

DRAFT ENVIRONMENTAL ASSESSMENT

LĀNA'I SENIOR CENTER

Lāna'i City, District of Lahaina, Maui

Prepared for

Department of Housing and Human Concerns

County of Maui

One Main Plaza Building, Suite 546

Wailuku, Hawai'i 96793

September 2009

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Prepared in Partial Fulfillment of the Requirements
of Chapter 343, Hawai'i Revised Statutes and
Title 11, Chapter 200, Hawai'i Administrative Rules,
Department of Health, State of Hawai'i

Prepared for

Department of Housing and Human Concerns

County of Maui

One Main Plaza Building, Suite 546

Wailuku, Hawai'i 96793

Prepared by

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September 2009

PROJECT PROFILE

Proposed Action: Lānaʻi Senior Center
Lānaʻi City, District of Lahaina, Maui

Applicant: Department of Housing and Human Concerns
County of Maui
2200 Main Street
One Main Plaza Building, Suite 546
Wailuku, Hawaiʻi 96793

Approving Agency: Department of Housing and Human Concerns
County of Maui

Tax Map Key: 2nd Division 4-9-006: 006
Land Area: 14,928 square feet

Land Owner: Castle & Cooke Resorts LLC
Lessee: County of Maui
Existing Use: Senior Citizens Center

State Land Use District: Urban
Community Plan: Lānaʻi
Land Use Designation: Public/Quasi-public
Zoning: P-1 public/quasi-public
Project District: None
Special Management Area: Outside Special Management Area

Need for Assessment: Propose the Use of County Funds
Hawaiʻi Administrative Rules §11-200-6(b)(2)(B)

Anticipated Determination: Finding of No Significant Impact

Contact: Robin Tanaka
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A. Introduction

The Department of Housing and Human Concerns, County of Maui, is proposing to replace the existing Lānaʻi Senior Center located in Lānaʻi City, District of Lahaina, County of Maui, State of Hawaiʻi. The existing Lānaʻi Senior Center (hereafter "Senior Center" or "Center") is located on the mauka corner at the intersection of Fraser Avenue and Seventh Street. The block is bounded by an adjacent apartment complex on the north, Gay Street on the east, Seventh Street and Dole Park on the south, and Fraser Avenue on the west. The 14,828 square foot lot is identified as County of Maui tax identification number 2nd Division 4-9-006:006. A Location Map, Vicinity Map, and Tax Map are shown in Figures 1, 2, and 3.

B. Purpose of the Project

The purpose of the project is to replace an aged, deteriorating structure with a new building accommodating the same functions as the existing building and on the same site as the existing building. The Lānaʻi Senior Center is an essential part of the community and the County of Maui has decided to replace rather than repair or renovate the existing building (See discussion of the existing building in Section 2A.1 of this Assessment).

Replacing the building will bring mechanical (plumbing), electrical, and building systems up to current building code requirements. The improvements will also make the building compliant with Americans with Disabilities Act ("ADA") accessibility guidelines.

C. Technical Characteristics

Prior to demolition, hazardous materials in the building materials will be removed by a licensed hazardous materials contractor. Asbestos containing materials are known to be present in the sheet flooring and lead based paints on interior and exterior walls.. A licensed hazardous material contractor will be hired to remove and dispose of hazardous materials pursuant to State Department of Health protocols.

A new two-level building will be constructed on the lot. The approximately 6,000 square foot L-shaped structure will be sited on the sloping lot such that the higher or upper end of the building is approximately level with the high end of the lot and the lower level approximately level with the low end of the lot. The high end of the lot faces in the direction of Gay Street and the lower end Fraser Avenue. The building will not be constructed following its existing diagonal placement on the lot.

The upper level comprises the Senior Center. Space is allocated for an activity room, two craft rooms, two office spaces, a kitchen with a pantry, storage room, and men's and women's restrooms. The floor area is approximately 3,000 square feet. The upper floor will be accessed from a stairway and elevator in the southwest corner. Doorways to the Center open from a covered patio/walkway onto Seventh Street.

The lower level will provide space for Department of Housing and Human Concerns functions separate from the Senior Center. An office for the County of Maui Division of Motor Vehicles and an office for a Department of Human Concerns program will be located

on this level. Space is also set aside for yard equipment storage and utilities, a storage area for the Senior Center, a bath, and crawlspace. The lower level is approximately 1,500 square feet which is approximately half the floor area of the upper level. Doorways to the government offices face Fraser Avenue.

The new structure will be erected on a poured in place concrete foundation with cement masonry unit retaining walls on three sides and areas of open lattice at crawl spaces from the lower level up to the upper level floor. The west or Fraser Avenue side of the lower level will be wood framed with board and batten exterior siding. The upper level will be wood framed, enclosed with board and batten exterior siding and topped by a pitched corrugated metal roof. The building is approximately 27 feet in height measured from its low side.

New utility lines will be installed to replace existing water, sewer, and power lines. The new utility lines generally will follow existing on-site utility line corridors.

An on-site ADA accessible parking stall is proposed from Gay Street. Additional on-site parking will not be provided. The Lānaʻi City Community Design Guidelines (1997) exempt requirements for on-site parking. On-street parking is available fronting Dole Park across Seventh Street and at the Lanai Park and Tennis Courts across Fraser Avenue. Although the Design Guidelines exempts the provision of off-street parking, the Maui County Code requires it. The Department of Housing and Human Concerns, therefore, will request a variance to the County's off-street parking requirements.

A landscaping plan will be designed for the project to assure that there will be a finished project. Plant materials will be proposed for planting areas, however, actual plant materials will be coordinated with the seniors and seniors may elect to make planting changes in the future. An area will also be designated for gardening should the senior's desire. All existing Cooke Island pines on-site will be retained and a tree purportedly planted by former First Lady Jean Ariyoshi for the Million Trees Across Hawaii will be relocated on-site.

ADA accessible pedestrian walkways from Gay Street and Seventh Street will be provided as well as a passenger loading area off of Gay Street.

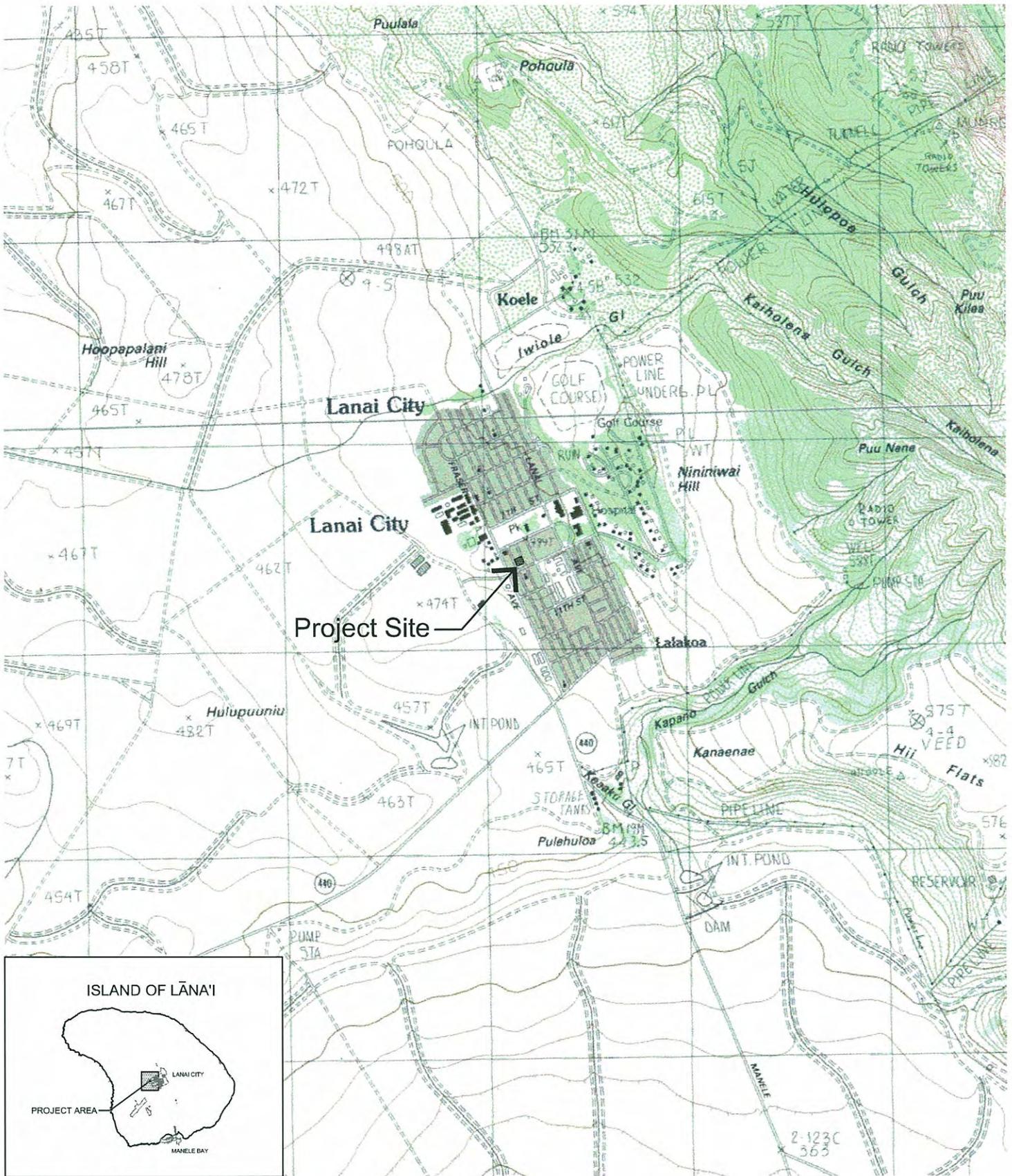
D. Economic Characteristics

The property is owned by Castle and Cooke Resorts LLC and leased to the County of Maui (<http://www.mauipropertytax.com/>). A long-term lease was executed in 1980 and expires on December 31, 2030

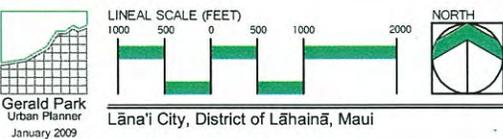
The cost of the proposed improvements is budgeted at \$1.9 million and will be funded by the County of Maui. Construction will commence after all necessary permits and approvals are received. The project will be built in one construction phase and is projected to take approximately 10 months to complete.

E. Social Characteristics

The project will not permanently displace any resident or business. Senior activities will relocate temporarily to the community center located at the Hale Kupuna O Elderly Housing Project during construction.



Source: USGS, Lāna'i South Quadrangle



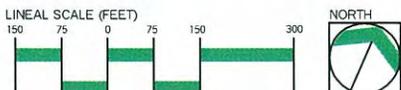
Lāna'i City, District of Lāhainā, Maui

Figure 1
Location Map
Lāna'i Senior Center

Department of Housing and Human Concerns, County of Maui



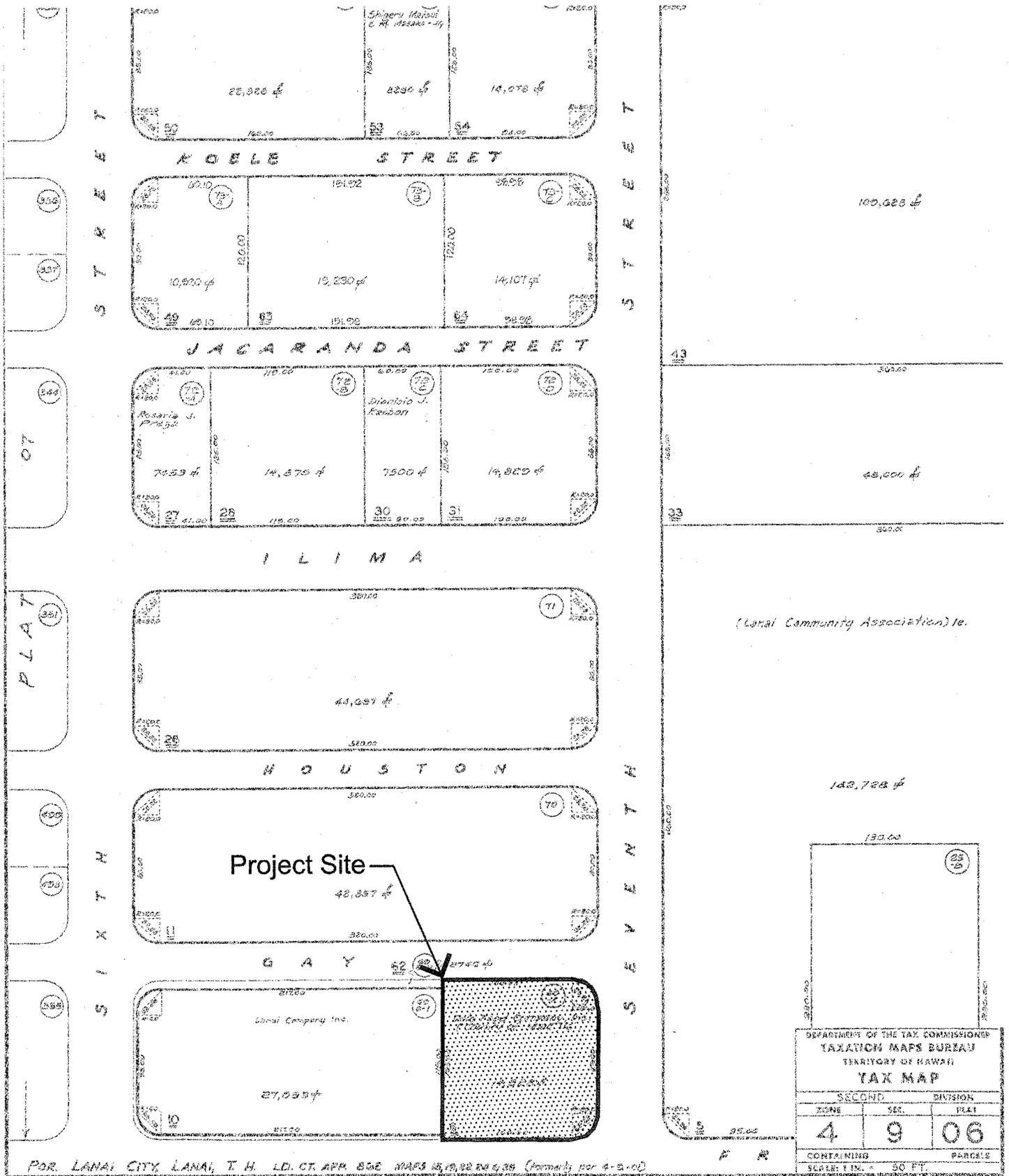
Source: Google Earth



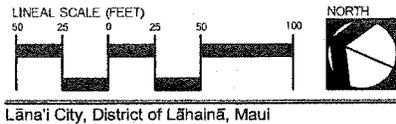
Lāna'i City, District of Lāhainā, Maui

Figure 2
Vicinity Map
Lāna'i Senior Center

Department of Housing and Human Concerns, County of Maui



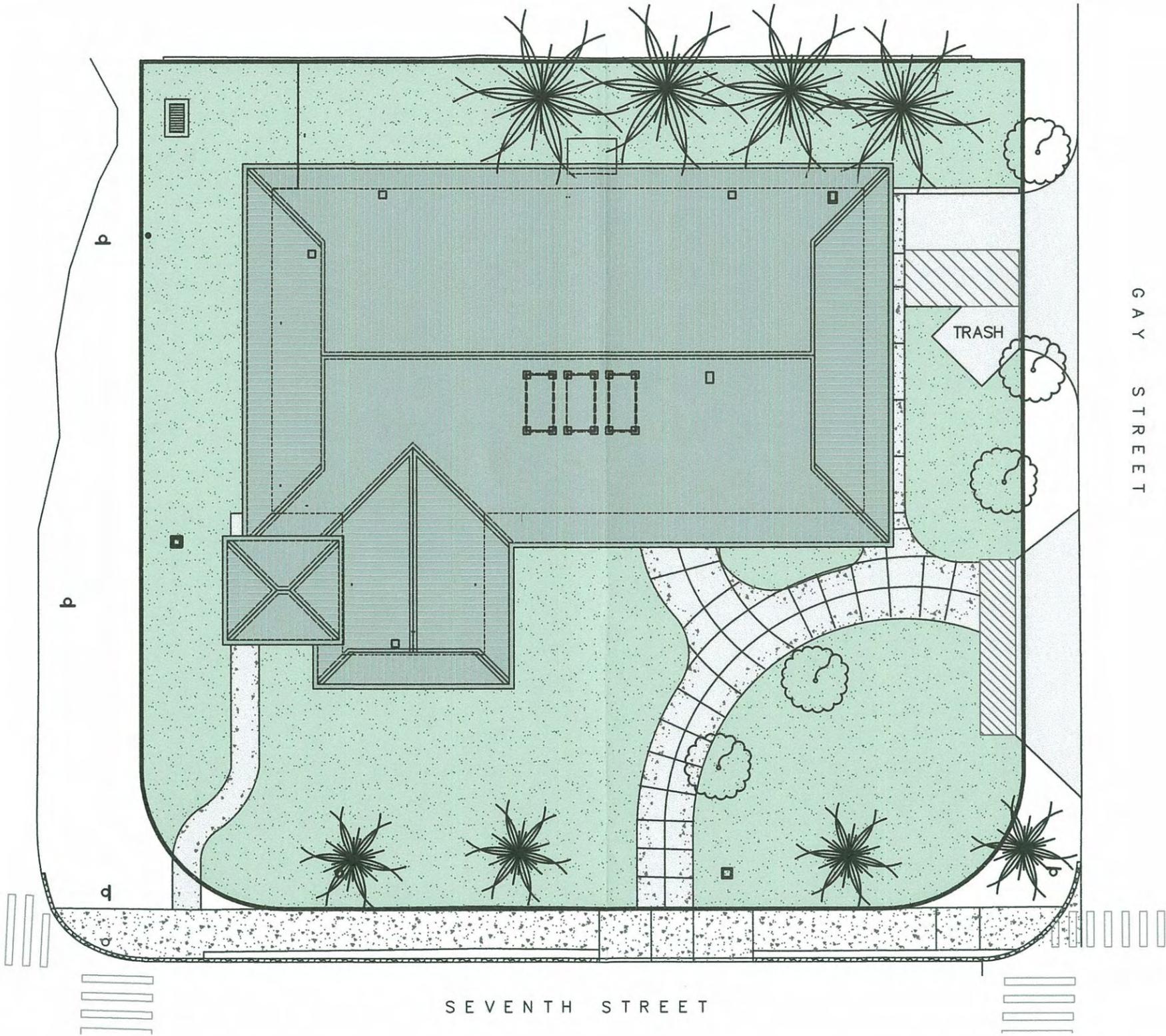
Source: USGS, Lāna'i South Quadrangle



Lāna'i City, District of Lāhainā, Maui

Figure 3
Tax Map
Lāna'i Senior Center
Department of Housing and Human Concerns, County of Maui

F R A S E R
A V E N U E



G A Y
S T R E E T

S E V E N T H
S T R E E T

SITE PLAN



Pacific Architects, Inc.
2020 South King Street
Honolulu, Hawaii 96826
808-949-1601
fax 808-942-0054



LANAI SENIOR CITIZEN CENTER

SITE PLAN

DATE 9/04/09

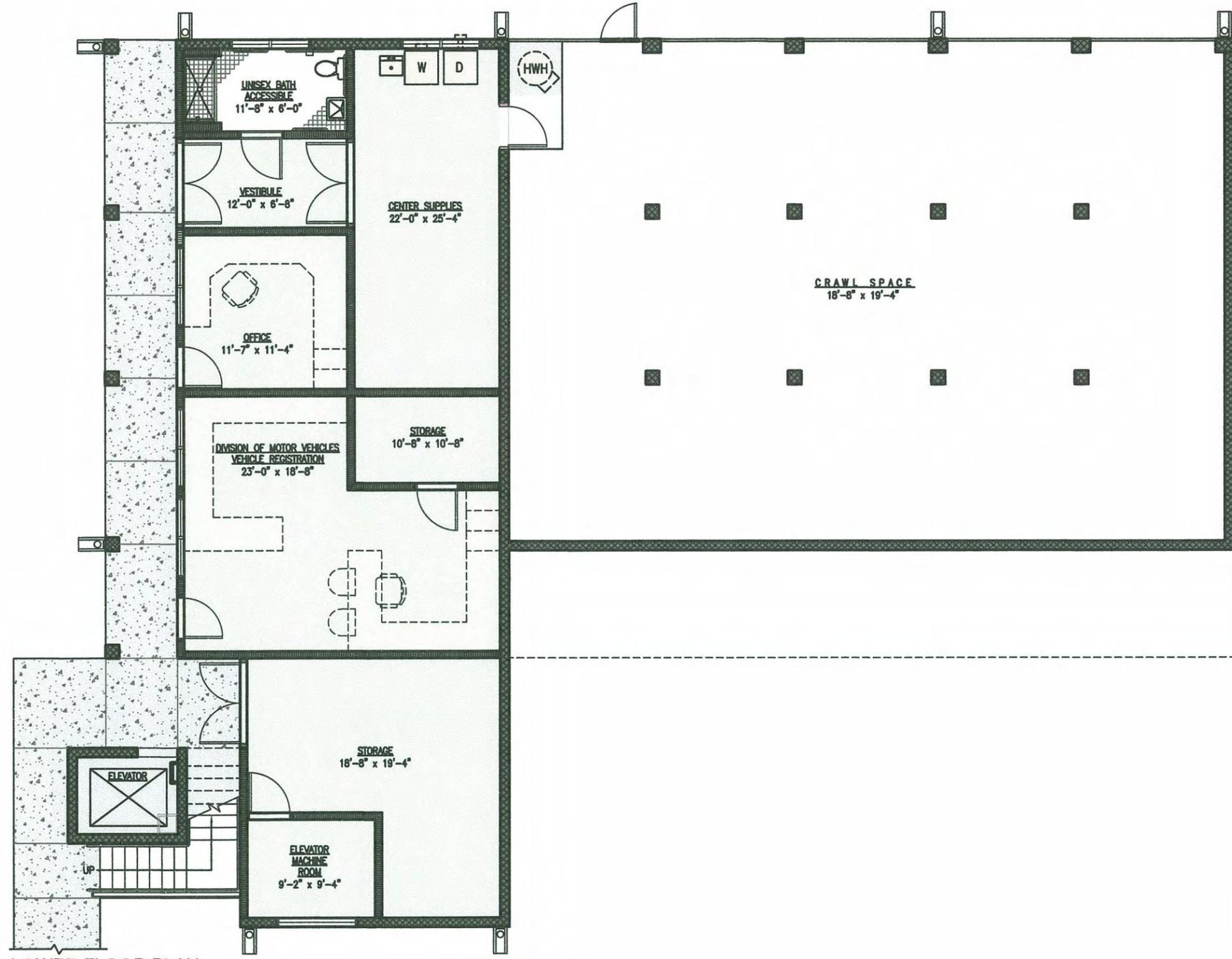
SCALE 1/16" = 1'-0"

DRAWN JC CHECK CM

SHEET

SP-1

OF SHTS



LOWER FLOOR PLAN

Pacific Architects, Inc.
 2020 South King Street
 Honolulu, Hawaii 96826
 808-949-1601
 fax 808-942-0054



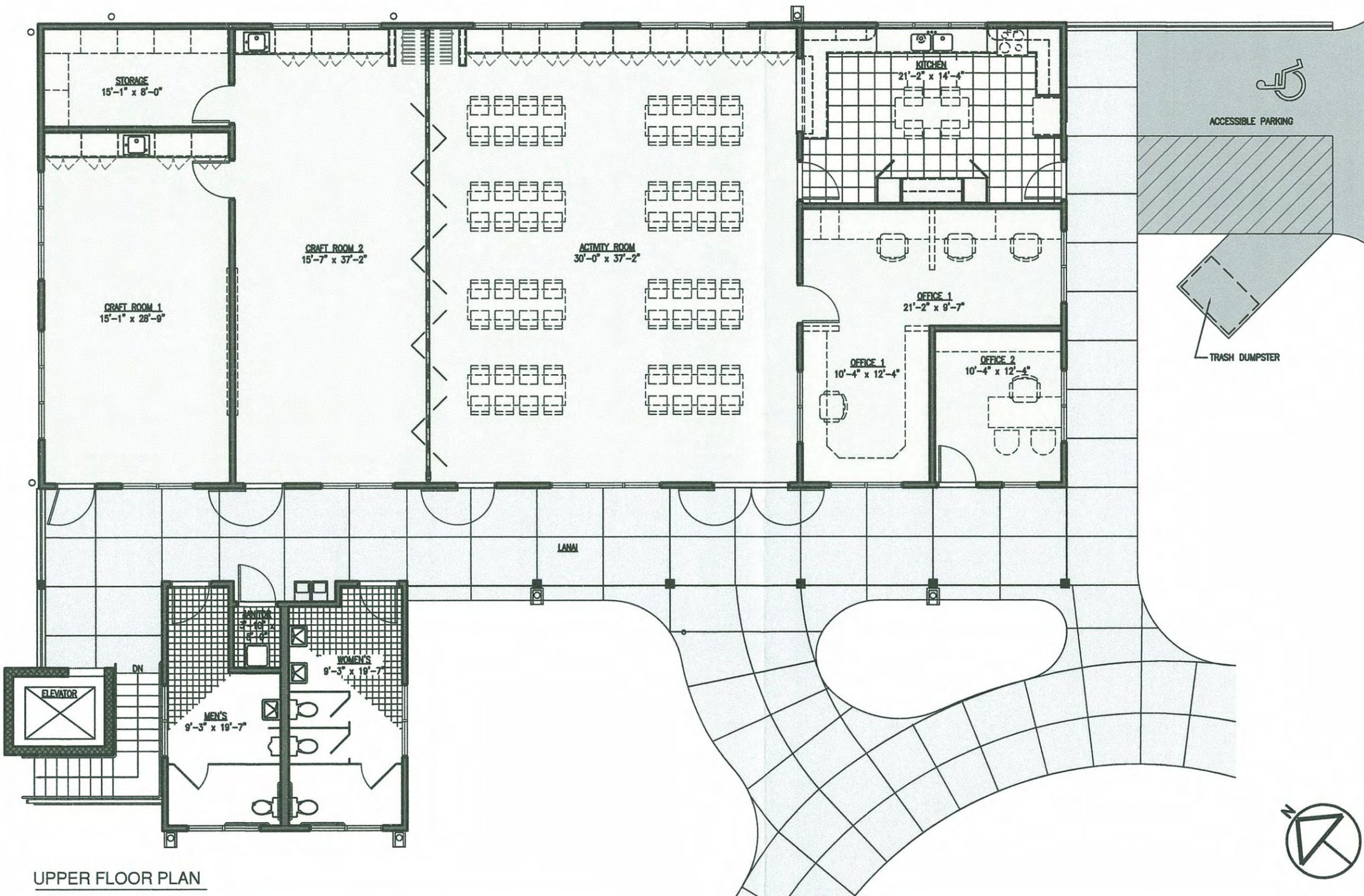
LANAI SENIOR CITIZEN CENTER

LOWER FLOOR PLAN

DATE 09/04/09
 SCALE 1/8" = 1'-0"
 DRAWN JC CHECK CM
 SHEET

A-1

OF SHTS



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LANAI SENIOR CITIZEN CENTER

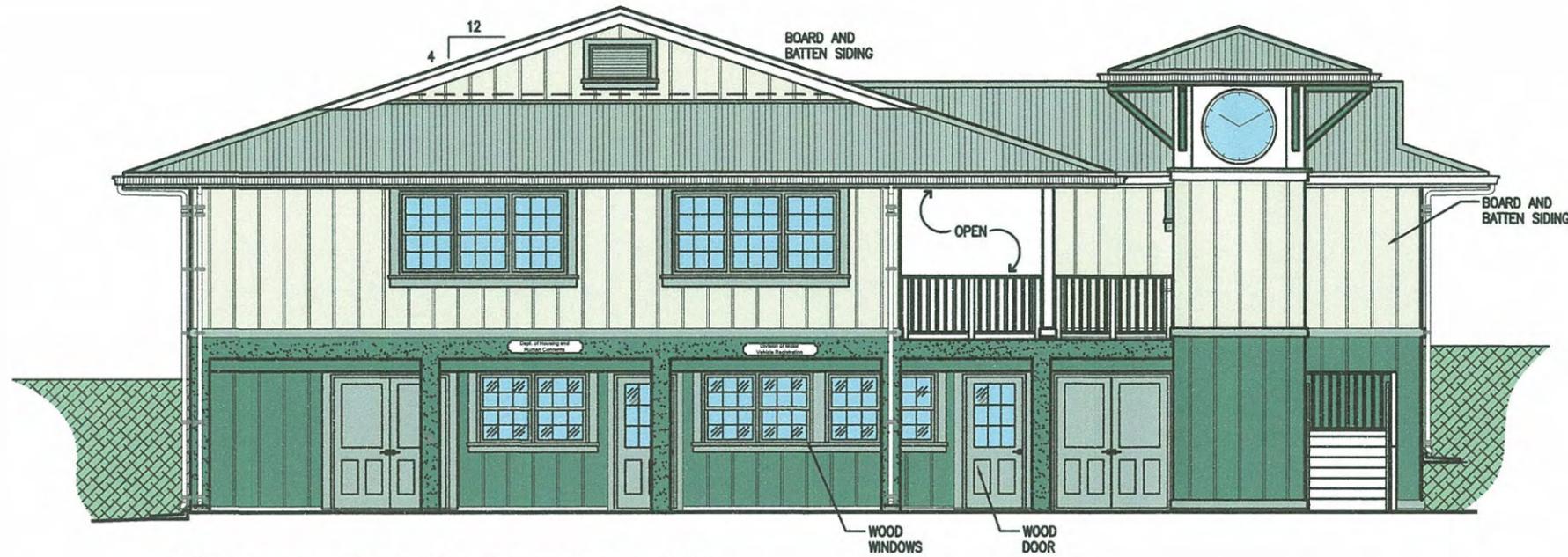
UPPER FLOOR PLAN

DATE 09/04/09
 SCALE 1/8" = 1'-0"
 DRAWN JC CHECK CM
 SHEET

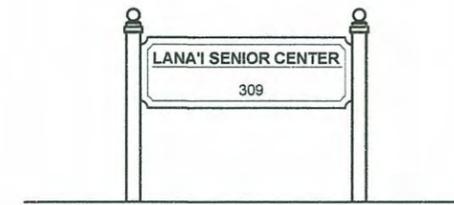
A-2

OF SHTS

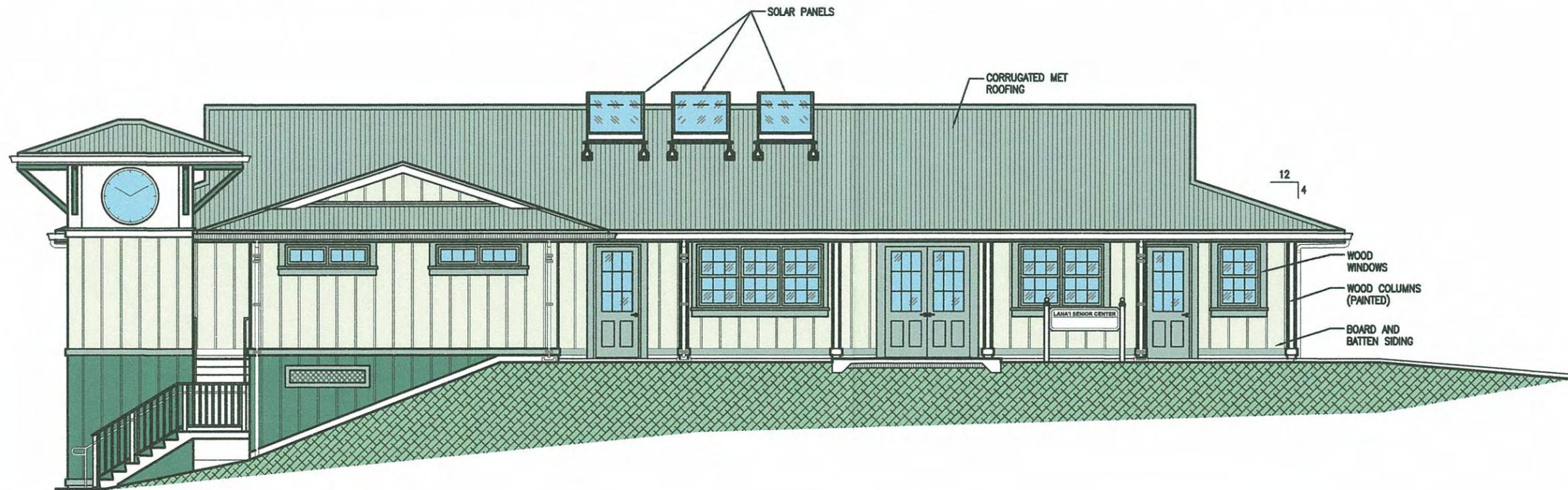
UPPER FLOOR PLAN



WEST ELEVATION (FRASER AVENUE VIEW)



SIGN DETAIL



SOUTH ELEVATION (7th STREET VIEW)

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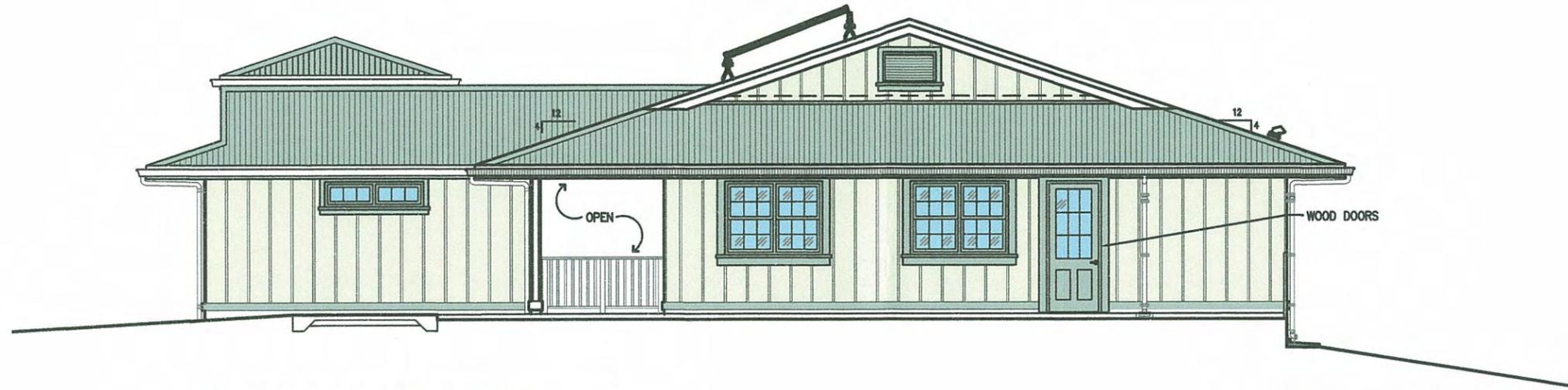
LANAI SENIOR CITIZEN CENTER

SOUTH AND WEST ELEVATIONS

DATE 09/04/09
 SCALE 1/8" = 1'-0"
 DRAWN JC CHECK CM
 SHEET

A-3

OF SHTS



EAST ELEVATION (GAY STREET VIEW)



NORTH ELEVATION

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 Honolulu, Hawaii 96826
 808-949-1601
 fax 808-942-0054



LANAI SENIOR CITIZEN CENTER

NORTH AND EAST ELEVATIONS

DATE 9/04/09
 SCALE 1/8" = 1'-0"
 DRAWN JC CHECK CM

SHEET
A-4
 OF SHTS

A. Existing Uses and Improvements

1. Facility

The building housing the Lanai Senior Center was built in 1938 [Note: the construction was previously dated to 1928.] as the Lanai High School Library and was moved to its present site in 1955. The original facility was approximately 1,300 square feet including a 100 square foot attached shed. The Library consisted of a large hall, kitchen, and two small toilets. In 1980, the library moved across the street as part of Lanai High and Elementary School. The former library building subsequently was transferred to the County of Maui in 1980 for use as a senior center through an agreement with Castle and Cooke, the landowner.

In 1983, the County undertook improvements to the building. The structure was renovated and altered and the attached shed demolished. Approximately 385 square feet was added to the hall which also provided space for two craft areas. The kitchen and toilets were removed and replaced with a new kitchen and separate men's and women's restrooms. Office and storage space were added where the shed was previously located and a new 288 square foot deck added to the building on its Gay Street side. The renovation increased the floor area by 1,300 square feet to approximately 2,500 square feet. In effect, the entire building was renovated.

In 2004, the County of Maui Department of Community Concerns was preparing to commence additional improvements. A Feasibility Study recommended renovating the restrooms to make them ADA compliant, adding approximately 400 square feet for a new Activity Room and Storage. In addition, it was recommended that the plumbing and electrical systems be upgraded, asbestos containing materials and lead-based paint be removed, and hurricane and seismic resistive improvements should be incorporated into the structure.

In 2006, the aged and leaking roof was replaced but repairs were not performed to the interior damaged by the leaking roof. As such, damaged and stained interior ceilings still mar the facility. Except for repairing the roof, the improvements recommended in 2004 were not constructed.

2. Programs

The Kaunoa Senior Services Division of the Department of Housing and Community Concerns serves as a catalyst for bringing senior citizens together in an environment where they can pursue meaningful and interesting activities and remain healthy, active, and contributing members of the community. The programs at the Lanai Senior Center strives to provide a balanced variety of classes, lectures and seminars, activities such as art, culture, crafts, performing arts, self-improvement, exercise, and wellness. In addition to providing leisure type activities for seniors, the Center provides meals-on-wheels, congregate dining, and assisted transportation services.

The Senior Center operating hours are from 8:00 AM to 4:00 PM Mondays through Fridays except holidays. Participants must be at least 55 years old to participate in the Center's leisure activities and at least 60 years old to enroll in the meals-on-wheels, congregate dining, and assisted transportation programs. Participants are not charged for services and activities; however, donations are welcomed to help defray some of the Center's expenses.

In addition to its primary function as a Senior Center, the building is available and well used by the community for meetings, public hearings, conferences and seminars, and exhibitions. Users include government, non-profit agencies, and established community organizations, and service groups.

B. Environmental Conditions

1. Climate

The climate on Lāna'i is subtropical and is affected by the surrounding ocean and persistent tradewinds that fan the island. Median annual rainfall varies from 10 inches along the leeward coasts to 35 inches at Lanaihale. On occasions, southerly winds accompanied by heavy rains produce a large percentage of a year's rainfall.

Available surface and ground water is limited on Lanai. There are no springs, and the only perennial stream, which does not reach the ocean, is in Maunalei Gulch. The principal source of water is from wells dug near this stream. Brackish water is found in wells along the windward coastal areas.

The northeast sector of Lāna'i is subject to continuous strong tradewinds. These winds are of sufficient velocity to seriously affect cultivated crops [Note: formerly pineapple]. Soils are constantly moving and dunes are not uncommon.

2. Topography

The square shaped lot slopes from east to west from a high of 1,597 foot elevation along Gay Street to a low of 1,587 foot elevation at Fraser Avenue. Measured along this *maukamakai* gradient, the terrain holds an approximate 8% slope.

3. Soils

A single soil type---Waihuna clay, 0 to 3 percent slopes---covers the entire property (Soil Conservation Service, 1972). This is a well and moderately drained soil found on Molokai and Lāna'i primarily in the central part of the Palawai Basin. Runoff is slow, permeability is moderately slow, and the erosion hazard is no more than slight.

Waihuna clay is suitable for non-agricultural uses but it has a high shrink swell potential and low shear strength for building foundations.

4. Flood Hazards

A Flood Insurance Rate Map ("FIRM") for the island of Lāna'i has not been printed. The Department of Planning, County of Maui identifies Lāna'i properties as "Flood Zone C" which is defined as "areas of minimal flooding" by the Federal Emergency Management Agency (1989 as revised).

The property is not located within a coastal high hazard zone (Ibid).

The lot appears to be well drained. Runoff follows the topographical gradient down slope and around the Senior Center Building. *Makai* of the building, runoff discharges into drop inlets along Fraser Avenue.

5. Water Resources

a. Surface Water

There are no streams, rivers, lakes, ponds, wetlands, or marshlands on the property (USGS Map, Site Visit). In addition, Lānaʻi City is located near the center of the island approximately 5.5 miles to the Pacific Ocean (at Kaunalapau Harbor) on the southwest side of the island.

b. Ground Water

According to Mink and Lau (See Table1), the Leeward aquifer system of the Central aquifer sector underlies Lānaʻi City. Groundwater in the Leeward aquifer, (Aquifer/Status Code: 0102212/11111) is high level (not in contact with seawater) fresh water in dike compartments. Based on its groundwater status code, the aquifer is currently used as a source of drinking water (salinity is <250 mg/l Cl⁻), irreplaceable, and highly vulnerable to contamination.

Table 1. Aquifer Classification System

Aquifer Code	50102212
Island Code	5 - Lanai
Aquifer Sector	01 - Central
Aquifer System	02 - Leeward
Aquifer Type, Hydrogeology	2 - High Level
Aquifer Condition	1 - Unconfined
Aquifer Type, Geology	1 - Dike
Status Code	11111
Developmental Stage	1 - Currently Used
Utility	1 - Drinking
Salinity (in mg/l Cl ⁻)	1 - Fresh (<250)
Uniqueness	1 - Irreplaceable
Vulnerability to Contamination	1 - High

Source: Mink and Lau, 1993.

Since 1990, the Commission on Water Resource Management ("CWRM") has commissioned several hydrological studies to develop models for estimating the sustainable yield of identified aquifers in Hawaii. In 1993, CWRM modeled the sustainable yield of the Leeward Aquifer at 3.0 million gallons per day. Wilson Okamoto (2007) reported that the sustainable yield remains 3.0 million gallons per day.

There is no groundwater management area designated for the island of Lānaʻi (CWRM Water Management Areas Map).

c. Underground Injection Control

All of Lānaʻi City is located above the State Department of Health delineated Underground Injection Control (UIC) line. The UIC line indicates that an underlying aquifer is a source of drinking water and limited types of injection wells are allowed through a UIC Permit or Permit exemption. Injection wells are used to inject water or other fluids into a groundwater aquifer.

6. Archaeological Resources

The project area parcel is located within Lānaʻi City, a tract of land developed for plantation laborers, supervisory personnel and equipment of the Hawaiian Pineapple Company beginning in the early 1920's. There are indications from historical records that the portion of Lānaʻi City in the region of Dole Park was bulldozed level prior to construction of plantation structures. It appears that little additional subsurface disturbances, other than trenching for roadways and underground utilities, have [has] occurred within the bounds of Lānaʻi City.

A field inspection of the property did not reveal the presence of cultural materials or deposits on the ground surface (Cultural Surveys Hawaii, 2009). The archaeologists went on to say that because the project area is located within the confines of the original Lānaʻi City, which was not in pineapple cultivation, it is possible that subsurface cultural materials and deposits may be located in the present project area. Thus, while no features were observed on the ground surface of the property, the potential for subsurface features to be located on the site cannot be discounted.

Cultural Surveys Hawaii also noted that an architectural inventory survey by Solamilo et.al. (2009) identified the building and assigned it a survey number (LC-BCT-024). The survey was undertaken in conjunction with the nomination of certain structures in Lānaʻi City as contributors to the BCT (Business Country Town) historic district.

7. Architectural Resources

The following discussion on architectural resources is excerpted from correspondence from the State Historic Preservation Division to the County of Maui Planning Department.

Constructed in 1938, the building is 50+ years old and eligible for a "historic" property designation (State Historic Preservation Division Correspondence, 2008). The building was modified and added on to in 1983. However, the building retains its historic look and feel, has not been moved, was built during Lanai City's major construction and growth period (1923-1929), and is unique for its diagonal placement on its parcel. It is a contributing structure to defining the central core (Dole Park) of the Business Country Town's ("BCT") grid pattern design (typical of 1920s town development in the United States). It is eligible for listing on the Hawaii Register of Historic Places under Criteria A (associated with significant contributing events). SHPD also expressed the opinion that the Lanai City Business Country Town ("BCT") is eligible for nomination to both the State and National Registers of Historic

Places under criteria A, B, and C. The Senior Center, located at 309 Seventh Street, was identified as potentially contributing to the eligible district (SHPD).

In contrast to the State Historic Preservation Division (“SHPD”) analysis presented above, Solamilo indicates that the Senior Center is classified as a “Non-Contributing Building” in the registration form to establish a Lānaʻi City BCT historic district. That the building was moved from its original location and drastically altered from its original appearance were the two reasons cited for excluding the structure from preservation as a contributing building within the proposed historic district. The building was originally the Lānaʻi Library and located on the grounds of Lānaʻi High School and was moved to its current location around 1955. The building was modified in 1955, 1983, and with the last modification in 2006.

The Lānaʻi Community Plan identifies two implementing actions directed towards preserving, protecting, and restoring historical properties in the town including the Senior Center. The implementing actions are:

6. Fund and establish a cultural resources preservation program which would address the preservation, protection, and restoration needs of the following:

- w. Senior Citizens Center

14. List significant historic properties and districts on the State and National “Registers of Historic Places” includingand the Senior Citizens Center.

8. Cultural Resources

Cultural Surveys Hawaii (2009) also prepared a cultural impact assessment for this environmental assessment. In addition to materials gleaned from the archaeological literature review, the assessment collected information from formal meetings of the Maui County Cultural Resources Commission and from interviews with community informants. The cultural assessment is reproduced in Appendix B. Excerpts from the assessment applicable to cultural resources criteria are summarized below.

• *Plant Resources*

Plants collected in the upland portion of the study area (Kamoku ahupuaʻa) for medicinal purposes include *haʻuōwiī* and *ʻuhaloa*. The former was also collected in the fallow pineapple fields around Lanai City. Community informants also mentioned collecting *Pepeiao akua*, *kukui nut*, *bamboo shoots*, *guava*, and *lilikoī*. *Maile* was collected from the mountains and used in lei making.

• *Trails and Traditional Access Routes*

No traditional Hawaiian trails in the study area were mentioned.

• *Traditional Hawaiian Stone Tool and Crafts*

Hawaiian stone artifacts including *ulu maika*, *pohaku maʻa*, and *imu* stones are known to be commonly found in the pineapple fields surrounding Lānaʻi City and in former cultivated areas.

