



DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

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March 27, 2014

Jessica Wooley, Interim Director
Office of Environmental Quality Control
Department of Health, State of Hawai'i
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

FILE COPY

APR 23 2014

14 APR -7 P1:06

Dear Ms. Wooley:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE PROPOSED HOSPICE MAUI CARE FACILITY AT TMK (2)3-8-046:017, WAILUKU, MAUI, HAWAII

The County of Maui, Department of Housing and Human Concerns has reviewed the Draft Environmental Assessment (DEA) for the subject project, and anticipates a Finding of No Significant Impact (AFONSI) determination. Please publish notice of availability for this project in the next available Office of Environmental Quality Control (OEQC) Environmental Notice.

Enclosed is a completed OEQC Publication Form, two copies of the DEA-AFONSI, an Adobe Acrobat PDF file of the same, and an electronic copy of the publication form in MS Word. If there are any questions, please contact Erin Mukai of Munekiyo & Hiraga, Inc. at (808) 244-2015.

Sincerely,

JO-ANN T. RIDAO
Director of Housing and Human Concerns

Attachments

cc: Greg LaGoy, Hospice Maui (w/one copy of Draft EA)
Erin Mukai, Munekiyo & Hiraga, Inc. (w/out attachments)

APPLICANT ACTIONS
SECTION 343-5(C), HRS
PUBLICATION FORM (JANUARY 2013 REVISION)

Project Name Proposed Hospice Maui Care Facility
Island: Maui
District: Wailuku
TMK: (2) 3-8-046:017
Permits: Construction permits; noise permit, as applicable
Approving Agency: County of Maui
(Address, Contact Person, Telephone) Department of Housing and Human Concerns
2200 Main Street, Suite 546, Wailuku, Hawaii 96793;
Contact Person: Jo-Ann T. Ridao, Director
Telephone: (808) 270-7805

Applicant: Hospice Maui
(Address, Contact Person, Telephone) 400 Mahalani Street, Wailuku, Hawaii 96793
Contact Person: Dr. Gregory LaGoy
Telephone: (808) 244-5555

Consultant: Munekiyo & Hiraga, Inc.
(Address, Contact Person, Telephone) 305 High Street, Suite 104, Wailuku, Hawaii 96793
Contact Person: Erin Mukai, Senior Associate
Telephone: (808) 244-2015

Status (check one only):

- DEA-AFNSI Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day comment period ensues upon publication in the periodic bulletin.
- FEA-FONSI Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov; no comment period ensues upon publication in the periodic bulletin.
- FEA-EISPN Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day consultation period ensues upon publication in the periodic bulletin.
- Act 172-12 EISPN Submit the approving agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov. NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.
- DEIS The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.
- FEIS The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
- Section 11-200-23 Determination The approving agency simultaneous transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the applicant. No comment period ensues upon publication in the periodic bulletin.
- Statutory hammer Acceptance The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it failed to timely make a determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and that the applicant's FEIS is deemed accepted as a matter of law.
- Section 11-200-27 Determination The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.
- Withdrawal (explain)

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page):

Hospice Maui proposes to develop a five-bedroom care facility totaling 4,500 sq. ft. at 400 Mahalani Street in Wailuku. Hospice Maui is a nonprofit organization dedicated to providing quality, compassionate services to patients and their families needing care and support during the final stages of life. The proposed care facility will allow Hospice Maui to offer in-patient services to patients who may require more full-time care needs.

The 3.96-acre project site is identified by TMK (2)3-8-046:017 (Parcel 17) and is located on Mahalani Street at its intersection with Maui Lani Parkway. The proposed care facility will be developed adjacent to and east of the existing Hospice Maui offices and multi-purpose building located on the same property.

Parcel 17 is owned by the County of Maui and leased by Hospice Maui. Hospice Maui has secured County funds to construct the proposed project.

The use of County lands and funds are triggers for Chapter 343, Hawaii Revised Statutes (HRS). As such, an Environmental Assessment (EA) has been prepared pursuant to Chapter 343, HRS, and Chapter 200 of Title 11, Hawaii Administrative Rules (HAR), Environmental Impact Statement Rules. This EA documents the project's technical characteristics and environmental impacts, and advances findings and conclusions relative to the significance of the project.

Draft Environmental Assessment

PROPOSED HOSPICE MAUI CARE FACILITY (TMK (2) 3-8-046:017)

**Prepared for:
Hospice Maui**

April 2014

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by Munekiyo & Hiraga, Inc.**



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List of Acronyms

AIS	Archaeological Inventory Survey
ALISH	Agricultural Lands of Importance to the State of Hawaii
BMP	Best Management Practices
cfs	cubic feet per second
CZM	Coastal Zone Management
DEM	Department of Environmental Management
DLIR	Department of Labor and Industrial Relations
DOH	Department of Health
DWS	Department of Water Supply
EA	Environmental Assessment
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GPD	Gallons per Day
HAR	Hawaii Administrative Rules
HC&S	Hawaiian Commercial & Sugar Company
HRS	Hawaii Revised Statutes
MGD	Million Gallons per Day
MIP	Maui Island Plan
MPH	Miles per Hour
PZUE	Puuone Sand
RGB	Rural Growth Boundary
SHPD	State Historic Preservation Division
SMA	Special Management Area
STB	Small Town Boundary
TIAR	Traffic Impact Assessment Report
TMK	Tax Map Key
UGB	Urban Growth Boundary
US	United States
USDA	United States Department of Agriculture

Executive Summary

Project Name: Proposed Hospice Maui Care Facility

Type of Document: Draft Environmental Assessment

Legal Authority: Chapter 343, Hawaii Revised Statutes

Anticipated Determination: Finding of No Significant Impact (FONSI)

Applicable Environmental Assessment Review "Trigger": Use of County lands and funds

Location: Maui Island
Wailuku
TMK No. (2) 3-8-046:017

Landowner: County of Maui

Applicant: Hospice Maui
400 Mahalani Street
Wailuku, Hawaii 96793
Contact: Dr. Gregory LaGoy
Phone: (808) 244-5555

Approving Agency: County of Maui
Department of Housing and Human Concerns
One Main Plaza, Suite 546
2200 Main Street
Wailuku, Hawaii 96793
Contact: Jo-Ann Ridao, Director
Phone: (808) 270-7805

Consultant: Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793
Contact: Erin Mukai, Senior Associate
Phone: (808) 244-2015

Project Summary: Hospice Maui proposes to develop a five-bedroom care facility totaling 4,500 sq. ft. at 400 Mahalani Street in

Wailuku. Hospice Maui is a nonprofit organization dedicated to providing quality, compassionate services to patients and their families needing care and support during the final stages of life. The proposed care facility will allow Hospice Maui to offer in-patient services to patients who may require more full-time care needs.

The 3.96-acre project site is identified by TMK (2)3-8-046:017 (Parcel 17) and is located on Mahalani Street at its intersection with Maui Lani Parkway. The proposed care facility will be developed adjacent to and east of the existing Hospice Maui offices and multi-purpose building located on the same property.

Parcel 17 is owned by the County of Maui and leased by Hospice Maui. Hospice Maui has secured County funds to construct the proposed project.

The use of County lands and funds are triggers for Chapter 343, Hawaii Revised Statutes (HRS). As such, an Environmental Assessment (EA) has been prepared pursuant to Chapter 343, HRS, and Chapter 200 of Title 11, Hawaii Administrative Rules (HAR), Environmental Impact Statement Rules. This EA documents the project's technical characteristics and environmental impacts, and advances findings and conclusions relative to the significance of the project.

I. PROJECT OVERVIEW

I. PROJECT OVERVIEW

A. PROJECT LOCATION, CURRENT LAND USE, AND LAND OWNERSHIP

For over thirty years, Hospice Maui has provided quality, compassionate services for patients and their families needing care and support during the final stages of life. To increase the community's access to hospice care, Hospice Maui proposes to develop a five-bedroom care facility at 400 Mahalani Street in Wailuku. The 3.96-acre project site is identified by TMK (2)3-8-046:017 and is located at the intersection of Mahalani Street and Maui Lani Parkway. See **Figure 1**. Currently, Hospice Maui operates its administrative offices and multi-purpose building on this same property. At this location, Hospice Maui offers support services, classes, and workshops for patients, families, and care givers.

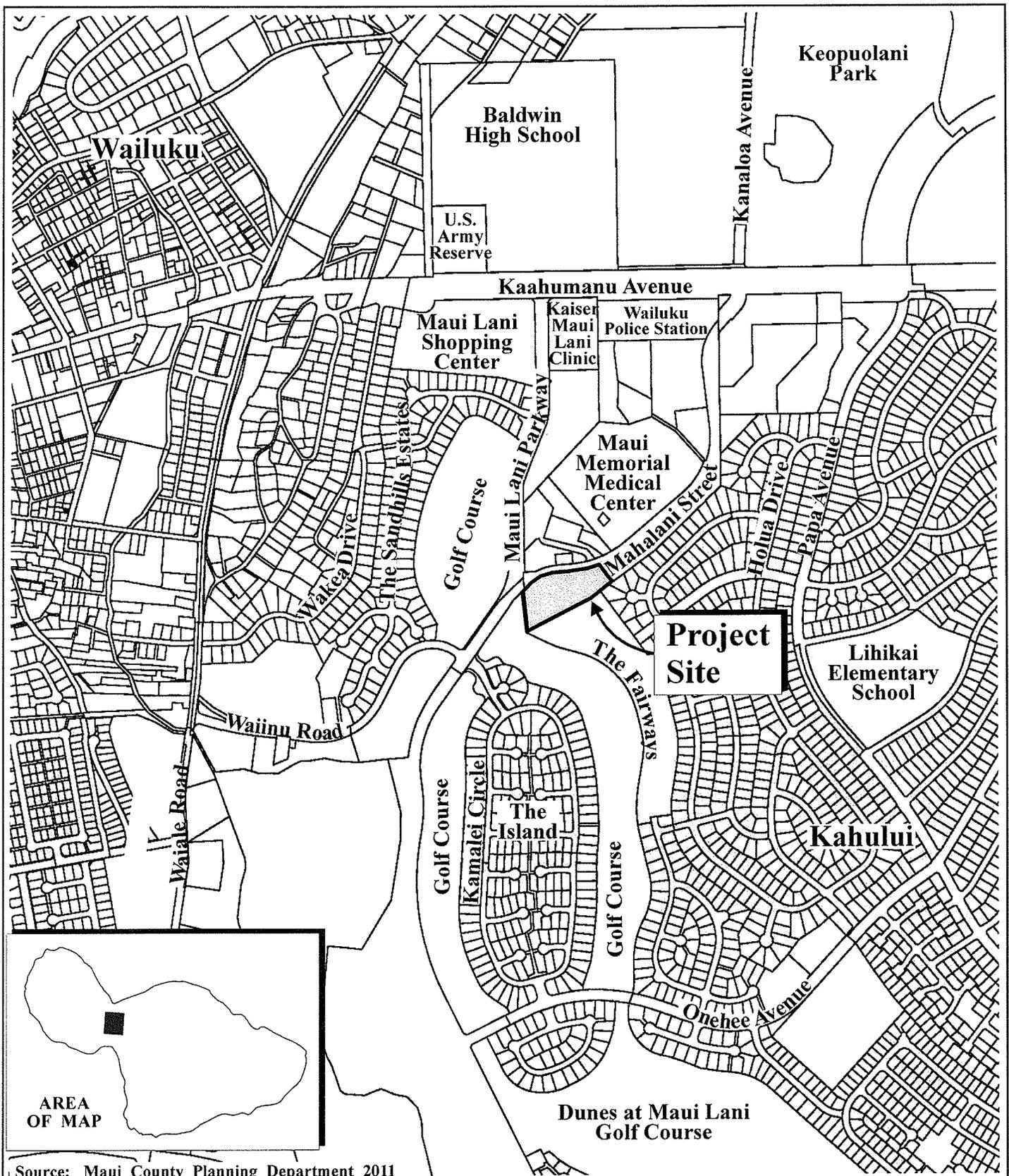
Land uses neighboring the project site include the Dunes at Maui Lani Golf Course, located to the west and south, with residential communities including, The Sandhills Estates, The Island, and The Fairways beyond. To the north is the Hui Malama Learning Center and the Pacific Cancer Institute, with the Maui Memorial Medical Center and Kaiser Permanente further north.

The project site is classified as "Urban" by the State Land Use Commission, designated "Public/Quasi-Public" by the Wailuku-Kahului Community Plan map, and is County zoned "P-1, Public/Quasi-Public".

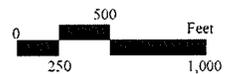
Hospice Maui maintains a long-term lease for the property, which is owned by the County of Maui.

B. PROPOSED ACTION

Hospice Maui proposes to develop a care facility and related infrastructural improvements to provide in-patient services to those who may require more full-time care needs during their end of life. The facility will be available to all residents of the County of Maui and will be known as "Hale Ho'olu'olu" ("a place for comfort, compassion and care"). The proposed care facility will be one-story and cover approximately 4,500 square feet and will include five-bedrooms, two-and-a-half bathrooms, a kitchen, and family room. The height of the building will be 19 feet from grade. Associated site improvements will include paving a turn-around driveway from the edge of the existing



**Figure 1 Proposed Hospice Maui Care Facility
Property Location Map**



MUNEKIYO & HIRAGA, INC.

Prepared for: Hospice Maui

driveway to the new facility, a water lateral from the existing waterline and a new individual wastewater system. There are 26 existing parking stalls onsite which are used by Hospice Maui's current operations and will also be used by the proposed facility. Access to the care facility will be provided via Hospice Maui's existing access off of Mahalani Street. See **Figure 2** and **Figure 3**.

C. PROJECT NEED

The mission statement of Hospice Maui is:

To enrich our community by helping people make the most of the great gifts that preparing them for death can bring: compassion, insight, courage, humility, inspiration, confidence and growth.

The work of Hospice Maui is directed towards:

Providing physical comfort and emotional and spiritual support for people who are terminally ill. Supporting and assisting their families, before death and while they are grieving.

Hospice Maui is a non-profit organization that is dedicated to providing quality, compassionate service to patients and their families needing care and support during the final stages of life. Their vision is to fill an unmet need in Maui County's community, thereby increasing access to hospice care with the proposed facilities expansion, a project that has been awarded a Certificate of Need by the State of Hawaii. Hale Ho'olu'olu will be a place where patients in their last days or weeks of life will receive specialized care to meet their medical, social, emotional, and spiritual needs.

The majority of those who are terminally ill wish to spend the last part of their lives in the comfort of their own homes, to the extent practicable. Those, who are unable to stay in their homes, are faced with choosing to stay in a hospital, nursing home, care home, or assisted living facility. Where one chooses to spend their last days could have a big impact on their and their families' experience during this time.

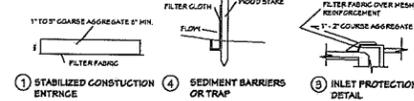
For those who choose hospice care, Hospice Maui has worked to see that those patients spend their remaining weeks and days of life in as much comfort and dignity as possible, with expert clinical care for patients and support for their caregivers. It is the goal of Hospice Maui to maximize quality of life and minimize suffering. Currently, the non-profit organization can only provide hospice care to those who have a residence, can be made comfortable at home, and have caregiving in place.

MINIMUM BMP CHECKLIST FOR SMALL PROJECTS

THAT REQUIRE GRADING PERMIT

1 STABILIZED CONSTRUCTION ENTRANCE

All points of ingress and egress to a site shall be protected with a stabilized construction entrance. 20' x 20' MIN.



2 STOCKPILES

Stockpiles shall not be located in drainage ways or other areas of concentrated flow. During periods of wet weather, such as the rainy season, stockpiles shall be stabilized. Stockpiles covered in plastic when not in use.

3 DUST CONTROL

Dust control should be applied to reduce dust emissions. Contractor to spray water as necessary.

4 SEDIMENT BARRIERS OR TRAPS

Sediment trapping devices such as fences, traps basins or barriers shall be used down slope of all disturbed areas and around the base of all material stockpiles. Stockpiles to be covered with plastic.

5 INLET PROTECTION

All storm drain inlets on site, and those offsite which may receive runoff from the site shall use an inlet protection device.

6 PERMANENT STABILIZATION

All disturbed areas shall be permanently stabilized prior to removing erosion and sediment measures. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed. Trapped sediment and areas of disturbed soil which result from the removal of the temporary measures shall be immediately permanently stabilized.

Area to be permanently seeded/mulched within 14 days or final grade except house area which will be formed and stabilized within 14 days.

Dust control should be applied to reduce dust emissions. Contractor to provide 6' dust fence & perimeter sprinkling system.

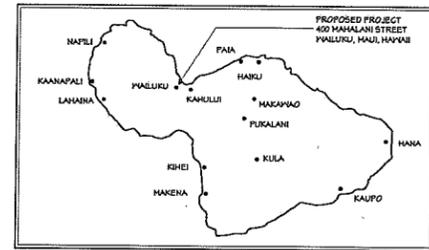
CONTRACTOR TO CONFIRM EXISTING D-BOX IS MIN 5 FT. AWAY FROM PROPOSED BUILDING. IF LESS THAN REQUIRED CONTRACTOR TO RELOCATE D-BOX

EXISTING SEPTIC TANK AND DISTRIBUTION BOX

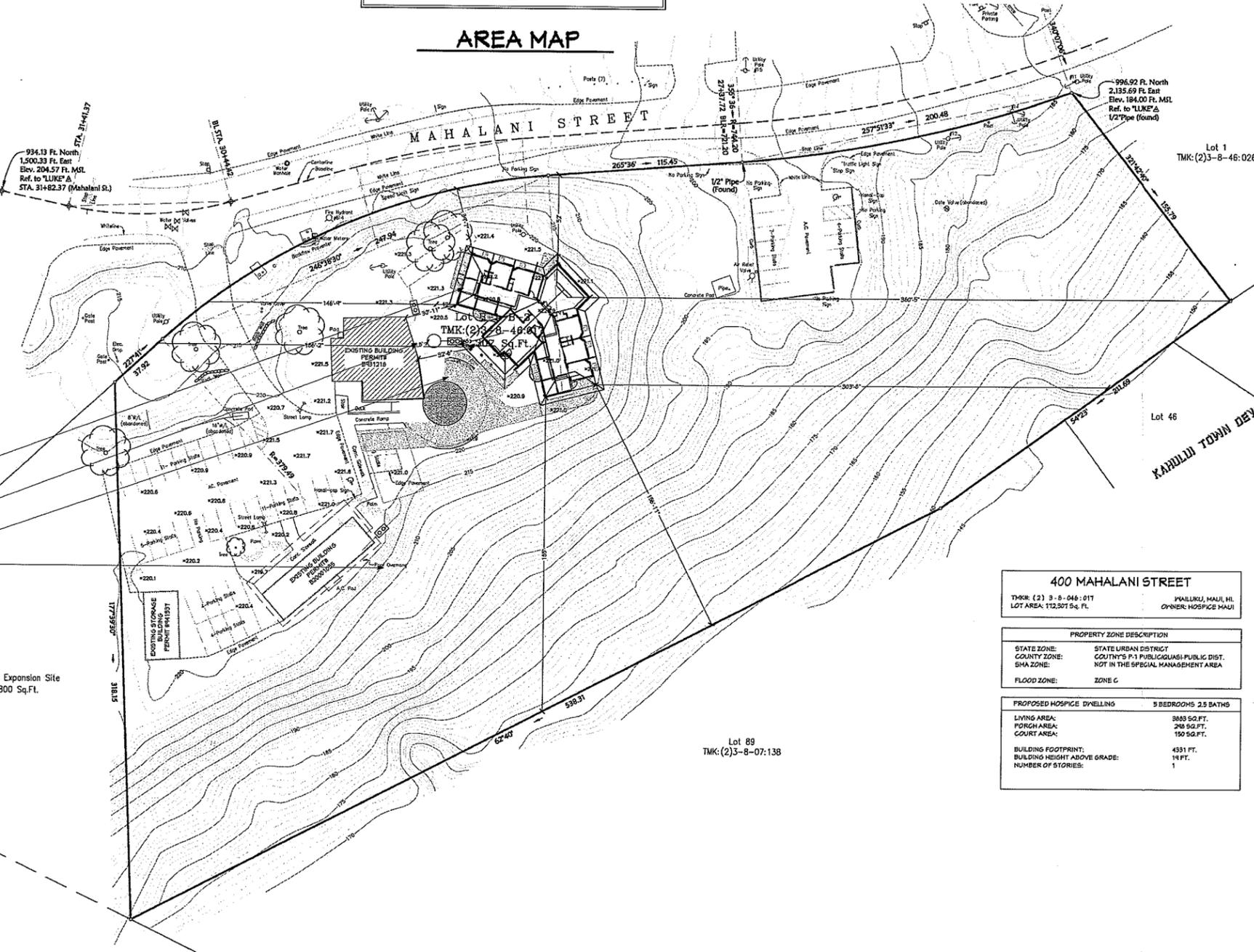
PROPOSED 1250 SEPTIC TANK AND D-BOX SEEPAGE PIT

EXISTING SEPTIC TANK AND DISTRIBUTION BOX

sed Expansion Site
32,800 Sq.Ft.



AREA MAP



400 MAHALANI STREET	
TRK: (2) 3-8-046:017	MAHALUKU, MAUI, HI
LOT AREA: 112,507 Sq. Ft.	OWNER: HOSPICE MAUI
PROPERTY ZONE DESCRIPTION	
STATE ZONE: STATE URBAN DISTRICT	COUNTY'S P-1 PUBLIC/QUASI-PUBLIC DIST.
COUNTY ZONE: COUNTY'S P-1 PUBLIC/QUASI-PUBLIC DIST.	NOT IN THE SPECIAL MANAGEMENT AREA
SMA ZONE: COUNTY'S P-1 PUBLIC/QUASI-PUBLIC DIST.	NOT IN THE SPECIAL MANAGEMENT AREA
FLOOD ZONE: ZONE C	
PROPOSED HOSPICE DWELLING 5 BEDROOMS 2.5 BATHS	
LIVING AREA: 3843 SQ.FT.	
PORCH AREA: 298 SQ.FT.	
COURT AREA: 150 SQ.FT.	
BUILDING FOOTPRINT: 4331 FT.	
BUILDING HEIGHT ABOVE GRADE: 14 FT.	
NUMBER OF STORIES: 1	

Source: Professional Drafting & Design, Inc.

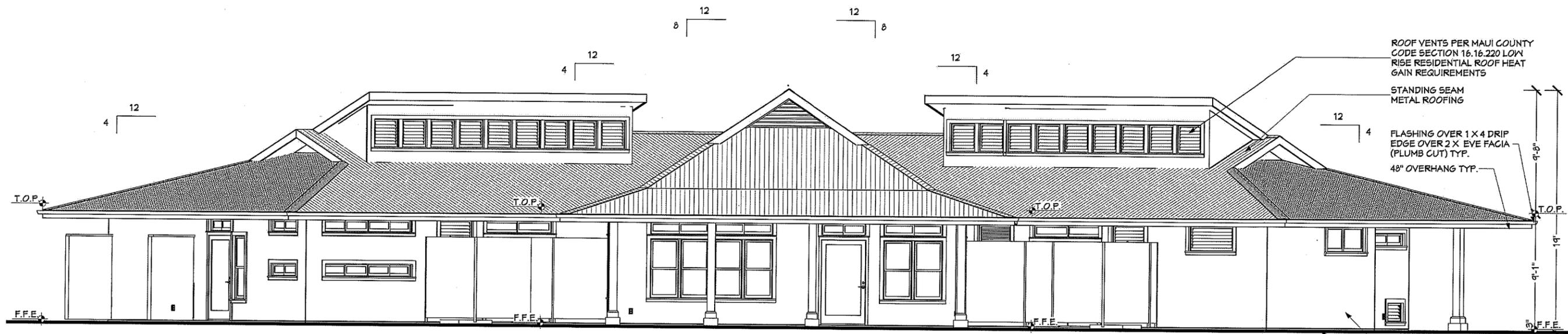
Figure 2 Proposed Hospice Maui Care Facility Site Plan

NOT TO SCALE



Prepared for: Hospice Maui





Front Elevation



Rear Elevation

Source: Professional Drafting & Design, Inc.

Figure 3

Proposed Hospice Maui Care Facility
Front and Rear Elevations

NOT TO SCALE



Prepared for: Hospice Maui



On the other hand, those who choose hospitalization may spend about \$1,500.00 per day, without diagnostic procedures, interventions, or medications.

Hospice Maui anticipates that full hospice care in the proposed 5-bed facility, with room and board, would cost less than a third of the cost associated with hospitalization. A hospice care facility on Maui would increase access to appropriate end-of-life care, as well as conserve resources that could be better used otherwise (Hospice Maui, 2014).

D. CHAPTER 343, HAWAII REVISED STATUTES

The project site is owned by the County of Maui. Hospice Maui has secured County funds to construct the proposed project. The use of County lands and funds triggers the need for the preparation and processing of an Environmental Assessment (EA) pursuant to Chapter 343, Hawaii Revised Statutes (HRS). Based on the scope of the proposed project, this EA is being prepared in accordance with Chapter 200 of Title 11, Department of Health Administrative Rules, *Environmental Impact Statement Rules*. Accordingly, this document addresses the project's technical characteristics, environmental impacts and alternatives, and advances findings and conclusions relative to the significance of the proposed action.

The approving agency for the EA is the County of Maui, Department of Housing and Human Concerns.

E. PROJECT COSTS AND SCHEDULE

The estimated construction cost for the proposed five-bedroom care facility and related improvements is approximately \$1.6 million. Construction of the proposed project will commence upon the receipt of all necessary regulatory permits and approvals. Construction duration is estimated to be approximately nine (9) months.

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

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

A. PHYSICAL SETTING

1. Surrounding Land Uses

a. Existing Conditions

The project site is located on the central isthmus of Maui in the Wailuku-Kahului Community Plan Area. Kahului is home to Kahului Harbor, the island's only deep water port, and the Kahului Airport, the second busiest airport in the State. With its proximity to the harbor and airport, the Kahului region has emerged as the focal point for heavy industrial, light industrial, and commercial activities and services such as warehousing, baseyard operations, automotive sales and maintenance, and retailing for equipment and materials for suppliers. Kahului is considered Central Maui's commercial retailing center with the Queen Kaahumanu Center, Maui Mall, Maui Marketplace and Kahului Shopping Center located within the region. Wailuku, on the other hand, serves as the seat of County and State governments, with several agencies headquartered in the civic center area between Kaohu Street and Main Street. Wailuku also serves as a center for professional services including medical, dental, legal and design professions.

The project site is located on Mahalani Street in an urbanized area of Wailuku. Hospice Maui's administrative offices and multi-purpose building are located on the western portion of the project site. Land uses surrounding the project site include existing golf course, residential, and public/quasi-public uses. The Dunes at Maui Lani Golf Course is located to the south and west of the project site with The Island residential community beyond. Medical facilities, including the Maui Memorial Medical Center, Kaiser Permanente, and Liberty Dialysis Center, are located in the vicinity of the project site to the north. A single-family residential neighborhood lies to the southeast of the property.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project involves the development and operation of a five-bedroom hospice care facility. The care facility would be consistent with other uses in the area as the facility would be developed within close proximity to other medical facilities. Hospice Maui's administrative offices and multi-purpose building are currently located on the western portion of the project site. The proposed care facility is consistent with the surrounding residential and public/quasi-public land uses in the area.

2. Climate

a. Existing Conditions

Like most areas of Hawaii, Maui's climate is relatively uniform year round. Characteristic of Hawaii's climate, the project site experiences mild and uniform temperatures year round, moderate humidity, and a relatively consistent northeasterly tradewind. Variation in climate on the island is largely due to local terrain.

Average temperatures at the project site (based on temperatures recorded at Kahului Airport) range from lows in the 60's to highs in the 80's. August is historically the warmest month, while January and February are the coolest. Rainfall averages approximately 20 inches per year (County of Maui, 2011). Winds in the Kahului region are predominantly out of the north-northeast and northeast.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to adversely affect climatic conditions in the area nor is the proposed care facility anticipated to be adversely affected by climatic conditions.

3. Topography and Soils

a. Existing Conditions

The project site is located on Maui's central isthmus. The proposed care facility building will be located on a small plateau atop an existing bluff. The ground surrounding the building site falls away steeply to the north,

east, and south. See Preliminary Engineering Assessment prepared by Warren S. Unemori Engineering in **Appendix “A”**.

Underlying the site and surrounding lands is soil belonging to the Pulehu-Ewa-Jaucas association which is characterized as having deep, nearly level to moderate slope, with well drained soils that have moderately fine to coarse texture. See **Figure 4**. The soil type specific to the project site is Puuone Sand (PZUE). See **Figure 5**. PZUE soils are predominate in the Kahului region and are typified by a sandy surface layer underlain by cemented sand. These soils are typically used for pasture and urban development. (USDA Soil Conservation Service, 1972).

b. Potential Impacts and Mitigation Measures

The project site has been previously developed with the construction of the existing Hospice administrative office building. Best Management Practices (BMPs) will be implemented to minimize impacts to soil erosion during the construction period. During construction, temporary swales will be constructed to channel stormwater to temporary retention basins so as to mitigate impacts to surrounding areas. As such, no significant adverse impacts are anticipated upon topography and soils.

