governor.

On February 1, 1907, title of government lands—including Paoma‘i Ahupua‘a—was sold as Land Patent Grant No. 5011 to Walter Giffard, who held title to the land in a mortgage to Charles Gay. The description of Paoma‘i in the grant followed the same survey as recorded in the Boundary Commission proceedings of 1891, and are cited in the following section of the present study.

The introductory narratives of the grant provide the following recitals:

On Land Exchange—By this Patent the Governor of the Territory of Hawaii, in Conformity with the Laws of the United States of America and of the Territory of Hawaii, makes known to all men that he has this day granted and confirmed unto Walter M. Giffard for the consideration of the transfer to the Territory of Hawaii by the said Walter M. Giffard of certain lands situate in the District of Honolulu, Island of Oahu, Territory of Hawaii as evidenced by that certain Warranty Deed of the said Walter M. Giffard to the Territory of Hawaii of even date herewith and of record in the office of the Registrar of Conveyances at Honolulu, Island and County of Oahu in Liber 291 at page 1 et seq. all of the land situate on the Island of Lanai bounded and described as follows:

Certificate of Boundaries of the land of Paomai [Crown Land]<sup>83</sup>

The excerpt below is from an article about the report on Lāna‘i lands which indicates that the Committee on Public Lands is in favor of the land exchange. The article is entitled “The Report

<sup>83</sup> The original Surveys of the Boundary Commission (AD 1877 & 1891), and boundaries and features recorded on Kingdom Registered Map No. 1394 were the source of the survey notes in Land Patent Grant No. 5011; and subsequently the source of the ahupua‘a surveys recorded in Land Court Application No. 862.

on Lanai: Findings of Committee in Favor of the Big Deal,” and was published in the Pacific Commercial Advertiser on May 2, 1907.

A long report from the Committee on Public Lands on the Lanai deal was presented. The document was a lengthy one of fifty-eight pages, the reading of which occupied over an hour and the clerk had to call upon the interpreter to help him out...

“Second Class Grazing Land. Under this division would fall almost the whole of Kamao and the makai portions of Kealiaapuni, Kaunolu, Kalulu and Kamoku on the kona side of the island; also on the windward side of the island probably the whole of Paawili, Kaunolu, Mahana and Paomai, although we examined only a portion of the mauka portion of Paomai and Mahana. All of this country is good grazing land. The makai portions of the Kona government lands have the heaviest growth of pili grass that I have seen anywhere in the islands.

There are probably 5000 acres of second-class agricultural and first-class grazing land on the portion of the island which we did not see. The secondclass grazing land, approximately 30,000 acres, would certainly be worth \$1 per acre, averaging good and bad.”

### 2.8.2.3 Surveys and Boundary Commission Records from Paoma‘i Ahupua‘a

Following the Māhele ‘Āina, there was a growing movement to fence off land areas to control access to resources which native tenants had traditionally been allowed to use. By the 1860s, foreign land owners or lessees and business interests petitioned the Crown to have the boundaries of their respective lands—which were the foundation of plantation and ranching interests—settled. In 1862, the king appointed a Commission of Boundaries, a.k.a. the Boundary Commission, whose task was to collect traditional knowledge of place pertaining to land boundaries and customary practices, and determine the most equitable boundaries of each ahupua‘a that had been awarded to ali‘i, konohiki, and foreigners during the Māhele. The commission proceedings were conducted under the courts and as formal actions under the law. As the commissioners on the various islands undertook their work, the kingdom hired or contracted with surveyors to begin the surveys, and in 1874, the Commissioners of Boundaries were authorized to certify the boundaries for lands brought before them.<sup>84</sup>

Primary records in this collection from Lāna‘i were recorded from 1876 to 1891. The records include testimonies of elder kama‘āina who were either recipients of kuleana in the Māhele, holders of Royal Patent Land Grants on the island, or who were the direct descendants of the original fee-simple title holders. The Boundary Commission proceedings provide a significant record of traditional and customary knowledge of native residents of Lāna‘i, with personal informant memories dating back to ca. 1800. The narratives cited below include several sources of documentation: i) letters of request and announcements in preparation for establishing the boundaries; ii) letters from the surveyors in the field; iii) excerpts from surveyor’s field books (Register Books); iv) the record of testimonies given by native residents of Lāna‘i; and v) the entire record of the Commission in certifying the boundaries of each ahupua‘a on Lāna‘i. The resulting documentation covers descriptions of the land, extending from ocean fisheries to the mountain

<sup>84</sup> W. D. Alexander in Thrum’s Hawaiian Annual, 1891:117–118.

peaks, and also describes traditional practices, land use, changes in the landscape witnessed over the informants' lifetime, and various cultural and natural features across the land.

The native witnesses usually spoke in Hawaiian, and in some instances, their testimonies were translated into English and transcribed as the proceedings occurred. Other testimonies from Lāna'i have remained in Hawaiian, untranslated, until development of this manuscript. Translations of the Hawaiian-language texts below were prepared by Kepā Maly.

Table 8 lists the place names of Paoma'i and adjoining lands that are documented through surveys of the Boundary Commission.

Table 8. Place names of Paoma'i and adjoining lands

Place Name/Alternative Spelling	Characteristic, Feature	Meaning
Awalua	Village site and landing on coast of Paomai	Twin landings
Halala/Hālala	A place along the old trail (road) and near the boundary of Mahana and Paomai Ahupua'a	Big, swollen, large
Hale o Lono	An ancient heiau on the coast, that marks the boundary between Paomai and Kaa	House of the god Lono.
Honowai	A village site in Paomai, east of Awalua	Fresh water cove
Honuaua/Honua'ula	A village site in Paomai, east of Awalua	Red earth
Kahue	A village site in Paomai, east of Awalua	The gourd
Kakaalani/Kaka'alani	A place situated along the boundary of Mahana and Paomai, having been identified as the "crest of the watershed," and about 500 ft. northwest of Keoni's house	Rolling, turning over the heavens.
Kanacle	A village site in Paomai, east of Awalua.	The rocky crevices
Ka Pohaku Ahi/ Pohaku Ahi/Ka Pōhaku Ahi	An area along a gulch near the upper boundary of Paomai and Mahana (near the divide between Paomai and Mahana gulches)	The fire stone
Kealakole	Area near boundary of Paomai and Mahana Ahupuaa, by trail to shore, and white house	Red earth path
Lae wahie / Ka Lae o ka Wahie	A point on the shore that forms the boundary between Paomai and Mahana Ahupuaa	The firewood point (a place where debris washes up)
Panau/Pānau	Site of two houses on coast of Paomai	To move up and down (as the sea)

Place Name/Alternative Spelling	Characteristic, Feature	Meaning
Pohakuloa/Pōhakuloa	A sandy hill on the boundary between Paomai and Kaa Ahupuaa. Kapunia'i's house was situated along gulch above here	The long stone
Pohoula/Poho'ula	Situated near boundary between Paomai and Mahana Ahupuaa. "At its foot was the general burying ground for this part of Lanai in ancient times"	Red hollow or depression
Puu Kauwela/Pu'u Kauwela	A hill along the boundary between Paomai and Mahana Ahupuaa	Summer hill; Hill of the hot season.

#### Lāna'i Testimonies and Survey Notes (1876)

In the period of 1876–1877, William D. Alexander, Surveyor General; M. D. Monsarrat, Assistant Surveyor; J. F. Brown; and party surveyed the entire island of Lāna'i, traveling with elder native tenants. Alexander's field book, covering late March and early April 1876, contains his notes, compiled through interviews and fieldwork.<sup>85</sup> The book provides readers of the present day with glimpses into the cultural and natural landscape of Lāna'i, and identifies several elder informants on Lāna'i. Of particular importance is documentation of traditional sites such as heiau, areas of residence, burial sites, shrines, former 'ua'u (Hawaiian petrel) nesting grounds, and trails. In the record are also found a number of place names and descriptions of features not mentioned in other documentary sources.

Unfortunately, few of the narratives recorded in Alexander's field book made it into the formal proceedings and documents of certification authorized by the Boundary Commission. The court proceedings focused on metes and bounds, relying on the authenticity and accuracy of the documentation provided by the surveyors. Thus, the notes copied verbatim from the field book provide us with the background as to how the boundaries were determined, and they identify significant cultural resources of Lāna'i.

March 30, '76

Kapunia'i states that at a place called Ka Lae o Kawahie, the boundary between Mahana & Paomai begins at a row of large rocks & runs directly inland. He also state that Ioba Kahema once surveyed the land of Mahana.

Names of hamlets in Paomai:

Panau, two wooden houses 2 miles E of Awalua

Honowai ½ mile E of Awalua

Kanae 1 ½ mile E of Awalua

Honuaua 3 miles E of Awalua

Kahue 3 miles E of Awalua

<sup>85</sup> Register Book No. 153, copied from the collection of the State Survey Division.



Ka Lae o Kawahie 4 miles E of Awalua

Bearings with Prismatic Compass:  
 From Awalua Village  
 Leahi not visible today  
 Mauna Loa on Molokai 320°  
 Round Hill on Molokai 296 ½ °  
 Kalae on Molokai 348 ½ °

March 31<sup>st</sup>

Old Kamai states that the boundary between Paomai & Kaa begins at a heiau called Hale o Lono about a mile West of Awalua. He confirms the statement that Ioba surveyed Paomai for Kanaina in the reign of K. IV. His father Lauaole was Ioba's guide. They assert that Paomai takes the strip of sand beach about 200 ft. wide from Hale o Lono to Pohaku Loa, & the adjacent fishery. Pohaku Loa is about a mile East of Awalua, a large rock & row of rocks. From Ka Lae o Kawahie, the boundary between Mahana & Paomai, runs tolerably straight inland a little east of the Paomai gulch, coinciding with a road most of the way. It turns a little to the west around the head of the Paomai gulch & along a narrow ridge between the head of Paomai gulch & that branch of Maunalei which belongs to Mahana.

At a point where the latter gulch divides into two branches called "Ka Pohaku Ahi," the boundary crosses and runs up to the top of the mountain, till it meets Kalulu. The other side of Mahana is bounded by the sea and by the Maunalei line which was surveyed by Mayor & settled by Judge Robertson.