- *Freshwater Resources*

Kamoku was noted for its upland forest and springs with areas developed into an extensive forested dry land agricultural system.

- *Agricultural Practices*

Upland Kamoku was used by Hawaiians in traditional times for dry land agriculture as well as for forest resources. Historic research and community consultation found that historic gardening practices occurred near the Senior Center at the present-day Lāna'i High and Elementary School location. A truck farm named Miniami Gardens was located at the school site before the school was moved from its Koele location. The Minami family raised Japanese potato or *araimo*, carrots, lettuce, cabbage, bananas, and *won bok*.

- *Hunting Practices and Deer Habitat*

Public hunting areas are located approximately two miles northwest and west of the Senior Center. Game animals and birds hunted include axis deer, mouflon sheep, kolohala or Chinese ring-necked pheasant, wild turkey, gray francolin, quail, erckel francolin, and dove.

- *Pursuit of Knowledge*

Lāna'i High and Elementary School has been the main educational facility on the island since the ranching era. Residents have a strong tradition and love for education. The school was a center of community activities, sports, dances, and social events (this is probably true to this day). Residents have organized themselves to secure funding from the State Legislature for continued growth and improvement of the school.

- *Gathering Place for Kupuna and Community*

The Senior Center is a place where many of the *kupuna* on Lāna'i congregate daily to socialize, talk story, have lunch, watch T.V. and relax. It is also a multi-purpose center where functions are held including classes such as hula and hunter education, celebrations such as birthdays, reunions, graduation parties, and community meetings.

The Senior Center is also a home to the islands most cherished cultural resources, the *kupuna* themselves.

9. Biological Resources

Vegetation within Lāna'i City is dominated by plantings of Cooke Island pine trees (*Araucaria columnaris*) and Norfolk Island pine trees (*Araucaria heterophylla*). These trees were introduced in the 1920's by naturalist George Munro, when the Pālāwai Basin began to be cultivated in pineapple and the master plan for housing the pineapple plantation laborers involved the layout for Lāna'i City (Taylor 1976). Most all other vegetation in the region of Lāna'i City is imported landscape and ornamental, with various non-native plant species, such as *tī* (*Cordyline fruticosa*) evident in the yards of most retail establishments and residences.

Ornamental plants such as *hibiscus* and *Manila palm* grow in planting areas on either side of the entrance to the Senior Center. Open space and yards are planted in grass.

C. Land Use Plans and Controls

State and County land use controls applicable to the use of the property are listed below.

State Land Use Designation: Urban

Lana'i Community Plan: Public/Quasi-Public (See Figure 4)

Zoning: P-1 Public quasi-public (See Figure 5)

Special District or Project District Area: None

Special Management Area: Outside Special Management Area

D. Public Facilities and Services

1. Circulation

The Senior Center is bounded by Fraser Avenue on the west, Seventh Street on the south, and Gay Street on the east. Fraser Avenue is a two-way, two-lane roadway generally oriented in the north-south direction that serves as one of the major access roads through Lāna'i City between Kamalapau Highway and the northern edge of the city.

Seventh Street, a two-way, two-lane street connects Fraser Avenue on the west with Lanai Avenue on the east. It is one of four streets that "frame" Dole Park. Gay Street, a two-way, two-lane residential street connects Sixth Street on the north with Seventh Street.

2. Water

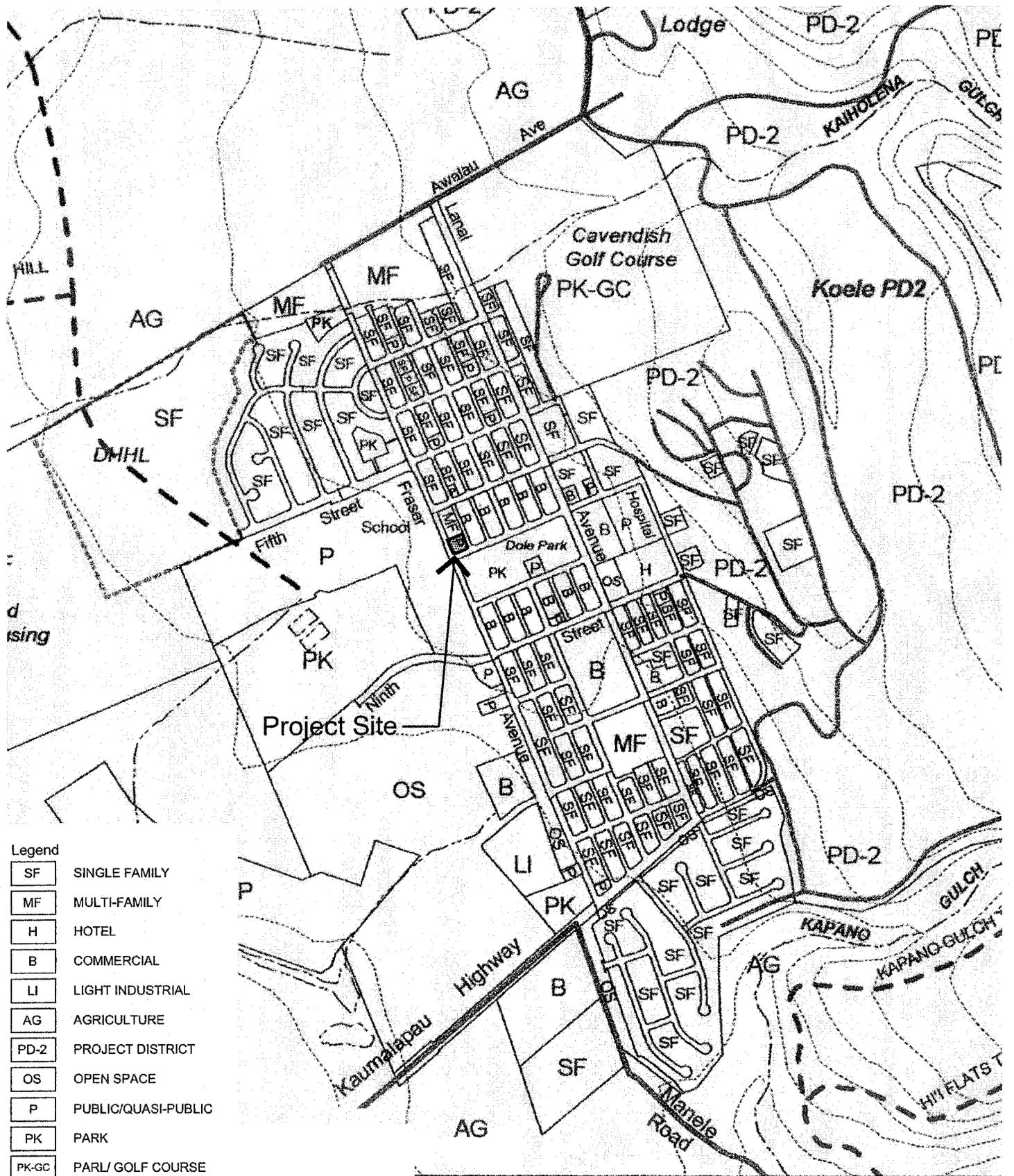
Domestic water is drawn from an existing 8-inch main along Gay Street. The size of the service lateral has not been determined but water is metered through a 5/8" meter located in the northern corner of the lot.

3. Wastewater

Wastewater is discharged into an existing 8-inch sewer main in Fraser Avenue. The existing on-site 4-inch service lateral may be replaced with a new lateral of similar diameter. The new lateral will also pick up a 4" connection from a grease interceptor to be installed on-site. From Fraser Avenue, wastewater gravity flows to the Lāna'i Wastewater Reclamation Facility located on the west side of Lāna'i City. Constructed in 1984 by the County of Maui, it is operated and maintained by the Department of Environmental Management, Wastewater Division.

4. Public Schools

Lāna'i High and Elementary School, which is located ½ block to the west of the Senior Center, is the only public school on the island of Lanai. For the current school year, the school has an enrollment of 540 students supported by 59 administrators and staff.



- Legend**
- SF SINGLE FAMILY
 - MF MULTI-FAMILY
 - H HOTEL
 - B COMMERCIAL
 - LI LIGHT INDUSTRIAL
 - AG AGRICULTURE
 - PD-2 PROJECT DISTRICT
 - OS OPEN SPACE
 - P PUBLIC/QUASI-PUBLIC
 - PK PARK
 - PK-GC PARK/ GOLF COURSE

Source: Lāna'i Community Plan, County of Maui
Ordinance No. 2738, December 21, 1998

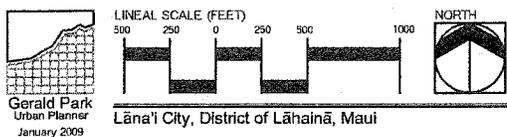


Figure 4
Lāna'i Community Plan
Lāna'i Senior Center

Department of Housing and Human Concerns, County of Maui



CAVENDISH GOLF COURSE

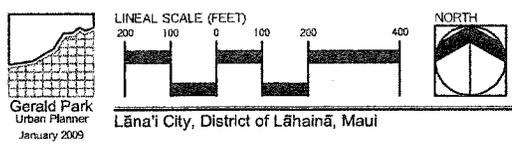
DOLE PARK

Project Site

Legend

A-1	Apartment
BCT	Business Country Town
OS	Open Space
P-1	Public-Quasi Public
PK-3	Regional Park
R-1	Residential
UR	Urban Reserve

Source: County of Maui, Lāna'i Zoning Map



Lāna'i City, District of Lāhainā, Maui

Figure 5
Zoning
Lāna'i Senior Center

Department of Housing and Human Concerns, County of Maui

5. Police Protection

Police protection originates from the Lānaʻi Police Station located at the intersection of Eighth Street and Fraser Avenue. Nine officers (2 commanders, 6 patrol officers, and a school resource officer) are assigned to the station. One to two officers and a commander stand watch during the day (Telephone Contact, 2009).

6. Fire Protection

Fire protection service is provided from the Lānaʻi Fire Station on Fraser Avenue, less than 0.5 miles south of the Senior Center. The station is manned by a complement of 21 men (3 captains, 6 drivers, and 12 firefighters) and 7 personnel are on duty 24 hours a day. Their equipment includes a fire apparatus and a tanker. A second fire apparatus is posted to the station for back up should an off-island fire company be summoned to Lānaʻi (Telephone Contact, 2009).

Fire hydrants on Fraser Avenue, Seventh Street, and Gay Street are in proximity to the Senior Center.

Firefighters provide first response to emergency calls but not ambulance service. Ambulance service is provided by American Medical Response from their office on Thirteenth Street.

7. Recreation Facilities

Dole Park, a 7.5 acre park in the center of Lanai City was built around 1922 when Lanai City was established. The grassy park provides residents and visitors open space for family activities and passive recreation, benches and tables for picnicking, a pavilion for gatherings, and a nearby community center. Spanning approximately 4 city blocks, it resembles a quaint town square with many island businesses and restaurants surrounding the park. Tall and stately Norfolk Island and Cook Island pines provide shade, beauty, and a vertical element.

Lānaʻi Park and Tennis Courts, an 8.017 acre on Fifth Street below Fraser Avenue, is improved with three tennis courts, two basketball courts, and a children's playground with a play apparatus.

A major county recreation complex is located across Fraser Avenue from Seventh Street. The complex features a gymnasium, youth center, two tennis courts, softball field, Little League Field, and parking. The complex is not named *per se* but is identified as either Lānaʻi Gymnasium and Tennis Courts, Lānaʻi Softball Field, or Lānaʻi Little League Field.

The Lānaʻi Community Center at the corner of Lānaʻi Avenue and Eighth Street houses a community meeting facility, County offices, and is used for County Council meetings.

8. Power and Communication

Overhead electrical and telephone service is provided from overhead lines on the *mauka* side of Fraser Avenue

9. Medical Facilities

Lānaʻi Community Hospital, which is owned by the State of Hawaii and managed by the Hawaii Health Systems Corporation, is the only provider of emergency room and hospital care for Lānaʻi residents and visitors. The hospital is located six blocks *mauka* of the Senior Center on Seventh Street. Patient services include limited acute care (4 inpatient beds), extended long-term care (10 beds), limited laboratory and radiology services, 24-hour emergency care, and outpatient dialysis. Current staffing is at 32 people (Telephone Conversation, Hospital Administrator, 2009).

Through its RSVP program, Senior Center *kupuna* visit and entertain patients at the hospital once a week.

SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

3

The scope of the project was discussed with the Department of Housing and Human Concerns and the consulting architect. State and County agencies were contacted for information relative to their areas of expertise. Time was spent in the field noting site conditions and conditions in the vicinity of the existing Senior Center. The consultations and field investigations helped to identify existing conditions and features that could affect or be affected by the project. These conditions include:

- The property was probably improved with the construction of central Lānaʻi City between 1923 and 1929;
- The Senior Center building was constructed in 1938 as an on-campus library for Lānaʻi High School;
- The building is 50+ years old and qualifies as a “historic property”;
- The building was moved to its current location in 1955 and used as a public library;
- The Senior Center has occupied the building at its current location since 1975;
- There are no recorded archaeological resources on the property;
- There are no rare, threatened, or endangered flora or fauna on the property;
- The property is not located in a 100-year flood zone;
- There are no streams, ponds, wetlands, or surface water features on the property;
- Water, sewer, and electricity are available to the property;

A. Short-term Impacts

Site work is a necessary function to prepare the land for building the temporary and permanent improvements to follow and is probably the most disruptive construction activity on the environment. Site work is a persistent source of **fugitive dust**. Site contractors are aware that dust is a nuisance to both workers and people living near work sites and it is imperative for them to maintain stringent dust controls

Water sprinkling is probably the most effective dust control measure given the size of the building site and the scale of proposed improvements. The contractor, however, may choose to implement other measures (such as erecting dust screens around the perimeter of the lot) based on experience with similar projects, physical conditions, and job sites. Air pollution control measures will comply with Chapter 60.1, Air Pollution Control regulations of the State Department of Health and Best Management Practices approved by the Department of Public Works and Environmental Management, County of Maui.

The contractor will be responsible for general housekeeping of the site and for keeping the adjacent streets free of dirt, mud, and construction debris.

Construction **noise**, like fugitive dust, cannot be avoided. Exposure to noise, however, is expected to vary in volume, frequency, and duration. Noise will vary also by construction phase, the duration of each phase, and the type of equipment used during the different phases. For this project, noise will probably be most pronounced during the early stages when the building is demolished and the land grubbed, graded, and excavated for the concrete foundation and ground level floor slab.

Community Noise Control regulations establish a maximum permissible sound level for construction activities occurring within various zoning districts. The building site is zoned public/quasi-public and thus considered to be in the Class A zoning district (pursuant to Chapter 46, Community Noise Control, 1996) and the maximum permissible sound level is 55 dBA between the hours of 7:00 am and 10:00 pm. Construction activities can produce noise in excess of the permissible daytime noise level and a noise permit (or Variance from Pollution Controls) will be needed. The Contractor will be responsible for obtaining the permit and complying with conditions attached to the permit. Work will be scheduled for normal working hours (7:00 am to 3:30 pm) Mondays through Fridays.

Site work will involve **excavation and grading**. Best Management Practices specified in Chapter 20.08 of the Maui County Code for drainage, dust control, erosion, and sediment control will be prepared for review and approval by the Department of Public Works.

The project site is located within the original layout of Lānaʻi City which was not previously cultivated in pineapple. Modern fill material may overlay undisturbed regional soils indicating that undisturbed **cultural deposits** may exist in scattered pockets. Therefore, precautionary monitoring is proposed as a mitigating measure during subsurface excavation for building footings and trenching for utility connects.

Should subsurface **archaeological deposits** be unearthed, work in the immediate area will cease and the State Historic Preservation Division notified immediately for disposition of the finds. If burials are unearthed, the State Historic Preservation Division and the County of Maui Police Department will be notified.

Adverse effects on **flora** are not anticipated. Plant material to be removed within the project limits is primarily grass. Trees, palms, hedges, and ornamental plantings will be removed from around the existing building to make room for the new building. Plant material in good growing condition may be retained for use in the landscaping. Pine trees along the perimeter of the property are not proposed for removal. None of the plants observed on the property are listed or are candidates for rare, threatened, or endangered status.

Construction work in Fraser Avenue, Seventh Street, and Gay Street will be required to install utility connections and crossings. Street **traffic** is light on Gay Street with higher volumes on Fraser Avenue and Seventh Street. Measures proposed to mitigate impacts during construction include:

- Posting notices alerting motorists of scheduled work in the right-of-way;
- Posting warning signs on both sides of the work area to alert motorists of construction and to slow traffic speed;
- Positioning traffic cones or other directional devices in the roadway to guide vehicles around work areas;
- Posting flagmen for traffic control;
- Keeping at least one traffic lane open at all times to minimize inconveniences to motorists;
- Limiting construction within road rights-of-way to non-peak traffic hours, Monday through Friday; and
- Covering open trenches with steel plates during non-working hours and posting safety devices with warning lights to alert motorists of the construction area.

Construction vehicles hauling workers and material will periodically contribute to **traffic** on streets leading to and around the building site. Construction material will be off-loaded and stockpiled on-site; however, if materials need to be unloaded within the road right-of-way, flagmen will be posted for traffic control. When this occurs, minor traffic delays lasting for no more than a few minutes can be expected.

B. Long-term Impacts

The existing single-story building will be replaced with a two-level building thus introducing a new building in form and scale to the area. Located on a prominent corner lot at the intersection of Fraser Avenue and Seventh Street, the building is and will be visible from both streets, Dole Park, and from adjoining public and private properties. The structure will not exceed the two-story 35-foot height limit for buildings in the P-1 zoning district. Viewed from Seventh and Gay Streets, the building will appear as a one-story structure because of the general lack of visibility of the ground floor due to the sloping terrain. From Fraser Avenue, both the ground and upper floors will be visible clearing identifying the structure as two floors in height.

The structure will be designed to comply with the Lānaʻi City Community Design Guidelines. Compliance with the established guidelines should result in a building visually acceptable to the community and one that will sustain and promote the architectural design themes established for properties surrounding Dole Park and Lānaʻi City in general.

The completed Senior Center will not adversely affect land uses in the immediate surroundings. The property is zoned P-1 Public Quasi Public and government buildings and facilities are permitted uses in the zoning district. It should be noted that the Lānaʻi City Community Design Guidelines specifically address commercial uses in Lānaʻi City (Planning Department, 1997). Many if not all the properties bordering Dole Park *mauka* of Fraser Avenue are part of Lanai City's Business Country Town ("BCT") district where the guidelines apply. The lot on which the Senior Center is located is excluded from the BCT designation.

The new structure generally has been sited on top of the existing Senior Center building "footprint" near the rear of the lot. The building extends beyond the footprint owing to the expanded floor area. Setbacks around the perimeter exceed the minimum required for the zoning district thus providing ample buffering from adjoining properties and uses. In addition, the building has been setback substantially from Seventh Street thereby creating room for open space, landscaping, accessible walkways, and outdoor functions.

The structure is scaled and programmed for accommodating uses other than senior and community activities. Office space on the ground floor will be provided for the County of Maui Department of Housing and Human Concerns and Division of Motor Vehicles. This has the benefit of decentralizing government services into the community at an accessible and identifiable location. Both government and community uses are separated vertically which is reinforced by having separate entries to the ground and upper levels.

The architectural program for accommodating government offices and storage needs in part determined the orientation and L-shape of the building. This layout also minimizes the amount site work required to place the two-story building on the lot as compared to a diagonal orientation.

Community residents have suggested a “color palette” for painting the building exterior to reflect a “plantation style” appearance. Residents also suggested that the landscaping incorporate native plants which seniors can use in lei making and other crafts (Cultural Surveys Hawaii, 2009). A landscape plan will be developed in consultation with the seniors. Community input has also contributed to plans for enlarging the restrooms and providing a full residential kitchen.

No traditional cultural practices are known to be associated with the subject property. However, it was pointed out in the cultural assessment prepared for the project and expressed by residents and a commissioner of the Maui County Cultural Resources Commission that the elders of the community or *kūpuna* are the cultural resource and the Lānaʻi Senior Center functions as their gathering place. It is also a meeting place or “town hall” for the community. *Kūpuna* are living treasures in the community and Lanaians have a strong tradition of caring for these treasures. The Senior Center facility is central to maintaining the welfare of the *kūpuna* and therefore the community at large.

Unlike most projects in which an environmental assessment is prepared for a proposed action and then presented to the local government for agency and community review, the demolition of and rebuilding of the Lānaʻi Senior Center was presented and discussed at meetings of the Maui County Cultural Resource Commission and small town focus planning groups. Several Lanai residents attending these meetings stated “there is a need for and community support for a new Senior Center facility (Cultural Surveys Hawaii, 2009)”.

At its March 5, 2009 session the Maui County Cultural Resources Commission acted as follows:

VOTED: to approve the department’s recommendation for approval of the demolition permit and to include as findings of fact the following reasons for the approval of the demolition permit: That kupuna are a cultural resource to be preserved; and that, as a public facility, we must ensure that the needs of the island’s people are met (Maui County, HI 2006-2009 website in Cultural Surveys Hawaii, 2009).

Given community consensus for building a new Senior Center and Maui County Cultural Resources Commission support for approving a demolition permit, adverse long-term impacts associated with demolishing, constructing, and operating a new Senior Center are not anticipated.

The principal recommendation of the cultural assessment is that “the community requests that the planning and construction process be expedited as they depend on the Senior Center and cannot go without a facility for an extended period of time (Cultural Surveys Hawaii, 2009)”.

A variance to the County’s off-street parking requirements will be requested. Since there is no off-street parking currently provided on-site, there should be no change to this existing condition when the Senior Center is completed. Providing an accessible parking stall off Gay Street, a passenger loading area, and accessible walkways from adjoining streets will improve access for seniors and benefit of all users.

Wastewater will be discharged into the existing collection and disposal system. The proposed use will not significantly increase vehicle traffic in the vicinity of the Center and

subsequent impacts on local traffic circulation patterns are not anticipated. Off-street parking is not proposed and residents will have to seek out on-street parking on adjoining streets. The absence of off-street parking is not a significant impact since a) off-street parking is not required, and b) Lanai residents are accustomed to the lack of parking and have their own favorite methods for accessing the Senior Center.

Runoff is expected to marginally increase because of the increase in impervious surface area (primarily because of the enlarged roof area). Installation of drainage improvements will help to positively drain the site.

The proposed low-density, low-intensity use should not result in deleterious impacts on air quality and the acoustical environment. Community centers, and in this instance a senior center, and the uses typically conducted therein are not significant noise generators. Most senior activities occur during the daytime when noise is generally acceptable. Noise can be attenuated by the proposed setbacks and separation between lots, landscaping, and acoustical dampening materials placed inside the double walls.

During evening functions, noise will be audible in occupied areas along Gay Street and to the north of the Center. During these times, setting and maintaining reasonable operating hours can limit noise to certain hours of the evening.

A. No Action

The no action alternative would maintain the status quo of the property and preclude the occurrence of all environmental impacts, short and long-term, beneficial and adverse, described in this Assessment.

B. Alternative Site

Alternative sites were not identified for a Senior Center. The island of Lānaʻi is owned by Castle & Cooke Resorts LLC and an alternative site would have required site selection and lease negotiations with the owner. An alternative site also could have raised land use and zoning issues. As indicated in an earlier section of this Assessment, there is overwhelming support by seniors and the community to have the Senior Center retained at its current location.

Permits and approvals required for the project are listed below. Other permits and approvals may be required depending on final construction plans.

AUTHORITY

PERMIT/APPROVAL

County of Maui

Department of Public Works

Building Permit
Certificate of Occupancy
Electrical and Plumbing Permit
Grading and Grubbing Permit

State of Hawaii

Department of Health
DLNR State Historic Preservation Division

Variance from Pollution Controls
Chapter 6E Review

County of Maui

Department of Planning
Department of Environmental Management
Department of Fire and Public Safety
Department of Parks and Recreation
Department of Public Works
Department of Transportation
Maui County Cultural Resources Commission
Police Department

State of Hawaii

Department of Health
Department of Land and Natural Resources
Historic Preservation Division
Maui/Lanai Islands Burial Council
Office of Hawaiian Affairs
Lanai Public Library (Placement)

Elected Officials

The Honorable Charmaine Tavares, Mayor, County of Maui
The Honorable Sol P. Kaho'ohalahala, Maui County Council

Others

Maui Electric Company, Inc.
Castle & Cooke Resorts, LLC
Lanai Culture & Heritage Center
Lanaians for Sensible Growth
Hui Malama Pono O Lana'i

Individuals

Sol Kaopuiki
Glenn Richardson
Albert Morita
Momi Suzuki
Robert Hera
Gary Onuma

Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health, establishes criteria for determining whether an action may have significant effects on the environment (§11-200-12). The relationship of the proposed project to these criteria is discussed below.

1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

An archaeological inspection did not reveal the presence of cultural materials or deposits on the ground surface. Should subsurface features be unearthed during site work, the State Historic Preservation Division will be notified for proper disposition of the finds. If burials are discovered, in addition to the SHPD, the County of Maui Police Department and the Maui/Lanai Islands Burial Council will be notified.

A cultural assessment concluded that there are no traditional cultural practices associated with the property. Community informants and several residents have stated that the Senior Center itself is a cultural resource and a gathering place on the island for the community.

Although the existing building is 50+ years old and eligible for historic property status, it has been determined that the structure can be demolished

2) Curtails the range of beneficial uses of the environment;

The project will not curtail the beneficial uses of the environment. The proposed improvements will replace an aging, deteriorating structure that has passed its useful life and a building that has served the community in a variety of public functions since the 1938.

Replacing the structure will allow the continuation of an existing public use in a manner that will not degrade the environmental quality of the property and the historic context of adjoining commercial and recreation areas.

3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;

The project will not conflict with long-term environmental policies, goals, and guidelines of the State of Hawaii.

4) Substantially affects the economic welfare, social welfare, and cultural practices of the community or State;

The project will not substantially affect the economic or social welfare of the community or State. The cultural assessment noted that Lanai residents believe the Senior Center to be a cultural site and its replacement will continue to function as a gathering place for the community.

5) Substantially affects public health;

Public health will not be adversely affected during construction and after completion of construction.

6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

Substantial secondary impacts on population and public facilities are not anticipated.

7) Involves a substantial degradation of environmental quality;

A substantial degradation of environmental quality is not anticipated.

8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The project does not involve a commitment for a larger action.

It is anticipated that with a new facility the Department of Housing and Human Concerns and the community can expand the range of senior programs and activities offered at the Center. Such programs may originate from the County and/or from senior citizens and residents desiring new social, educational, and cultural activities.

9) Substantially affects a rare, threatened or endangered species, or its habitat;

There is no listed rare, threatened or endangered flora or fauna on the premises.

10) Detrimentially affects air or water quality or ambient noise levels;

Fugitive dust will be raised during construction but can be controlled by measures mentioned in this Assessment or alternative contractor initiated measures. Noise will be audible during construction but given the limited scope of improvements, construction noise will be similar to what is typically heard during home construction activities. All construction activities will comply with air quality and noise pollution regulations of the State Department of Health.

Best Management Practices will be implemented during construction to control construction related runoff. Plans will be submitted to the Department of Public Works for review and approval.

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

The existing and proposed Lāna'i Senior Center building is not located in an environmentally sensitive area.

12) Substantially affects scenic vistas and view planes identified in county or state plans or studies, or,

The improvements will not adversely affect scenic vistas and view planes from public viewing places such as roads and recreation areas. Aside from the newness of the structure, it will be designed to complement adjoining buildings and comply with the Lānaʻi City Community Design Guidelines. The intent of the Design Guidelines is to promote the architectural design theme established for Lānaʻi City. This project will directly support the guidelines and architectural theme.

13) Requires substantial energy consumption.

Substantial energy consumption is not anticipated.

REFERENCES

Cultural Surveys Hawaii. April 2009. *An Archaeological Literature Review and Field Inspection Report for a Proposed Senior Center at Lānaʻi City, Kamoku Ahupuaʻa, Lahaina District, Lanai Island, TMK: (2) 4-9-006: 006*. Prepared for Gerald Park Urban Planner.

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APPENDIX A

ARCHAEOLOGICAL FIELD INSPECTION

**AN ARCHAEOLOGICAL LITERATURE REVIEW
AND FIELD INSPECTION REPORT FOR A
PROPOSED SENIOR CENTER AT
LĀNA‘I CITY
Kamoku Ahupua‘a, Lahaina District, Lāna‘i Island
TMK: (2) 4-9-006: 006**

Prepared for
Gerald Park Urban Planner

DRAFT

Prepared by
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Management Summary

Reference	An Archaeological Literature Review and Field Inspection Report for a Proposed Senior Center at Lāna'i City, Kamoku Ahupua'a, Lahaina District, Lāna'i Island [TMK (2) 4-9-006:006] (Hill, Lee-Greig, Medeiros and Hammatt 2009)
Date	April 2009
Project Number	Cultural Surveys Hawai'i Inc. (CSH) Job Code: KAMOKU-7
Investigation Permit Number	CSH completed the literature review and field inspection under state archaeological permit No. 0920 (2009) issued by the Department of Land & Natural Resources/ State Inventory of Historic Places (DLNR/ SIHP) per Hawai'i Administrative Rules (HAR) Chapter 13-13-282.
Project Location	Six miles north of the landing at Mānele Bay, five miles inland from either Maunalei or from Kaumālapa'u Harbor, within the Kamoku Ahupua'a, Lahaina District, Lāna'i Island [TMK: (2) 4-9-006:006]. The project location is within the original layout of Lāna'i City. This area is depicted on the 1992 Lanai City 7.5-minute USGS topographic quadrangle map.
Land Jurisdiction	Private: Castle & Cooke Resorts, LLC
Agencies	Maui County Department of Housing and Human Concerns, State Historic Preservation Division (SHPD)
Project Description	CSH completed this archaeological literature review and field inspection investigation for Gerald Park Urban Planner, regarding a proposal to demolish an existing Senior Center structure in an area recently nominated as a part of the historic district of Lāna'i City. The construction of the new Senior Center structure is planned to retain the plantation character of the original structure, and appears consistent with design standards for the proposed Lāna'i City "Business Country Town" (BCT) historic district.
Project Acreage	14,828 square feet, 0.34 acres or 0.000130 hectares
Area of Potential Effect (APE) and Survey Acreage	For this field inspection, the project's APE is defined as the entire 14,828-square-foot footprint of Parcel 6 of Lāna'i City. The proposed BCT historic district of Lāna'i City consists of a thematic group of buildings which form the commercial core of the last intact plantation town in Maui County (Solamillo et al. 2009). The project APE is a small portion of the proposed BCT historic district, which measures 9.77 acres. The built environment surrounding the project APE is primarily commercial. The proposed development of the new Senior Center building appears to pose no additional auditory, visual, or other environmental impacts to any surrounding potential historic properties. Accordingly, for the current literature review and field inspection, the survey area including the existing adjacent streets, and the project APE, are one and the same.

Historic Preservation Regulatory Context	The proposed project is subject to Hawai'i State environmental and historic preservation review legislation [Hawai'i Revised Statutes (HRS) Chapter 343 and HRS 6E-8/ Hawaii Administrative Rules (HAR) Chapter 13-13-275 respectively]. This document is intended to assist in the project's planning only, and does not fulfill the requirements for an archaeological inventory survey.
Fieldwork Effort	Fieldwork was accomplished on February 26, 2009 by Robert R. Hill, B.A. The field effort included a general pedestrian inspection and photographs. The total time required to complete the fieldwork consisted of one person-day.
Number of Historic Properties Identified	The existing Senior Center structure was identified during a previous architectural historic resources inventory survey (Solamillo et al. 2009) undertaken in conjunction with the nomination of certain structures of the Lāna'i City as contributing to the proposed BCT historic district. The study by Solamillo and others (2009) assigned an architectural inventory survey number LC-BCT-024 to the existing Lāna'i City Senior Center. No other surface indications of cultural materials or deposits were observed during the present field inspection.
Summary and Interpretation	The present field inspection took place within an architectural inventory survey study area for a proposed Lāna'i City BCT historic district (Solamillo et al. 2009). No surface cultural materials or deposits were observed in the vicinity of the Lāna'i City Senior Center. The nomination of specific historic properties within this district is presently underway by the County of Maui Planning Department. Each historic property was evaluated as being either "contributing" or "non-contributing" to the proposed historic district of Lāna'i City. It has been previously determined by Solamillo and others (2009) that the existing Senior Center structure lacks the integrity for a "contributing" cultural resource within the context of the proposed historic district for Lāna'i City.
Recommendation	<p>Because excavation and construction in the proposed project area will occur in an area where significant pre-contact or historic deposits may be located, CSH recommends a program of precautionary monitoring during the subsurface excavation stage of construction for building footings, and during subsurface trenching for utility connections.</p> <p>In the event that human remains are identified during the course of excavation, all work in the immediate area should be stopped, the location secured, and the Cultural Historian for SHPD, Hinano Rodrigues, should be contacted for further direction.</p>

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Section 1 Introduction

1.1 Project Background

At the request of Gerald Park Urban Planner, Cultural Surveys Hawai'i, Inc. (CSH) conducted an archaeological literature review and field inspection for a 14,828 square-foot parcel in Lāna'i City, located in Kamoku Ahupua'a, Lahaina District, Lāna'i Island [TMK: (2) 4-9-006:006] (Figure 1). The County of Maui Department of Housing and Human Concerns has proposed to demolish the existing senior center occupying a portion of parcel 006 in the present commercial area of Lāna'i City, and to construct the new senior center on the same site. The project area is directly adjacent to the Dole Park portion of Lāna'i City.

To complete the development plans for the new senior center, the Hawai'i State Department of Land and Natural Resources/State Historic Preservation Division (DLNR/SHPD) has previously reviewed certain architectural details which would allow for the demolition of the structure and would further allow for the construction of a new Lāna'i City Senior Citizens Center (See Appendix A Section 6E-8 Review Letter LOG NO: 2008.5781 DOC NO: 0901AL26).

The Area of Potential Effect (APE) for the proposed project includes 14,828-square-feet of property located at 309 Seventh Street (TMK 4-9-006:024) and streets appurtenant. The APE excludes multi-family residences located at 622 Gay Street (TMK 4-9-006:011) and streets appurtenant (Figure 2).

The present project area consists of a portion of a 1.2-acre "block," one of six located north of, and adjacent to, Dole Park, which is the informal "center" of Lāna'i City. Six more commercial blocks are located south of, and adjacent to, Dole Park. In total, these twelve blocks contain a mix of commercial retail, residential and community structures, such as Richard's Market and the Lāna'i Playhouse. This portion of Lāna'i City comprises most of the area for the proposed Lāna'i City Business Country Town (BCT) historic district (Figure 19).

The project area block is bounded to the north by Sixth Street, to the east by Gay Street, to the south by Seventh Street and to the west by Fraser Avenue. The project area block contains the existing Lāna'i Senior Citizens Center, as well as recently-constructed multi-family residences located at 622 Gay Street. The County of Maui funded project proposes to utilize the 14,828 square-foot project area parcel for a new two-story senior center, with wheelchair access at ground-level at the southeast portion of the property (Figure 3 and Figure 4). The 7.2-acre Dole Park, directly south of the proposed new senior center, will provide parking spaces for the project.

1.2 Scope of Work

The scope of work included:

- 1- Research on the historic background of the project area, including searches of historic maps, written records, and Land Commission Award documents. This research will focus on the specific project area, and will provide detailed background on previous archaeological reports, in order to construct a history of land use and to determine if historic properties have been recorded on or near this property;
- 2- A general ground survey of the project area for the purpose of identifying surface archaeological features. Archaeological features will be assessed for potential impact by the proposed development plans, and sensitive areas requiring further investigation or mitigation action will be identified;
- 3- Preparation of a literature review and field inspection report that includes the following:
 - results of the historic research and the limited fieldwork;
 - an assessment of archaeological potential based on the historic research, with recommendations for further archaeological work, if needed;
 - and, provisions for mitigation recommendations if archaeologically sensitive areas are encountered.



Figure 1. A portion of the 1992 Lanai City 7.5-minute USGS topographic quadrangle. The project location is indicated within the red shaded area.

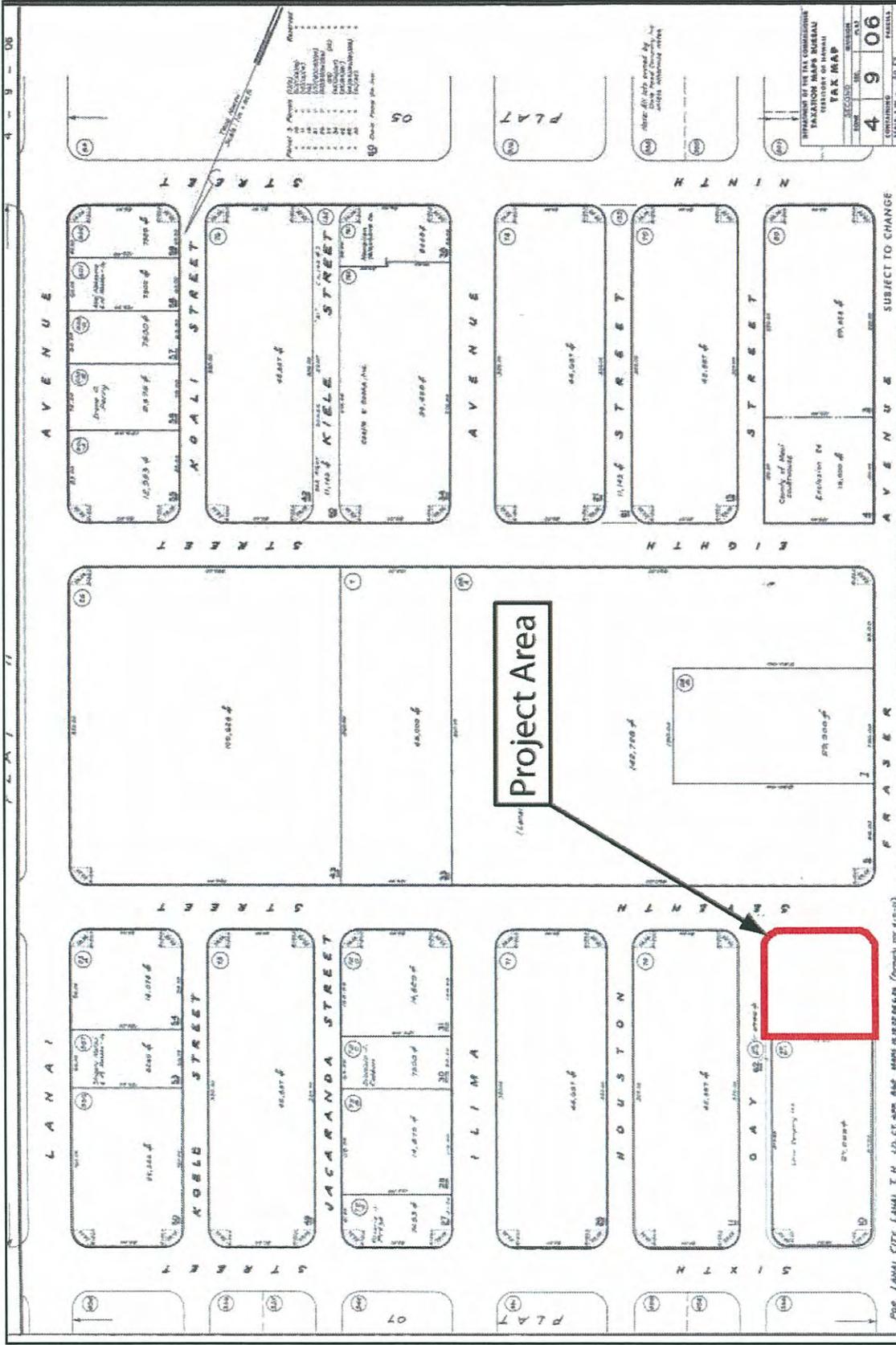


Figure 2. TMK map [TMK: (2) 4-9-006] showing the project area APE outlined in red. The center block is Dole Park.

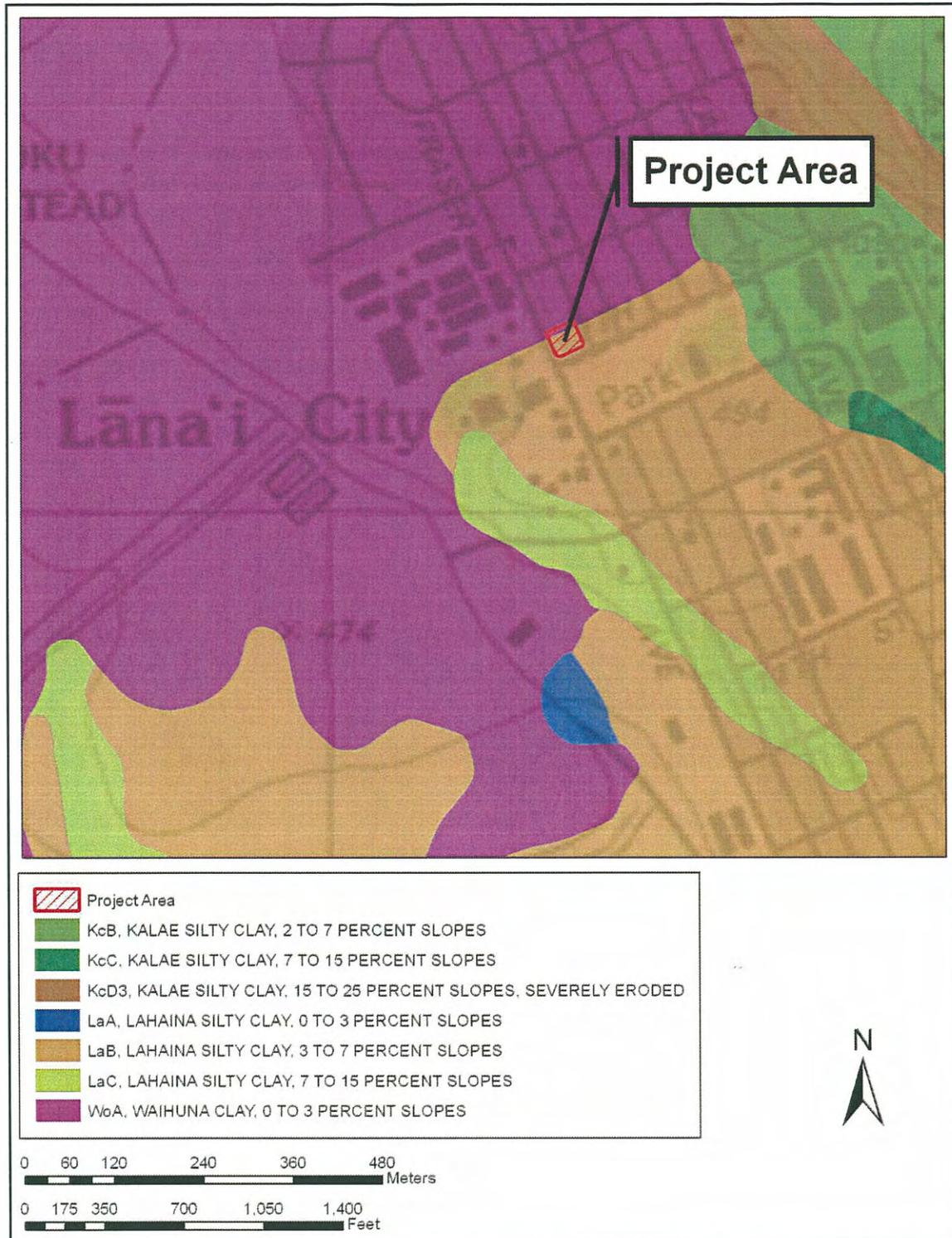


Figure 5. A portion of the 1998 South Lanai 7.5-minute USGS topographic quadrangle, showing the project area relative to the local soil series (U.S. Department of Agriculture, Natural Resources Conservation Service 2001)

1.3.2 Built Environment

Lānaʻi City was constructed beginning in 1922, following the purchase of the island by James Drummond Dole to grow pineapple. The city of Lānaʻi was constructed to provide laborer housing, stores, schools, a hospital, a library, a bank, social halls, a gymnasium, a movie house, warehouses and repair shops (Mackie 1939). The master-planned community was designed to expand as additional laborers were needed. The present project area is surrounded by other buildings which appear to be original to the period during which the original construction of Lānaʻi City by the Hawaiian Pineapple Company occurred. According to the company history of Castle & Cooke by Taylor and others (1976), most portions of the city had been completed by 1926. The outlying residential areas were built-out in single-family homes, some of them dating to the 1940's and 1950's (Figure 6).

The existing Senior Center is located in a portion of Lānaʻi City just north of Dole Park (Figure 7 and Figure 8). The project area is located in the same block as modern residential multi-family apartment buildings, and across the street from the Lānaʻi Elementary, Intermediate and High School. The original character of the Dole Park region of Lānaʻi City remains as it was constructed in the years leading up to World War II, with very few modern changes visible.

With the switch from pineapple cultivation to resort hotel development in 1991, an expansion of outlying residential neighborhoods occurred, resulting in modern townhomes and single-family homes at the outer edges of present-day Lānaʻi City.



Figure 6. Rural character of the commercial area of Lānaʻi City, adjacent to Dole Park (right).

Section 2 Methods

The archaeological field inspection was conducted by archaeologist Colleen Medeiros Dagan, B.S., under the general direction of Principal Archaeologist Hallett Hammatt, Ph.D. The fieldwork was conducted on February 26, 2009.

2.1 Field Methods

The field inspection method consisted of a pedestrian check of the proposed redevelopment area and a review of the proposed changes planned for the project area. The project area consisted of the portion of Lāna'i City where Seventh Street slopes downward and meets Fraser Street. The project area was visually examined for native or indigenous plants, or evidence of traditional cultural architecture, practices, or beliefs.

The project area survey included the grounds of a modern multi-family apartment complex north of the existing senior center building.

Documentation methods included photographs and a geo-referenced map of Lāna'i City. Photographs were taken using a digital camera. The location of the senior center building was determined with a Garmin GPSMAP 76S unit using the UTM coordinate system.