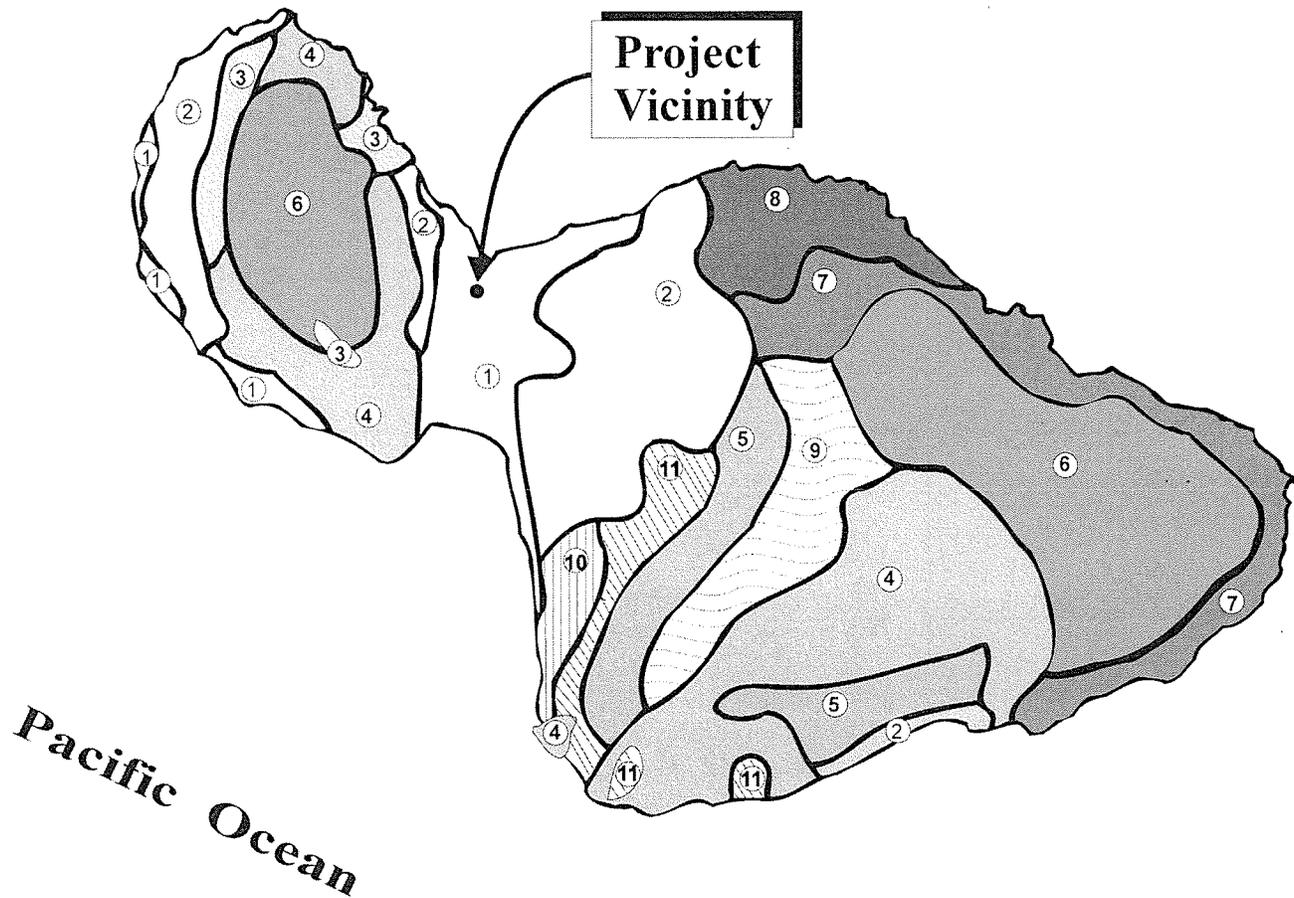
4. Agriculture

a. Existing Conditions

In 1977, the State of Hawaii, Department of Agriculture developed a classification system to identify Agricultural Lands of Importance to the State of Hawaii (ALISH), based primarily, though not exclusively, on soil characteristics of the underlying land. The three (3) classes of ALISH lands are “Prime”, “Unique”, and “Other Important” agricultural land, with the remaining non-classified lands termed “Unclassified”. When utilized with modern farming methods, “Prime” agricultural lands have soil quality, growing season, and moisture supply needed to produce sustained crop yields economically; while “Unique” agricultural lands contain a combination of soil quality, growing season, and moisture supply to produce sustained yields of a specific crop. “Other Important” agricultural lands include those important agricultural lands that have not been rated as “Prime” or “Unique” (State of Hawaii, Department of

LEGEND

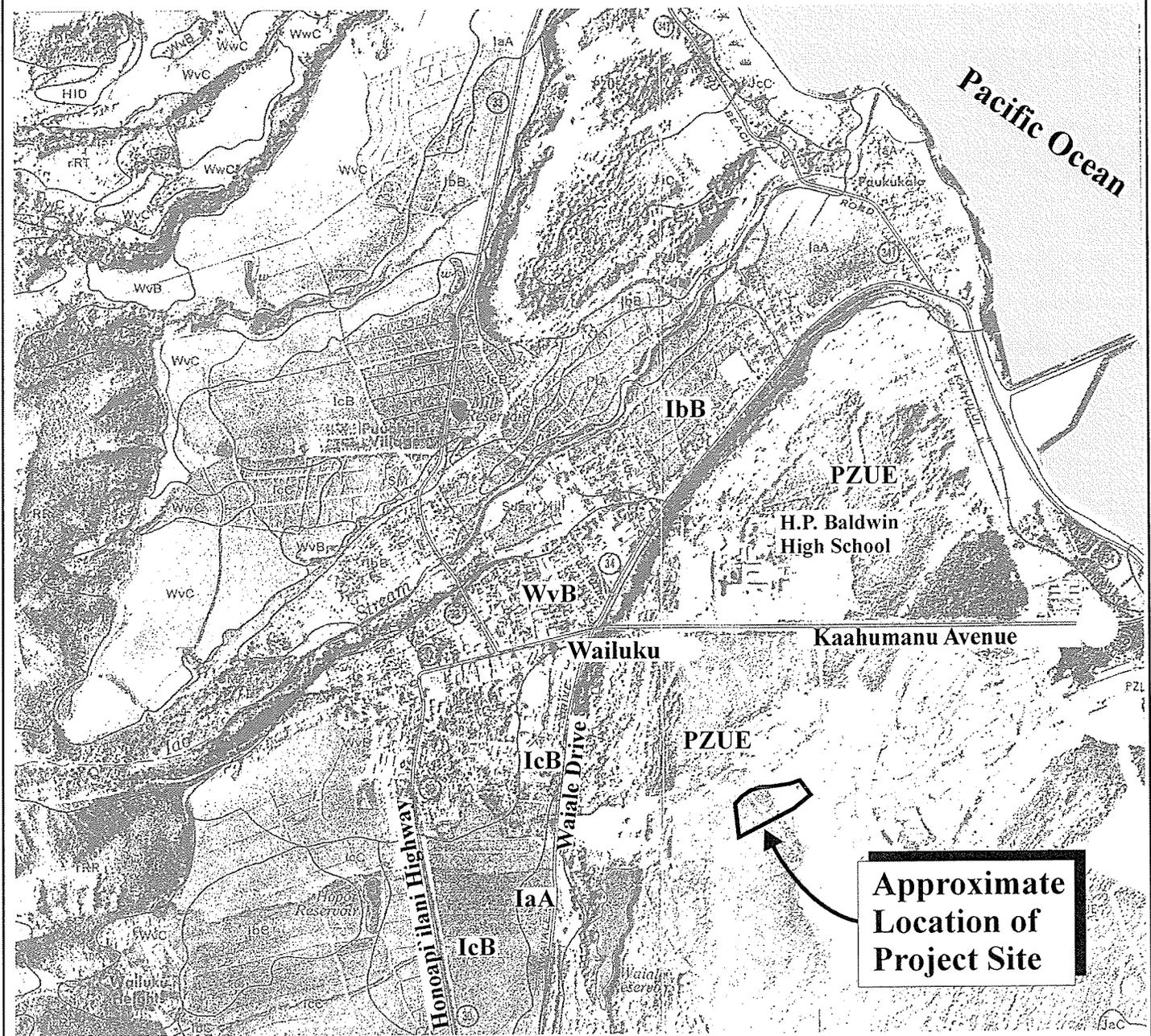
- | | |
|--|-------------------------------------|
| ① Pulehu-Ewa-Jaucas association | ⑦ Hana-Makaalae-Kailua association |
| ② Waiakoa-Keahua-Molokai association | ⑧ Pauwela-Haiku association |
| ③ Honolulu-Olelo association | ⑨ Laumaia-Kaipoi-Olinda association |
| ④ Rock land-Rough mountainous land association | ⑩ Keawakapu-Makena association |
| ⑤ Puu Pa-Kula-Pane association | ⑪ Kamaole-Oanapuka association |
| ⑥ Hydrandepts-Tropaquods association | |



Source: USDA Soil Conservation Service

Figure 4 Proposed Hospice Maui Care Facility NOT TO SCALE
Soil Association Map





Source: USDA Soil Conservation Service

Figure 5 Proposed Hospice Maui Care Facility Soil Classification Map

NOT TO SCALE



Prepared for: Hospice Maui

Agriculture, 1977). The southwestern portion of the project site is designated as “Other Important” agricultural lands while the remainder of the property is not classified in the ALISH system, indicating that it is not considered important agricultural land.

b. Potential Impacts and Mitigation Measures

Adverse impacts to agricultural endeavors in the region are not anticipated as a result of the proposed project. The project site is located in an urban area of Central Maui and is not suited for agricultural use.

5. Flood and Tsunami Hazard

a. Existing Conditions

The Flood Insurance Rate Map (FIRM) for this region indicates that the project site is located in Zone X (unshaded), areas determined to be outside the 0.2 percent annual chance floodplain. See **Figure 6**. In addition, the project site is located beyond the reaches of the tsunami inundation zone.

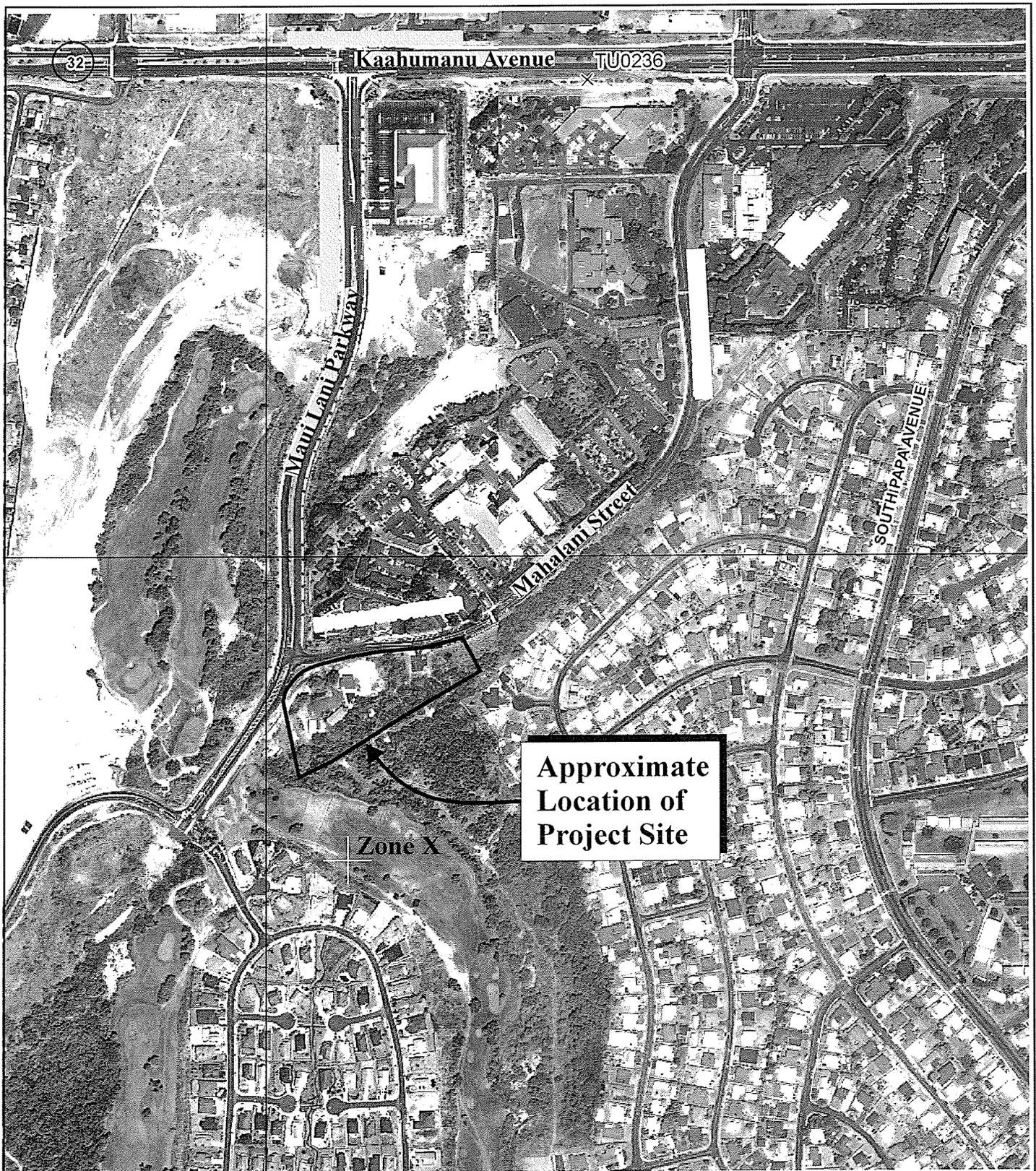
b. Potential Impacts and Mitigation Measures

The project site is not a shoreline property, nor is it situated near streams, wetland areas or other areas which may pose flooding concerns. With the project site being located within Flood Zone X (unshaded) and beyond the reaches of the tsunami inundation zone, adverse impacts related to flood and tsunami hazards are not anticipated.

6. Flora, Fauna and Avifauna

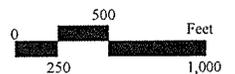
a. Existing Conditions

The project site is currently developed with Hospice Maui’s administrative offices and multi-purpose building located on property. The developed portion of the property is landscaped with mostly native plants including naupaka and ilima papa. Kiawe trees also grow within portions of the property. There are no known rare, threatened, or endangered species of plants within the project site.



Source: Federal Emergency Management Agency
 Map Nos. 1500030391E and 1500030392E

**Figure 6 Proposed Hospice Maui Care Facility
 Flood Insurance Rate Map**



Fauna and avifauna found within and within the vicinity of the project site are characteristic of urban areas. Fauna typically found in the vicinity include mongoose, rats, dogs and cats. Avifauna include the Common Mynah, Spotted Dove, Barred Dove, Japanese White-Eye Cardinal, Red-Crested Cardinal, and House Sparrow. There are no identified rare, threatened or endangered species of fauna or avifauna found at the project site.

b. Potential Impacts and Mitigation Measures

There are no known significant habitats or rare, endangered or threatened species of flora, fauna, and avifauna located within the project site. There are no streams or wetlands located within the project site that would provide habitat for such species. The proposed action is not anticipated to have an adverse impact upon species of flora, fauna, or avifauna.

7. Streams, Wetlands, and Reservoirs

a. Existing Conditions

There are no streams or wetlands in the immediate vicinity of the project site. Waiale Reservoir, owned by Hawaiian Commercial & Sugar Company (HC&S), is located southwest of the project site, across Waiinu Road. The reservoir is over 1,600 feet away from the project site. Waiale Reservoir holds water used to irrigate sugar cane fields and other agricultural fields.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to adversely impact Waiale Reservoir.

8. Archaeological Resources

a. Existing Conditions

An Archaeological Inventory Survey (AIS) was prepared for the project site in 1999 by Xamaneck Researches. See **Appendix "B"**. Fieldwork for the AIS was conducted in May and June 1999 and consisted of a pedestrian inspection and subsurface testing.

The project site is located on the central Maui isthmus within the Wailuku *ahupuaa*. The site is within the Puuone Sand Dunes Formation, a large feature that extends from Kahului Harbor to Waikapu. The Wailuku *ahupuaa* has been studied extensively in the past. Settlement patterns documented by previous archaeological studies suggest intensive land usage in Iao Valley and the Waiale Road corridor along the northern and western sides of the Puuone Dunes formation. However, in the central area to the east of the dunes, very few sites other than scattered burials have been found.

According to the AIS, portions of the property have been previously impacted during the construction of the existing Hospice Maui offices and parking lot, County of Maui waterlines, and a previous probable sand mining area. Nevertheless, approximately 75 percent of the property remains undisturbed. Much of the large Puuone sand dune within the project site appears to be largely intact. No evidence of cultural deposit or human remains were encountered during the inventory survey. However, the Puuone sand dune formation is well known for containing precontact burials.

b. Potential Impacts and Mitigation Measures

The proposed project involves the construction of a five-bedroom care facility and associated improvements. As previously noted, much of the property is relatively undisturbed and contains intact dune sand deposits. Grading and excavation will be required for the proposed project. Due to the possible presence of human burials in the sand dunes, archaeological monitoring will be undertaken for all earth moving activities carried out on this portion of the Puuone sand dune. Refer to **Appendix “B”**. Prior to the initiation of construction, an archaeological monitoring plan will be submitted to the State Historic Preservation Division (SHPD) for review and approval pursuant to Section 13-279, Hawaii Administrative Rules.

9. Cultural Resources

a. Cultural Context

Pre-Contact Period

The project site is located in the *ahupuaa* of Wailuku. The *ahupuaa* of Wailuku is a large land unit that encompasses land near Kahului Bay from

Paukukalo to Kapukaulua. This *ahupuaa* includes Iao Valley and the northern half of the Kahului isthmus. This *ahupuaa* is located in and encompasses approximately half the land area of the Wailuku District. Wailuku is noted as being the place where chiefs were buried and wars were fought. The environmental conditions in the lower Iao Valley were ideal for agricultural practices vital to support a large population. Combined with access to Kahului Harbor, these conditions made Wailuku a key location for a political and religious center (Xamanek Researches, 1999).

The core area of Wailuku was comprised by Iao Valley and the two related dune formations to the north and south of the Iao river. This was the central place of religious and political power on Maui, which culminated during the time of High Chief Piilani (c. 1600 AD). During the late pre-contact period, warfare intensified as the chiefs from Maui, Oahu and Hawaii competed for political and military supremacy (Xamanek Researches, 1999).

For the duration of Chief Kahekili's rule (1765-1790), Wailuku once more became the place of intense warfare. In the mid-1770's, Kalanilahoe, the royal residence of Kahekili, was marched upon by a Big Island chief named Kalaniopuu and his *alapa* (warriors). News of his coming preceded him, and Kahekili hid his warriors in the sand dunes above Halekii *Heiau* to surprise the invading troops. A battle (Battle of Kakanilua) followed whereby the army of Kalaniopuu was pushed to the sea and defeated. By 1786, Kahekili controlled the islands of Maui, Molokai, Lanai, and Oahu. However, in 1790, Kahekili's control over the islands came to a close with the battle of Kepaniwai when King Kamehameha I defeated the ruler (Xamanek Researches, 1999).

Early Post-Contact Period

Significant changes to the landscape of Hawaii ensued after the arrival of missionaries and other foreigners in the late 1700s and early 1800s. Further, the establishment of the sugar industry in the 19th century catalyzed a dramatic transition in Wailuku. The first sugar cane crops grown in the *ahupuaa* were harvested and processed in 1828. Kamehameha III, with the assistance of two Chinese technicians, established a water-powered mill in Wailuku: Hungtai Sugar Works. The Wailuku Sugar Mill was established later in 1862. Meanwhile, cattle

ranching also became an established commercial activity on the southern and eastern side of the Iao Valley sand dunes (Xamanek Researches, 1999).

Post-1850s Period

Following the Great Mahele of 1848, much of the *ahupuaa* of Wailuku was designated as Crown Land, to be used in support of the royal “state and dignity” (Xamanek Researches, 1999).

The boost of the sugar industry came in 1876 with the introduction of The Reciprocity Treaty that increased the price of sugar. Ditches constructed in the 1880's by Claus Spreckels tapped into the water resources from the mountains to irrigate fields for sugar cane production. These endeavors contributed to the foundation of HC&S in 1882 (Xamanek Researches, 1999).

The construction of the Kahului Railroad in the late 1870's and its continuation for approximately two (2) decades facilitated mobility across towns, as well as contributed to the growth of various commercial activities and residential areas. The introduction of the automobile in the 1950s greatly increased the ease of travel across the island. Residents of Wailuku were able to make daily commutes to other areas of the island, especially into nearby Kahului, an expanding town offering two (2) major ports of entry, the Kahului Harbor and Kahului Airport, as well as newly completed shopping centers and other social facilities (Xamanek Researches, 1999).

Cultural Assessment

To assess cultural impacts associated with the project, interviews were conducted with two (2) individuals familiar with the history of the project area. See **Appendix “C”** and **Appendix “D”**. Summaries of the interviews with Kimokeo Kapahulehua and Leslie Kuloloio are presented below.

Interview with Kimokeo Kapahulehua

The interview with Kimokeo Kapahulehua took place on September 3, 2013 at the office of Munekiyo & Hiraga, Inc. in Wailuku, Maui.

Kimokeo Kapahulehua is a tremendous resource of Hawaiian cultural knowledge on Maui. Born in 1947, Kimokeo is three-quarters Hawaiian by blood, a rarity in today's times. His knowledge and tireless efforts in the preservation of the Hawaiian culture has led him to serve within a number of community organizations that all aim to perpetuate and educate people in the Hawaiian culture. Today, Kimokeo is one (1) of three (3) partners that operate the firm Hana Pono, LLC, which was established in 2005 and specializes in cultural assessments, surveys, and monitoring.

Originally from Kauai, Kimokeo has had a long history on Maui which contributed to his extensive knowledge and work relating to the Hawaiian culture. When asked about the location of the proposed project, the Central Maui sandhills area, Kimokeo stated that to his knowledge, there are no cultural practices that occur today, nor did the land serve as the location for any historical cultural practices. In addition, there are no indigenous plants in the area that need protection.

According to Kimokeo, Hawaiians did not use the sand in the subject area for anything other than burials for Hawaiians residing in Central Maui. Kimokeo stated that the sand could not support human life or plant life. Kimokeo mentioned that there are claims to the Battle of Kakanilua occurring within the Central Maui area, but these claims have not been confirmed by historical evidence.

When asked what his personal thoughts on the subject area were in regards to the Hawaiian culture, Kimokeo explained that it's not a rich area in terms of natural resources. Kimokeo went on to explain that water is *waiwai* or wealth to Hawaiians, and the sandhills area had no wealth, as it had no water.

In light of the fact that the subject area contains no cultural practices today, nor does it hold any ties to historical cultural practices, Kimokeo offered no cultural recommendations.

Interview with Leslie “Les” Kuloloio

The interview with Leslie Kuloloio took place at the office of Munekiyo & Hiraga, Inc. on September 12, 2013. Leslie (Uncle Les) Kuloloio’s passion for perpetuating the Hawaiian culture and history becomes evident during the first five (5) minutes of conversation. For years, Uncle Les has been involved in numerous community organizations and has held a number of jobs, which he speaks of with immeasurable amounts of fondness and gratitude, most of which have been geared toward educating people about the Hawaiian culture.

Born in 1940 in Paia, Uncle Les has lived on Maui all of his life. The youngest of four (4) children raised in the plantation camps of Paia and Kuau by his parents, Uncle Les now resides in Kahului where his family moved to during the 1950s, when “Dream City” was just becoming a reality.

Since graduating high school in 1959, Uncle Les has lived a full and accomplished life. “I’m a person who gets bored quick,” Uncle Les explained when asked about his work experience. This assertion quickly became an understatement as he began talking about his many jobs which ranged from enlisting in the Army after high school, to construction work and core testing with Intercontinental Drillers. It wasn’t until 1980 that Uncle Les’ extensive work with the Hawaiian culture began.

1980 was a significant year in Uncle Les’ career as this was the year he began teaching Hawaiian language with his mother, and also the year that he became part of the first team sent to Kahoolawe to conduct archaeological surveys. This inaugural Kahoolawe expedition was the first time that Uncle Les worked with archaeologists, and it was then that he knew he wanted to learn more. From this opportunity, Uncle Les began subsequent decades of work with the Protect Kahoolawe Ohana, and other organizations that work to preserve the island as an educational resource, as well as years of archaeological work and historical research to learn Hawaii’s history.

When asked about the site of the proposed project, Uncle Les replied, “in knowing an area, you gotta know your island.” Fortunately, Uncle Les possesses this knowledge. Since 1993, Uncle Les has worked with the Maui Lani development as a cultural consultant dealing mainly with assuring appropriate protocol are followed by archaeologists with regards to burials and historic properties discovered in the area.

According to Uncle Les, the Hospice Maui lot is situated on a very unique area that has been present in Central Maui for thousands of years. Sand, blown from the northern coast of the island over many generations, has come to form the area known by Maui residents as “sandhills”. Prior to habitation of the island and the formation of the dunes, numerous gulches carrying fresh water from the mountains traversed Maui’s central plain. Today, no topographic features aside from the sand are evidenced in the area.

When asked about the cultural significance of the area, Uncle Les replied that through his many years of work, particularly through his 20 years with Maui Lani, he has never encountered any historical habitation, ceremonial, or culturally significant properties in the area. There have been many burials and artifacts discovered, but these have all been properly inventoried and reported to the State Historic Preservation Division. Any work done today in the area of the proposed project, Uncle Les added, would likely not result in the discovery of any additional burials or artifacts as the sandhills area has been disturbed for years for the construction of roads and other developments.

Uncle Les, a person who loves working with people, shared his support for the proposed project. As Maui grows, he explained, the greater the need will be for health-related institutions. Uncle Les concluded by stating that the area can be considered to be an area that will not be subject to any cultural impacts as a result of the proposed project.

b. Potential Impacts and Mitigation Measures

Interviewees did not note the presence of any ongoing cultural practices at or significance of the project site. Although the interviewees did not directly identify any known burials or cultural artifacts at the project site, previous archaeological work in the general area may indicate the possibility of burials being present. As such, archaeological monitoring will be undertaken during all earth moving activities carried out for the proposed project.

10. Air Quality

a. Existing Conditions

The Wailuku-Kahului region is not exposed to adverse air quality conditions. Point sources, such as Maui Electric's Maalaea and Kahului Power Plants and HC&S's Puunene Mill and non-point sources such as automobile emissions, are not significant to generate high concentrations of pollutants.

b. Potential Impacts and Mitigation Measures

Localized air quality impacts from construction equipment and vehicles may occur during construction of the proposed project. As such, potential air quality impacts during construction will be mitigated by complying with the provisions of the State Department of Health Administrative Rules, Title 11, Chapter 60, Air Pollution. Best Management Practices will be implemented to mitigate potential air quality impacts. Measures which may be taken during construction to reduce air quality impacts include water spraying and sprinkling of loose or exposed soil and erecting dust screens. Exhaust emissions from construction vehicles are anticipated to have a negligible impact on regional air quality as these emissions would be relatively small and readily dissipated.

No significant long-term air quality impacts are anticipated as a result of the proposed project.

11. **Noise**

a. **Existing Conditions**

Existing background noise levels are primarily attributable to natural conditions (e.g., wind) and traffic along Mahalani Street, Maui Lani Parkway, and other area roadways.

b. **Potential Impacts and Mitigation Measures**

Ambient noise conditions will be temporarily affected by construction activities. Material-transport and construction vehicles and power tools are anticipated to be the dominant noise-generating sources during construction. Construction will be limited to normal daylight hours. Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawaii, Department of Health (DOH) Administrative Rules, Title 11, Chapter 46, Community Noise Control. These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in the Chapter 46 rules. In complying with Chapter 46, the contractor will be responsible for minimizing noise by properly maintaining noise mufflers and other noise-attenuating equipment.

Following completion of construction, the proposed care facility is not anticipated to adversely impact noise quality in the vicinity of the project site.

12. **Visual Resources**

a. **Existing Conditions**

The Dunes at Maui Lani Golf Course lies to the west of and adjacent to the project site. Scenic resources to the west of the project site beyond the golf course include Iao Valley and the West Maui Mountains. Looking east, Haleakala is visible. Southern views from the project site include residential neighborhoods and the golf course. To the north lies developed properties including Maui Memorial Medical Center.

b. **Potential Impacts and Mitigation Measures**

The proposed care facility will be one-story and measure 19 feet in height.

Although the proposed facility may be visible from adjacent properties, the project site is not part of a scenic corridor, and the proposed project will not significantly affect views of Haleakala, Iao Valley, or the West Maui Mountains from inland vantage points. Accordingly, the proposed project is not anticipated to have an adverse impact upon the visual character of the surrounding area.

13. Traditional Beach and Mountain Access

a. Existing Conditions

There are no known traditional beach and mountain access trails within or within the immediate vicinity of the project site.

b. Potential Impacts and Mitigation Measures

The proposed project will not adversely impact traditional beach or mountain access trails.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population

a. Existing Conditions

The population of the County of Maui has exhibited relatively strong growth over the past decade. The County's population grew by 20.9 percent between 2000 and 2010, compared to a 12.3 percent increase in the State of Hawaii as a whole during the same time period. Maui County's population increased from 128,094 residents in 2000 to 154,834 residents in 2010. The population of the island of Maui exhibited even stronger growth than the County as a whole, with a 22.8 percent population increase over the decade. Approximately 144,444 residents lived on the island of Maui in 2010 (U.S. Census Bureau, 2000 and 2010). Maui County's resident population is projected to rise to 174,450 people in 2020 and to 199,550 people in 2030 (Maui County Planning Department, 2006).

The proposed project is located on the island's central isthmus, within the Wailuku-Kahului Community Plan region. Just as Maui County and Maui Island's populations have grown, the resident population of the Central

Maui region has also increased. The estimated population of the Wailuku-Kahului region in 2000 was 41,503, which comprised 35.3 percent of the island's population (Maui County Planning Department, June 2006). The resident population for this region in 2010 was approximately 54,400, an increase of 31.2 percent over 10 years (U.S. Census, 2010). The population of the Wailuku-Kahului region is projected to increase to 60,877 people in 2020 and to 71,223 people in 2030 (Maui County Planning Department, June 2006).

b. Potential Impacts and Mitigation Measures

The proposed project will provide in-patient end-of-life care for up to five (5) people at a time and will employ nine (9) new employees. The project is not considered a significant population generator and is not anticipated to have an adverse impact on population growth parameters for the Wailuku-Kahului region.

2. Economy

a. Existing Conditions

The Wailuku-Kahului region encompasses a broad range of commercial, service, and governmental activities. In addition, the region is surrounded by significant agricultural acreages primarily in sugar cane cultivation. This vast expanse of agricultural land, the majority of which is managed by HC&S, is considered a key component of the local economy.

The County and State economies have been impacted by the nation's recent economic recession, with the major industries of tourism, construction, and real estate being particularly hard hit due to, among other factors, reduced discretionary income and tightening of credit. Unemployment rates in the State and County peaked in the summer of 2009. Since that time, the unemployment rate has slowly declined. In November 2013, the seasonally unadjusted unemployment rate in Hawaii stood at 4.6 percent. The unemployment rate in the County of Maui was slightly higher at 4.9 percent. However, this represents an improvement from one year ago, when the County's seasonally unadjusted unemployment rate was 5.7 percent in November 2012 (DLIR, December 2013).

b. Potential Impacts and Mitigation Measures

On a short-term basis, the proposed action is anticipated to have a positive effect during the construction phase of development as expenditures for construction and related support services are made through local suppliers and through the employment of local labor.

From a long-term perspective, Hospice Maui anticipates employing nine (9) new employees. The proposed project is not expected to generate adverse economic impacts.

3. Housing

a. Existing Conditions

In 2010, Maui County's housing supply totaled 70,379 units. This represents a 25 percent increase from 2000 when there were 56,377 housing units in the County (U.S. Census Bureau, 2010).

b. Potential Impacts and Mitigation Measures

The proposed project is not considered a significant population generator and, as such, will not create additional demands for housing on Maui. The proposed five-bedroom facility will allow Hospice Maui to provide in-patient services to those needing more full-time care and provides an additional option for terminally ill patients.

C. PUBLIC SERVICES

1. Recreational Facilities

a. Existing Conditions

The Wailuku-Kahului region encompasses a full range of recreational opportunities, including shoreline and boating activities at the Kahului Harbor and adjoining beach parks, and individual and organized athletic activities offered at numerous County parks. The War Memorial Complex, for example, located along Kaahumanu Avenue, includes a gymnasium, swimming pool, tennis courts, youth baseball fields, football and soccer practice areas, the War Memorial Stadium and baseball stadium. Also found in the Wailuku-Kahului area are the Wailuku Community Center, Kahului Community Center, Kanaha Beach Park, and

Keopuolani Park. The Dunes at Maui Lani, a daily fee golf course and driving range open to the public, is located to the northwest of the project site.

b. Potential Impacts and Mitigation Measures

The proposed project is not considered a population generator. As such, the proposed project will not place any new demands on recreational resources in the project Wailuku-Kahului region.

2. Police and Fire Protection

a. Existing Conditions

Police protection for the Wailuku-Kahului region is provided by the County Police Department headquartered at the Wailuku Station, located northeast of the project site at the intersection of Kaahumanu Avenue and Mahalani Street. The region is served by the Department's Central Maui patrol.

Fire prevention, suppression, and protection services for the Wailuku region is provided by the County Department of Fire and Public Safety's Wailuku Station which is located less than one-mile northwest of the project site.

b. Potential Impacts and Mitigation Measures

The location of the proposed Hospice Maui care facility within the existing Wailuku-Kahului urban core will not extend service area limits for emergency services. Police and fire protection services are not expected to be adversely impacted by the proposed project. The proposed project will not adversely affect the service capabilities for emergency services.

3. Solid Waste

a. Existing Conditions

Single-family residential solid waste collection service is provided by the County of Maui on a weekly basis. Residential solid waste collected by County crews is disposed at the County's Central Maui Landfill, located four (4) miles southeast of the Kahului Airport. In addition to County-

collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies.

b. Potential Impacts and Mitigation Measures

As applicable, a solid waste management plan will be developed in coordination with the Solid Waste Division of the County Department of Environmental Management (DEM) for the disposal of construction waste material generated by the project. Construction waste will be properly disposed of at an approved facility.

Upon completion, the solid waste from the proposed care facility will be collected by private waste collection service providers. The proposed project is not anticipated to adversely impact the life capacity of the Central Maui Landfill.

4. Health Care

a. Existing Conditions

Maui Memorial Medical Center, the only major medical facility on the island, services the Wailuku-Kahului region. Acute, general and emergency care services are provided by the 231-bed facility which is located northeast of the project site across Mahalani Street. The Kaiser Permanente Medical Care facility and the Liberty Dialysis Center, both located on Maui Lani Parkway to the northeast of the project site, provide additional private health care services in the Central Maui area. In addition, numerous privately operated medical/dental clinics and offices are located in the area to serve the region's residents.

b. Potential Impacts and Mitigation Measures

The proposed five-bedroom care facility will provide in-patient end-of-life care to terminally ill patients. The proposed project will diversify the care options for patients on Maui as there currently is no in-patient Hospice facility on Maui.

5. Education

a. Existing Conditions

The Wailuku-Kahului region is served by the State Department of Education's public school system, as well as by several privately operated schools accommodating elementary, intermediate and high school students. Department of Education facilities in the Kahului area include Pomaikai, Lihikai and Kahului Elementary Schools (Grades K to 5), Maui Waena Intermediate School (Grades 6 to 8), and Maui High School (Grades 9 to 12). Existing facilities in the Wailuku area include Puu Kukui and Wailuku Elementary School (Grades K to 5), Iao Intermediate School (Grades 6 to 8), and Baldwin High School (Grades 9 to 12). Baldwin High School (Grades 9 to 12) is located north of the project site, beyond Kaahumanu Avenue.

The University of Hawaii Maui College serves as the island's principal institution of higher education.

b. Potential Impacts and Mitigation Measures

The proposed project is not considered a student population generator. As such, the proposed project will not adversely affect enrollments or locations of educational facilities.

D. INFRASTRUCTURE

1. Roadways

a. Existing Conditions

The Wailuku-Kahului region is served by a roadway network which includes arterial, collector and local roads. Existing roadways in the vicinity of the project site include Waiinu Road, Waiale Road, Maui Lani Parkway, Mahalani Street, and Kaahumanu Avenue.

Waiinu Road is a two-lane county roadway that generally runs in an east-west direction between Waiale Road in the west and Maui Lani Parkway in the east. The posted speed limit on Waiinu Road is 20 miles per hour (mph).

Waiale Road is a two-lane collector road that runs in the north-south direction between Wailuku and Waikapu. Waiale Road begins at East Waiko Road in Waikapu and becomes Lower Main Street in central Wailuku at its intersection with Main Street. The posted speed limit of Waiale Road in the vicinity of its intersection with Waiinu Road is 20 mph.

Maui Lani Parkway is a private four-lane, divided roadway completed between Kaahumanu Avenue and Waiinu Road. This existing segment is an initial phase of a roadway that will, in the future, extend to Kuihelani Highway, providing an alternative route to Kaahumanu Avenue. The existing configuration provides an alternative path to the High Street/Main Street route through Wailuku Town for vehicles traveling between areas located south of Wailuku and areas to the east of Wailuku. Vehicles utilize Maui Lani Parkway via Waiinu Road and Waiale Road to access Kaahumanu Avenue. Maui Lani Parkway also serves as an alternative access to Mahalani Street. It is anticipated that Maui Lani Parkway will be dedicated to the County of Maui in the future.