The boundary between Paomai and Kaa, after following the top of the sand beach from Hale o Lono eastward to Pohaku Loa turns inland and runs straight for a small gulch near Kapuniai's house.

From Kapuniai's house, the line follows the foot of a line of bluffs, sending off a branch to the sea on the west between Kaa and Kamoku. It grows narrower towards the south and forms a narrow strip between Kamoku and Mahana as mentioned before. One of its landmarks is an ahupuaa [stone marker where tribute was paid in ancient times] near Koele, at foot of the encircling ridge near the mouth of a small ravine.

April 1.

Appr. Elevation of the water shed near the road from Maunalei to Kamoku = 1750 ft.

Appr. Elevation of the Koele station 1550 ft.

Kealakaa states that the boundary line between Kaa and Paomai after leaving Kapuniai's house, strikes the edge of the encircling line of bluffs about 500 ft. N.W. of Keoni's house on the crest of the water shed, at a place called Kakaalani. Thence the line descends a transverse ridge to S.W., marked by two or three large rocks, to the central plain. Thence it runs straight Southwesterly to the head of a ravine which separates Kaa from Kamoku. According to ancient tradition the bottom of this



ravine to the sea belonged to Paomai. A stone was pointed out on a low ridge at about the middle of this line, as one of Ioba's marks.

A commanding hill N.W. of the central plain, which was selected for a primary trig. station, is called Kanepu [Kanepuu].

The boundary between Paomai & Kamoku begins at the west, at the head of the ravine...

... Paomai Boundary which separates Kaa from Kamoku. In Makalena's [survey], he commenced here at a house site. The line then runs S.E. nearly straight to the ahupuaa before mentioned near Koele. One of Makalena's stations was a house site on a rising ground about half way, where there is a group, or clump of rocks.

The name of the square red bluff in the encircling ridge, a little S. of Kakaalani, is Pohoula. At its foot was the general burying ground for this part of Lanai in ancient times.

From the above mentioned ahupuaa, the boundary between Paomai & Kamoku runs up a small ravine to the top of the dividing ridge. It then follows the edge of the pali round to the main branch of the Mahana gulch & thence returns to the northward along the west side of that gulch to Pohaku ahi mentioned above.<sup>86</sup>

The following is an entry from Alexander's field book which he copied from an old survey by Ed Mayor dated July 25, 1859.

Local Names.

On Paomai boundary [circle with dot] is at a place called "Piliamoo."

Dividing ridge in Maunalei Valley is called "Koloiki."

Paomai [circle with dot] 3 near white house is "Kealakole."

[circle with dot] NE at Kamaainas "Puu Kauwela."

[circle with dot] on road "Halala."

Kaiholena.

The following is from notes of old surveys of the island of Lāna'i by W. D. Alexander and M. D. Monsarrat.

Konohiki Land Titles

Ahupua'a	Owner	Title
Ka'ā	V. Kamamalu	Award 7713
Kaohai	M. Kekuaiwa	Award 7714
Maunalei	Fanny Young	Award 8519 B
Pālāwai	M. Kekauonohi	Award 11216
Keālia (Kapu)	J. Kaeo	Award 8520

<sup>86</sup> W. D. Alexander, "LANAI (Memo.)," Register Book No. 153, 1875-1876. Note: Pages 1-13 in this book contain memos and maps of land holdings at Nu'uauu, O'ahu. Lāna'i notes begin at page 14. Alexander also uses macron accents on certain place and people names as indicated in the citations here.

Govt. Lands

... Mahana ceded by Lunalilo for Commutation

Paomai omitted in the Mahele

Kamoku only in part, the ilis of Kaumalapau 1 & 2, and Kalama being mentioned in the Mahele book as Govt. lands.<sup>87</sup>

On January 18, 1889, W. D. Alexander wrote to L. A. Thurston and identified Paoma'i as a Crown Land.

Dear Sir – By some inadvertence I omitted the land of Paomai, Lanai, area 9079 acres, in the list of unassigned lands occupied by the Commissioners of Crown Lands.<sup>88</sup>

A notice was issued by the Boundary Commissioner regarding the boundaries of Paoma'i. The notice is given below.

Application having been made to me for the settlement of the boundaries of the land of "Paomai" on the Island of Lanai, all parties interested in said land or lands adjoining same are hereby notified that Thursday, Feby. 28, 1889, at 12 o'clock noon at the Court House in the town of Lāhaina, is the time and place set for hearing proofs of survey and any objections thereto.

Sam'l F. Chillingworth.

Commissioner of Boundaries Second Judicial Circuit.<sup>89</sup>

King Kalākaua declared Paoma'i a Crown Land in 1890 in the following.

AN ACT.

To Declare Certain Lands to be Part of the Crown Lands and Royal Domain.

Whereas, certain unassigned lands have hitherto and at all-time heretofore been held to be part of the Crown Lands and Royal Domain and as such were and are now in the possession of the Crown Land Commissioners; therefore,

Be it Enacted by the King and Legislature of the Hawaiian Kingdom:

Section I. The Ahupuaa known under the following names and situated as hereinafter set forth, that is to say...

5. Kamoku, in the Island of Lanai;

6. Paoma-i in the island of Lanai...

Are hereby declared to be a part of the Crown Lands and Royal Domain of the Hawaiian Kingdom and as such subject to the provision of the Act entitled "An Act to relieve the Royal Domain from encumbrances, and to render the same inalienable," approved the 3rd day of January, A.D. 1865; and the possession of

<sup>87</sup> W. D. Alexander and M. D. Monsarrat. "Notes of Old Surveys, Island of Lanai," H.T.S., Reg. No. 162, 1878, p. 3.

<sup>88</sup> Hawai'i State Archives, Interior Department Lands.

<sup>89</sup> "Boundary Commissioner's Notice!" *Hawaiian Gazette*, February 5, 1889, p. 5.

said lands is hereby confirmed in accordance with the provisions of Sections 3 and 4 and 6 of said Act to the Crown Land Commissioners and successors in office...

Approved this 14th day of November, A.D. 1890.

KALAKAUA REX.<sup>90</sup>

**Paoma'i Ahupua'a Boundary Commission Survey, 1891**

The following document sets out the official boundaries for Paoma'i Ahupua'a determined by the Boundary Commission.

Lāhaina, Maui, Feb. 28th, 1891.

In the matter of the settlement of the Boundaries of the land of Paomai, Island of Lanai.

Application made by Commissioner of Crown Lands, Curtis P. Iaukea.

Mr. R. W. Meyer for Honorable C. R. Bishop, Mrs. B. P. Bishop and himself and Mr. M. D. Monsarrat for the Hawaiian Government respectively, and having filed their authorization to act in the premises, the following were agreed to be the Boundaries of this land, and in accordance with the agreement and their [sic] being no parties of interest, it is decreed that the Boundaries of the said land of Paomai, Island of Lanai, are as follows:

Commencing at a cross cut in a rock at a rocky point called Lae Wahie the boundary runs:

1. S 22° 47' W true 4482 feet along Mahana to a cross cut on a stone.
2. S 9° 04' E true 5279 feet along Mahana to a triangle cut on a stone.
3. S 27° 24' E true 3830 feet along Mahana to a cross cut on a stone at a place called Halala.
4. Thence along Mahana following up the East edge of the gulch, to a red wood post which bears S 12° 51' E true 5995 feet from last point (at a place called Puu Kauwela). Thence:
5. Still along Mahana up edge of gulch to a point on East bank. The traverse from the red wood, post being as follows:
6. S 15° 01' W true 1076 feet.
7. S 37° 05' E true 2023 feet
8. S 73° 29' E true 1928 feet.
9. S 59° 11' E true 1578 feet.
10. S 14° 03' East true 1438 feet to above mentioned point.
11. S 37° 17' W true 1447 feet along Mahana to a red wood post at head of Paomai gulch and on edge of a branch of the Maunalei gulch.
12. S 28° 53' E true 3143 feet along Mahana to three stones set in a triangle on South edge of branch of Maunalei gulch.

<sup>90</sup> "Lanai Crown Lands," *Hawaiian Gazette*, December 16, 1890, p. 7.

13. S 49° 14' E true 8425 feet along Mahana to a red wood post on ridge that comes down from the central mountain range (said post being the North edge of Valley that contains the water hole of Kaiholena).
14. N 62° 37' W true 6742.5 feet along Kamoku down above mentioned ridge and across valley into a small ridge and down said ridge to a red wood post at end of same.
15. S 84° 37' W true 1316.8 feet along Kamoku to a cross cut on a stone.
16. S 74° 08' W true 6258 feet along Kamoku passing to the North of a couple of Hala clumps to two triangular pits at an old house site.
17. S 74° 51' W true 5045 feet along Kamoku to a cross cut on a stone at head of gulch.
18. N 86° 06' W true 1368 feet along Kamoku down South side of gulch.
19. S 83° 45' W true 1455 feet along Kamoku to a cross cut in a stone.
20. S 74° 09' W true 920 feet along Kamoku.
21. N 55° 12' W true 898 feet along Kamoku across gulch to a red wood post a little West of a cactus clump.
22. N 67° 28' E true 1475 feet along Kaa to a rock marked thus T.
23. N 56° 34' E true 1574 feet along Kaa to a red wood post set in middle of triangular [sic] formed by three stones.
24. N 63° 22' E true 10649 feet along Kaa to a huge [huge] rock marked thus [diagram].
25. N 57° 20' W true 1622 feet along Kaa to a red wood post at a place called Kakalani [Kakaalani] from which point Puu Manu Signal Station bears S 36° 57' E true.
26. N 59° 42' W true 13846 feet along bed of shallow ravine to a rock marked thus.
27. N 54° 19' W true 3449 feet along Kaa to red wood post on small hill from which point Signal of hill Kanepuu bears S 54° 38' W true.
28. N 33° 59' W true 2310 feet along Kaa to rock marked thus X.
29. N 17° 12' W true 2334 feet along Kaa to center of triangle formed by three stones set in the ground.
30. N 11° 57' W true 14243 feet along Kaa to a red wood post set in a sandy hill near place called Pohakuloa.
31. N 86° 18' W true 4574 feet along Kaa to corner of enclosure at Kamai's house.
32. S 77° 18' W true 1776 feet along Kaa;
33. N 89° 09' W true 4737 feet along Kaa to place called Hale o Lono.
34. N 83° 47' E true 10966 feet along sea shore.
35. S 76° 21' E true 8288 feet along sea shore.
36. S 88° 15' E true 8889 feet along sea shore to point of Commencement.