2.2 Document Review

As part of the literature review and field inspection, a review of all previous archaeological work conducted in the surrounding area was performed. In addition, a variety of resources devoted to historical perspectives of the region and traditional stories and accounts were reviewed. Research venues included the State Historic Preservation Division of the Department of Land and Natural Resources and the Survey Office of the Department of Accounting and General Services. Research regarding the history of the Hawaiian Pineapple Company was conducted using the services of the Bailey House Museum, in Wailuku, Maui. Online research regarding the present cultural landscape study for Lāna'i Island by Kepā Maly (Maly 2008a) and the online resources of the Lāna'i Culture and Heritage Center (Maly 2008b) were consulted for current information regarding the traditional history of the island. Online reports of meetings of the Maui/Lāna'i Island Burial Council and Hui Mālama Pono O Lāna'i were accessed at <http://Hawaii.gov/dlnr/meetings/Meetings> and <http://huimalama.tripod.com>, respectively. In addition, all relevant Land Commission Awards (LCA) and Royal Patents were researched using resources associated with the Waihona 'Aina online database (Waihona 'Aina Corp. 2002).



Figure 7. The Lāna'i Senior Citizens Center ground-level assisted-care access and east building addition (Solamillo et al. 2009). View to west.

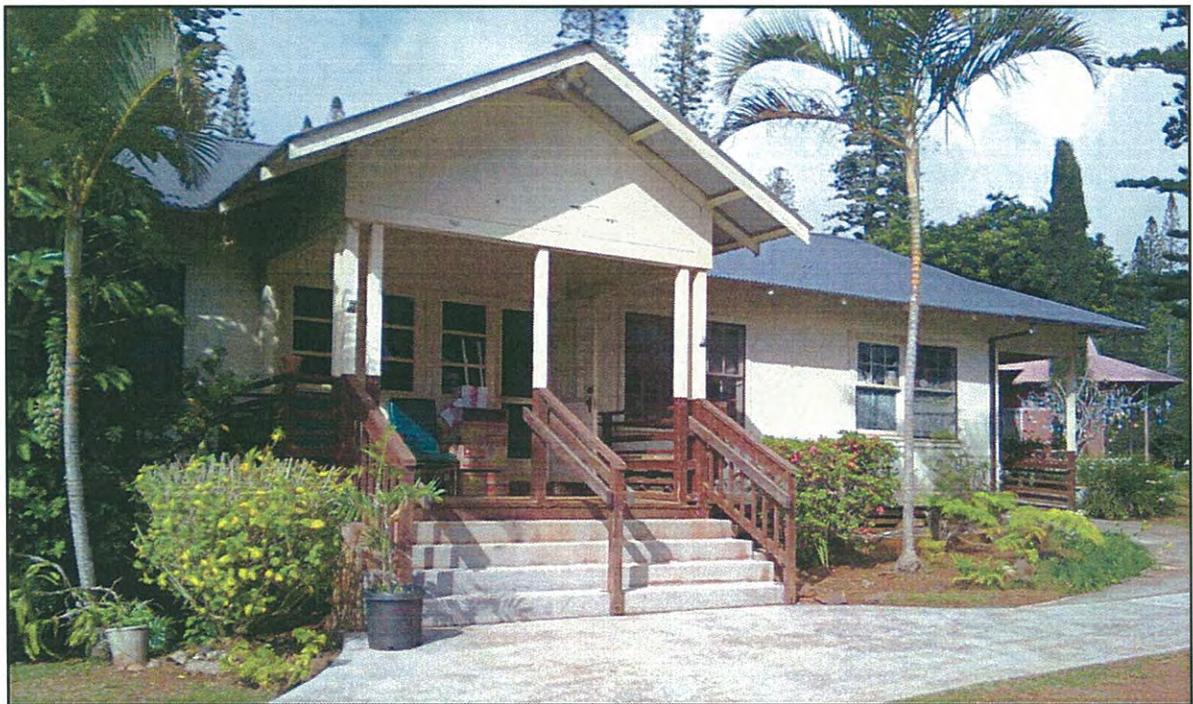


Figure 8. Stairway access, Lāna'i Senior Citizens Center (Colleen M. Dagan). View to north.

Section 3 Background Research

The division of Lāna'i's lands into political districts may have occurred under the direction of the chiefs of Maui, as Lāna'i appeared historically to be "subject or tributary to Maui" during the times of Kamalalawalu (about 1550-1600 AD) (Fornander 1916: 424, 1919:206-8). Moffat and Fitzpatrick (1995:23) explain that while Lāna'i was sometimes considered a *mokupuni* or division of land surrounded by water, in other instances Lāna'i was noted as a *kālana* or division of land that was smaller than a *moku* (district) and subordinated to one of the *moku* of Maui Island.

This political position of Lāna'i would play a role in the political aspirations of the Maui and Hawai'i Islands chiefs and the warfare tactics they employed. The boundaries of the present project area *ahupua'a* of Kamoku are traditional, though refined by surveyors employed by the Kingdom of Hawai'i beginning in the 1850's. The *ahupua'a* of Kamoku (Figure 9) is bounded by the mountainous region of Lāna'i to the northeast, and by the ocean to the southwest.

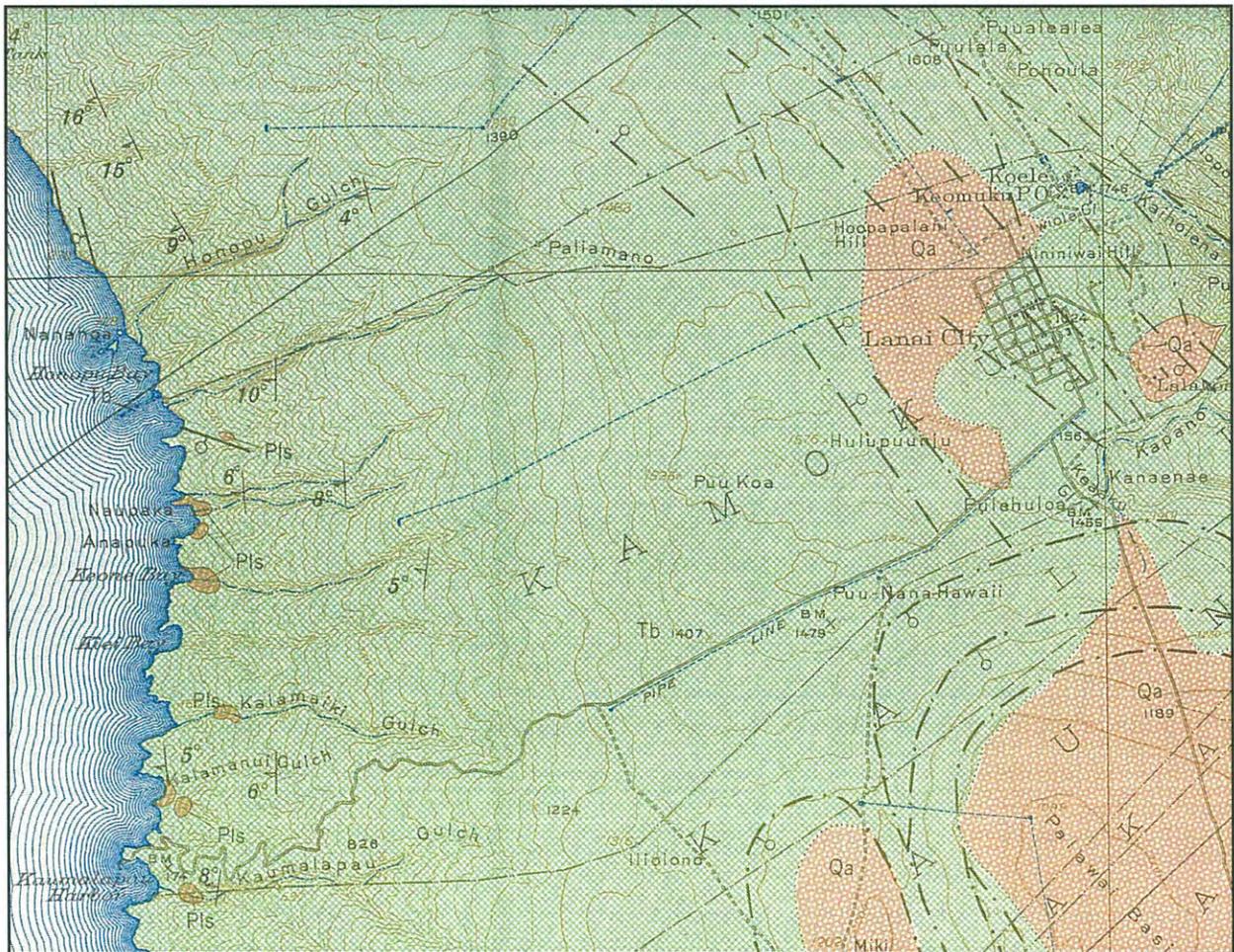


Figure 9. The portion of Kamoku Ahupua'a, showing the location of Lāna'i City in its easternmost (right) upland portion (Stearns 1942:Plate 1).

3.1 Traditional and Historical Background

3.1.1 Traditional Accounts

While the mythological and traditional accounts of the upland areas of Lāna'i are relatively scarce, an analysis of place name meanings may yield some insight into the patterns of life in an area (Table 1). Literal translations of several of the place names for land areas and divisions within the project area are listed below. Most all translations are taken from Pukui et al. (1976), Emory (1924a), Fornander (1916-1920), and Kalākaua (1888). Maly (2008a) notes that the proliferation of place names in the region points to a “viable native presence on the island of Lāna'i in traditional times.”

Table 1. Place name meanings of the project area and general vicinity.

Anapuka	<i>Lit.</i> , cave with holes. Fishermen would tie their canoes to such holes (Pukui et al. 1976). Emory (1924a:29) notes that two rocky points with arches are named Anapuka, one at the shore of Kamoku Ahupua'a, and one at the shore of Kaunolū village.
Halulu	Pukui (et al. 1976) believes this place name refers to the legendary man-eating bird Halulu. (See “A Lamentation for Young Kaahumanu” following this table.) Fornander (1916:66) defines Halulu as a bird-god, who the hero Aukelenuiaiku defeats in battle. Emory (1924a) links the traditional meaning of this place name along the north coast of Lāna'i to the speed by which a man could run the <i>ahupua'a</i> boundary of Mahana. This tradition appears to allow for travel from the north coast of Lāna'i to the plateau of Kamoku. Additionally, Emory (1924a) recorded the <i>heiau</i> of Halulu at the southwestern part of the island, at Kaunolū. He noted that Kamehameha I may have used Halulu Heiau as late as 1810.
Hao	<i>Lit.</i> , to gather up (Pukui et al. 1976). Emory (1924a) describes a small <i>heiau</i> structure at the north coast, significant because of the traditional link between Mahana and Kamoku Ahupua'a in terms of travel to the north coast.
Hökūao	Morning star. Venus, when seen in the morning (Pukui and Elbert 1986). Emory (1924a) notes the location on the plateau, west of Lāna'i City.
Ho'opulupuluamoā	Place of a fish-god, Holu, where desirable fish are found (Fornander 1919 V III). <i>Lit.</i> , Strong smell of chickens. According to Emory (1924a), this ridge abounds with stones and holes where chickens were once cooked, located at the northwestern end of the plateau.
Hulupu'unui	<i>Lit.</i> , whirling feather hill. Emory (1924a) notes the location on the plateau, just east of Lāna'i City.
Iwiōle	<i>Lit.</i> , fang bone. Type of adze (Pukui and Elbert 1986). Emory (1924a) notes the name of the upper valley of Iwiōle is called Kaiholena. Iwiōle is located just east of Lāna'i City.

Ka'ā	<i>Lit.</i> , the burning (Emory 1924a). According to Fornander (1916:370) the largest of the thirteen <i>ahupua'a</i> of Lāna'i, Ka'ā, appears to take its name from the legend of the demi-god Maui, and his quest to pull the islands of Hawai'i from the bottom of the ocean using a giant fishhook. The knot fastening the hook to the line was named Ka'ā. The traditional use of the Ka'ā plateau by those living in Kamoku is stated in Emory (1924a, 1924b).
Kaiholena	<i>Lit.</i> , the iholena banana (Emory 1924a). Valley just northeast of Kō'ele.
Kaiolohia	<i>Lit.</i> , tranquil sea (Pukui et al. 1976). Emory (1924a) places its location on the north shore of Lāna'i, near the traditional inland route to Kamoku Ahupua'a.
Kaka'alani	<i>Lit.</i> , The members of a royal court (Pukui and Elbert 1986). Descriptive term according to Emory (1924a) meaning, "splitting <i>alani</i> (<i>Pelea sandwicensis</i>) wood." A place name in the forested upland plateau region of Lāna'i.
Kalaeāhole	<i>Lit.</i> , point where the <i>āhole</i> fish congregate (Pukui et al. 1976). <i>Lit.</i> , rasping point (Emory 1924a). Emory described a small <i>heiau</i> structure "half a mile up the parched slopes back of Kalaeāhole," placing it just below the plateau.
Kalamanui	<i>Lit.</i> , large Kalama (Pukui et al. 1976). Emory (1924a) gives the literal meaning as "torch," a valley just north of Kaumālapa'u Harbor.
Kalamaiki	<i>Lit.</i> , small Kalama (Pukui et al. 1976). Emory (1924a) notes the location of this valley along the Kamoku coast.
Kalapu'u	<i>Lit.</i> , ending hill (Emory 1924a), located in the upper plateau of Paoma'i.
Kalihi	<i>Lit.</i> , the edge (Emory 1924a), a <i>pu'u</i> (hill) located in the upper plateau of Ka'ā, in the travelled region of Kamoku.
Kamoku	<i>Lit.</i> , the district (Pukui et al. 1976). Emory (1924a) relates the name to an <i>ahupua'a</i> in the Hāmākua region of Hawai'i Island, which was "cut off" from other <i>ahupua'a</i> . Emory felt the name meant "cut off."
Kānepu'u	<i>Lit.</i> , Hill of Kāne. Kānepu'u is the highest point of a ridge that originates west of Kō'ele, some four miles distant. (This area contains a 600-acre dryland forest, first described by George C. Munro in 1920.)
Kapukaloa	Emory (1924a) shows this as the head of a valley, located on the plateau just below the peak of Kāne pu'u.
Kaumaikahōkū	<i>Lit.</i> , the stars are out (Emory 1924a). Hill located just southwest of Lāna'i City, where traditionally clouds do not obstruct the view of the stars.
Kaumālapa'u (Harbor)	A well-defined <i>ko'a</i> fishing shrine, with an adjacent house platform and two fireplaces recorded by Emory (1924a). According to Maly (2008a) a cave and waterspout are located just south of the harbor, both of which were described by Kalākaua (1888). <i>Lit.</i> , soot [from burning] placed [in] gardens.
Kea'aku	<i>Lit.</i> , the standing root (Emory 1924a). Located just south of Lāna'i City.

Keahi'āloa	<i>Lit.</i> , the long lasting fire, according to the story of Kawelo. In this story, Kawelo, a powerful <i>kahuna</i> of Lāna'i, heard that his arch-rival, Lanikaula, from Moloka'i, had cast a spell on the people of his village. He saw that they moved as in a trance. The two <i>kahunas</i> traded fireballs across the channel separating the two islands. Kawelo was the victor. Smoke from the burning fires from the battle is said to have changed the color of the Lāna'i <i>lehua</i> blossom from red to purple (Nupepa Kuokoa Dec. 22, 1922, author not attributed). W. M. Gibson, a resident of Lāna'i in the 1860's, was also quoted as the source for this story of Kawelo in Kalākaua (1888). The ruins of two circular platforms at Keahi'āloa form a small <i>heiau</i> site and a habitation complex described by Emory (1924a).
Keahikawelo	<i>Lit.</i> , fire of Kawelo (Emory 1924a). Trail marker (<i>ahu</i>) here is associated with the magic of Kawelo (see entry for Keahi'āloa above). This site is located on the plateau of Ka'ā, just above Keahi'āloa. Maly (2008a) relates two stories of Keahi-a-Kawelo, the sorcerer of Lāna'i who defeated Lanikaula: the first account by W.M. Gibson (see above) and the second by a native writer to the newspaper "Kuokoa," July 18, 1868.
Keanaolulo	<i>Lit.</i> , cave of the shipwrecked (Emory 1924a), on the north shore in Mahana Ahupua'a, in a region accessible in traditional times from Kamoku Ahupua'a.
Keone	<i>Lit.</i> , the sand. A shoreline bay of west Lāna'i (Pukui et al. 1976), in Kamoku Ahupua'a. The site of a cave described by Emory (1924a) in the upper gulch.
Keonehe'ehe'e	Site of Maluhie, categorized by Emory (1924a:69) as a small <i>heiau</i> . <i>Lit.</i> , the sliding sands (Pukui et al. 1976). Emory states, "several hundred yards from the main ridge at Keoneheehee on the flat grass lands is the site, marked only by a line of stones in the ground forming a rectangle about 20 by 30 feet."
Kite	<i>Lit.</i> , peer. Bay of southwest Lāna'i (Pukui et al. 1976).
Kihamānienie (Kihamāniania)	According to Emory (1924a), the site of the protestant church, built in 1851. Emory stated that the "smooth hill covered in <i>maniania</i> grass" was the origin of the place name. According to Pukui and Elbert (1986), <i>mānienie 'ula</i> (golden beardgrass, or <i>Chrysopogon aciculatus</i>), is the upland grass found in the region of the church.
Kō'ele	Land division of central Lāna'i. <i>Lit.</i> , dark sugar cane (Pukui et al 1976). Emory (1924a) stated that the name meant, "place seized by a chief."
Kukuikahi	<i>Lit.</i> , lone <i>kukui</i> (Emory 1924a). In the plateau land of Ka'ā, Emory (1924a) stated that the region was named for a <i>kukui</i> tree (<i>Aleurites moluccana</i>) stump.
Lālākoa	Land section, northeast Lāna'i. <i>Lit.</i> , <i>koa</i> tree (<i>Acacia koa</i>) branch (Pukui et al 1976). Region of east Lāna'i City, according to Emory (1924a), where Charles Gay constructed his family home.
Leinukalahua	<i>Lit.</i> , plateau land (Emory 1924a). A promontory measuring 466 feet above

	mean sea level (amsl).
Makapa'ia	<i>Lit.</i> , enclosed eyes (Emory 1924a). Region of the plateau just south of Lāna'i City.
Malauea	Malauea is the southernmost region of the plateau land, before it slopes away toward Mānele Bay.
Malulani	<i>Lit.</i> , heavenly shade (Emory 1924a), named for the region of the plateau, in the <i>ahupua'a</i> of Ka'ā, where Malulani, one of the seven legendary sisters of the fire goddess Pele, lived (Fornander 1919:576-580, see "Story of the 'Ōhelo" following this table.).
Mauna Kūi	<i>Lit.</i> , sharp pointed hill (Emory 1924a), located on the plateau overlooking the southwestern cliffs of Ka'ā Ahupua'a.
Maunalei (Gulch)	<i>Lit.</i> , lei mountain (Pukui <i>et al.</i> 1976). The clouds that ring the valley walls of Maunalei appeared as flower garlands, or <i>leis</i> . Although located some nine miles by road from Lāna'i City, a series of earthen tunnels and pipelines connect Lāna'i City to this source.
Nanahunui	<i>Lit.</i> , much charcoal (Emory 1924a), located at the headland of Mānele Gulch.
Naupaka	Land section of west Lāna'i, in which a shoreline cliff and valley of Kamoku Ahupua'a are located. A Hawaiian coastal shrub, the <i>naupaka</i> (<i>Scaevola taccada</i>) is native to Lāna'i (H.E.A.R. 2009).
Nininiwai Hill	<i>Lit.</i> , pour water (Pukui <i>et al.</i> 1976). The region of northeastern Lāna'i City, according to Emory 1924a), and site of a reservoir.
'Ōanapuka	<i>Lit.</i> , hole (<i>puka</i>) in which a small taro tuber (' <i>ōana</i>) is peeled, wrapped in <i>ti</i> leaves, and baked in a ground oven (Pukui and Elbert 1986).
Pālāwai (Basin)	The central basin of Lāna'i Island formed of a collapsed volcanic caldera, with an area of 3.5 square miles (Stearns 1940). The name Pālāwai is given by Maly (2008a) as one of four paddlers accompanying Mākālei, the legendary fisherman of Lāna'i, in a story recounted by J.W.H.I. Kihe in issues of the newspaper "Na Hoku o Hawaii" between January 31 st and August 21 st , 1928. This account names Mauna-lei as the daughter of Pālāwai.
Paoma'i	In Kalākaua's account "Kaala, the Flower of Lanai", the hero of the story, Ka'aiali'i, ran across the coastal area of Paoma'i in his search for his loved one, Ka'ala (Kalākaua 1888: 422). <i>Lit.</i> , sick Pao. Pao was a district overseer who exhausted himself swimming and running to and from Lahaina (Pukui <i>et al.</i> 1976).
Pōhakuloa	<i>Lit.</i> , long stone (Pukui <i>et al.</i> 1976), and the name of a portion of Mānele Gulch, according to Emory (1924a).
Poho'ula	<i>Lit.</i> , red hollow (Emory 1924a), a region located just north of Lāna'i City.
Pūlehu'loa	<i>Lit.</i> , big roasting (Thrum). Emory (1924a) attributes the translation to Thrum

	(no date given) and shows this location in the plateau region just south of the present-day Lāna'i City,
Pu'ukauila	<i>Lit.</i> , hill of <i>kauila</i> tree. Emory (1924a) states that the location of this hill is in Kamoku, at the boundary with Kalulu Ahupua'a.
Pu'ukoa	<i>Lit.</i> , koa tree hill (Pukui et al. 1976). Emory (1924a) shows this hill in the plateau of Kamoku.
Pu'umaiekahi	Prominent hill on the high mountain ridge of Lāna'i, set back from Pōhakuloa, and forming a peak above the Pālāwai Basin.
Pu'u Nānā i Hawai'i	Peak from which a view of the island of Hawai'i can be seen. Emory (1924a) shows this promontory in the plateau region of Kamoku.
Pu'u Nēnē	Land section of Lāna'i. <i>Lit.</i> , goose hill (Pukui et al. 1976). Emory (1924a) cites two locations, one just above Kō'ele in Kamoku Ahupua'a, and one on a promontory in Ka'ōhai Ahupua'a

The above place names, together with the environmental data, suggest that the lands of the central plateau basin were productive agriculturally and of great traditional significance.

In this region of the island of Lāna'i, gulches, ridges, hilltops and other terrestrial landmarks were given descriptive names, some referring to heroic characters of Hawaiian mythology, and others suggestive of actions which could be accomplished (i.e., the sighting of the island of Hawai'i) from its' promontory. The upland plateau region was of great importance, both in terms of habitation and subsistence during the traditional or pre-contact time period, as well as an area somewhat sheltered from coastal raiding parties from other islands.

Emory (1924a: 122) estimated the aboriginal population of Lāna'i as about 3,150 prior to 1778. He stated that the inhabitants of Lāna'i survived by collecting dew on "oiled *tapas* or whipped from heavy shrubbery." Water that accumulated in natural depressions was husbanded carefully, and a few wells were dug along the coast and were "plastered on the seaward side with mud and straw" to stop the infiltration of sea water. Emory stated that the water derived from these wells was brackish, but usable by the Hawaiians because they had become accustomed to the salinity. He further postulated that survival along the leeward coastline also depended on Hawaiians visiting small springs in the distant hills, and carrying water in gourds back to the coast.

In 1778, only months before the arrival of Captain James Cook and his discovery of the Sandwich Islands, a raid by Hawai'i chief Kalaniopu'u "ravaged the island of Lanai thoroughly" (Fornander 1880:157). The battle between the forces of Kalaniopu'u and those of Maui chief Kahekili were concentrated along the north coast of Lāna'i. The Lāna'i chiefs, unable to oppose these forces, retreated into the upper recesses of Maunalei, where they were killed. The army of Kalaniopu'u destroyed food crops across the entire island and cut down and burned forests. Historian Samuel Kamakau (1992) reported the *ahupua'a* of Ka'ōhai was the most severely damaged during this warfare.

John E. Dockall (Dockall et al. 2004) authored an archaeological assessment report for the Hi'i Flats region which straddles both Keālia Kapu and Keālia Aupuni Ahupua'a. In this report, he cites both Handy *et al.* (1972) and Emory (1924a), stating that Lāna'i was known for widespread planting of sweet potatoes. In fact, the distribution of planted sweet potatoes followed the geographic distribution of settlements. Handy and colleagues also noted that the island had ample good land for growing sweet potatoes but that the most serious limitation was drinking water.

Dockall and others (2004) postulated that the main reason that taro agriculture on Lāna'i was so difficult was related to stream capability. The island had only two small stream systems that were capable of providing enough water for taro irrigation (Handy *et al.* 1972). Maximum elevations on the island also are a limiting factor in the amount of rainfall that occurs. This rainfall was traditionally suitable for sweet potato and later for pineapple but not for sustained irrigation and cultivation of taro as a significant portion of the diet. The authors also noted that there was apparently much breadfruit planted on Lāna'i but there are few direct indicators of the areas that were so planted. Kamakau (1992) stated that the *Pālāwai* or bottomlands were most suitable for the cultivation of sweet potatoes due to the richness of the soil.

This brief overview of legendary and traditional accounts indicates the particular importance attributed to the northern coast of Lāna'i during pre-contact Hawai'i. The accounts do not specifically state but do suggest that the productivity of the northwestern coastal area, in terms of fish resources, is the main reason for its desirability. The productivity of the ocean allowed direct access to fish protein for the *ali'i* (chiefly class) who resided at villages along the northwest coastal areas.

3.1.2 Mythological Accounts

3.1.2.1 The Story of the 'Ōhelo

The "Story of the 'Ōhelo", as translated from the original Hawaiian by Abraham Fornander (1919), describes the origin of the sacred offering of 'ōhelo to the goddess Pele, and the importance of Lāna'i Island in the telling of the story. According to Fornander, the many sisters of Pele followed her east from Tahiti across the Pacific Ocean. As Malulani, Kaohelo, Hi'iaka, and Pele arrived at the Hawaiian Islands, Malulani choose Lāna'i to dwell on, while Pele, Kaohelo, and her younger sisters traveled on to the island of Hawai'i.

Kaohelo had a son named Kiha, who was given instructions by Kaohelo as she neared death where she should be buried. "Take my body to the very navel of your grandmother, right on top of Kīlauea; then bury me there." This her son did. The flesh of Kaohelo became the creeping vine and her bones became the bush-plant of the 'ōhelo. Her head was treasured by Pele as the smoldering fire of Kīlauea. The remainder of her body brought volcanic fire to Haleakalā on Maui, Keālia on Oahu, and also to Kaua'i.

When Malulani, living on Lāna'i, heard of the death of their youngest sister, she went to Hawai'i to retrieve her body, but found that small pieces of her body were strewn across the landscape sprouting into vines and bushes of the 'ōhelo. She gathered as much of her sister's remains as she could, but upon returning to Lāna'i, was surprised to find the pieces of Kaohelo's body had been strung as leis and worn as adornment. Saddened by this, Malulani died.

Hi'iaka then came to Lāna'i to recover the body of Malulani, whereupon small bundles containing her remains were scattered across the island of Hawai'i, causing small hills and islets to remain to this day. In this way, the island of Lāna'i is part of the legend of how the 'ōhelo came to be spread across the islands of Hawai'i, and why the 'ōhelo is the special sacred offering to Pele (Fornander 1919, V, III: 576-580).

3.1.2.2 *A Lamentation for Young Kaahumanu*

The place name Halulu, a *heiau* on the southwestern coast of Lanai, was said to have been used by Kamehameha I to about 1810, after which he spent most of his remaining life on the island of Hawai'i. Based on the research of Fornander (1920:451), "A Lamentation for Young Kaahumanu," was a chant composed for the favorite queen of Kamehameha I at her death. She was eulogized as having a soul that flew as a bird. In this chant, performed by her bereaved husband, Kaumuali'i, the soul of Ka'ahumanu was said to have a spirit guide to heaven in the form of Halulu: a fabled bird whose head feathers were said to have adorned noted idols, and who was supposed to have answered the prayers of faithful devotees by fluttering, or by rising and falling, in answer to the good or ill wishes of the prayers sent to him.

3.1.2.3 *Fallen is the Chief (A Prophecy of the Overthrow of the Kingdom by Kamehameha)*

In a chant composed to commemorate to uniting of all of the Hawaiian Islands under the rule of Kamehameha I, the fabled bird Halulu is again given a prominent part in the story. The feather of Halulu adorned the brow of Kaili, the god of war that Kamehameha was granted custody to by his father. Fornander (1920:381) noted that the chant described how Kamehameha worshipped Halulu, and that, "when the feather sprung up in the forehead of the idol, the people thought it was a sign of ability to conquer; *o ka makia o Kamehameha*: that which fastens together, or holds together the islands."

3.1.2.4 *The Ghosts of Lāna'i*

The northern coastal place name of Laewahie refers to the point on Lāna'i where Kaululā'au built a signal fire to the people of Lahaina. Fornander (1918:542) recorded the story of Kaka'alaneo, the chief of all of West Maui. His son, Kaululā'au, grew up as a boy involved in great mischief. Because he uprooted the sacred breadfruit grove of Lahaina, his father had no choice but to banish his son to the uninhabited island of Lāna'i. At that time, Lāna'i was the abode of ghosts, and Kaululā'au was sent there to be killed by them. Tabrah (1976) notes the many tricks the ghosts tried to use to murder Kaululā'au, and her account notes the location of the signal fire to the people of Lahaina after he had defeated all of the ghosts of the island as Naha, located in the *ahupua'a* of Kaohai. (The literal translation of Kaohai is "firebrand.") Kalākaua (1888:212, 230) records the legend of Kaululā'au conquering the ghosts of Lāna'i in two separate stories, one of which details his fight with the *Mo'oa'leo*, a lizard god of the island as the most difficult of the ghosts to overcome. He does not give the location of the signal fire used by Kaululā'au. (There is a village named Kaululā'au on the coast of Pawili Ahupua'a.) The legend ends with Kaululā'au being reunited with his father, mending his mischievous ways, and opening the island of Lāna'i for settlement.

3.1.3 Early Historic Period

Lāna'i was first seen by Captain James Cook during his voyage to the Sandwich Islands in January and February of 1779. The expedition had returned to the Hawaiian Islands in order to resupply following many months of mapping the west coast of America (Ellis 1969). William Ellis, Assistant Surgeon to the expedition, noted the first time that the ships *HMS Resolution* and *Discovery* sighted "Aranni" [Lāna'i], as the ships made their way past "Kaaowr'vee [Kaho'olawe] nearly adjoining to Mow'wee" in 1779. It was during this voyage that Ellis went on to describe Lāna'i as an island under the dominion of the king of Maui (Ellis 1969: Vol. 2, 187). The previous January, 1778, Kaua'i and Ni'ihau had been discovered and visited by Cook's expedition as the two ships had been making for the west coast of America from French Polynesia (Ellis 1969, Vol.1: 167).

An account of a shipwreck on the northwestern reef of Lāna'i in the late 1820's was detailed by an American Navy Lieutenant, Hiram Paulding, when his ship, the U.S.S. *Dolphin*, arrived to aid the survivors of the "Loudon", a ship out of New York. Paulding recorded that the chief of Lāna'i was "encouraging the natives of the island to plunder the Loudon, which carried a large amount of specie and bullion." The account continued with the captain of the U.S.S. *Dolphin*, John Percival, chartering a vessel and saving the treasure with the intervention and aid of Boki, the governor of O'ahu (Paulding 1831).

During the early and middle 1800s, the Hawaiian demography was affected by two dramatic factors: radical depopulation resulting from Western disease and nucleation around the developing port towns. The traditional Hawaiian population was largely dispersed and, although there were royal centers and areas of more concentrated population, these areas never came close to rivaling the populations of the historic port towns that developed on Hawai'i's shorelines during the 1800s. In this regard, Kuykendall (1938:313) notes that in the period from 1830 to 1854:

The commercial development during this period, by magnifying the importance of a few ports, gave momentum and direction to a townward drift of population; the population of the kingdom as a whole was steadily going down, but the population of Honolulu, Lahaina and Hilo was growing.

By the 1830's, Protestant missionaries sent to the Sandwich Islands from the east coast of America were reporting having established a thriving congregation on Lāna'i. Letters written by missionaries to the American Board of Commissioners for Foreign Missions in 1830 listed 10 schools on Lāna'i Island attended by 506 students. Of these students, the missionaries reported that 206 could read, and 42 could write (Richards 1831).

On September 20th, 1845, Reverend Cochran Forbes left Lahaina at sunrise for "Ranai 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" (Forbes 1864). Forbes landed at Kaunolū, where he described a Protestant meeting house. Forbes and Reverend Dwight Baldwin preached to a congregation of about 125 persons, which grew to 180 for Sunday services. Monday morning the two missionaries went by canoe to Maunalei, "the place of the teacher Waimalu."

Forbes and Baldwin then hiked to the upper plateau. "After we had crossed the ridge the soil became better and vegetation more lively. There was 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." Forbes wrote, "Pali the Lunaauhau 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 and eight years old had read the Bible through. He also gave us a list of all the men - the women & children in 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" (Forbes 1864).

Forbes commented that the air 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, who teaches a school and is Lunahanawai for the whole island." By dark, the two missionaries had reached Kaohai, "where Pia had the people of all that neighborhood assembled under some *koa* trees at his door." The two missionaries returned to Maui by whaleboat. "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 Lahaina safely before 12 o'clock" (Forbes 1864).

3.1.4 Mid- to late-1800s

The most significant change in land-use patterns and allocation came with The Great Māhele of 1848 and the privatization of land in Hawai'i. This action hastened the shift of the Hawaiian economy from subsistence-based to market-based. During the Māhele, all of the lands in the Kingdom of Hawai'i were divided between *mō'i* (king), *ali'i* and *konohiki* (overseer of an *ahupua'a*), and *maka'āinana* (tenants of the land) and passed into the Western land tenure model of private ownership. On March 8, 1848, Kamehameha III further divided his personal holdings into lands he would retain as private holdings and parcels he would give to the government. This act paved the way for government land sales to foreigners, and in 1850 the legislature granted resident aliens the right to acquire fee simple land rights (Moffat and Fitzpatrick 1995: 41-51).

Native Hawaiians who desired to claim the lands on which they resided were required to present testimony before the Board of Commissioners to Quiet Land Titles. Upon acceptance of a claim the Board granted a Land Commission Award (LCA) to the individual. The awardee was then required to pay in cash an amount equal to one-third of the total land value or to pay in unused land. Following this payment, a Royal Patent was issued that gave full title of ownership to the tenant. By 1850, the government of Hawaii offered land for sale to both Native Hawaiians and foreigners. Such lands when purchased were referred to as Royal Patent Grants or as Land Grants.

Native land transactions within the Kamoku Ahupua'a were recorded soon after the terms of the Great Māhele became law. Five small Royal Patent Grants representing four LCA tracts were sold to native families, beginning in 1848. Land use terms, such as whether portions of the lands

included areas of pasturage, types of crops cultivated, house lots, paths, roads, and appurtenant streams were mentioned in some of the Royal Patent Grants (Table 2).

One vast Royal Patent Grant (R. P. 5011) was issued in 1907 to Walter M. Giffard, within which the lands of Kama'o, Kalulu, Kamoku, Keālia Paoma'i, Kaunolū, Mahana and Pāwili Ahupua'a, not subject to claim as Land Commission Awards, were transferred in fee simple. With specific reference to Kamoku Ahupua'a, the language of Land Patent 5011 mentions a number of landmarks within the metes-and-bounds property description. The Ili o Lono Heiau is described as, "along [the boundary of] Kalulu to a cross cut in a stone amongst a lot of stones at the former site of an old Heiau called Ilio Lono." A water hole within Kalulu Valley is named Kaiholena, and "an old house site" is mentioned along the *ahupua'a* boundary with Paoma'i.

Table 2. LCAs within Kamoku Ahupua'a, with translations by Kēpa Maly (2009). Translations of Royal Patents by the Waihona 'Aina Corporation (Waihona 'Aina 2002).

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
4800	10630	Pali, Na	<p>Helu 10630, Pali, Kamoku, Native Testimony 13:259</p> <p>Lanai, July 10, 1851.</p> <p>Poupou, Sworn. I know his Parcels of land in the <i>Ahupuaa</i> of Makaliilii, Kulelelua, Iwiolo and the 2 Aumoku on Lanai. They are combined into one, being several <i>moku mauu</i> (grass land/ pasture sections), sweet potato and gourd fields.</p> <p>The boundaries are thus. <i>Mauka</i>, land of <i>Konohiki</i>. <i>Kamaiki</i>, land of <i>Kaauaeaina</i>. <i>Makai</i>, land of <i>Konohiki</i>. <i>Kaeana</i>, Alanui (Road).</p> <p>He received his land from M. Kekauluohi in the year 1839, and has resided there peaceably to this time. No one has objected, and he is the Overseer of these lands. Keawe, Sworn. All the words above are true. My knowledge is the same.</p> <p>Translation by Maly (2009)</p>	<p>Helu 10630, Pali, Kamoku, Māhele award Book 7:222.</p> <p>One Parcel. Beginning at the western corner and running....112 Acres, 1 Rood, 23 Rods.</p>
8429	10029	Oapolo	<p>Helu 10029, Oapolo, Mahana, Native Testimony 13:281-282</p> <p>Kawaaiki, Sworn. I know his Parcels of land at</p>	<p>Helu 10029 Māhele Award Book 7:213</p>

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
			<p>Mahana, Lanai. 2 Parcels of land.</p> <p>Parcel 1. - 1 <i>Kulana hale</i> (house complex) and <i>mahina ai</i> (cultivated field) in the <i>ili</i> of "Kuahua."</p> <p>Parcel 2. 1 cultivated section of the <i>ili</i> of "Kuahua."</p> <p>Parcel 1 is thus. <i>Mauka</i> land of <i>konohiki</i>, Maunalei, land of Kalawaia. Kaena and all about, land of <i>Konohiki</i>.</p> <p>Parcel 2. The boundaries are thus. <i>Mauka</i> and all about, land of the <i>Konohiki</i>. –</p> <p>Translation by Maly (2009)</p>	<p>Two Parcels. Parcel 1 has been abandoned because it was not cultivated. Parcel 2...1 Rood, 12 Rods.</p>
6159	06833	Kaaiiai	<p>Helu 6833 Native Testimony 13:272-273</p> <p>Pali, Sworn. I know his Parcels of land at Kalulu, Lanai. 3 Parcels of land in the <i>ili</i> below.</p> <p>Parcel 1. 1 <i>moku mauu</i> (grass/pasture section) of the <i>ili</i> of "Ahupau."</p> <p>Parcel 2. 1 <i>moku mauu</i> in the <i>ili</i> of "Elialii."</p> <p>Parcel 3. House lot [illegible – in the <i>ili</i> of] Kamoku.</p> <p>Parcel 1. The boundaries are thus. <i>Mauka</i>, land of Keie. Kamaiki, <i>Ahupuaa</i> of "Kaunolu." <i>Makai</i>, land of Kaukapala. Kaena, <i>ili</i> land of Kamoku.</p> <p>Parcel 2. The boundaries are thus. <i>Mauka</i>, land of Maawe. Kamaiki, land of Konohiki. <i>Makai</i>, the same. Kaena, <i>ili</i> of Kapano.</p> <p>Parcel 3. The boundaries are thus. <i>Mauka</i> and all about, land of <i>Konohiki</i>.</p> <p>He received these Parcels of land from his parents in the year 1840, and his parents received them from Daniela Li. He has resided there peaceably to this time. No one has objected.</p>	<p>Helu 6833 Māhele Award Book 7:215.</p> <p>Three Parcels.</p> <p>Parcel 1. There in the <i>ili</i> of Ahupau...6 Acres, 3 Roods, 10 Rods.</p> <p>Parcel 2. There in the <i>ili</i> of Elialii... 7 Acres, 3 Roods, 17.8 Rods.</p> <p>Parcel 3. There in the <i>ili</i> of Kamoku...5</p>

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
			<p>Kawaaiki, Sworn. All the words are true. My knowledge is the same.</p> <p>Translation by Maly (2009)</p>	Acres, 3 Roods, 2 Rods.
5011		Walter M. Giffard	<p>Certificate of the Boundaries of the Land of Kamoku</p> <p>Commencing at a pile of stones over a cross cut in a large stone on South side of Kaumalupau Harbor on edge of gulch. The Boundary runs:</p> <ol style="list-style-type: none"> 1. North 86° 27' East 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. North 88° 46' East 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. North 84° 40' East true 2594 feet along Kalulu to head of gulch. Thence 4. North 72° 43' East 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 Ilio Lono. Thence 5. North 46° 19' East true 1041.4 feet along Kalulu up road to a point a little North of a cactus clump marked by two Triangular pits. 6. North 65° 44' East 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 Kealihunanui's house. 7. Thence along Kalulu down across a small ravine (coming in from the North called Keaaku) to Government road and up the Northwest edge of the Kapano valley, passing near Kawaonahale's house [Page 470] to a point on ridge marked with four triangular pits and ditch thus [diamond with circle inside, 	8,291.09 acres

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
			<p>with four points marked by small triangles with points toward diamond]; said point being a little East of Puunene and bearing North 44° 53' East true 8052 feet from above mentioned red wood post. Thence</p> <p>8. North 45° 49' East true 1067.9 feet along Kalulu across valley passing to the Southeast of a water hole, called Kaiholena to a red wood post on ridge that comes down from the central mountain range, Thence</p> <p>9. North 62° 37' West true 6742.5 feet along Paomai down above mentioned ridge and across valley on to a small ridge and down said ridge to a red wood post at end of same,</p> <p>10. South 84° 37' West true 1316.8 feet along Paomai to a cross cut in a stone.</p> <p>11. South 74° 8' West true 6258 feet along Paomai passing to the North of a couple of <i>Hala</i> clumps to two Triangular pit [sic? pits] at an old house site.</p> <p>12. South 74° 51' West true 5045 feet along Paomai to a cross cut on a stone at head of gulch.</p> <p>13. North 86° 6' West true 1368 feet along Paomai down South side of gulch.</p> <p>14. South 83° 45' West true 1455 feet along Paomai to a cross cut in a stone.</p> <p>15. South 74° 9' West true 920 feet along Paomai.</p> <p>16. North 55° 12' West true 898 feet along Paomai across gulch to a red wood post a little West of a cactus clump. (Here ends the Crown land of Paomai) Thence</p> <p>17. South 65° 58' West true 1617 feet along Kaa down North side of gulch to a cross on a stone.</p> <p>18. South 64° 57' West true 2040 feet along Kaa down North side of gulch to a cross on a stone. Thence</p> <p>19. South 70° 33' West true 3590 feet along Kaa to a point 10 feet East of a large rock with cross cut on it. Thence</p> <p>20.</p>	

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
			South 68° 53' West true 1664 feet along Kaa to sea shore. Thence 21. South 1° 55' West true 13460 feet along sea shore to point of Commencement Area 8291.09 Acres.	
3029		Nahuina and Keliihue	<p>Apana 2 – <i>'ili</i> of Kaumalopau, within Kamoku, beginning at the northeast corner: North 52¾ ° West 415 links along the government land North 44° West 2144 links to Molohi's land South 32½° West 4664 links to Molohi's land South 43° East 2320 links along the government land North 29° East 2540 links to the <i>'ili</i> of Pueo North 43¼° East 2200 links to the <i>'ili</i> of Pueo 103.58 acres</p> <p>Excepting the <i>kuleana</i> of a native.</p> <p>September 12, 1866</p>	103.58 acres
5137	08556	Kaauwaeaina	<p>Helu 8556, Kaauwaeaina, Maunalei, Kalulu and Kamoku. Native Register 6:468</p> <p>Lanai Feb. 7, 1848. Greetings Commissioners who Quiet Land Titles. I have three <i>loi</i> (taro pond fields) at Maunalei. Here are other claims of mine, several <i>moku mauu</i> (grass land/pasture sections) at Kalulu, and a <i>pauku</i> (planting section) at Pueo. By Kaauwaeaina.</p> <p>Helu 8556, Native Testimony 13:265.</p> <p>Kawaaiiki, Sworn. I know his Parcels of land on Lanai. They are in the <i>ili</i> and <i>Ahupuaa</i> below. 3 Parcels. Parcel 1. 3 <i>lo'i kalo</i> (taro pond fields) in the <i>ili</i> of Ainaiki, Maunalei <i>Ahupuaa</i>. Parcel 2. 1 <i>moku mauu</i> (grass land/pasture section) in the <i>ili</i> of Kapano uka, Kalulu <i>Ahupuaa</i>. Parcel 3. <i>Pauku</i> land in the <i>ili</i> of Pueo,</p>	<p>Helu 8556 Kaauwaeaina Kalulu and Kamoku Māhele Award Book 7:212</p> <p>There in the <i>Ahupuaa</i> of Kalulu and Kamoku, Lanai.</p> <p>Parcel 2. There in the <i>ili</i> of Kapanouka... 1 Acre, 0 Roods, 35 Rods.</p>

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
			<p><i>Kamoku Ahupuaa.</i></p> <p>Parcel 1. The boundaries are thus. <i>Mauka</i>, my land. Kaena and all about, land of <i>Konohiki</i>. Parcel 2. The boundaries are thus. <i>Mauka</i> and all about, land of <i>Konohiki</i>. Parcel 3. The boundaries are thus. <i>Mauka</i> and all about, land of <i>Konohiki</i>.</p> <p>He received Parcel 1 from Kawaaiiki in the year 1844. Parcel 2 from his parents in the time of Kamehameha II. Parcel 3 from his parents in the time of Kamehameha I. He has resided there peaceably to this time. No one has objected. I, Kaliliamoku, Sworn. All the words above are correct. My understanding is exactly like that as spoken by Kawaaiiki.</p> <p>Translation by Maly (2009).</p>	<p>Parcel 3. There in the <i>ili</i> of Pueo... 38 Acres, 2 Roods, 12 Rods.</p>

Walter Murray Gibson, arriving in Honolulu as a representative of the Mormon Church on the 4th of July 1861, came to the Sandwich Islands with the idea of converting islanders to that religion. Gibson learned of large tracts of land available for pasturage on the island of Lāna'i, and leased "Crown Lands" (lands reserved by the Royal Family of Hawaii during the Great Māhele of 1848) from King Kamehameha III for the raising of sheep and for other agricultural purposes. The authorities of the Mormon faith from Salt Lake, Utah, pressed Mr. Gibson to deed his property interests on Lāna'i to the Church. By 1864, W. M. Gibson was cut off from the Mormon Church for his refusal to comply, and much of his interest in real property involving the *ahupua'a* of Pālāwai, Keālia Aupuni, Keālia Kapu, Pawili, Kāma'o, Ka'ā, and Kaohai was inherited by his daughter, Talula Lucy Hayselden (Tabrah 1976).