Mahalani Street is a County roadway that connects Maui Lani Parkway in the south to Kaahumanu Avenue in the north. In the vicinity of the project, Mahalani Street is a two-lane, two-way roadway, with shoulders along both sides. The speed limit in the vicinity is 20 MPH. The intersection of Mahalani Street at Maui Lani Parkway is a STOP sign controlled T-intersection. Similar to Maui Lani Parkway, Mahalani Street serves an alternate route to Kaahumanu Avenue via Waiinu Road and Waiale Road.

Kaahumanu Avenue is the principal linkage between Wailuku and Kahului, owned by the State of Hawaii. Kaahumanu Avenue is a four-lane, divided roadway with a raised median. Exclusive left turn lanes are provided in the median of Kaahumanu Avenue and right turn acceleration lanes are provided at selected access locations. The posted speed limit on Kaahumanu Avenue within the vicinity of Maui Lani Parkway is 45 mph.

b. Potential Impacts and Mitigation Measures

A Traffic Impact Assessment Report (TIAR) was prepared for the project by Phillip Rowell and Associates. See **Appendix "E"**. A preliminary trip generation analysis was performed to determine the scope of the traffic

analysis required. The trip generation analysis estimated that the proposed project will generate three (3) trips during the morning peak hour and four (4) trips during the afternoon peak hour. As part of the TIAR, a field reconnaissance was performed to confirm existing roadway cross-sections, intersection land configurations, traffic control devices and surrounding land uses. Manual traffic counts were performed at the study intersections (Mahalani Street at Maui Lani Parkway and Mahalani Street at Hospice Driveway) during the morning and afternoon peak hours and a level-of-service analysis for future traffic conditions with traffic generated by the study project was also studied. Further, traffic generated by the new Maui Lani Shopping Center at the intersection of Kaahumanu Avenue and Maui Lani Parkway was added to the traffic projections of the study intersections.

According to the TIAR, a level-of-service analysis was performed for “without project” and “with project” conditions to confirm that the intersections will operate at an acceptable level-of-service and that there are no traffic operational deficiencies that are the result of project generated traffic. In general, the level-of-service analysis concluded that there are no changes in the level-of-service of the overall intersections or any of the controlled lane groups. All movement will operate at a Level-of-Service C, or better, which implies good operating conditions.

Specifically, the level-of-service of the intersection of Mahalani Street at Maui Lani Parkway concluded that northbound and southbound traffic along Maui Lani Parkway will operate at Level-of-Service A without and with project generated traffic during the AM and PM peak hours. According to the TIAR, this implies that the additional traffic generated by the project has a negligible impact on through traffic along Maui Lani Parkway. There is only a minimal impact on the southbound left turn queue as a result of the additional traffic.

The level-of-service analysis of the intersection of Mahalani Street at the Hospice Driveway concluded that the level-of-service of traffic exiting Hospice Maui will not change as a result of project generated traffic. Levels-of-Service A and B are high levels-of-service implying minimal delays and negligible operating deficiencies, the high level-of-service along Mahalani Street indicates that traffic turning left into the project will have a negligible impact on through traffic along Mahalani Street.

The TIAR also noted that based on the field reconnaissance and observations during the traffic counts, current sight distances of the study intersections appear to be acceptable. There is a potential problem for vehicles exiting the project because the northbound to eastbound right turns do not stop and are not looking for a vehicle exiting from the driveway. The TIAR recommends that Hospice Maui frequently maintain shrubbery along the roadside adjacent to property to maintain adequate sight distances for both vehicles exiting the project and vehicles making the right turn.

Given the findings of the TIAR and the anticipated trips generated by the proposed project, significant impacts to private, County, and State roadways in the vicinity are not anticipated.

2. Wastewater

a. Existing Conditions

Domestic wastewater generated in the Wailuku-Kahului region is conveyed to the County's Wailuku-Kahului Wastewater Reclamation Facility located one-half mile south of Kahului Harbor. The design capacity of the facility is 7.9 million gallons per day (MGD). The facility serves the Kahului, Wailuku, Paia, Kuau and Spreckelsville areas.

An 8-inch County sewer system line is located in Maui Lani Parkway. This line connects to existing lines on Kaahumanu Avenue and Kanaloa Drive and discharges into the County's pump station at Paukukalo. Wastewater is then pumped through a 24-inch force main to the Wailuku-Kahului Wastewater Reclamation Facility.

According to the Preliminary Engineering Assessment for the project, wastewater from the existing Hospice Maui buildings onsite are disposed of using individual septic-type wastewater disposal systems because there is no convenient point of connection to the County sewer system nearby. Refer to **Appendix "A"**.

b. Potential Impacts and Mitigation Measures

The proposed care facility building is anticipated to generate an average of approximately 975 gallons of wastewater per day. Wastewater generated from the proposed project will also be disposed of using a new individual

septic system to be constructed to the immediate west of the proposed care facility. Due to the steep topography surrounding the building site and the high percolation rate of the onsite sandy soils, effluent will be disposed of using a seepage pit in lieu of a leeching field. The seepage pit will be constructed to Department of Health standards. Significant adverse impacts are not anticipated as a result of the project. Refer to **Appendix “A”**.

3. Water

a. Existing Conditions

Domestic water for the Wailuku-Kahului region is provided by the Department of Water Supply (DWS) Central Maui System. The Central Maui System water sources are located on the windward slope of the West Maui Mountains. The major source of water for this system is the Iao Aquifer. Approximately 75 percent of the water to supply the Central Maui System is withdrawn from the Iao Aquifer which is located in the vicinity of the Iao Stream and Waiehu Stream. The remaining 25 percent is withdrawn from Waihee Aquifer to the northwest. The sustainable yield of the Iao Aquifer is 20 MGD.

The existing Hospice Maui office building complex is served by a 5/8-inch DWS-issued water meter and consumes an average of 1,860 gallons of potable water per day (GPD). The existing buildings onsite rely upon a fire hydrant located on Mahalani Street, approximately 60 feet east of the Hospice driveway, for fire protection. Refer to **Appendix “A”**.

b. Potential Impacts and Mitigation Measures

According to the Preliminary Engineering Assessment, the proposed care facility building is anticipated to increase the average daily water consumption by an additional 975 GPD and increase flow demand at the water meter by an additional 20 gallons per minute (GPM). The increased flow demand will exceed the capacity of the existing 5/8-inch water meter. As such, either a second 5/8-inch water meter or a larger combined water meter will need to be installed to provide additional flow capacity to accommodate the new proposed care facility.

The new care facility structure is anticipated to have a fire flow demand of 1,644 GPM and will be fully sprinklered. This demand can be provided

by a new fire line connection to the 16-inch Department of Water Supply distribution main on Mahalani Street. This 16-inch main is fed from the Department of Water Supply's 1.5 million gallon Kahului Storage Tank located near Maui Memorial Park. The tank's storage capacity exceeds the 198,000-gallon minimum capacity needed to meet the fire protection requirements for the Department of Water Supply and Fire Department. Water pressure in the 16-inch distribution main is relatively low near the care facility building because its elevation is close to that of the storage tank. As such, a fire pump may also be needed to boost pressure if mainline pressures are found too low to enable the fire sprinkler system to function properly.

4. Drainage

a. Existing Conditions

According to the Preliminary Engineering Assessment, the 8,000-square foot building site in its existing, undeveloped state generates storm runoff at a peak 10-year 1-hour flow rate of approximately 0.1 cubic feet per second (cfs). Storm runoff from the undeveloped project area currently drains east/southeast across the building site towards the residential houselots located within the adjacent Fairways subdivision in Maui Lani. Refer to **Appendix "A"** and **Figure 1**.

b. Potential Impacts and Mitigation Measures

The Preliminary Engineering Assessment notes that the impermeable roof and paved area added by construction of the proposed care facility is anticipated to increase the peak 10-year 1-hour storm flow generated by the building site to approximately 0.8 cfs. The additional development-related runoff will be mitigated by construction of either an onsite detention or retention facility that will limit post-development discharges to no more than the existing condition to prevent the additional runoff from adversely impacting downstream properties. Refer to **Appendix "A"**.

5. **Electrical, Telephone, and Cable Television Systems**

a. **Existing Conditions**

Electrical and telephone service in the area is provided via overhead lines along Mahalani Street. Electrical, telephone, and cable facilities along Maui Lani Parkway have been installed underground. These services are provided by Maui Electric Company, Ltd., Hawaiian Telcom, and Oceanic Time Warner Cable.

b. **Potential Impacts and Mitigation Measures**

Electricity, telecommunications, and cable for Hospice Maui's existing buildings are provided by Maui Electric Company, Ltd., Hawaiian Telcom, and Oceanic Time Warner Cable from their existing overhead distribution systems located on Mahalani Street. Power and telecommunications services needed by the project will also be furnished through these same providers.

E. **CUMULATIVE AND SECONDARY IMPACTS**

Cumulative impacts are defined by Title 11, Chapter 200, Hawaii Administrative Rules (HAR), Environmental Impact Statement Rules, as:

the impact on the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

A "secondary impact" or "indirect effect" from the proposed action is defined by Title 11, Chapter 200, HAR as:

effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

The proposed project is limited to the construction and operation of a five-bedroom care facility and does not represent a commitment to larger actions. The care facility will meet the needs for an in-patient end-of-life care facility on the island to diversify care options for terminally ill patients. The proposed project is not a population generator. The project site is located within an existing urbanized area of Central Maui and will not extend service limits for public services. With the proposed mitigation measures, the

proposed project is not anticipated to have a significant adverse impact on the environment.

In summary, the proposed five-bedroom care facility is not anticipated to result in significant adverse cumulative or secondary impacts.

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICTS

Chapter 205, Hawaii Revised Statutes (HRS), relating to the Land Use Commission, establishes the four (4) major land use districts in which all lands in the State are placed. These districts are designated “Urban”, “Rural”, “Agricultural”, and “Conservation”. The project site is located within the “Urban” district. See **Figure 7**. The proposed care facility is consistent with "Urban" district provisions.

B. MAUI COUNTY GENERAL PLAN

As indicated by the Maui County Charter, the purpose of the general plan shall be to:

...indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns and characteristics of future developments. The general plan shall identify objectives to be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density; land use maps, land use regulations, transportation systems, public and community facility locations, water and sewage systems, visitor destinations, urban design, and other matters related to development.

Chapter 2.80B of the Maui County Code, relating to the General Plan and Community Plans, implements the foregoing Charter provision through enabling legislation which calls for a Countywide Policy Plan and a Maui Island Plan. The Countywide Policy Plan was adopted as Ordinance No. 3732 on March 24, 2010, while the Maui Island Plan, which delineates areas for future urban and rural growth as part of a Directed Growth Strategy, was adopted as Ordinance No. 4004 on December 28, 2012.

The following sections identify pertinent objectives, policies, implementing actions and related provisions set forth in the Countywide Policy Plan and the Maui Island Plan. It is recognized that both documents are comprehensive in nature and address a number of functional planning areas which apply to all programs, plans, and projects. However, for purposes of addressing General Plan compliance requirements, policy considerations which are deemed most relevant in terms of compatibility and consistency are addressed in this report section.

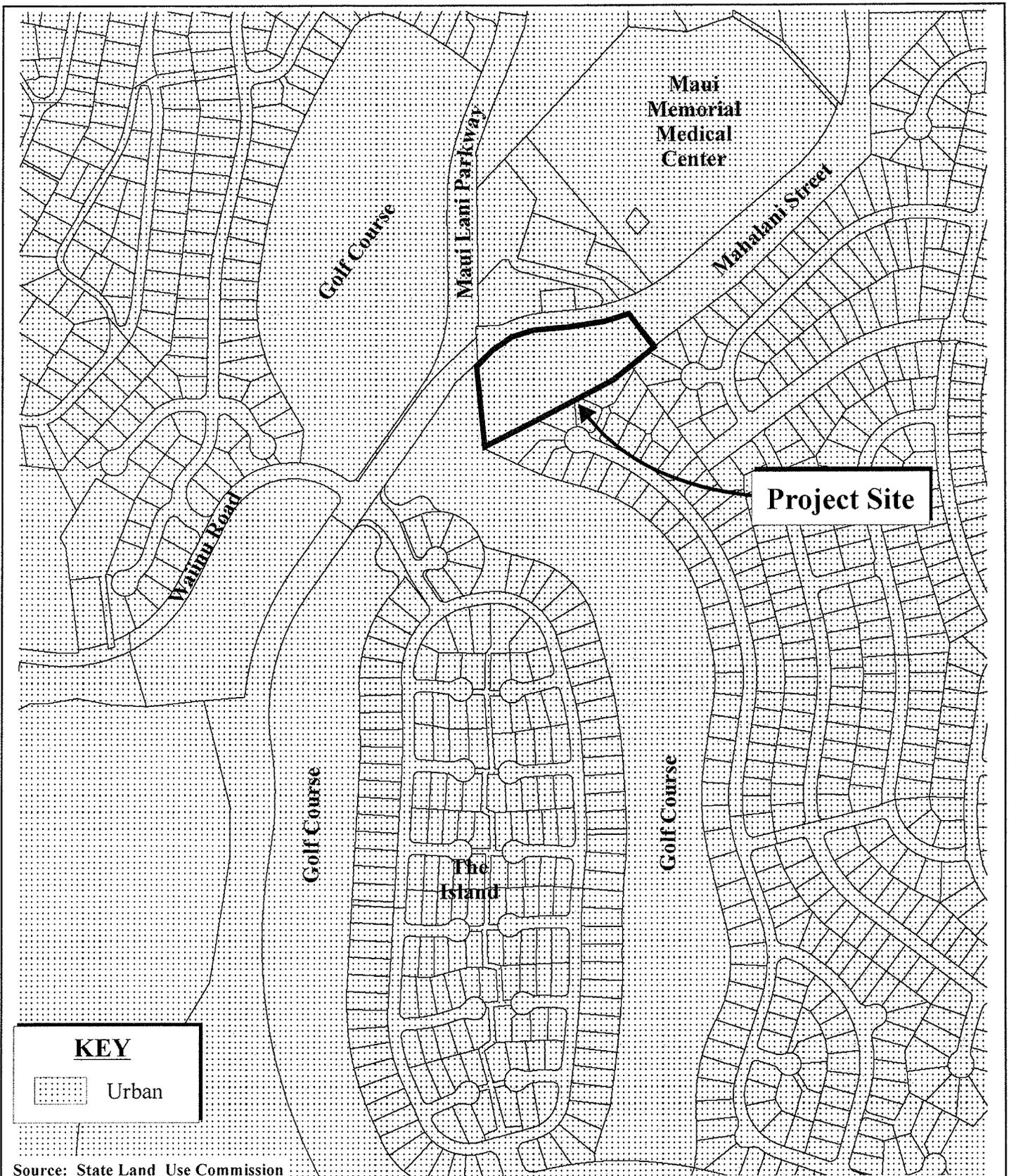
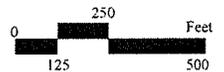


Figure 7 Proposed Hospice Maui Care Facility
 State Land Use Designation Map



1. Countywide Policy Plan

With regard to the Countywide Policy Plan, Section 2.80B.030 of the Maui County Code states the following.

The countywide policy plan shall provide broad policies and objectives which portray the desired direction of the County's future. The countywide policy plan shall include:

- 1. A vision for the County;*
- 2. A statement of core themes or principles for the County; and*
- 3. A list of countywide objectives and policies for population, land use, the environment, the economy, and housing.*

Core principles set forth in the Countywide Policy Plan are listed as follows:

- 1. Excellence in the stewardship of the natural environment and cultural resources;*
- 2. Compassion for and understanding of others;*
- 3. Respect for diversity;*
- 4. Engagement and empowerment of Maui County residents;*
- 5. Honor for all cultural traditions and histories;*
- 6. Consideration of the contributions of past generations as well as the needs of future generations;*
- 7. Commitment to self-sufficiency;*
- 8. Wisdom and balance in decision making;*
- 9. Thoughtful, island appropriate innovation; and*
- 10. Nurturance of the health and well-being of our families and our families and our communities.*

Congruent with these core principles, the Countywide Policy Plan identifies goals objectives, policies and implementing actions for pertinent functional planning categories, which are identified as follows:

1. *Natural environment*
2. *Local cultures and traditions*
3. *Education*
4. *Social and healthcare services*
5. *Housing opportunities for residents*
6. *Local economy*
7. *Parks and public facilities*
8. *Transportation options*
9. *Physical infrastructure*
10. *Sustainable land use and growth management*
11. *Good governance*

With respect to the proposed Hospice Maui care facility, the following goals, objectives, policies and implementing actions are illustrative of the project's compliance with the Countywide Policy Plan.

STRENGTHEN SOCIAL AND HEALTHCARE SERVICES

Goal:

Health and social services in Maui County will fully and comprehensively serve all segments of the population.

Objective:

1. *In cooperation with the Federal and State governments and nonprofit agencies, broaden access to social and healthcare services and expand options to improve the overall wellness of the people of Maui County.*

Policies:

- d. *Encourage the expansion and improvement of local hospitals, facilitate the establishment of new healthcare facilities, and facilitate prompt and high-quality emergency- and urgent-care services for all.*
- e. *Support broadened access to affordable health insurance and health care, and recognize the unique economic challenges posed to families when healthcare services are provided off-island.*
- f. *Encourage equal access to social and healthcare services through both technological and traditional means.*

Objective:

- 2. *Encourage the Federal and State governments and the private sector to improve the quality and delivery of social and healthcare services.*

Policies:

- a. *Strengthen partnerships with government, nonprofit, and private organizations to provide funding and to improve counseling and other assistance to address substance abuse, domestic violence, and other pressing social challenges.*
- b. *Encourage the State to improve the quality of medical personnel, facilities, services, and equipment.*
- c. *Encourage investment to improve the recruitment of medical professionals and the quality of medical facilities and equipment throughout Maui County.*
- d. *Promote the development of continuum-of-care facilities that provide assisted living, hospice, home-care, and skilled-nursing options allowing the individual to be cared for in a manner congruent with his or her needs and desires.*
- e. *Support improved social, healthcare, and governmental services for special needs populations.*

- f. *Plan for the needs of an aging population and the resulting impacts on social services, housing, and healthcare delivery.*

In summary, the development of the proposed Hospice Maui care facility is consistent with the themes and principles of the Countywide Policy Plan.

2. Maui Island Plan

The Maui Island Plan (MIP), is applicable to the island of Maui only, providing more specific policy-based strategies for population, land use, transportation, public and community facilities, water and sewage systems, visitor destinations, urban design, and other matters related to future growth.

As provided by Chapter 2.80B, the MIP shall include the following components:

1. *An island-wide land use strategy, including a managed and directed growth plan.*
2. *A water element assessing supply, demand and quality parameters.*
3. *A nearshore ecosystem element assessing nearshore waters and requirements for preservation and restoration.*
4. *An implementation program which addresses the County's 20-year capital improvement requirements, financial program for implementation, and action implementation schedule.*
5. *Milestone indicators designed to measure implementation progress of the MIP.*

It is noted the Ordinance No. 4004 does not address the component relating to the implementation program. Chapter 2.80B of the Maui County Code, relating to the General Plan, was amended via Ordinance No. 3979, October 5, 2012, to provide that the implementation program component be adopted no later than one (1) year following the effective date of Ordinance No. 4004. A time extension was subsequently given, with the implementation program component of the MIP to be adopted prior to March 31, 2014.

The MIP addresses a number of planning categories with detailed policy analysis and recommendations which are framed in terms of goals, objectives, policies and implementing actions. These planning categories address the following areas:

1. *Population*
2. *Heritage Resources*
3. *Natural Hazards*
4. *Economic Development*
5. *Housing*
6. *Infrastructure and Public Facilities*
7. *Land Use*

Additionally, an essential element of the MIP is its directed growth plan which provides a management framework for future growth in a manner that is fiscally, environmentally, and culturally prudent. Among the directed growth management tools developed through the MIP process are maps delineating urban growth boundaries (UGB), small town boundaries (STB) and rural growth boundaries (RGB). The respective boundaries identify areas appropriate for future growth and their corresponding intent with respect to development character.

The proposed care facility site is located within the UGB of the MIP. In this regard, it is consistent with the directed growth strategy defined via growth maps adopted in the MIP.

In addition, the proposed Hospice Maui project has been reviewed with respect to pertinent goals, objectives, policies and implementing actions of the MIP. A summary of these policy statements are provided below:

POPULATION

Goal:

- 1.1 *Maui's people, values, and lifestyles thrive through strong, healthy, and vibrant island communities.*

Objective:

- 1.1.1 *Greater retention and return of island residents by providing viable work, education, and lifestyle options.*

Policies:

1.1.1.d Support funding for transportation, housing, health care, recreation, and social service programs that help those with special needs (including the elderly and disabled).

ECONOMIC DEVELOPMENT – HEALTH CARE

Goal:

4.6 Maui will have a health care industry and options that broaden career opportunities that are reliable, efficient, and provide social well-being.

Objective:

4.6.2 Be more efficient in the delivery of health care services and in minimizing health care costs.

Policies:

4.6.2.a Support expansion of health care providers and facilities to improve access to quality care throughout the island.

INFRASTRUCTURE AND PUBLIC FACILITIES – HEALTH CARE

Goal:

6.9 All of Maui residents will have the best possible health care to include healthy living, disease prevention, as well as acute and long-term care.

Objective:

6.9.3 More support to home-care and community-based programs so they become alternatives to traditional nursing homes.

Policies:

6.9.3.d Support funding alternatives for community-based services that assist home-care efforts.

C. WAILUKU-KAHULUI COMMUNITY PLAN

The project site is located in the Wailuku-Kahului Community Plan region which is one (1) of nine (9) Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plan, which is designed to implement

the Maui County General Plan. Each Community Plan contains recommendations and standards which guide the sequencing, patterns and characteristics of future development in the region.

The Wailuku-Kahului Community Plan was adopted by the County of Maui through Ordinance No. 3061 which took effect on May 30, 2002. Land use guidelines are set forth by the Wailuku-Kahului Community Plan Land Use Map. As shown in **Figure 8**, the lands underlying the subject property comprise “Public/Quasi-Public” on the Wailuku-Kahului Community Plan Map. The proposed project is consistent with the “Public/Quasi-Public” designation.

The proposed project is in conformance with the following goals, objectives, and policies of the Wailuku-Kahului Community Plan.

SOCIAL INFRASTRUCTURE

Goal:

Develop and maintain an efficient and responsive system of public services which promotes a safe, healthy and enjoyable lifestyle, accommodates the needs of young, elderly, disabled and disadvantaged persons, and offers opportunities for self-improvement and community well-being.

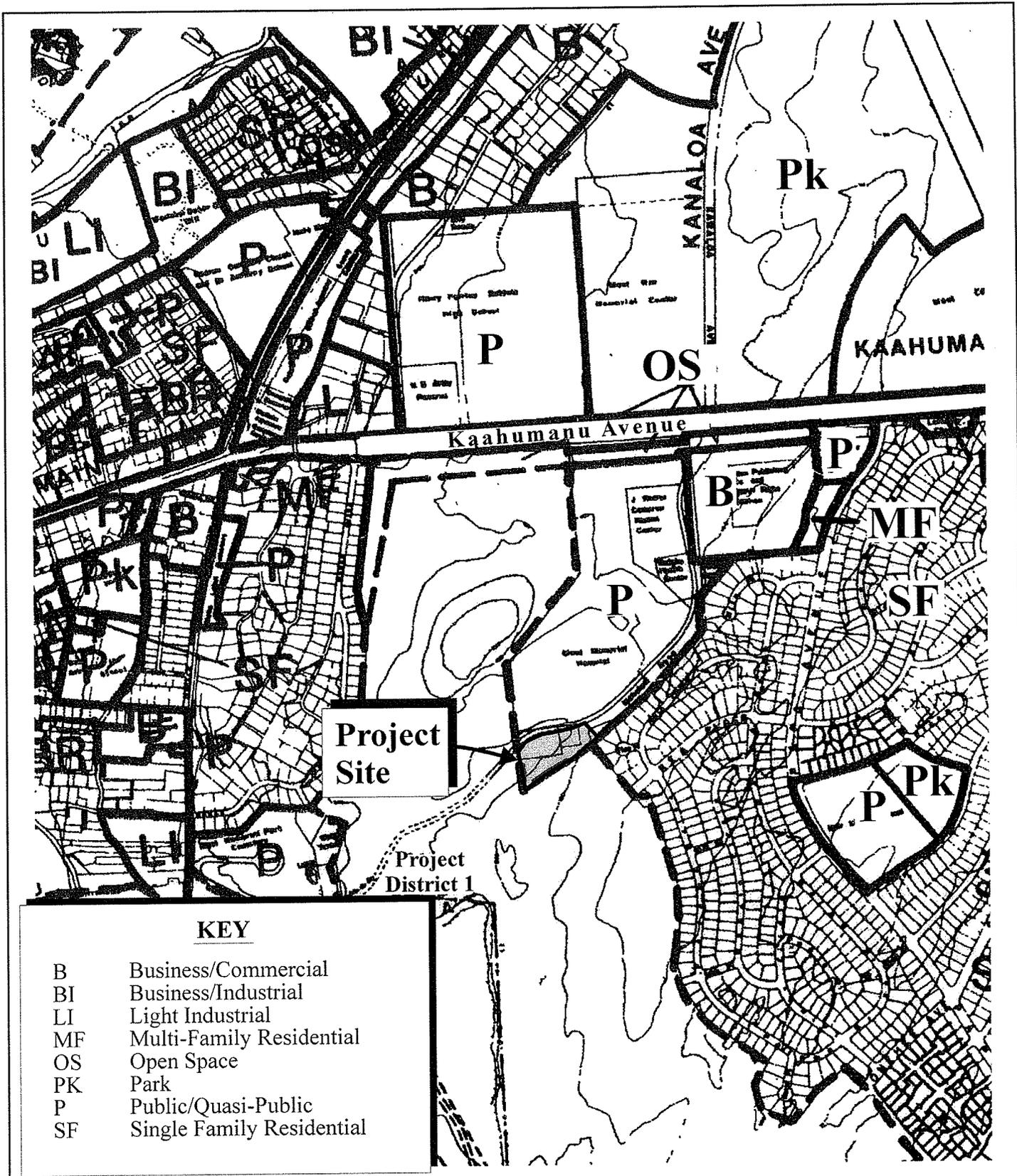
SOCIAL SERVICES/HEALTH

Objectives and Policies:

2. *Plan for the expansion of community services facilities, such as the Cameron Center.*
3. *Expand social services for young and elderly persons.*
4. *Continue to assess the social needs in the community and facilitate a coordinated response in the delivery of social services and programs for young, elderly, disabled and disadvantaged persons.*

D. COUNTY ZONING

The subject property is designated “P-1, Public/Quasi-Public” by Maui County zoning. The proposed project is consistent with the “P-1, Public/Quasi-Public” zoning designation as “facilities for non-profit organizations” is a permitted use.



KEY

- B Business/Commercial
- BI Business/Industrial
- LI Light Industrial
- MF Multi-Family Residential
- OS Open Space
- PK Park
- P Public/Quasi-Public
- SF Single Family Residential

Source: County of Maui, Department of Planning

Figure 8 Proposed Hospice Maui Care Facility NOT TO SCALE
 Wailuku-Kahului Community Plan Map



Prepared for: Hospice Maui

MUNEKIYO & HIRAGA, INC.

E. COASTAL ZONE MANAGEMENT OBJECTIVES AND POLICIES

Pursuant to Chapter 205A, HRS, projects are evaluated with respect to Coastal Zone Management (CZM) objectives, policies and guidelines. While the subject property is not located within the County of Maui's Special Management Area, the project's relationship to applicable coastal zone management considerations have been reviewed and assessed.

(1) Recreational Resources

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

- a. *Improve coordination and funding of coastal recreational planning and management; and*
- b. *Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*
 - i. *Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
 - ii. *Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;*
 - iii. *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
 - iv. *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*
 - v. *Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*

- vi. *Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;*
- vii. *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*
- viii. *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.*

Response: The proposed project is not located near the shoreline and is not anticipated to adversely impact existing coastal or inland recreational resources.

(2) **Historic Resources**

Objective:

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

Policies:

- a. *Identify and analyze significant archeological resources;*
- b. *Maximize information retention through preservation of remains and artifacts or salvage operations; and*
- c. *Support state goals for protection, restoration, interpretation, and display of historic resources.*

Response: An archaeological inventory survey prepared for the project site did not find evidence of cultural deposit or human remains. However, due to the possible presence of human burials in the sand dunes, archaeological monitoring will be undertaken for all earth moving activities carried out within the project site. Prior to the initiation of construction, an archaeological monitoring plan will be submitted to SHPD for review and approval pursuant to Section 13-279, Hawaii Administrative Rules. Refer to **Appendix “B”**.

(3) **Scenic and Open Space Resources**

Objective:

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

Policies:

- a. *Identify valued scenic resources in the coastal zone management area;*
- b. *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
- c. *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
- d. *Encourage those developments which are not coastal dependent to locate in inland areas.*

Response: The project site is located within Maui's central isthmus. The proposed care facility will be one-story and measure 19 feet in height. Although the proposed facility will be visible from adjacent properties, the project site is not part of a scenic corridor, and the proposed project will not significantly affect views of Haleakala, Iao Valley, or the West Maui Mountains from inland vantage points.

(4) **Coastal Ecosystems**

Objective:

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

Policies:

- a. *Improve the technical basis for natural resource management;*
- b. *Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;*

- c. *Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and*
- d. *Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.*

Response: The project site is located approximately 1.25 miles away from the coast and is not expected to adversely impact coastal ecosystems. Best Management Practices (BMPs) will be implemented during the construction of the project to minimize runoff from the project site. The project will comply with applicable County drainage provisions. Development of the proposed project is not anticipated to adversely affect drainage conditions in the area. Refer to **Appendix "A"**.

(5) **Economic Uses**

Objective:

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

Policies:

- a. *Concentrate coastal dependent development in appropriate areas;*
- b. *Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and*
- c. *Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:*
 - i. *Use of presently designated locations is not feasible;*
 - ii. *Adverse environmental effects are minimized; and*
 - iii. *The development is important to the State's economy.*

Response: The proposed action does not contradict the objectives and policies for economic uses. The proposed project will generate short-term construction-related employment and spending which will benefit the local economy. From a long-term perspective, the care facility will employ approximately nine (9) new employees during operations.

(6) **Coastal Hazards**

Objective:

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

Policies:

- a. *Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;*
- b. *Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;*
- c. *Ensure that developments comply with requirements of the Federal Flood Insurance Program;*
- d. *Prevent coastal flooding from inland projects; and*
- e. *Develop a coastal point and nonpoint source pollution control program.*

Response: According to the Flood Insurance Rate Map for the area, the project site is located within Zone X (unshaded), an area determined to be outside of the 0.2 percent annual floodplain. The project site is located 1.25 miles from the coast and outside of the tsunami evacuation area.

(7) **Managing Development**

Objective:

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

Policies:

- a. *Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;*
- b. *Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and*
- c. *Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.*

Response: In compliance with the requirements of Chapter 343, HRS, this Environmental Assessment (EA) has been prepared to facilitate public understanding and involvement with the proposed project. All aspects of the development will be conducted in accordance with applicable Federal, State, and County standards. Opportunities for review of the proposed action are offered through the regulatory review process for the EA set forth by Chapter 343, HRS.

(8) Public Participation

Objective:

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

Policies:

- a. *Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program;*
- b. *Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and*
- c. *Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

Response: The proposed project will meet County public awareness, education and participation objectives. Opportunities for agency and public review will be provided as part of the notification, review and comment process required for the EA.

(9) **Beach Protection**

Objective:

Protect beaches for public use and recreation.

Policies:

- a. *Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;*
- b. *Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and*
- c. *Minimize the construction of public erosion-protection structures seaward of the shoreline.*

Response: The proposed project will not involve construction in the vicinity of shoreline areas. The project site is approximately 1.25 miles inland from the nearest shoreline. As such, the proposed project is not anticipated to have an adverse effect on local beach environments.

(10) **Marine Resources**

Objective:

Implement the State's ocean resources management plan.

Policies:

- a. *Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;*
- b. *Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;*
- c. *Coordinate the management of marine and coastal resources and activities management to improve effectiveness and efficiency;*
- d. *Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;*

- e. *Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and*
- f. *Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.*

Response: The project site is located approximately 1.25 miles from the shoreline. The proposed project, therefore, is not anticipated to have adverse effects upon marine and coastal resources in the project vicinity.

In addition to the foregoing objectives and policies, Section 205A-30.5, HRS Prohibitions provide that:

- (a) No Special Management Area Use Permit or Special Management Area Minor Permit shall be granted for structures that allow artificial light from floodlights, uplights, or spotlights used for decorative or aesthetic purposes when the light:
 - (1) Directly illuminates the shoreline and ocean waters; or
 - (2) Is directed to travel across property boundaries toward the shoreline and ocean waters.
- (b) Subsection (a) shall not apply to special management area use permits for structures with:
 - (2) Artificial lighting provided by a government agency or its authorized users for government operations, security, public safety, or navigational needs; provided that a government agency or its authorized users shall make reasonable efforts to properly position or shield lights to minimize adverse impacts.

Response: The project site is not located near the shoreline. Nevertheless, artificial lighting will be shielded or directed downward.

**IV. SUMMARY OF ADVERSE
ENVIRONMENTAL EFFECTS
WHICH CANNOT BE
AVOIDED**

IV. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The proposed project involves the construction of a five-bedroom care facility for Hospice Maui. Construction will take place on County-owned lands leased by Hospice Maui in the vicinity of medical, public/quasi-public, and other urban uses. Hospice Maui's administrative offices are located on the western portion of the property. The proposed project is consistent with surrounding land uses and will not create significant adverse impacts to view corridors.