Area 9078.97 Acres...

Saml. L. Chillingworth

Commissioner of Boundaries II J. C.<sup>91</sup>

### 2.8.3 Native Traditions and Historical Accounts

A review of Hawaiian-language newspapers revealed a few passing references to Paoma'i and neighboring lands. The narratives include poetic descriptions of the land, resources, residents, and events in history. A few of the accounts also describe unfortunate events in which murders occurred in 1871 and 1892. Selected narratives follow below.

#### Travel through Paoma'i in 1869

The first narrative offers a description of the lands from Polihua to Honua'ula. A party had traveled through these areas in 1869.

[Polihua] — Kaulana keia wahi no ke nce o ka honu i uka, a hanau iloko o ke one a me ka pohuehue, aole nae hoi i hiki i ka wa hanau o ka honu, ina paha e hanau i na la hoi ua ike makou.

He wahi one palahalaha maikai keia, he pohopoho, a he loko kai kekahi; a wahi a ka lohe a kamaaina, aia ka ka ike ia Polihua a lei i ka manewanewa, o ko makou lele like iho la no hoi ia u-u e like me ka u-u ana i ka maile; i kau mai hoi ka hana i ka a-i, onaona launa ole mai i ke ala o ka hala o Panaewa, he ano like me ka rose ke ala, a o ka hao mai ia no ia kapalili ana ma kaha one.

He nani hemolele maikai ia hele ana mai, he pae wale no ia holona mai a kaa moku i ka pa a ka Maaa mahope, pono pono na peaheke, a hiki ana i Awalua. He nani okoa no hoi ia, he awa ku moku o kai, he mau hale maikai no e ku ana ma kapakai, i laila makou i inu iho ai i ka wai opuni o Puako i Hawaii, me ka haawi aku i ke aloha no lakou, ulele mai no a hehi ana ia Paomai a me Awili.

He mau aina nui keia mai kahakai a kuahiwi, kiola ae la makou ia mau aina i hope, holo aku no a hiki i Honuaula.

I laila ke keiki a ke aloha i noho ai o Mr. Palau, hookipa kela ia makou. He alihikaua oia no ua hana pono ma ke uhane ma ia Kihapai o ka Iaku, a he alihikaua no hoi e alakaia ana i na wahi pulapula opio o koe malaila; a pau ka paina ana me ne poke hee, o ka hele ae la ia a liki toil [?] kapaia ka wahi a ka haole.<sup>92</sup>

The translation of the above narrative follows.

[Polihua] — This place is famous for the movement of the turtles to the inland areas, and for their birthing in the sand and pohuehue. We were not there at the time of the birthing of the turtles, perhaps had we been there in those days we would have seen it.

This place is a fine, wide beach, with hallows and some salt ponds; and it is said by the natives, "It is known that you have seen Polihua, when you wear a lei of

<sup>91</sup> "Paomai Ahupuaa, Island of Lanai." Boundary Commission, Volume No. 2, p. 35-37, No. 81, Land of Paomai, Island of Lanai.

<sup>92</sup> "Nauae ana e ike i ka mokupuni o Kaululaua," *Nupepa Kuokoa*, Ianuari 9, 1869, aoao 4.

manewanewa.” So we quickly went and stripped it, just like how you strip the maile. When we finished our work, we placed it upon our necks. Its fragrance is second to none, like the fragrant pandanus of Panaewa, also like the fragrance of a rose. Its fragrance is born across the sea beach.

It is beautiful beyond compare to travel here, and as we went on we felt the Maa blowing behind us, causing the sails to billow, and we reached Awalua. There is a different beauty here, it is the boat harbor, and there are many good houses here along the shore. It is there that we drank the brackish water, which causes one’s stomach to enlarge, as at Puako on Hawaii. Offering our aloha for the people there, we departed for Paomai and Awili.

These are large lands, from shore to mountain. Leaving these lands behind, we then went on to arrive at Honuaula. There, the beloved child, Mr. Palau resides, and he welcomed us. He is a leader of the good work in the field of the Lord, and a leader of the young people who still remain there. When we finished our meal of raw octopus, we then continued on the way in toil, as the foreigner says...

The visitors then gave the left over water for the kind hospitality of Mr. Palau, and the other households, on the calm of the shore. Then mounting the horses to travel on.

#### Murder at Paoma’i

The excerpt below originates from a newspaper article which describes the unfortunate occurrence of a murder at Paoma’i.

We have received, at a late hour this morning, a letter from Lanai, which points pretty plainly to the fact that in March, 1870, a native named Palau<sup>93</sup> was murdered at Paomai, on that island. An inquest was recently held on certain remains found, resulting in a verdict that they were those of Palau, and that he came to his death by violence.<sup>94</sup>

The following editorial, written on November 2, 1871, expands and speculates on the circumstances of Palau’s murder.

Mr. Editor:—This quiet island has been lately the scene of a little excitement, and is trying to have its share in the carnival of disaster and crime now pervading the world. In March, 1870, a native, I. W. Palau, residing on Paomai, west end of the island, was suddenly missing. Some said he had perished whilst fishing and was not much sought for. After a while there were rumors of foul play, and suspicion attached to a certain family, the near neighbors of the lost one. On the 3d October last, the remains of I. W. Palau were found in a small cave, or hole, in a rocky ravine, near his late abode, and were immediately recognized by the clothing and other objects known to have belonged to Palau. It was plain to be seen that he had

<sup>93</sup> Palau is the gentleman referenced in the previous narrative as the host at Paoma’i of the party that visited the island in 1869.

<sup>94</sup> “Murder on Lanai,” *Pacific Commercial Advertiser*, November 4, 1871, p. 3.

been done to death maliciously. Several bones were broken after the fashion of ancient Hawaiian bone-breakers, and heavy stones lay upon the bones in the cave.

An inquest was held upon the spot where the bones were found, Justice Solomona Kahoolalahala acting as coroner, and after a careful investigation and examination of witnesses during three days, the jury unanimously agreed upon a verdict that I. W. Palau had come to his death by blows from some heavy instrument in the hands of some person unknown to the jury. But the suspicion of every native on the island fastens on certain parties, a father and son. The wife of Palau and another witness confessed that they, with these suspected parties, were participants in a large theft of sheep from a foreigner, Mr. Gibson. They stole several hundreds, burying numbers which were branded, and which they could not dispose of. Palau was acquainted with the theft and threatened exposure. He was a stranger on the island, reputed to be a steady church-goer and honest man, and was aggrieved at the villainies of many of the islanders. This is the fourth death on this island in seven years, accompanied with suspicions of foul play. A jury, a few years ago, decided that a woman, Mahaaoe, had been stabbed to death. Some reward ought to be offered by the Government in order to induce the natives to testify. There are many, no doubt, who know the guilty parties.<sup>95</sup>

#### A Sightseeing Journey in 1872

The narrative below was written by S. A. Kanakewae from Waialua, Molokai on September 9, 1872 and recounts a sightseeing journey on Lāna’i.

E ka Nupepa Kuokoa e;

Aloha oe:— Would you and your associates grant space for this explanation of some of the famous places of Lanai so that our many friends from Hawaii to Kauai might know of them, should they come to visit Lanai. [Having landed at Awalua] They are thus:

From Awalua, Polihua is west, and from Awalua, Keahiakawelo is south. West of there is Nalehua o Kapoai and the lehua grove of Malulani. Then beginning from Keahiakawelo going to the southeast, you arrive next at Kanepuu. To the east of Kanepuu is Hoopulapulamo, then the kula (open lands) of Kaa. From here, one may then see to Kihamanienie, and the valley cliffs of Kaiholena. Traveling from Hoopulapulamo on the kula of Kaa, there are two pili thatched houses along the side of the trail. That is Kukuikahi, and from there you go straight to the residence of Holokahiki. You may then ask Holokahiki about the trail that ascends to Kaiholena, where the fresh water spring of those who resided at Palawai, Kealii and Pulehulua, Kihamanienie, Kiekie, Niminiwai. That is the water for bathing and where their horses are watered...

[Departing from Maunalei Valley, traveling along the coast of Mahana] Then you come to Kahokunui, where there are two houses. Then comes the kula of Kaiolohia. At the time of this journey, there are not many houses here. At

<sup>95</sup> “Letter from Lanai - Supposed Murder,” *Pacific Commercial Advertiser*, November 11, 1871, p. 3.

Kahaulehale there is one house and at Kahue, there are two houses. At Honuaua there are six houses, and at Paomai there is one house. Now you have encircled Lanai. So that is the news of the country folk here, for those young people in the town of Honolulu who are interested in the various places of these 12 islands.

This is a good land, the natives help the visitors who pass by on horse. So we give our warm aloha to Kamai, Hao, Palau, Iosepa and Naeole for their help offered to us, with the horses, and to those who welcomed us, Holokahiki, Lapaki, Ohua and Kekawewe. I now return to Molokai to rest at Kawela. Aloha to you.<sup>96</sup>

#### Kanikau for Maea

The following is a kanikau, which laments a loved one who has passed on. Some places of Lāna'i are mentioned, which suggests the departed one had resided at or frequented these places.

Ua hala kuu lani, kuu mea minamina, he wahine i ke ala hoi ole mai... Ua make o Maea i ka la 12 o Novemaba, 1880 ma Kuloloia, Honolulu, Oahu... Aloha ino...

... He kanikau he aloha keia nou e Maea  
 Kuu kupuna wahine mai ka hono ona moku  
 Mai ka makani hulilua o ka aina  
 E wehe ana i ka lau o ka ulu...  
 Kuu kupuna wahine i ke kaha o Paomai  
 E nana ana i ke one o Polihua  
 E kahiko ana i na lehua o Malulani  
 Mai ka makani Kehau o Kihamanienie  
 Makani popokapa o Kaiholena  
 Hoomaha aku i kahi wai ono Pulehulua  
 Ola ke kini kiai wai o Kaa-e.  
 Auwe kuu kupuna wahine-e.  
 Kuakeaweniho.<sup>97</sup>

The translation of the kanikau is below.