The descendants of the family which had purchased the island of Ni'ihau from the Kingdom of Hawai'i in 1864, the Gay family, now set their sights on acquiring a majority of the property of the island of Lāna'i. In 1902, Charles Gay purchased the former Walter Murray Gibson estate lands at auction, and in 1903, bought out the Hayselden properties. He then purchased the *ahupua'a* lands of Ka'ā and Kaohai from the Crown Land holdings of Princess Ruth Keelikolani. Charles Gay moved his family into the Gibson-built ranch house in Kō'ele, and made plans to purchase the eight remaining *ahupua'a* then still under government control. A legal battle and a three-year drought forced Charles Gay to sell all of his property on Lāna'i to a consortium of ranchers from Honolulu (Tabrah 1976). Ranching on the island was barely profitable. The Baldwin family, Maui's most famous ranchers, could not find a way to gain a profit from the

island. In 1920, the Baldwin-owned Lanai Ranch Company brought 12 Asian chital deer (*Axis axis*) to Lānaʻi from Molokaʻi, where good hunting ranges had been established for sportsmen (Graf and Nichols 1966). Despite these efforts, ranching was abandoned.

3.1.5 Early to Mid-1900s

Botanist J. M. Lydgate, visiting Lānaʻi with an expedition to obtain rare specimens of trees and flowering plants, reported that 40 continuous years of livestock grazing had, “pretty well denuded [Lānaʻi] of its forest cover; only on the summit of the island ridge was there a somewhat moth-eaten mantle of it left, and only on the slopes of the higher ravines and the steep hillsides was that mantle really intact and undisturbed” (Lydgate 1920). Lydgate also reported the extinction of plant species observed on Lānaʻi only four years prior: plants that had been documented by fellow botanist Horace Mann of Harvard University. Lydgate (1920) commented that, “the ravages of cattle, sheep and goats, as well as forest diseases, hastened the decadence of the indigenous forest [of Lānaʻi].”

The success of the Hawaiian Pineapple Company of Honolulu acquiring all of the lands of the Baldwin-owned Lanai Ranch Company began with the annexation of the Hawaiian Islands by the United States in 1898. With annexation came political stability for Hawaiʻi. Worldwide food prices were rising due to the outbreak of war between the United States and Spain over her colonies in Cuba, Puerto Rico and the Philippines. The pineapple industry on the island of Oʻahu was bolstered by the sharp rise in demand for their food product, with corresponding expansion of canning facilities taking place at their Waiʻanae Cannery. By 1904, the production and canning of Hawaiian pineapple had become “big business” (McClellan 1939), with the Hawaiian Pineapple Company of Honolulu in a leadership position.

By the time the United States entered World War I (1917), the pack of Hawaiian canned pineapple from all packers was about to reach an all-time high. The pack increased from 2.6 million cases in 1917 to 3.8 million cases in 1918 (Thrum 1920). The island of Lānaʻi, however, continued to be eyed as prime ranch land, and not suitable for agriculture. In 1917, Henry Perrine Baldwin and his brother, Frank Fowler Baldwin, of the Maui-based Hawaiian Commercial & Sugar Company, acquired control of most of Lānaʻi. Small ranch land tracts owned by the descendants of Charles Gay, and about 500 acres remaining under native titles, were held out of the sale to the Baldwins (Wentworth 1925).

In 1922, the Baldwins sold their holdings on Lānaʻi Island to the Hawaiian Pineapple Company (Figure 10) in order to finance a real estate transaction on the island of Maui (Maui County Council, Lānaʻi Community Plan 1998:28). The construction of office buildings, warehouses, shops and dwellings for 250 workers and their families began immediately (Figure 11). By 1927, three thousand acres of the Pālāwai Basin had been planted in pineapple, the first construction phase to establish Lānaʻi City had been finished (Figure 12), and a roadway linking the new piers at Kaumālapaʻu with Lānaʻi City had been paved (Freeman 1927). The cultivation of pineapple on Lānaʻi had become integral in Hawaiʻi supplying more than 90 percent of the world output of canned pineapple.

The dredging of Kaumālapaʻu Harbor and the construction of a breakwater was begun in 1924, after a large storm destroyed the wharf at Mānele Bay. Road construction to the new harbor was completed by the Hawaiian Pineapple Company, and transportation of the pineapple

pack for 1925 was assured. Over the course of the next 20 years, five million dollars were invested in the company infrastructure, with annual packs in the late 1930's valued at over 1.4 million dollars. Peak harvest data for 1936 stated that as many as 100,000 crates containing more than 1,300,000 pineapples could be shipped out of Kaumālapa'u Harbor in a 24-hour period (Stearns 1940).

In 1925, Bishop Museum Fellow of Yale University, Chester K. Wentworth, published "The Geology of Lanai" (Wentworth 1925). At the time of his study, he described construction projects by the Hawaiian Pineapple Company, including the erection of power plants and refrigeration plants. He referred his readers to Emory's work regarding cultural traditions of Lāna'i and made an interesting assumption regarding the flora of Lāna'i prior to European contact. Wentworth stated that, "the traditions of the natives and the presence of dry tree stems and roots in aeolian deposits over much of its area make it fairly certain that Lanai was wooded to the sea coast at the time when it was first visited by the Hawaiians" (Wentworth 1925:6).



Figure 10. The plateau region of Lāna'i is visible in this early photo of pineapple cultivation on the island (*Paradise of the Pacific*, December 1936, Vol. 48, No. 12).



Figure 11. Dole Park circa 1923, following the acquisition of the island of Lāna'i by the Hawaiian Pineapple Company, and the subsequent construction of laborer and management housing. (Hawaiian Pineapple Company photo courtesy of Castle & Cooke Resorts LLC).

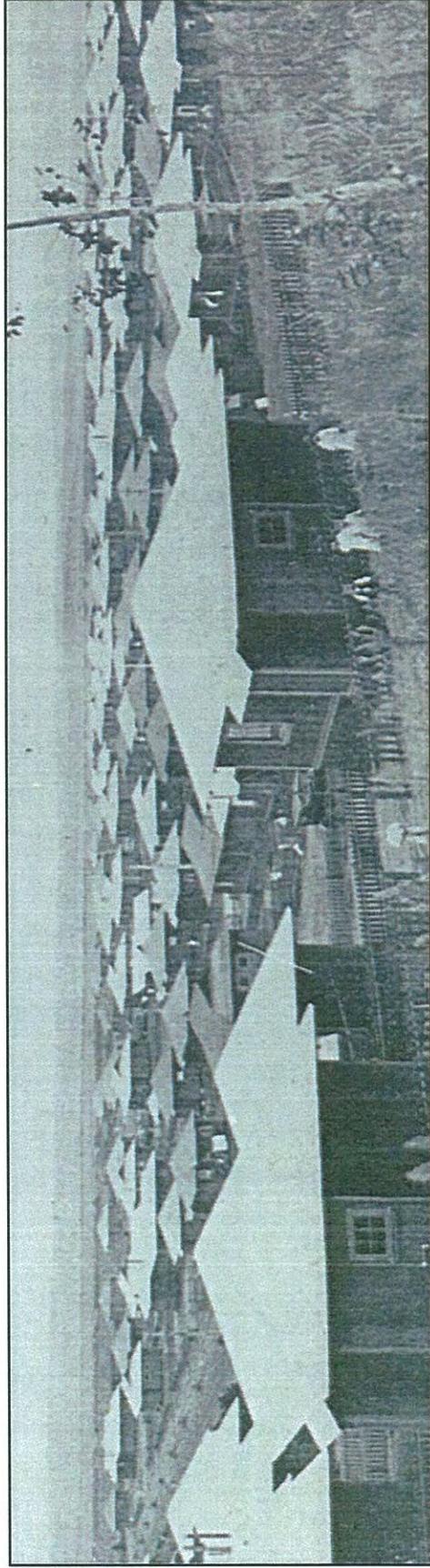


Figure 12. A photograph of the city of Lāna'i, with children visible in the foreground, and hundreds of acres of land cleared for pineapple cultivation in the background (Nippu Jiji Co., Ltd. 1929).

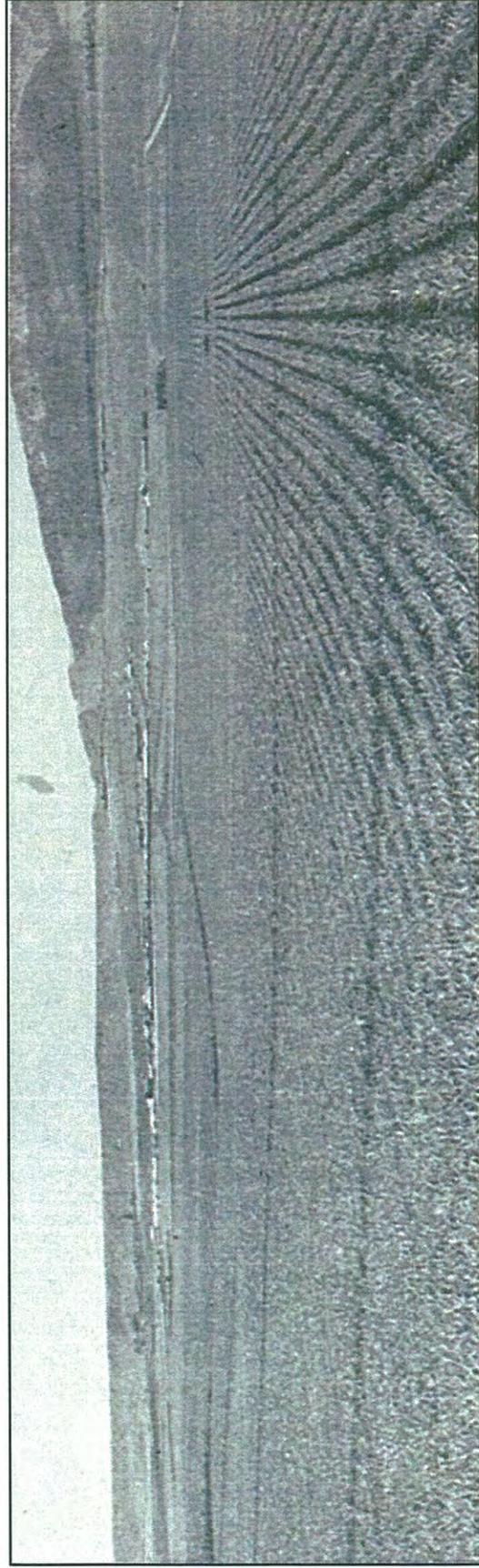


Figure 13. Lāna'i City, visible in the distance (left) with pineapples under cultivation in the foreground (Nippu Jiji Co., Ltd. 1929).

By 1939, the population of Lāna'i was reported at four thousand, with virtually all of the residents working to maintain the fifteen thousand acres of pineapple fields. The expansion of the market to accommodate Hawaiian pineapples occurred so rapidly, with so much success, that new machinery was quickly developed to take advantage of the gentle topography of Lāna'i (Mackie 1939). The long, flat fields could accommodate mechanical harvesters, which operated by straddling rows of pineapple plants, and moving slowly behind men who broke the ripe fruit off their stalks. Once aboard the harvester, pineapples had their crowns removed, were sorted for size, and crated. Pineapples picked in the morning on Lāna'i, about sixty miles from Honolulu, were barged to Honolulu, canned and ready for shipment by nightfall the same day (McClellan 1939).

3.1.5.1 Water Source Development

Harold T. Stearns traversed the island of Lāna'i between June and August of 1936, conducting studies of the geology and ground-water resources. He was assisted by personnel from the U.S. Geological Survey, completing hydrographic maps for the study. His work highlighted the explorations for ground water in Maunalei and at Kō'ele, to improve sources of drinking water, and for irrigation of the expanding fields of pineapple cultivated on the island (Stearns 1940). He reported that the westernmost slopes of the Pālāwai Basin of Lāna'i "[are] not sheltered by other islands on the southerly side, [and] kona storms are unobstructed. Heavy downpours during a single kona [southern exposure] storm commonly account for a considerable part of the annual rainfall, and in some of the arid sections a single rain storm a single rain may contribute as much as 80 percent of the annual total" (Stearns 1940:65).

3.1.6 Mid-1900's

Following the end of World War II, the agricultural population of Lāna'i continued to work for wages comparably lower than those earned by sugar workers on the other islands. When restrictions against organized unions were lifted in 1945, sugar workers and dock workers were the first to unionize. By 1946, the International Longshoremen and Warehouse Union (I.L.W.U.) had consolidated its hold on workers who grew, harvested, milled, transported, warehoused and refined Hawaiian sugar. For the 3,200 people on Lāna'i, labor relations with the Hawaiian Pineapple Company were about to heat up (Henderson 1949).

Between 1947 and 1951, pineapple workers in Hawai'i tried but were unable to demand wages and benefits comparable to sugar workers. An industry-wide strike among all pineapple companies was called by the I.L.W.U. in 1947, resulting in minimum wage concessions that raised pay from 35 cents an hour to 97 cents an hour for men. Comparable sugar wages in 1948 were \$1.77 per hour for men, and this disparity continued until pineapple workers on Lāna'i staged a strike that lasted for seven months in 1951, finally winning higher wages and benefits on par with sugar workers. In 1954, the Hawai'i I.L.W.U. fought for and was awarded the first pension plan for agricultural workers in the United States. Throughout the 1950's, other labor concessions awarded to pineapple workers included the 40-hour work week, medical benefits, provisions for sick leave, and paid vacations and holidays (Labor 2009).

The present-day Lāna'i Senior Center building was constructed in 1938 by an unidentified contractor as part of Hawaii's Territorial Department of Public Instruction improvements for

Lāna'i City (Solamillo et al. 2009). It was originally constructed on the Lāna'i High and Elementary School campus and served as the institution's library. In 1955, the building was moved from the high school to the corner of Fraser Avenue and Seventh Street, according to an article printed in the *Lanaian* newspaper (archived at the present-day Lāna'i Public and School Library). The April 15, 1955 article also reported that an empty "C2" type building would be joined to the library building to provide more space (Solamillo et al. 2009).

According to additional newspaper reports, the Lāna'i Library closed temporarily in 1960 due to lack of staff, but was reopened in 1962.

3.1.7 Modern Land Use

By 1961, James D. Dole's pineapple lands on the island of Lāna'i were merged with the assets of Castle & Cooke Inc., a prominent Hawai'i-based corporation. World-wide prices for pineapple continued to drop throughout the 1970's as competing countries, most notably Cuba and the Philippines, supplied the market with cheaper pineapple.

In 1975, library books, ancient Hawaiian artifacts, and valuable historical archives of Lāna'i were transferred to a newly-constructed air-conditioned library building on the campus of Lāna'i High School. The building at the corner of Fraser and Seventh became the Lāna'i City Senior Center (Kaser 1975).

During the 1980's, Castle & Cooke began a long-term program to phase the island out of pineapple cultivation, and expand tourism on Lāna'i. In 1988, David Murdock, chairman of Castle & Cooke, Inc., opened a resort hotel and companion championship golf course at Mānele Bay. A second resort hotel and golf course in the uplands of Kō'ele was opened in 1990. The present continuing construction of additional residential and luxury housing projects has created additional jobs for the people of Lāna'i; however, the current statewide downturn in the economy has boosted the unemployment rate for the island past 8% (Labor 2009).

Section 4 Previous Archaeological Research

Archaeological studies that have dealt with larger regions of Lāna'i, but with specific mention of historic properties and features within Kamoku Ahupua'a, include those by Emory (1924a, 1924b), Hommon (1972, 1974), and Hammatt and Borthwick (1989a).

Late in 1920, Kenneth P. Emory completed a detailed series of excavations within the crater of Haleakalā on Maui (Emory 1921), where he had examined the construction of stone terraces and platforms for clues as to their cultural use. Continuing this work for the Bishop Museum on Lāna'i, Emory (1924a) documented Hawaiian pre-contact ceremonial platform (*heiau*) features, as well as pre-contact dwelling and village sites. Many of the abandoned pre-contact village complexes Emory recorded on Lāna'i also included small ceremonial altar (*ko'a*) structures, burial areas, trail markers (*ahu*), petroglyph incised pictograms on boulders, and, in some cases, relic wooden timbers from the ancient framework of their habitation structures (Emory 1921). In all, Emory's work recorded 59 house sites within the *ahupua'a* of Kamoku (Emory 1924a: 50).

In the upland plateau, northwest of the present project area, Emory (1924a:51) described two separate consolidated groups of visible house sites that appeared to constitute large upland dryland settlement areas east of Kānepu'u. Set against the ridgeline of Kaka'alani that rises some one thousand feet in elevation as it leaves the region of Kō'ele, and ending at Kānepu'u, this dryland plateau included the village sites of (in east-to-west order) Kukuikahi, Kalapu'u, and Keonehe'ehe'e. Emory recorded 38 visible house sites, spread out over three miles along this ridgeline. With ample evidence of habitation in the upland region, Emory estimated that the region of the Ka'ā plateau supported at least 500 inhabitants (Emory 1921:27). Hearths, ovens, activity scatters and outlying temporary habitations in the lower elevations of the northwestern portion of Lāna'i, between the shoreline settlements and the upland dryland region, indicated to Emory the former existence of trails linking the upland settlements to the ocean resources below.

Archaeological studies specific to Kamoku Ahupua'a in the region of Lāna'i City includes Borthwick and Hammatt (1992), and Hammatt and Borthwick (1988, 1993). In 1988, on the eastern side of Lāna'i City, Hammatt and Borthwick conducted an assessment of the Lālākoa III Subdivision to determine the nature of a surface scatter of lithic artifacts. Finished adze fragments and four adze preforms found here were attributed to an off-site gravel quarry from which the material had originated. Most archaeological studies in the vicinity of Lāna'i City have identified no significant traditional Hawaiian cultural materials or deposits.

Table 3 lists all previous archaeological investigations performed in the upper region of Kamoku Ahupua'a. A synopsis of each investigation, including the number of habitation sites found (if any), follows the table. Figure 14 graphically illustrates the boundaries of the study areas.

Table 3. Previous archaeological investigations in the upland region of Kamoku Ahupua'a.

Investigator(s) and Year	Location	Study Type
Emory 1924	Island-Wide	General Survey
Hommon 1972	Island-Wide	General Survey
Hommon 1974	Island-Wide	General Survey
Hammatt <i>et al.</i> 1988	Ranching Areas of Kō'ele	Inventory Survey and Data Recovery
Hammatt and Borthwick 1988	Lālākoa Subdivision, Kamoku Ahupua'a, Lāna'i City	Archaeological Assessment
Hammatt and Borthwick 1989a	Waialua Multi-Family Housing, Lāna'i City	Reconnaissance Survey
Hammatt and Borthwick 1989b	Kō'ele Golf Course, Housing and Subdivision	Reconnaissance Survey
Borthwick and Hammatt 1992	Kō'ele Reservoir	Inventory Survey
Hammatt and Borthwick 1993	Waste Water Treatment Project at Kamoku	Inventory Survey
Hammatt 1996	Paoma'i	Inventory Survey
Tuggle 1997	Northwestern uplands, including portions of the Paoma'i and Ka'ā Ahupua'a	Inventory Survey
Creed, Hammatt and Hammatt 2000	50-Acre parcel at the northwest corner of Lāna'i City	Inventory Survey
Hammatt and Shideler 2004	Niniwai Hill	Inventory Survey
Lee-Greig and Hammatt 2007	The Courts Affordable Housing, Lāna'i City	Field Inspection
Solamillo, Liverman and Kastner 2009	Lāna'i City Business-Country-Town Historic District	Architectural Inventory Survey

4.1 Summaries of Previous Studies in the Project Area Region

Although Emory's most comprehensive archaeological work on the island of Lāna'i pertained to coastal settlements at Kapiha'a and Kaunolū, his investigations of deserted village sites in the uplands of the island are noteworthy because he described burial areas associated with habitation areas. He described a flexed burial exposed by a landslide at an area just north of Kō'ele, and he described ancient house sites just south of Kō'ele.

Emory (1924a) conducted his landmark island-wide survey of Lāna'i between July 1921 and January 1922. He observed pre-contact house sites and burial sites in the Kukuikahi area, just north of Kō'ele in Paoma'i, and wrote, "I counted 27 house sites...and at Pohoula is a stone faced terrace 22 x 59 feet, 4 feet high, having 4 walled divisions probably for as many houses. The hill above has been used as a burial ground" (Emory 1924b:26).

Another specific reference to habitation sites in the upper plateau is given by Emory (1921) in his field notes for September 1921, as he tried to answer the question as to where the natives of the north coast lived when they ascended the plateau:

Along the bluffs which bound the plateau on the mauka side [in Ka'ā Ahupua'a], I counted 31 house sites as I came home. Here, certainly, is where the natives lived. Allowing for 20 more house sites marked with stone divisions, and 50 grass houses at least which had used a perishable wooden fence, and allowing 5 natives to a house, this sheltered spot could have and probably did hold a population in ancient times of 500 (Emory 1921:27).

Other types of historic properties and features observed by Emory across the upper plateau, the northwestern transitional zone, and the northwestern coastal regions (excluding Maunalei and Kaunolū) include oven pits at Kānepu'u ridge in Paoma'i (Emory 1924a:45); a well at Honopū in Ka'ā (Emory 1924a:47); remnant wooden frames of thatched houses at Kanaele in Paoma'i (Emory 1924a:50); the largest (55 x 152 feet) *heiau* structure on Lāna'i at Ka'ena Iki in Ka'ā (Emory 1924a:64); a fishing shrine (*ko'a*) at Honua'ula in Paoma'i (Emory 1924a:68); Maluhie *heiau* at Keonehe'ehe'e in Ka'ā (Emory 1924a:69); a small *heiau* at Hao in Mahana (Emory 1924a:69); a complex of habitation platforms, enclosures, and shelters and a ceremonial platform at Kalaeāhole, in Ka'ā (Emory 1924a:69); a fishing shrine (*ko'a*) at Pōhakuloa, and a *ko'a* in Kūāhua, in Mahana: both coastal shrines built among house sites (Emory 1924a:71); one *ko'a* in Kukui and four in Kahue in Paoma'i, as well as *ko'a* structures at Cape Kae'a and at Ka'ena in Ka'ā (Emory 1924a:71); a *ko'a* at 'Oanapuka on the coast of Kamoku (Emory 1924a:72); stone markers (*ahu*) at Keahikawelo ridge in Ka'ā (Emory 1924a:72); upright stone slab alignments at Hale o Lono in Paoma'i (Emory 1924a:72); burials in Kuahua Valley in Mahana (Emory 1924a:73); burials in the sand dunes of Awalua in Paoma'i (Emory 1924a:73); burials at Pohoula hill, near the summit, in Paoma'i (Emory 1924a:73); a cave at Keone gulch in Kamoku, along the coast of the present project area *ahupua'a* (Emory 1924a:88); lava tube caves at Honopū (Emory 1924a:88); petroglyphs at Ka'ena in Ka'ā (Emory 1924a:103); and petroglyphs at Kaumālapa'u Bay in Kamoku, within the present project area *ahupua'a* (Emory 1924a: 103).

The identification of culturally significant sites across the central plateau of Lāna'i was also undertaken by other scientists working on the island at approximately the same time as Emory.

Chester K. Wentworth, a Yale University Fellow at the B.P. Bishop Museum, published the first scientific geologic study of the island in 1924 (B.P. Bishop Museum Bulletin 24), and supplied Emory with additional information while performing his surveys of the island (Wentworth 1925). Ornithologist George C. Munro (1920), and botanist J. M. Lydgate (1919-1921) had both performed surveys on Lāna'i and both provided further cultural background information to Emory.

It was Emory's exemplary research on pre-contact occupation of the Mānele District of Lāna'i that best showed how permanent habitation occurred along the coastline of the island. While an examination of the archaeological landscape of the Pālāwai Basin underscores the importance of the uplands as a focus of agriculture and habitation, Hawaiian traditions and the presence of hundreds of house sites at Kaunolū were evidence that the coastal environs were also a focus of settlement and marine exploitation.

In all, Emory (1924a) recorded 489 house sites across Lāna'i. Of eleven large *heiau* structures found on the island, one (Pu'u Makani) is located in the upper plateau region. Of the ten smaller *heiau* structures listed by Emory, two are in the upper plateau region. Maluhie *heiau*, in Keonehe'ehe'e, and north of Koa, below the trail that leads from the Pālāwai Basin onto the mountain bench at Kaōha'i is an unnamed 30 by 45 foot terrace. Of the 18 intact fishing shrines (*ko'a*) of Lāna'i, one is located in the project area *ahupua'a*, at Kaumālapa'u. This shrine included an adjacent house platform and two fireplaces. Smaller cairn structures were recorded by Emory in Mahana, along the area traveled by those crossing the plateau from the north coast

Emory (1924a:72) described stones marking places of religious or magical observances on the upper plateau:

On the great boulders [sic] along the Keahikawelo ridge many small monuments of three or four stones, one on top of the other, have been erected by natives traveling up and down, to insure good fortune on their way. I am reminded of similar monuments which were set up along the trail at Ke-ahu-o-ka-holo in Haleakala to keep the fog from enveloping the travelers and causing them to lose their way. But the *ahu* at Keahikawelo represent the *kukae* offerings of Kawelo.

In addition to these historic properties, Emory recorded a large number of artifacts. Some were isolated finds, some were associated with scatters. Petroglyph sites recorded in the project area *ahupua'a* included rock faces at Kaumālapa'u,

Robert Hommon and Kenneth Emory (1972) made recommendations for the preservation of archaeologically-sensitive regions of Lāna'i. They identified Lāna'i City as an area where future residential subdivision might endanger historic properties or ruins not previously located. Their recommendations for archaeological studies included the areas of Mānele Gulch and Mānele Bay.

Robert Hommon (1974) conducted a survey of historic properties on Lāna'i using Bishop Museum staff members. Hommon attempted to reacquire 262 of Emory's sites located outside of the Kaunolū work area, and documented a small number of previously unrecorded sites in the northwestern upland and coastal areas. Hommon observed that most of the coastal sites had

successfully remained intact in the 50 years since the Emory's survey had been performed, and termed the state of preservation "unmatched elsewhere in similar Hawaiian sites."

Although Hommon's most significant finds during this survey occur outside of the present project area, they are relevant because they represent the use of a north-south travel route across the upper plateau. In addition, Hommon recorded complete habitation complexes along the southwest shoreline, including SIHP 50-40-98-202, a complex at Kaluako'i, SIHP 50-40-98-166, the "Pālāwai Complex", which included an enclosure described as "probably a *ko'a* [fishing shrine]" and walls "used as a temporary shelter for fishermen" and SIHP 50-40-98-086, the "Kapiha'a Complex." In discussing significance, Robert Hommon noted that the Kaluako'i sites "constitute the most densely concentrated group of well built terraced platforms yet found on Lāna'i." He continued his assessment by stating, "If all of these features were used as foundations for houses; and if they were all used at the same time, the cluster constitutes one of the densest habitation complexes in the Hawaiian Islands" (Hommon 1974).

Four investigations by Hallett Hammatt and Douglas Borthwick within the Lāna'i City development region and within the former ranching areas of Kō'ele are noteworthy, and are described below.

In 1988, Hallett H. Hammatt, Douglas Borthwick, David Shideler, and Kirstie Nakamura conducted a subsurface data recovery of two trash pits within the 20-acre construction site of the present-day "Four Seasons Lodge at Kō'ele" hotel. This upland spot had been the private home of a number of prominent Lāna'i families, and the recovery of historic artifacts from the trash pits added greatly to the understanding of the lives of early ranching families.

Hallett H. Hammatt and Douglas Borthwick performed an archaeological assessment of the Lālākoa III Subdivision within Kamoku Ahupua'a (Hammatt and Borthwick 1988) and recorded a scatter of basalt and volcanic glass. The investigation recorded numerous coarse-grained basalt fragments, which were interpreted as industrial-grade modern gravel. Many fine-grained basalt flakes and basalt artifacts (including a finished adze fragment, eight adze performs, a basalt core, and thirteen retouched flakes) were collected, and were determined to have originated at the Ko'i Adze Quarry in the Pālāwai Ahupua'a. Both the modern gravel and the pre-contact artifacts had been transported together from the quarry site by modern equipment.

Hallett H. Hammatt and Douglas Borthwick (1989a) performed a reconnaissance survey of the former Waialua multi-family housing subdivision (currently known as the Iwi'ole Dormitories) in 1989, and recorded a sparse scatter of flaked basalt lithic material. Due to modern agricultural cultivation, the context of this scatter of cultural material was determined to have been highly disturbed.

Also in 1989, Hallett H. Hammatt and Douglas Borthwick (1989b) performed reconnaissance surveys for four separate projects, including the Kō'ele golf course, the Kō'ele single-family housing, the Queen's multi-family housing and the Olopua Woods Subdivision. During the survey of the golf course project area, four historic features were recorded. Three were associated with the water system and debris from a ranching-era homestead, and the fourth was an unrelated concentration of pre-contact lithic material. The remaining other three surveys produced a very small amount of additional pre-contact lithic material that was found to have originated (again) from the nearby modern rock quarry.

The Kuahua complex of platforms, terraces and rock shelters was first described by Emory (Site 207 at Kuahua Gulch) in 1924, and had not been relocated by Hommon in 1974. Additionally, Tomanari-Tuggle (1992) noted that an area of the valley of Kuahua reported by Emory (1924b:14) to have contained the disorganized remains of approximately twenty flexed burials, was not relocated by this survey.

In 1993, Douglas F. Borthwick and Hallett H. Hammatt conducted an archaeological inventory survey for an approximately 13,000 foot-long waste water pipeline connecting the Lāna'i sewage treatment plant with the Kō'ele golf course irrigation system. This survey did not locate any traditional cultural deposits or structures, but did augment knowledge of the Lāna'i City/ Kamoku Ahupua'a development region.

In 1996, Hallett H. Hammatt conducted an archaeological inventory survey of a 14.9-acre parcel in the *ahupua'a* of Paoma'i, along the Malau ridgeline above the area developed as the "Four Seasons Lodge at Kō'ele" hotel. SIHP 50-40-98-1598, a pre-contact rectangular habitation enclosure, was recorded, and the positions of other associated crude terraces and rock piles were mapped.

In 1997, David Tuggle performed an archaeological inventory survey of five locations within the rural districts of Ka'ā and Paoma'i Ahupua'a, during which he identified five historic properties. The five properties were assigned SIHP numbers. SIHP -1941 was located just west of the Ka'ena/Polihua roadway fork, and consisted of a 40m long alignment of cobbles and boulders. SIHP -1942 was located along the western side of Lapaiki Road, in the *ahupua'a* of Paoma'i adjacent to the boundary of Ka'ā, and consisted of three separate scatters of cultural material, including basalt flakes, marine shell and coral fragments, and a few worked artifacts. Also included in this site were specimens of fire-cracked rock and an exposed horizon of charcoal and burned soil. SIHP -1943 was located proximate to SIHP -1942, and included an intact hummock, which displayed a hearth-like area with fire-cracked rock scatters. SIHP -1944 was located proximate to the previous two sites, and included an additional scatter of fire-cracked rock, and an exposed hearth. SIHP -1945 was located on a ridgeline at the edge of a low bluff, at a location named Ka-unu-a-Kane by Emory (1924). Here, the property was a large boulder outcrop against which a terrace of faced, upright stones (slab-shaped cobbles) was constructed. Based on its unusual method of construction, the terrace was interpreted by David Tuggle as probably ceremonial.

In 2000, an archaeological inventory survey was conducted at a 50-acre parcel belonging to the Department of Hawaiian Home Lands at the northwest corner of Lāna'i City. The investigation by Victoria S. Creed, Jared Hammatt and Hallett H. Hammatt found that the project area had been previously cultivated in pineapple, and no cultural material was observed.

In 2004, Hallett H. Hammatt and David W. Shideler performed an archaeological inventory survey of the Kihamānienie Church (SIHP 50-40-98-1946) and an associated churchyard complex at Nininiwai Hill (SIHP 50-40-98-1947). Both historic properties are within the region of Lāna'i City, in Kamoku Ahupua'a. The investigation focused on the surface markings that appeared to denote the positions and relationships of some eighteen historic burials within the churchyard, as well as features associated with the early historic occupation of the Kō'ele area, including an irrigation feature and a small section of a stone-lined trail.

In 2007, Tanya Lee-Greig and Hallett H. Hammatt conducted sub-surface testing on property slated for affordable apartment housing during an archaeological field inspection in Lāna'i City, Kamoku Ahupua'a. This investigation was conducted to determine the extent of historic-era cultural material from the earliest days of commercial pineapple cultivation. No cultural structures or deposits were observed during this inspection.

In 2009, Stanley Solamillo, Astrid Liverman, Ph.D. and Katie Kastner conducted an architectural survey of structures in Lāna'i City for evaluation and inclusion in the Lāna'i City "Business Country Town" (BCT) historic district. A number of buildings were determined as eligible for nomination to both National and Hawai'i State Registers of Historic Places. The study determined that the existing Senior Center building was "non-contributing," and the Planning Department of Maui County determined that mitigation at Historic American Building Survey (HABS) Level II was an appropriate action.

4.2 Background Summary and Predictive Model

During Emory's comprehensive study of Lāna'i in 1921 for the Bishop Museum (Emory 1924a), he observed that historic period development on the island, including ranching and pineapple cultivation, had destroyed archaeological sites within the central basin of Pālāwai (Kirch 1985). However, Emory found both the upland plateau and coastal regions largely undisturbed, and the preservation of archaeological remains excellent. Emory's seven-month study concentrated on mapping and surveying settlement structures, such as house foundations and *heiau* platforms. In addition, Emory's ethnographic investigation of place names formed an invaluable aid to understanding the settlement pattern of the plateau region (Emory 1921).

Archaeological remains related to the use of the upland plateau region for dryland agriculture, such as stacked-basalt enclosures and ceremonial structures, such as *heiau* and stacked-basalt trail markers (*ahu*), have been recorded in two major areas of the plateau. According to Emory (1924a), upland habitation sites recorded in the summit area of Poho'ula, just northwest of Kō'ele, contained habitation and ceremonial structures as well as a burial ground in close proximity to each other.

Emory's journal of his work in the plateau region (Emory 1921) also documented settlements in Kukuikahi, and the remains of a village just north of Kō'ele in Paoma'i, where dryland agriculture was the primary focus (Emory 1924a). These upland areas, with a slightly larger water supply and good soil, would have sustained a larger population. In the upland region, rainfall for the present project area occurs as moisture-laden tradewinds encounter the low mountainous region of Lāna'ihale, only 3,379 ft. amsl at its highest point (Stearns 1936). The resulting light orographic rainfall pattern (Giambelluca and Schroeder 1998) is limited to the highest regions of the mountain ridge above Kō'ele. Because rainfall at the upland plateau rarely exceeds 35 inches annually, there are no perennial streams (Stearns 1940).

Situated between the vast expanse of the central basin and the upland plateau is the region within which Lāna'i City was developed. From the area of Lāna'i City, travel into the upland plateau also allowed for travel across Mahana Ahupua'a, to the north coast of the island. While traveling along the upland plateau ridge, both Munro (2007) and Gay (1965) observed traces of the ancient upland forest, and concluded that portions of the upland plateau had been traditionally cultivated. Evidence of slash-and-burn agriculture in the region northwest of Kō'ele

was noted by Munro (2007:47), who estimated that the pre-contact cultivation of sweet potatoes, yams and dryland taro in the uplands probably represented 150 years of erosion, resulting in the exposure of vast amounts of hardpan and subsoil on the Ka'ā lands west of Kānep'u.

Dryland agriculture occurring in the upland plateau was irrigated only by intermittent rainfall. According to Handy and Handy (1972), breadfruit and yams were once plentiful, but due to low rainfall, any drought would have resulted in famine. Owing to these fragile living conditions, it appeared that Lāna'i was closely dependent on Maui in times of adversity.

Other ancillary features, such as small lava-dike quarries for the procurement of fine-grained basalt, and stone artifacts derived from these activities, have been noted in the central basin by Hammatt (1988). Storage caves with parts of wood canoes have been found in the vicinity of Kaumālapa'u. Munro (2007:48-49) stated that the erosion of the Ka'ā lands occurred before the introduction of livestock to the island. That the upland region of Lāna'i was not sufficiently protected from the wind led Munro to speculate that the upland population must have moved toward Kō'ele in an attempt to find better shelter, although sacrificing exposure to rainfall brought by the prevailing tradewinds. In the region between the forests of Kānepu'u and Kō'ele, Munro (2007) saw evidence, in the form of firepits, midden deposits, and burials, that the area had been inhabited for a long period.

From these studies a strong outline for an overall settlement pattern for Kamoku Ahupua'a can be postulated. Small, permanent coastal villages appeared in gulch areas in the vicinity of coastal fresh water seeps and wells (Emory 1924a) probably about A.D. 1500, according to Kirch (1985:306), owing to the range of lithic and wood artifacts found in the settlement area of Kaumālapa'u. The steep, arid gullies of the transition zone, located between the rich marine resources of the coast, and the upland region, have not yet been extensively studied (Colin and Hammatt 1996, Borthwick and Hammatt 1990), and may yield much new information about traditional habitation and agricultural practices. Both the upland and upland plateau regions supported dryland *taro*, sweet potato, breadfruit and yams (Handy and Handy 1972, Emory 1924a, Gay 1965, Munro 2007) probably around A.D. 1650, according to Kirch's (1985:307) descriptions of the adoption of dryland agriculture in marginal lands, as well as changes in traditional methods of warfare. Widespread destruction of the small, permanent, upland populations occurred during warfare between the forces of Maui's chief and those of the Hawai'i island chief on Lāna'i about A.D. 1778 (Fornander 1880:157).

Section 5 Results of Fieldwork

An archaeological field inspection was conducted by archaeologist Colleen Medeiros Dagan, B.S., under the general supervision of Principal Archaeologist Hallett H. Hammatt, Ph.D., on February 26, 2009.

The project area parcel is located within Lāna'i City, a tract of land developed for plantation laborers, supervisory personnel and equipment of the Hawaiian Pineapple Company beginning in the early 1920's. There are indications from historical records that the portion of Lāna'i City in the region of Dole Park was bulldozed level prior to the construction of plantation structures. It appears that little additional subsurface disturbance, other than trenching for roadways and underground utilities, has occurred within the bounds of Lāna'i City.

During the pedestrian survey of the vicinity of the Lāna'i City Senior Citizens Center building, no surface cultural materials or deposits were observed. The historic background of the existing Lāna'i City Senior Citizens Center building was previously discussed in an architectural inventory survey performed by Solamillo and others (2009).

Section 6 Architectural Description

All of the architectural research in this section was written by Stanley Solamillo from field studies performed by Astrid Liverman, Ph.D. and Katie Kastner.

6.1 LC-BCT-024

Name of Structure:	Lāna'i Senior Center
Feature Type:	Converted Institutional Structure
Feature function:	Institutional
Age:	original construction: 1938 modification by relocation and addition 1955 substantial alteration 1983

Description: Original Construction 1938-1955

The original structure was built in 1938 by the Department of Public Instruction of the Territory of Hawai'i as the school library for the Lāna'i High and Elementary School. The original construction featured an elevated, wooden floor, single-story structure with two interior bays in the form of a "T", single-wall construction, a hipped roof with louvered gables and deep-bracketed eaves, exterior wall surfaces of overlapping tongue-and groove weatherboard and 6 over 6 double-hung window sets.

Addition to Original Construction 1955

The library structure was moved from the site of its original construction, on the grounds of the Lāna'i High and Elementary School, to its present location at Fraser and Seventh, in 1955 (Figure 15). According to a news story obtained by Solamillo and others (2009), the moving of the building to the new location and the attachment of an "empty C-2 type building" to the original structure were both steps to provide more space for the collections of books, newspapers, artifacts and records archived on behalf of the people of Lāna'i (*Lanaian* 4/15/1955) (Figure 16). Building plans (Harry H. Olsen A.I.A. 1981) obtained by Solamillo and others (2009) depict the "Lana'i Library" building oriented diagonally across the Fraser-and-Seventh location, as well as the addition of a small shed to the southeastern corner of the main structure. The roof for the attached shed did not join the existing roofline

Alteration to Original Construction 1983

Established in 1976 as the "Lana'i Senior Citizens Center", a major expansion in 1983 more than doubled the size of the existing structure (Figure 17 and Figure 18). The expansion matched the same style as the original construction, and included additional windowsets in the original 6-over-6 configuration.

Nomination to the National Register of Historic Places

The present Lāna'i Senior Center is classified as a "Non-Contributing Building" in Section 7 Page 4 of the National Park service Form 10-900a Registration Form to establish a Lāna'i City Business Country Town (BCT) historic district (Figure 19). According to the nomination narrative, the building (LC-BCT-024) was moved from its original location and drastically

altered from its original appearance; both factors that excluded the present structure from consideration for preservation as a contributing building or site within the proposed historic district.



Figure 15. Photograph of the building LC-BCT-024 accompanying a 1955 newspaper story (*Lanaian* 4/15/1955) regarding the moving of the structure from the grounds of the Lānaʻi High School to the corner of Seventh and Fraser Streets in Lānaʻi City (Solamillo et al. 2009).

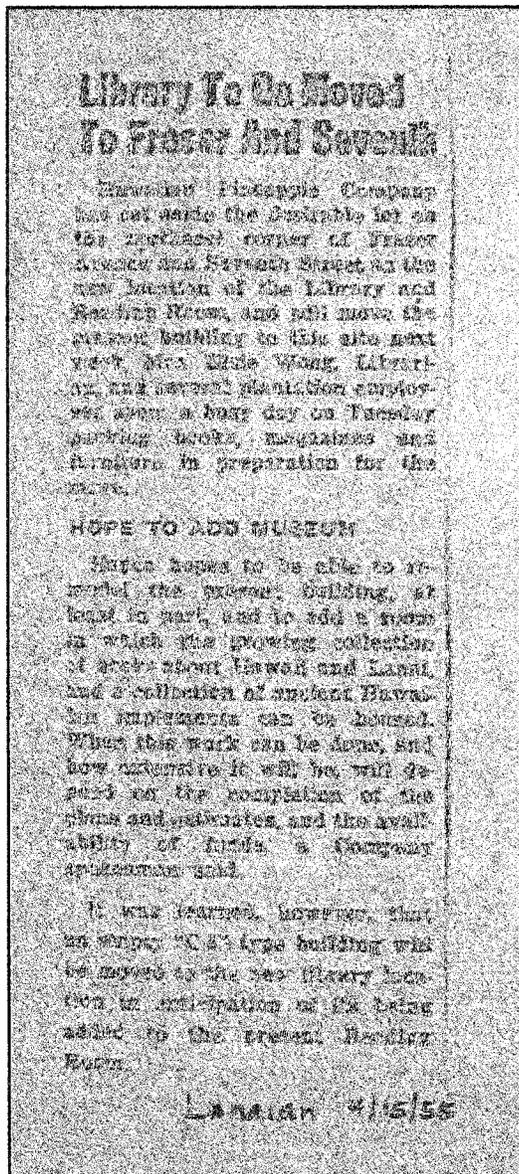


Figure 16. Newspaper clipping from the *Lanaian*, dated April 15, 1955, regarding plans of the Hawaiian Pineapple Company to move building LC-BCT-024 from the Lānaʻi High School to its present location, and to add another structure to the original structure (Solamillo et al. 2009).

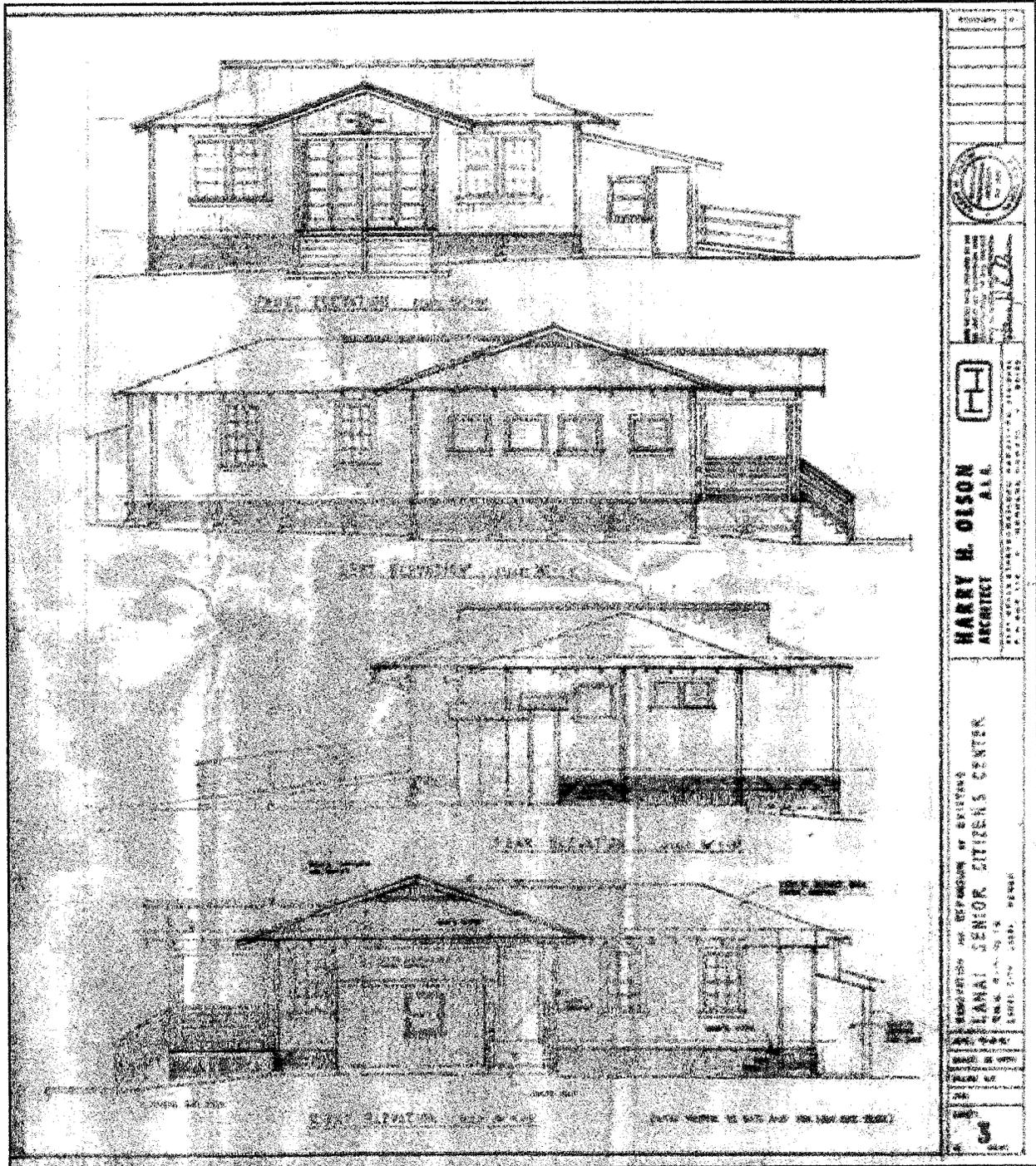


Figure 17. Set of elevation drawings by architect Harry H. Olson, dated 1981, for a 1983 expansion and renovation of the Lāna'i Senior Citizens Center (Solamillo et al. 2009).