Assessment of construction-related impacts was carried out as part of the EA. The development will have limited, unavoidable construction-related impacts on the environment, as described in Chapter II. In the short term, construction activities associated with the proposed care facility will have a temporary impact on air quality from dust generation and discharge of exhaust from construction equipment. Appropriate BMPs will be implemented to mitigate adverse impacts, including a dust fence to mitigate wind-blown dust emissions, temporary erosion control measures, watering of exposed surfaces and regular maintenance of construction equipment. The construction of the proposed project will also result in unavoidable noise impacts. The use of properly maintained construction equipment will mitigate noise impacts generated by such equipment. In addition, the project will comply with State Department of Health community noise limits and construction will be limited to normal daylight hours. As applicable, a Community Noise Permit will be obtained if construction noise levels exceed allowable levels.

V. ALTERNATIVES TO THE PROPOSED ACTION

V. ALTERNATIVES TO THE PROPOSED ACTION

A. PREFERRED ALTERNATIVE

The proposed construction and operation of a five-bedroom care facility for Hospice Maui, as described in Chapter I, represents the preferred alternative for the proposed project. Hospice Maui currently has a long-term lease of the property from the County of Maui and the development of an in-patient care facility directly adjacent to the organization's existing administrative offices is deemed an appropriate use of the undeveloped portion of the parcel. There are currently no in-patient hospice facilities on the island and the proposed project will allow Hospice Maui to provide in-patient services for terminally ill patients who require more complex care.

B. NO ACTION ALTERNATIVE

The "no-action" alternative would involve the continued underutilization of the project site leased by Hospice Maui. It would also prevent the diversification of care options for terminally ill patients on the island. Current care options on Maui are limited to hospital care, nursing homes, or in-home care. These options may not meet the varying needs for terminally ill patients. As such, the "no action" alternative is not considered a suitable alternative.

C. DEFERRED ACTION ALTERNATIVE

The "deferred action" alternative would have similar consequences to the "no action" alternative in that the proposed project would be delayed and Maui residents would be denied the option of in-patient end-of-life care.

D. ALTERNATIVE SITE ALTERNATIVE

This alternative would involve site selection and property acquisition to develop a new in-patient care facility at a new location. This alternative was not pursued as Hospice Maui maintains a lease with the County of Maui for the project site. Furthermore, Hospice Maui's administrative offices are located on the western portion of the property and the adjacency of the administrative offices and proposed care facility will allow for greater efficiencies in service provision.

**VI. IRREVERSIBLE AND
IRRETRIEVABLE
COMMITMENTS OF
RESOURCES**

VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Development of the proposed project will involve commitments of energy, labor, fiscal and material resources. The use of these resources, when weighed against the expected benefits derived from in-patient hospice care for the terminally ill, is not considered an adverse commitment.

VII. SIGNIFICANCE CRITERIA ASSESSMENT

VII. SIGNIFICANCE CRITERIA ASSESSMENT

The “Significance Criteria”, Section 12 of the Hawaii Administrative Rules (HAR), Title 11, Chapter 200, “Environmental Impact Statement Rules”, were reviewed and analyzed to determine whether the proposed project will have significant impacts on the environment. The following criteria and preliminary analysis are provided.

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

An archaeological inventory survey prepared for the project site did not find evidence of cultural deposit or human remains. However, due to the possible presence of human burials in the sand dunes, archaeological monitoring will be undertaken for all earth moving activities carried out within the project site. Prior to the initiation of construction, an archaeological monitoring plan will be submitted to SHPD for review and approval pursuant to Section 13-279, Hawaii Administrative Rules.

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

The proposed project and its commitment of land resources are not anticipated to curtail the range of beneficial uses of the environment. The project site is located within an existing urban area surrounded by medical, public/quasi-public, and other urban uses.

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

The proposed action has been reviewed in the context of the State’s Environmental Policy and Guidelines that are set forth in Chapter 344, HRS. The proposed action does not contravene provisions of Chapter 344, HRS.

4. **Substantially affects the economic welfare, social welfare, and cultural practices of the community or State.**

The proposed project will directly benefit the local economy by providing construction and construction-related employment. In the long term, the proposed project will employ nine (9) employees during operation. The proposed care facility will have a beneficial

impact on the social welfare of the community by diversifying the care options for terminally ill patients. The proposed project will not adversely affect cultural practices.

5. **Substantially affects public health.**

No adverse impacts to public health or welfare are anticipated as a result of the proposed project. Appropriate Best Management Practices (BMPs) will be implemented during the construction phase of the project to mitigate potential air quality and noise impacts. The project will expand the medical services available on Maui for terminally ill patients.

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

The proposed project is not considered a significant population generator. The project site is located within an existing urbanized area of Central Maui and will not extend service limits for public services. With the proposed mitigation measures, the proposed project is not anticipated to have a significant adverse impact on the environment.

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

During construction of the project, appropriate BMPs will be implemented to ensure that potential adverse environmental effects are mitigated. No substantial degradation of the environment is anticipated as a result of project construction.

From a long-term perspective, no substantial degradation of environmental quality resulting from the project is anticipated.

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

The proposed action does not represent a commitment to larger actions. In addition, the proposed action is not expected to result in cumulative impacts that would adversely affect the environment.

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

There are no known or identified habitats of rare, threatened, or endangered species of flora, fauna or avifauna, or their habitats in the vicinity of the project site.

10. **Detrimentially affects air or water quality or ambient noise levels.**

Construction activities will result in short-term air quality and noise impacts. Dust control measures, such as regular watering and sprinkling, and installation of dust screens will be implemented to minimize windblown emissions. Noise impacts will occur primarily from construction equipment. Equipment mufflers or other noise attenuating equipment, as well as proper equipment and vehicle maintenance, will be used during construction activities. Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawaii, Department of Health Administrative Rules Title 11, Chapter 46, "Community Noise Control". These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in Chapter 46 rules.

With the implementation of the proposed mitigation measures, the project is not anticipated to have significant adverse impacts on air quality or noise levels. Upon completion of construction, the proposed project is not anticipated to have long-term adverse air quality, noise, or water quality impacts.

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 project site is not located within and the proposed action would not affect any environmentally sensitive areas. The project site is not subject to flooding or tsunami inundation. The project site is not a shoreline property, nor is it situated near streams, wetland areas, or other areas that may pose flooding concerns. There are no geologically hazardous lands, estuaries, or coastal waters within or adjacent to the project site.

12. **Substantially affects scenic vistas and viewplanes identified in County or State plans or studies.**

The project site is not identified as a scenic vista or viewplane in County or State plans or studies. The proposed care facility will be one-story and will measure 19 feet in height. It is not anticipated that the proposed project will significantly affect scenic corridors or coastal scenic and open space resources.

13. Requires substantial energy consumption.

The proposed project will involve the short-term commitment of fuel for equipment, vehicles, and machinery during construction activities. However, this use is not anticipated to result in a substantial consumption of energy resources.

Based on the foregoing findings, the proposed action is not anticipated to result in any significant adverse impacts. Accordingly, it is anticipated that the proposed action will result in a Finding of No Significant Impact (FONSI).

VIII. LIST OF PERMITS AND APPROVALS

VIII. LIST OF PERMITS AND APPROVALS

The following permits and approvals will be required prior to the implementation of the project.

State of Hawaii

1. Community Noise Permit, as applicable
2. Certificate of Need (Approved)

County of Maui

1. Construction Permits (Building, Electrical, Plumbing)

**IX. PARTIES CONSULTED
DURING THE PREPARATION
OF THE DRAFT
ENVIRONMENTAL
ASSESSMENT; LETTERS
RECEIVED AND RESPONSES
TO SUBSTANTIVE
COMMENTS**

IX. PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

The following agencies were consulted during preparation of the Draft Environmental Assessment (EA). Agency comments and responses to substantive comments are included herein.

1. Larry Yamamoto, State Conservationist
U.S. Department of Agriculture
Natural Resources Conservation Service
P.O. Box 50004
Honolulu, Hawaii 96850-0001
2. Ranae Ganske-Cerizo, Soil Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
77 Hookele Street, Suite 202
Kahului, Hawaii 96732
3. George Young, Chief, Regulatory Branch
U.S. Department of the Army
U.S. Army Engineer District, Honolulu
Regulatory Branch, Building 230
Fort Shafter, Hawaii 96858-5440
4. Ryan T. Okahara, Field Office Director
U. S. Department of Housing and Urban
Development
500 Ala Moana Boulevard, Suite 3A
Honolulu, Hawaii 96813-4918
5. Loyal A. Mehrhoff, Field Supervisor
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122
Box 50088
Honolulu, Hawaii 96813
6. Dean H. Seki, Comptroller
Department of Accounting and General
Services
1151 Punchbowl Street, #426
Honolulu, Hawaii 96813
7. Karen Seddon, Executive Director
Hawaii Housing Finance and Development
Corporation
677 Queen Street
Honolulu, Hawaii 96813
8. Richard C. Lim, Director
State of Hawaii
Department of Business, Economic
Development & Tourism
P.O. Box 2359
Honolulu, Hawaii 96804
9. Jobie Masagatani, Chairperson
Hawaiian Home Lands Commission
P.O. Box 1879
Honolulu, Hawaii 96805
10. Loretta J. Fuddy, Director
State of Hawaii
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawaii 96814
11. Alec Wong, P.E., Chief
Clean Water Branch
State of Hawaii
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawaii 96814

12. Patti Kitkowski, District Environmental Health Program Chief
State of Hawaii
Department of Health
Maui Sanitation Branch
54 South High Street, Room 300
Wailuku, Hawaii 96793
13. Laura McIntyre, AICP, Office Manager
Environmental Planning Office
Department of Health
919 Ala Moana Blvd., Suite 312
Honolulu, Hawaii 96814
14. Lene Ichinotsubo
Environmental Management Division
State of Hawaii
Department of Health
919 Ala Moana Blvd., Room 212
Honolulu, Hawaii 96814
15. William J. Aila, Jr., Chairperson
State of Hawaii
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809
16. Puaalaokalani Aiu, Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawaii 96707
17. Jenny Pickett, Maui Archaeologist
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
130 Mahalani Street
Wailuku, Hawaii 96793
18. Glenn Okimoto, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
19. Major General Darryll Wong, Director
Hawaii State Civil Defense
3949 Diamond Head Road
Honolulu, Hawaii 96813-4495
20. Gary Gill, Acting Director
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawaii 96813
21. Dr. Kamana'opono Crabbe, Chief Executive Officer
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813
22. Jesse Souki, Director
State of Hawaii
Office of Planning
P. O. Box 2359
Honolulu, Hawaii 96804
23. Alan Arakawa, Mayor
County of Maui
200 South High Street
Wailuku, Hawaii 96793
24. Teena Rasmussen, Coordinator
County of Maui
Office of Economic Development
2200 Main Street, Suite 305
Wailuku, Hawaii 96793
25. Anna Foust, Management Officer
Maui Civil Defense Agency
200 South High Street
Wailuku, Hawaii 96793
26. Jeffrey A. Murray, Fire Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawaii 96732
27. Jo-Ann Ridao, Director
County of Maui
Department of Housing and Human Concerns
One Main Plaza
2200 Main Street, Suite 546
Wailuku, Hawaii 96793
28. Glenn Correa, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoia Street, Unit 2
Wailuku, Hawaii 96793

29. William Spence, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793
30. Gary Yabuta, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawaii 96793
31. David Goode, Director
County of Maui
Department of Public Works
200 South High Street
Wailuku, Hawaii 96793
32. Kyle Ginoza, Director
County of Maui
Department of Environmental Management
One Main Plaza
2200 Main Street, Suite 100
Wailuku, Hawaii 96793
33. Jo Ann Johnson Winer, Director
County of Maui
Department of Transportation
200 South High Street
Wailuku, Hawaii 96793
34. David Taylor, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793
35. Councilmember Don Guzman, Esq.
Maui County Council
200 South High Street
Wailuku, Hawaii 96793
36. Councilmember Mike Victorino
Maui County Council
200 South High Street
Wailuku, Hawaii 96793
37. Dan Takahata, Manager – Engineering
Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawaii 96733
38. Hawaiian Telcom
60 South Church Street
Wailuku, Hawaii 96793
39. Wesley P. Lo, Chief Executive Officer
Maui Memorial Medical Center
221 Mahalani Street
Wailuku, Hawaii 96793
40. Kaiser Permanente
531 Ohohia Street
Honolulu, Hawaii 96819
41. Rik Papa, President
Attention: Tiana Raymondo
Kehalani Community Association
P.O. Box 1530
Wailuku, Hawaii 96793
42. Justin Woodson, Representative
House of Representatives
Hawaii State Capitol, Room 305
415 S. Beretania Street
Honolulu, Hawaii 96813
43. Historic Sandhills Residents Association
c/o Stephanie Ohigashi
2119 Main Street
Wailuku, Hawaii 96793
44. Maui Lani Community Association
c/o Barbara Kojima
105 N. Market Street, Suite 102
Wailuku, Hawaii 96793

Erin Mukai

From: Ian Bordenave <ian_bordenave@fws.gov>
Sent: Wednesday, June 12, 2013 11:07 AM
To: Erin Mukai
Cc: Jess Newton
Subject: 2013-TA-0299 FWS comments on Hospice Maui Care Facility

In Reply Refer To:
2013-TA-0299

Ms. Erin Mukai
Associate Planner
Munekiyo and Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Subject: Technical Assistance for the Hospice Maui Care Facility, Maui

We received your letter on May 24, 2013, requesting comment in preparation of a Draft Environmental Assessment for the proposed construction of a Hospice Care Facility at 400 Mahalani Street in Wailuku, Hawaii [TMK: (2) 3-8-046:017].

Based on information you provided as well as information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program, we have determined that there are no occurrences of federally listed species or designated critical habitat within the proposed project footprint.

If you have any questions or concerns regarding this correspondence, please feel free to contact me using the information provided below.

Ian Bordenave
Biologist
U.S. Fish and Wildlife Service
Pacific Islands Field Office
300 Ala Moana Blvd., Suite 3-122
Honolulu, HI. 96850
Phone: (808) 792-9453
E-Mail: ian_bordenave@fws.gov



MICHAEL T. MUNEKIYO
PRESIDENT

KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT

GWEN CHASEHI HIRAGA
SENIOR VICE PRESIDENT

MITSUBU "MICH" HIRANO
SENIOR VICE PRESIDENT

MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Ian Bordenave, Biologist
U.S. Fish and Wildlife Service
Pacific Islands Field Office
300 Ala Moana Blvd., Suite 3-122
Honolulu, Hawaii 96850

SUBJECT: Response to Early Consultation Comment Letter Regarding Proposed Hospice Maui Care Facility at 400 Mahalani Street, Wailuku, Maui, Hawaii; TMK (2)3-8-046:017, (2013-TA-0299)

Dear Mr. Bordenave:

Thank you for your email of June 12, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of our letter, as well as information on file with your office, and your conveying confirmation that there are no occurrences of federally listed species or designated critical habitat within the proposed project footprint.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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MAUI

305 High St., Suite 104 Wailuku, Hawaii 96793

PH: (808)244-2015 FAX: (808)244-8729

OHAIU

735 Bishop St., Suite 238 Honolulu, Hawaii 96813 PH: (808)983-1233

WWW.MHPLANNING.COM

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JUN 07 2013

NEIL ABERCROMBIE
GOVERNOR



Dean H. Seki
Comptroller
Maria E. Zielinski
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

JUN - 6 2013

(P)1128.3

Ms. Erin Mukai, Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Mukai:

Subject: Early Consultation Request for the Preparation of a
Draft Environmental Assessment for the
Proposed Hospice Maui Care Facility at
400 Mahalani Street, Wailuku, Maui, Hawaii
TMK: (2) 3-8-046:017

Thank you for the opportunity to provide comments for the subject project. The proposed location does not impact any of the Department of Accounting and General Services' existing facilities in the area, and we have no other comments to offer at this time.

If you have any questions, please call me at 586-0400 or your staff may call Mr. Alva Nakamura of the Public Works Division at 586-0488.

Sincerely,

A handwritten signature in black ink, appearing to be "D. Seki".

DEAN H. SEKI
Comptroller

c: Dr. Greg Lagoy, Hospice Maui



MICHAEL T. MUNEKINO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
GWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Dean H. Seki, Comptroller
Department of Accounting and General Services
State of Hawaii
P.O. Box 119
Honolulu, Hawaii 96810-0119

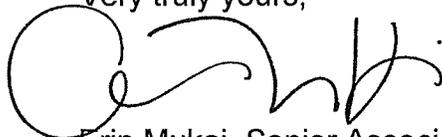
SUBJECT: Response to Early Consultation Comment Letter Regarding Proposed Hospice Maui Care Facility at 400 Mahalani Street, Wailuku, Maui, Hawaii; TMK (2)3-8-046:017, ((P) 1128.3)

Dear Mr. Seki:

Thank you for your letter of June 6, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of the early consultation letter and your determination that the proposed location of the project does not impact any of your Department's existing facilities and that your Department has no other comments at this time.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Erin Mukai, Senior Associate

EM:me

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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MAUI

305 High St., Suite 104 Wailuku, Hawaii 96793

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735 Bishop St., Suite 238 Honolulu, Hawaii 96813 | PH: (808)983-1233

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JUL 02 2013

NEIL ABERCROMBIE
GOVERNOR



DARRYLL D. M. WONG
MAJOR GENERAL
ADJUTANT GENERAL

JOSEPH K. KIM
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

June 28, 2013

Ms. Erin Mukai, Associates
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

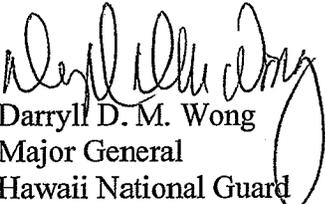
Dear Ms. Mukai:

Subject: Early Consultation Request for the preparation of a Draft
Environmental Assessment for the proposed Hospice Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii (TMK 2-3-8-046:17)

Thank you for the opportunity to comment on the above project. The State of Hawaii
Department of Defense has no comments to offer relative to the project at this time.

Please contact this office upon completion of the Draft Environment Assessment. Should you
have any questions or concerns, please contact Mr. Lloyd Maki, Acting Chief Engineering
Officer at (808) 733-4250.

Sincerely,


Darryll D. M. Wong
Major General
Hawaii National Guard
Adjutant General

c: Mr. Ian Duncan, State Civil Defense



MICHAEL T. MUNEKIYO
PRESIDENT

KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT

GWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT

MITSUBU "MICH" HIRANO
SENIOR VICE PRESIDENT

MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Darryll D. M. Wong, Major General
Office of the Adjutant General
Department of Defense
State of Hawaii
3949 Diamond Head Road
Honolulu, Hawaii 96816-4495

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Major General:

Thank you for your letter of June 28, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of our letter and your conveying confirmation that the Department of Defense has no comment at this time.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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JUN 10 2013

NEIL ABERCROMBIE
GOVERNOR
STATE OF HAWAII



JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

DARRELL T. YOUNG
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P. O. BOX 1879
HONOLULU, HAWAII 96805

June 4, 2013

Munekiyo & Hiraga, Inc.
Attn: Ms. Erin Mukai, Associate
305 South High Street, Suite 104
Wailuku, Hawai'i 96793

Dear Ms. Mukai:

Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Hospice Maui Care Facility at 400 Mahalani Street, Wailuku, Maui, Hawaii (TMK(2)3-8-046:017)

Thank you for the opportunity to comment on the Early Consultation Request for the Preparation of a Draft Environmental Assessment. The Department of Hawaiian Home Lands has no comment to offer at this time.

Should you have any questions, please contact the Planning Office at (808) 620-9480.

Aloha,

A handwritten signature in black ink that reads "Darrell C. Yagodich".

Darrell C. Yagodich
Planning Program Manager



MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
GWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICK" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Darrell C. Yagodich, Planning Program Manager
Department of Hawaiian Home Lands
State of Hawaii
P.O. Box 1879
Honolulu, Hawaii 96805

**SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017**

Dear Mr. Yagodich:

Thank you for your letter of June 4, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of the early consultation letter providing information on the project and your conveying confirmation that your Department has no comment at this time.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Erin Mukai, Senior Associate

EM:me

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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JUN 04 2013

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

06004PJF.13

June 3, 2013

Ms. Erin Mukai
Associate
Munekiyō & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Mukai:

**SUBJECT: Comments on the Early Consultation Request for the
Proposed Hospice Maui Care Facility
Wailuku, Island of Maui, Hawaii**

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated May 23, 2013, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54, and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: <http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf>.

1. Any project and its potential impacts to State waters must meet the following criteria:
 - a. Anti-degradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
 - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
 - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
2. You may be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, you must submit the CWB Individual

NPDES Form through the e-Permitting Portal and the hard copy certification statement with \$1,000 filing fee. Please open the e-Permitting Portal website at: <https://eha-cloud.doh.hawaii.gov/epermit/View/home.aspx>. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the "CWB Individual NPDES Form." Follow the instructions to complete and submit this form.

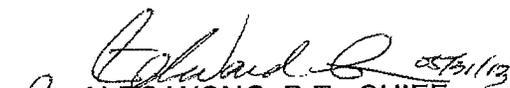
3. If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 438-9258) regarding their permitting requirements.

Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and HAR, Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Non-compliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation.

If you have any questions, please visit our website at: <http://www.hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,


ALEC WONG, P.E., CHIEF
Clean Water Branch

JF:np



MICHAEL T. MUNEKIYO
PRESIDENT

KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT

SWEN CHASEKI HIRAGA
SENIOR VICE PRESIDENT

MITCHELL "MICH" HIRANO
SENIOR VICE PRESIDENT

MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Alec Wong, P.E., Chief
Clean Water Branch
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawaii 96801-3378

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017, (EMD/CWB
06004PJF.13)

Dear Mr. Wong:

Thank you for your letter of June 3, 2013 providing comments on the Proposed Hospice Maui Care Facility.

We offer the following information in response to your comments in the order listed in your letter.

Response to Comment No. 1

We note the requirements of Hawaii Administrative Rules (HAR), Section 11-54-1.1, Section 11-54-3, and Sections 11-54-4 through 11-54-8. As applicable, the applicant will submit a National Pollutant Discharge Elimination System (NPDES) permit and the water quality impact criteria will be addressed through the NPDES permit.

Response to Comment No. 2

Your comments regarding the NPDES and its relation to HAR, Chapter 11-55 are acknowledged. As applicable, the project engineer will apply for the NPDES permit for discharges of water, including storm water runoff.

MAUI

305 High St., Suite 104 Wailuku, Hawaii 96793

PH: (808)244-2015 FAX: (808)244-8729

OAHU

735 Bishop St., Suite 238 Honolulu, Hawaii 96813 | PH: (808)983-1233

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Alec Wong, P.E., Chief
February 18, 2014
Page 2

Response to Comment No. 3

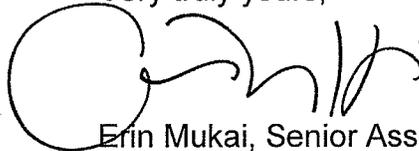
Coordination with the United States Army Corp. of Engineers will continue to be carried out through the Chapter 343, Hawaii Revised Statutes (HRS) Environmental Assessment process.

Response to Comment No. 4

Your comments concerning compliance with the State's Water Quality Standards are noted.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,



Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Darren Unemori, Warren S. Unemori Engineering, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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JUN 13 2013

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

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

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

June 12, 2013

Ms. Erin Mukai
Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Mukai:

**Subject: Early Consultation Request for the Preparation of a Draft
Environmental Assessment for the Proposed Hospice Maui Care
Facility at 400 Mahalani Street, Wailuku, Maui, Hawaii
TMK: (2) 3-8-046:017**

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

1. The wastewater generated from the proposed project must be disposed of through the County of Maui sewer collection system as a sewer lateral is available for connection.
2. The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules (HAR), Chapter 11-46, "Community Noise Control." A noise permit may be required and should be obtained before the commencement of work. The Indoor & Radiological Health Branch should be contacted at 808 586-4700.
3. HAR, Chapter 11-46 sets maximum allowable sound levels from stationary equipment such as compressors and HVAC equipment. The attenuation of noise from these sources may depend on the location and placement of these types of equipment. This should be taken into consideration during the planning, design and construction of the building and installation of these types of equipment.

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

Ms. Erin Mukai
June 12, 2013
Page 2

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

Sincerely,

A handwritten signature in cursive script that reads "Patti Kitkowski".

Patti Kitkowski
District Environmental Health Program Chief

c EPO



MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
GWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICKY" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Patti Kitkowski
District Environmental Health Program Chief
Maui District Health Office
Department of Health
State of Hawaii
54 High Street
Wailuku, Hawaii 96793

SUBJECT: Response to Early Consultation Comment Letter Regarding Proposed Hospice Maui Care Facility at 400 Mahalani Street, Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Ms. Kitkowski:

Thank you for your letter of June 12, 2013 providing comments on the Proposed Hospice Maui Care Facility.

On behalf of Hospice Maui, Inc., the following information is provided in response to your comments in the same order listed in your letter.

Response to Comment No. 1

Although an 8-inch County sewerline is located in Maui Lani Parkway, there is no convenient point of connection to the sewerline. As such, the existing Hospice administration facilities are serviced by individual wastewater systems on site. The proposed Hospice facility will also be serviced by an individual wastewater system using a septic tank and leach field/pit. Coordination with DOH will be carried out for the design review and approval of the system.

Response to Comment No. 2

We note that pursuant to Hawaii Administrative Rules (HAR), Chapter 11-46, "Community Noise Control", a noise permit may be required for the project. As applicable, a noise permit will be secured by the project's contractor before construction of the project.

Patti Kitkowski
February 18, 2014
Page 2

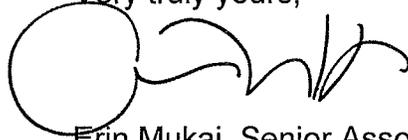
Response to Comment No. 3

We note the requirements of HAR, Chapter 11-46 which set maximum allowable sound levels from stationary equipment, such as compressors and HVAC equipment. We also note the attenuation of noise from these sources may depend on their location and placement within the project site. Your comments have been provided to the project team for consideration.

Further, as recommended, the Standard Comments found at the Department of Health's website will be reviewed by the project team and comments applicable to the proposed project will be adhered to.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,



Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Darren Unemori, Warren S. Unemori Engineering, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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JUN 05 2013

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

13-111
Hospice Maui Care
Facility

May 29, 2013

Ms. Erin Mukai
Munekiyō & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Mukai:

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Hospice Maui Care Facility at 400 Mahalani Street, Wailuku, Maui, Hawaii (TMK (2)3-8-046:017)

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter dated May 23, 2013. Thank you for allowing us to review and comment on the subject document. The document was routed to the Department of Health's Clean Water Branch and County of Maui District Health Office. They will provide specific comments to you if necessary. EPO recommends that you review the Standard Comments (www.hawaii.gov/health/epo under the land use tab). You are required to adhere to all Standard Comments specifically applicable to this application.

EPO suggests that you examine the many sources available on strategies to support the sustainable design of communities, including the:

- U.S. Environmental Protection Agency's report, "Creating Equitable, Health and Sustainable Communities: Strategies for Advancing Smart Growth, Environmental Justice, and Equitable Development" (Feb. 2013), <http://www.epa.gov/smartgrowth/pdf/equitable-dev/equitable-development-report-508-011713b.pdf>;
- U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability;
- U.S. Green Building Council's LEED program: www.new.usgbc.org/leed; and
- World Health Organization, www.who.int/hia.

The DOH encourages everyone to apply these sustainability strategies and principles early in the planning and review of projects. We also request that for future projects you consider conducting a Health Impact Assessment (HIA). More information is available at www.cdc.gov/healthyplaces/hia.htm. We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

We wish to receive notice of the environmental assessment's availability when it is completed. We request a written response confirming receipt of this letter and any other letters you receive from DOH in regards to this submission. You may mail your response to: 919 Ala Moana Blvd., Ste. 312, Honolulu, Hawaii 96814. However, we would prefer an email submission to epo@doh.hawaii.gov. We anticipate that our letter(s) and your response(s) will be included in the final document. If you have any questions, please contact me at (808) 586-4337.

Mahalo,

A handwritten signature in black ink, appearing to read "Laura Leialoha Phillips McIntyre".

Laura Leialoha Phillips McIntyre, AICP
Manager, Environmental Planning Office



MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
EWEEN ONASHI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Laura Leialoha Phillips McIntyre
Environmental Planning Office
Department of Health
State of Hawaii
919 Ala Moana Blvd., Ste 312
Honolulu, Hawaii 96814

SUBJECT: Response to Early Consultation Comment Letter Regarding Proposed Hospice Maui Care Facility at 400 Mahalani Street, Wailuku, Maui, Hawaii; TMK (2)3-8-046:017, (13-111)

Dear Ms. Phillips McIntyre:

Thank you for your letter of May 29, 2013 providing comments on the Proposed Hospice Maui Care Facility.

We offer the following information in response to your comments, in the order listed in your letter.

Response to Comment Regarding the Standard Comments

As recommended, the Standard Comments found at the Department of Health's website will be reviewed by the project team.

Response to Comment Regarding Sustainability Strategies and Principles

We note your recommendation to review the listed sources available on strategies to support the sustainable design of communities. Your recommendation has been forwarded to the project team for consideration.

Response to Comment Regarding Health Impact Assessment

We acknowledge your request that for future projects, Hospice Maui consider conducting a Health Impact Assessment.



Laura Leialoha Phillips McIntyre
February 18, 2014
Page 2

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment (EA). We also note your request to receive notice of the EA availability when completed. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Erin Mukai', written over a large, stylized circular flourish.

Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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JUN 12 2013

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
ENVIRONMENTAL MANAGEMENT DIVISION
SOLID AND HAZARDOUS WASTE BRANCH
919 ALA MOANA BOULEVARD, #212
HONOLULU, HAWAII 96814

In reply, please refer to:
EMD/SHWB

June 10, 2013

S0612JV

Ms. Erin Mukai
Munekiyo and Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Mukai:

SUBJECT: Early Consultation
Proposed Hospice Maui Care Facility
Wailuku, Hawaii
(TMK 2nd, 3-8-046:017)

This letter by the Department of Health (DOH), Office of Solid Waste Management is in response to a May 23, 2013 request for early consultation for the subject project, which proposes a one-story, 4,500 square foot five-bedroom care facility at 400 Mahalani St. in Wailuku. The proposed project is to be constructed adjacent to existing Hospice Maui structures including an administration office, meeting and storage facility and parking areas. Only new construction activities are anticipated based on the potential scope of the project with the assumption that no demolition activities will occur. Therefore, we offer the following comments:

1. Please inquire as to possible arrangements with DOH-permitted recovery facilities such as Pohakulepo Recycling, LLC dba Hawaiian Cement for the potential disposition of unpainted, uncontaminated concrete (no asbestos, lead-based paint or other types of contamination accepted) from new construction. Please be aware that these businesses may choose to accept unpainted, uncontaminated concrete from their own jobs only.
2. If on-site reuse of concrete is intended, then the uncontaminated concrete must also meet the state's definition of "inert fill material" defined as:

Section 342H-1, Hawaii Revised Statutes Definition

"Inert fill material" means earth, soil, rocks, rock-like material such as cured asphalt, brick, and clean concrete less than eight inches in diameter, except as specified by a licensed soils engineer with no exposed steel reinforcing rod. The fill material shall not contain vegetation or organic material, or other solid waste.

The fill material shall be clean and uncontaminated. We typically utilize the Environmental Action Levels (EALs) for residential usage as well as the most stringent water quality standards for unrestricted use as a basis of determining whether fill is contaminated or not. The EALs may be found at: <http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/environmental-hazard-evaluation-and-environmental-action-levels>.

3. Appropriately dispose of new construction gypsum and plaster. Currently, no recycling facility in Maui County is permitted to accept gypsum board from demolition projects.
4. We assume that any wood waste from the new construction stage is of the treated variety. Such wood waste must be disposed of at DOH-permitted disposal facilities, not recycled. Currently there are no DOH-permitted facilities on Maui that accept treated lumber for recycling.
5. Please send any ferrous scrap to permitted scrap metal facilities such as Schnitzer Steel Hawaii Corp., dba Hammerhead Metals Recycling.
6. Please send any non-ferrous scrap to DOH-permitted facilities such as any of the various Reynolds Recycling, Inc. locations on Maui.
7. Please send any greenwaste to DOH-permitted facilities on Maui such as Maui Earth Compost, Inc. or Maui EKO Systems. Each facility's ability to process greenwaste varies, so please contact them first prior to delivery. Whenever feasible, we also encourage on-site reuse of trees planned for removal.

Please be reminded that the applicant's submittal was reviewed with respect to solid waste management and disposal issues only. We do recommend that the applicant obtain approval from other agencies (such as OSHA) that may be involved in the oversight and implementation of various aspects of their proposed action.

If you have any questions or comments, please contact Mr. John Valera of the Office of Solid Waste Management at (808) 586-4226.

Sincerely,



sw STEVEN Y.K. CHANG, P.E., CHIEF
Solid and Hazardous Waste Branch



MICHAEL T. MUNEKIYO
PRESIDENT

KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT

ZWEN CHASHI HIRAGA
SENIOR VICE PRESIDENT

MITSUBU "MICH" HIRANO
SENIOR VICE PRESIDENT

MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Steven Y. K. Chang, Chief
Solid and Hazardous Waste Branch
Environmental Management Division
Department of Health
State of Hawaii
919 Ala Moana Boulevard, #212
Honolulu, Hawaii 96814

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017, (EMD/SHWB
S0612JV)

Dear Mr. Chang:

Thank you for your letter of June 10, 2013 providing comments on the Proposed Hospice Maui Care Facility.