My heavenly one has passed on, my regret is that this woman has departed upon the trail from which there is no return. Maea died on the 12th day of November 1880 at Kuloloia, Honolulu, Oahu... Grief...

This is a lamentation of love for you, Maea  
 My grandmother from the bays of the islands  
 From the variable winds of the land  
 That open up the leave of the breadfruit...  
 My grandmother there on the shore of Paomai  
 From where one may look to the sands of Polihua

<sup>96</sup> S. A. Kanakeawe, "Makaikai ia Lanai (A Sitesecing Journey on Lanai)," *Nupepa Kiokoa*, Kepakemapa 21, 1872, aoao 2. Translated by Maly.

<sup>97</sup> "He Kanikau Aloha no Maea," *Ko Hawaii Pae Aina*, Kekemapa 4, 1880, aoao 4.

Adorned in the lehua blossoms of Malulani  
 From the Kehau wind of Kihamanienie  
 The wind that bundles up the kapa of Kaiholena  
 One found rest at the place of sweet water of Pulehulua  
 The natives of Kaa have life in guarding the water  
 Alas my grandmother-  
 Kuekeaweniho.<sup>98</sup>

#### Triple Murder at Awalua in 1892

The following narrative describes some gruesome events that occurred on Lāna'i in 1892. The crimes described occurred at Awalua.

A much worse tragedy was enacted on the island of Lanai this month than the first dark and vague reports of the uncanny conduct of a family there made evident. By the Kinau on Sunday morning there arrived in Honolulu two officers in charge of eleven persons committed to jail for trial on the charge of murder. There is a twelfth person who has been accused of murder, in connection with the same blood-freezing horror, left lying in jail at Lāhaina charged with participation in the crimes, while being himself one of the sufferers from the brief but frightful reign of fanaticism at the hamlet of Awalua.

The prisoners comprise five women—Puulolo (the principal), Kanoe, Kanoena, Nawai and Kahikina, and six men—Kala, Kakaio, Kealaka, Keola, Keliukuewa and Kealakaalilii. Puulolo is charged with three murders, one of them wholly her own cruel work. The others are charged with participation in one or both of two of the murders with which the principal is charged. According to the commitments, the first murder was the killing of Kalalilii, a nephew of Puulolo's and a child of only six years, in which the murderous kahuna was assisted by nine of the family group, on the night of February 11. Puulolo is charged singly with the murder of Puni, whom she beat to death with a club, the night of February 12. The same night Kaholokai was seized by the assistants of the priestess, while she beat him with a club into unconsciousness. She is supposed to have finished him after the retirement of the others. Early in the morning the hut was burned down, and the fanatics threw Kaholokai's body into the flames. Paa, who is in jail with his wife at Lāhaina, was one of the first ones to be attacked for his skepticism of the powers of the priestess. He is a brother of Puulolo and his treatment gives some idea of the intensity of her malignant frenzy. By her orders he was held down, while the devilish wench roasted his face, arms, and body with a burning torch composed of rags dipped in grease. The foregoing is a summary of the crimes for which the prisoners await trial. Below will be found a history of the awful tragedy, in which the motives already hinted at are made more clear.

The following facts are gathered from the report of Deputy Sheriff Sam. F. Chillingworth, Wailuku, to Marshal Wilson:

<sup>98</sup> Translated by Maly.

On Monday the 15th inst. A boat arrived at Lāhaina from Lanai, bringing information of several deaths at Awalua, Lanai. A constable from Lanai and two witnesses came by the boat, on hearing whose statements Captain of Police Hose rode to Olowalu, and thence? telephoned an account of the affair to Wailuku.

Sheriff T. W. Everett instructed Deputy Sheriff Makalua of Lāhaina and Capt. Hose at once to Lanai, make a thorough investigation, and report to the sheriff at Wailuku with all possible dispatch. Deputy Makalua having earache confined himself to holding a consultation with the Police Justice and finally swearing out a warrant for twelve persons named by a woman Kafue, who had come from Lanai with the officer. Capt. Hose taking some officers with him went in a boat to Lanai, where, employing horses for himself and three officers, he proceeded to Awalua. Arriving there he arrested the twelve persons named in the warrant, and brought them together with a number of witnesses to Lāhaina on Wednesday.

Capt. Hose after lodging his prisoners in jail rode to Wailuku and reported his action to Sheriff Everett. The Sheriff directed that Mr. Chillingworth should go to Lāhaina and attend to the case, and in pursuance of his instructions the Wailuku Deputy arrived at Lāhaina early Friday morning the 19th inst. He found that the prisoners (with the exception of Paa and his wife Awili) had been arraigned Thursday morning and charged with murder, and their cases postponed, awaiting the return of Hose from Wailuku, until Friday morning.

On Mr. Chillingworth's arrival the prisoners were again remanded until Saturday morning. In the meantime the Deputy-Sheriff worked up the case, and that day presented charges as follows:

Puulolo (w.), for the murder of Puni (w.) on Friday, February 12, 1892.

Kala (k.), Kakaio, Kealakaa, Keola, Keliikuewa, Kanoa, Kanoena, Nawai, Kahikina and Puulolo (ten in all), for the murder of Kalaliilii on February 11, 1892. Puulolo, (w.), Kakaio, Kala, Keola and Kealakaalilii (five), for the murder of Kaholokai, on February 12, 1892.

Defendants had a local lawyer for counsel. They pleaded not guilty, waived examination and were committed for trial at next June term, Circuit Court at Wailuku.

Paa (k.) and Awili his wife are in the jail at Lāhaina. Paa was the first one abused, having been terribly burned about the face and upper portion of the body, with a torch in the hands of Puulolo, Paa being held by the others during the burning. He is under the treatment of Dr. Davison and, although his injuries are shocking, he will probably recover. It is quite evident, in the opinion of Deputy-Sheriff Chillingworth, that Paa could not have had anything to do with the subsequent terrible occurrences. His wife would testify as to what was done after his torturing. Mr. Chillingworth gives the following connected narrative of the case, as gathered from his investigations:

"All of the defendants now in jail and the murdered persons resided at Awalua, a small landing place on Lanai, there being at that place only four houses—two

storehouses belonging to Mr. Hayselden and two other houses occupied by the parties to the tragedy.

"Puulolo went to Honolulu and returned from there about two months ago, and on her return claimed to be possessed of supernatural power, especially in the curing of diseases, which she claimed were all the results of evil spirits that entered into the bodies of people and destroyed them. After her arrival back from Honolulu, Puulolo had opportunity to show her skill by the treatment of two young people (one of whom was the boy Kaia whom she since beat to death). These patients she appeared to cure by necromancy, and her power was at once acknowledged by the rest of the villagers (who by the way were all related to each other either by blood ties or marriage).

"Probably emboldened by her success and power Puulolo went from one extravagance to another. She claimed that at intervals she had a spirit or god that entered her and gave her the power to detect the evil spirits that had entered other people, and she played the role of kahuna with sovereign power. In fact, as some of the unfortunate, misguided people say, she was their 'Queen and God.'

"The different murders were committed under her instructions, that a devil needed to be driven out of the person attacked. Any attempted questioning was promptly punished by her orders to the people around. They were afraid of her and afraid of each other, none knowing whose turn would come next, and each and all afraid to refuse the execution of her orders, fearing that his fellows would be ordered to inflict summary punishment to drive out the devil that had prompted the disobedience.

"So the dismal details of the crime, fanaticism, and superstition followed rapidly on one another through the days and nights of the week of the murders, until, encouraged by the presence of some outsiders, some of her deluded followers turned on her and tied her and her husband up, to be so found by the officers on their arrival with the warrants of arrest.

"Last night I went to the jail and had Puulolo brought to me for examination. She impresses me as a more than clever schemer with a cruel nature. She unhesitatingly admitted the deaths of the three persons and the burning of Paa, but denied altogether any knowledge of the cause of death of the woman Puni or of the boy Kala. She says that Kaholokai (k.) must have been killed by the burning of the house. She admits that she was present at the other two deaths, but knows of no cause. I sat with the woman for over an hour, questioning her closely as to the facts of the case, but could not either confuse her or gain any admissions from her.

"So far as I can detect, there is not the slightest trace of insanity of my examination with the statements of the others as to her instructing the burning of the house, crimes committed, I believe her to be perfectly sane, but given over entirely to her love of power and the indulgence of a terribly cruel nature." Mr. Chillingworth asks for instructions as to the exhumation of the bodies for the purposes of evidence. Dr. Davison having advised him that decomposition would have destroyed traces of violence in tissues and flesh, and fractures of bone could

be discovered later as well as now. The deputy-Sheriff gives high praise to Capt. Hose, for the energy he displayed in arresting the accused and securing witnesses.<sup>99</sup>

Information on the verdicts and sentencing in the murder case was published in the *Pacific Commercial Advertiser* on June 16, 1892.

The Kinau arrived yesterday and brought news of the conclusion of the famous Lanai murder case, full particulars of which were published at the time. The evidence of the witnesses placed on the stand fully authenticated the accounts previously published and showed that the murders committed were due to what must be regarded as an outbreak of cruelty, animal ferocity, and degraded superstition all combined. A nol. pros. was entered as to five of the defendants, and a verdict of murder in the second degree found by the jury in the case of five others, viz. Pulolo the kahuna and four of the men implicated with her. Kala, the father of the murdered child, was sentenced to thirty years' imprisonment and Keola Kakaia and Keliukewa to twenty years' each. In the case of Pulolo, the principal, sentence was reserved, owing to a discrepancy between English and Hawaiian versions, but it will be for life. The cause of the difficulty is the use of the word "term" in English, which led to some doubt in the mind of the court whether a simple sentence for life would be sufficient, or whether a term of years would have to be fixed.

Despite the life sentence, the murderer Puulolo regained her freedom in 1914.

With a stroke of the pen Governor Pinkham lopped off forty-eight years, the unserved prison sentence of Puulolo, the Kahuna Wahine of Lanai, yesterday. The woman, convicted of a triple murder in 1892 and sentenced to seventy years in prison, had been in Oahu Prison a little over twenty-two years. She was about thirty-eight years old when the prison door closed on her, and now at the age of sixty, old, decrepit and alone, Puulolo has regained freedom, for the Governor yesterday granted her a full pardon.