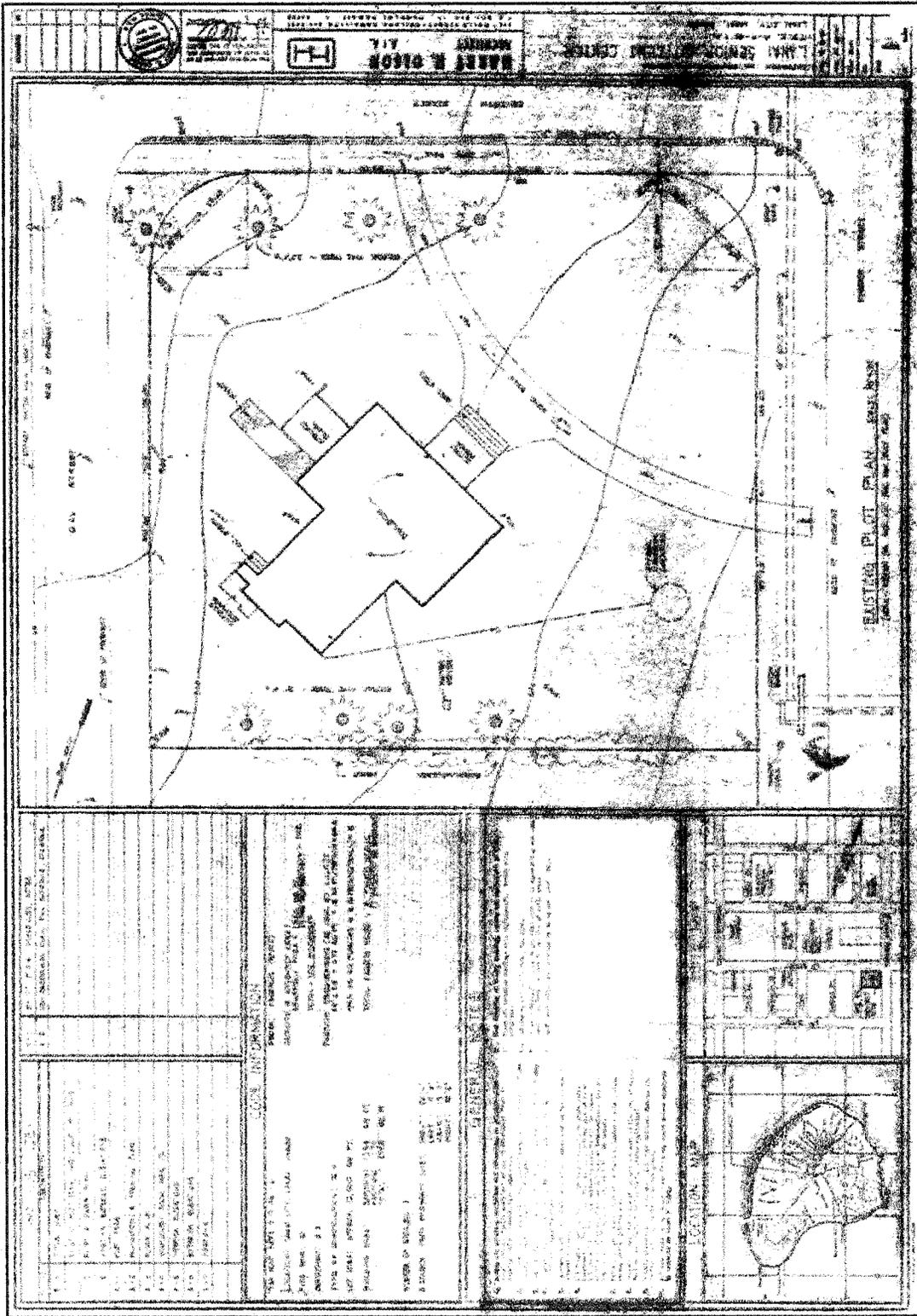


Figure 18. Plan view of the 1981 Harry H. Olson 1983 expansion of the Lānaʻi Senior Citizens Center (Solamillo et al. 2009).

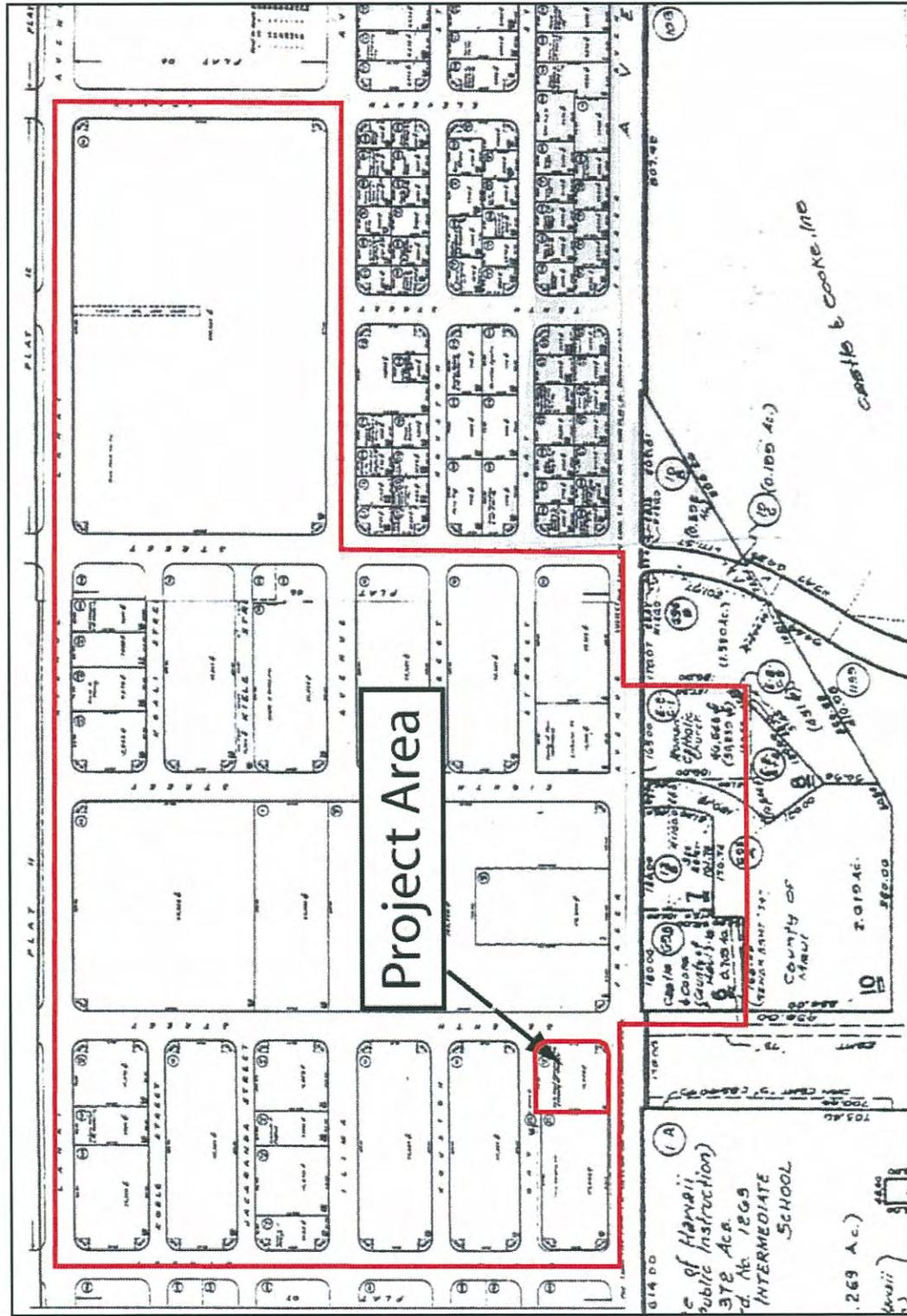


Figure 19. The boundaries of the proposed Lāna'i City "Business Country Town" (BCT) historic district are depicted in red, and affect historic properties across three separate TMK Plats; TMK (2) 4-9-005, 4-9-006, 4-9-014. The project area is shown in red, in the lower left corner.

Section 7 Summary and Interpretation

Based on the number of traditional cultural historic properties previously recorded by Emory (1924a) in the upper basin and upper plateau region, as well as additional historic properties recorded recently by Cultural Surveys Hawai'i in the region of Kihamānienie and Kō'ele, it is clear that excavation and construction in the proposed project area will occur in an area where significant pre-contact or historic cultural deposits may be located.

A review of the historic documentation indicates that Lāna'i City, in Kamoku Ahupua'a, was extensively developed for residential use and commercial pineapple cultivation beginning in the early 1920's. The high level of disturbance to the soils of this region has probably obliterated any surface evidence that the native Hawaiian inhabitants of these upland slopes may have tended small agricultural plots.

The present Lāna'i City Senior Citizens Center was previously identified as building number LC-BCT-024 by Solamillo and others (2009) during a recent architectural inventory survey within Lāna'i City. Presented below in Table 4 are details concerning the existing Senior Center:

Table 4. List of structures identified with construction details and construction dates.

Feature Number	Present Use	Construction Walls/Floor	Significance	Construction Date
LC-BCT-024	Senior Center	Wood/Wood	Historic	1938

The existing structure has been moved from its original site, altered from its original construction and further refurbished to Americans with Disabilities Act (ADA) standards. The Cultural Resources Division of the Maui County Department of Planning has recommended HABS Level II recording of the present Lāna'i Senior Center building as an appropriate mitigation action.

The current literature review and field inspection generally confirms most of the expectations derived from the historical, architectural and archaeological background research. Any surface evidence that traditional native Hawaiian habitation and/or agriculture had once occurred in the region of the present project area has been destroyed by the razing of forested areas for pasture, the partitioning of land for the commercial cultivation of pineapple, or the development of Lāna'i City's residential and commercial areas with its appurtenant roads and utilities.

Because the project area is located within the confines of the original Lāna'i City, it is possible that subsurface cultural materials and deposits may be located in the present project area.

Section 8 Recommendations

CSH recommends a program of precautionary monitoring during the subsurface excavation stage of construction for building footings, and during subsurface trenching for utility connections. The project area is located within the original layout of Lāna'i City which, it appears from a review of historic photographs, was not previously cultivated in pineapple. Soil stratigraphy in such areas may consist of modern fill material overlaying undisturbed regional soils, indicating that undisturbed cultural deposits may exist in scattered pockets.

Such deposits may include subsurface concentrations of indigenous or historic era artifacts and/or structural remnants, or subsurface human burials.

In the event that human remains are identified during the course of excavation, all work in the immediate area should be stopped, the location secured, and the Cultural Historian for SHPD, Hinano Rodrigues, should be contacted for further direction.

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APPENDIX B

CULTURAL IMPACT ASSESSMENT

Cultural Impact Assessment
For the Lāna‘i Senior Center Project: Demolition of
Existing Structure and Construction of New Facility, in
Kamoku Ahupua‘a, Lahaina District, Island of Lāna‘i
TMK: (2) 4-9-06: 6

Prepared for
Gerald Park Urban Planner

DRAFT

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Acknowledgments

Cultural Surveys Hawai'i (CSH) would like to extend our thanks and gratitude to the people who have contributed their time and personal knowledge to this study. Without the assistance of many people, this study would not have been possible. Many thanks go out to Mrs. Maggie Masicampo and Mrs. Yvonne Alboro who run the Lāna'i Senior Center. In addition to shuttling CSH researchers to and from the small boat harbor, both ladies were instrumental in referring the researchers to knowledgeable *kūpuna* and organizing formal interviews. Aloha to Mr. Kepa Maly of the Lāna'i Culture and Heritage Center. Mr. Maly's compilation of a tremendous amount of research and literature specifically about Lāna'i, was heavily utilized and is referenced throughout this report. Mahalo to the Maui County Cultural Resource Commission for their continued support of the CIA process. Much gratitude is expressed to the following people in particular who put their time and effort toward sharing their personal knowledge and opinions: Mrs. Martha Evans, Mrs. Alberta de Jetely, Mr. Albert Morita, Mr. Gary Onuma, Mr. Robert Hera and Mrs. Sandra Ropa. Mahalo to Mr. Duane Black and Mrs. Shelia Black, who spent a great amount of their time and contributed significantly to the understanding of the project area and special concerns with regard to Lāna'i's history and community, we are very grateful for all of the Black's efforts. Most importantly, CSH would like to extend a very special *mahalo* to each *kūpuna* who participated in this study. We understand that the nature of these interviews can be emotionally taxing. These *kūpuna* have our greatest respect and abundant gratitude for sharing their memories and *kōkua* with CSH and the public. *Mahalo nui* Mr. Noboru "Squeaky" Oyama, Mr. Takeo Yamato, Aunty Irene Perry, Uncle Solomon Kaopuiki, Mr. Shigeto Minami, Mrs. Susan Miyamoto, Mrs. Yasuko "Sugar" Gima, Mrs. Alfansa Lopez, Mrs. Susan Kincaid, Mrs. Setsuku "Cookie" Hashimoto, Mrs. Chitose Oshiro and Mrs. Margaret Hubin.

Management Summary

Reference	Cultural Impact Assessment for the Lāna'i Senior Center Project, Kamoku Ahupua'a, Lahaina District, Lāna'i Island TMK: (2) 4-9-06: 6 (Dagan, Hill, Lee-Greig and Hammatt 2009)
Date	August 2009 DRAFT
Project Number (s)	CSH Job Code: Kamoku 8
Project Location	The subject project site is located in Lāna'i City and sits at the corners of Seventh Street to the south, Gay Street to the east and Fraser Avenue to the west.
Agencies	Property Lessee: County of Maui Department of Housing and Human Concerns Property Owner: Castle & Cooke Resorts, LLC
Project Description	<p>Cultural Surveys Hawai'i, Inc. (CSH) has completed a cultural impact assessment for the Lāna'i Senior Center. The Senior Center parcel is an approximate 14,828 square foot lot. The County of Maui, Department of Housing and Human Concerns (property lessee) has applied for a demolition permit of the existing Senior Center structure and is planning to construct a new Senior Center facility that would also include office space for the Department of Motor Vehicles and for the Department of Housing and Human Concerns</p> <p>The new Senior Center would be a two level building of approximately 6,000 sf. SHPD has recommended Historic American Building Survey (HABS) Level II documentation to mitigate the impacts of the loss of this historic building. In addition, The new Senior Center will follow the Lāna'i City Community Design Guidelines, prepared in 1997 by the Maui County Planning Department, to retain the existing character of the neighborhood.</p> <p>The upper level of the new facility will service the Senior Center and have an activity room, two craft rooms, storage, kitchen, offices, and women and men restrooms. The lower level will have a space for yard equipment storage, supply storage, bath, a public office for the Division of Motor Vehicles and an office for another Department of Housing and Human Concerns program. The lower level utilized half the area of the upper level. The upper level will be primarily for the Senior Center activities. The lower level offices will be for separate county functions, not related to the Senior Center.</p>
Project Acreage	14,828 square feet, or 0.000130 hectares

Region of Influence (ROI) also referred to as "study area"	<p>The area of direct effect for the proposed project is considered the demolition and construction footprint of the Senior Center structure itself.</p> <p>When assessing the presence or absence of direct, indirect, and cumulative effects of the project on the traditional cultural practices of this region we would look at the ROI for this project which is defined as the geographical area encompassing the ahupua'a of Kamoku. Special focus will be paid on the Senior Center as a significant cultural resource itself.</p>
Regulatory Context	<p>This cultural impact assessment was conducted per the requirements of the Hawaii State Office of Environmental Quality Control as part of the environmental assessment for demolition and new construction in this area.</p>
Consultation Results	<p>Throughout the consultation process the community identified the Lāna'i Senior Center itself as a cultural resource. It was further discovered that the community overwhelmingly supports the construction of a new Senior Center facility, they have made their design suggestions clear to the various planning committees (Section 6.1 and 6.2.1) and their overall hope is to have a new facility that emulates the atmosphere that exists there now.</p>

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Section 1 Introduction

1.1 Project Background

At the request of Gerald Park, Urban Planner on behalf of the County of Maui, Cultural Surveys Hawai'i, Inc. (CSH) has completed a cultural impact assessment for a 14,828-square-foot parcel in Lāna'i City, located in Kamoku Ahupua'a, Lahaina District, Lāna'i Island [TMK: (2) 4-9-06:006]. (Figure 1) The County of Maui has proposed to redevelop parcel 006 in the present commercial area of Lāna'i City to construct a new Senior Center adjacent to the Dole Park area of Lāna'i City.

The present project area consists of a portion of a 1.2-acre "block," one of twelve located on either side of Dole Park, which is the informal "center" of Lāna'i City. Each block contains a mix of commercial retail buildings, residences and community structures, such as Richard's Market and the Lāna'i Playhouse. The project area "block" contains the existing Senior Center, as well as some older plantation-style residences. In the Gerald Park Urban Planner proposal, parking within the 7.2-acre Dole Park (Figure 2) would be ample for the needs of the proposed Senior Center.

Of the twelve commercial blocks, five are slated for redevelopment. In addition, two entirely new structures are proposed for Block P. To complete the redevelopment plans of Castle & Cooke Resorts, LLC, the area bounded by Ninth Street, 'Ilima Street, Eleventh Street and Lāna'i Avenue will be redeveloped as a Fleet Maintenance Block. These planned improvements to Lāna'i City would take place in five separate building phases. In all, the proposed redevelopment of the commercial and community areas of Lāna'i City would add approximately 47,500 square feet of new retail space, 12,600 square feet of new community meeting and heritage space, and add 48 new parking spaces to the existing 115 parking spaces currently surrounding Dole Park. The development of service bays at the Fleet Maintenance Site will add 183 parking spaces in that region of Lāna'i City.

The new Senior Center facility would consist of a two-level building of approximately 6,000 square feet. It would include office space for the Department of Motor Vehicles and for the Department of Housing and Human Concerns. The upper level of the new facility will service the Senior Center and have an activity room, two craft rooms, storage, kitchen, offices, and women's and men's restrooms. The lower level will have a space for yard equipment storage, supply storage, bath, and county offices mentioned above. The lower level utilizes half the area of the upper level (Figure 3 and Figure 4).

The Area of Potential Effect (APE) for the proposed project includes 14,828-square-feet of property located at 309 Seventh Street (TMK 4-9-006:024) and streets appurtenant. The APE excludes multi-family residences located at 622 Gay Street (TMK 4-9-006:011) and streets appurtenant. The Region of Influence (ROI), herein after referred to as the study area, encompasses the ahupua'a of Kamoku.

The State Historic Preservation Division (SHPD) has recommended Historic American Building Survey (HABS) Level II documentation to mitigate the impacts of the loss of this historic building. In addition, the new Senior Center facility will follow the Lāna'i City

Community Design Guidelines, prepared in 1997 by the Maui County Planning Department, to retain the existing character of the neighborhood.

1.2 Scope of Work

The scope for the cultural impact assessment is summarized as follows:

1. Examination of historical documents, Land Commission Awards, historic maps, with the specific purpose of identifying traditional Hawaiian activities including gathering of plants, animal and other resources or agricultural pursuits as may be indicated in the historic record.
2. A review of the existing archaeological information pertaining to archaeological sites within the study area to reconstruct traditional land use activities and to identify and describe the cultural resources, practices, and beliefs associated with the parcel and identify present uses, if appropriate.
3. Interviews with persons knowledgeable about the past and present cultural practices in the project area and its surrounding area. We anticipate both formal and informal interviews.
4. Preparation of a report on items 1-3 summarizing the information gathered related to traditional practices and land use. The report will assess the impact of the proposed undertaking on the cultural practices and features identified.

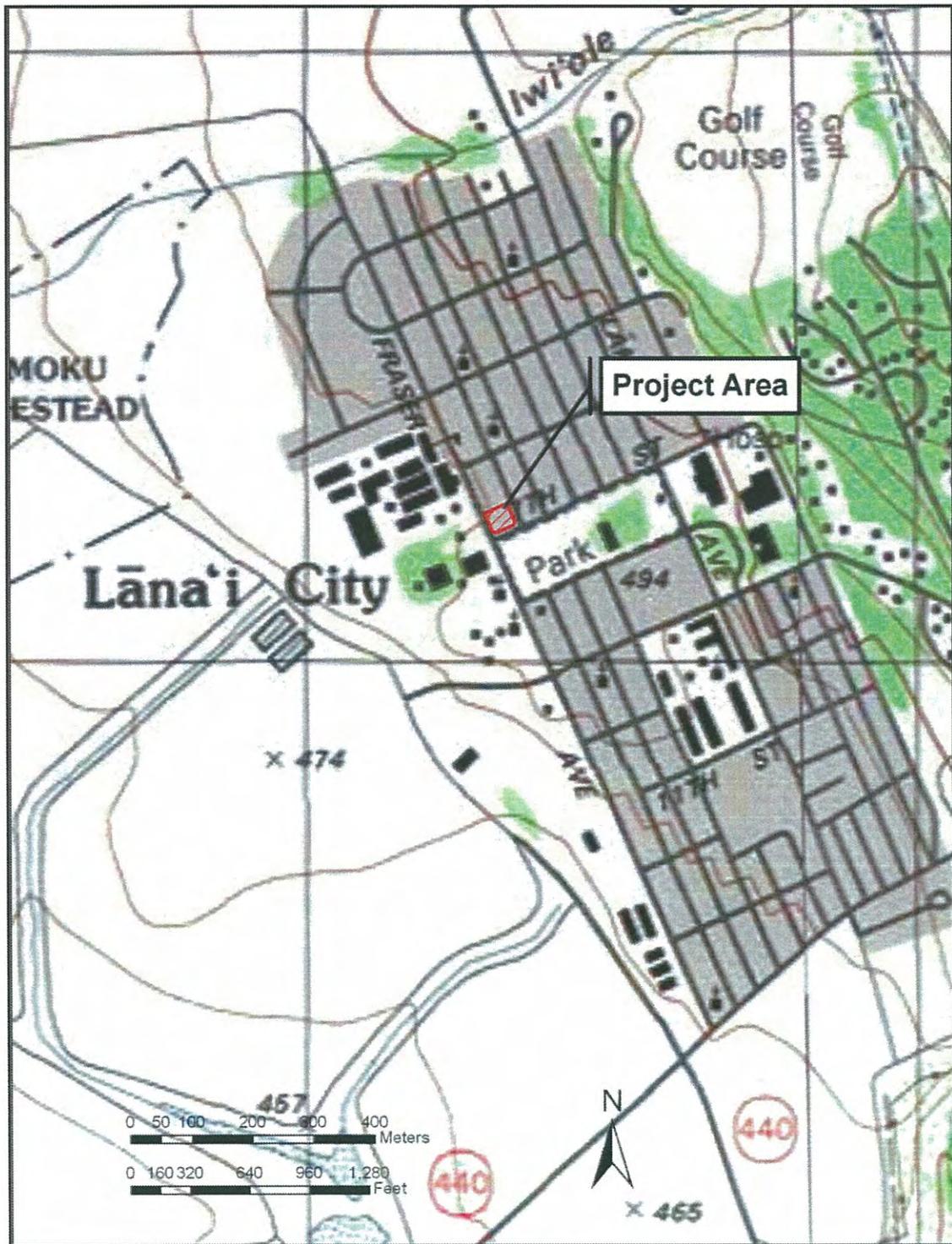


Figure 1. A portion of the 1992 Lāna'i City 7.5-minute USGS topographic quadrangle. The project location is indicated within the red shaded area.

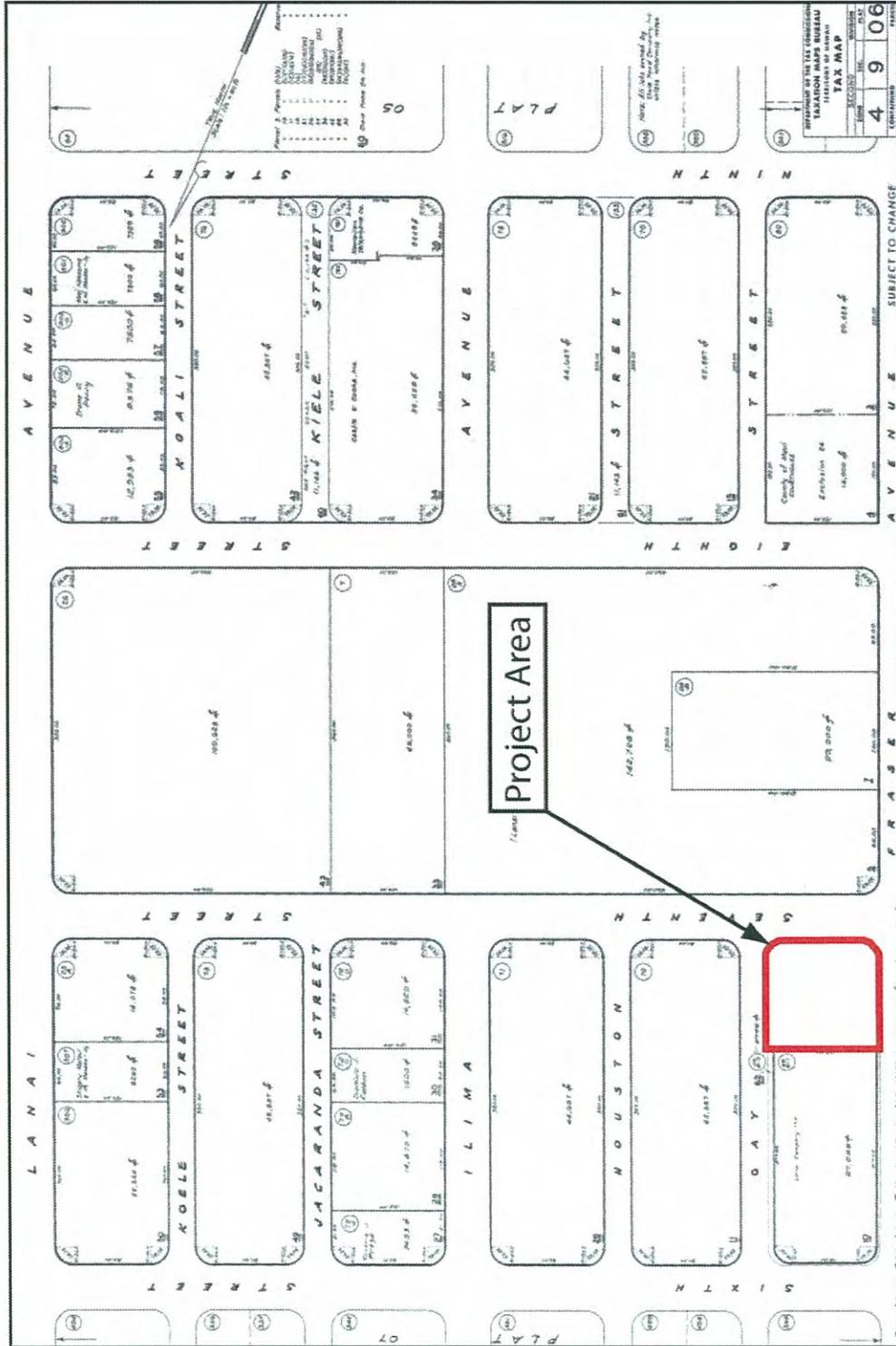


Figure 2. TMK map [TMK: (2) 4-9-06] showing the project area APE outlined in red. The center block is Dole Park.

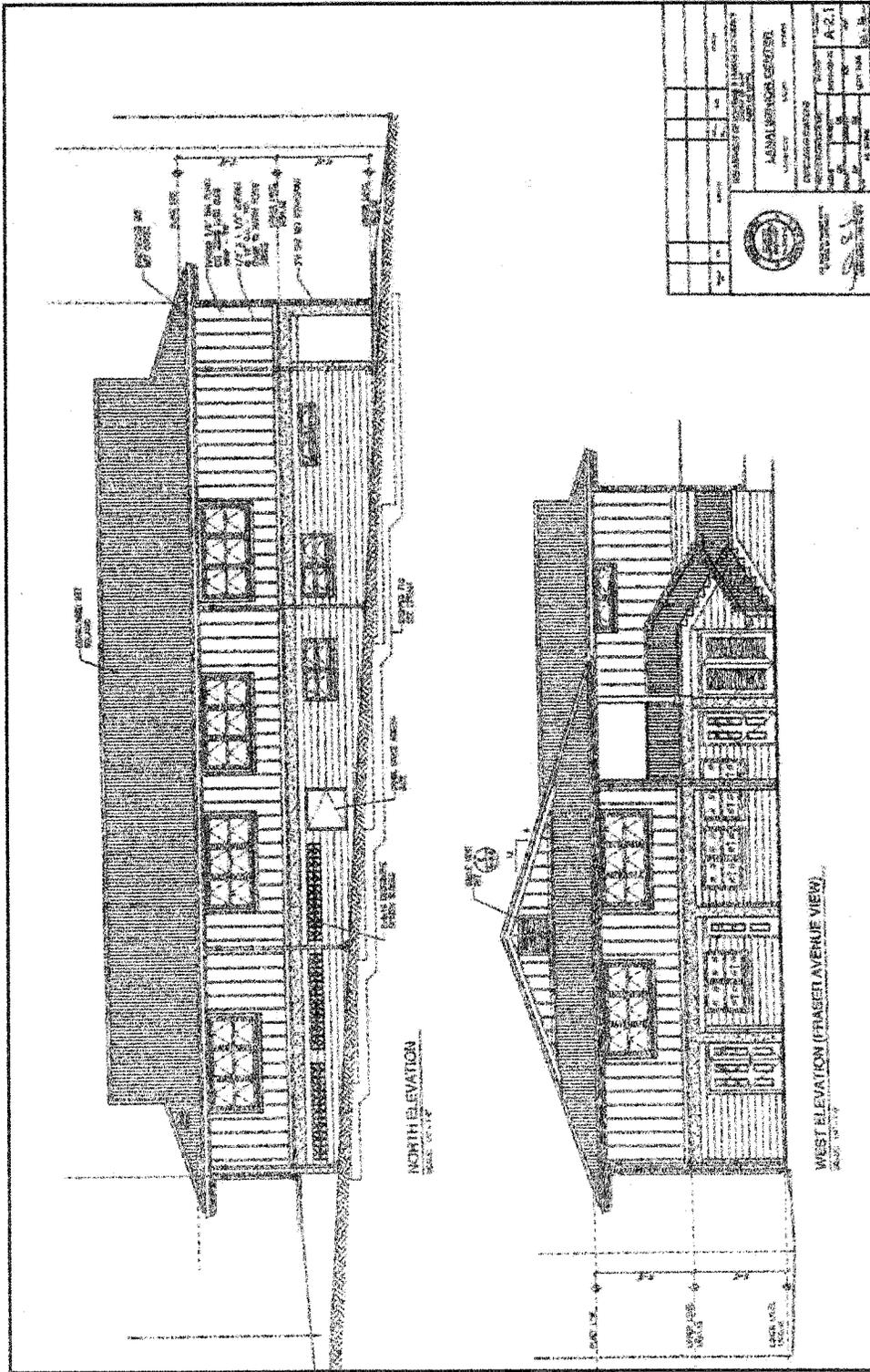


Figure 3. The design for the new senior center at Lānaʻi City by the Department of Housing and Human Concerns for Maui County. The west elevation view shows the Fraser Avenue entrance to the first floor, with a stairway access to the second-story.

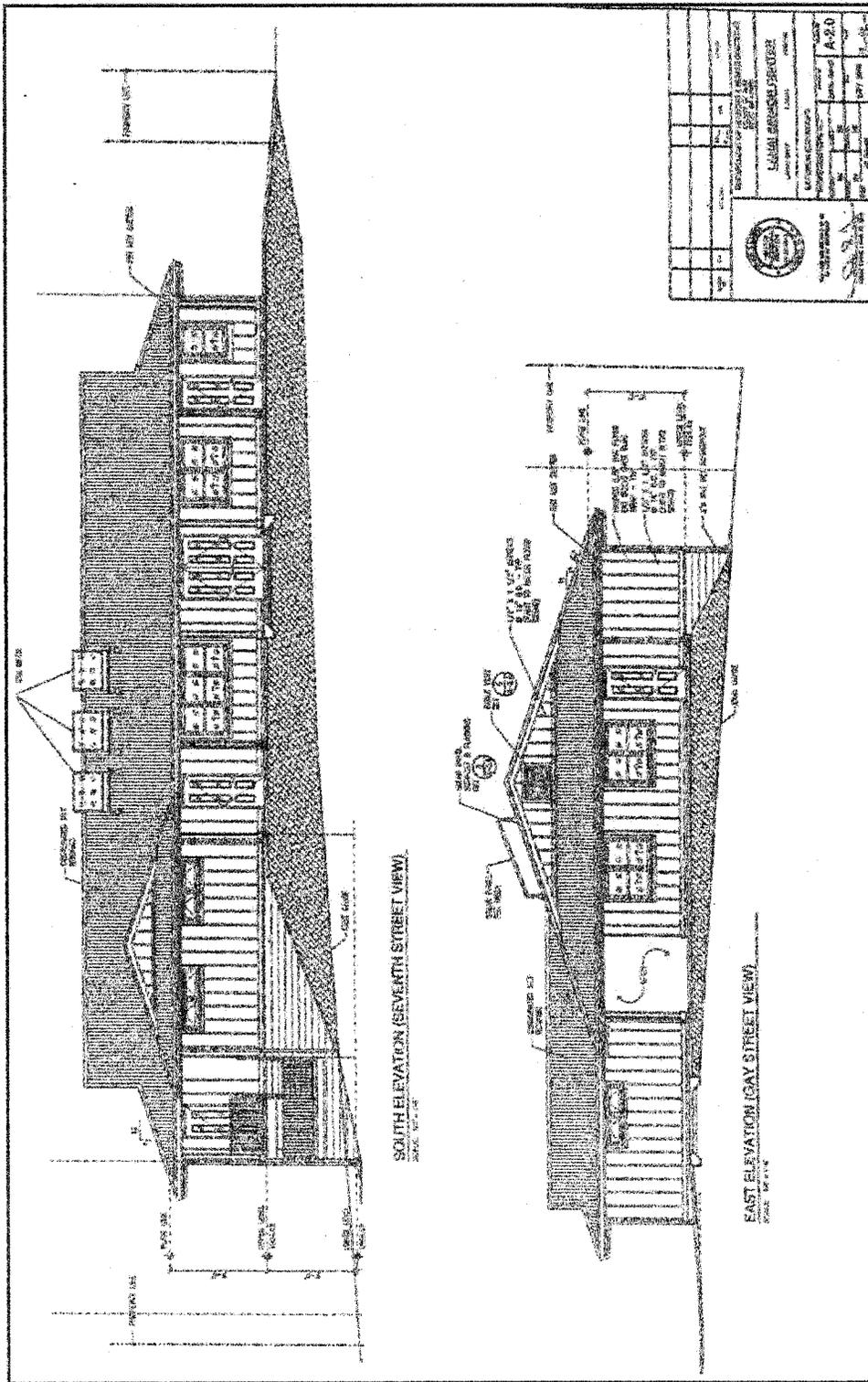


Figure 4. Street-level access to the proposed new senior center is shown in the south elevation. East elevation shows open overhang protected entryway. Design by the County of Maui Department of Housing and Human Concerns.

1.3 Environmental Setting

1.3.1 Natural Environment

The project area is situated within the central plateau region of Lānaʻi island, at an average elevation of 1,600 feet (488m) above mean sea level (amsl). Generally, the soils underlying Lānaʻi City are deep, nearly level, well-drained soils of the Molokai-Lahaina Association. This soil association is noted for fine-textured soils of the upland regions. More specifically, the sediments within the project area are Lahaina silty clay (LaB), 3 to 7 percent slopes. In a representative profile, the surface layer is about 15 inches thick, consisting of dark reddish-brown silty clay. The subsoil is 45 inches thick, is dusky-red and dark reddish-brown silty clay. The substratum is soft, weathered basic igneous rock (Foot et al. 1972:78).

Lahaina silty clay (LaB) soils are characterized by slow runoff with a slight erosion hazard. Permeability is moderate with this soil type considered good for sugarcane and pineapple cultivation. Small acreages are used for truck crops, pasture, and home sites (Foot et al. 1972:79).

Temperatures in this upland region range between 60° and 80° F. The average annual rainfall in the area ranges from 25-35 inches (699-800 mm) with the heaviest rains in January and the lightest in June. The entire island lies in the dry rain shadow of the West Maui Mountains on Maui, leaving it without a wet windward side. Winds are consistent northeasterly trades.

Vegetation within Lānaʻi City is dominated by plantings of Cook pine trees (*Araucaria columnaris*) and Norfolk Island pine trees (*Araucaria heterophylla*). These trees were introduced in the 1920's by naturalist George Munro, when the Pālāwai Basin began to be cultivated in pineapple and the master plan for housing the pineapple plantation laborers involved the layout for Lānaʻi City (Taylor 1976). Most all other vegetation in the region of Lānaʻi City is imported landscape and ornamental, with various non-native plant species, such as *ti* (*Cordyline fruticosa*) evident in the yards of most retail establishments and residences.

The landscape of the project area has been heavily modified by historic industrial and residential subdivision construction and forest clearance to develop agricultural lands. Aside from the city-wide plantings of pine trees, the northern slopes leading toward Kōʻele are also planted in introduced eucalyptus (*Eucalyptus robusta* being dominant), silver oak (*Grevillea robusta*), and various fruit trees, such as mango (*Mangifera indica*) and papaya (*Carica papaya*) (H.E.A.R. 2008). Small stands of native *kukui* (*Aleurites moluccana*) are present.

1.3.2 Built Environment

Lānaʻi City was constructed beginning in 1922, following the purchase of the island by James Drummond Dole to grow pineapple. The city of Lānaʻi (Figure 5) was constructed to provide laborer housing, stores, schools, a hospital, a library, a bank, social halls, a gymnasium, a movie house, warehouses and repair shops (Mackie 1939). The master-planned community was designed to expand as additional laborers were needed. The present project area consists of buildings, some of which appear to be original to the period during which the original construction of Lānaʻi City by the Hawaiian Pineapple Company occurred. According to the company history of Castle & Cooke by Taylor and others (1976), basic portions of the city had

been mostly completed by 1926. The outlying residential areas were built-out in single-family homes, most of them dating to the 1940's and 1950's.

The existing Senior Center is located in a portion of Lāna'i City just north of Dole Park (Figure 6 and Figure 7). The project area is located in the same block as modern residential multi-family apartment buildings, and across the street from the Lāna'i Elementary, Intermediate and High School. The original character of the Dole Park region of Lāna'i City remains as it was constructed in the years leading up to World War II, with very few modern changes visible.

With the switch from pineapple cultivation to resort hotel development in 1991, an expansion of outlying residential neighborhoods occurred, resulting in modern townhomes and single-family homes at the outer edges of present-day Lāna'i City.



Figure 5. Rural character of the commercial area of Lāna'i City, adjacent to Dole Park (right).

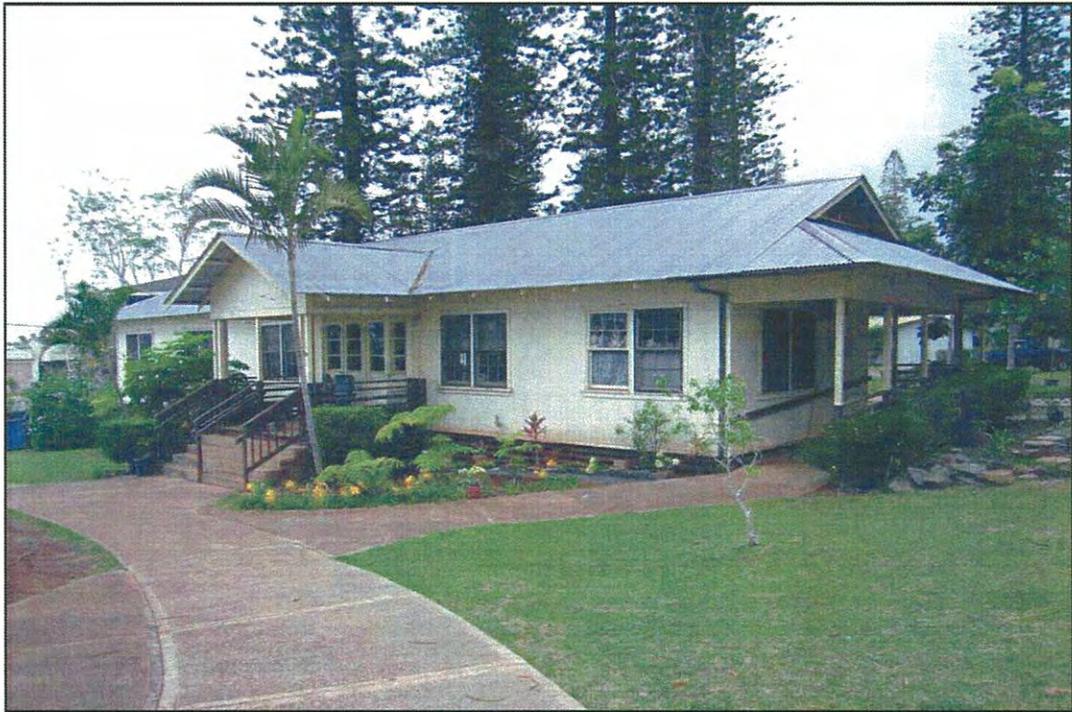


Figure 6. The Lāna'i Senior Citizens Center ground-level assisted-care access and east building addition (Solamillo et al. 2009). View to west.

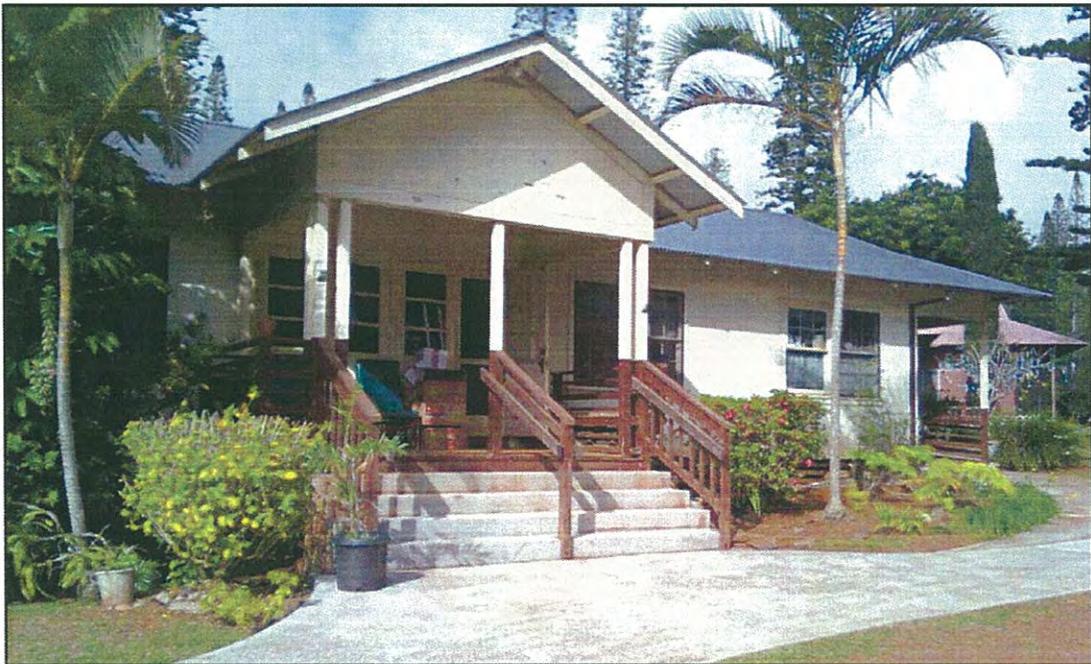


Figure 7. Stairway access, Lāna'i Senior Citizens Center (Colleen M. Dagan). View to north

Section 2 Methods

This section details the methods used by CSH personnel during the fieldwork and preparation of this cultural impact assessment. Interviews and consultation was conducted by lead researcher, Colleen Medeiros Dagan, B.S. and contributing researchers Anna Cordova, B.A.; Tanya L. Lee-Greig, M.A.; and Robert H. Hill, B.A. under the overall guidance of Hallett H. Hammatt, Ph.D. Field interviews and consultations were accomplished over a three-month period from March 2008 to June 2009.

2.1 Document Review and Research

Numerous published and unpublished accounts, surveys, reports, maps and photographs found in public and private collections pertaining to Lānaʻi City and the study area were investigated by Cultural Surveys Hawai'i Inc. English language historical documents, maps, and archaeological studies were researched at the DLNR/SHPD library, the Survey Office of the Department of Accounting and General Services (DAGS), the Maui County Planning Department, and the Cultural Surveys Hawai'i (CSH) library; in addition to private collections held by others in the community. Research regarding the history of the Hawaiian Pineapple Company was conducted using the services of the Bailey House Museum, in Wailuku, Maui. Online research regarding the present cultural landscape study for Lānaʻi Island by Kepā Maly (Maly 2008a) and the online resources of the Lānaʻi Culture and Heritage Center (Maly 2008b) were consulted for current information regarding the traditional history of the island. Online reports of meetings of the Maui/Lānaʻi Island Burial Council and Hui Mālama Pono O Lānaʻi were accessed at <http://Hawaii.gov/dlnr/meetings/Meetings> and <http://huimalama.tripod.com>, respectively. In addition, all relevant Land Commission Awards (LCA) and Royal Patents were researched using resources associated with the Waihona 'Aina online database (Waihona 'Aina Corp. 2002).