We offer the following information in response to your comments, in the order listed in your letter.

Response to Comment No. 1

We note your recommendation to inquire about possible arrangements with Department of Health (DOH)-permitted recovery facilities for the potential disposition of unpainted, uncontaminated concrete from construction of the project. Hospice Maui will work with its contractor during construction of the project to explore these possibilities further, as appropriate.

Response to Comment No. 2

We note the definition of "inert fill material" pursuant to Section 342H-1, Hawaii Revised Statutes (HRS). Hospice Maui will work with its contractor to determine if on-site reuse of concrete is anticipated and will follow appropriate procedures as necessary.

MAUI

305 High St., Suite 104 Wailuku, Hawaii 96793

PH: (808)244-2015 FAX: (808)244-8729

KAHUI

735 Bishop St., Suite 238 Honolulu, Hawaii 96813 | PH: (808)983-1233

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Response to Comment No. 3

We acknowledge that new construction gypsum and plaster must be disposed of properly.

Response to Comment No. 4

We further note that treated wood waste must be disposed of at a DOH-permitted disposal facility and not recycled, as there is currently no DOH-permitted facility on Maui that accepts treated wood for recycling.

Response to Comment No. 5

We note that ferrous scrap from the project will be sent to a DOH-permitted scrap metal facility, as applicable.

Response to Comment No. 6

We note that non-ferrous scrap from the project will be sent to a DOH-permitted facility, as applicable.

Response to Comment No. 7

We note that as applicable, greenwaste generated from the project will be disposed of at a DOH-permitted facility that is able to process the specific greenwaste variety. We also note that existing landscape onsite will be re-used to the extent practicable.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,



Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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NEIL ABERCROMBIE
GOVERNOR OF HAWAII



WILLIAM J. AHL, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 12, 2013

Munekiyo & Hiraga, Inc.
Attention: Ms. Erin Mukai, Associate
305 High Street, Suite 104
Wailuku, Hawaii 96793

via email: planning@mhplanning.com

Dear Ms. Mukai;

SUBJECT: Early Consultant Request for the Preparation of a Draft Environmental Assessment for the Proposed Hospice Maui Care Facility

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

At this time, enclosed are comments from the Engineering Division on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



RECEIVED
LAND DIVISION

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

2013 JUN -4 AM 10:26



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

DEPT OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

May 29, 2013

MEMORANDUM

~~TO:~~ FR:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Maui District
- Historic Preservation

FROM: ~~TO:~~

Russell Y. Tsuji, Land Administrator

SUBJECT: Early Consultant Request for the Preparation of a Draft Environmental Assessment for the Proposed Hospice Maui Care Facility

LOCATION: Wailuku, Island of Maui; TMK: (2) 3-8-046-017

APPLICANT: Hospice Maui

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by June 12, 2013.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: *Cary S. Chang*
Print Name: Cary S. Chang, Chief Engineer
Date: 6/27/13

cc: Central Files

13 MAY 30 PM 03:32 ENGINEERING

**DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION**

**LD/LydiaMOrikawa
RE:HospiceMauiCareFacilityDEA
Maui:604**

COMMENTS

- () We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ____.
- (X) **Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone X. The National Flood Insurance Program does not have any regulations for developments within Zone X.**
- () Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ____.
- () Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- () Mr. Mario Siu Li at (808) 768-8098 or Ms. Ardis Shaw-Kim at (808) 768-8296 of the City and County of Honolulu, Department of Planning and Permitting.
 - () Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
 - () Ms. Carolyn Cortez at (808) 270-7813 of the County of Maui, Department of Planning.
 - () Ms. Maile Aiu at (808) 241-4884 of the County of Kauai, Department of Public Works.
- () The applicant should include water demands and infrastructure required to meet project needs. Please note that projects within State lands requiring water service from the Honolulu Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.
 - () The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

- () Additional Comments: _____

- () Other: _____

Should you have any questions, please call Ms. Suzie S. Agraan of the Planning Branch at 587-0258.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: _____

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



WILLIAM J. AILAN, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 24, 2013

Munekiyo & Hiraga, Inc.
Attention: Ms. Erin Mukai, Associate
305 High Street, Suite 104
Wailuku, Hawaii 96793

via email: planning@mhplanning.com

Dear Ms. Mukai;

SUBJECT: Early Consultant Request for the Preparation of a Draft Environmental Assessment for the Proposed Hospice Maui Care Facility

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on June 12, 2013, enclosed are comments from the Commission on Water Resources Management on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Land Administrator

Enclosure(s)
cc: Central Files

RECEIVED
LAND DIVISION

2013 JUN 21 AM 9: 20



WILLIAM J. AILA, JR.
CHAIRPERSON
WILLIAM D. BALFOUR, JR.
SUMNER ERDMAN
LORETTA J. FUDDY, A.C.S.W., M.P.H.
NEAL S. FUJIWARA
JONATHAN STARR
TED YAMAMURA

WILLIAM M. TAM
DEPUTY DIRECTOR

DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

June 14, 2013

TO: Russell Tsuji, Administrator
Land Division

FROM: William M. Tam, Deputy Director
Commission on Water Resource Management

SUBJECT: Maui Hospice Facility, Wailuku, Maui

FILE NO.: N/A
TMK NO.: (2) 3-8-046-017

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at <http://www.hawaii.gov/dlnr/cwrm>.

Our comments related to water resources are checked off below.

- 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
- 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
- 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at <http://www.usgbc.org/leed>. A listing of fixtures certified by the EPA as having high water efficiency can be found at <http://www.epa.gov/watersense/>.
- 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at <http://hawaii.gov/dbedt/czm/initiative/lid.php>.
- 6. We recommend the use of alternative water sources, wherever practicable.
- 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at <http://energy.hawaii.gov/programs/achieving-efficiency/green-business-program>

June 14, 2013

8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://landscapehawaii.org/library/documents/lich_irrigation_conservation_bmps.pdf
9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM:

Additional information and forms are available at http://hawaii.gov/dlnr/cwrm/info_permits.htm.

10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.
11. A Well Construction Permit(s) is (are) required before any well construction work begins.
12. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
13. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
14. Ground water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
15. A Stream Channel Alteration Permit(s) is (are) required before any alteration(s) can be made to the bed and/or banks of a stream channel.
16. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is (are) constructed or altered.
17. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
18. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.
- OTHER:

Ground and surface source water for the Maui Department of Water Supply's Central Maui Service Area fall within water management areas. Total permits for ground water pumpage and stream diversion are nearly at the limit of sustainable yield, with new users awaiting action for the balance.

If there are any questions, please contact Charley Ice at 587-0218.

6/6/13

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 29, 2013

MEMORANDUM

2013 MAY 31 AM 11:01

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Maui District
- Historic Preservation

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Early Consultant Request for the Preparation of a Draft Environmental Assessment for the Proposed Hospice Maui Care Facility

LOCATION:

Wailuku, Island of Maui; TMK: (2) 3-8-046-017

APPLICANT:

Hospice Maui

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by June 12, 2013.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: _____

Print Name: _____

Date: _____

cc: Central Files

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 19, 2013

Munekiyo & Hiraga, Inc.
Attention: Ms. Erin Mukai, Associate
305 High Street, Suite 104
Wailuku, Hawaii 96793

via email: planning@mhplanning.com

Dear Ms. Mukai;

SUBJECT: Early Consultant Request for the Preparation of a Draft Environmental Assessment for the Proposed Hospice Maui Care Facility

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on June 12 and June 24, 2013, enclosed are comments from the Land Division – Maui District on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Land Administrator

Enclosure
cc: Central Files



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 29, 2013

MEMORANDUM

2013 MAY 31 PM 1:51
MAUI DISTRICT
LAND DIVISION

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

2013 JUL 18 AM 9:56
RECEIVED
LAND DIVISION
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Early Consultant Request for the Preparation of a Draft Environmental Assessment for the Proposed Hospice Maui Care Facility
LOCATION: Wailuku, Island of Maui; TMK: (2) 3-8-046-017
APPLICANT: Hospice Maui

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by June 12, 2013.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: *Daniel Ormillas*
Print Name: Daniel Ormillas
Date: 7/10/13

cc: Central Files



MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
GWEN CHABHI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Russell Y. Tsuji, Land Administrator
Land Division
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Mr. Tsuji:

Thank you for your letters of June 12, 2013, June 24, 2013, and July 19, 2013 providing comments from various Divisions within the Department of Land and Natural Resources on the Proposed Hospice Maui Care Facility.

We offer the following information in response to comments received from the Engineering Division, Commission on Water Resource Management, and the Land Division, Maui District.

Response to Comments from the Engineering Division

We note that the project site is located within Flood Zone X of the Flood Insurance Rate Map (FIRM) and that the National Flood Insurance Rate Program does not have any regulations for development within Flood Zone X.

Response to Comments from the Commission on Water Resource Management

Response to Comment No. 1

We note your recommendation for coordination with the County of Maui to incorporate this project into the County's Water Use and Development Plan. The County of Maui, Department of Planning and Department of Water Supply (DWS) have been consulted during this early consultation review process, and will continue to participate in the Chapter 343, Hawaii Revised Statutes (HRS) review

process upon receipt of the Draft Environmental Assessment (EA). We also note that Hospice Maui and its design team will be working with the DWS during review of the project's building permit application.

Response to Comment No. 4

We confirm that that the project will utilize low flow plumbing fixtures.

Response to Comment No. 8

We note your recommendation for adoption of landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. Your comments have been forwarded to Hospice Maui for implementation, as appropriate.

Response to "OTHER" Comment

We note that ground and surface source water for the DWS's Central Service Area fall within water management areas. We also note that total permits for ground water pumpage and stream diversion are nearly at the limit of sustainable yield, with new users awaiting action for the balance. As previously indicated, Hospice Maui will continue to work with DWS in review of their project during the building permit review process.

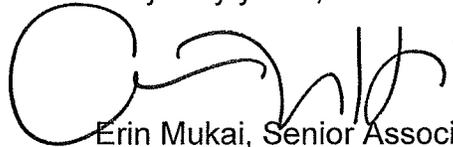
Response to Comment from the Land Division, Maui District

Thank you for your response. We note that the Land Division, Maui District has no objections at this time.

Russell Y. Tsuji, Land Administrator
February 18, 2014
Page 3

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Draft EA. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

A handwritten signature in black ink, appearing to read "Erin Mukai". The signature is fluid and cursive, with a large initial "E" and "M".

Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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JUN 07 2013

NEIL ABERCROMBIE
GOVERNOR



GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

STP 8.1226

May 31, 2013

Ms. Erin Mukai, Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Mukai:

Subject: Hospice Maui Care Facility
Early Consultation for Environmental Assessment
TMK: (2) 3-8-046:017

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project.

DOT understands the applicant proposes to develop a care facility which will allow Hospice Maui to offer inpatient services. The one-story facility will include five bedrooms, two and a half bathrooms, a kitchen and family room. There are 49 parking stalls onsite for the existing and proposed Hospice facilities. The existing structures on the site include the Hospice administrative offices, meeting rooms and a storage building. Access to the site will be from Mahalani Street.

The Draft Environmental Assessment (DEA) should discuss and evaluate the project's contribution to the cumulative traffic impacts on State highways facilities in the area.

DOT appreciates the opportunity to provide comments. If there are any questions, including the need to meet with DOT staff, please contact Mr. Garrett Smith of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Very truly yours,

A handwritten signature in black ink, appearing to read "Glenn M. Okimoto".

GLENN M. OKIMOTO, Ph.D.
Director of Transportation



MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
GWEN CHASMI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Glenn M. Okimoto, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017, (STP 8.1226)

Dear Mr. Okimoto:

Thank you for your letter of May 31, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of our letter and recommendation that the Draft Environmental Assessment (EA) should discuss and evaluate the project's contribution to the cumulative traffic impacts on State highways facilities in the area. As recommended, the Draft EA will include a Traffic Impact Assessment Report which will assess the impacts on surrounding roadways.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft EA. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at (808) 244-2015.

Very truly yours,

Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Phillip Rowell, Phillip Rowell and Associates
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

MAUI K:\DATA\HospiceMaui\Hale EA\ECL Response Letters\SDOT.ltr.docx

305 High St., Suite 104 Wailuku, Hawaii 96793

PH: (808)244-2015 FAX: (808)244-8729

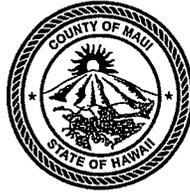
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ALAN M. ARAKAWA
MAYOR



JUN 10 2013
JEFFREY A. MURRAY
CHIEF

ROBERT M. SHIMADA
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY
FIRE PREVENTION BUREAU

313 MANEA PLACE • WAILUKU, HAWAII 96793
(808) 244-9161 • FAX (808) 244-1363

June 6, 2013

Munekiyo & Hiraga, Inc.
Attn: Erin Mukai
305 High Street, Suite 104
Wailuku, HI 96793

Re: Proposed Hospice Maui Care Facility (Early Consultation)
400 Mahalani Street,
Wailuku, Hawai'i
TMK: (2) 3-8-046: 017

Dear Erin:

Thank for allowing the Department of Fire and Public Safety the opportunity to comment on the subject project. At this time, our office has no comment in regards to this subject's draft Environmental Assessment.

We do reserve the right to provide comment on the proposed project during the building permit review process when fire department access, water supply for fire protection, and fire and life safety requirements will be addressed

If there are any questions or comments, please feel free to contact me at 244-9161 ext. 23. Thank you for your attention to fire prevention and public safety.

Sincerely,

A handwritten signature in cursive script, appearing to read "Paul Haake".

Paul Haake
Captain, Fire Prevention Bureau
Department of Fire and Public Safety, Maui County



MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
GWEN CHASHI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Paul Haake, Captain
Fire Prevention Bureau
Department of Fire and Public Safety
County of Maui
313 Manea Place
Wailuku, Hawaii 96793

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Captain Haake:

Thank you for your letter of June 6, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

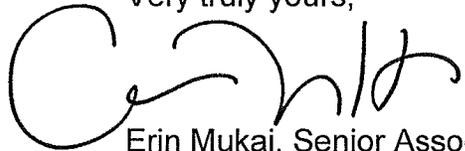
We appreciate your review of the early consultation letter providing information on the project and your conveying confirmation that the Department of Fire and Public Safety has no comments at this time.

We also note that the Department of Fire and Public Safety reserves the right to provide comment on the project during the building permit review process.

Paul Haake, Captain
February 18, 2014
Page 2

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Erin Mukai', written in a cursive style.

Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
HOUSING DIVISION
COUNTY OF MAUI

JUN 03 2013

ALAN M. ARAKAWA

Mayor

JO-ANN T. RIDAO

Director

JAN SHISHIDO

Deputy Director

35 LUNALILO STREET, SUITE 102 • WAILUKU, HAWAII 96793 • PHONE (808) 270-7351 • FAX (808) 270-6284

May 29, 2013

Ms. Erin Mukai
Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Mukai:

Subject: Early Consultation Request for the Preparation of a Draft Environmental Assessment for the Proposed Hospice Maui Care Facility at 400 Mahalani Street, Wailuku, Maui, Hawaii (TMK (2) 3- 8- 046:017)

The Department has reviewed the request for Early Consultation for the above subject project. Based on our review, we have determined that the subject project is not subject to Chapter 2.96, Maui County Code. At the present time, the Department has no additional comments to offer.

Please call Mr. Veranio Tongson Jr. of our Housing Division at (808) 270-1741 if you have any questions.

Sincerely,

WAYDE T. OSHIRO
Housing Administrator

cc: Director of Housing and Human Concerns



MICHAEL T. MUNEKIYO
PRESIDENT

KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT

GWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT

MITSUBU "MICH" HIRANO
SENIOR VICE PRESIDENT

MARK ALEXANDER ROY
VICE PRESIDENT

February 20, 2014

Jo-Ann Ridao, Director
Department of Housing and Human Concerns
County of Maui
2200 Main Street, Suite 546
Wailuku, Hawaii 96793

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Ms. Ridao:

Thank you for your department's letter of May 29, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of our letter and determination that the project is not subject to Chapter 2.96, Maui County Code and that the Department of Housing and Human Concerns (DHHC) has no comment at this time.

We also note that since issuance of your department's letter, you have indicated that your department will serve as the approving agency for the Environmental Assessment.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.

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MAUI

305 High St., Suite 104 Wailuku, Hawaii 96793

PH: (808)244-2015 FAX: (808)244-8729

HAULI

735 Bishop St., Suite 238 Honolulu, Hawaii 96813 | PH: (808)983-1233

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ALAN M. ARAKAWA
Mayor



JUN 05 2013

GLENN T. CORREA
Director

BRIANNE SAVAGE
Deputy Director

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

DEPARTMENT OF PARKS & RECREATION

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

May 31, 2013

Ms. Erin Mukai, Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Ms. Mukai:

SUBJECT: Early Consultation Request for the Preparation of a Draft Environmental Assessment (DEA) for proposed Hospice Maui Care Facility, Wailuku, Maui, Hawaii, TMK (2) 3-8-046:017

Thank you for the opportunity to review and comment on the subject project. The Department of Parks & Recreation is in support of the project and looks forward to reviewing the Environmental Assessment when it is available.

Should you have any questions or concerns, please feel free to contact me or Robert Halvorson, Chief of Planning and Development, at (808) 270-7931.

Sincerely,

A handwritten signature in black ink, appearing to read "Glenn T. Correa".

GLENN T. CORREA
Director of Parks & Recreation

c: Robert Halvorson, Chief of Planning & Development

GTC:RH:csa

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MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
SWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Glenn T. Correa, Director
Department of Parks and Recreation
County of Maui
700 Hali'a Nakoa Street, Unit 2
Wailuku, Hawaii 96793

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Mr. Correa:

Thank you for your letter of May 31, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of the early consultation letter and your support of the project.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,



Erin Mukai, Senior Associate

EM:me

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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ALAN M. ARAKAWA
Mayor

WILLIAM R. SPENCE
Director

MICHELE CHOUTEAU McLEAN
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

June 10, 2013

Ms. Erin Mukai
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Mukai:

SUBJECT: REQUEST FOR EARLY CONSULTATION REGARDING A DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE PROPOSED HOSPICE MAUI CARE FACILITY, TO BE LOCATED AT 400 MAHALANI STREET, WAILUKU, ISLAND OF MAUI, HAWAII; TMK: (2) 3-8-046: 017 (RFC 2013/0077)

The Department of Planning (Department) has received your request dated May 23, 2013, for pre-consultation in advance of preparing a Draft EA for the above-referenced project.

The Department understands that Hospice Maui is proposing to develop a 4,500 square foot care facility on a 3.96 acre site located at 400 Mahalani Street in Wailuku. The proposed care facility will be a one (1) story structure consisting of five (5) bedrooms, two and a half (2 ½) bathrooms, a kitchen, and a family room. It will be located adjacent to and on the same parcel as the exiting Hospice Maui administrative office, storage building, and meeting room building. The property is leased by Hospice Maui from the County of Maui, hence the trigger for an EA.

We have conducted a review of the facts available to us and offer the following comments:

1. A cursory review of the properties and their land use designations are as follows:

State Land Use District:	Urban
Wailuku-Kahului Community Plan:	Public/Quasi-Public
County Zoning District:	P-1 Public/Quasi-Public
Special Management Area (SMA):	Not located in the SMA

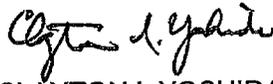
2. Since the proposed action involves the use of County funds and State lands, we concur that an EA is required.

Ms. Erin Mukai
June 10, 2013
Page 2

3. Please continue to work with the Planning Department's Zoning Administration and Enforcement Division (ZAED) to determine if any land use permits are required for the proposed project.

Thank you for the opportunity to provide comments. Please include the Department of Planning in the distribution list of the Draft EA. If additional clarification is required, please contact Staff Planner Danny Dias at danny.dias@mauicounty.gov or at (808) 270-7557.

Sincerely,



CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for WILLIAM SPENCE
Planning Director

xc: Danny A. Dias, Staff Planner (PDF)
RFC File
General File

WRS:CIY:DAD:cr
K:\WP_DOCS\PLANNING\RFC\2013\0077_HospiceMaui\Comment_Letter.doc



MICHAEL T. MUNEKIYO
PRESIDENT

KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT

GWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT

MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT

MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

William Spence, Director
County of Maui
Department of Planning
Attention Danny Dias
2200 Main Street, Suite 315
Wailuku, Hawaii 96793

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Mr. Spence:

Thank you for your letter of June 10, 2013 providing comments on the Proposed Hospice Maui Care Facility.

We offer the following information in response to your comments in the order listed in your letter.

Response to Comment No. 1

Thank you, we note the land use designations for the subject property as provided in your Department's letter.

Response to Comment No. 2

We also confirm your concurrence of the preparation of an Environmental Assessment (EA).

Response to Comment No. 3

Following receipt of your comment letter, the Maui County Council adopted amendments to the Public/Quasi-Public zoning district. Ordinance No. 4048 amended Section 19.31 relating to the Public/Quasi-Public Districts of the Maui County Code and took effect on June 26, 2013. With the adopted amendments, "facilities for non-profit

MAUI

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William Spence, Director
February 18, 2014
Page 2

organizations" is now an outright permitted use. As such, the proposed care facility is a permitted use.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft EA. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

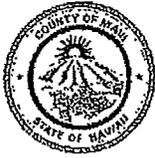


Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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ALAN M. ARAKAWA
MAYOR

OUR REFERENCE
YOUR REFERENCE

POLICE DEPARTMENT
COUNTY OF MAUI

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

June 13, 2013



GARY A. YABUTA
CHIEF OF POLICE

CLAYTON N.Y.W. TOM
DEPUTY CHIEF OF POLICE

Ms. Erin Mukai, Associate
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Ms. Mukai:

SUBJECT: Early Consultation Request for the Preparation of a DEA for the Proposed Hospice Maui Care Facility at 400 Mahalani Street, Wailuku

This is in response to the request for comments on the above subject.

We have reviewed the information submitted for this project and have submitted our comments and/or recommendations. Thank you for giving us the opportunity to comment on this project.

Very truly yours,

Assistant Chief Victor Ramos
for: Gary A. Yabuta
Chief of Police

c: William Spence, Planning Department

TO : GARY YABUTA, CHIEF OF POLICE, COUNTY OF MAUI
VIA : CHANNELS
FROM : AYLETT WALLWORK, POLICE OFFICER III, COMMUNITY POLICING, WAILUKU PATROL DIVISION
SUBJECT : RESPONSE TO A REQUEST FOR COMMENTS REGARDING PROPOSED HOSPICE MAUI CARE FACILITY AT 400 MAHALANI STREET, WAILUKU, HI.

ACU

This communication is submitted as a response to a request for comments by Munekiyo & Hiraga, Inc. regarding a Draft Environmental Assessment of the following project;

PROJECT : PROPOSED HOSPICE MAUI CARE FACILITY
LOCATION : 400 MAHALANI STREET, WAILUKU, MAUI, HAWAII
TMK : (2) 3-8-046:017

RESPONSE:

In review of the submitted documents, the concern from the police perspective is the impacts upon vehicular and pedestrian movement as well as the public's safety. Hospice Maui is planning on constructing a five bedroom care facility on their property located at 400 Mahalani Street in Wailuku. Proposed site is at the same location as their main offices. At this time it is undetermined when this project will commence.

There are no objections to the progression of this project. Hospice Maui should take into consideration the time of construction in avoiding the peak traffic hours of Mahalani Street, Maui Lani Park Way, and Wai Inu Road. Possibly scheduling when their construction vehicles enter and exit the site around the peak traffic times as the roadway is heavily used during the weekdays from 0630 hours - 0830 hours and 1530 hours - 1730 hours. There should be no impact on street parking in the area because Hospice Maui has adequate parking on site. It must be stated that all those involved in this project must remain cognizant in maintaining the safety of the general public.

Respectfully submitted for your review and approval.

Aylett Wallwork

Aylett Wallwork e#11764
P.O. III, Community Policing, Wailuku Patrol Division
06/12/2012 @ 1115 hours

NO OBJECTIONS AT THIS TIME.
Sgt. Inai one [signature]
6-12-13 @ 1125

NO UNCAPTURED COMMENTS
ESTRATEG
L. [signature]
06/12/13 @ 1130
OK 6/12/13



MICHAEL T. MUNEKIYO
PRESIDENT

KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT

EWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT

MIYURU "MICH" HIRANO
SENIOR VICE PRESIDENT

MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Gary A. Yabuta, Chief
Police Department
County of Maui
55 Mahalani Street
Wailuku, Hawaii 96793

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Chief Yabuta:

Thank you for your letter of June 13, 2013 providing comments on the Proposed Hospice Maui Care Facility.

We note your Department's overall determination that there are no objections to the project at this time and provide the following information in response to your comments.

Response to Comments Regarding the Construction Phase of the Proposed Project

We note that consideration should be made as to the time of construction in avoiding peak hours of traffic along Mahalani Street, Maui Lani Parkway, and Wai Inu Road which were noted as being from 0630 hours to 0830 hours and from 1530 hours to 1730 hours. This consideration request has been forwarded to Hospice Maui, Inc. for implementation, as appropriate.

Response to Comments Regarding Parking

We note that your Department anticipates no impacts to street parking in the area, as Hospice Maui provides adequate parking on site.

Response to Comments Regarding General Public Safety

The safety of the public is of the utmost concern to Hospice Maui. During construction of the project, all efforts will be made by Hospice Maui and its construction team to

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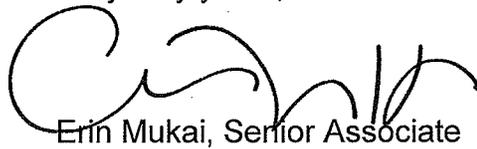
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Gary A. Yabuta, Chief of Police
February 18, 2014
Page 2

implement best practices for traffic management to minimize impacts to vehicular and pedestrian movement.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,



Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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ALAN M. ARAKAWA
Mayor

DAVID C. GOODE
Director

ROWENA M. DAGDAG-ANDAYA
Deputy Director



JUN 17 2013
RALPH M. NAGAMINE, L.S., P.E.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
DEVELOPMENT SERVICES ADMINISTRATION
250 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

June 12, 2013

Ms. Erin Mukai
MUNEKIYO & HIRAGA, INC.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

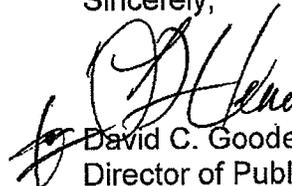
Subject: EARLY CONSULTATION REQUEST FOR PREPARATION OF A
DRAFT ENVIRONMENTAL ASSESSMENT FOR THE
PROPOSED HOSPICE MAUI CARE FACILITY

Dear Ms. Mukai:

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

Please call Rowena M. Dagdag-Andaya at 270-7845 if you have any questions regarding this letter.

Sincerely,


David C. Goode
Director of Public Works

ls S:\LUCA\ICZM\prop_hospice_maui_care_facility_ec_38046017_ls.wpd
xc: Highways Division
Engineering Division



MICHAEL T. MUNEKIYO
PRESIDENT

KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT

BWEN DHABHI HIRAGA
SENIOR VICE PRESIDENT

MIYURU "MICH" HIRANO
SENIOR VICE PRESIDENT

MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

David Goode, Director
Department of Public Works
County of Maui
200 South High Street
Wailuku, Hawaii 96793

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Mr. Goode:

Thank you for your letter of June 12, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of the early consultation comment letter providing information on the project and your conveying confirmation that the Department has no comment at this time.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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AUG 08 2013

ALAN M. ARAKAWA
Mayor

KYLE K. GINOZA, P.E.
Director

MICHAEL M. MIYAMOTO
Deputy Director



TRACY TAKAMINE, P.E.
Solid Waste Division

ERIC NAKAGAWA, P.E.
Wastewater Reclamation Division

**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**

2200 MAIN STREET, SUITE 100
WAILUKU, MAUI, HAWAII 96793

July 31, 2013

Ms. Erin Mukai
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

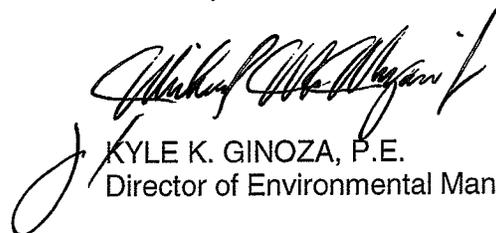
**SUBJECT: HOSPICE MAUI CARE FACILITY
EARLY CONSULTATION OF DRAFT ENVIRONMENTAL ASSESSMENT
TMK (2) 3-8-046:017, WAILUKU**

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:
 - a. None.
2. Wastewater Reclamation Division (WWRD) comments:
 - a. None. There is no County wastewater system in the immediate area of the subject project.

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

Sincerely,


KYLE K. GINOZA, P.E.
Director of Environmental Management



MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
GWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Kyle Ginoza, P.E., Director
Department of Environmental Management
County of Maui
2200 Main Street, Suite 100
Wailuku, Hawaii 96793

**SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017**

Dear Mr. Ginoza:

Thank you for your letter of July 31, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of the early consultation letter providing information on the project and your conveying confirmation that your Department has no comment at this time.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Erin Mukai, Senior Associate

EM:me

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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MAUI

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JUN 05 2013

ALAN M. ARAKAWA
Mayor



JO ANNE JOHNSON-WINER
Director
MARCI TAKAMORI
Deputy Director
Telephone (808) 270-7511

DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI
200 South High Street
Wailuku, Hawaii, USA 96793-2155

May 28, 2013

Ms. Erin Mukai
Munekiyō & Hiraga Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

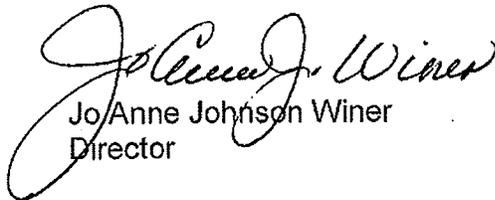
Subject: EA for Proposed Hospice Maui Care Facility

Dear Ms. Mukai,

Thank you for the opportunity to comment on this project. We have no comments to make at this time.

Please feel free to contact me if you have any questions.

Sincerely,


Jo Anne Johnson Winer
Director



MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
OWEN OHASHI HIRABA
SENIOR VICE PRESIDENT
MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

Jo Anne Johnson Winer, Director
Department of Transportation
County of Maui
200 South High Street
Wailuku, Hawaii 96793-2155

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Ms. Johnson Winer:

Thank you for your letter of May 28, 2013 responding to our request for early consultation comments on the Proposed Hospice Maui Care Facility.

We appreciate your review of the early consultation letter providing information on the project and your conveying confirmation that your Department has no comment at this time.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

Erin Mukai, Senior Associate

EM:me

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

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MAUI

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ALAN M. ARAKAWA
Mayor



DAVID TAYLOR, P.E.
Director

PAUL J. MEYER
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauewater.org

June 14, 2013

Ms. Erin Mukai
Munekiyo and Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Re: Draft Environmental Assessment (DEA)
TMK: (2) 3-8-046:017
Project Name: Proposed Hospice Maui Care Facility at 400 Mahalani Street

Dear Ms. Mukai:

Thank you for the opportunity to comment on this DEA. Hospice Maui is proposing to develop a 4,500 square foot, five-bedroom inpatient care facility on a portion of a 3.96 acre parcel in Kahului.

Source Availability and Consumption

The project area is served by the Central Maui System. The sources of water for the Central System are the designated Iao Aquifer, Waihee Aquifer, Iao Tunnel, the Iao-Waikapu Ditch, and the Kahului Aquifer. Anticipated water consumption for the project is estimated to be 515 gallons per day, based on empirical data for single family homes in Kahului.

System Infrastructure

The property is serviced by one 5/8-inch meter. A 16-inch line traverses the property approximately 118 feet from the eastern parcel boundary line, and a 12-inch line traverses/abuts the northern perimeter of the property approximately 143 feet from northwest corner. System improvements will be determined in the building permit process and fire flow requirements will be determined by the Department of Fire and Public Safety.

Conservation

To alleviate demand on the Central Maui system, and for landscaping suggestions, please refer to the DWS's *Maui County's Landscape and Gardening Handbook*--attached.

"By Water All Things Find Life"

Ms Erin Mukai

Page 2

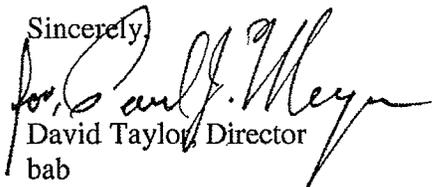
Conservation-continued

We also recommend that the applicant implement the following conservation measures, where appropriate:

1. Use Brackish or Reclaimed Water: for irrigation and dust control during construction/demolition where available. Reclaimed water is available at the Kahului Sewage Treatment Plant.
2. Prevent Over-Watering By Automated Systems: If an automated watering system is in use, provide rain-sensors on all automated irrigation controllers. Check and reset controllers at least once a month to reflect the monthly changes in evapo-transpiration rates at the site. As an alternative, provide the more automated, soil-moisture sensors on controllers.
3. Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day.
4. Use Climate -adapted Plants: The project is located in the Maui County Planting Plan - Plant Zones 3. We encourage the applicant to utilize appropriate native and non-invasive species and avoid the use of potentially invasive plants. Native plants adapted to the area, conserve water and protect the watershed from degradation due to invasive alien species.
5. Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20A.680 requires the use of low-flow water fixtures and devices in faucets, showerheads, urinals, water closets, and hose bibs. Water conserving washing machines, ice-makers and other units are also available. Toilets should be high-efficiency models that use 1.28 gallons per flush or less. Urinals should be high-efficiency models that use 0.5 gallons per flush or less. Showerheads should have a flow rate of 2 gpm at 60 psi or less in all units. Bathroom sink faucets with fixtures should not exceed 1 gpm at 60 psi, and more efficient models are available.