Puulolo was known on the island of Lanai as a kahuna - sorceress - and it is related that she once told a woman whom she hated, that she would be dead within twenty-four hours. Puulolo's prophecy came true, the woman dying twelve hours earlier than the limit given her.

#### Puulolo Killed Three

The Kahuna wahine fell fatally in love with her brother-in-law. She killed her own sister, her nephew, and then fearing that her brother-in-law would give her away, killed him also. With some of her "vassals" she placed the bodies in the house and burned the house and bodies to a cinder.<sup>100</sup>

<sup>99</sup> "Revolted Tragedy! Three Murders by Fanatics on Lanai. A Fourth Victim Shockingly Tortured by Fire. The Work of a Cruel Female Kahuna. Puulolo and Ten Accomplices Under Commitment in Oahu Jail for Murder," *Daily Bulletin*, February 22, 1892, p. 3.

<sup>100</sup> "Wahine Kahuna Now Freed From Prison As Yuletide Gift. Puulolo, Sorceress of Lanai, Convicted of trial Murder, Pardoned by Governor. She was Notorious for Her Misdeeds. Executive Clemency Extended to Fourteen Inmates of Oahu Prison On Christmas Eve," *Hawaiian Gazette*, December 25, 1914, p. 3.

### Touring the Bays of Pi'ilani in 1917

In an account published in 1917, Steven Desha, Sr. describes a sightseeing tour to the bays of Pi'ilani.

He mau makahiki i ke ola ana o ka mea e kakau nei keia huakai i hoohala ai ma keai Mokupuni o Kaululāu i na la opio, a ia manawa he aneane cono hale kula o keia mokupuni, oia hoi he hookahi hale kula ma Awalua, he hookahi ma Paomai, ka Home o ko'u Ohana i noho ai, a he hookahi no hoi i Maunalei, he hookahi no hoi i kahi kokoke i Kahalepalaoa, a he hookahi i uka o Kihamaniania, a he hookahi no hoi i Palawai. A ina la hoike nui o ka makahiki, e hui ana kela mau kula ma Kahalepalaoa Luakini, a malaila e hoike ia ai na kula like ole, a i kekahi makahiki hoi ma ka Luakini iuka o Kihamaniania e hoike ai, a i maluna o ka 250 mau haumana o keia mau kula e hoike ia ai, a he la laukanaka maoli no ia o ua Mokupuni nei o Kaululāu. I keia ike hou ana aku nei hou ua nele na wahi i noho ia e na kanaka i ke kanaka ole, a he mehameha wale ka aina ma na wahi lehulehu...<sup>101</sup>

A translation of Desha's account is below

There were some years past in the young life of the writer of this journey to the Island of Kaululā'au, a time when there were six school houses on this island. There was one at Awalua; one at Paoma'i, the place where my family resided; one at Maunalei; one close to Kahalepalaoa; one in the uplands at Kihamāniania; and one at Palāwai. And on the days of the annual exhibition (of skills), the schools would all gather together at the Church of Kahalepalaoa, where the schools would exhibit their knowledge. Then the next year, they would gather at the Church in the uplands at Kihamāniania to exhibit their knowledge. There were more than 250 students in these schools who participated in the exhibitions. Indeed, those were days when there were many people living on the Island of Kaululā'au. Now, upon seeing it once again, those places have no people, it is without people. All about, the land is silent...<sup>102</sup>

<sup>101</sup> Steven Desha, Sr., "Ka Huakai i na Hono a Piilani," *Ka Hoku o Hawaii*, Okatoba 11, 1917, ʻaoʻao 3.

<sup>102</sup> Translated by Maly.

## 2.9 Summary of Historical Background

In the traditional mythology of the island, Lānaʻi was inhabited by ghosts that disturbed the lives of the few people brave enough to live there. The ghosts were eventually defeated by a prince from Maui named Kaululāʻau which allowed the island to be habitable and led its prosperity. The island of Lānaʻi also plays a role in some traditions describing the arrival of the gods and people in Hawaiʻi. The famed Kealaikahiki, “canoe man’s path to Kahiki,” reportedly starts at Kaunolū on Lānaʻi. The accounts of pre-contact life on Lānaʻi indicate Hawaiians primarily settled along the coast adjacent to water sources and fisheries and maintained cultivated gardens in the uplands.

Politically the island of Lānaʻi was under the rule of the Maui chiefs. This political attachment to Maui led to much of the population being killed by the invading forces of Kalaniʻopuʻu shortly before contact with the west. This event coupled with the introduction of foreign disease decimated the population, a trend that is supported by the missionary records. Following the Māhele and the introduction of foreigners and foreign interests to the island, changes in land use took place which forever changed the landscape of Lānaʻi.

Records indicate that the first of these introduced ungulates were brought to Lānaʻi around the 1830s, where a few native tenants, living under landed chiefs, managed the populations. Later, mormon elders brought livestock to Lānaʻi as a part of their effort to establish a mission in the uplands at Pālāwai. In 1862, Walter Murray Gibson took over the Mormon settlement, and focused the livestock efforts on herds of sheep and goats, of which nearly 100,000 roamed the island, almost uncontrolled by the 1890s. As a result, Lānaʻi suffered from rapid deforestation and a drying up of the island’s water resources. This impacted every other aspect of life on Lānaʻi and was one of the contributing factors to the continual decline in the native population of the island.

During the early history of ranching on Lānaʻi, ranch headquarters were established in the Pālāwai Basin but in the mid-1870’s they were moved to Kōʻele (Lanai Ranch) where they remained until the ranch was closed in 1951. From 1910 to 1951, Lānaʻi ranch operations focused on cattle and a steady decline in the population of other livestock. The steady transition to cattle grazing led to the eradication of tens of thousands of goats, sheep, and pigs—many driven over the cliffs of Kaʻāpahu in Kaʻā—in an effort to reduce impacts on the steadily decreasing pasturage.

In the early 1900’s the lands of Lānaʻi were consolidated under Charles Gay. The island was bought and sold several times before being sold to the Hawaiian Pineapple Company, Limited in 1922. It was at this time that Lānaʻi City was laid out and Kaumalapaʻu Harbor was constructed allowing the island to become the biggest pineapple producer and plantation in the world. Pineapple remained the primary commercial focus of the island well into the 1990’s when pineapple cultivation ceased.

Starting in the 1980’s with the development of two resorts on the island, one at Mānele and one at Kōʻele, and following the end of commercial pineapple cultivation in the 1990’s, the primary commercial focus of the island changed to resort tourism and tourist activities which continues to be its driving force today.

## Previous Archaeological Studies

### 3.1 Previous AIS of Parcel 2 (Dye and Maly 2017b)

In 2017, T.S. Dye conducted an archaeological inventory survey (AIS) for a construction stockpiling and staging area at the Four Seasons Resort Lānaʻi at Kōʻele (Dye and Maly 2017b). The assessment consisted of a pedestrian survey of a 3.1-acre project area and the excavation of four backhoe trenches in a single transect across the property (Figure 21). Natural soil was documented in all of the trenches and they contained three similar and sterile strata (Figure 22). No historic properties, subsurface deposits, or cultural materials were encountered during the project.

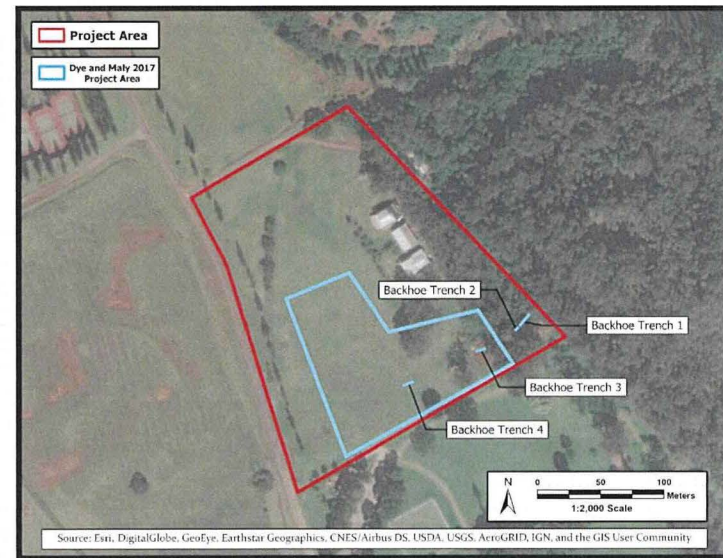


Figure 21. Previously Surveyed and Tested Portion of Parcel 2 with the Location of Backhoe Trenches (Dye and Maly 2017b)

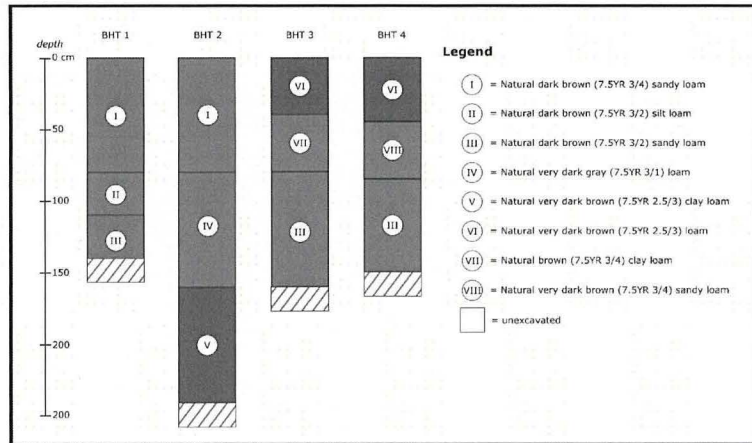


Figure 22. Stratigraphic Profiles and Soil Descriptions Obtained from Backhoe Trenches Excavated During the Previous AIS of Parcel 2 (Dye and Maly 2017b108)

### 3.2 Archaeological Studies in the Kōʻele Project District

Island-wide surveys of Lānaʻi that included the area were conducted during the early-20th century by Emory (1924) and later by Hommon (1974). Aside from these studies, archaeological investigations in the area began in the mid-1980's with development of the area for the Koele Hotel which would later become the Four Seasons Resort at Kōʻele. Archaeological studies conducted in the area have been in support of infrastructure and development projects associated with the Four Seasons Lodge at Kōʻele, the Kōʻele Golf Course, and various other recreational and residential properties.