2.2 Scoping and Community Outreach

2.2.1 Government Agencies, Advisory Councils and Local Community Organizations

In order to identify individuals with knowledge of the traditional cultural practices of the area of potential effect for the proposed project as it relates to this study, CSH initiated contact with government agencies, advisory councils, and local community organizations (See Section 5 Community Consultations). Letters and project area maps showing the location of the Lānaʻi Senior Center were mailed out with the following accompanying text:

Cultural Surveys Hawai'i Inc. (CSH), is conducting a Cultural Impact Assessment (CIA) for the Lānaʻi Senior Center Project. The subject project site is located in Lānaʻi City and sits at the corners of Seventh Street to the south, Gay Street to the east and Fraser Avenue to the west. The Senior Center parcel is an approximate 14,828 square foot lot. The County of Maui, Department of Housing and Human Concerns (property owner) has applied for a demolition permit of the existing Senior Center structure and is planning to construct a new Senior Center facility

that would also include office space for the Department of Motor Vehicles and for the Department of Housing and Human Concerns.

The existing Senior Center will be demolished and a new two level building of approximately 6,000 sf. constructed. The building is situated on the sloping site so that the upper level is approximately level with the high end of the property and the lower level is approximately level with the low end of the property. The upper level will service the Senior Center and have an activity room, two craft rooms, storage, kitchen, offices, and women and men restrooms. The lower level will have a space for yard equipment storage, supply storage, bath, a public office for the Division of Motor Vehicles and an office for another Department of Housing and Human Concerns program. The lower level utilized half the area of the upper level. The upper level will be primarily for the Senior Center activities. The lower level offices will be for separate county functions, not related to the Senior Center.

The new Senior Center follows the Lāna'i City Community Design Guidelines, prepared in 1997 by the Maui County Planning Department, to retain the existing character of the neighborhood. Per the requirements of the design guidelines, a waiver for roadway and sidewalk improvements will be sought from the Engineering Dept. to allow the preservation of the existing sidewalks and roadways. The major pine trees on the site will remain in place and landscaping will follow the design guidelines

Located within the area referred to as the Lāna'i City Business Country Town, the current Senior Center facility, due to its age, is considered a historic structure. The State Historic Preservation Division (SHPD) explained that the Maui County Planning Department is currently preparing a nomination of the Lāna'i City Business Country Town to both the State and National Registers of Historic Places. Although the Senior Center was previously identified as a potential contributing structure to the nomination, the SHPD has revised its determination regarding the building's eligibility for several reasons including the building's lack of structural integrity. As a result, SHPD has recommended Historic American Building Survey (HABS) Level II documentation to mitigate the impacts of the loss of this historic building (Log No. 2008.5781, Doc No. 0901AL26).

The region of influence (ROI), hereafter referred to as the "study area", will include the *ahupua'a* of Kamoku which incorporates the proposed Lāna'i Senior Center project site. The cultural impact assessment will also focus on the cultural significance of the Senior Center itself noting the cultural activities that are held there and those individuals who currently use the Senior Center.

The purpose of the cultural impact assessment is to identify and evaluate any potential impacts to traditional cultural practices occurring within the ROI that may result from the proposed project.

We are seeking your *kōkua* or help and guidance regarding the following aspects of our study:

- General history and present and past land use of the study area.
- Knowledge of cultural resources within the project area which may be impacted, including traditional plant gathering sites, historic sites, archaeological sites, and burials.
- Knowledge of traditional gathering practices in the area – both past and ongoing.
- Cultural associations of the project area, such as legends and traditional uses.
- Referrals of *kūpuna* or elders who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua'a* lands.
- Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the Kamoku Ahupua'a.

I invite you to contact me, Colleen Medeiros Dagan B.S., at 1-808-242-9882. You may also contact me by e-mail at cdagan@culturalsurveys.com if you have any information or *mana'o* that you are willing to share.

Section 3 Background Research

The division of Lāna'i's lands into political districts may have occurred under the direction of the chiefs of Maui, as Lāna'i appeared historically to be "subject or tributary to Maui" during the times of Kamalalawalu (about 1550-1600 AD) (Fornander 1916: 424, 1919:206-8). Moffat and Fitzpatrick (1995:23) explain that while Lāna'i was sometimes considered a *mokupuni* or division of land surrounded by water, in other instances Lāna'i was noted as a *kālana* or division of land that was smaller than a *moku* (district) and subordinated to one of the *moku* of Maui Island.

This political position of Lāna'i would play a role in the political aspirations of the Maui and Hawai'i Islands chiefs and the warfare tactics they employed. The boundaries of the present project area *ahupua'a* of Kamoku are traditional, though refined by surveyors employed by the Kingdom of Hawai'i beginning in the 1850's. The *ahupua'a* of Kamoku (**Figure 8**) is bounded by the mountainous region of Lāna'i to the northeast, and by the ocean to the southwest.

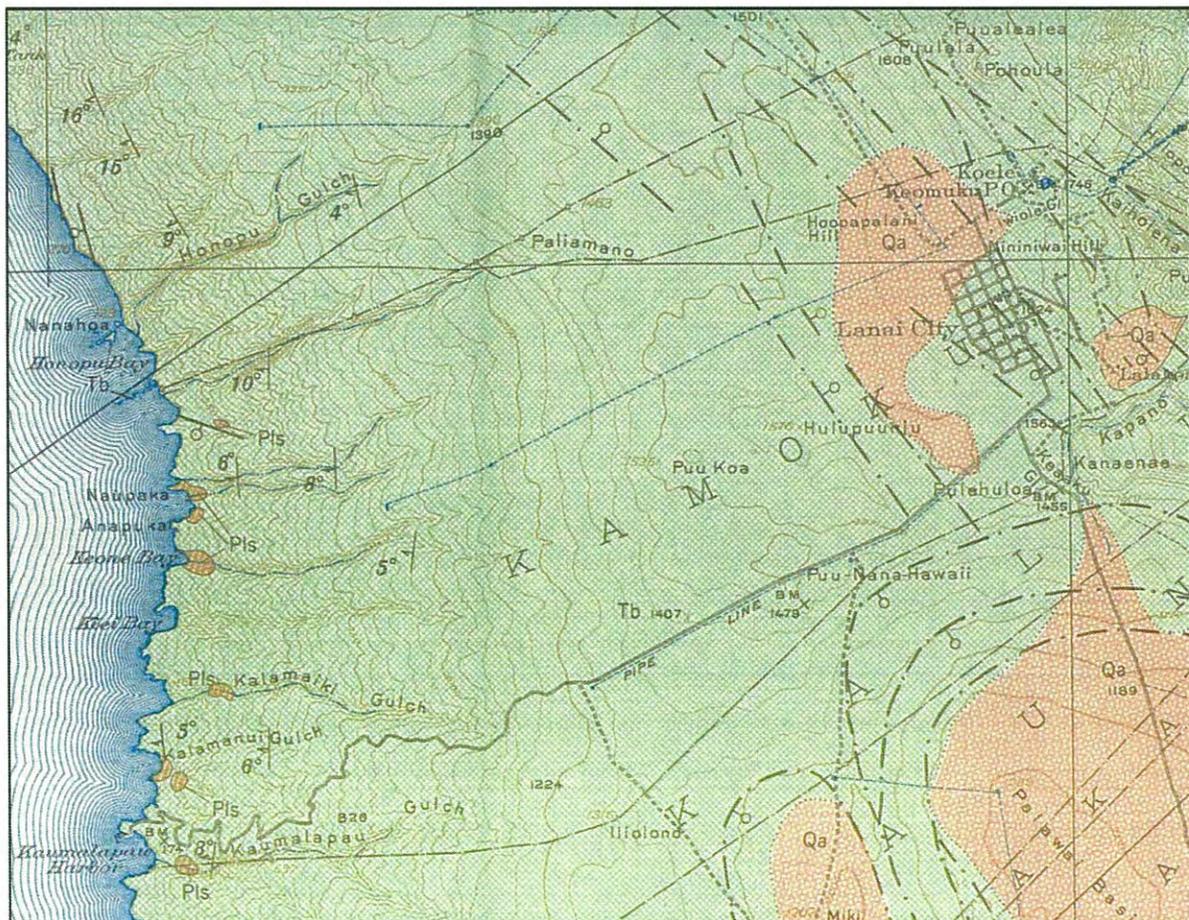


Figure 8. The portion of Kamoku Ahupua'a, showing the location of Lāna'i City in its easternmost (right) upland portion (Stearns 1942:Plate 1).

3.1 Traditional and Historical Background

3.1.1 Traditional Accounts

While the mythological and traditional accounts of the upland areas of Lāna'i are relatively scarce, an analysis of place name meanings may yield some insight into the patterns of life in an area (**Error! Reference source not found.**). Literal translations of several of the place names for land areas and divisions within the project area are listed below. Most all translations are taken from Pukui et al. (1976), Emory (1924a), Fornander (1916-1920), and Kalākaua (1888). Maly (2008a) notes that the proliferation of place names in the region points to a "viable native presence on the island of Lāna'i in traditional times."

Table 1. Kamoku Ahupua'a - Place Names Near Lāna'i City

Kamoku	<i>Lit.</i> , the district or the cut-off portion (Pukui et al. 1976:82); the piece cut off (Emory 1924:31)
Kō'ele	<i>Lit.</i> , dark sugar cane (Pukui et al. 1976:114); Place seized by a chief (Emory 1924:33)
Hulupu'unui	Whirling feather hill (Emory 1924:30)
Hokuao	Morning star (Emory 1924:29)
Makapaia	Enclosed eyes (Emory 1924:34)
Pu'u Nana o Hawai'i	Hill to view Hawai'i (Emory 1924:36)
Keaaku	The standing root (Emory 1924:32)
Pulehuloa	Big roasting (Emory 1924:36)
Kaumaikahoku	The stars are out (Emory 1924:32)
Kaiholena	The iholena banana (Emory 1924:31)

The above place names, together with the environmental data, suggest that the lands of the central plateau basin were productive agriculturally and of great traditional significance. Hawaiian place names typically tell the story or significance of an area. Three place names, located west of the city, may give some insight as to how this place was utilized in traditional times. These place names include Hōkūau, Kaumaikahōkū, Pu'u nānā i Hawai'i.

Hōkūau is located west of the city, in the fallow pineapple fields. Hōkūau translated means "morning star" and is located on plateau lands (Emory 1924: 29). It is further described as the name given to Venus when seen in the morning (Elbert and Pukui 1986:76). Possibly, this was a good spot from which to view Venus just before dawn. Kaumaikahōkū is located approximately one half mile south of Lāna'i City. Its name means "The stars are out". Emory notes that this name describes the normally cloudless skies above this place (1924: 32). Approximately two miles west of Kaumaikahōkū, is Pu'u nānā i Hawai'i. This would be the "Hill to view Hawai'i" (Emory 1924:36). From this place, it appears that one might have a view of Hawai'i to the southeast. These three place names seem to indicate that these specific upland areas were excellent viewing vantage points.

In this region of the island of Lāna'i, gulches, ridges, hilltops and other terrestrial landmarks were given descriptive names, some referring to heroic characters of Hawaiian mythology, and

others suggestive of actions which could be accomplished (i.e., the sighting of the island of Hawai'i) from its' promontory. The upland plateau region was of great importance, both in terms of habitation and subsistence during the traditional or pre-contact time period, as well as an area somewhat sheltered from coastal raiding parties from other islands.

Emory (1924a: 122) estimated the aboriginal population of Lāna'i as about 3,150 prior to 1778. He stated that the inhabitants of Lāna'i survived by collecting dew on "oiled *tapas* or whipped from heavy shrubbery." Water that accumulated in natural depressions was husbanded carefully, and a few wells were dug along the coast and were "plastered on the seaward side with mud and straw" to stop the infiltration of sea water. Emory stated that the water derived from these wells was brackish, but usable by the Hawaiians because they had become accustomed to the salinity. He further postulated that survival along the leeward coastline also depended on Hawaiians visiting small springs in the distant hills, and carrying water in gourds back to the coast.

In 1778, only months before the arrival of Captain James Cook and his discovery of the Sandwich Islands, a raid by Hawai'i chief Kalaniopu'u "ravaged the island of Lanai thoroughly" (Fornander 1880:157). The battle between the forces of Kalaniopu'u and those of Maui chief Kahekili were concentrated along the north coast of Lāna'i. The Lāna'i chiefs, unable to oppose these forces, retreated into the upper recesses of Maunalei, where they were killed. The army of Kalaniopu'u destroyed food crops across the entire island and cut down and burned forests. Historian Samuel Kamakau (1992) reported the *ahupua'a* of Ka'ōhai was the most severely damaged during this warfare.

John E. Dockall (Dockall et al. 2004) authored an archaeological assessment report for the Hi'i Flats region which straddles both Keālia Kapu and Keālia Aupuni Ahupua'a. In this report, he cites both Handy *et al.* (1972) and Emory (1924a), stating that Lāna'i was known for widespread planting of sweet potatoes. In fact, the distribution of planted sweet potatoes followed the geographic distribution of settlements. Handy and colleagues also noted that the island had ample good land for growing sweet potatoes but that the most serious limitation was drinking water.

Dockall and others (2004) postulated that the main reason that taro agriculture on Lāna'i was so difficult was related to stream capability. The island had only two small stream systems that were capable of providing enough water for taro irrigation (Handy *et al.* 1972). Maximum elevations on the island also are a limiting factor in the amount of rainfall that occurs. This rainfall was traditionally suitable for sweet potato and later for pineapple but not for sustained irrigation and cultivation of taro as a significant portion of the diet. The authors also noted that there was apparently much breadfruit planted on Lāna'i but there are few direct indicators of the areas that were so planted. Kamakau (1992) stated that the *Pālāwai* or bottomlands were most suitable for the cultivation of sweet potatoes due to the richness of the soil.

This brief overview of legendary and traditional accounts indicates the particular importance attributed to the northern coast of Lāna'i during pre-contact Hawai'i. The accounts do not specifically state but do suggest that the productivity of the northwestern coastal area, in terms of fish resources, is the main reason for its desirability. The productivity of the ocean allowed direct access to fish protein for the *ali'i* (chiefly class) who resided at villages along the northwest coastal areas.

3.1.2 Mythological Accounts

3.1.2.1 *The Story of the 'Ōhelo*

The "Story of the 'Ōhelo", as translated from the original Hawaiian by Abraham Fornander (1919), describes the origin of the sacred offering of 'ōhelo to the goddess Pele, and the importance of Lāna'i Island in the telling of the story. According to Fornander, the many sisters of Pele followed her east from Tahiti across the Pacific Ocean. As Malulani, Kaohelo, Hi'iaka, and Pele arrived at the Hawaiian Islands, Malulani choose Lāna'i to dwell on, while Pele, Kaohelo, and her younger sisters traveled on to the island of Hawai'i.

Kaohelo had a son named Kiha, who was given instructions by Kaohelo as she neared death where she should be buried. "Take my body to the very navel of your grandmother, right on top of Kīlauea; then bury me there." This her son did. The flesh of Kaohelo became the creeping vine and her bones became the bush-plant of the 'ōhelo. Her head was treasured by Pele as the smoldering fire of Kīlauea. The remainder of her body brought volcanic fire to Haleakalā on Maui, Keālia on Oahu, and also to Kaua'i.

When Malulani, living on Lāna'i, heard of the death of their youngest sister, she went to Hawai'i to retrieve her body, but found that small pieces of her body were strewn across the landscape sprouting into vines and bushes of the 'ōhelo. She gathered as much of her sister's remains as she could, but upon returning to Lāna'i, was surprised to find the pieces of Kaohelo's body had been strung as leis and worn as adornment. Saddened by this, Malulani died.

Hi'iaka then came to Lāna'i to recover the body of Malulani, whereupon small bundles containing her remains were scattered across the island of Hawai'i, causing small hills and islets to remain to this day. In this way, the island of Lāna'i is part of the legend of how the 'ōhelo came to be spread across the islands of Hawai'i, and why the 'ōhelo is the special sacred offering to Pele (Fornander 1919, V, III: 576-580).

3.1.2.2 *A Lamentation for Young Kaahumanu*

The place name Halulu, a *heiau* on the southwestern coast of Lanai, was said to have been used by Kamehameha I to about 1810, after which he spent most of his remaining life on the island of Hawai'i. Based on the research of Fornander (1920:451), "A Lamentation for Young Kaahumanu," was a chant composed for the favorite queen of Kamehameha I at her death. She was eulogized as having a soul that flew as a bird. In this chant, performed by her bereaved husband, Kaumuali'i, the soul of Ka'ahumanu was said to have a spirit guide to heaven in the form of Halulu: a fabled bird whose head feathers were said to have adorned noted idols, and who was supposed to have answered the prayers of faithful devotees by fluttering, or by rising and falling, in answer to the good or ill wishes of the prayers sent to him.

3.1.2.3 *Fallen is the Chief (A Prophecy of the Overthrow of the Kingdom by Kamehameha)*

In a chant composed to commemorate to uniting of all of the Hawaiian Islands under the rule of Kamehameha I, the fabled bird Halulu is again given a prominent part in the story. The feather of Halulu adorned the brow of Kaili, the god of war that Kamehameha was granted custody to by his father. Fornander (1920:381) noted that the chant described how Kamehameha worshipped Halulu, and that, "when the feather sprung up in the forehead of the idol, the people thought it

was a sign of ability to conquer; *o ka makia o Kamehameha*: that which fastens together, or holds together the islands.”

3.1.2.4 The Ghosts of Lāna‘i

The northern coastal place name of Laewahie refers to the point on Lāna‘i where Kaululā‘au built a signal fire to the people of Lahaina. Fornander (1918:542) recorded the story of Kaka‘alaneo, the chief of all of West Maui. His son, Kaululā‘au, grew up as a boy involved in great mischief. Because he uprooted the sacred breadfruit grove of Lahaina, his father had no choice but to banish his son to the uninhabited island of Lāna‘i. At that time, Lāna‘i was the abode of ghosts, and Kaululā‘au was sent there to be killed by them. Tabrah (1976) notes the many tricks the ghosts tried to use to murder Kaululā‘au, and her account notes the location of the signal fire to the people of Lahaina after he had defeated all of the ghosts of the island as Naha, located in the *ahupua‘a* of Kaohai. (The literal translation of Kaohai is “firebrand.”) Kalākaua (1888:212, 230) records the legend of Kaululā‘au conquering the ghosts of Lāna‘i in two separate stories, one of which details his fight with the *Mo‘oaleo*, a lizard god of the island as the most difficult of the ghosts to overcome. He does not give the location of the signal fire used by Kaululā‘au. (There is a village named Kaululā‘au on the coast of Pawili Ahupua‘a.) The legend ends with Kaululā‘au being reunited with his father, mending his mischievous ways, and opening the island of Lāna‘i for settlement.

3.1.3 Early Historic Period

Lāna‘i was first seen by Captain James Cook during his voyage to the Sandwich Islands in January and February of 1779. The expedition had returned to the Hawaiian Islands in order to resupply following many months of mapping the west coast of America (Ellis 1969). William Ellis, Assistant Surgeon to the expedition, noted the first time that the ships *HMS Resolution* and *Discovery* sighted “*Aranni*” [Lāna‘i], as the ships made their way past “*Kaaowr`vee* [Kaho‘olawe] nearly adjoining to Mow`whree” in 1779. It was during this voyage that Ellis went on to describe Lāna‘i as an island under the dominion of the king of Maui (Ellis 1969: Vol. 2, 187). The previous January, 1778, Kaua‘i and Ni‘ihau had been discovered and visited by Cook’s expedition as the two ships had been making for the west coast of America from French Polynesia (Ellis 1969, Vol.1: 167).

An account of a shipwreck on the northwestern reef of Lāna‘i in the late 1820’s was detailed by an American Navy Lieutenant, Hiram Paulding, when his ship, the U.S.S. *Dolphin*, arrived to aid the survivors of the “*Loudon*”, a ship out of New York. Paulding recorded that the chief of Lāna‘i was “encouraging the natives of the island to plunder the *Loudon*, which carried a large amount of specie and bullion.” The account continued with the captain of the U.S.S. *Dolphin*, John Percival, chartering a vessel and saving the treasure with the intervention and aid of Boki, the governor of O‘ahu (Paulding 1831).

During the early and middle 1800s, the Hawaiian demography was affected by two dramatic factors: radical depopulation resulting from Western disease and nucleation around the developing port towns. The traditional Hawaiian population was largely dispersed and, although there were royal centers and areas of more concentrated population, these areas never came close to rivaling the populations of the historic port towns that developed on Hawai‘i’s shorelines

during the 1800s. In this regard, Kuykendall (1938:313) notes that in the period from 1830 to 1854:

The commercial development during this period, by magnifying the importance of a few ports, gave momentum and direction to a townward drift of population; the population of the kingdom as a whole was steadily going down, but the population of Honolulu, Lahaina and Hilo was growing.

By the 1830's, Protestant missionaries sent to the Sandwich Islands from the east coast of America were reporting having established a thriving congregation on Lāna'i. Letters written by missionaries to the American Board of Commissioners for Foreign Missions in 1830 listed 10 schools on Lāna'i Island attended by 506 students. Of these students, the missionaries reported that 206 could read, and 42 could write (Richards 1831).

On September 20th, 1845, Reverend Cochran Forbes left Lahaina at sunrise for "Ranai 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" (Forbes 1864). Forbes landed at Kaunolū, where he described a Protestant meeting house. Forbes and Reverend Dwight Baldwin preached to a congregation of about 125 persons, which grew to 180 for Sunday services. Monday morning the two missionaries went by canoe to Maunalei, "the place of the teacher Waimalu."

Forbes and Baldwin then hiked to the upper plateau. "After we had crossed the ridge the soil became better and vegetation more lively. There was 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." Forbes wrote, "Pali the Lunauhau 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 and eight years old had read the Bible through. He also gave us a list of all the men - the women & children in 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" (Forbes 1864).

Forbes commented that the air 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, who teaches a school and is Lunahanawai for the whole island." By dark, the two missionaries had reached Kaohai, "where Pia had the people of all that neighborhood assembled under some *koa* trees at his door." The two missionaries returned to Maui by whaleboat. "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 Lahaina safely before 12 o'clock" (Forbes 1864).

3.1.4 Mid- to late-1800s

The most significant change in land-use patterns and allocation came with The Great Māhele of 1848 and the privatization of land in Hawai'i. This action hastened the shift of the Hawaiian

economy from subsistence-based to market-based. During the Māhele, all of the lands in the Kingdom of Hawai'i were divided between *mō'ī* (king), *ali'i* and *konohiki* (overseer of an *ahupua'a*), and *maka'āinana* (tenants of the land) and passed into the Western land tenure model of private ownership. On March 8, 1848, Kamehameha III further divided his personal holdings into lands he would retain as private holdings and parcels he would give to the government. This act paved the way for government land sales to foreigners, and in 1850 the legislature granted resident aliens the right to acquire fee simple land rights (Moffat and Fitzpatrick 1995: 41-51).

Native Hawaiians who desired to claim the lands on which they resided were required to present testimony before the Board of Commissioners to Quiet Land Titles. Upon acceptance of a claim the Board granted a Land Commission Award (LCA) to the individual. The awardee was then required to pay in cash an amount equal to one-third of the total land value or to pay in unused land. Following this payment, a Royal Patent was issued that gave full title of ownership to the tenant. By 1850, the government of Hawaii offered land for sale to both Native Hawaiians and foreigners. Such lands when purchased were referred to as Royal Patent Grants or as Land Grants.

Native land transactions within the Kamoku Ahupua'a were recorded soon after the terms of the Great Māhele became law. Five small Royal Patent Grants representing four LCA tracts were sold to native families, beginning in 1848. Land use terms, such as whether portions of the lands included areas of pasturage, types of crops cultivated, house lots, paths, roads, and appurtenant streams were mentioned in some of the Royal Patent Grants (Table 2).

One vast Royal Patent Grant (R. P. 5011) was issued in 1907 to Walter M. Giffard, within which the lands of Kama'o, Kalulu, Kamoku, Keālia Paoma'i, Kaunolū, Mahana and Pāwili Ahupua'a, not subject to claim as Land Commission Awards, were transferred in fee simple. With specific reference to Kamoku Ahupua'a, the language of Land Patent 5011 mentions a number of landmarks within the metes-and-bounds property description. The Ili o Lono Heiau is described as, "along [the boundary of] Kalulu to a cross cut in a stone amongst a lot of stones at the former site of an old Heiau called Ilio Lono." A water hole within Kalulu Valley is named Kaiholena, and "an old house site" is mentioned along the *ahupua'a* boundary with Paoma'i.

Table 2 Land Commission Awards within Kamoku Ahupua'a. Translations provided by the Waihona 'Aina Corporation (Waihona 'Aina 2002).

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
4800	10630	Pali, Na	Helu 10630, Pali, Kamoku, Native Testimony 13:259 Lanai, July 10, 1851. Poupou, Sworn. I know his Parcels of land in the <i>Ahupuaa</i> of Makaliilii, Kulelelua, Iwiolo and the 2 Aumoku on Lanai. They are	Helu 10630, Pali, Kamoku, Māhele award Book 7:222. One Parcel. Beginning at

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
			<p>combined into one, being several <i>moku mauu</i> (grass land/ pasture sections), sweet potato and gourd fields.</p> <p>The boundaries are thus. <i>Mauka</i>, land of <i>Konohiki</i>. <i>Kamaiki</i>, land of <i>Kaauaeaina</i>. <i>Makai</i>, land of <i>Konohiki</i>. <i>Kaeana</i>, Alanui (Road).</p> <p>He received his land from M. Kekauluohi in the year 1839, and has resided there peaceably to this time. No one has objected, and he is the Overseer of these lands. Keawe, Sworn. All the words above are true. My knowledge is the same.</p> <p>Translation by Maly (2009)</p>	the western corner and running....112 Acres, 1 Rood, 23 Rods.
8429	10029	Oapolo	<p>Helu 10029, Oapolo, Mahana, Native Testimony 13:281-282</p> <p>Kawaaiki, Sworn. I know his Parcels of land at Mahana, Lanai. 2 Parcels of land.</p> <p>Parcel 1. - 1 <i>Kulana hale</i> (house complex) and <i>mahina ai</i> (cultivated field) in the <i>ili</i> of "Kuahua."</p> <p>Parcel 2. 1 cultivated section of the <i>ili</i> of "Kuahua."</p> <p>Parcel 1 is thus.</p> <p><i>Mauka</i> land of <i>konohiki</i>, <i>Maunalei</i>, land of <i>Kalawaia</i>. <i>Kaena</i> and all about, land of <i>Konohiki</i>.</p> <p>Parcel 2. The boundaries are thus. <i>Mauka</i> and all about, land of the <i>Konohiki</i>. -</p> <p>Translation by Maly (2009)</p>	<p>Helu 10029 Māhele Award Book 7:213</p> <p>Two Parcels. Parcel 1 has been abandoned because it was not cultivated. Parcel 2...1 Rood, 12 Rods.</p>
6159	06833	Kaaiiai	<p>Helu 6833 Native Testimony 13:272-273</p> <p>Pali, Sworn. I know his Parcels of land at Kalulu, Lanai. 3 Parcels of land in the <i>ili</i> below.</p>	Helu 6833 Māhele Award Book 7:215.

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
			<p>Parcel 1. 1 <i>moku mauu</i> (grass/pasture section) of the <i>ili</i> of "Ahupau." Parcel 2. 1 <i>moku mauu</i> in the <i>ili</i> of "Elialii." Parcel 3. House lot [illegible – in the <i>ili</i> of] Kamoku.</p> <p>Parcel 1. The boundaries are thus. <i>Mauka</i>, land of Keie. Kamaiki, <i>Ahupuaa</i> of "Kaunolu." <i>Makai</i>, land of Kaukapala. Kaena, <i>ili</i> land of Kamoku. Parcel 2. The boundaries are thus. <i>Mauka</i>, land of Maawe. Kamaiki, land of Konohiki. <i>Makai</i>, the same. Kaena, <i>ili</i> of Kapano. Parcel 3. The boundaries are thus. <i>Mauka</i> and all about, land of <i>Konohiki</i>.</p> <p>He received these Parcels of land from his parents in the year 1840, and his parents received them from Daniela Li. He has resided there peaceably to this time. No one has objected.</p> <p>Kawaaiki, Sworn. All the words are true. My knowledge is the same.</p> <p>Translation by Maly (2009)</p>	<p>Three Parcels.</p> <p>Parcel 1. There in the <i>ili</i> of Ahupau...6 Acres, 3 Roods, 10 Rods.</p> <p>Parcel 2. There in the <i>ili</i> of Elialii... 7 Acres, 3 Roods, 17.8 Rods.</p> <p>Parcel 3. There in the <i>ili</i> of Kamoku...5 Acres, 3 Roods, 2 Rods.</p>
5011		Walter M. Giffard	<p>Certificate of the Boundaries of the Land of Kamoku Commencing at a pile of stones over a cross cut in a large stone on South side of Kaumalupau Harbor on edge of gulch. The Boundary runs:</p> <ol style="list-style-type: none"> 1. North 86° 27' East 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. North 88° 46' East 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. North 84° 40' East true 2594 feet along 	8,291.09 acres

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
			<p>Kalulu to head of gulch. Thence</p> <p>4. North 72° 43' East 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 Ilio Lono. Thence</p> <p>5. North 46° 19' East true 1041.4 feet along Kalulu up road to a point a little North of a cactus clump marked by two Triangular pits.</p> <p>6. North 65° 44' East 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 Kealiihunani's house.</p> <p>7. Thence along Kalulu down across a small ravine (coming in from the North called Keaaku) to Government road and up the Northwest edge of the Kapano valley, passing near Kawaonahale's house [Page 470] to a point on ridge marked with four triangular pits and ditch thus [diamond with circle inside, with four points marked by small triangles with points toward diamond]; said point being a little East of Puunene and bearing North 44° 53' East true 8052 feet from above mentioned red wood post. Thence</p> <p>8. North 45° 49' East true 1067.9 feet along Kalulu across valley passing to the Southeast of a water hole, called Kaiholena to a red wood post on ridge that comes down from the central mountain range, Thence</p> <p>9. North 62° 37' West true 6742.5 feet along Paomai down above mentioned ridge and across valley on to a small ridge and down said ridge to a red wood post at end of same,</p> <p>10. South 84° 37' West true 1316.8 feet along Paomai to a cross cut in a stone.</p> <p>11. South 74° 8' West true 6258 feet along Paomai passing to the North of a couple of <i>Hala</i> clumps to two Triangular pit [sic? pits] at</p>	

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
			<p>an old house site.</p> <p>12. South 74° 51' West true 5045 feet along Paomai to a cross cut on a stone at head of gulch.</p> <p>13. North 86° 6' West true 1368 feet along Paomai down South side of gulch.</p> <p>14. South 83° 45' West true 1455 feet along Paomai to a cross cut in a stone.</p> <p>15. South 74° 9' West true 920 feet along Paomai.</p> <p>16. North 55° 12' West true 898 feet along Paomai across gulch to a red wood post a little West of a cactus clump. (Here ends the Crown land of Paomai) Thence 17. South 65° 58' West true 1617 feet along Kaa down North side of gulch to a cross on a stone.</p> <p>18. South 64° 57' West true 2040 feet along Kaa down North side of gulch to a cross on a stone. Thence 19. South 70° 33' West true 3590 feet along Kaa to a point 10 feet East of a large rock with cross cut on it. Thence 20. South 68° 53' West true 1664 feet along Kaa to sea shore. Thence 21. South 1° 55' West true 13460 feet along sea shore to point of Commencement Area 8291.09 Acres.</p>	
3029		Nahuina and Keliihue	<p>Apana 2 –</p> <p>'ili of Kaumalopau, within Kamoku, beginning at the northeast corner:</p> <p>North 52¼° West 415 links along the government land</p> <p>North 44° West 2144 links to Molohi's land</p> <p>South 32½° West 4664 links to Molohi's land</p> <p>South 43° East 2320 links along the government land</p> <p>North 29° East 2540 links to the 'ili of Pueo</p> <p>North 43¼° East 2200 links to the 'ili of Pueo</p> <p>103.58 acres</p> <p>Excepting the <i>kuleana</i> of a native.</p> <p>September 12, 1866</p>	103.58 acres

Royal Patent Number	Land Commission Award Number	Claimant(s)	Award Type	Acreage
5137	08556	Kaauwaeaina	<p>Helu 8556, Kaauwaeaina, Maunalei, Kalulu and Kamoku. Native Register 6:468</p> <p>Lanai Feb. 7, 1848. Greetings Commissioners who Quiet Land Titles. I have three <i>loi</i> (taro pond fields) at Maunalei. Here are other claims of mine, several <i>moku mauu</i> (grass land/ pasture sections) at Kalulu, and a <i>pauku</i> (planting section) at Pueo. By Kaauwaeaina.</p> <p>Helu 8556, Native Testimony 13:265.</p> <p>Kawaaiki, Sworn. I know his Parcels of land on Lanai. They are in the <i>ili</i> and <i>Ahupuaa</i> below. 3 Parcels.</p> <p>Parcel 1. 3 <i>lo'i kalo</i> (taro pond fields) in the <i>ili</i> of Ainaiki, Maunalei <i>Ahupuaa</i>.</p> <p>Parcel 2. 1 <i>moku mauu</i> (grass land/ pasture section) in the <i>ili</i> of Kapano uka, Kalulu <i>Ahupuaa</i>.</p> <p>Parcel 3. <i>Pauku</i> land in the <i>ili</i> of Pueo, Kamoku <i>Ahupuaa</i>.</p> <p>Parcel 1. The boundaries are thus. <i>Mauka</i>, my land. Kaena and all about, land of <i>Konohiki</i>.</p> <p>Parcel 2. The boundaries are thus. <i>Mauka</i> and all about, land of <i>Konohiki</i>.</p> <p>Parcel 3. The boundaries are thus. <i>Mauka</i> and all about, land of <i>Konohiki</i>.</p> <p>He received Parcel 1 from Kawaaiki in the year 1844. Parcel 2 from his parents in the time of Kamehameha II. Parcel 3 from his parents in the time of Kamehameha I. He has resided there peaceably to this time. No one has objected. I, Kaliliamoku, Sworn. All the words above are correct. My understanding is exactly like that as spoken by Kawaaiki.</p> <p>Translation by Maly (2009).</p>	<p>Helu 8556 Kaauwaeaina Kalulu and Kamoku Māhele Award Book 7:212</p> <p>There in the <i>Ahupuaa</i> of Kalulu and Kamoku, Lanai.</p> <p>Parcel 2. There in the <i>ili</i> of Kapanouka... 1 Acre, 0 Roods, 35 Rods.</p> <p>Parcel 3. There in the <i>ili</i> of Pueo... 38 Acres, 2 Roods, 12 Rods.</p>

There are four LCA in the immediate vicinity of the project area, they include LCA 3719 to Kalaihoa, LCA 6833 to Kaaia, LCA 8556 to Kaauwaeaina and LCA 10630 to the Noa Pali. These claims consisted of *moku mauu* (grass lands or pastures), sweet potato plots and gourd fields. Pali was the *konohiki* of the area and his LCA extended into neighboring Kalulu and Kaunolu ahupua'a. Munro mentions the probable crops in these areas to have been taro, sweet potato and yams (Munro 2007: 47)

Walter Murray Gibson, arriving in Honolulu as a representative of the Mormon Church on the 4th of July 1861, came to the Sandwich Islands with the idea of converting islanders to that religion. Gibson learned of large tracts of land available for pasturage on the island of Lāna'i, and leased "Crown Lands" (lands reserved by the Royal Family of Hawaii during the Great Māhele of 1848) from King Kamehameha III for the raising of sheep and for other agricultural purposes. The authorities of the Mormon faith from Salt Lake, Utah, pressed Mr. Gibson to deed his property interests on Lāna'i to the Church. By 1864, W. M. Gibson was cut off from the Mormon Church for his refusal to comply, and much of his interest in real property involving the *ahupua'a* of Pālāwai, Keālia Aupuni, Keālia Kapu, Pawili, Kāma'o, Ka'ā, and Kaohai was inherited by his daughter, Talula Lucy Hayselden (Tabrah 1976).

The descendants of the family which had purchased the island of Ni'ihau from the Kingdom of Hawai'i in 1864, the Gay family, now set their sights on acquiring a majority of the property of the island of Lāna'i. In 1902, Charles Gay purchased the former Walter Murray Gibson estate lands at auction, and in 1903, bought out the Hayselden properties. He then purchased the *ahupua'a* lands of Ka'ā and Kaohai from the Crown Land holdings of Princess Ruth Keelikolani. Charles Gay moved his family into the Gibson-built ranch house in Kō'ele, and made plans to purchase the eight remaining *ahupua'a* then still under government control. A legal battle and a three-year drought forced Charles Gay to sell all of his property on Lāna'i to a consortium of ranchers from Honolulu (Tabrah 1976). Ranching on the island was barely profitable. The Baldwin family, Maui's most famous ranchers, could not find a way to gain a profit from the island. In 1920, the Baldwin-owned Lanai Ranch Company brought 12 Asian chital deer (*Axis axis*) to Lāna'i from Moloka'i, where good hunting ranges had been established for sportsmen (Graf and Nichols 1966). Despite these efforts, ranching was abandoned.

3.1.5 Early to Mid-1900s

Botanist J. M. Lydgate, visiting Lāna'i with an expedition to obtain rare specimens of trees and flowering plants, reported that 40 continuous years of livestock grazing had, "pretty well denuded [Lāna'i] of its forest cover; only on the summit of the island ridge was there a somewhat moth-eaten mantle of it left, and only on the slopes of the higher ravines and the steep hillsides was that mantle really intact and undisturbed" (Lydgate 1920). Lydgate also reported the extinction of plant species observed on Lāna'i only four years prior: plants that had been documented by fellow botanist Horace Mann of Harvard University. Lydgate (1920) commented that, "the ravages of cattle, sheep and goats, as well as forest diseases, hastened the decadence of the indigenous forest [of Lāna'i]."

The success of the Hawaiian Pineapple Company of Honolulu acquiring all of the lands of the Baldwin-owned Lanai Ranch Company began with the annexation of the Hawaiian Islands by the United States in 1898. With annexation came political stability for Hawai'i. Worldwide food

prices were rising due to the outbreak of war between the United States and Spain over her colonies in Cuba, Puerto Rico and the Philippines. The pineapple industry on the island of O'ahu was bolstered by the sharp rise in demand for their food product, with corresponding expansion of canning facilities taking place at their Wai'anae Cannery. By 1904, the production and canning of Hawaiian pineapple had become "big business" (McClellan 1939), with the Hawaiian Pineapple Company of Honolulu in a leadership position.

By the time the United States entered World War I (1917), the pack of Hawaiian canned pineapple from all packers was about to reach an all-time high. The pack increased from 2.6 million cases in 1917 to 3.8 million cases in 1918 (Thrum 1920). The island of Lāna'i, however, continued to be eyed as prime ranch land, and not suitable for agriculture. In 1917, Henry Perrine Baldwin and his brother, Frank Fowler Baldwin, of the Maui-based Hawaiian Commercial & Sugar Company, acquired control of most of Lāna'i. Small ranch land tracts owned by the descendants of Charles Gay, and about 500 acres remaining under native titles, were held out of the sale to the Baldwins (Wentworth 1925).

In 1922, the Baldwins sold their holdings on Lāna'i Island to the Hawaiian Pineapple Company (Figure 9) in order to finance a real estate transaction on the island of Maui (Maui County Council, Lāna'i Community Plan 1998:28). The construction of office buildings, warehouses, shops and dwellings for 250 workers and their families began immediately (Figure 10). By 1927, three thousand acres of the Pālāwai Basin had been planted in pineapple, the first construction phase to establish Lāna'i City had been finished (Figure 11), and a roadway linking the new piers at Kaumālapa'u with Lāna'i City had been paved (Freeman 1927). The cultivation of pineapple on Lāna'i had become integral in Hawai'i supplying more than 90 percent of the world output of canned pineapple.

The dredging of Kaumālapa'u Harbor and the construction of a breakwater was begun in 1924, after a large storm destroyed the wharf at Mānele Bay. Road construction to the new harbor was completed by the Hawaiian Pineapple Company, and transportation of the pineapple pack for 1925 was assured. Over the course of the next 20 years, five million dollars were invested in the company infrastructure, with annual packs in the late 1930's valued at over 1.4 million dollars. Peak harvest data for 1936 stated that as many as 100,000 crates containing more than 1,300,000 pineapples could be shipped out of Kaumālapa'u Harbor in a 24-hour period (Stearns 1940).

In 1925, Bishop Museum Fellow of Yale University, Chester K. Wentworth, published "The Geology of Lanai" (Wentworth 1925). At the time of his study, he described construction projects by the Hawaiian Pineapple Company, including the erection of power plants and refrigeration plants. He referred his readers to Emory's work regarding cultural traditions of Lāna'i and made an interesting assumption regarding the flora of Lāna'i prior to European contact. Wentworth stated that, "the traditions of the natives and the presence of dry tree stems and roots in aeolian deposits over much of its area make it fairly certain that Lanai was wooded to the sea coast at the time when it was first visited by the Hawaiians" (Wentworth 1925:6).



Figure 9. The plateau region of Lānaʻi is visible in this early photo of pineapple cultivation on the island (*Paradise of the Pacific*, December 1936, Vol. 48, No. 12).

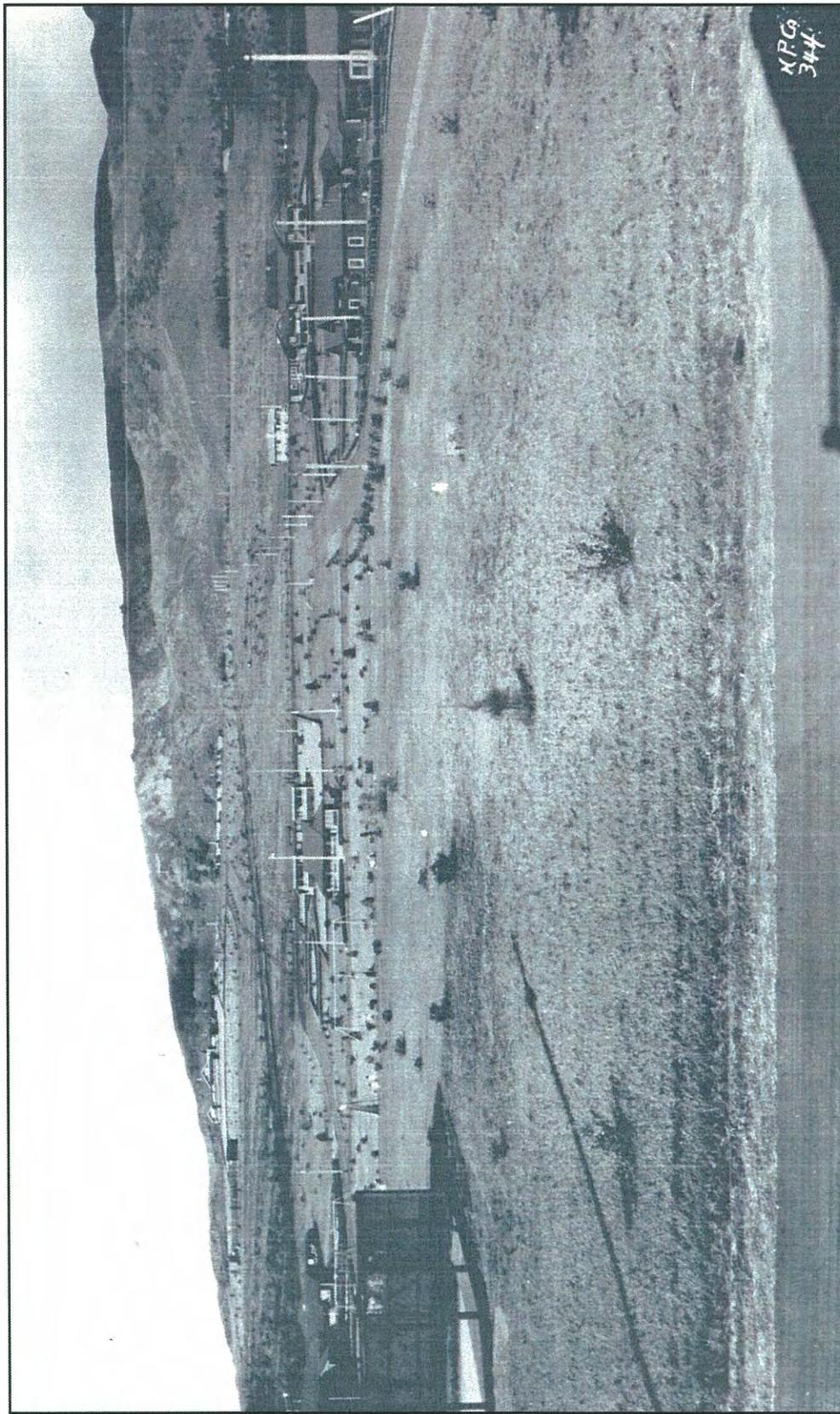


Figure 10. Dole Park circa 1923, following the acquisition of the island of Lāna'i by the Hawaiian Pineapple Company, and the subsequent construction of laborer and management housing. (Hawaiian Pineapple Company photo courtesy of Castle & Cooke Resorts LLC).