Should you have any questions, please contact Alex Buttaro at our Water Resources and Planning Division at 463-3103.

Sincerely,



David Taylor, Director
bab

cc: Engineering Division

Attachment: *Maui County's Landscape and Gardening Handbook*



MICHAEL T. MUNEKIYO
PRESIDENT
KARLYNN FUKUDA
EXECUTIVE VICE PRESIDENT
GWEN OHASHI HIRAGA
SENIOR VICE PRESIDENT
MITSURU "MICH" HIRANO
SENIOR VICE PRESIDENT
MARK ALEXANDER ROY
VICE PRESIDENT

February 18, 2014

David Taylor, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawaii 96793-2155

SUBJECT: Response to Early Consultation Comment Letter Regarding
Proposed Hospice Maui Care Facility at 400 Mahalani Street,
Wailuku, Maui, Hawaii; TMK (2)3-8-046:017

Dear Mr. Taylor:

Thank you for your letter of June 14, 2013 providing comments on the Proposed Hospice Maui Care Facility.

On behalf of Hospice Maui, Inc., the following information is provided in response to your comments.

Response to Comment Regarding Source Availability and Consumption

Thank you, we note the information provided by your Department regarding source availability and consumption.

Response to Comment Regarding System Infrastructure

We note that the property is serviced by one (1) 5/8-inch water meter, a 16-inch waterline traverses the property approximately 118 feet from the eastern property line, and a 12-inch waterline traverses/abuts the northern perimeter of the property. We also acknowledge that system improvements will be determined in the building permit process.

Response to Comment Regarding Conservation

We confirm that that the project will include low flow plumbing fixtures, and landscape drought tolerant plantings to the extent practicable. Wherever feasible, the applicant will utilize the conservation tips provided by your Department.

MAUI

305 High St., Suite 104 Wailuku, Hawaii 96793

PH: (808)244-2015 FAX: (808)244-8729

OAHU

735 Bishop St., Suite 238 Honolulu, Hawaii 96813 | PH: (808)983-1233

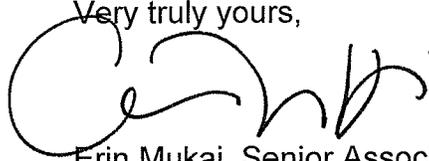
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David Taylor, Director
February 18, 2014
Page 2

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes review process. A copy of your letter will be included in the Draft Environmental Assessment. In the meantime, if there are any questions or if additional information is needed, please feel free to contact me at 244-2015.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Erin Mukai', written in a cursive style.

Erin Mukai, Senior Associate

EM:la

cc: Dr. Greg LaGoy, Chief Executive Officer, Hospice Maui, Inc.
Darren Unemori, Warren S. Unemori Engineering, Inc.
Jo-Ann Ridao, Director, Department of Housing and Human Concerns

K:\DATA\HospiceMaui\Hale EA\ECL Response Letters\DWS.ltr.docx

X. REFERENCES

X. REFERENCES

County of Maui, Charter, 2003 Edition.

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APPENDICES

APPENDIX A.

Preliminary Engineering Assessment



November 25, 2013

Ms. Erin Mukai
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Mukai,

Subject: Hospice Maui Care Facility Building
Preliminary Engineering Assessment
Wailuku, Maui, Hawaii
TMK (2) 3-8-46: 17

This memorandum briefly discusses the project site and the infrastructural improvements which may be needed to support the development of the proposed Hospice Maui Care Facility building in Wailuku.

Project Location

The proposed Care Facility building will be constructed on an 8,000 square foot building site located within the same 4 acre County-owned land parcel now occupied by the existing Hospice Maui building complex. The project parcel is located on the southerly side of Mahalani Street near its intersection with Maui Lani Parkway: it is bounded by Mahalani Street to the north; single-family residential houselots to the south and east; and undeveloped land belonging to the Dunes at Maui Lani Golf Course to the west. The existing Hospice Maui building complex occupies the western portion of the project parcel, and an existing 11-stall public parking lot occupies its eastern end. The building site for the proposed Care Facility lies in the approximate center of the parcel, between the existing Hospice building complex and the public parking lot.

Topography and Soil Conditions

The Care Facility building will be located on a small plateau atop an existing bluff overlooking the public parking lot. The ground around the building site falls away steeply to the north, east and south.

The *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii* identifies the predominant soil on the project site as Puuone Sand (PZUE),

Ms. Erin Mukai
Hospice Maui Care Facility Building
November 25, 2013

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7 to 30 percent slopes. This soil is characterized as having rapid permeability, slow runoff and poses a moderate to severe wind erosion hazard.¹

Flood and Tsunami Hazard

The FEMA Flood Insurance Rate Map for the area indicates that the project is located in Zone X, indicating that it is at minimal risk of flooding and not subject to tsunami inundation.²

Roadway Access

The new Care Facility building will be accessible by vehicle from Mahalani Street via the existing 16-foot wide paved driveway which currently provides access to the other buildings within the Hospice Maui building complex. Off-street parking for the new building will be accommodated within the existing 35-stall parking lot.

Water for Domestic Use

The existing Hospice Maui building complex is served by a 5/8-inch Department of Water Supply-issued water meter and consumes an average of 1,860 gallons of potable water per day (gpd).³

The proposed Care Facility Building is expected to increase average daily water consumption by an additional 975 gpd⁴, and increase flow demand at the water meter by an additional 20 gallons per minute (gpm).⁵ This increased flow demand will exceed the capacity of the existing 5/8-inch water meter; consequently, either a second 5/8-inch water meter or a larger combined water meter will have to be installed to provide the additional flow capacity needed to accommodate the new Care Facility building.

Water for Fire Protection

The existing Hospice Maui buildings rely upon a single fire hydrant located on Mahalani Street approximately 60 feet east of the Hospice driveway for fire protection.

¹ United States Department of Agriculture, Soil Conservation Service, *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*, August 1972, Map 99, pp 117.

² Federal Emergency Management Agency, Federal Insurance Administration, "Flood Insurance Rate Map, Maui County, Hawaii", Community-Panel Number 150003 0391E, September 25, 2009.

³ Based on Dept. of Water Supply billing records for the 14 months between March 2012 and May 2013.

⁴ Water consumption estimate provided by Hospice Maui.

⁵ See enclosed domestic flow demand calculation.

Ms. Erin Mukai
Hospice Maui Care Facility Building
November 25, 2013

Page 3

The new Care Facility building is expected to have a fire flow demand of 1,644 gpm⁶ and will be fully sprinklered. This demand can be provided by a new fire line connection to the 16-inch Department of Water Supply distribution main on Mahalani Street. This 16-inch main is fed from the Department of Water Supply's 1.5 million gallon Kahului Storage Tank located near Maui Memorial Park at elevation 266 feet, whose storage capacity exceeds the 198,000 gallon minimum capacity needed to meet the fire protection requirements of the Maui County Dept. of Water Supply and Fire Department.⁷ Water pressure in the 16-inch distribution main is relatively low near the Care Facility building because its elevation is close to that of the storage tank; therefore, a fire pump may also be needed to boost pressure if mainline pressures are found too low to enable the fire sprinkler system to function properly.

Wastewater Disposal

Wastewater from the existing Hospice Maui buildings are disposed of using individual septic-type wastewater disposal systems because there is no convenient point of connection to the County sewer system nearby.

The proposed Care Facility Building is expected to generate an average of approximately 975 gallons of wastewater per day.⁸ Wastewater from the Care Facility building will also be disposed of using an individual septic system. Due to the steep topography surrounding the building site and the high percolation rate of the sandy onsite soils, effluent will be disposed of using a seepage pit in lieu of a leaching field.⁹

Storm Drainage

The 8,000 square foot building site in its existing, undeveloped state generates storm runoff at a peak 10-year 1-hour flow rate of approximately 0.1 cfs.¹⁰ Storm runoff from the undeveloped project area currently drains east southeast across the building site towards the residentialouselots in the adjacent Fairways Subdivision in Maui Lani.

⁶ Estimated fire flow demand provided by Hospice Maui.

⁷ Minimum tank storage capacity for fire protection = 1,644 gpm x 120 min. = 197,280 gallons.

⁸ Wastewater demand estimate provided by Hospice Maui.

⁹ Soil test data obtained by Hospice Maui indicates that the building site possesses a soil percolation rate of one inch-per-second and that use of a seepage pit will not result in contamination of water bearing formations or surface water in compliance with State Dept. of Health Wastewater Branch regulations and HAR 11-62-34(d)(1)(B).

¹⁰ See enclosed pre-development runoff calculation.

Ms. Erin Mukai
Hospice Maui Care Facility Building
November 25, 2013

Page 4

The impermeable roof and paved area added by construction of the new Care Facility building is expected to increase the peak 10-year 1-hour storm flow generated by the building site to approximately 0.8 cfs.¹¹ The additional development-related runoff will be mitigated by construction of either an onsite detention or retention facility¹² that will limit post-development discharges to no more than the existing condition to prevent the additional runoff from adversely impacting downstream properties, as required by current Maui County Storm Drainage Rules.¹³

Electrical Power and Telecommunications

Electricity and telecommunications for Hospice Maui's existing buildings are provided by Maui Electric Company, Hawaiian Telcom and Oceanic Time Warner Cable from their existing overhead distribution systems located on Mahalani Street. Power and telecommunications services needed by the Care Facility building will also be furnished through these same providers.

Sincerely,



Darren Unemori, P.E., P.L.S.

Enclosures:

- Water demand calculation*
- Pre-development runoff calculation*
- Post-development runoff calculation*
- Drainage facility storage volume calculation*

V:\Projdata\07proj\07050\Reports\Care Facility PER\Hospice Maui - Care Facility_rev02.wpd

¹¹ See enclosed post-development runoff calculation.

¹² A stormwater detention facility will require approximately 400 cubic feet of storage capacity; a retention facility will require approximately 900 cubic feet of storage capacity. See enclosed storage volume calculation.

¹³ County of Maui, Department of Public Works, "Rules for the Design of Storm Drainage Facilities in the County of Maui," Title MC-15, Chapter 4, November 2, 1995.

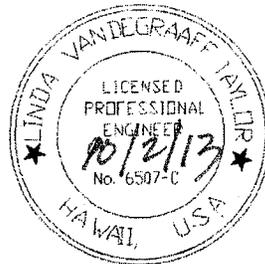
WATER USE CALCULATIONS

FOR

**HOSPICE MAUI
NEW CARE FACILITY BUILDING**

**400 Mahalani Street
Wailuku, Maui, Hawaii
TMK: (2) 3-8-046:017**

B T 2013 0480



Prepared by

Alika P. Seki, P.E.

October 2, 2013

A handwritten signature in cursive script, appearing to read "Linda Taylor".

This work has been prepared by me or under my supervision.

Linda Taylor Engineering, Inc.
P.O. Box 779, Makawao, Maui, Hawai'i, 96768
(808) 572-2688

HOSPICE MAUI
TMK: (2) 3-8-046:017
October 2, 2013

Introduction:

The subject property is at 400 Mahalani Street, Wailuku, Maui, Hawaii and is designated by TMK: (2) 3-8-046:017. The property owner is Hospice Maui, Inc. The proposed improvements include adding a new care facility building.

There is an existing 5/8" inch water meter, #96036228, for the property that serves existing buildings and irrigation for the site.

Calculations:

The following domestic water use calculations are based on private use of the property.

These calculations are based on fixture unit values from the 1991 Uniform Plumbing Code and the Board of Water Supply Low Flow Fixture Values memo of 4/27/92.

Conclusions:

The existing fixture unit count is 13.8. From Chart A-3, this is equivalent to a flow rate of approximately 10.4 gpm. The existing irrigation demand for the site is 8.0 gpm. The total existing flow is 18.4 gpm. The existing 5/8" water meter is adequate to handle the existing fixture units and irrigation for the site.

No additional irrigation is proposed as part of the development of the new care facility building. The total proposed fixture unit count is 29.3. From Chart A-3, this is equivalent to a flow rate of approximately 19.6 gpm. The total flow for the new care facility building is 19.6 gpm. A new water meter size of 5/8" is required for the proposed building.

Linda Taylor Engineering, Inc.
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(808) 572-2688

HOSPICE MAUI
 TMK: (2) 3-8-046:017
 October 2, 2015

EXISTING FIXTURES:

<u>Office Building Private Fixtures</u>	<u>Quantity</u>	<u>Fixture Unit (FU/fix)</u>	<u>Total FU</u>
Kitchen Sink	1	1.6	1.6
Lavatory Sink	1	0.6	0.6
Toilet – Tank type	1	1.7	1.7
Hose Bibbs (2 max)	2	3.0	<u>6.0</u>
Existing Office Building Private Use:			9.9 FU

<u>Meeting Room Private Fixtures</u>	<u>Quantity</u>	<u>Fixture Unit (FU/fix)</u>	<u>Total FU</u>
Kitchen Sink	1	1.6	1.6
Lavatory Sink	1	0.6	0.6
Toilet – Tank type	1	1.7	1.7
Hose Bibbs (2 max)	2	3.0	<u>0.0</u>
Existing Meeting Room Private Use:			3.9 FU

Total FU **13.8 FU**

Existing Domestic Flow: 10.4 gpm (per Chart A-3)
Existing Irrigation Flow: 8.0 gpm
Existing Total Flow: 18.4 gpm

Minimum Water Meter Recommended: exist. 5/8" meter

PROPOSED FIXTURES:

<u>Care Facility Private Fixtures</u>	<u>Quantity</u>	<u>Fixture Unit (FU/fix)</u>	<u>Total FU</u>
Lavatory Sink	3	0.6	1.8
Toilet – Tank type	3	1.7	5.1
3-Comp. Sink	1	3.2	3.2
Hand Sink	5	0.6	3.0
“Hair” Sink	1	0.6	0.6
Bathtub/Shower COMBO	2	1.6	3.2
Shower Stall Only	3	1.6	4.8
Laundry Tray	1	1.6	1.6
Dishwasher	2	2.0	4.0
Washing Machine	1	2.0	2.0
Hose Bibbs (2 max)	2	3.0	<u>0.0</u>
Proposed Care Facility Private Use:			29.3 FU

Proposed Domestic Flow: 19.6 gpm (per Chart A-3)
Proposed Irrigation Flow: 0.0 gpm
Proposed Total Flow: 19.6 gpm

Minimum Water Meter Recommended: new 5/8" meter

Linda Taylor Engineering, Inc.
 P.O. Box 779, Makawao, Maui, Hawai'i, 96768
 (808) 572-2688



Warren S. Unemori Engineering, Inc.
Civil & Structural Engineers · Land Surveyors
Wells Street Professional Center
2145 Wells Street, Suite 403

HYDROLOGIC CALCULATIONS - Pre-Development Surface Runoff

Project Name: Hospice Maui Expansion - Care Facility Building
Project No.: 07050
Engineer: Clarissa Y. Suson
Date: 11/18/13

Area

Description: Pre-development onsite surface runoff for proposed Care Facility Building of the Hospice Maui Expansion.

Area (A): 0.18 acres

Runoff Coefficient

Infiltration:	High	0.00
Relief:	Flat (0-5%)	0.00
Vegetal Cover:	Poor (<10%)	0.05
Development Type:	Open Space	0.15
Runoff Coefficient (C):		0.20

Time of Concentration

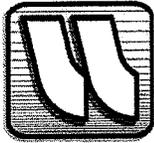
Approx. Elev. Diff'l. (ft.):	1
Higher Elev. (ft.):	222
Lower Elev. (ft.):	221
Approx. Runoff Length (ft.):	120
Average Slope:	0.5%
Time of Concentration (T _c):	12 minutes

Intensity

Project Location: Wailuku, Maui, Hawaii
Design Storm: 10-year recurrence interval, 1-hour duration
Rainfall Depth: 2.0 in.
Intensity (I): 4.00 in./hr.

Flow Rate

$$Q = C \cdot I \cdot A$$
$$= 0.1 \text{ ft.}^3/\text{sec.}$$



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HYDROLOGIC CALCULATIONS - Post-Development Surface Runoff

Project Name: Hospice Maui Expansion - Care Facility Building
Project No.: 07050
Engineer: Clarissa Y. Suson
Date: 11/18/13

Area

Description: Post-development onsite surface runoff for proposed
Care Facility Building of the Hospice Maui Expansion.

Impervious Area:	0.15 acres
Landscaped Area:	0.03 acres
Area (A):	0.18 acres

Runoff Coefficient

Runoff Coefficient (for landscaped areas):	0.10
Impervious Runoff Coefficient:	0.95
Weighted Runoff Coefficient (C):	0.81

Time of Concentration

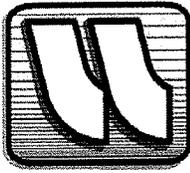
Approx. Elev. Diff'l. (ft.):	0.6
Higher Elev. (ft.):	222
Lower Elev. (ft.):	221
Approx. Runoff Length (ft.):	80
Average Slope:	0.7%
Time of Concentration (T _c):	5 minutes

Intensity

Project Location:	Wailuku, Maui, Hawaii
Design Storm:	10-year recurrence interval, 1-hour duration
Rainfall Depth:	2.0 in.
Intensity (I):	5.20 in./hr.

Flow Rate

$$Q = C \cdot I \cdot A$$
$$= 0.8 \quad \text{ft.}^3/\text{sec.}$$



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 Wells Street Professional Center
 2145 Wells Street, Suite 403
 Wailuku, Maui, HI 96793

HYDROLOGIC CALCULATIONS - Storage Volume Calculation

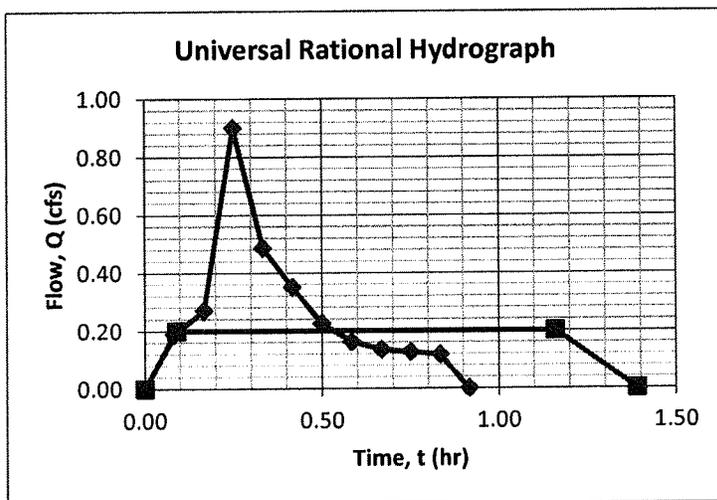
Description: Estimate the approximate storage capacities required for a stormwater detention or retention facility for the Hospice Maui Care Facility Building.

Universal Rational Hydrograph Method:

Pre-development Peak Flow, Q_{peak50} (cfs) : 0.2 cfs
 Post-development Peak Flow, Q_{peak50} (cfs) : 0.9 cfs
 Time of Concentration, T_c (min) : 5 min

Post-Development Inflow Hydrograph Ordinates			
t/tc	Q/Qp	t (hr)	Q (cfs)
0	0.00	0.00	0.00
1	0.21	0.08	0.19
2	0.30	0.17	0.27
3	1.00	0.25	0.90
4	0.54	0.33	0.49
5	0.39	0.42	0.35
6	0.25	0.50	0.23
7	0.18	0.58	0.16
8	0.15	0.67	0.14
9	0.14	0.75	0.13
10	0.13	0.83	0.12
11	0.00	0.92	0.00

Post-Development Outflow Hydrograph Ordinates	
t (hr)	Q (cfs)
0.00	0.00
0.09	0.20
1.16	0.20
1.39	0.00



Detention Volume

(Area above outflow hydrograph)

Vol. = cu.ft.

Retention Volume

(Area below inflow hydrograph)

Vol. = cu.ft.

APPENDIX B.

Archaeological Inventory Survey

**ARCHAEOLOGICAL INVENTORY
SURVEY FOR HOSPICE MAUI
3.957-ACRE PARCEL, WAILUKU
AHUPUA'A, WAILUKU DISTRICT,
MAUI ISLAND
(TMK: 3-8-46: 17)**

prepared for:

**Dr. Greg LaGoy
Executive Director
Hospice Maui, Kahului**

prepared by:

*Xamanek Researches
Pukalani, Hawaii*

**Erik M. Fredericksen
Demaris L. Fredericksen**

August 17, 1999

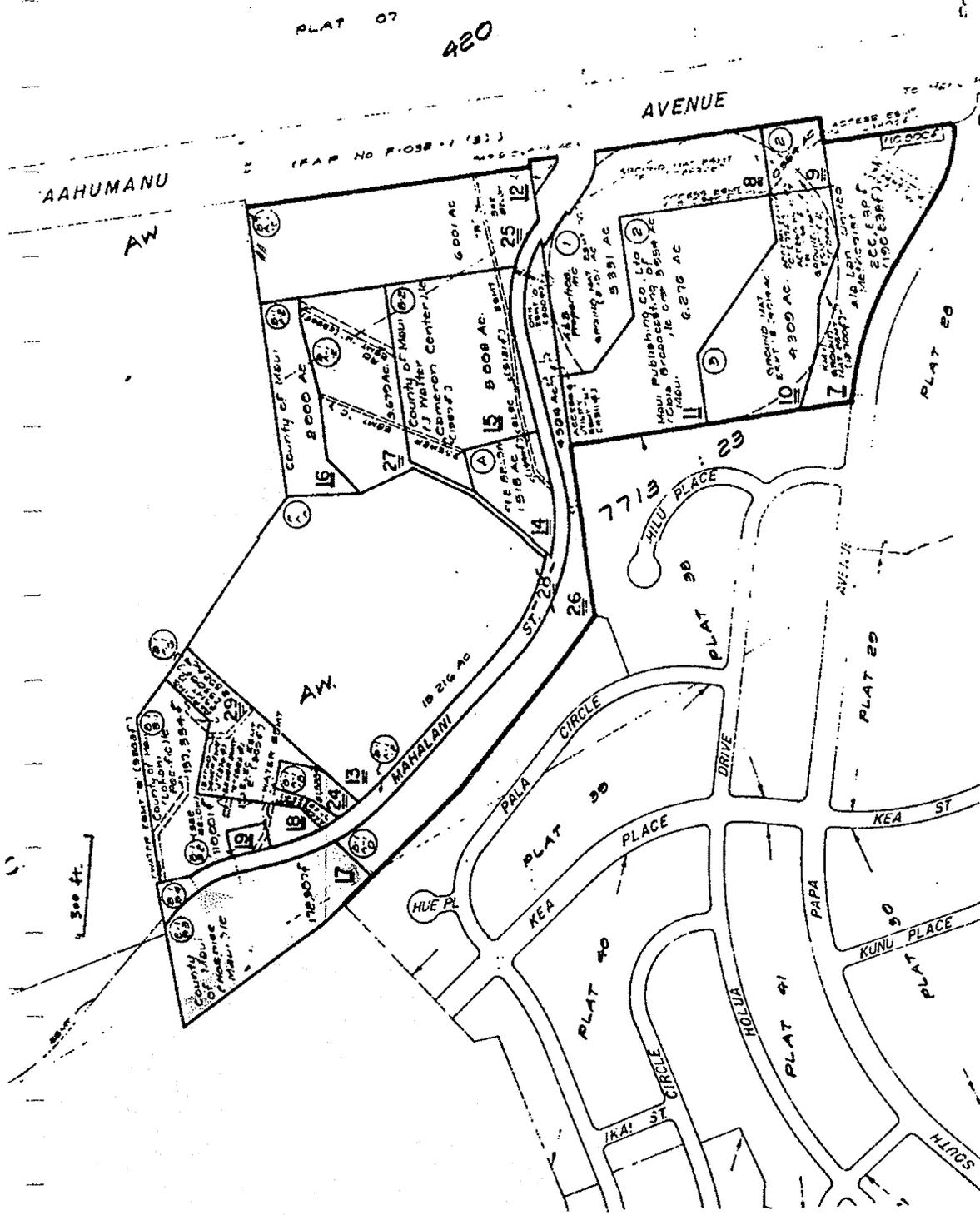
ABSTRACT

Xamanek Researches carried out an archaeological inventory survey of a 3.956-acre parcel (TMK: 3-8-46: 17) in the Pu'u One sand dunes region of Wailuku *ahupua'a*, Wailuku District, Maui Island, in May and June of 1999. The inventory survey included a surface walkover and subsurface testing. While no significant material culture remains were located during testing, much of this large dune was found to be intact. Development plans call for the construction of at least one large parking lot on the parcel.

A total of 9 auger tests and 10 backhoe trenches were utilized to test subsurface conditions. While no significant finds were located during our testing, previous archaeological work in the dune area has located numerous human burials. The possibility remains that human burials may be present on the study parcel. Therefore, archaeological monitoring is recommended for any future earthmoving activities undertaken on the project area.

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DEPARTMENT OF FINANCE
 PROPERTY ASSESSMENT DIVISION
 TAX MAPS SECTION
 STATE OF HAWAII

Owner's, lessee's & vendee's names recorded on this tax map print may not be current. Please refer to ownership history sheets and field books for current owners.

JAN 1 1994

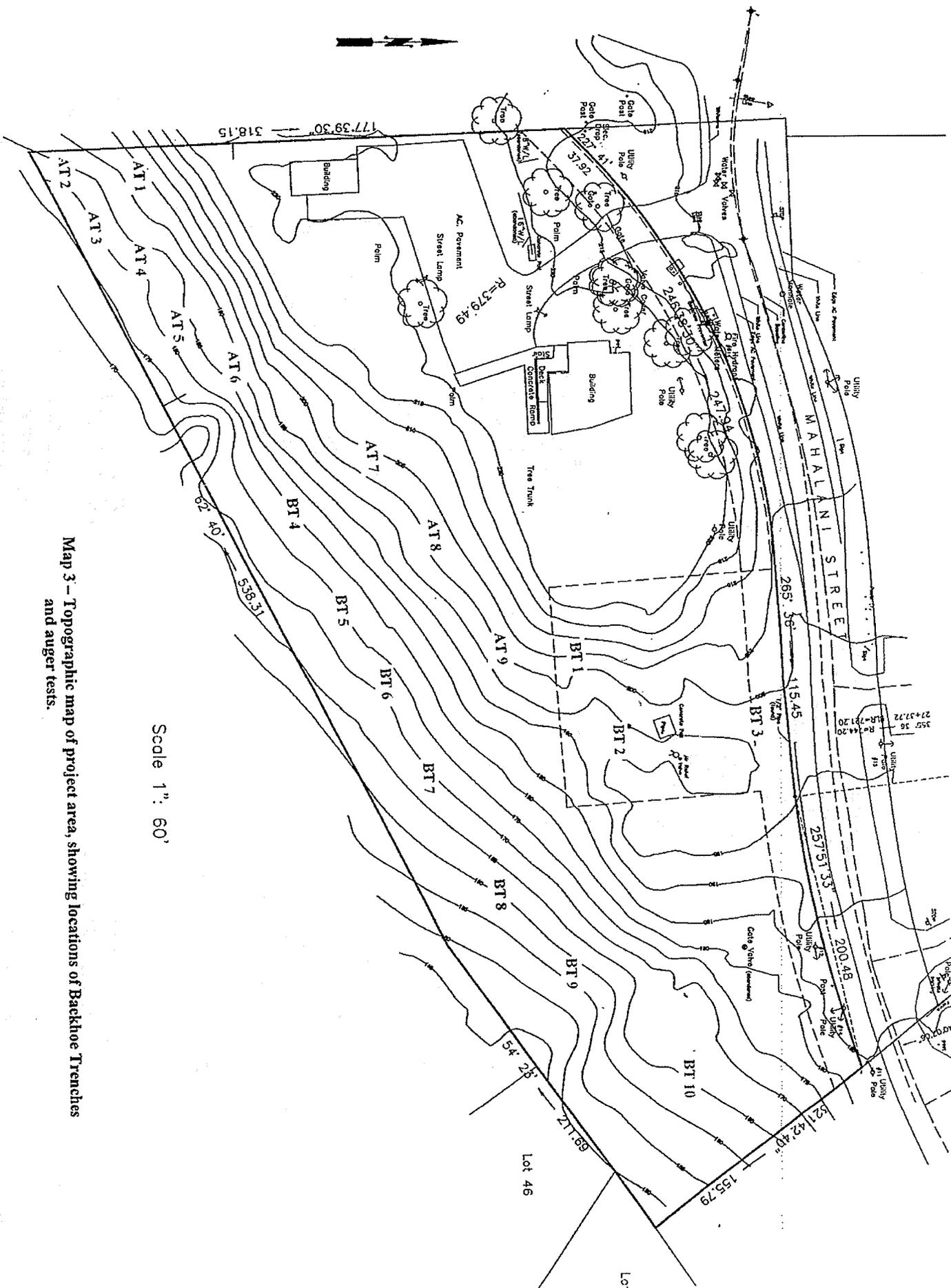
FOR PROPERTY ASSESSMENT PURPOSES

Map 2 -- Portion of Tax Map Zone 3, Section 8, Plat 46.

3 8 46

- 12 State of Hawaii
- 14 State of Hawaii HAWAII HEALTH CENTER
- 19 City of Maui
- 23 County of Maui
- 24 County of Maui

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Scale 1" = 60'

Map 3 - Topographic map of project area, showing locations of Backhoe Trenches and auger tests.

INTRODUCTION

Xamanek Researches was contacted by Dr. Greg LaGoy, Executive Director, Hospice Maui, in March 1999 about conducting an archaeological inventory survey on a c. 4 acre parcel in Wailuku *ahupua`a*, Wailuku District, Maui (TMK 3-8-46: 17). After discussions with Dr. LaGoy, we were retained to conduct the survey on the subject parcel.

The project area lies in the Pu`u One dunes, a region well-known for containing precontact burials. The c. 4-acre parcel consists of a large sand dune that lies between 140 and 220 feet AMSL. Approximately 25 percent of the upper portion of the parcel has been impacted by previous construction activities associated with the development of the existing Hospice Maui facility. In addition, an abandoned 12-inch and a live 16-inch County of Maui waterline are located on the eastern portion of the dune. Development plans call for the phased construction of 2 large parking lots. These lots will be constructed in order to meet anticipated parking demands when the planned Mahalani Street widening project occurs in the relatively near future.

STUDY PARCEL

Natural History

The 3.456-acre subject parcel lies on the western side of the Kahului Isthmus, in an area adjacent to Mahalani Street south of Maui Memorial Hospital.

The soils are classified as Pu`u One sands, and are part of the west central portion of the Pu`u One sand dunes formation, which extends from Waikapu to Kahului Harbor. The dune sands present on the Hospice Maui parcel are classified as Pu`u One (PZUE) sands (Foote, et al., 1972). These dune formations are underlain by lava flows from Haleakala and alluvial sediments from the West Maui Mountains (Stearns and Macdonald, 1942, p. 54). These underlying soils are classified as Pulehu-Ewa-Jaucas

association. They are described as "Deep, nearly level to moderately sloping, well-drained and excessively drained soils that have a moderately fine textured to coarse-textured subsoil or underlying material; on alluvial fans and in basins." (Foote, et. al., 1972, p. 8) The overlying Pu'u One sand is grayish-brown to light brown in color, and forms layers of strongly alkaline cemented sand hard pan (referred to as lithified sand in this report), occurring 20 to 40 inches below the surface. In some instances, the loose sand has blown away, making this feature much closer to the surface. Old root molds filled with hard, white alkaline deposits are a common feature in the sands (Ibid., p. 117). Pu'u One sands occur on slopes of 7 to 30 degrees, and develop in material derived from coral and sea shells (Ibid.). Elevation of the subject parcel ranges from a low of c. 140 to 220 feet AMSL.

Annual rainfall in this area of Maui averages 20 to 30 inches. The highest monthly rainfall occurs during the winter and spring months (University of Hawaii, 1983, p. 56). Temperatures range from 60 to 80 degrees Fahrenheit in January to 68 to 90 degrees Fahrenheit in July. Winds are generally trade winds from the northeast, averaging 16 to 18 miles per hour.

The study area is vegetated with a dominant overstory species of *kiawe* (*Prosopis pallida*). The predominant understory species include *koa haole* (*Leucaena leucocephala*), lantana (*Lantana camara*) and various alien grass species, including buffelgrass (*Cenchrus ciliaris*) and Guinea grass (*Panicum maximum*). Other much less abundant plants noted included scattered *'ilima* (*Sida fallax*) shrubs and isolated *'uhalou* (*Waltheria americana*). No endemic plants were noted during inspection of the study area.

BACKGROUND RESEARCH

Precontact Period

The *ahupua'a* of Wailuku is a large land unit stretching around Kahului Bay from Paukukalo to Kapukaulua. It includes Iao Valley and the northern half of the Kahului Isthmus. This single land division comprises nearly half of the District of Wailuku, and is noted as a place where chiefs were buried and wars were fought. The word itself can be translated as "water of destruction" (Pukui, et. al., 1974, p. 225), and the name Wailuku refers to the battles which took place in the area.

Iao Valley and the two associated dunes on the north and south sides of the river, constituted the core area of Wailuku. This was the central place of religious and political power on Maui, which culminated during the time of Pi'ilani (c. 1600 AD). In the late

precontact period warfare increased as the chiefs from Maui, Oahu and Hawaii vied for political and military dominance. High Chief Pi'ilani unified the districts of Maui by warfare, but after his death, his sons fought with one another—each to establish his own political control. Eventually Kiha-a-Pi'ilani became victorious, seizing political control of Maui Island (Speakman, 1978, pp. 9-13). Each succeeding generation of chiefs struggled through warfare to secure their positions of political dominance.