A number of archaeological studies have been conducted in the area surrounding the Parcel 1 and 2 project area. Archaeological studies conducted in Kamoku Ahupuaʻa have been in support of proposed commercial, residential, and resort development. The studies focused on development projects in Lānaʻi City and Kōʻele, including the Four Seasons Lodge at Kōʻele, the Kōʻele Golf Course, and various other properties. Kamoku is the most developed ahupuaʻa of the island and contains Kaumālapaʻu Harbor, the Lānaʻi Airport, the Four Seasons Resort at Kōʻele, and the main residential area and population center of the island, Lānaʻi City. Due to this, it has undergone the most archaeological study of the thirteen ahupuaʻa of the island. Additional archaeological studies in Kamoku include investigations associated with the Lānaʻi Airport, the Lānaʻi Sanitary Landfill, and development areas around the airport, all of which are well outside the 1.5 mile vicinity of the project area.

Only a few studies have been conducted in Paomaʻi Ahupuaʻa. The studies have been in support of a proposed helistop pad, the Lānaʻi Community and Veterans cemeteries, and the Lānaʻi Pine

Sporting Clays shooting range. Other archaeological studies located within Paomaʻi Ahupuaʻa but well outside the 1.5 mile vicinity of the project area include investigations associated with proposed military helicopter pads and the Kaiolohia-Kahue coastal trail.

Figure 23 and Figure 24 show archaeological studies and sites that have been documented within a 1.5-mile radius of the two current survey areas. The studies are briefly discussed and listed in Table 9 below.

#### 3.2.1 Emory 1924

The first archaeological survey of Lānaʻi Island was conducted by Kenneth Emory of the Bishop Museum in 1924 (Emory 1924 and Emory 1969). The study is an archaeological and ethnographic description of the island, which broadly summarizes the Hawaiian cultural traditions of Lānaʻi. It includes discussions on the traditional oral histories, place names, material culture, and archaeology of the island geographically organized around an inclusive gazetteer that is keyed to numbers on an accompanying map. It should be noted that that the numbers on Emory's map refer to places of cultural interest but not necessarily places of archaeological interest. The survey primarily documented the larger archaeological sites of island, the most remarkable of which is the village of Kaunolū, located on the southwestern shore of the island. No sites were documented within the current project area.

The closest sites documented to the current project area during Kenneth Emory's island wide survey include a stone house terrace at Kanaʻenaʻe (SIHP #50-40-98-099) and an excavated terrace at Pulehua (SIHP #50-40-98-107) far to the south of the project area.

#### 3.2.2 Statewide Inventory of Historic Sites, Hommon 1974

The next archaeological survey of the island of Lānaʻi was conducted five decades later during the statewide inventory of archaeological sites in 1974. The focus of the survey was the relocation and documentation of previously identified archaeological sites for inclusion in the new State Inventory of Historic Places system. It was during this time that State Inventory of Historic Places numbers were assigned. Since searching for new archaeological sites was not the focus of the survey, site identification was left for future studies.

The current Parcel 2 project area is within the Kōʻele District, SIHP #50-40-98-1004, an approximately 66.8-acre area in which the current Parcel 2 project area is located. The site is associated with the ranching era and commercial pineapple production, spanning from the 1870s-1951. Kōʻele District was originally described on the Hawaiʻi Register of Historic Places (HRHP) form as a "complex of buildings including two office structures, a church, and a house" (Wright 1974:1 Appendix C). The structures included a house once used as the Koele School House, the Ka Lokahi Oka Malamalama Hoomana Naʻauao O Hawaii Church, and 2 house/office structures. The site was assessed as having "moderate" value, "reserve" status, and was determined significant as the former location of the Lanai Ranch Headquarters and its association with the growth and development of Lānaʻi

Additional sites documented in Kamoku Ahupuaʻa during the Statewide Inventory of Historic Sites (Hommon 1974) were mostly house platforms located at the mouths of the gulches along the coast and were documented as an historic district known as the Kamoku Complex, SIHP #50-40-98-204. The Kamoku Complex is comprised of House Sites at Kaumālapaʻu, SIHP #50-40-98-098; Kamoku House Site, SIHP #50-40-98-106; Kalamani Complex SIHP #50-40-98-103;

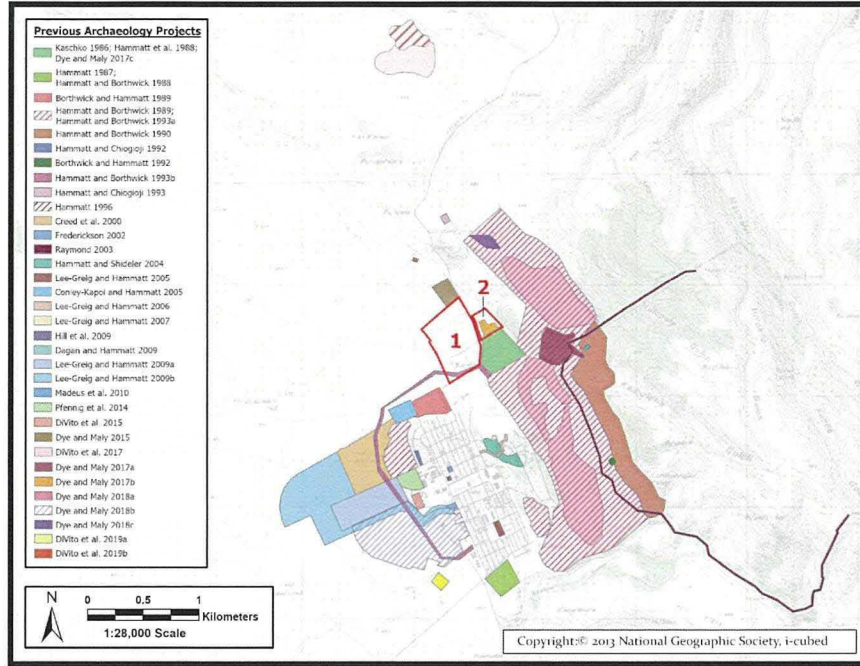


Figure 23. Portion of a 2013 Lāna'i North USGS showing locations of previous archaeological studies within 1.5 miles of Parcels 1 and 2

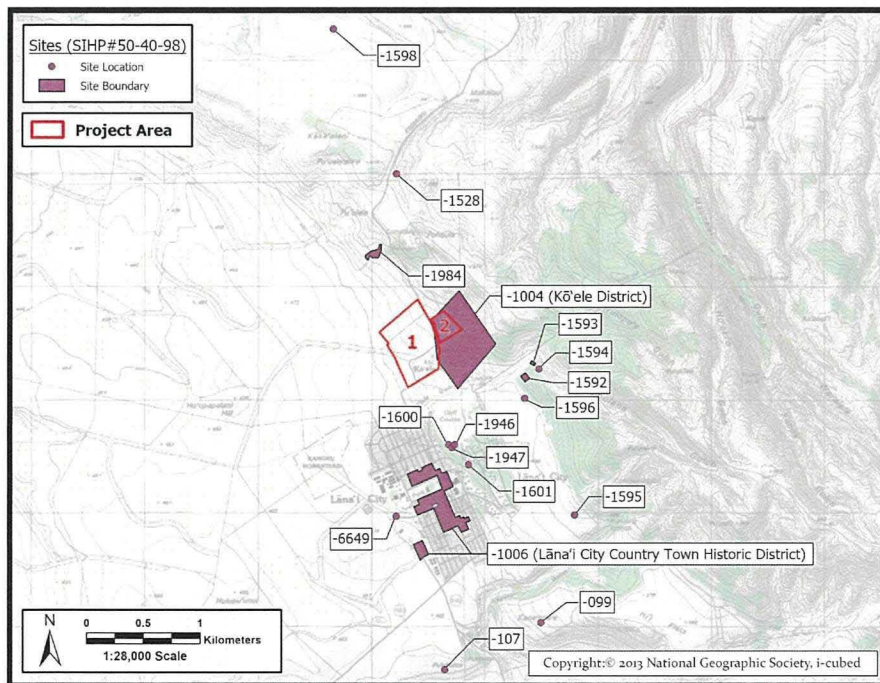


Figure 24. Portion of a 2013 Lāna'i North USGS showing previously documented sites within 1.5 miles of Parcels 1 and 2

Table 9. Archaeological studies inclusive of properties within 1.5 miles of Parcels 1 and 2

Author(s)	Type of Study	Location	Findings (SIHP #50-40-98)
Emory 1924, Emory 1969 (not shown on Figure 23)	Archaeological Investigation	Island-Wide	Closest sites include a stone house terrace at Kana'ena'e (SIHP # -099) and an excavated terrace at Pulehua (SIHP # -107)
Hommon 1974 (not shown on Figure 23)	Inventory of Historic Sites	State-Wide	Recorded the Kō'ele District, SIHP # -1004
Wright 1974 (not shown on Figure 23)	Hawai'i Register of Historic Places	Koele Hotel (Four Seasons Lodge at Kō'ele)	Kō'ele District, SIHP # -1004, a complex of buildings including a house once used as the Koele School House, the Ka Lokahi Oka Malamalama Hoomana Na'auao O Hawaii Church, and 2 house/office buildings
Kaschko 1986	Archaeological Reconnaissance and Sub-Surface Testing	Koele Hotel (Four Seasons Lodge at Kō'ele) <b>Adjacent to Project Area</b>	Kō'ele District, SIHP # -1004, including previously documented buildings (Features A-D, respectively) and 2 newly documented (Feature E: dry reservoir, and Feature F: house)
Hammatt 1987	Archaeological Reconnaissance	Lalakoa III Subdivison, Lāna'i City, TMK: (2) 4-9-02, Lot 768	No sites recorded
Estioko-Griffin 1988, Pietrusewsky 1988	Letter Report, Osteological Analysis	Keomuku Road, TMK: (2) 4-9-002: por. 1	Recorded SIHP # -1528, a pre-contact subsurface cultural deposit and juvenile burial
Hammatt and Borthwick 1988	Archaeological Investigation (Surface Collection)	Lalakoa III Subdivison, Lāna'i City, TMK: (2) 4-9-14, por. 1	Seventy-five secondarily deposited lithic artifacts were collected and analyzed, artifacts were attributed to an off-site source, no site number designated