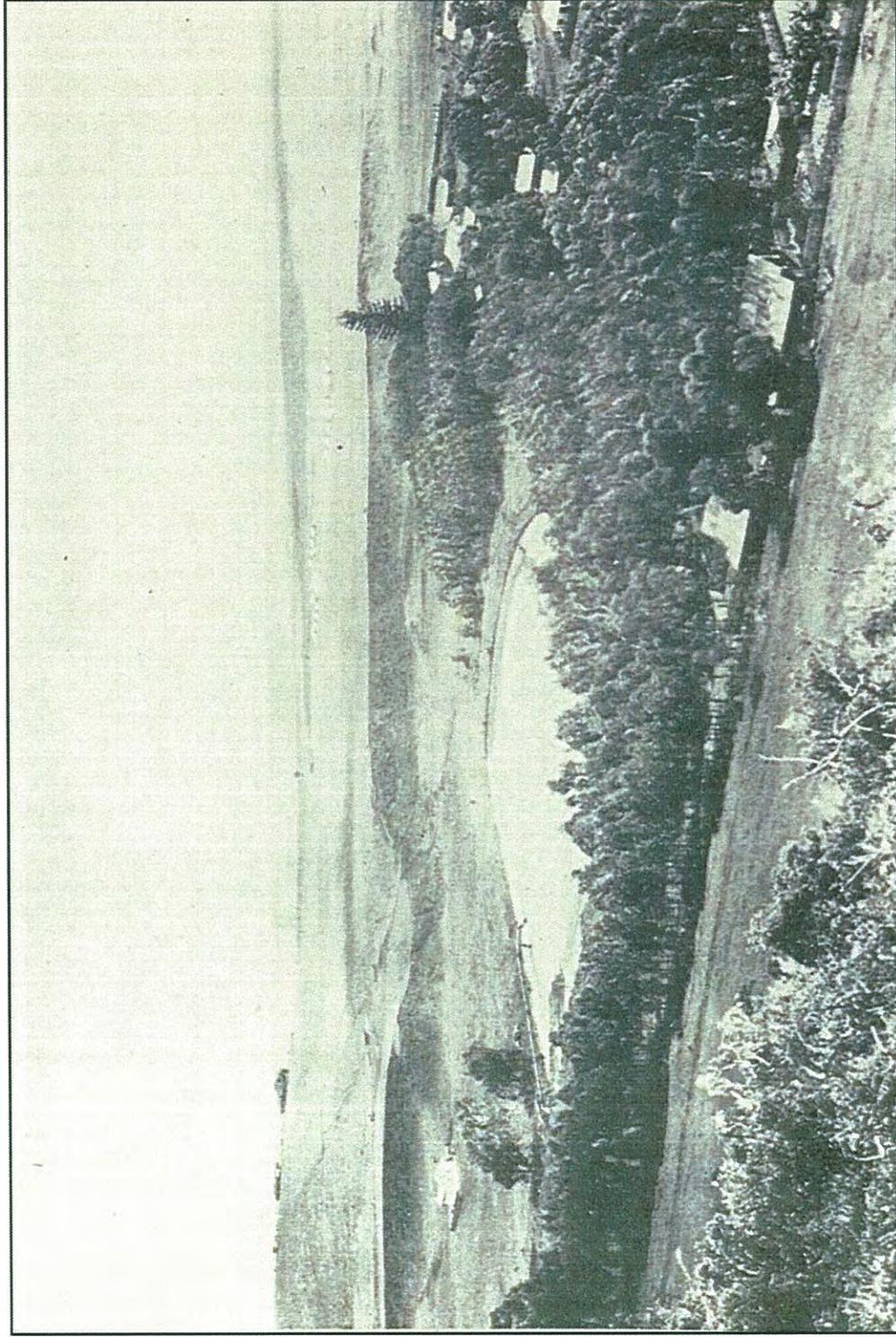


Figure 11. A photograph of the outskirts of the city of Lānaʻi, with a reservoir visible in the foreground, a lone Cook Island pine in the forested portion of the city, and hundreds of acres of land cleared for pineapple cultivation (Wentworth 1925).

By 1939, the population of Lānaʻi was reported at four thousand, with virtually all of the residents working to maintain the fifteen thousand acres of pineapple fields. The expansion of the market to accommodate Hawaiian pineapples occurred so rapidly, with so much success, that new machinery was quickly developed to take advantage of the gentle topography of Lānaʻi (Mackie 1939). The long, flat fields could accommodate mechanical harvesters, which operated by straddling rows of pineapple plants, and moving slowly behind men who broke the ripe fruit off their stalks. Once aboard the harvester, pineapples had their crowns removed, were sorted for size, and crated. Pineapples picked in the morning on Lānaʻi, about sixty miles from Honolulu, were barged to Honolulu, canned and ready for shipment by nightfall the same day (McClellan 1939).

3.1.5.1 Water Source Development

Harold T. Stearns traversed the island of Lānaʻi between June and August of 1936, conducting studies of the geology and ground-water resources. He was assisted by personnel from the U.S. Geological Survey, completing hydrographic maps for the study. His work highlighted the explorations for ground water in Maunalei and at Kōʻele, to improve sources of drinking water, and for irrigation of the expanding fields of pineapple cultivated on the island (Stearns 1940). He reported that the westernmost slopes of the Pālāwai Basin of Lānaʻi “[are] not sheltered by other islands on the southerly side, [and] kona storms are unobstructed. Heavy downpours during a single kona [southern exposure] storm commonly account for a considerable part of the annual rainfall, and in some of the arid sections a single rain storm a single rain may contribute as much as 80 percent of the annual total” (Stearns 1940:65).

3.1.6 Mid-1900's

Following the end of World War II, the agricultural population of Lānaʻi continued to work for wages comparably lower than those earned by sugar workers on the other islands. When restrictions against organized unions were lifted in 1945, sugar workers and dock workers were the first to unionize. By 1946, the International Longshoremen and Warehouse Union (I.L.W.U.) had consolidated its hold on workers who grew, harvested, milled, transported, warehoused and refined Hawaiian sugar. For the 3,200 people on Lānaʻi, labor relations with the Hawaiian Pineapple Company were about to heat up (Henderson 1949).

Between 1947 and 1951, pineapple workers in Hawaiʻi tried but were unable to demand wages and benefits comparable to sugar workers. An industry-wide strike among all pineapple companies was called by the I.L.W.U. in 1947, resulting in minimum wage concessions that raised pay from 35 cents an hour to 97 cents an hour for men. Comparable sugar wages in 1948 were \$1.77 per hour for men, and this disparity continued until pineapple workers on Lānaʻi staged a strike that lasted for seven months in 1951, finally winning higher wages and benefits on par with sugar workers. In 1954, the Hawaiʻi I.L.W.U. fought for and was awarded the first pension plan for agricultural workers in the United States. Throughout the 1950's, other labor concessions awarded to pineapple workers included the 40-hour work week, medical benefits, provisions for sick leave, and paid vacations and holidays (Labor 2009).

The present-day Lānaʻi Senior Center building was constructed in 1938 by an unidentified contractor as part of Hawaii's Territorial Department of Public Instruction improvements for

Lāna'i City (Solamillo et al. 2009). It was originally constructed on the Lāna'i High and Elementary School campus and served as the institution's library. In 1955, the building was moved from the high school to the corner of Fraser Avenue and Seventh Street, according to an article printed in the *Lanaian* newspaper (archived at the present-day Lāna'i Public and School Library). The April 15, 1955 article also reported that an empty "C2" type building would be joined to the library building to provide more space (Solamillo et al. 2009).

The Lāna'i Library closed temporarily in 1960 due to lack of staff, but was reopened in 1962.

3.1.7 Modern Land Use

By 1961, James D. Dole's pineapple lands on the island of Lāna'i were merged with the assets of Castle & Cooke Inc., a prominent Hawai'i-based corporation. World-wide prices for pineapple continued to drop throughout the 1970's as competing countries, most notably Cuba and the Philippines, supplied the market with cheaper pineapple.

In 1975, library books, ancient Hawaiian artifacts, and valuable historical archives of Lāna'i were transferred to a newly-constructed air-conditioned library building on the campus of Lāna'i High School. The building at the corner of Fraser and Seventh became the Lāna'i City Senior Center (Kaser 1975).

During the 1980's, Castle & Cooke began a long-term program to phase the island out of pineapple cultivation, and expand tourism on Lāna'i. In 1988, David Murdock, chairman of Castle & Cooke, Inc., opened a resort hotel and companion championship golf course at Mānele Bay. A second resort hotel and golf course in the uplands of Kō'ele was opened in 1990. The present continuing construction of additional residential and luxury housing projects has created additional jobs for the people of Lāna'i; however, the current statewide downturn in the economy has boosted the unemployment rate for the island past 8% (Labor 2009).

Section 4 Archaeological Research

Archaeological studies that have dealt with larger regions of Lāna'i, but with specific mention of historic properties and features within Kamoku Ahupua'a, include those by Emory (1924a, 1924b), Hommon (1972, 1974), and Hammatt and Borthwick (1989a).

Late in 1920, Kenneth P. Emory completed a detailed series of excavations within the crater of Haleakalā on Maui (Emory 1921), where he had examined the construction of stone terraces and platforms for clues as to their cultural use. Continuing this work for the Bishop Museum on Lāna'i, Emory (1924a) documented Hawaiian pre-contact ceremonial platform (*heiau*) features, as well as pre-contact dwelling and village sites. Many of the abandoned pre-contact village complexes Emory recorded on Lāna'i also included small ceremonial altar (*ko'a*) structures, burial areas, trail markers (*ahu*), petroglyph incised pictograms on boulders, and, in some cases, relic wooden timbers from the ancient framework of their habitation structures (Emory 1921). In all, Emory's work recorded 59 house sites within the *ahupua'a* of Kamoku (Emory 1924a: 50).

In the upland plateau, northwest of the present project area, Emory (1924a:51) described two separate consolidated groups of visible house sites that appeared to constitute large upland dryland settlement areas east of Kānepe'u. Set against the ridgeline of Kaka'alani that rises some one thousand feet in elevation as it leaves the region of Kō'ele, and ending at Kānepe'u, this dryland plateau included the village sites of (in east-to-west order) Kukuikahi, Kalapu'u, and Keonehe'ehe'e. Emory recorded 38 visible house sites, spread out over three miles along this ridgeline. With ample evidence of habitation in the upland region, Emory estimated that the region of the Ka'ā plateau supported at least 500 inhabitants (Emory 1921:27). Hearths, ovens, activity scatters and outlying temporary habitations in the lower elevations of the northwestern portion of Lāna'i, between the shoreline settlements and the upland dryland region, indicated to Emory the former existence of trails linking the upland settlements to the ocean resources below.

Archaeological studies specific to Kamoku Ahupua'a in the region of Lāna'i City includes Borthwick and Hammatt (1992), and Hammatt and Borthwick (1988, 1993). In 1988, on the eastern side of Lāna'i City, Hammatt and Borthwick conducted an assessment of the Lālākoa III Subdivision to determine the nature of a surface scatter of lithic artifacts. Finished adze fragments and four adze preforms found here were attributed to an off-site gravel quarry from which the material had originated. Most archaeological studies in the vicinity of Lāna'i City have identified no significant traditional Hawaiian cultural materials or deposits.

Table 3 lists all previous archaeological investigations performed in the upper region of Kamoku Ahupua'a. A synopsis of each investigation, including the number of habitation sites found (if any), follows the table. Figure 12 graphically illustrates the boundaries of the study areas.

Table 3. Archaeological investigations in the upland region of Kamoku Ahupua'a.

Investigator(s) and Year	Location	Study Type
Emory 1924	Island-Wide	General Survey
Hommon 1972	Island-Wide	General Survey
Hommon 1974	Island-Wide	General Survey
Hammatt <i>et al.</i> 1988	Ranching Areas of Kō'ele	Inventory Survey and Data Recovery
Hammatt and Borthwick 1988	Lālākoa Subdivision, Kamoku Ahupua'a, Lāna'i City	Archaeological Assessment
Hammatt and Borthwick 1989a	Waialua Multi-Family Housing, Lāna'i City	Reconnaissance Survey
Hammatt and Borthwick 1989b	Kō'ele Golf Course, Housing and Subdivision	Reconnaissance Survey
Borthwick and Hammatt 1992	Kō'ele Reservoir	Inventory Survey
Hammatt and Borthwick 1993	Waste Water Treatment Project at Kamoku	Inventory Survey
Hammatt 1996	Paoma'i	Inventory Survey
Tuggle 1997	Northwestern uplands, including portions of the Paoma'i and Ka'ā Ahupua'a	Inventory Survey
Creed, Hammatt and Hammatt 2000	50-Acre parcel at the northwest corner of Lāna'i City	Inventory Survey
Hammatt and Shideler 2004	Niniwai Hill	Inventory Survey
Lee-Greig and Hammatt 2007	The Courts Affordable Housing, Lāna'i City	Field Inspection
Solamillo, Liverman and Kastner 2009	Lāna'i City Business-Country-Town Historic District	Architectural Inventory Survey

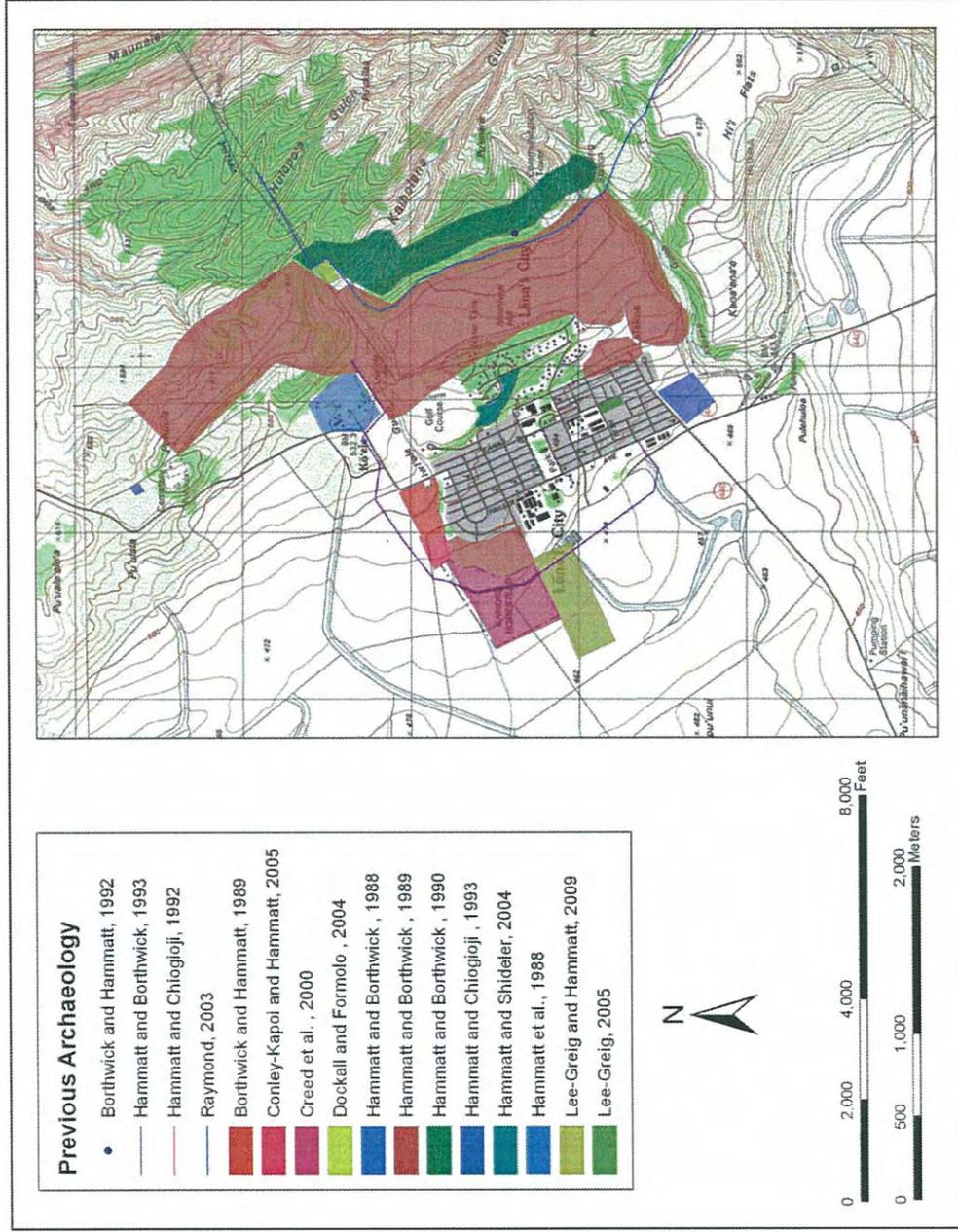


Figure 12. Previous archaeological investigations conducted in the region of Lāna'i City.

4.1 Summaries of Previous Studies in the Project Area Region

Although Emory's most comprehensive archaeological work on the island of Lāna'i pertained to coastal settlements at Kapiha'a and Kaunolū, his investigations of deserted village sites in the uplands of the island are noteworthy because he described burial areas associated with habitation areas. He described a flexed burial exposed by a landslide at an area just north of Kō'eke, and he described ancient house sites just south of Kō'eke.

Emory (1924a) conducted his landmark island-wide survey of Lāna'i between July 1921 and January 1922. He observed pre-contact house sites and burial sites in the Kukuikahi area, just north of Kō'eke in Paoma'i, and wrote, "I counted 27 house sites...and at Pohoula is a stone faced terrace 22 x 59 feet, 4 feet high, having 4 walled divisions probably for as many houses. The hill above has been used as a burial ground" (Emory 1924b:26).

Another specific reference to habitation sites in the upper plateau is given by Emory (1921) in his field notes for September 1921, as he tried to answer the question as to where the natives of the north coast lived when they ascended the plateau:

Along the bluffs which bound the plateau on the mauka side [in Ka'ā Ahupua'a], I counted 31 house sites as I came home. Here, certainly, is where the natives lived. Allowing for 20 more house sites marked with stone divisions, and 50 grass houses at least which had used a perishable wooden fence, and allowing 5 natives to a house, this sheltered spot could have and probably did hold a population in ancient times of 500 (Emory 1921:27).

Other types of historic properties and features observed by Emory across the upper plateau, the northwestern transitional zone, and the northwestern coastal regions (excluding Maunalei and Kaunolū) include oven pits at Kānepu'u ridge in Paoma'i (Emory 1924a:45); a well at Honopū in Ka'ā (Emory 1924a:47); remnant wooden frames of thatched houses at Kanaele in Paoma'i (Emory 1924a:50); the largest (55 x 152 feet) *heiau* structure on Lāna'i at Ka'ena Iki in Ka'ā (Emory 1924a:64); a fishing shrine (*ko'a*) at Honua'ula in Paoma'i (Emory 1924a:68); Maluhie *heiau* at Keonehe'ehe'e in Ka'ā (Emory 1924a:69); a small *heiau* at Hao in Mahana (Emory 1924a:69); a complex of habitation platforms, enclosures, and shelters and a ceremonial platform at Kalaeāhole, in Ka'ā (Emory 1924a:69); a fishing shrine (*ko'a*) at Pōhakuloa, and a *ko'a* in Kūāhua, in Mahana: both coastal shrines built among house sites (Emory 1924a:71); one *ko'a* in Kukui and four in Kahue in Paoma'i, as well as *ko'a* structures at Cape Kae'a and at Ka'ena in Ka'ā (Emory 1924a:71); a *ko'a* at 'Oanapuka on the coast of Kamoku (Emory 1924a:72); stone markers (*ahu*) at Keahikawelo ridge in Ka'ā (Emory 1924a:72); upright stone slab alignments at Hale o Lono in Paoma'i (Emory 1924a:72); burials in Kuahua Valley in Mahana (Emory 1924a:73); burials in the sand dunes of Awalua in Paoma'i (Emory 1924a:73); burials at Pohoula hill, near the summit, in Paoma'i (Emory 1924a:73); a cave at Keone gulch in Kamoku, along the coast of the present project area *ahupua'a* (Emory 1924a:88); lava tube caves at Honopū (Emory 1924a:88); petroglyphs at Ka'ena in Ka'ā (Emory 1924a:103); and petroglyphs at Kaumālapa'u Bay in Kamoku, within the present project area *ahupua'a* (Emory 1924a: 103).

The identification of culturally significant sites across the central plateau of Lāna'i was also undertaken by other scientists working on the island at approximately the same time as Emory.

Chester K. Wentworth, a Yale University Fellow at the B.P. Bishop Museum, published the first scientific geologic study of the island in 1924 (B.P. Bishop Museum Bulletin 24), and supplied Emory with additional information while performing his surveys of the island (Wentworth 1925). Ornithologist George C. Munro (1920), and botanist J. M. Lydgate (1919-1921) had both performed surveys on Lāna'i and both provided further cultural background information to Emory.

It was Emory's exemplary research on pre-contact occupation of the Mānele District of Lāna'i that best showed how permanent habitation occurred along the coastline of the island. While an examination of the archaeological landscape of the Pālāwai Basin underscores the importance of the uplands as a focus of agriculture and habitation, Hawaiian traditions and the presence of hundreds of house sites at Kaunolū were evidence that the coastal environs were also a focus of settlement and marine exploitation.

In all, Emory (1924a) recorded 489 house sites across Lāna'i. Of eleven large *heiau* structures found on the island, one (Pu'u Makani) is located in the upper plateau region. Of the ten smaller *heiau* structures listed by Emory, two are in the upper plateau region. Maluhie *heiau*, in Keonehe'ehe'e, and north of Koa, below the trail that leads from the Pālāwai Basin onto the mountain bench at Kaōha'i is an unnamed 30 by 45 foot terrace. Of the 18 intact fishing shrines (*ko'a*) of Lāna'i, one is located in the project area *ahupua'a*, at Kaumālapa'u. This shrine included an adjacent house platform and two fireplaces. Smaller cairn structures were recorded by Emory in Mahana, along the area traveled by those crossing the plateau from the north coast.

Emory (1924a:72) described stones marking places of religious or magical observances on the upper plateau:

On the great boulders [sic] along the Keahikawelo ridge many small monuments of three or four stones, one on top of the other, have been erected by natives traveling up and down, to insure good fortune on their way. I am reminded of similar monuments which were set up along the trail at Ke-ahu-o-ka-holo in Haleakala to keep the fog from enveloping the travelers and causing them to lose their way. But the *ahu* at Keahikawelo represent the *kukae* offerings of Kawelo.

In addition to these historic properties, Emory recorded a large number of artifacts. Some were isolated finds, some were associated with scatters. Petroglyph sites recorded in the project area *ahupua'a* included rock faces at Kaumālapa'u,

Robert Hommon and Kenneth Emory (1972) made recommendations for the preservation of archaeologically-sensitive regions of Lāna'i. They identified Lāna'i City as an area where future residential subdivision might endanger historic properties or ruins not previously located. Their recommendations for archaeological studies included the areas of Mānele Gulch and Mānele Bay.

Robert Hommon (1974) conducted a survey of historic properties on Lāna'i using Bishop Museum staff members. Hommon attempted to reacquire 262 of Emory's sites located outside of the Kaunolū work area, and documented a small number of previously unrecorded sites in the northwestern upland and coastal areas. Hommon observed that most of the coastal sites had

successfully remained intact in the 50 years since the Emory's survey had been performed, and termed the state of preservation "unmatched elsewhere in similar Hawaiian sites."

Although Hommon's most significant finds during this survey occur outside of the present project area, they are relevant because they represent the use of a north-south travel route across the upper plateau. In addition, Hommon recorded complete habitation complexes along the southwest shoreline, including SIHP 50-40-98-202, a complex at Kaluako'i, SIHP 50-40-98-166, the "Pālāwai Complex", which included an enclosure described as "probably a *ko'a* [fishing shrine]" and walls "used as a temporary shelter for fishermen" and SIHP 50-40-98-086, the "Kapiha'a Complex." In discussing significance, Robert Hommon noted that the Kaluako'i sites "constitute the most densely concentrated group of well built terraced platforms yet found on Lāna'i." He continued his assessment by stating, "If all of these features were used as foundations for houses; and if they were all used at the same time, the cluster constitutes one of the densest habitation complexes in the Hawaiian Islands" (Hommon 1974).

Four investigations by Hallett Hammatt and Douglas Borthwick within the Lāna'i City development region and within the former ranching areas of Kō'ele are noteworthy, and are described below.

In 1988, Hallett H. Hammatt, Douglas Borthwick, David Shideler, and Kirstie Nakamura conducted a subsurface data recovery of two trash pits within the 20-acre construction site of the present-day "Four Seasons Lodge at Kō'ele" hotel. This upland spot had been the private home of a number of prominent Lāna'i families, and the recovery of historic artifacts from the trash pits added greatly to the understanding of the lives of early ranching families.

Hallett H. Hammatt and Douglas Borthwick performed an archaeological assessment of the Lālākoa III Subdivision within Kamoku Ahupua'a (Hammatt and Borthwick 1988) and recorded a scatter of basalt and volcanic glass. The investigation recorded numerous coarse-grained basalt fragments, which were interpreted as industrial-grade modern gravel. Many fine-grained basalt flakes and basalt artifacts (including a finished adze fragment, eight adze performs, a basalt core, and thirteen retouched flakes) were collected, and were determined to have originated at the Ko'i Adze Quarry in the Pālāwai Ahupua'a. Both the modern gravel and the pre-contact artifacts had been transported together from the quarry site by modern equipment.

Hallett H. Hammatt and Douglas Borthwick (1989a) performed a reconnaissance survey of the former Waialua multi-family housing subdivision (currently known as the Iwi'ole Dormitories) in 1989, and recorded a sparse scatter of flaked basalt lithic material. Due to modern agricultural cultivation, the context of this scatter of cultural material was determined to have been highly disturbed.

Also in 1989, Hallett H. Hammatt and Douglas Borthwick (1989b) performed reconnaissance surveys for four separate projects, including the Kō'ele golf course, the Kō'ele single-family housing, the Queen's multi-family housing and the Olopuā Woods Subdivision. During the survey of the golf course project area, four historic features were recorded. Three were associated with the water system and debris from a ranching-era homestead, and the fourth was an unrelated concentration of pre-contact lithic material. The remaining other three surveys produced a very small amount of additional pre-contact lithic material that was found to have originated (again) from the nearby modern rock quarry.

The Kuahua complex of platforms, terraces and rock shelters was first described by Emory (Site 207 at Kuahua Gulch) in 1924, and had not been relocated by Hommon in 1974. Additionally, Tomanari-Tuggle (1992) noted that an area of the valley of Kuahua reported by Emory (1924b:14) to have contained the disorganized remains of approximately twenty flexed burials, was not relocated by this survey.

In 1993, Douglas F. Borthwick and Hallett H. Hammatt conducted an archaeological inventory survey for an approximately 13,000 foot-long waste water pipeline connecting the Lāna'i sewage treatment plant with the Kō'ele golf course irrigation system. This survey did not locate any traditional cultural deposits or structures, but did augment knowledge of the Lāna'i City/ Kamoku Ahupua'a development region.

In 1996, Hallett H. Hammatt conducted an archaeological inventory survey of a 14.9-acre parcel in the *ahupua'a* of Paoma'i, along the Malau ridgeline above the area developed as the "Four Seasons Lodge at Kō'ele" hotel. SIHP 50-40-98-1598, a pre-contact rectangular habitation enclosure, was recorded, and the positions of other associated crude terraces and rock piles were mapped.

In 1997, David Tuggle performed an archaeological inventory survey of five locations within the rural districts of Ka'ā and Paoma'i Ahupua'a, during which he identified five historic properties. The five properties were assigned SIHP numbers. SIHP -1941 was located just west of the Ka'ena/Polihua roadway fork, and consisted of a 40m long alignment of cobbles and boulders. SIHP -1942 was located along the western side of Lapaiki Road, in the *ahupua'a* of Paoma'i adjacent to the boundary of Ka'ā, and consisted of three separate scatters of cultural material, including basalt flakes, marine shell and coral fragments, and a few worked artifacts. Also included in this site were specimens of fire-cracked rock and an exposed horizon of charcoal and burned soil. SIHP -1943 was located proximate to SIHP -1942, and included an intact hummock, which displayed a hearth-like area with fire-cracked rock scatters. SIHP -1944 was located proximate to the previous two sites, and included an additional scatter of fire-cracked rock, and an exposed hearth. SIHP -1945 was located on a ridgeline at the edge of a low bluff, at a location named Ka-unu-a-Kane by Emory (1924). Here, the property was a large boulder outcrop against which a terrace of faced, upright stones (slab-shaped cobbles) was constructed. Based on its unusual method of construction, the terrace was interpreted by David Tuggle as probably ceremonial.

In 2000, an archaeological inventory survey was conducted at a 50-acre parcel belonging to the Department of Hawaiian Home Lands at the northwest corner of Lāna'i City. The investigation by Victoria S. Creed, Jared Hammatt and Hallett H. Hammatt found that the project area had been previously cultivated in pineapple, and no cultural material was observed.

In 2004, Hallett H. Hammatt and David W. Shideler performed an archaeological inventory survey of the Kihamānienie Church (SIHP 50-40-98-1946) and an associated churchyard complex at Nininiwai Hill (SIHP 50-40-98-1947). Both historic properties are within the region of Lāna'i City, in Kamoku Ahupua'a. The investigation focused on the surface markings that appeared to denote the positions and relationships of some eighteen historic burials within the churchyard, as well as features associated with the early historic occupation of the Kō'ele area, including an irrigation feature and a small section of a stone-lined trail.

In 2007, Tanya Lee-Greig and Hallett H. Hammatt conducted sub-surface testing on property slated for affordable apartment housing during an archaeological field inspection in Lānaʻi City, Kamoku Ahupuaʻa. This investigation was conducted to determine the extent of historic-era cultural material from the earliest days of commercial pineapple cultivation. No cultural structures or deposits were observed during this inspection.

In 2009, Stanley Solamillo, Astrid Liverman, Ph.D. and Katie Kastner conducted an architectural survey of structures in Lānaʻi City for evaluation and inclusion in the Lānaʻi City "Business Country Town" (BCT) historic district. A number of buildings were determined as eligible for nomination to both National and Hawai'i State Registers of Historic Places. The study determined that the existing Senior Center building was "non-contributing," and the Planning Department of Maui County determined that mitigation at Historic American Building Survey (HABS) Level II was an appropriate action.

Section 5 Community Consultations

Cultural Surveys Hawai'i Inc. contacted the following individuals and Hawaiian organizations requesting their *kōkua* and guidance regarding knowledge of traditional cultural practices and cultural resources of the study area. The following table represents all community consultations conducted with *kama'āina*, Hawaiian cultural advisors and Hawaiian organizations. Individuals who expressed personal knowledge of the study area and gave their consent to share their *mana'o* for this study, both formally and informally, are presented in Table 4. Formal letters of response to the scoping letter sent out by CSH have been appended to this study as Appendix C

Table 4. Community Contacts

Name	Affiliation	Contacted ¹	Personal Knowledge (Y/N/S)	Comments
Mrs. Yvonne Alboro	Lāna'i Senior Center Employee	Y	S	Mrs. Alboro helped CSH organize <i>kūpuna</i> interviews.
Mr. Duane and Mrs. Shelia Black	Retired Plantation Administrator	Y	Y	
Ms. Phyllis "Coochie" Cayan	DLNR-State Historic Preservation Division, History and Culture Branch Chief (Former Lāna'i resident)	Y	S	CSH sent letter of inquiry. Mrs. Cayan suggested contacting Mr. Kepa Maly and utilizing the research he has compiled, Mr. Albert Morita, Auntie Irene Perry as well as Kūpuna at the Senior Center. She recommended including the <i>mo'olelo</i> and mythology of Lāna'i. Mrs. Cayan explained that cultural practices take place at the Senior Center and states that although construction of a new facility will disrupt the heavy use of the center, a new facility will be a huge contribution to the community.

¹ Key:

Y=Yes

N=No

A=Attempted (at least 3 attempts were made to contact individual, with no response)

S=Some knowledge of project area

DC=Declined to comment

DP=Declined to participate

U=Unable to contact, i.e., no phone or forwarding address, phone number unknown

Name	Affiliation	Contacted ¹	Personal Knowledge (Y/N/S)	Comments
Mrs. Maggie Masicampo	Lāna'i Senior Center Manager	Y	S	Mrs. Masicampo helped organize <i>kūpuna</i> interviews and referred CSH to numerous contacts.
Mrs. Alberta Morita DeJetley	Commercial Farmer/Editor/Owner of <i>Lana'i Today</i>	Y	Y	See 6.1.2 below.
Mrs. Martha Evans	Lanaians for Sensible Growth	Y	Y	CSH sent letter of inquiry. Mrs. Evans made referrals to several individuals she thought might like to share. They include: Mr. Kepa Maly, Mr. Sol Kaopuiki, Mr. Pierce Myers, Mr. Bob Saiki, Mrs. Vivian Eskaran, Mrs. Sugar Gima and her son Mr. Reynold Butch Gima, Mr. Howard and Mrs. Molly Sakamoto, Mr. Larry Kawasaki, Mr. Dennis Hokama, Aunty Irene Perry, Aunty Lei Kanipai, Mrs. Jane Gavriel, and Mrs. Leila Tamashiro. Mrs. Evans also shared her own recollections, see 6.1.1, below.
Mrs. Sugar (Minami) Gima	<i>Kama'āina</i>	Y	N	Mrs. Gima was present during the interview at the Senior Center but did not participate.
Mr. Reynold "Butch" Gima	<i>Kama'āina</i> , mother's family ran the Minami Gardens in the 1930's located at the site of the Lāna'i High and Elementary School across from the Senior Center.	Y	S	Recommended contacting his mother, Sugar Gima, and his aunt Susan Miyamoto and interviewing them.
Mr. Robert Hera	Held several positions with Dole Company over thirty-plus year career, including the title of superintendent.	Y	Y	CSH sent letter of inquiry.. See 6.1.5 below.
Auntie Lei Kamipae	<i>Kūpuna</i>	A	--	
Mr. Sol Kaopuiki	<i>Kūpuna</i>	Y	Y	CSH sent letter of inquiry.
Ms. Mona Kapaku	Department of Hawaiian Home Lands	Y	N	CSH mailed letter of inquiry. Ms. Kapaku had no

Name	Affiliation	Contacted	Personal Knowledge (Y/N/S)	Comments
	- Maui District Supervisor			concerns regarding cultural impacts. Referrals were made to Uncle Sol Kaho'ohalahala and <i>ohana</i> , Mrs. Woolsey, Mrs. Kewenaole and her daughter.
Mr. Kepa Maly	Executive Director, Lāna'i Culture and Heritage Center	Y	Y	CSH mailed letter of inquiry. Mr. Maly made referrals to the following individuals; Ms. Magge Masicampo, Mr. Noboru "Squeaky" Oyama, Ms. Kay Okamoto, Ms. Susan Miyamoto, Sugar Gima, Butch Gima and Mr. Shigeto Minami.
Mrs. Susan (Minami) Miyamoto	Mrs. Miyamoto is from the Minami family, Sugar Gima's sister.	Y	Y	See 6.1.8 below.
Mr. Albert Morita	<i>Kupuna</i> , Retired DLNR, Division of Forestry and Wildlife	Y	Y	See 6.1.3 below. CSH mailed letter of inquiry.
Mr. Clyde Namu'o	OHA-Administrator, Native Hawaiian Historic Preservation Council	Y	S	CSH sent letter of inquiry. OHA recommended that CSH contact Mr. Kepa Maly, Mr. Sol Kaho'ohalahala and Mrs. Martha Evans.
Mr. Gary Onuma	<i>Kupuna</i> , Castle & Cooke Game Manager, <i>Kama'āina</i>	Y	Y	See 6.1.4. CSH sent letter of inquiry.
Mr. Noboru "Squeaky" Oyama	<i>Kupuna</i>	Y	Y	See 6.3.2 below.
Ms. Pua Paoa	Maui/ Lāna'i Islands Burial Council, Lāna'i Island Representative	Y	S	CSH sent letter of inquiry. Referred CSH to Uncle Sol Kaopuiki and Auntie Lei Kamipae
Auntie Irene Perry	<i>Kupuna</i>	Y	Y	See 6.3.1 below.
Ms. Sandra Ropa	Hui Malama Pono O Lāna'i	Y	S	CSH sent letter of inquiry. See 6.1.9 below.
Mr. Glenn Richardson	Former member, Maui/ Lāna'i Islands Burial Council, Lāna'i Island Representative, <i>Kama'āina</i>	A	--	CSH sent letter of inquiry.
Mr. Bob Saiki	School Principal in 1960's	A	--	
Mr. Howard Sakamoto	School Principal in 1970's	A	--	

Name	Affiliation	Contacted ¹	Personal Knowledge (Y/N/S)	Comments
Mrs. Molly Sakamoto	Mr. Howard Sakamoto's wife and <i>kama'āina</i> of Lāna'i	A	--	
Maui County Cultural Resources Commission		Y	Y	See sections 6.2.1 and 6.2.2. below.
Mrs. Momi Suzuki	<i>Kama'āina</i> , Mrs. Suzuki is the daughter of Aunty Irene Perry.	Y	S	CSH sent letter of inquiry. Mrs. Suzuki explained that although she does not have much knowledge regarding traditional practices of the area, she believes building a new Senior Center facility to be a necessity as the existing one is in "bad shape" (telephone conversation March 13, 2009). She describes the Senior Center as the island's town hall and says she attends free hula lessons there. She said her mother, Aunty Irene Perry, goes there three times a week for different activities including ukulele lessons. Mrs. Suzuki made a referral to Mr. Squeaky Oyama.
Mrs. Jackie Woosley	Hui Malama O Lāna'i	A	--	CSH sent letter of inquiry.

Section 6 Summaries of Kama'āina Interviews

6.1 Informal Interviews and Consultation

6.1.1 Mrs. Martha Evans

Mrs. Evans is the Vice Principal of Lāna'i High and Elementary School. She has been a resident of Lāna'i since the 1970's when she moved there to work as a teacher. A person of Hawaiian ancestry, Mrs. Evans is also a member of the grass roots organization, Lanaians for Sensible Growth, and is the Chair of the Lāna'i Archaeology Committee. Mrs. Evans submitted her *mana'o* via e-mail on March 15, 2009. Mrs. Evans recalled stories regarding night marchers when she first moved into the teacher cottages located adjacent to the school:

I do remember hearing a story about the night marchers when I first moved into the teacher cottages adjacent to the school. (It's been awhile since I have thought about this so my recollection may be rather fuzzy.) There were 7 or 8 cottages on the school parcel back in the 70's. The first cottage was large -- it was moved in the late 90's or early 00's and is now located at the beginning of Lanai Ave, *makai* side as a private residence/bed-and-breakfast. The second was a duplex unit (2-units), the third was a smaller cottage, followed by two dormitory-style houses with 4-bedrooms each. Those were followed by two smaller cottages of 2-bedrooms each. Anyway, it is said the trail came from the area above Lanai Avenue, cutting through the yard at the *mauka* corner of Lanai and Sixth St. It came down through several properties and then cut through the school and along Cottage Row, passing in front of the last cottage. At times people would hear things and talk would also go to the night marchers. There was a rock located outside of the last cottage that had some kind of significance although I can't remember what it was.

Mrs. Evans also mentioned a farm and piggery that Mr. Bob Sakai ran located in the lower portion of the school parcel.

6.1.2 Mrs. Alberta (Morita) de Jetley

Mrs. de Jetley has lived either on Lāna'i or Hana, Maui since 1961. She currently operates Bennie's Farm and the monthly newspaper publication, *Lana'i Today*. Mrs. de Jetley's concerns are focused largely on the future of Lāna'i's economy, sustainability and overall viability as a community. Mrs. de Jetley runs the community paper because she thinks it is a critical part of supporting small business and the community interests on Lāna'i. She feels she has a vested interest in the well being and economy of Lāna'i, and wants to see it do well. She believes that stopping growth on Lāna'i will have a negative effect on the community's future and feels that the community needs to be "pro-business" if it wants to have a viable economy. She states, "we should be working on ways to promote the community".

Regarding the Senior Center project, Mrs. de Jetley sees problems is allowing the demolition of one historic building while not allowing the demolition of other historic buildings which, in

her opinion, are equally hazardous, and eyesores, regardless of the area being nominated to the National Register of Historic Places. She describes four other structures, two along Lāna'i Ave. and two along Ilima, that are in equally bad shape and should also be demolished. Mrs. de Jetley does not understand why some can be preserved while other are not. She goes further to explain that some of these vacant structures are utilized in illegal ways after hours. Mrs. de Jetley speaks of her own home in the city and how it is one of the original plantation homes. She states that these old homes are not functional in today's society. She says she doesn't have a closet and the bathroom was added on as the original did not have one. Essentially, families have outgrown these homes and many need to renovate or make changes. She says her home was built in 1927. She would like to see some of the derelict buildings taken down and left as open space.

Mrs. de Jetley believes that the Senior Center definitely needs to be demolished. She said that it is used constantly for meetings and parties, that it is the most popular building in town. The community enjoys its warm and homey atmosphere and does not want something that feels institutional. She does not like the idea of having the two county and state offices there, and she thinks the new facility should only be one story all the way around. She says the DMV does not belong at the Senior Center and thinks it's just fine where it is now.

Although she knows of the state hunting lands located west of the city, she does not consider hunting in these areas of deer, sheep and game birds a traditional Hawaiian activity.

6.1.3 Mr. Albert Morita

Mr. Albert Morita is *kama'āina* of Lāna'i, a retired Department of Land and Natural Resources (DLNR), Division of Conservation and Resources Enforcement (DOCARE) officer and currently sits on the board of directors for the Lāna'i Culture and Heritage Center (LCHC). His familiarity with the study area comes from growing up on Lāna'i and working in the field for 30 years as a DOCARE officer.

Mr. Morita explained that lands west of Lāna'i City had been in pineapple cultivation as long as he can remember. He explains that as a child, stone artifacts were often found during the plowing of the pineapple fields. He remembers mainly *ulu maika*, and fire pits (*imu*), and therefore believes there is a likelihood that these things may be uncovered during grading and grubbing activities throughout the area.

The lower elevations west of the city, from the sea cliffs (*pali*) to the edge of the pineapple fields were territorial hunting grounds since the 50's and remain today under the State DLNR as hunting grounds. These lands were used as ranchlands before hunting. In addition, Hunting Unit 3 has been included in the hunting area. One can hunt large game; axis deer, dall sheep, and bird game; turkey, pheasant, gray Franklyn, chucker, and doves (lace necked and barred) in this area.

Regarding more traditional practices, Mr. Morita recalls individuals collecting verbena (*ha'uōwī*) to make a poultice for bruises on themselves or their horses, in lands on the outskirts of town. He also recalls individuals harvesting *'uhaloa* (*Waltheria indica*), which grows wild in the same areas, for its medicinal purposes.

Mr. Morita draws attention to Hōkūau, a place name. According to Robert Hobdeys map in the book "The Story of Lāna'i" by George C. Munro, this area is located southwest of the Senior

Center, in the pineapple fields. Its meaning is Morning Star. Mr. Morita suggested researching this area more thoroughly as it is near the project area. He suggested Emory's work.

He comments on the above mentioned map and book noting their accuracy and intimate knowledge of Lāna'i and is grateful this family got together to write it. It is a very important historical document.

6.1.4 Mr. Gary Onuma

Mr. Gary Onuma worked as a Game Manager for Castle & Cooke. He is intimately familiar with Lāna'i City and surrounding lands. As a child Mr. Onuma recalls finding stone artifacts in the pineapple fields, but explains that the fields have been heavily cultivated since the 1930's and archaeological feature remnants would be scarce today. He also explains that there is a hunting area just below town, where axis deer can be found. He explains that some axis deer live in the pineapple fields west of the city and explains that axis deer find habitat easily.

Mr. Onuma explains that the Senior Center used to be library and was extensively remodeled in the 1970's. He said that the Senior Center is heavily utilized by the Lāna'i community as a place where the seniors have lunch, socialize and attend classes as well as their "town hall" where families throw parties, and groups hold community meetings. Mr. Onuma suggested CSH speak with Mrs. Maggie Masicampo to arrange meeting with seniors. He also requests a quick job be made of the construction because the community will be out of their "town hall" while construction is underway.

6.1.5 Pastor Robert Alpers

Pastor Bob, as he is known in the community, is the pastor at the Lāna'i Union Church. He has been the pastor since 2000. During a visit to the Senior Center in March 2009, Pastor Bob cautioned the researcher that there may be the potential for historic burials on the Senior Center property.

6.1.6 Mr. Robert Hera

Mr. Robert Hera moved to Lāna'i with his family from Kona in 1936. His family had been working on the coffee farms. They came to Lāna'i on the S.S. Humuula, a steam freight ship. Both he and his parents worked for Dole Company upon arrival in Lāna'i. Throughout his thirty-year career with Dole, Mr. Hera held a variety of positions outside of actual pineapple field work, they included positions in agriculture and engineering, water systems and utilities departments. In addition to the utilities maintenance, Mr. Hera helped with the general upkeep of the city, eventually becoming a superintendent with the company.

Mr. Hera explained that the lands surrounding the city have been in pineapple cultivation for as long as he can remember. Mr. Hera spoke of the teachers cottages, located near the school, describing how pilots during WWII used to fly over and drop letters for the teachers. He said he also used to entertain at the teacher cottages, playing Hawaiian music. He spoke of an airstrip that was once in the area. It was destroyed: trenches were dug through it after Pearl Harbor was bombed to avoid the possibility of enemy planes landing there. Sikorsky aircraft used to land there as well.

The same attitude goes for the Senior Center. Mr. Hera explained that his dad was Florentino Hera who helped start the Senior Center. He also mentioned that he utilized the Senior Center when teaching hunters education classes. He said the Senior Center serves the community in many ways that reach beyond the actual Senior Center services. He said that he often works as a cultural advisor and he believes we need to balance preservation of history and the past with modern needs of the community. He supports the construction of a new facility for the Senior Center and suggests that the new facility have adequate parking that is easily accessible to seniors.

6.1.7 Mr. Shigeto Minami

Mr. Shigeto Minami's family ran Minami Gardens. Minami Gardens was located at the present-day site of the Lāna'i High and Elementary School. Mr. Minami was born in 1929 and is 80 years old. His father was Jusaku (Nakao) Minami and his mother was Fujiyo Minami. He explains that his family took his mother's last name because there were no boys in her family to carry it on, a Japanese tradition under such circumstances. His sisters are Sugar Gima and Susan Miyamoto who currently live on Lāna'i.

Mr. Minami said that his father was the *luna* of a womens "gang". He supervised this work group whose field duties included such activities as *ho hana* (weeding) and picking pineapple. His father worked in their garden after work and on the weekends.