During the reign of the last powerful paramount chief or king, Kahekili (who ruled from 1765 to 1790), Wailuku again became the site of intense warfare. Kahekili's royal residence, Kalanihale, was located in Wailuku. In the mid-1770s it was marched upon by a Big Island chief named Kalani'opu'u and his *alapa* (the name given to his warriors). News of his coming preceded him, and Kahekili hid his warriors in the sand dunes above Haleki'i *heiau* to surprise the invading troops. Kalani'opu'u's army was pushed to the sea and slaughtered (Speakman, pp. 16-17).

By 1786, Kahekili controlled not only Maui, but Molokai, Lanai, and Oahu as well. This undisputed political control lasted for only 4 years, however. In 1790, Kamehameha the Great made his move on Kahekili's domain, which ended in the battle of Kepaniwai¹, where the Maui ruler was defeated. The term Kahului literally means "the winning", and the Bay takes this name because Kamehameha gathered his warriors there prior to fighting the battle in Iao Valley.

Early Post-Contact Period

The reign of Kamehameha was intertwined with the increasing presence of foreigners (*haoles*). The arrival of Captain Cook offshore at Kahului Bay in 1778 began the steady flow of outside influences that would forever alter the indigenous population and environment. One of the first of these influences came with missionaries, whose charge it was to save heathen souls. The first missionaries arrived in Wailuku in 1832, and the traditional religion began to wane under their influence. A girls' seminary (Central Female Boarding School) was established by Rev. Jonathan Green in 1836, where young Hawaiian women were taught the language and customs of the foreigners, as well as their religion.

Another influence to bring change was foreign commercialism, and it came in the form of sugar production. The first sugar cane crops grown in the *ahupua'a* were harvested and processed in 1828. Kamehameha III, with the help of two Chinese technicians, established a water-powered mill. This was known as Hungtai Sugar Works, and its location was fairly close to the later location of the Wailuku Sugar Mill, which was established in 1862. Hungtai Sugar Works continued to operate until the opening of the new mill.

The population of the *ahupua'a* in 1831-32 was listed as 2,256, with most of it being in the northern portion, presumably in Iao Valley (Cordy, 1978, p. 59).

¹Kepaniwai means literally "water dam" in reference to Iao Stream, because the stream was choked with human bodies after the slaughter there (Pukui, et. al., 1972, p. 109).

On the southern and eastern side of the Iao Valley dunes (Pu'u One Dunes), commercial activity took the form of cattle raising. This sizable area was used for pasturage. By as early as 1845, large herds of cattle were roaming the Kahului Isthmus (cattle had been introduced on the Big Island by Vancouver in 1793). The Maui cattle were under royal *kapu*, so could not be molested. They were so destructive to the environment that Native Hawaiian landowners protested, but to no avail (Barrere, 1975, p. 52). In addition to the commercial raising of cattle, there were also brief attempts at the production of cotton in the 1830s. This endeavor met with little commercial success however², and further impacted the landscape.

Post-1850s Period

After the Mahele in 1848, much of the *ahupua`a* was designated as Crown Land, to be used in support of the royal "state and dignity". In 1872 Kamehameha V died, and his sister Princess Ruth Ke`elikolani inherited the land. She was designated as the owner of the *Ka'a* lands of Wailuku, the southern portion of the *ahupua`a*. The *ili* of *Owa* comprised of 743.40 acres, LCA 420) was granted to Kuihelani, a steward to Kamehameha I. A much smaller northern section (the *ili* of *Kalua*-LCA 7713, Apana 23-391 acres) was awarded to Princess Ruth's half-sister, Victoria Kamamalu. In 1882, Princess Ruth sold one-half of the Crown Lands of Hawaii to Claus Spreckels, in order to settle her debts with him. Spreckels already held a lease for 16,000 acres of Wailuku *ahupua`a*, dating from 1878. Worried about what Spreckels might do with half of the Crown Lands, King Kalakaua gave him Land Grant 3343, a 24,000 acre portion of the southeastern section of Wailuku *ahupua`a*, in return for the surrender of his claim (Adler, 1966, pp. 262-264).

The Reciprocity Treaty of 1876 with the United States gave a boost to the sugar industry by increasing prices. The dry eastern part of the *ahupua`a* would be attractive as potential sugar land if water could be brought to it. In 1880, Spreckels began construction of what was called "Spreckels' Ditch", located *makai* of the Hamakua Ditch, built earlier by Alexander and Baldwin to water their Maui Agricultural Company's fields. The "Spreckels' Ditch" brought Haleakala water to the arid Kahului isthmus. The ditch was 30 miles long, and delivered about 60 million gallons of water a day, and cost \$500,000. Spreckels also built another ditch, the Waihe'e ditch in 1882, which tapped the water resources from the West Maui Mountains, thus bringing water to both sides of the Wailuku Commons isthmus area (Adler, 1966, pp. 48-49). This enabled him, in

²The Anglican Church felt that "the Hawaiian people, freed from their service to and dependence on the chiefs should be self-supporting and thought that the encouragement of the manufacture of cloth from the superior cotton which grew luxuriantly in the islands would be a means to that end. They therefore suggested that a manufacturer be sent with sufficient machinery to get the project started. They felt that the people would continue to work with the encouragement and cooperation of the chiefs." (Lemmon et. al., 1973, p. 2.B.3). To this end they sent Miss Lydia Brown in 1835 with "a quantity of domestic spinning apparatus' (presumably spinning wheels and a loom)" (Ibid.), and "charged with the responsibility of teaching the Hawaiian girls the arts of carding, spinning, weaving and knitting locally grown cotton and wool." (Ibid.) As each class grew proficient enough to teach others, a new class was formed (Ibid., 2.B.4).

1882, to found Hawaiian Commercial and Sugar Company. He continued involvement in that company until 1898, when control was wrested from his hands. The parent company still bears the name of Alexander and Baldwin, the principal participants in the transfer of corporate control. The production of sugar cane continues to be an activity in the isthmus area to this day.

The environmental conditions in the lower Iao Valley, which in precontact times were ideal for agricultural support of a large population, were a wide valley floor, rich alluvial soils, and a constant water supply from Iao Stream. These combined with the access to Kahului Harbor, rich in marine resources, made this area the prime precontact location on West Maui for a political and religious center. The lower portion of Iao Valley contained some of the most productive taro land on the island, and the abundance of Land Commission Award's in the lower valley attest to this. There are 66 LCA's, primarily taro patch *kuleana*, and 39 *po`alima* located between the old Wailuku Mill site and Paukukalo, on the southern side of Iao stream. In addition, 13 awards were made directly to individual chiefs by Kamehameha IV.³

Lower Main Street was built along the route of an old government road, which very likely followed the course of existing transportation routes from the ocean to the inland portions of Iao Valley. Nearly all of the LCAs in this area have borders aligned with the road, indicating it was an important transportation corridor at the time the *kuleana* were granted. This corridor follows the natural boundary between the sand dune and the alluvial deposits of the valley. The Kahului Railroad paralleled Lower Main Street, and was one of the earliest known projects which impacted the dune itself.

The route of the railroad from Kahului Harbor to Wailuku Sugar Mill is shown on both the 1954 USGS map, and the 1937 Towill Map. The remnants of this old railroad bed can still be noted along Lower Main Street and Waiale Road. Railroad construction was begun in the late 1870s and continued for nearly 2 decades, as routes were added and service expanded. The railroad remained functional until October 1957. An article in **The Maui News** of October 15, 1957 bore the headline "Iron Horses Bow Out As Wailuku Sugar Company Discontinues Use of Railroad"—thus ending 52 years of operation. Commercial development in this corridor followed the closing of the railroad.

In the central Maui area to the south and east, where the present project area is located, development did not occur until later. During World War II, portions were used by the military. There was a large Marine Base in the area occupied by Maui Community College and the Maui Arts and Cultural Center. After the war, several housing developments were built in the Kahului and Wailuku area.

Alexander and Baldwin began planning the Maui Lani Development in the 1970s and 1980s, a project which covers more than 1000 acres. It includes 634.2 acres for

³ This is in contrast to the area south of Iao Valley, in which the study parcel lies. Here there were 2 LCAs awarded—one to Victoria Kamamalu (7713), and one to Kuihelani (420). The largest portion is Grant 3343 to Claus Spreckels.

residential use; c. 200 acres for recreational use, including an 18-hole golf course; 68 acres for public/quasi-public use; 21.7 acres for commercial use; and 67.8 acres for circulation and open space. This project lies to the south and west of the present study area.

PREVIOUS ARCHAEOLOGICAL WORK

Iao Valley/Pu'uone Dunes Area

The earliest archaeological work in the Wailuku area was part of the island-wide survey done by Winslow Walker in 1931. He reported that there were a number of *heiau* in the general area of Wailuku. Two lie on the northern side of Iao Stream atop the large dune formation there--Pihana and Haleki'i. Both have been restored and are designated as the Halekii-Pihana Heiau State Monument, under the supervision of the Division of State Parks (DLNR). Walker also reported that there were a number of *heiau* in this general area of Wailuku, which were said to have been consecrated by Liholiho during his visit to Maui for that purpose in 1801 (Walker, 1931, pp. 146-147). At the time of his survey, none of these reported *heiau* (named Keahuku, Olokua, Olopio, Malena, Pohakuokahi, Lelemako, Kawelowelo, Kaulupala, Palamaihiki, and Oloolokalani) could be found (Ibid., p. 148).

A personal communication (1990) from Mr. Charles Keau, a well-respected authority on history and prehistory of Maui, provides more information about some of these *heiau* which Walker could not find. By Mr. Keau's account, there were 3 *heiau* located in the corridor from Kahului Harbor to the intersection of Lower Main and Mill Streets. One was situated across from the Maui Soda Company. Another was located on parcel 83 (TMK: 3-4-39) between the Maui Electric Power Station and the County of Maui Wailuku Government cemetery. A third may have been located near the Home Maid Bakery. During the construction of the parking lot next to the bakery, Mr. Keau reported that Wesley Wong, a well-known local antiquity collector, found 5 adzes of "Tahitian" style. He did not specify when this was, but thought there might still be portions of the *heiau* there as well as some burials. Archaeological work in the 1990s has corroborated at least the latter part of this supposition (see discussion below).

In February of 1992, the present authors began an inventory survey on the site for the Nisei Veterans Memorial Center, a 2 acre parcel of land at the intersection of Lower Main and Waiehu Beach Road (Fredericksen and Fredericksen, March 1993). The most notable feature was the railroad bed which runs the length of the property (Site 3112). Another historic site (Site 3119A) was a refuse disposal area about 20 cm. below the surface. The predominant historic items were bottles and ceramics dating from the late

1800s, about the time the railroad was in use. A subsurface excavation which cut through the historic site located a subsurface precontact site designated as Site 3119.⁴ This site became extremely interesting when a very early radiocarbon date of AD 233-410 was obtained. However, later data recovery work did not produce material of a comparable date. The deposits from which it came turned out to have been previously disturbed by excavations done during the construction of the railroad bed, and the original source was not located (Fredericksen, et. al, October 1997).

In another area of the site, test excavations produced a number of artifacts, including coral files, bone picks, an unfinished fishhook, and worked bone, along with large quantities of food midden. This was designated as Site 3120. Subsequent data recovery has shown this to be a large habitation site, which contains a cluster of burials. The latter have remained *in situ* and will be preserved as a permanent burial/grave site. A number of fire pit features have been recovered and a series of 12 radiocarbon dates have been obtained so far. They range from the very early date mentioned above (AD 233-410) to AD 1200-1740, with the majority of the precontact dates falling in an AD 1400 to 1700 range. During archaeological monitoring in June and July of 1998, an additional 38 burials were found in the dune in the southeast portion of the property. These were capped with concrete and preserved as part of the continuing mitigation of this project.

Grading work at the Home Maid Bakery uncovered human remains in 1995. State Historic Preservation Division archaeologist, Theresa Donham ordered that an inventory survey be undertaken. During this survey, two sites were identified. Site 3924 contained 2 *in situ* burials, and a thin remnant of a cultural layer. Much of the cultural layer had been displaced by previous bulldozer action. Marine shell, 2 edge altered flakes, small waterworn stones, 6 basalt flakes, and 6 pieces of volcanic glass were found, along with a piece of coal and a chert flake (Burgett and Spear, 1995, pp. 20-24), which most likely have an historic origin. Another site, Site 3925, represents a site with 2 primary cultural layers, and three very narrow, restricted cultural layers, along with 6 features. These are hearth features, pits, and a possible post hole. A radiocarbon date from one fire pit yielded a date of AD 1436 to 1671. Another fire pit produced charcoal dated at AD 1430 to 1529. Ninety-nine artifacts were recovered, 87 pieces of basalt debitage, 4 basalt flakes with polish, 3 coral abraders, 2 edge altered flakes, 1 adze perform, 1 chert flake, and 1 worked mammal bone (Ibid., pp. 24-30). Quantities of shell midden were also recovered.

Theresa Donham spoke at the June 1995 meeting of the Maui County Cultural Resources Commission, and described these recent archaeological projects in Wailuku to commissioners. She feels that these two sites mentioned above are probably part of the same site, which has been significantly disturbed. It was most likely part of a complex habitation and activity area that was associated with the reported *heiau* (Minutes, MCCRC, June 1, 1995).

⁴Later data recovery work at this site has caused a revision in numbering. All precontact components of the site are designated as Site 3120, while the historic components bear the Site 3119 designation.

Another site on the same Home Maid Bakery property, Site 4066 was identified during archaeological monitoring of a County of Maui road-widening project along Lower Main, in 1995. A test trench, just 2 feet from the roadway bisected an intact portion of the dune which contained boulder alignments, fire pits, artifacts, and midden. An area c. 10 feet wide by 134 feet long was impacted. The remains of 4 individuals recovered were reburied in a crypt, along with the 2 *in situ* burials around which the crypt was built (Spear, December 1995).

Other burial sites along Lower Main include Site 3556, which contained both historic and prehistoric burials; Site 3996 which is an identified human burial that is eroding from the face of the dune; Site 3928 is a remnant of a habitation site which contained burials. A radiocarbon date from that site gives a range from AD 1424 to 1635 (Donham, n. d.).

Other sites along the Lower Main-Waiale Road corridor have been identified. Site 1172 was identified by a Bishop Museum archaeological team in 1971, as the Lower Main Street site. It consists of at least one cultural layer containing shell (*opihi*, *pipipi*, drupe, cowrie and land shells), coral, charcoal and water-worn stones. Three precontact artifacts included a coral file, a hammerstone fragment, and a possible hammerstone, triangular in shape (Connolly, 1973). Later sand mining activity apparently uncovered burials which were reburied upslope from the existing excavation, but their exact location is not known (Personal communication, Theresa Donham, recorded in minutes of the Cultural Resources Commission, June 1, 1995). Two additional burials were discovered eroding from this site in June 1994. They were recorded and disinterred by Ms. Donham, and have since been reinterred on the property (Burgett and Spear, 1995, p. 17). In 1999, additional inventory survey work was conducted by Xamanek Researches, and the remains of a young child were located, along with scattered human remains (report pending).

In 1990, the present authors surveyed a half-acre commercial parcel in the Lower Main corridor (TMK: 3-4-39: 77). At the time of the study a good portion of the dune had been excavated to street level. No significant surface archaeological finds were made, but monitoring was recommended during any subsurface excavation, since the inventory survey did not include subsurface testing (Fredericksen and Fredericksen, 1990). This parcel was studied again in 1996, for Oceanhouse, Inc. by Scientific Consultant Services, Inc., following considerable alteration by grading. A site remnant was identified on the lip of the dune (Site 4004), and a few fragments of human bone were also found on the cliff face. A radiocarbon date range from AD 1420 to 1640 was established for the site remnant (Burgett and Spear, 1996).

Xamanek Researches has conducted a series of studies on parcel 82 (TMK 3-4-39) at the intersection of Lower Main and Mill Streets (Fredericksen and Fredericksen, January 1992; July 1995; September 1996; September 1997; September 1998). A large habitation site has been identified along Lower Main Street, at about the same level as the street (Site 4127). Radiocarbon dates indicated that Site 4127 was occupied in late precontact times (AD 1570-1780). Human burials are associated with this site. Another

large habitation site (Site 4414) was also found on the slope of the dune. As many as 14 burials were found during data recovery and monitoring work. Some were preserved in place, while others were disinterred, as they were in the area excavated for a retaining wall. All disinterred remains will be reinterred when the project is completed (data recovery and monitoring reports in process). Radiocarbon dates for this site were somewhat earlier—ranging from c. AD 1375 to 1670.

Another inventory survey was undertaken at a property located on top of the dune c. 100 meters south of Site 4414. Here a fairly extensive habitation site was identified, which contained human remains (Site 4418). Radiocarbon samples indicated that this site was contemporaneous with Site 4414 (Fredericksen and Fredericksen, November 1997).

Waiale Road Corridor/Pu`u One Dunes

A precontact burial was found while road crews were excavating under the Kaahumanu Avenue bridge crossing Waiale Road (Site 4126). Another was found during the installation of a new sewer line on the west side of Waiale Road, c. 100 meters to the south (Site 4683) [Fredericksen and Fredericksen, February 1999].

Along Waiale Road, which forms the western border of the Wailuku Sand Hills (Pu`u One Sand Dunes), monitoring for a drainage project for C. Brewer found human remains which had been disturbed by a former pipe line trench that runs perpendicular to the road (Site 4005). Site 3502 also contains burials, an historic coffin burial and another disturbed burial that is thought to be precontact. Site 4067 is the remnant of a habitation site identified during the monitoring for the pipe line that revealed Site 4005. Site 4068 is a habitation site with an associated cluster of human burials (Dunn and Spear, 1995).

During construction for the Maui Homeless Shelter in May of 1992, 3 human burials were inadvertently discovered (Site 50-50-04-2916). These skeletal remains were investigated by Theresa Donham. She found the remains of an adult male in a grading cut, roughly 2 feet below the original surface (Burial 1). No cultural materials were associated, and a burial pit could not be identified. On May 21, a cranium (Burial 2) was exposed during construction of a desilting basin located along the lower slope of the dune at the southeastern⁵ corner of the project area (Donham, 1992, p. 3). A test unit measuring 5 by 3 meters was excavated to a depth of 0.50 to 0.75 meters below the surface. All sand material was screened and a total of 280 identifiable elements or fragments were recovered, along with 235 miscellaneous fragments. Two individuals were represented, an adult female, and a smaller adult individual of undetermined sex.

The parcel adjacent to the south was surveyed by Xamanek Researches in 1995 (Fredericksen and Fredericksen, June 1995). While no sites or human remains were

⁵According to Figure 3 (Donham, 1992) the desilting basin is located on the southeastern corner of the property, rather than the southwestern as stated on page 3. This basin extends to the border shared by the Homeless Shelter and the present study property.

located during the survey, it was recommended that archaeological monitoring take place during construction. Human remains were located in April of 1996, but not before they had been seriously disturbed by grading activity during initial construction. The remains were scattered over a 100 by 10 meter strip near the fence of the Homeless Shelter where the burials had been discovered earlier. It is felt that these remains are part of that burial complex (Site 2916). The sands in which they were found were collected and moved across Waiale Road, so that construction work could continue. Approximately 9 truckloads of sand containing human remains were sifted by a mechanical sifter. This activity was completed in September, 1996, and skeletal remains of at least 4 individuals were identified (Fredericksen, February 1997).

Another series of burials was encountered at a sand mining operation located ca. 1 km. to the south, at the Maui Scrap Metal Company in Waikapu. Sand from the site was transported to Lahaina for use at the Sewer Plant, and was found to contain human remains. Their origin was established, and for a period of several months, from November 1994 to March of 1995, sand material was screened by a large mechanical sifter in an effort to recover the human remains disturbed by the sand mining activities. The burial site bears the number 50-50-04-3525. A minimum number of 22 individuals were dislocated by sand mining activity, and were reinterred at the site by members of the Maui and Lanai Islands Burial Council in early March, 1995. The site is to be fenced and preserved as a burial site (Fredericksen and Fredericksen, February 1996).

Maui Lani Development Project Area

Early surveys by Barrera (1976) of the 1,000 acre Maui Lani project which surrounds the present study parcel, and of the Hale Laulea Subdivision (Barrera, 1983) in Kahului did not identify any sites. Neller (1984) investigated the area known as the "sand borrow site" after sand from there, used at a construction site in Lahaina, was discovered to contain human remains. His research revealed one complete *in situ* burial, and skeletal fragments of at least 3 other individuals scattered in the vicinity.

In 1987, in response to a call from the Maui Police Department, the present authors visited this same general area ("sand borrow site") to determine the nature of skeletal material reported by local residents. The disturbed, flexed burial of a young female (18 to 25 years of age), and a 4 or 5 year old child nearby, lay partially exposed in a trail used by dirt bikers. At the request of the Police Department, the burials were removed. The presence of a shattered 4th thoracic rib and lower scapula blade on the left side, suggested that a frontal, traumatic puncture wound caused the death of the young female. The remains were curated at Maui Community College until they were turned over to SHPD on Maui for permanent disposition.

In 1990, the Anthropology Department of the Bishop Museum under contract to Maui Lani Partners conducted test excavations on 4 sites which had been identified in a reconnaissance survey done in January 1990 (Rotunno and Cleghorn, February 1990). The sites included 2 parallel alignments, 2 adjacent rock mounds, and a single rock mound. These sites were determined to be of recent origin related to off-road vehicular

traffic, and not archaeologically significant. The fourth site (Site 50-50-04-2797) is a human burial site found at the sand borrow pit near the eastern boundary of the Maui Lani project area. No intact burials were recovered, but the scattered remains of at least 3 individuals were recovered in the surface layer (Rotunno-Hazuka et. al., May 1994a). A subsequent burial search was undertaken. These investigations resulted in the identification of at least 12 individuals from 10 burial features. Six features were preserved *in situ* (Rotunno-Hazuka et. al., May 1994b).

More recent work has been archaeological subsurface sampling of the Maui Land Development Phases 1 and 1A, conducted by Aki Sinoto Consulting. The objective of the work was to implement a strategy for subsurface sampling to test for the predictability of burials based on topographic features within the unmodified dune areas, and to address the deficiencies in the inventory survey (Pantaleo and Sinoto, January 1996).

A total of 90 backhoe trenches, 2 shovel scrapes and 1 manual trench were excavated in 58 localities (Ibid., p. iii). Six previously unrecorded burials were found—4 associated with the sand borrow site (Site 2797); one on top of a high dune (Site 4146), and another exposed in a road cut (Site 4147). All of these sites lie c. .5 to 1 mile south of the study area. The authors state: "No predictable pattern of traditional interment of the dead based on preference for topographic features was established during the current investigation. Rather, the resultant data indicates only one concentration or complex of multiple burials at Site 2797 and isolated individual burials at the top of dunes in the highest locations in the project area". (Ibid.)

As the Maui Lani Golf Course has been constructed additional burials have been found and mitigated in cooperation with the Maui/Lana'i Islands Burial Council and SHPD. This project is adjacent to the present study area (Photo 5).

Xamanek Researches conducted 3 inventory surveys near the present project area—Maui Lani Parkway Road Corridor (Fredericksen and Fredericksen, January 1997); Mahalani Street Extension (Fredericksen and Fredericksen, May 1997); and Maui Lani Lot 11-A project (Fredericksen and Fredericksen, June 1997). Maui Lani Parkway runs from Baldwin Avenue at Baldwin High School to an intersection with Mahalani Street at the Hospice Maui project area (See Photo 1). While no significant cultural resources were located during inventory level subsurface testing, later monitoring of construction activities recovered scattered human remains in several locations (Sites 4419, 4368 and 4435) [Fredericksen, November 1997]. The Mahalani Street Extension is a continuation of Mahalani Street westward from Hospice Maui across the dunes to Waiale Drive. The inventory survey of this corridor did not produce any significant cultural resources as well, but monitoring was recommended when construction begins, due to the possibility of human burials in the dune area. The subsurface inventory level testing on Maui Lani 11-A produced an *in situ* burial—Site 4401. This project area lies to the west of Maui Lani Parkway adjacent to Kaahumanu Avenue, across from Baldwin High School.

Summary

The pattern seems to be one of intensive usage in the Iao Valley and the Waiale Road corridor, along the Pu'u One Dunes formation. However, in the central area to the east of these dunes, very few sites other than scattered burials have been found. The authors have conducted studies at Maui Community College (Fredericksen and Fredericksen, December 1992; Fredericksen, et. al., 1994), and at the Keiki Zoo Maui (Fredericksen and Fredericksen, September 1995), both with negative results. Archaeological Consultants of Hawaii conducted a survey for the Maui Arts and Culture Center, again without significant findings (Kennedy, 1990). While military activity during the war no doubt altered the landscape and could have destroyed archaeological sites, it is also a possibility that this area was simply not used much in precontact times.

Settlement Pattern and Land Use

The lower Iao Valley portion of Wailuku *ahupua'a* was a central political and religious area of West Maui. The Wailuku River was one of the *na wai`ehu*, or "the four waters"—the 4 major rivers which drain from the West Maui mountains. Because of its fertile taro lands and close proximity to the sea, the region could support a large population. In Hawaii, wherever large population clusters are found, the social framework of chiefly importance and religious expression are also present. This is attested to by the existence of the 2 *heiau* (Haleki'i and Pihana) atop the northern dune system, and others reported by Walker (1931) and Keau (1992, oral communication) within the Wailuku river corridor. The middle and upper reaches of Iao Valley were also rich in *lo'i* and *'auwai* which produced additional food stuffs to support political and religious activities. The Upper Iao Valley had been traditionally known as a very significant sacred place in the history of Maui (Donham, MCCRC minutes, June 1, 1995). Coastal sites, such as Site 3120, have been occupied since the 1200s (and possibly much earlier), and no doubt provided the complex with marine resources. There seems to be a pattern whereby sites closer to the ocean have earlier dates than the ones farther inland, suggesting that settlement occurred first along the sea shore and gradually moved inland as the population numbers increased.

An intensification of usage appears to have occurred during the 16th century, and seems to have peaked around the time of Pi'ilani, ca. 1600 AD (Ibid.). Most of the radiocarbon dates which have been recovered from the sites along this corridor fall into this temporal framework. However, some sites on top of the dune have yielded radiocarbon dates that are about 2 centuries earlier (Site 4414, Site 4418, and Site 3120).

The area to the southeast—central Maui—in which the present study parcel is located, is a part of the island which apparently was not used extensively in precontact times. It was much drier and less hospitable. Given such an arid climate and resultant poor soil conditions, one would not expect large permanent settlements to occur. There simply was not a constant water supply to provide for agricultural activities necessary to support permanent habitation. None of the archaeological studies conducted in the immediate environs have produced midden or architectural features suggesting habitation activities. On the other hand, the literature is replete with references to human burials, making the likelihood of their occurrence on the subject parcel quite high.

TABLE 1

List of Archaeological Studies Done in Lower Main Street/Waiale Road Corridor, and Central Maui Area

AUTHORS	LOCATION	FINDINGS
Burgett and Spear, 1995	Inventory Survey - TMK: 3-8-37: 48, Lower Main St., Home Maid Bakery. Sites 3924 and 3925	Habitation sites; human burials. Dated c. AD 1430 to 1671.
Burgett and Spear, 1996	Inventory Survey - TMK: 3-4-39: 77, Lower Main St., Oceanhouse, Inc., Site 4004	Habitation site remnant; human burials. Dated 1420 to 1640 AD.
Connolly, 1973	Statewide Inventory - TMK: 3-8-36: 94, Lower Main St., Site 1171	Habitation site; burials discovered 1994 eroding from dune face.
Donham, 1994	Letter Report - TMK: 3-8-37: 49, Lower Main St., Home Maid Bakery, Site 3556	Inadvertent burial discovery, both historic and precontact burials
Donham, 1992	Letter Report - TMK: 3-8-46: 21, Waiale Road, Maui Homeless Shelter, Site 2916.	Human burials
Dunn and Spear, 1995	Monitoring - TMK: 3-4-02: 36, RR bed along Waiale Rd. Sites 4068, 4067; Site 3502 at Waiale Rd. and Kaohu Street	Habitation site and burials (Site 4068); Habitation (Site 4067).
Fredericksen, W. and Fredericksen, D, December 1992a	Inventory Survey - TMK: 3-8-07: 40 and 43; Maui Community College Parking Lot Extension.	Historic sites from WWII. No precontact cultural materials.
Ibid., September 1995	Inventory Survey - TMK: 3-8-07: por. 1; Keiki Zoo Maui.	No findings of significance.
Fredericksen, D. and Fredericksen, W. February 1996	Skeletal Recovery Project - TMK: 3-8-07: 104; Maui Scrap Metal Company, Waikapu. Borrow Site, Site 3525.	Remains of at least 22 individuals recovered from mined sand.
Fredericksen D. and Fredericksen, W. December 1992b	Inventory Survey: TMK: 3-8-07: 123, at Lower Main and Waiehu Road, Nisei Veterans Memorial Center.	Historic site, Kahului Railroad (Site 3112); large precontact habitation site, with continuous occupation from c. 1200 AD to c. 1740 (Site 3120); numerous burials to be preserved <i>in situ</i> .
Fredericksen, et. al., October 1997	Data Recovery Report: TMK: 3-8-07: 123, at Lower Main and Waiehu Road, Nisei Veterans Memorial Center.	
Ibid., June 1998	Monitoring - (in process)	Thirty-eight additional burials found. Preserved in place.
Fredericksen, et. al., July 1995	Inventory Survey- TMK: 3-4-39: por. 81, 82, 83 at Lower Main and Mill Streets, Site 4127	Habitation site (Site 4127); data recovery recommended
Fredericksen, E. and Fredericksen, D. September 1996	Data Recovery - TMK: 3-4-39: por. 82	Habitation site (Site 4127); dated c. AD 1450 to 1675
Fredericksen D., and Fredericksen E. September 1997	Inventory Survey: TMK: 3-4-39: 82, proposed Maui Texaco Service Station project	Habitation site and burials (Site 4414) dated c. AD 1325 to 1670; data recovery and monitoring recommended

Table 1 (cont.)

AUTHORS	LOCATION	FINDINGS
June 1998	Data Recovery - TMK: 3-4-39: 82	Two additional burials; preserved in place. Eight more burials located during monitoring in late 1998.
Fredericksen, E. November 1998	Monitoring Report for Baldwin High School (TMK: 3-8-07: 4)	No significant findings.
Fredericksen, E. and D. December 1997	Inventory survey - TMK: 3-8-07: 47 at Lunalilo and Liholiho Streets, Na Leo Pulama O Maui Property, Site 4418	Habitation site (Site 4418), dated A.D. 1400s to 1600s; preservation of site recommended; monitoring of project recommended.
Fredericksen, E. February 1998	Monitoring Report for Kuikahi Drive and Waiale Road (TMK 3-5-01: por. 65)	No significant findings.
Fredericksen, E. and D. September 1998	Mitigation Report for Lower Main/Mill Streets Public Utilities Project—MECO (TMK 3-4-39: por. 81)	<i>In situ</i> precontact burial associated with Site 4127
Fredericksen, E. (in process)	Na Leo Pulama O Maui Monitoring Project	Previously disturbed human remains located (Site 4493).
Fredericksen, E., D., and W., August 1994	Inventory Survey - TMK: 3-8-46: 30; Maui Memorial Park	No significant findings.
Ibid., (Revised) March 1997	Inventory Survey - TMK: 3-4-36: parcel A; Mokuahu Water Storage Tank	No significant findings.
Fredericksen, E., W., and D., September 1994	Inventory Survey - TMK: 3-8-07: por. 125; Maui Central Park, 10 acres along Kahului Beach Road	No significant findings.
Fredericksen E., and Fredericksen, D., June 1995	Inventory Survey - TMK: 3-8-46: 21, Waiale Road; Ka Hale A Ke Ola.	No significant findings during inventory survey—monitoring recommended.
Fredericksen, D. February 1997	Skeletal Recovery Report - TMK: 3-8-46: 21, Waiale Road; Ka Hale Ke Ola.	Human burials uncovered during grading—remains of at least four individuals recovered.
Fredericksen, E., and Fredericksen D., January 1997	Inventory Survey - TMK: 3-4-07: por. 121, Maui Lani Parkway corridor	No precontact finds in corridor—human remains (Site 4368) on Golf Course Hole #10—monitoring recommended.
Fredericksen, E. November 1997	Maui Lani Parkway corridor monitoring Report	<i>In situ</i> burial (Site 4435) and previously disturbed remains (Site 4419) found during monitoring.
Fredericksen, D., and Fredericksen E. May 1997	Inventory Survey - TMK: 3-8-47: por. 1, 2, 3, 4, 17, 18, 30, and 32; 3-9-07: por. 121, Mahalani Street Extension	No significant findings - monitoring recommended.
Fredericksen, E., and D. June 1997	Inventory Survey - TMK: 3-4-07: por. 121, Lot 11-A, Maui Lani Project—20.7 acres	One indigenous <i>in situ</i> burial (Site 50-50-04-4401). Monitoring recommended.
Fredericksen, E. December 1997	Monitoring Report for the Kaiser Permanente Parking Expansion Project TMK 3-8-46: 08	No significant findings during monitoring.
Fredericksen, E. and D. February 1999	Monitoring Report for 12-inch sewerline along Waiale Road (TMK: 3-4-10: 27 & 30)	One indigenous cultural layer and <i>in situ</i> burial—Site 4683.
November 1998	Monitoring Report for Baldwin High School Gymnasium Project	No significant findings.