Author(s)	Type of Study	Location	Findings (SIHP #50-40-98)
Hammatt et al. 1988	Archaeological Investigation (Excavation and Monitoring)	Lanai Ranch Headquarters at Kō'ele (Four Seasons Lodge at Kō'ele) <b>Adjacent to Project Area</b>	Excavations encountered over 1,000 historic-era artifacts ranging from the 1870's to the 1930's from two trash pits associated with the Kō'ele District (SIHP # -1004); Monitoring documented 9 historic features including a cesspool, charcoal and ash concentrations, an imu, a dry well, a possible fire pit, a cistern, and trash deposits
Borthwick and Hammatt 1989	Archaeological Reconnaissance	Waialua Multi-Family Housing, TMK: (2) 4-9-08:12, 13	A single basalt flake collected; no site number designated
Hammatt and Borthwick 1989	Archaeological Reconnaissance	Kō'ele Golf Course, Kō'ele Single-Family Housing, Queen's Multi-Family Housing, and Olopuu Woods Subdivision	Six features documented at the Kō'ele Golf Course, Features 1-5 later became SIHP # -1592 (reservoir), SIHP # -1593 (reservoir), SIHP # -1594 (ditch system), SIHP # -1595 (historic debris associated with the Charles Gay Lālākoa homestead), and SIHP # -1596 (volcanic glass quarry)
Hammatt and Borthwick 1990	Archaeological Survey	Kō'ele Golf Course	A late-19 <sup>th</sup> century ditch and charcoal scatter associated with the Kō'ele reservoir complex, no site number designated at that time but later subsumed within as previously- recorded SIHP # -1594 (ditch system)
Hammatt and Chioioji 1992	Archaeological Investigation	Waialua Single Family Housing	No sites recorded
Borthwick and Hammatt 1992	Archaeological Investigation	Kō'ele Reservoir and Access Road	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-40-98)
Hammatt and Borthwick 1993a	Data Recovery	Kōʻele Golf Course	Data recovery of SIHP # -1592 (reservoir), SIHP # -1593 (reservoir), SIHP # -1594 (ditch system), SIHP # -1595 (historic debris associated with the Charles Gay Lālakoa homestead), and SIHP # -1596 (surface lithic scatter), no subsurface deposits or artifacts recorded
Hammatt and Borthwick 1993b	AIS	Pipeline Connecting Lānaʻi Treatment Plant and the Kōʻele Golf Course	No sites recorded
Hammatt and Chiogioji 1993	AIS	Lānaʻi Veterans Cemetery, TMK: (2) 4-9-002:001 por.	No sites recorded
Hammatt 1996	AIS	Lānaʻi Pine Sporting Clays Shooting Range, TMK: 4-9-002:001 por.	A traditional Hawaiian rectangular enclosure with associated agricultural features, SIHP # -1598 documented outside the project area
Creed et al. 2000	AIS	50-acre Hawaiian Home Lands Parcel, TMK: (2) 4-9-002	No sites recorded
Fredericksen 2002	AIS	Lānaʻi Police Station, TMK: (2) 4-9-14:1 por. and 11 por.	No sites recorded
Raymond 2003	Cultural Resources Investigation	Lānaʻi Summit Fence	No sites recorded
Hammatt and Shideler 2004, Lee-Greig and Hammatt 2007	AIS, Preservation Plan	Lower West Slope of Niniwai Hill, TMK: (2) 4-9-01: por. 2,	Documented four sites, SIHP # -1946 (Kihamāniana Church), SIHP # -1947 (the church's associated graveyard), SIHP # -1600 (a historic "altitude breaker"), and SIHP # -1601 (historic improved trail)

Author(s)	Type of Study	Location	Findings (SIHP #50-40-98)
Conley-Kapoi and Hammatt 2005	AIS, (AA Report)	7.673 acre-parcel, TMK: (2) 4-9-014:018	No sites recorded
Lee-Greig and Hammatt 2005	Field Inspection	Court Family Housing	No sites recorded
Lee-Greig and Hammatt 2006	Archaeological Monitoring	Lower West Slope of Niniwai Hill, TMK: (2) 4-9-18: por. 3,	No sites recorded
Dagan and Hammatt 2009	Archaeological Monitoring	2 Million Gallon Water Tank, Lānaʻi City, TMK: (2) 4-9-18: por. 3	No sites recorded
Hill et al. 2009, Dagan et al. 2009a	Literature Review and Field Inspection, Cultural Impact Assessment (CIA)	Lānaʻi Senior Center, TMK: (2) 4-9-006:006	No sites recorded
Lee-Greig and Hammatt 2009a, Dagan et al. 2009d	AIS (AA Report), Cultural Impact Assessment (CIA)	Lānaʻi High and Elementary School Expansion, TMK: (2) 4-9-002:058 por	No sites recorded
Lee-Greig and Hammatt 2009b, Dagan et al. 2009b	AIS, CIA	Lānaʻi City Affordable Housing Project, TMK: (2) 4-9-002:58 por. and por. of (2) 4-9-014:001, 009, and 011	One site within their project area, SIHP # -6649 (historic culvert headwall), two wood-framed historic buildings from the former Koele School outside the project area (CSH-2 and CSH-3)
Madeus et al. 2010, Cordova et al. 2010	Literature Review and Field Inspection, CIA	Lānaʻi Community Health Center, TMK: (2) 4-9-006: por. of 11	No sites recorded, presents a review of an architectural study of three small multi-family buildings removed prior to construction of the center
Pfennig et al. 2014	Archaeological Monitoring	Lānaʻi High and Elementary School, TMK: (2) 4-9-014:002	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-40-98)
DiVito et al. 2015	AIS (AA Report)	Miki Basin Pipeline, Central Services Warehouse, Multi-Purpose Field, TMK: (2) 4-9-0012:001 and (2) 4-9-014:011	Multi-Purpose Field project area was near the current project area, no sites recorded
Dye and Maly 2015	Archaeological Assessment	Proposed Helistop Pads, TMK: (2) 4-9-002:001 por.	Secondarily deposited traditional and historic artifacts collected from five locations outside the project area, no sites recorded
Dye and Maly 2016	AIS	Lāna'i Well #7, TMK: (2) 4-9-002:001 por.	Documented a fire pit, SIHP #-1984 and collected secondarily deposited traditional Hawaiian artifacts from two locations
DiVito et al. 2017	AIS	Lāna'i Pine Sporting Clays Shooting Range, TMK: 4-9-002:001 por.	Pineapple field ditch documented but assessed as not significant, no sites recorded
Dye and Maly 2017a	AIS (AA Report)	Kō'ele Adventure Center, TMK: (2) 4-9-018:003 (Four Seasons Resort Lodge at Kō'ele)	No sites recorded
Dye and Maly 2017b	AIS (AA Report)	Construction Staging Area, Four Seasons Resort Lodge at Kō'ele, TMK: (2) 4-9-002:001 por., <b>Within Parcel 2</b>	No sites recorded
Dye and Maly 2017c	AIS	Four Seasons Resort Lodge at Kō'ele, TMK: (2) 4-9-018:001 <b>Adjacent to Project Area</b>	Ranch-era trash pit documented and removed, likely associated with Kō'ele District (SIHP #-1004)

Author(s)	Type of Study	Location	Findings (SIHP #50-40-98)
Dye and Maly 2018a	AIS	Hōkū-ao 201-H Residential Project, TMK: (2) 4-9-002:61 por., (2) 4-9-014:001 por., (2) 4-9-014:009 por., and TMK: (2) 4-9-014:011	Two historic wood-frame buildings from the former Koele School complex and a pineapple harvester were discussed, no site numbers were designated, movement and preservation of the pineapple harvester was recommended
Dye and Maly 2018b	AIS (AA Report)	Kō'ele Sculpture Garden, TMK: (2) 4-9-018:002 por. and 003 por. (Kō'ele Golf Course)	No sites recorded
Dye and Maly 2018c	AIS (AA Report)	Lāna'i Cemetery Expansion, TMK: (2) 4-9-002:001	No sites recorded
DiVito et al. 2019a	AIS (AA Report)	Relocation of Lāna'i Community Garden, TMK: (2) 4-9-014:001	No sites recorded
DiVito et al. 2019b	AIS Addendum	Lāna'i Well #7, TMK: (2) 4-9-002:001 por.	Documented 2 additional feature components of SIHP #-1984, fire pits recorded as Features B and C, also includes a surface scatter of secondarily deposited traditional Hawaiian artifacts

Kalamaiki Complex, SIHP #50-40-98-104; Kiei Complex, SIHP #50-40-98-113; Keone Complex, SIHP #50-40-98-100; Naupaka Complex, SIHP #50-40-98-105; and Anapuka House Sites, SIHP #50-40-98-109. These sites are located well outside the project area, approximately 5 miles (8 km) to the west.

The sites documented in Paoma'i Ahupua'a include the Paoma'i Complex, SIHP #50-40-98-206, located along the entire northern coastal section of Paoma'i Ahupua'a and the western coastal portion of Mahana Ahupua'a during the survey. The complex consists of numerous Hawaiian habitation sites located at the mouths of the various gulches along the shoreline. The Paoma'i Complex is located far to the north of the current project area.

Following his work on the statewide inventory of historic places, Robert Hommon outlined his impression of the archaeology of Lāna'i Island. This was done in order to protect the cultural resources of the island and to guide future archaeological investigations. In his comments on the archaeology of the island Hommon states that:

Through a happy set of circumstances, the archaeology of Lana'i is almost entirely intact. Despite the fact that nearly 20% of the area of the island is under cultivation for pineapple, less than 2% of the archaeological features recorded by Emory in the early 1920's have been destroyed in the process. The reason for this is that most of the ancient population lived along the coast, and the pineapple plantation is situated on the central plateau. Today, most of the coastal sections of Lāna'i are visited only by fishermen, who leave the ancient sites undisturbed.