Mr. Minami said his grandmother, Nami, worked in the garden every day, with one other individual who was employed full time. The hired person also boarded with them. Mr. Minami's clearest recollection regarding the gardens was loading their truck with vegetables and driving through the "Camp" (Lāna'i City) to sell their goods. He said he remembers ringing a bell to let people know they were in town. Most people had their own gardens so he believes that the majority of the Mimamis' produce was bought by the single men.

Mr. Minami referred to the style of gardening as "truck farming". He said they grew potatoes, carrots, lettuce, cabbage, "all the normal things". He thinks they probably sold the produce in town once a week. He said they must have leased the farm from the plantation because when it was decided to move the school from Kō'ele to the garden location, they had to move the garden down by the Protestant church, about a mile away.

Mr. Minami does not know what was at this location before his family's garden. Nor does he remember finding Hawaiian stone artifacts while gardening. He said that he doesn't remember there being very many Hawaiians living in town. Mr. Minami graduated in 1947; his class had 31 students. He, like all the other school kids, walked to school at Kō'ele before it was moved into town.

He remembers the garden being his playground when he was in the first grade. They had chickens, and a big tree in which his father built a play house. He recalls a tall hedge bounding what would be the Fraser Avenue side of the farm; he recalls it being sisal. He estimates that the garden was about three acres. Sometimes after school and on weekends he worked in the garden and during the summer he worked in the pineapple fields, after he was 12 yrs old.

6.1.8 Mrs. Susan (Minami) Miyamoto

Mrs. Susan Miyamoto moved to Lāna'i from Paia, Maui in 1924. She was five years old at the time. Her family ran the Minami Garden, a truck garden, located at the site of the Lāna'i High

and Elementary School. The Minami Garden was in operation at this location from 1924 until 1937. When it was decided that the school would be relocated from Kō'ele to their garden site, they moved the garden about a mile away, near the site of the Protestant church.

Mrs. Miyamoto recalls her family's garden as being very big, she guesses about three acres. She remembers a tall hedge that grew along the end that now borders Fraser Avenue. She said they grew cabbage, won bok and head cabbage as well as *araimo*, or Japanese taro/potatoes. She describes "thinning" lettuce to properly space it, packaging potatoes and bundling cabbage. Mrs. Miyamoto explains that she and her siblings did not work in the garden all day; they attended school up at Kō'ele and only worked after school and sometimes on the weekends. She said that her father and her grandmother did most the gardening and during the summers, she and her siblings worked in the pineapple fields.

Her father's main job was as a luna for a "wahine gang" or women's work group, for the plantation. It wasn't until after finishing his plantation work did he tend his garden. They sold vegetables after *pauhana* time out of what Mrs. Miyamoto describes as "not a truck, but an old car" about two times a week. She said they also grew and sold bananas.

The Minami family lived across the street, in one of the original plantation homes behind the current Senior Center. When asked what the lands north and west of their garden looked like, Mrs. Miyamoto states, there was "nothing" there. She explained that pineapple cultivation did not extend into those areas, she described the pineapple fields as being "much further down". To the south, near the current day gym location was Mr. Okamoto's house. When asked if she remembers finding Hawaiian artifacts while working in the garden, she says she did not. Neither does she recall individuals utilizing the area in traditional ways for plant gathering or ceremonies. She does remember the Hawaiian families though, and she states, "not like hapa, but pure Hawaiians".

Mrs. Miyamoto was in the last class to graduate from the school while it was still at its Kō'ele location. She graduated in 1935, when the school only went to tenth grade.

6.1.9 Mrs. Sandra (Kamipae) Ropa

Mrs. Sandra Ropa is a member of Hui Malama Pona O Lāna'i Archaeological Committee and is the daughter of Aunty Lei (Kaopuiki) Kamipae. She was born in 1943 and grew up on Lāna'i. Although it was her mother's generation that lived on the island before the pineapple plantation began, she recalls some of her knowledge and experiences growing up.

Mrs. Ropa explained that her grandfather was a Christian minister who forbade all things Hawaiian, yet he spoke and preached only in Hawaiian. Mrs. Ropa's mother, Aunty Lei Kamipae, grew up with a thorough understanding of the Hawaiian language but was not allowed to speak Hawaiian at school, the result being that she could understand Hawaiian yet could not speak it very well. Mrs. Ropa's described finding *ulu maika* in the pineapple fields as a common occurrence. As a child, she explained, her grandfather would not let her keep these items or bring them into the house.

Mrs. Ropa recalls her grandparents having a garden down at Kaumālapa'u where they grew foods that could tolerate the brackish water located there. Her grandparents grew cabbage, corn and string beans. She said she grew up eating deer and fish as well. She recalls her grandparents

bartering their vegetables for fish. She also recalls an abundance of wild tomatoes that grew in the pineapple fields; she said the wild turkeys have eaten them all. Mrs. Ropa recalls the time when a few Hawaiian families lived at Kō'ele and worked for the Ranch. She explains that as a teenager she didn't pay much attention to these things.

Mrs. Ropa recalled spending time down at Kaunalapau Harbor or Manele as a teenager. She described a restaurant owned by the Au's, Ethel Au, down at Kaunalapau Harbor. Although she never ate there, she spent time down there. She said the Au family eventually left the restaurant and moved up to the City to run Hotel Lanai before moving to Honolulu.

Mrs. Ropa explained that before the economic crisis Lāna'i was in need of all the proposed projects: the school expansion, the affordable housing project and a new Senior Center building. Of all these, she views the Senior Center as the most important and states that it "needs to happen". She explains that the Senior Center is their town hall, used for meetings and parties, because there is no other facility like it in the community. She says it really needs a full kitchen and she likes the idea of the county offices there.

Mrs. Ropa expressed her thoughts regarding the shops and structures located around Dole Park stating that she would like to see them retain the town's historical character. She described a playground at Dole Park that was surrounded by a fence. She said parents could leave their children there, under the supervision of one or two adults, while they shopped at the grocery store. She liked this fenced park and would like to see another one constructed for this purpose.

As a child she remembers playing in the backyards of friends houses. She says that most yards were open lots at that time and she and her friends would just play all day. She described playing in the irrigation tunnel behind Kō'ele. This was the same irrigation tunnel that brought water up from Maunalei into Lāna'i City. Mrs. Ropa recalls superstitions and stories from her childhood such as the "lady with no feet" and the "black dog". Both were thought to be ghosts occasionally seen throughout the island, although Mrs. Ropa never witnessed them herself. They were well-known superstitions. Mrs. Ropa recalls hearing stories about the Night Marchers. She said her sister's friend had an experience where she felt the Night Marchers "walk over her". It is understood that there is a path that comes from the back of 7th Street, by the hospital, then turns right. Mrs. Ropa said she remembers several stories circulating.

Mrs. Ropa believes that the most unique aspect of growing up on Lāna'i, particularly in the City, was that it was safe. As a child she could roam relatively far without fear of harm by others. She lived at Up Camp by Cavendish Golf Course and if she and her friends roamed into areas they were not supposed to, other adults knew them and sent them home. She was not allowed to venture as far as Japanese Camp or Puerto Rican Camp. If she ventured into these areas they would send her back home.

Today, Mrs. Ropa continues to use the old camp locations as reference points. Most individuals of her generation and older do this. With the younger generations, street names are used as reference points. During her mother's generation, the earlier plantation days, the community was divided into "camps" on the basis of their ethnicity. This made sense at the time as different ethnic groups immigrated to Lāna'i bringing with them their own cultural practices and beliefs. It was logical to place families with like cultures together. In Mrs. Ropa's time, and

with the pineapple company offering plantation housing for sale to the families that lived there, the community became more assimilated, the ethnic boundaries became less rigid.

There was also dormitory style housing for the single males arriving from abroad. It was likely that this style of housing was less expensive and simply easier to live in, with the same culture and ethnicity as yourself.

When asked where the Hawaiian families lived, Mrs. Ropa said there were several families scattered around the city as well as down by Kaunalapau Harbor, a village of about 23 families living and working down there.

6.2 Formal Meetings

6.2.1 Maui County Cultural Resource Commission (CCRC) March 5, 2009

6.2.1.1 Comments Regarding Demolition Permit for Lāna'i Senior Center

Mrs. Colleen Medeiros Dagan and Mrs. Tanya Lee-Grieg of Cultural Surveys Hawai'i attended this meeting to gather information regarding the proposed Senior Center project. Commissioners in attendance included Mr. Samuel Kalalau III, Mr. Eric Fredericksen, Mr. Perry Artates, Mr. Kepa Maly, Mr. Raymond Hutaff, Mrs. Veronica Marquez, Mr. Kalei Moikeha, Mr. Alike Romanchak and Mrs. Nani Watanabe.

At this meeting Mr. Stanley Solamillo (Cultural Resources Planning) discussed the nomination of Lāna'i City Business Country Town (BCT) to the National Register of Historic Places. This nomination came as a result of their March 6, 2008 meeting in which the commissioners reviewed five demolition applications for structures within the city, the Lāna'i Senior Center being one of the structures to be demolished. After completion of an architectural survey of Lāna'i City, it was found that the Senior Center itself would not be eligible for listing on the register. Two factors resulting in this determination were that it had been moved from its original location and it had also been drastically altered during renovations and add-ons, thus impacting the integrity of the structure. This structure also contains hazardous materials including lead paint and asbestos.

It was then decided by the county and supported by the State Historic Preservation Division and the Department of Health and Human Services, that a Historic American Buildings Survey (HABS) Level 2 would be sufficient in mitigating the loss of this building due to demolition. This finding was also largely supported by the seniors themselves and the Lāna'i community. Commissioners and Lāna'i residents Mr. Kepa Maly and Mrs. Nani Watanabe, as well as Mr. Riki Hokama, also a Lāna'i resident, all speak to the strong need and community support for a new Senior Center facility.

Mr. Hokama explained that he was giving testimony on behalf of the *kūpuna* that utilize the Senior Center. He acknowledged that they had participated in the proposed design of the new building and said that the planning department has been sensitive to the *kūpuna* ideas and have incorporated these ideas into the design. He re-stated that they would like enlarged Lāna'i areas and improved kitchen facilities enough to support the high demand and use that the Senior

Center currently accommodates. Mr. Hokama stressed the importance of the Lāna'i Senior Center, for the growing ageing population on Lāna'i and for the community overall.

Commissioner Mr. Raymond Hutaff express his support for a new facility stating that the *kūpuna* themselves are the cultural resource. Explaining that it is at the Senior Centers statewide where one can go and talk story with *kūpuna*, that they are the people who have the knowledge of their years. Commission Chair Samuel Kalalau describes the Senior Center as the "new library".

The outcome of this agenda item is as follows:

VOTED: to approve the department's recommendation for approval of the demolition permit and to include as findings of fact the following reasons for the approval of the demolition permit: That *kūpuna* are a cultural resource to be preserved; and that, as a public facility, we must ensure that the needs of the island's people are met (Maui County, Hi 2006-2009 website).

6.2.1.2 Comments on Proposed Design of New Lāna'i Senior Center

Mrs. Erin Wade, Small Town Planner for the county and Mr. Clifford Murakami, the project design architect with Pacific Architects, discuss the proposed facility's design details which have been kept within the Lāna'i Design Guidelines, which can be described as Plantation Style. Design details suggestions made by community members and incorporated into the design at this phase include a shower, located on the lower level, larger bathrooms and a full residential kitchen. Mr. Maly suggests keeping the exterior color in what he referred to as a "plantation palette".

The discussion then goes to landscaping and suggestions of plants include plants that the seniors might use for lei making or other crafts; 'ākulikuli (*Sesuvium portulacastrum*), lehua maoli, a'ali'i (*Dodonaea viscosa*), ti leaf (*Cordyline fruticosa*), palapalai (*Microlepia strigosa*) And hala trees (*Pandanus sp.*). The idea being that the seniors might engage more in plant and flower related crafts; weaving and lei making, if those plants were available on-site.

Mr. Hokama gave testimony stating that the *kūpuna* would like a garden area that they can plant themselves. Mr. Hokama goes on to describe the multi-cultural community on Lāna'i and a certain pride they take in this pronounced aspect of their community. He explains that when he uses the term "*kūpuna*" he is referring to seniors of all ethnicities and that it would only be natural to have the different plants and plant foods from all cultural backgrounds planted at the Senior Center, possibly a Filipino garden, a Japanese garden, a Hawaiian garden etc. Mr. Hutaff goes on to say that the seniors should decide how and what plants they want in the landscaping of their center, in essence saying, "...it's your house, go for it."

He also notes the location of a tree planted by Mrs. Jean Ariyoshi for the Million Trees of Aloha, it is believed to be located at the corner of Fraser and 7th Avenue. He would like this tree to be relocated to an area on site where it can be commemorated with a plaque that describes its significance.

The motion stated as follows:

Motion to [1.] approve the design or to recommend approval of the design of the Lāna'i Senior Center including a color scheme for the exterior that should be original plantation color scheme...[2.] localize the formal plant palette; allow flexibility in landscape to ensure the seniors the opportunity to malama their site; [3.] on the signage, spell "Lāna'i" properly; [4.] respect the Million Trees of Aloha and ensure that it either remains or is relocated with a plaque donated by Castle & Cooke to honor Mrs. Ariyoshi.

6.2.2 Maui County Cultural Resource Commission (CCRC) June 4, 2009

Mrs. Colleen Medeiros Dagan and Mrs. Tanya Lee-Grieg of Cultural Surveys Hawai'i attended this meeting to gather information on traditional and cultural practices in the upland areas of Kamoku. Commissioners in attendance included Mr. Eric Fredericksen, Mr. Raymond Hutaff, Mrs. Veronica Marquez, Mr. Kalei Moikeha and Mrs. Nani Watanabe.

Mr. Kepa Maly shared some of his knowledge about the area in a written statement which includes land claim awards for Kamoku as well as the land survey metes-and-bounds description *ahupua'a* boundaries. Mr. Raymond Hutaff stated his feelings regarding the *ahupua'a* name and the purpose of the *ahupua'a* itself as being a significant cultural land tradition.

Mr. Steve Bumar, Vice President of Castle & Cooke Resorts LLC, explained that his company has produced a DVD of *kūpuna* interviews called "Aka Aina". He explained that interviews were of *kūpuna* of various ethnicities. Mr. Bumar also spoke of a walled-off section of Kaiholena Gulch behind the 17th hole of the golf course, The Experience at Kō'eie. Mrs. Watanabe makes reference to another set of *kūpuna* interviews available called "Reflections of Lāna'i".

The commissioners discussed discoveries of stone artifacts such as *ulu maika* and sling stones in pineapple fields in the Kamoku and Kalulu *ahupua'a*. Mr. Eric Fredericksen and former Lāna'i resident, Mrs. Watanabe, were both familiar with these discoveries. Mr. Fredericksen explained that it is understood that these finds have all been taken out of context due to pineapple cultivation. It was explained to the commissioners that there were no known cultural or archaeological sites on the Senior Center parcel.

Mrs. Watanabe confirmed that the water from the reservoir behind the Lodge at Kō'eie was utilized as drinking water in historic times. When asked specifically about the existence of a spring at Kō'eie, Mrs. Watanabe said that she did not know of any spring, only the reservoir which she remembered being dry when she played in it as a child.

6.2.3 Small Town Planning Focus Group Meeting at Lāna'i Senior Center, March 18, 2009

Mrs. Colleen Medeiros Dagan attended this meeting held by the small town planning focus group of Maui County. This meeting was conducted in an effort to obtain public comments regarding the design of the proposed Senior Center facility.

Mrs. Maggie Masicampo suggested the colors hunter green with white trim be used to paint the new center, colors in keeping with the city's plantation character. She explained that these colors would also be easily maintained. Mrs. Masicampo and others liked the idea of having a lanai (porch) fronting the Dole Park side of the new facility and, if possible, having this lanai

wrap around the new structure. It was explained that the new facility would meet the Americans with Disabilities Act (ADA) standards for wheelchair accessibility. Some of the community members in attendance include Mr. Albert Morita, Mrs. Alberta (Morita) de Jetley, Pastor Bob Alpers and Mrs. Jackie Woosley of Hui Malama Pono O Lāna'i. Mrs. Masicampo recommended CSH speak with Mrs. Kay Kodama and suggested planting a rose bush to commemorate seniors who have passed away. It was made clear that office space for Maui Economic Opportunity was not part of the plan.

6.3 Formal Interviews

Formal Interviews were conducted on March 27 and April 9, 2009. Formal interviews were conducted using an Olympus Digital Voice Recorder and transcribed using Sony Digital Voice Editor by Ms. Noelani Hessler, B.A. Mrs. Sarah Wilkinson B.A. and Mrs. Colleen Dagan B.S. between March and May 2009.

6.3.1 Auntie Irene (Cockett) Perry

Auntie Irene Perry was born in Keōmoku in 1917 (Figure 13). Her father was Robert Cockett from Maui. Auntie Irene said that she lived on Maui briefly before returning to Keōmoku. Sometime around 1928 her family moved up to Kō'ele and her father worked for the ranch. They lived in a house next to the main ranch house. She spent her childhood playing, fishing and traveling via horseback to her tutu's (Keli'ihananui's) home at Palawai Basin.

As a child living in Keōmoku, Auntie Irene used to ride on horseback up to Lāna'i City. From Keōmoku, she explained, they traveled up through Lāna'ihale to get to Kō'ele, "all over and through the mountain and down."

Auntie Irene attended school at Kō'ele. Driving around Kō'ele, Auntie Irene pointed to the hill where the original school was located. She also pointed to the location of the old slaughter house and a pasture that was utilized for grazing after the company gave up pineapple.

Auntie Irene described how teachers brought to Lāna'i had trouble staying. She explains:

At school ... we had teacher come over...we'd—they were on one or two months, three months and then they'd go back, they don't like Lāna'i because nothing to do, so we were in the same grade. And then the new teacher come, and they'd come over, stay for a half a year, and they'd take off, and go back, so we'd no school about one, two, three months, and then they'd come back and I'm in the same grade.

Auntie Irene explains that she did not graduate. Auntie Irene describes growing up at Keōmoku, fishing and preparing dried fish, turtle and *he'e*. They remember carrying these dried snacks as well as *kālua* pig to school in her shirt pocket.

When asked what her knowledge regarding the high occurrence of Hawaiian stone artifacts said to have been found during plowing of the pineapple fields was, she said she was aware of all the stone artifacts but did not know exactly how the area was utilized by Hawaiians in traditional times.



Figure 13. *Kūpuna* Aunty Irene Perry and Uncle Solomon Kaopuiki at the Blue Ginger.

6.3.2 Mr. Noboru “Squeaky” Oyama and Mr. Takeo Yamato

Mr. Noboru Oyama, known as “Squeaky”, was interviewed at the Senior Center on March 27, 2009. Mr. Oyama moved to Lāna‘i with his family in 1925. He was born in Wailuku, Maui. His father worked with horses in Kahului, with the Kahului Raching Association and moved to Lāna‘i to work as the plantation’s stable man. In 1925 the plantation utilized horses and plows for the agricultural work. Mr. Oyama said his father was in charge of all the stables and also worked in the capacity of a veterinarian. Also participating in the interview was Mr. Takeo Yamato, a long-time Lāna‘i resident.

When asked about the proposed Senior Center project, Mr. Oyama explains that the Senior Center is heavily utilized by seniors as well as numerous organizations. He agrees that there is a need for a new and larger center and he hopes it is built soon.

Looking at a map of Lāna‘i City, Mr. Oyama explained that when pineapple cultivation first began the fields did not touch the edges of the city as they do now but began further downslope, west of the city. They gradually extended up to the former Minami Garden which was located where the high and elementary school is now. He referred to Minami Gardens as a “truck garden” and said that the Minami family grew vegetables there. He described the area located behind the current day gym, adjacent to the school, as being the place where the ladies would “trim the crown”.

Mr. Oyama described the different shops and shop owners located immediately around Dole Park. He recalled details about the city and growing up during the early plantation days. He said

that the lot the Senior Center is on was vacant before the old library was moved there. He went on to describe the Okamoto Store and Butcher Shop and the Yet Lung Store explaining that both stores had an employee who walked around town and took household orders, then delivered the orders to your home. He described a type of hanging apothecary that his family had. He said it consisted of several pouches that held different medicines. He said this same delivery person would check the medicine pouches and restock them as needed. Mr. Oyama said that all the Japanese families had this.

Mr. Takeo Yamato recalls finding *ulu maika* in the pineapple fields and Mr. Oyama confirmed that *ulu maika* were "...all over the place." Mr. Yamato and Mr. Oyama talk about hiking *mauka* of the city as kids and picking *lilikoi* and guava. Mr. Yamato explains that up until about ten years ago, he would access *mauka* regions from Lāna'i City to collect *pepeiao* an edible fungus. He said that one could find *pepeiao* growing on *kukui* nut trees. Mr. Yamato and Mr. Oyama agree that *pepeiao* added to chop suey is delicious! Mr. Yamato goes on to explain that *pepeiao* can be easily dried and keeps for years. By soaking the dried fungus in water, it easily freshens up and is ready to cook. He stated that he has also collected bamboo shoots annually until recently, due to the construction of a fence that has blocked his access.

6.3.3 Senior Center Kūpuna

In a recorded interview on April 9, 2009, a group of seven ladies were recorded "talking story" at the Lāna'i Senior Center. Of the seven ladies, five of them -- Mrs. Suzanne Kincaid, Mrs. Margret Hubin, Mrs. Helen "Cookie" Hashimoto, Mrs. Alfansa Lopez and Aunty Irene Perry shared stories about growing up on Lāna'i. Mrs. Sugar Gima and Mrs. Chitose Oshiro were present, but did not add to the conversation (Figure 14 and Figure 15).

The ladies shared stories about participation in school and community sports events and dances. Mrs. Cookie Hashimoto said that there were several softball teams in the community. Mrs. Hashimoto recalls three women's teams: the Federation team (Filipino Federation of America), the Lāna'i High School team and the Office team, which she played on. Mrs. Lopez recalls the time the Globe Trotters came to Lāna'i and put on an exhibition game with the high school basketball team.

They speak of school dances as well but also of "public dances". In the 1940's, during the war, clubs would sponsor these public dances. There was live music and food and the women describe attending these events with a bunch of their girlfriends or "stag". The following is a portion of their conversation:

Mrs. Cookie Hashimoto (CH): Right, right, right. During the wartime we used to have a social dances in the streets, people used to sponsor, yep, and we used to play and go to social dance.

Mrs. Colleen Dagan (CD): What were those like?

CH: Well, you know, a lot of fun, because you go stag and get a lot of girlfriends [Everybody laughs]. Stag, a bunch of girls stag--

Mrs. Alfansa Lopez (AL): No more one particular partner eh--

CD: How old were you guys when those were happening?

CH: A teenager.

Mrs. Suzanne Kincaid (SK): There was no restriction [wartime curfew] on going to dances yeah.

CH: Yeah, they tried, but usually they had about 11:00 [pm], 10:30-11:00.

AL: There's no curfew, but well, some mothers don't trust yeah, so the mothers waiting outside, waiting for us 'til the dance pau!

SK: That was your mother, my mother never came [Laughs, several exchanges at once].

AL: My mother had one flashlight [Laughs]. My mother came, I could see the reflection of her glasses [Laughs].



Figure 14. *Kūpuna* from left: Mrs. Setsuku “Cookie” Hashimoto, Mrs. Susana Kincaid, Mrs. Alfansa Lopez and Mrs. Margaret Hubin at the Lāna‘i Senior Center.



Figure 15. *Kūpuna* from left: Mrs. Chitose Oshiro and Mrs. Yasuko “Sugar” Gima at the Lāna‘i Senior Center.

At the public dances Hawaiian music as well as popular American music was played. The women describe dancing, being asked to dance and talk about learning to dance in the basement of the gym:

CH: Well, Hawaiian music, what's that dance ...not like today kine, they had ah, jitterbug and that but not that like today.

SK: Remember the Filipino man he says, "Do you wanna dance?" some of us he asked and I says, "I don't jitterbug" and he says "I never asked you to jitterbug" and I says, "I don't dance."

AL: And then those days, they don't come and ask you, "May I have this dance?" They go like this [pointing motions, laughing],

CH: Yeah, reserve dance already, reserve dance! Because I guess you know, they know that people around yeah. Cause, then, well some of them say, "May I have this dance?"

AL: The proper way ah--

CH: Cause then they ask you, oh--

SK: Only had this way when they stared turning out, may I have this dance.

AL: They teach you how to,

CH: 'Cause you know why- they used to have the student body dances. Oh, yeah, when I was seventh grade, we used go under, you know the gym, the basement, yeah, we used to go there to learn.

CD: To learn to dance?

CH: To dance.

CD: The basement of the gym?

CH: Yeah, but those are the school days, that we have our seventh, eighth grade yeah, that was the school days, that's where we learned to dance all different steps.

CD: Different steps, like what?

CH: Fox trot, what that, waltz, and another one, what was it now? Three major dance, fox trot, waltz and what the other one, there were three major dance. Yeah.

CD: So were those the major social things, the dances?

CH: Yeah, those were the, those days used to go to school, a student body, used to have a dance for them, for the classes,

When asked what their thoughts are regarding the proposed new Senior Center facility, the ladies agree that a new facility is needed. They have attended the planning committee design meetings and shared their input. The overriding sentiment from them is that they hope the new facility is built in a timely manner.

These ladies also talk about heading *mauka* and gathering *lilikoi* and guava.

Section 7 Traditional Cultural Practices

The identification of traditional cultural practices for a cultural impact assessment takes into account, past, current and potential future cultural practices. Traditional cultural practices include those practices of any ethnic group who has influenced the culture of the study area and include subsistence hunting practices as well as traditional Hawaiian cultural practices. Traditional cultural practices are identified by community members through the consultation process.

7.1 Gathering for Plant Resources

7.1.1 Medicinal Plant Gathering

Gathering of plant resources in the upland portion of the study area consists of the collection of *ha'uōwī* (*Verbena litoralis*) and *'uhaloa* (*Waltheria indica*). The leaves, stems and roots of *'uhaloa* were grinded and strained and made to gargle to soothe a sore throat (Abbott 1992: 101). Mr. Morita recalls *ha'uōwī* being used as a poultice for bruises on individuals and horses. He remembers individuals collecting these medicinal plants from around Lāna'i City, in areas of fallow pineapple fields.

7.1.2 Subsistence Plant Gathering

Mr. Yamato explains that he used to hike into the forest *mauka* of Lāna'i City to collect *pepeiao akua*, commonly referred to as *pepeiao* (*Auricularia auricula*), a tree fungus that both Mr. Yamato and Mr. Oyama agreed is excellent in chop suey. Mr. Yamato said it often grew on *kukui* nut trees (*Aleurites molucana*). Mr. Yamato also explained that *pepeiao*, when dried, could be stored for years and freshens up nicely by soaking in water when ready to use. Mr. Yamato said that he continued to collect *pepeiao* until about ten years ago.

Mr. Yamato also describes traveling *mauka* to collect bamboo shoots. He said that he continued to collect bamboo shoots about once a year until a fence was recently constructed blocking his access. Guava (*Psidium guajava*) and *Lilikoi* or passion fruit (*Passiflora edulis*) are two other fruits that Mr. Yamato, Mr. Oyama, Aunty Irene Perry and several of the ladies at the senior center remember collecting.

7.1.3 Gathering *Maile*

Aunty Irene also recalled collecting *maile* (*Alyxia oliviformis*) from the mountains. It is unclear where exactly where she went to gather this plant or for what purpose. *Maile* has been known to be utilized as a decorative lei in *hula*.

7.2 Trails and Traditional Access Routes

No traditional Hawaiian trails within the present study area were mentioned during the consultation process. However, several individuals consulted described accessing the upland areas *mauka* of Lāna'i City for recreation and to gather edible foods such as *lilikoi*, guava, bamboo shoots and *pepeiao*. It is unclear as to what routes they utilized; however, it was noted that one access point had recently been fenced and access blocked.

7.3 Traditional Hawaiian Stone Tool and Craft Manufacture

Native Hawaiians utilized *pohaku*, stones of various qualities, for a variety of purposes. The *ulu maika* stone was designed as a sort of bowling disk used to play a game called *Maika*. *Maika* was a common traditional game played during the *Makahiki* season, the time of peace. To play this game, two stakes would be set in the ground about six inches apart. The player would then stand a distance from the stakes, further being more challenging, and attempt to roll the *ulu maika* between the stakes. Slingstones or *pohaku ma'a* were used as a weapon in warfare, hunting, and also as sport.

Throughout the consultation process, it was revealed that Hawaiian stone artifacts including *ulu maika*, *pohaku ma'a* and *imu* stones (fire pit stones) have been discovered and are known to be a common occurrence in the pineapple fields surrounding the city and throughout formerly cultivated areas on Lāna'i. Mr. Kepa Maly, in a written statement regarding Hawaiian habitation of this upland area, said, "Kamoku was noted for its upland forest and springs, with areas which the Hawaiians developed into an extensive forested dry land agricultural system, in Kō'ele, Kaiholena and Nininiwai region" (June 4, 2009 Maui County Cultural Resource Commission meeting). Although several individuals had found stone artifacts and surmised that Hawaiians had clearly left these items behind, few consulted were familiar with more detailed knowledge concerning Hawaiian habitation of these areas.

Mr. Albert Morita spoke of finding *ulu maika* and *imu*. There is a possibility of uncovering traditional stone tools during ground altering activities for the new Senior Center. Mrs. Sandra Ropa recalls finding Hawaiian stone artifacts in the pineapple fields as a child and vividly remembers not being allowed to bring them into the house. Mr. Takeo Yamato also said that he found *ulu maika* in the pineapple fields and Mr. Oyama confirmed that *ulu maika* were "...all over the place."

7.4 Fresh Water Resources

As mentioned above (7.1), Mr. Maly has stated: "Kamoku was noted for its upland forest and springs, with areas which the Hawaiians developed into an extensive forested dry land agricultural system, in Kō'ele, Kaiholena and Nininiwai region." The mention of freshwater "springs" in these areas prompted further research of these resources. The place names of Nininiwai, meaning pouring water (Emory, 1924: 31) and Kaiholena, the name of the gulch, associated spring and the *iholena* variety of banana (Emory 1924: 31), speaks to the known and relative lushness of these upland areas, Kaiholena being the location of one of the principal springs on the island (Emory 1924: 47).

In his book, *The Story of Lāna'i*, Mr. George C. Munro, the manager of the Lanai Ranch from 1911 to 1930, recalls a large boulder that had been modified to collect water located at Kō'ele. Several holes measuring three inches wide and three inches deep had been made in the surface of this boulder (Munro 2007: 126). This boulder and its whereabouts were not mentioned by any individuals consulted. It was also said that Mr. Frederick Hayselden (Walter Murray Gibson's son-in-law in charge of the ranch in the late 1800's) built eight to ten cement lined cisterns whose purpose was to catch water that dripped off the roofs of buildings at Kō'ele (Munro 2007: 128).

Mr. Munro also described a reservoir dug by Mr. Hayselden as being located behind the ranch manager's house. This reservoir caught storm water from the Kaiholena Gulch and was used to water livestock. This same reservoir exists today as a pond at what is now the Lodge at Koele, a Four Seasons Resort. In an April 2009 article in *The Lāna'i Times*, Aunty Irene Perry speaks of the days when she lived at Kō'ele in a house next to the main ranch managers house. Mr. Kenne Williams, the author of the article, explains that this same pond was the source of Aunty Irene's drinking water. Aunty Irene is quoted as saying, "Sometimes when it would rain, the pond would overflow and run down the hill" (*Lāna'i Times*, Williams 2009:10). This statement substantiates that this historic reservoir did, in fact, catch storm waters and shows that it was utilized for the same purpose many years after it was built. Aunty Irene recalls getting supplies of water from Maui as well, carried over on the sampan that the Kaoupuiki family ran between the islands.

This reservoir was also dry for a time. Mrs. Nani Watanabe (CCRC) recalls playing in it as a child in the 1940's and explains that it was dry. In a 1988 archaeological study, it was also described as being dry (Hammatt *et al.* 1988: 5). It is known that Kaiholena stream was an intermittent stream and did not flow year round, but it is unknown if other activities had caused the stream to flow elsewhere or to not flow at all during the times when the reservoir was dry.

Another reservoir described by Mr. Munro was located "at the lower end of Kaiholena Gulch" and is described as stone-lined, with the capacity to hold 400,000 gallons (Munro 2007:128). It is said that water from up the valley was piped into this reservoir. In addition, Mr. Munro describes a pump and waterline installed to pump water from Maunalei Gulch into Kaiholena reservoir (Munro 2007: 129). At the June 4, 2009 CCRC meeting, Mr. Steve Bumar made mention of a reservoir located behind the 17th hole at the golf course, the Experience at Koele. Descriptions from these two sources, coupled with research of historic and modern day photos, suggests these are the same reservoir, although it is unknown if any remnant of this reservoir exists today.

Fresh water resources also include brackish wells located in the coastal area at Kaumālapa'u. Mrs. Sandra Ropa recalls her grandparents' home and describes a garden that they grew that could tolerate the brackish water available there. Mr. George Munro also describes brackish wells located at Kaumālapa'u. He noted that these ancient Hawaiian wells were shallow and sealed on the seaward side by a mixture of mud and straw in an effort to minimize salt water seepage. One of these wells was located in Kaumālapa'u Gulch. Mr. Munro describes the water in this well as being ten feet below the surface (Munro 2007: 125).

7.5 Agricultural Practices

Mr. Munro begins his chapter on agriculture with the following passage:

Hawaiians are believed to have first colonized Lāna'i about the year 1400. Their first cultivations would likely be along the shore of the east side and in taro patches in Maunalei Gulch. The shore areas got very little rainfall, but water from the mountains soaked them during the wet season. These lowlands and taro patches would not be injured by such work, as yearly freshets bring rich soil from the mountains and deposit it on these lands. They may have found later that the extensive uplands on the west side had more rainfall but were not subject to flooding from freshets. The soil rich with the deposits of centuries from the forest

that had covered it, was light enough to be easily handled with their primitive tools. As the population increased, therefore, they took up cultivation in that area (Munro 2007: 47).

The few mid-nineteenth century Land Commission Award (LCA) claims for lands within Kamoku Ahupua'a near the current project area may reflect the long-term effects of Kalani'ōpu'u's raid on Lāna'i in 1778. It is said that Kalani'ōpu'u's raid was so thorough that virtually all of Lāna'i's inhabitants were killed. His forces then raided their crops leaving nothing left to eat but the famine food of *kupala* (Kamakau 1992: 09-91). Mr. Munro goes on to explain that by killing all who farmed the western uplands, and raiding all the crops, the soils were left exposed. With no one to reestablish cultivation, these soils were blown away, thus leaving portions of the island denuded of its topsoil (Munro 2007: 47).

The four Kamoku LCA grants made at the time of the *Māhele* include LCA 3719 to Kalaihoa, LCA 6833 to Kaaia, LCA 8556 to Kaauwaeaina and LCA 10630 to the Noa Pali. These claims consisted of *moku mauu* (grass lands or pastures), sweet potato plots and gourd fields. Pali was the *konohiki* of the area and his LCA extended into neighboring Kalulu and Kaunolu ahupua'a. Munro mentions the probable crops in these areas to have been taro, sweet potato and yams (Munro 2007: 47)

Mr. Maly also described the area as having been utilized by Hawaiians in traditional times for dry-land agriculture as well as forest resources. Today, stone artifacts such as *ulu maika*, sling stones and various lithic tools, have been found over the years despite intense cultivation of the pineapple fields.

Historic research and community consultation found that historic gardening practices also occurred adjacent to the Senior Center, at the present-day high and elementary school location. Not only did individual families typically have their own gardens, but a truck garden called Minami Gardens was located at the school site before the school was moved from its Kō'ele location. Mr. Jusaku Minami ran the family garden which may have extended from Fraser Avenue to where the county park is today. Mr. Minami worked at the garden after hours as he maintained a day job with the pineapple company where he worked as a *huna* for a *wahine* gang. His mother, Nami, as well as one other individual worked in the garden full-time. They grew Japanese potatoes or *araimo*, carrots lettuce, cabbage, bananas and *won bok*.

Minami Gardens supplied Lāna'i City with supplemental produce. Family members including daughter, Mrs. Susan Miyamoto and son Mr. Shigeto Minami, would accompany their father in an old car through the camp to sell their produce. Mr. Shigeto Minami recalls ringing a bell to let people know they were there. He explains that most families had their own smaller gardens, but that they provided vegetables to the camp stores and to the single men who had traveled from abroad to work in the pineapple plantation. It is believed that the garden operated at the current school location from about 1924, when the Minamis moved to Lāna'i, until about 1937. Mr. Shigeto Minami explained that when plans were made to move the school from Kō'ele to the garden location, their garden was moved about a mile away, by the Protestant church.

The Minami family lived behind the current Senior Center, in one of the original plantation homes. When asked, Minami family members and *kūpuna* describe the landscape surrounding Lāna'i City as being uncultivated. They explained that the pineapple fields began considerably

further *maka'i* in the 1920's, and that the school location and the ball park located west of it was Minami Gardens. Historic maps and aerial photographs of the area indicate that the county park adjacent to the school and west of the Senior Center, might not have been cultivated in pineapples.

7.6 Hunting Practices and Deer Habitat

Previous research documented in the study *Cultural Impact Assessment for the Lāna'i High and Elementary School Expansion Project, Kamoku Ahupua'a, Lahaina District, Lāna'i Island [TMK: (2) 4-9-002: 058 (por.) and TMK (2) 4-9-014: 002]* (Degan et al 2009 in press) found that State of Hawai'i Hunting Units 1 and 3 (public hunting areas) are located in the study area approximately two miles northwest and west of the Senior Center. The game mammals and game birds that populate these areas include axis deer, mouflon sheep, *kolohala* or the Chinese ring-necked pheasant, wild turkeys, gray francolin, gambles quail, erckel francolin and doves.

Lāna'i residents, as well as other residents of the state, hunt as a subsistence practice. And this practice has become a strong tradition in some communities. While many Lanaians might agree that hunting is a strong tradition on Lāna'i and individuals such as Mrs. Sandra Ropa explained that food supplied from hunting deer was a significant part of their diet. Mrs. Alberta de Jetley notes, however, that sport hunting is not a traditional Hawaiian practice, but rather an introduced recreational sport.

Kamā'aina contacted during consultation explained that the state leases these lands from Castle & Cooke and that sport hunting activities has continued since the 1950's. It is believed that these public hunting areas are the most popular game mammal hunting areas in the state contributing significantly to the Lāna'i lifestyle and economy.

Contacts consulted said that a small population of axis deer have made their home in the fallow pineapple fields west of the city. Senior Center construction activities will not affect axis deer populations.

7.7 Pursuit of Knowledge – Ka'imi'ike

Originally at Kō'ele, then moved to its present location, Lāna'i High and Elementary School has been the main educational facility on the island since the ranching era. During the consultation process it was explained that when the Japanese immigrated to the island in the twenties to attain work on Dole's pineapple plantation, they brought with them a strong tradition and love for education. This desire to excel in education was quickly accepted and emulated by all ethnic groups on Lāna'i. Individuals consulted relay a sense of healthy competition; not only did they enjoy school and school activities but they strived to do well, get the best grades and be the best sportsman. This sentiment continues today.

The school was also at the center of community activities: sports, dances and social events. The women interviewed at the Senior Center spoke fondly of their years at teenagers attending dances and playing sports (Section 0). This was their life: school and school activities. And when they had families of their own, the school became central to their lives again.

It was explained during the consultation process that the Lāna'i community, with their devotion to education, organized themselves in such a way that they secured funding from the

legislature for the continued growth and improvement of the school. This funding went towards the construction of one classroom or building every year.

Those parents who worked on the plantation were keenly aware of the physical demands of plantation work and also understood that a good education would enable their children to attend college, with the hopes of eventually carving out a better life for themselves. Lanaians of the plantation era and as well as Lanaians today continue to encouraged their kids to attain a higher education. As a result, Lānaʻi High and Elementary School has one of the highest numbers of graduating seniors going into either four year colleges or vocational schools. During the plantation days it was said that they export two things: pineapples and kids. This speaks to the emphasis placed on education, and that parents encouraged and expected their children to leave Lānaʻi to attain a higher education. Today, this mind set continues. With the shift from pineapple to high-end resorts, it is said that more Lānaʻi residents are returning after college because they are able to secure competitive jobs in the tourism industry.

7.8 Historic Burials

Although no other research for this study indicated the potential for historic burials, it should be noted that during the consultation process Pastor Robert Alpers suggested that individuals may have been buried on the Senior Center parcel.

7.9 Honoring the *Kūpuna*

The Lānaʻi Senior Center is a place where many of the *kūpuna* on Lānaʻi congregate daily. They come here to socialize, talk story with friends, have lunch, watch T.V and relax. For those who cannot travel on their own, a Maui Economic Opportunity (MEO) bus shuttles them from their homes to the center and back each day. For seniors who cannot make it to the center, Mrs. Masicampo and Mrs. Alboro deliver hot lunches to them at their homes each day.

The Lānaʻi Senior Center acts as a multi-purpose center and individuals consulted refer to the Senior Center as the community Town Hall. Here a variety of classes may take place, from hula and ukulele lessons (Figure 16) to hunter education classes. Often times these classes are free of charge. The Senior Center is the most popular location to book for celebrations such as birthdays, reunions, graduation parties and wedding receptions. Nearly all business and community meetings take place at the Senior Center.

Throughout the consultation process individuals described the vital role the Senior Center plays on Lānaʻi. Mrs. de Jetley said that the community enjoys the warm and homey atmosphere of the Senior Center. Mr. Onuma explained that the Senior Center is heavily utilized by the community as a place where the seniors have lunch, socialize and attend classes and referred to the Senior Center as their "town hall", a place where families throw parties, and groups hold community meetings. Mr. Hera also mentioned that he utilized the Senior Center when teaching hunters education classes. He said the Senior Center serves the community in many ways that reach beyond the actual Senior Center services. Mr. Oyama stated that the Senior Center is constantly being used by different organizations and that there is a real need for a new and bigger center. Mrs. Ropa feels that the proposed new Senior Center is currently the most important project in Lānaʻi City. It was further explained by Mr. Maly and Mr. Hokama that the population on Lānaʻi is ageing

and that the seniors depend on the services the Senior Center provide and are in need of additional services.

During the consultation process individuals continually referred the researcher to the Senior Center and the *kūpuna* there. This simple house which provides services to seniors, and acts as a town hall to the community, also houses the most cherished cultural resource, the *kūpuna* themselves. Traditionally, elders of most cultures are honored and cared for. Being the individuals who have given life to all others and for their knowledge and their experience, *kupuna* at the Lāna'i Senior Center are highly respected and well cared for. The reverence and care given the *kupuna* form a distinct cultural focal point in this community. As stated by Mr. Hutaff of the Maui County Cultural Resource Commissioner, the *kūpuna* are the cultural resource (Section 6.2.1.1). He explains that the community must see to it that they are properly cared for and that their needs are met.

As a result of the consultation process, it was found that the community overwhelmingly supports the construction of a new facility and hopes that the planning and construction process is expedited and they do not have to go without this facility for an extended amount of time.



Figure 16. Ukulele lessons at the Lāna'i Senior Center, From Left: Mrs. Setsuko (Karen) Mendes, Mr. Alfred Leonillo, Mrs. Hiroko (Helen) Onuma and Mrs. Irene Perry,

Section 8 Summary and Recommendation

From mythological times, Lānaʻi has always been unique. First inhabited by spirits and eventually made habitable for mortals by the trickster Kaululāʻau, Lānaʻi today retains a distinctive culture. The island's natural resources, although somewhat limited, have traditionally kept its population small. Regardless, the Hawaiians that populated Lānaʻi in ancient times lived well given the resources available. They utilized the forests resources as well as developing dry land agriculture on the western plateau lands near the project area. Their most extensive *loʻi* were located in the Maunalei Gulch and along the northeastern side of the island. Historic literature shows that ancient Lanaians lived with an inseparable connection to Maui and as subjects of the Maui chiefs. But crucial changes would take place beginning with the devastating raid by Kalaniʻōpuʻu known as Kamokuhī. This was a war that is said to have left its scar on this island in the form of denuded soils and barren lands. From the time of the Kamokuhī raid in 1778 until the arrival of the first missionaries, it is said that the *ahupuaʻa* of Kamoku was left largely uncultivated (Munro 2007: 47). Then, with the *Mahele aina* came the division and privatization of lands on Lānaʻi. Vast acreages transferred from Kamehemaha III and the *kanaka maoli* through several different property owners including; Walter Murray Gibson, Charles Gay, W. M. Giffard, James Dole and today, David Murdock of Castle & Cooke Resorts. These different owners saw the island through very different phases of its history; from the Mormon colonist settlement at Palawai, to the ranching era of Lanai Ranch. From the Hawaiian Pineapple Company plantation to a five-star resort vacation destination.

Today the community remains small, but the events of Lānaʻi's history have shaped a unique and culturally diverse population here. It is a tightly knit community, where, literally, everyone knows everyone. This is an exceptionally friendly community and its heart is the Lānaʻi Senior Center. The unique thing about the Senior Center on this island is that it serves purposes that go beyond the scope of typical county Senior Centers. It is the social and recreational place for senior citizens and the community Town Hall. The Senior Center hosts business meetings as well as birthday parties, wedding receptions and family reunions not only because it is the only location that has the facilities to so, but also because the community enjoys the warm and homey atmosphere.

Most importantly, the Lānaʻi Senior Center is home to a cultural resource, the *kūpuna*, the elders of the community. It is the *kūpuna* who hold the knowledge of their years. They have lived through what today we refer to as "history". They are the individuals that can speak with firsthand knowledge about the ranching era or the early plantation days. It is the *kūpuna* who remember traditional practices that took place on Lānaʻi. Studies such as this cultural impact assessment rely on the *kūpuna*. The *kūpuna* are the living treasures in this community and Lanaians have a strong tradition of caring for these treasures. The Senior Center facility is central to maintaining the welfare of the *kūpuna* and therefore the community at large.

Throughout the consultation process it was found that the community overwhelmingly supports the construction of a new Senior Center facility, they have made their design suggestions clear to the various planning committees (Section 6.1 and 6.2.1) and their overall hope is to have a new facility that recreates the atmosphere that exists there now.

8.1 Recommendation

The community requests that the planning and construction process be expedited as they depend on the Senior Center and cannot go without a facility for an extended amount of time. CSH recommends that the requests of the seniors and the community regarding landscaping, facility design and color palette be incorporated into final design plans.

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