The high degree of preservation on Lana'i is in sharp contrast to the situation on the five larger islands in the group, where numerous sites have been expunged from the landscape by ranching, agriculture, and urban and resort development. (Hommon 1974:1)

Hommon also recommended that due to the completeness of the archaeological record an island-wide research design be developed. This recommendation was in response to a development plan by Castle and Cooke that would have substantially altered a large portion of the island. However, the development plans never materialized, and no island-wide research design is known to have been written.

### 3.2.3 Kaschko 1986

In 1986, International Archaeological Research Institute Inc. (IARII) conducted an archaeological reconnaissance survey with limited subsurface testing for the Koele Hotel, now known as the Four Seasons Lodge at Kō'ele, located adjacent to the current project area (Kaschko 1986). The survey consisted of a pedestrian survey and the excavation of 20 auger tests to depths ranging from 100-140 cm below the ground surface (cmbs). Features of the Kō'ele District (SIHP #-1004) were presented. No subsurface deposits were encountered in any of the auger excavations. Sparse artifacts were observed on the ground surface, including marine shell, old bottle glass, and ceramic fragments. It was also noted that during routine work near a nursery area a quadrangular polished adze was found by grounds workers. The lack of prehistoric archaeological sites was attributed to overgrazing and use of the area for ranching. It was also noted that historic ranch-associated deposits were likely to be present.

The Kō'ele District (SIHP #-1004) was described within Kaschko (1986) as containing four previously documented features and two newly documented features. Previously documented features included a house once used as the Koele School House (Structure A, also referred to as the "Richardson House" and known as the oldest house in Kō'ele), the Ka Lokahi Oka Malamalama Hoomana Na'auao O Hawaii Church (Structure B, built in 1930), and 2 house/office buildings (Structures C [also referred to as the George Ohashi house] and D [also referred to as the Pablo Ribero house]). Structures C and D were dismantled and moved from the Maunalei Sugar Company camp at Keomuku to Kō'ele sometime between 1902-1917 as a result of a lack of water in the Keomuku area (Kaschko 1986:16, Hammatt 1988:35). It was noted that while at Kō'ele, Structure D had been used as the ranch office and once had an addition which served as a store with a post office (Kaschko 1986:17). The study included two new features within the Kō'ele District, including an old reservoir (Structure E) and the Ernest and Rebecca Richardson house (Structure F). The reservoir was thought to have been constructed circa 1900 and was used to water livestock. Figure 25 provides a map of the Kō'ele District showing locations of all these features. The extent of the map borders the east side of the current project area.

A description of the Kō'ele District property is described by Mr. Ernest Richardson and provided by Kaschko (1986). The description states that in 1926 when Mr. Richardson arrived he was 16 years old and the ranch was thriving:

Koele was a community composed of more than 30 major buildings, including the ranch manager's house, the office and store, bachelor quarters, the stables, a blacksmith shop, etc. as well as many regular houses...after the pineapple plantation started up the size of the ranch settlement at Koele slowly declined. The ranching operation ceased entirely in 1951, and the old ranch manager's house was torn down in about 1953 or 1954. The old reservoir (Structure E) went out of use about 1945 or 1946, and Mr. Richardson used it as an arena for training horses after this. (Kaschko 1986:11)

Several of the houses documented within the Kō'ele District (SIHP #-1004) have been relocated. The old Koele School House (Structure A) was moved to a location just outside Lāna'i City. The building was documented in disrepair during two archaeological surveys of that area for the Lāna'i City Affordable Housing project (Lee-Greig and Hammatt 2009b) and the Hōkū-ao 201-H Residential project (Dye and Maly 2018a). Due to the building being exposed to the elements for many years it was assessed as lacking sufficient integrity to be listed on the National Register of Historic Places (NRHP) (Dye and Maly 2018a:135). The church building (Structure B) has also been moved and is currently situated adjacent to Keomuku Road on the front lawn of the Lodge at Kō'ele, a short distance west of its original location. The two house/offices buildings (Structures C and D) have been moved to the eastern portion of the current project area. One of the houses is currently occupied by tenants and the other is the office for the Culture and Historic Preservation Division of Pūlama Lāna'i. The integrity and eligibility of the homes has not been previously assessed.

### 3.2.4 Hammatt 1987

In 1987, Cultural Surveys Hawai'i (CSH) conducted an archaeological reconnaissance for the Lalakoa III subdivision, located within Lāna'i City (Hammatt 1987). The results of the reconnaissance survey indicated that long-term use of the area for pineapple cultivation had destroyed any historical or archaeological remains that might have been deposited there. The proposed subdivision was determined to have no impact on archaeological resources and no historic properties were documented.

### 3.2.5 Estioko-Griffin 1988, Pieterusewsky 1988

In 1988, Agnes Estioko-Griffin and Matt Spriggs documented SIHP #50-40-98-1528, a subsurface cultural deposit and an associated juvenile burial exposed during improvements to Keomuku Highway (Estioko-Griffin 1988). The site is interpreted to date to the pre-contact Hawaiian period based on radiocarbon dating of unidentified wood charcoal. The osteological analysis was conducted by Dr. Michael Pietrusewsky of the University of Hawai'i at Manoa (Pietrusewsky 1988).

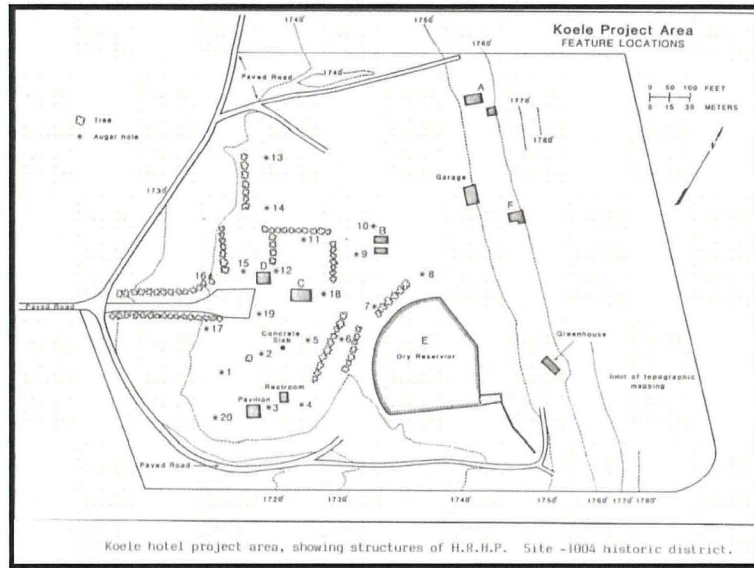


Figure 25. Map showing Kō'e'e District features (Kaschko 1986:5), notice the locations of Structures C and D which are later relocated to Parcel 2 of the current project area

**3.2.6 Hammatt and Borthwick 1988**

In 1988, CSH conducted an archaeological investigation for the Lalakoa III subdivision (Hammatt and Borthwick 1988). The investigation included the surface collection of 71 basalt artifacts and 4 volcanic glass flakes. The basalt artifact assemblage was comprised of basalt flakes, retouched basalt flakes, and adze preforms. Subsurface excavations included a single test pit excavated in the northeast portion of the project area to a depth of 100 cmbs. A cut bank profile in the northwest corner of the project area was also documented. A plow zone ranging in depth from 30-40 cmbs over B and C horizons was documented throughout the project area. The basalt materials on the property were found in association with quarried road gravel presumably taken from near the K'oi Adze Quarry in Pālāwai Basin and were attributed to that source. Due to the lack of subsurface remains on the property no further work was recommended.

**3.2.7 Hammatt et al. 1988**

In 1988, CSH conducted an archaeological investigation and monitoring of a 20-acre parcel for the Four Seasons Lodge at Kō'e'e, located adjacent to the current project area (Hammatt et al. 1988). Excavations were conducted on two historic ranch-era trash pits found near the former Lanai Ranch Headquarters (inferred as part of the Kō'e'e District [SIHP # -1004]). Over 1,000

artifacts dating from the 1870's to 1930's were recovered during the project and contributed much to the knowledge of ranch life at Kō'e'e. The report provides a comprehensive background on Lanai Ranch.

Archaeological monitoring was also conducted for the project. A total of nine historic features were documented including a circa 1970s cesspool (Feature 1), a charcoal and ash concentration (Feature 2), an imu pit (Feature 3), a circa 1970s drywell (Feature 4), a possible fire pit containing bottle glass (Feature 5), an ash and charcoal deposit containing historic refuse (Feature 6), a possible cistern (Feature 7), historic refuse (Feature 8), and a portion of large trash pit (Feature 9) which was also excavated by hand earlier in the project.

Hammatt et al. (1988:36) noted that during their study the "only buildings remaining of the ranch days were John and Hannah Richardson's house [Structure A], Ernest and Rebecca Richardson's house [Structure F] the small Sunday School building and the church building [Structure B] which had already been relocated makai to its present location". Figure 26 shows trench excavations and features locations of the Kō'e'e District (SIHP # -1004).

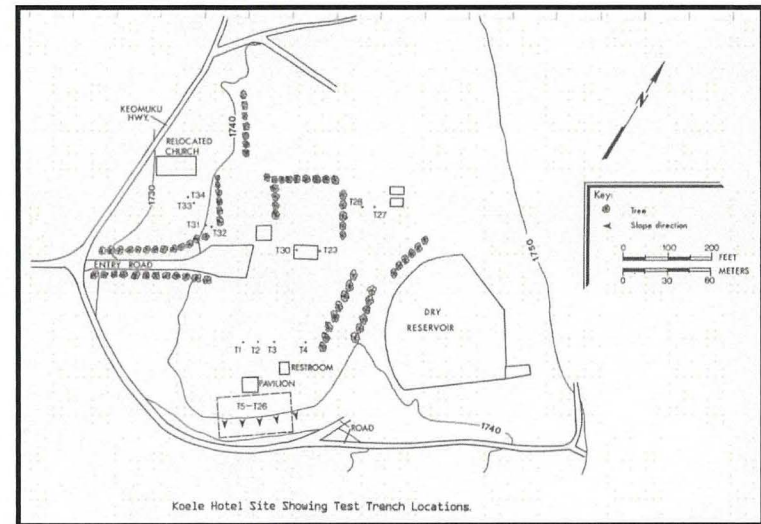


Figure 26. Map showing Test Trench Locations and Features of the Kō'e'e District (Hammatt et al. 1988:5), notice the church (Structure B) has been "relocated"