April 1999	Monitoring Report of Kahului Barge Terminal improvements (TMK: 3-7-08: por. 4 & 6).	One subsurface site with coral and pebble pavement—Site 4753.
Heidel, Pyle and Hammatt, 1997	Inventory Survey - TMK: 3-8-07: 1 and 3-7-01: 2; Maui Central Park	Historic sites—Site 4232-WW II military camp; Site 3112-Kahului Railroad Berm; Site 4211-scattered human remains.
Kennedy, 1992	Inventory Survey - TMK: 3-8-07; Maui Arts and Cultural Center.	No findings.
Kennedy, Denham and Reintsema, 1992	Inventory Survey - TMK: 3-5-03: 1; International Zen Dojo Mission; Iao Valley	No significant findings.
Pantaleo, J. and A. Sinoto, January 1996	TMK: 3-8-07: 2, 110; Phase I and Phase IA, Maui Lani Partners Development, Wailuku.	No habitation sites. Human burials in several locations. Monitoring recommended. Additional burials during monitoring.
Rotunno and Cleghorn, 1990 Rotunno-Hazuka, et. al. May 1994a	TMK: 3-8-07: 2, 110: Maui Lani Development Property.	No precontact sites other than burials (Site 2797).
Spear, 1995	TMK: 3-8-37: 48; Lower Main St.	Human burials and habitation (Site 4066)

ARCHAEOLOGICAL METHODS

Fieldwork was undertaken on the project area during early May and early June 1999. Field team members included Hugh Coffin, Mark Donham and John Risedorf. Our survey of the parcel consisted of a pedestrian inspection and subsurface testing.

Approximately 75% of this parcel contains largely intact dune. The project area was first walked-over by Mark Donham and John Risedorf. The project boundaries were flagged by Xamanek Researches prior to the pedestrian inspection. Field spacing for surface sweeps was c. 5 meters, when possible. Very steep areas were visually inspected, but not traversed with a uniform 5-meter spacing between personnel. During the course of the surface inspection, it became evident that portions of the project area could only be sampled with a manual sand auger.

Subsurface testing formed the second phase of our inventory survey of the project area. This phase was composed of 9 manual auger core samples and 10 backhoe trenches. All backdirt from the auger cores was sifted through 1/8-inch mesh screen. Backhoe trench backdirt was spot checked with 1/8-inch screen and trench profiles were visually inspected.

ARCHAEOLOGICAL FINDINGS

It became clear during our inventory survey that portions of the subject parcel have been altered by earthmoving activities. Previously impacted areas include:

- 1) the top of the dune which currently contains Hospice Maui infrastructure and parking lot;
- 2) a previously disconnected 6-inch County of Maui waterline which crosses a portion of the project area and intersects a live 16-inch County waterline;
- 3) the latter line which crosses the eastern part of the c. 4-acre parcel in a southeasterly direction; and
- 4) previous probable sand mining area along and outside a portion of the southern boundary.

While portions of the property have been impacted by these activities, it is important to point out that much of the parcel remains relatively undisturbed. Based on our surface inspection of this large dune, we estimate that c. 75% of it remains largely intact. We focused our subsurface investigation on the undeveloped portions of the property. As noted earlier, we utilized a combination of manual auger cores and backhoe trenches to sample subsurface conditions on the parcel.

Auger Core Samples

A total of 9 auger cores were placed on the steep southern portion of the property (Map 3). These cores were c. 9 cm. (3 ½ inches) in diameter and ranged from 0.6 to 1.8 meters in depth (Table 2). In general, 3 sand layers were present in the probes.

These 3 strata included the upper layer of pale brown sand (10 YR 6/3) which contained surface organics (0 to 14 cmbs.); a very pale brown (10 YR 7/3) unconsolidated dune sand, which was up to 1.4 meters thick; and a layer of lithified white to very pale brown dune sand (10 YR 8/1 to 8/3). No material culture remains were located in any of the auger cores. All samples appeared to represent undisturbed strata.

Discussion

The 9 auger core tests were placed in the very steep southern portion of the project area. Subsurface results indicated that the dune is intact in this area and has not been altered.

TABLE 2

Summary of Auger Core Samples 1 through 9

#	TD ⁶	cmbs ⁷	Stratigraphy	Remarks
1	115	0-10 10-105 105-115	Layer I – sand (10 YR 6/3) Layer II – sand (10 YR 7/3) Layer III – lithified sand (10 YR 8/1)	Low amounts of scattered modern refuse in area. Intact dune deposit. No significant culture remains.
2	110	0-10 10-100 100-110	Layer I – sand (10 YR 6/3) Layer II – sand (10 YR 7/4) Layer III – lithified sand (10 YR 8/1)	Exposed lithified sand noted upslope in general area. Intact dune deposit. No significant culture remains.
3	170	0-15 15-160 160-170	Layer I – silty sand (10 YR 5/3) Layer II – sand (10 YR 7/3) Layer III – lithified sand (10 YR 8/2)	Intact dune deposit—no material culture remains.
4	170	0-10 10-160 160-170	Layer I – sand (10 YR 6/3) Layer II – sand (10 YR 7/4) Layer III – lithified sand (10 YR 8/1)	Intact dune deposit—no material culture remains.
5	175	0-15 15-170 170-175	Layer I – sand (10 YR 6/3) Layer II – sand (10 YR 7/3) Layer III – lithified sand (10 YR 8/1)	Intact dune deposit—no material culture remains.
6	25	0-25	Layer I – lithified sand (10 YR 8/2)	Intact lithified sand.
7	80	0-80	Layer I – lithified sand (10 YR 8/1)	Intact lithified sand.
8	160	0-10 10-150 150-160	Layer I – sand (10 YR 6/3) Layer II – sand (10 YR 7/4) Layer III – lithified sand (10 YR 8/2)	Low amounts of scattered modern refuse in area. No material culture remains.
9	60	0-60	Layer I – lithified sand (10 YR 8/2)	Intact lithified sand.

Backhoe Trenches

A total of 10 backhoe trenches were placed on accessible portions of the project area. An abandoned County of Maui waterline⁸ and a concrete support encasement were noted crossing the east-central project area, parallel with Mahalani Street. No testing was done in the vicinity of this disconnected line. In addition, care was taken to stay clear of the existing 16-inch waterline that crosses the eastern portion of the parcel. Stratigraphy encountered in these 10 subsurface tests indicated that much of the parcel remains relatively undisturbed. A summary of subsurface findings is presented in Table 3. The results of the backhoe trench excavations are briefly discussed below.

⁶ test depth in centimeters

⁷ cmbs=centimeters below surface

⁸ This was abandoned in the 1980's (Personal communication with Mr. Patrick Miyahira, County of Maui).

Backhoe Trench 1

This first trench was excavated along the eastern side of the dune, downslope from the developed portion of the parcel. Vegetation in the area consisted of *koa haole* shrubs, young *kiawe* trees, and buffelgrass. Backhoe Trench (BT) 1 was oriented to 43 degrees and was c. 6 meters long by 0.8 meters wide by 2.4 meters deep. A total of 4 sand layers were encountered before the trench was halted (Figure 1).

Layer I (0-20 cmbs.) was made up of pale brown dune sand (10 YR 6/3), with modes amounts of organic materials. The upper portion of layer I appears to have been impacted by grubbing in the past. While no cultural materials were noted in this root layer, scattered, modern refuse was present in the general area.

Layer II (c. 15-20 to 85 cmbs.) consisted of white to very pale brown lithified sand (10 YR 8/1 to 8/2). This very hard stratum was sterile, and overlaid unconsolidated dune sand.

Layer III (c. 85 to 202 cmbs.) was composed of very pale brown (10 YR 8/3) sand. This loose, intact dune deposit did not yield any material culture remains. Layer IV extended to the bottom of the trench and was composed of unconsolidated dune sand. This loose, dry stratum was slightly darker (10 YR 6/3) than the overlying stratum. It was also sterile.

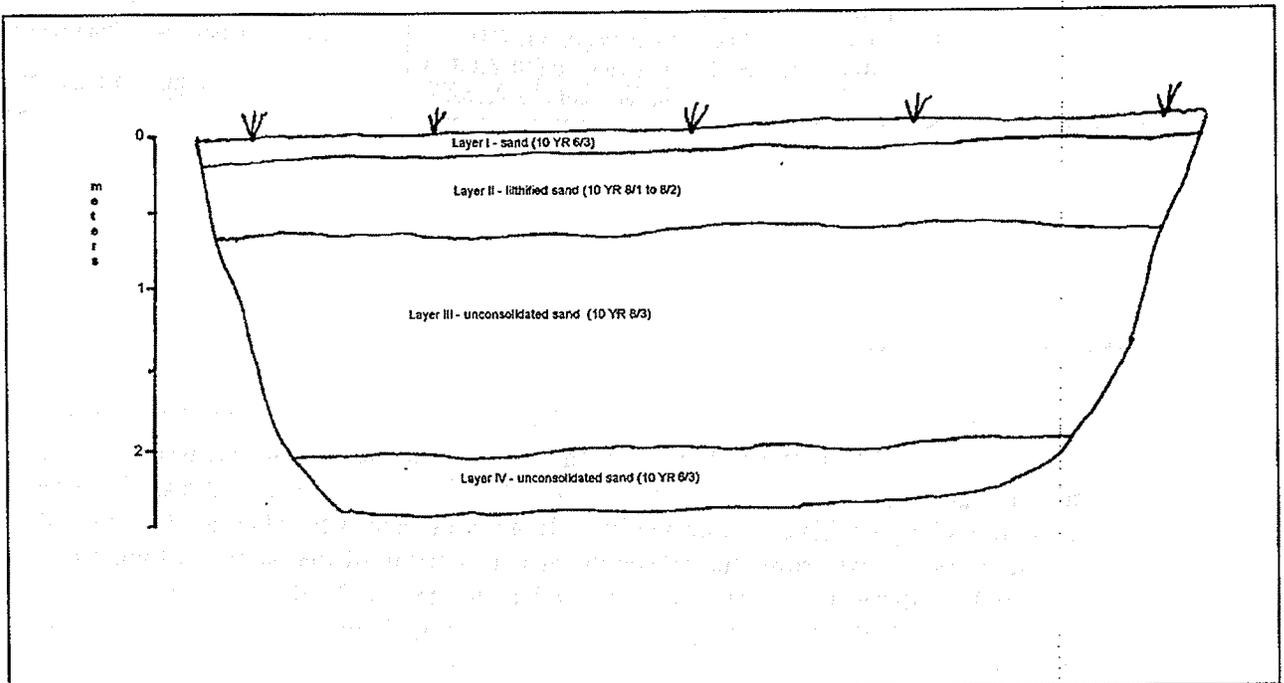


Figure 1 – Northwest face profile of Backhoe Trench 1.

Backhoe Trench 2

This second trench was also excavated along the eastern slope of the dune and was about 15 meters northeast of BT 1. Vegetation in the vicinity again consisted of immature *kiawe* trees, *koa haole* shrubs and buffelgrass. An abandoned 12-inch diameter waterline, with an associated concrete box, were located c. 18 meters to the north (Photo 2). Trench orientation was 30 degrees magnetic, and unit dimensions were c. 5.5 meters long by 0.8 meters wide, with a maximum depth of 2.0 meters.

Layer I was composed of loose pale brown sand (10 YR 6/3), with modest amounts of organic materials. This stratum was a maximum of 35 cm. thick. It was partially intact, and had likely been disturbed by grubbing associated with the near-by waterline. Layer II consisted of white to very pale brown lithified sand (10 YR 8/1 to 8/2). This stratum was over a meter thick. Layer III was made up of soft, very pale brown sand (10 YR 8/3). This stratum extended to the bottom of the trench. This excavation was not profiled because of unstable subsurface conditions. It was abandoned at a maximum depth of 2 meters below surface, after partially collapsing. No material culture remains were found in the backdirt pile, nor noted during excavation.

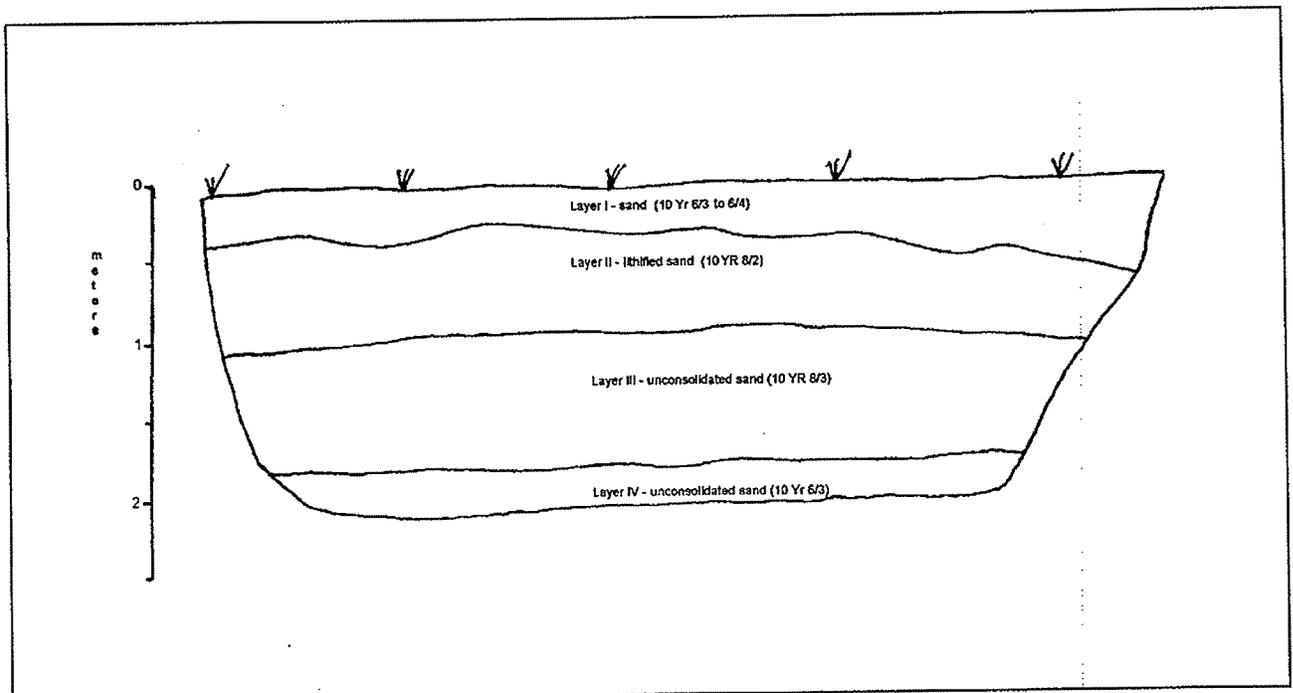


Figure 2 – Southwestern face profile of Backhoe Trench 3.

Backhoe Trench 3

This subsurface test was located near Mahalani Street in an area that appeared to have been previously impacted by the placement of electric utility poles. Trench orientation was E-W and its dimensions were c. 6 meters in length by 0.8 meters wide, by

2.1 meters in depth. Stratigraphy encountered in BT 3 was essentially the same as that present in BT 1. While all strata were similar, Layer I in BT 3 had been previously disturbed. This pale brown sand (10 YR 6/3) appeared to have been mechanically disturbed and was up to 60 cm. thick (Figure 2).

Backhoe Trenches 4 through 10

These 7 subsurface tests were located on the southern side of the subject parcel along the lower flank of the dune. Vegetation consisted of mature *kiawe* trees, scattered *koa haole*, and buffelgrass. Scattered *ilima* shrubs were noted as well. Two basic types of dune stratigraphy were present in these units. The trenches ranged in length from c. 4 to 6 meters, and were c. 1.5 to 2.8 meters deep. No significant material culture remains were noted in any of the trenches.

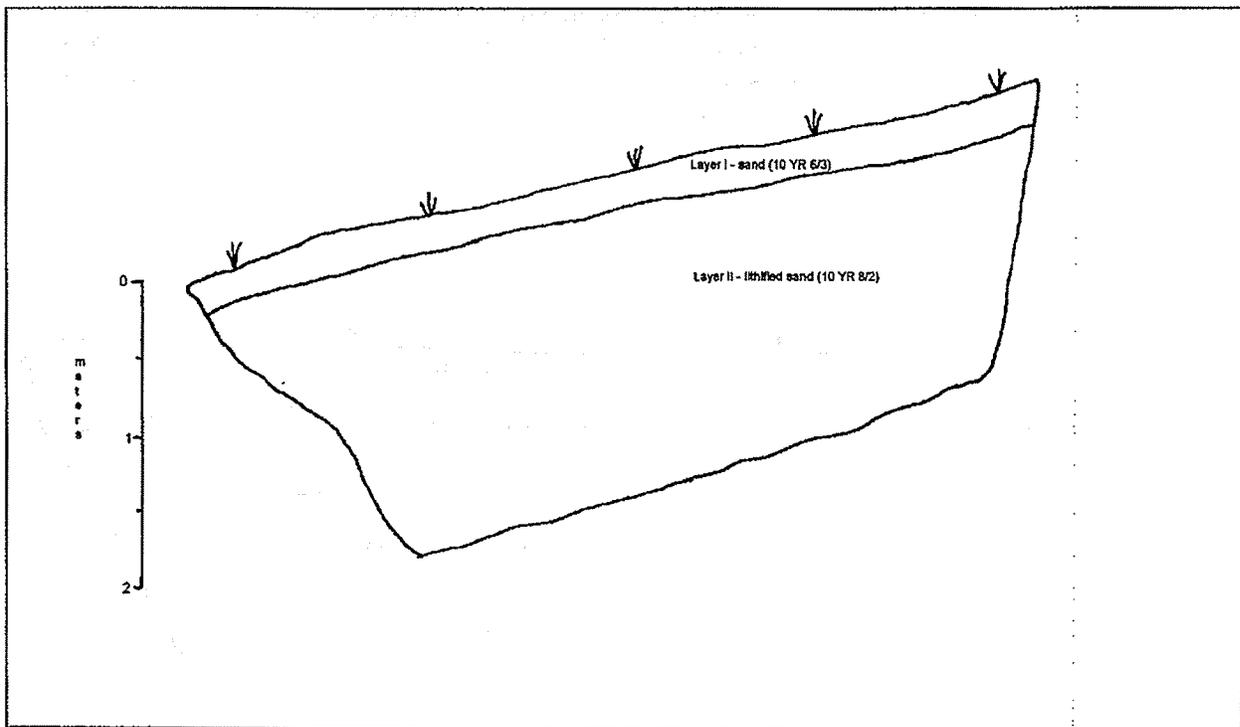


Figure 3 -- Southwestern face profile of Backhoe Trench 4.

The first type of dune stratigraphy is essentially similar to that found in BTs 1-3. Backhoe Trenches 4, 6, and 7 contained some or all of these sand layers. Both BT 4 and BT 7 had the c. 30 cm. thick pale brown Layer I sand, which was underlain by thick white, lithified sand (Figure 3). Layer II extended to the bottom of both of these trenches, and excavation was halted because of very difficult subsurface conditions. Backhoe Trench 6 had a c. 70 cm. thick lithified sand deposit, underlain by 2 unconsolidated dune sand layers (Figure 4).

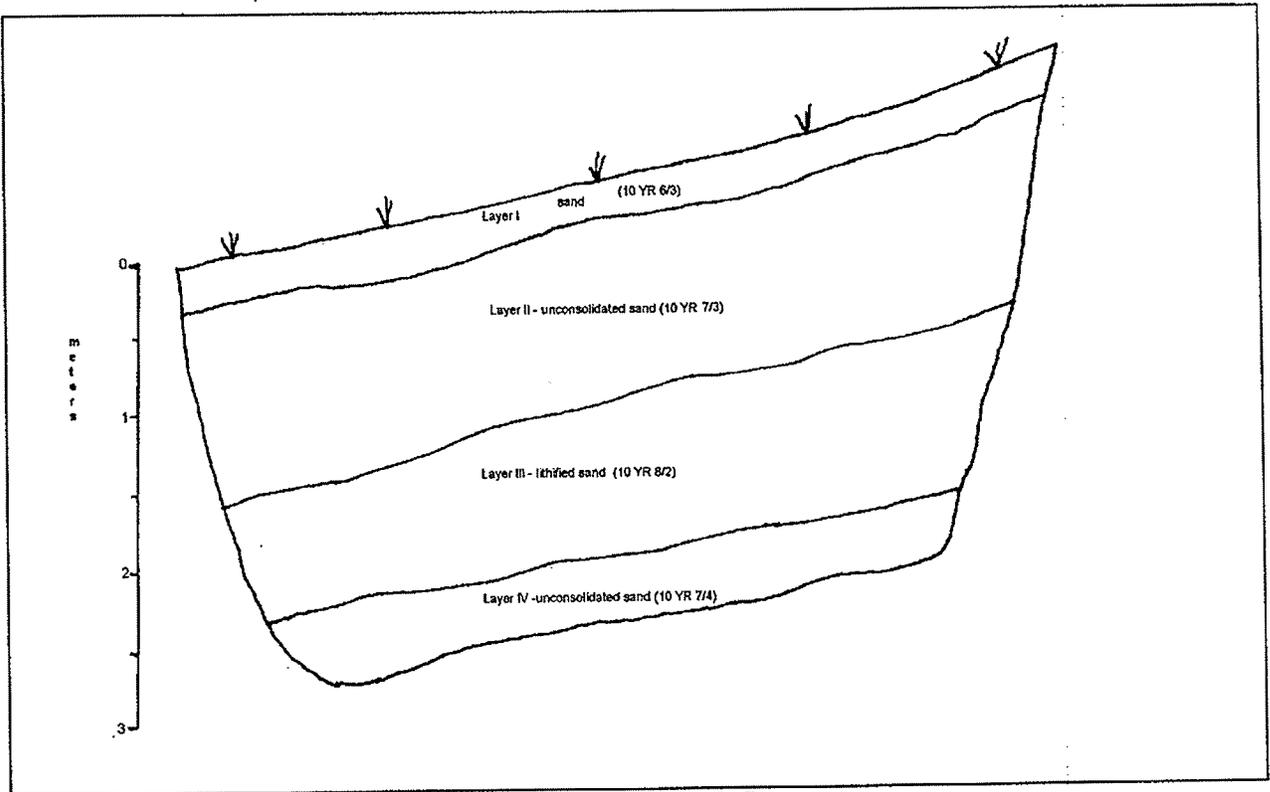


Figure 4 – Southwest face profile of Backhoe Trench 5.

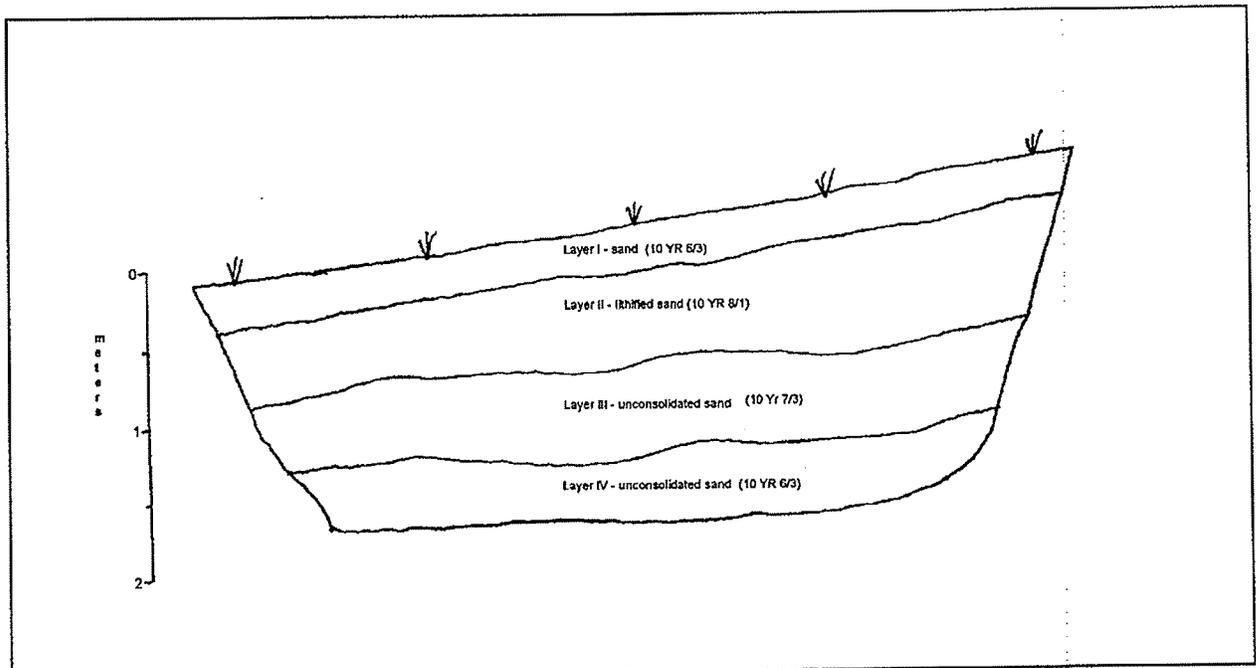


Figure 5 – Southwestern face profile of Backhoe Trench 6.

Backhoe Trench 8 contained 4 sand layers, while BTs 9 and 10 had 3 layers each (Figures 6 and 7). All 3 trenches were terminated in very hard lithified sand deposits. The unconsolidated dune sand strata that overlaid the lithified sand was about 1 meter thick in each of these trenches.

The second group of trenches (BTs 5, 8, 9 and 10) yielded similar strata as the other project trenches. However, the lithified sand layer was capped by 2 or 3 layers of unconsolidated sand. Backhoe Trench 5 was a maximum of 3 meters deep and contained 4 strata (Figure 5). This subsurface test yielded unconsolidated dune sand deposits (Layers I and II) that were up to 1.5 meters thick, a layer of very pale brown lithified dune sand up to 1.1 meters thick (Layer III), and unconsolidated pale brown (10 YR 7/4) dune sand from c. 2.6 mbs to the bottom of the excavation.

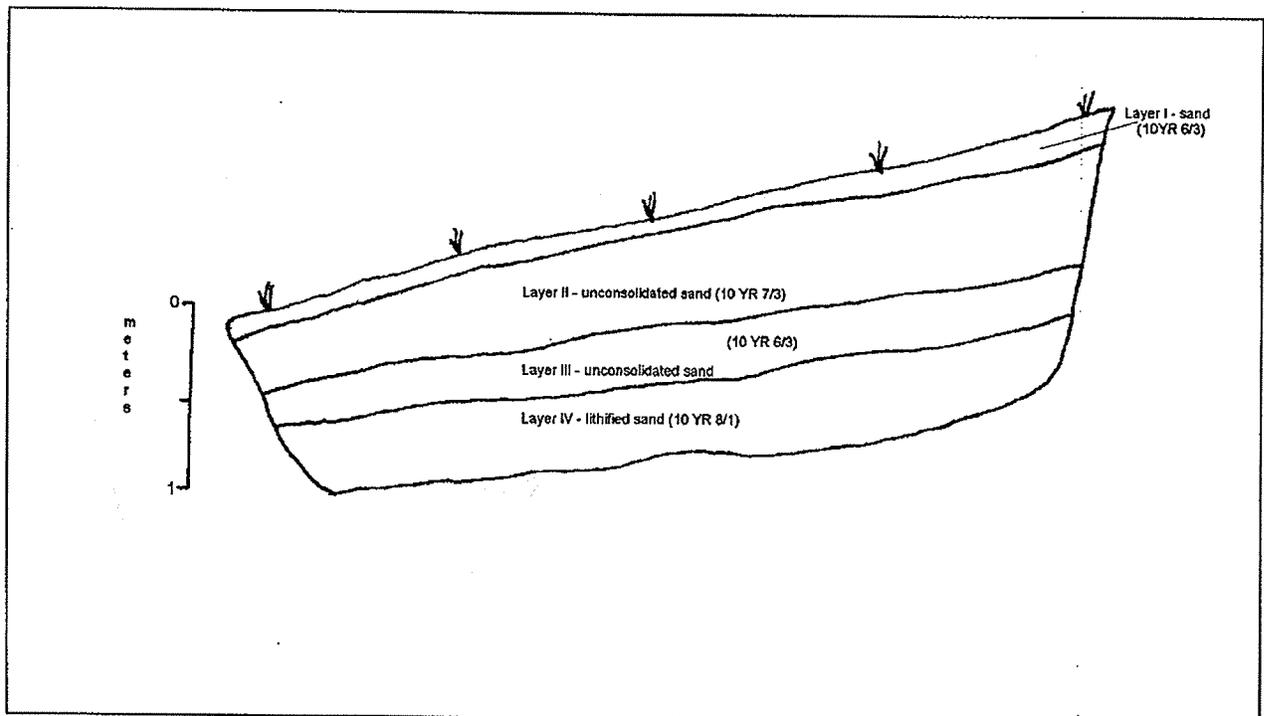


Figure 6 – Southwest face profile of Backhoe Trench 8.

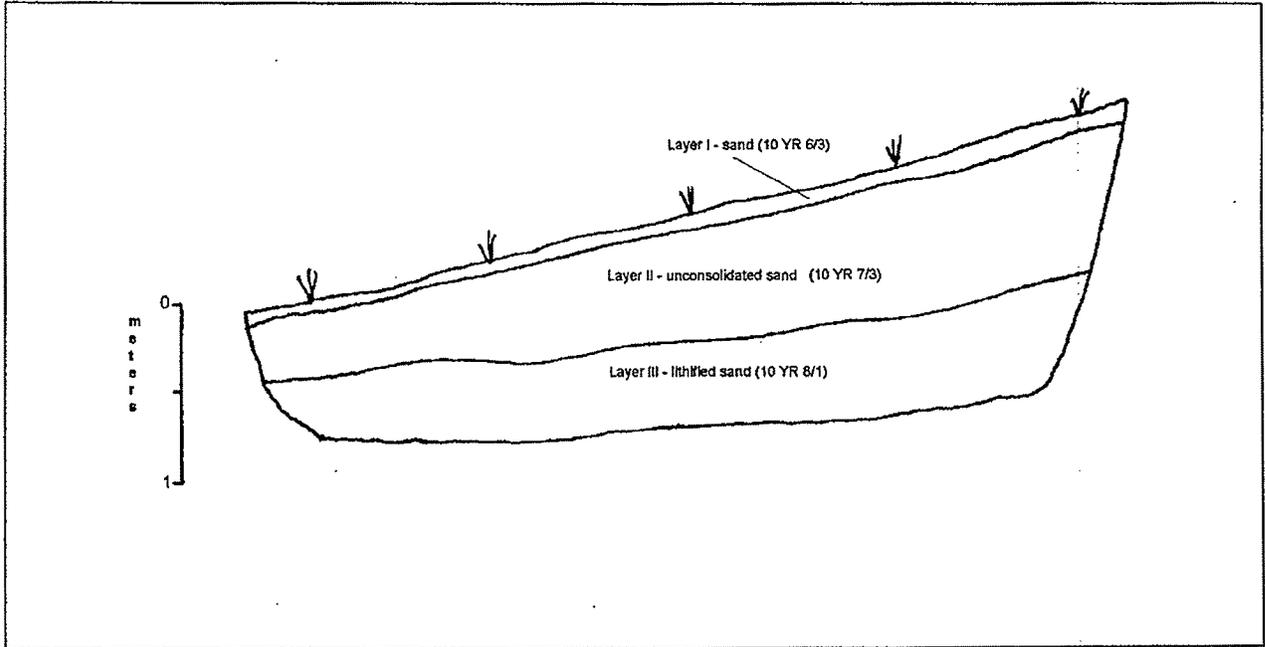


Figure 7 – Southwest face profile of Backhoe Trench 9.

TABLE 3

Summary of Backhoe Trench Results

BT #	Dimensions	Stratigraphy	cmbs	Remarks
1	6.5 m. long by 2.4 m. deep	Layer I – sand (10 YR 6/3) L II – lithified sand (10YR8/1-8/2) L III – unconsolidated sand (10 YR 8/3) L IV – unconsol. sand (10 YR 6/3)	0-20 20-85 85-210 210-240	Modern refuse on surface in general vicinity. No material culture remains found. Layer I partially intact.
2	6.5 m. long by 2.0 m. deep	Layer I – sand (10 YR 6/3) Layer II – lithified sand (10 YR 8/2) L III – unconsol. sand (10 YR 8/3)	0-30 30-140 140-200	Modern refuse on surface in vicinity. No material culture remains. Layer I partially intact.
3	6.0 m. long by 2.1 m. deep	Layer I – sand (10 YR 6/3 to 6/4) Layer II – lithified sand (10 YR 8/2) L III – unconsol. sand (10 YR 8/3) L IV – unconsol. sand (10 YR 6/3)	0-60 60-110 110-185 185-210	Layer I is disturbed, while Layers II through IV are intact. All strata sterile.
4	5.5 m. long by 2.2 m. deep	Layer I – sand (10 YR 6/3) Layer II – lithified sand (10 YR 8/2)	0-35 35-220	Waterworn pebbles and modern debris noted on surface in vicinity. Both strata apparently sterile.
5	6.0 m. long by 2.9 m. deep	Layer I – sand (10 YR 6/3) Layer II – unconsol. sand (10YR7/3) Layer III – lithified sand (10YR8/2) L IV – unconsol. sand (10 YR 6/3)	0-30 30-150 150-260 260-290	Possible dozer push noted just off property. All strata apparently sterile.
6	5.5 m/ long by 2.2 m. deep	Layer I – sand (10 YR 6/3) Layer II – lithified sand (10 YR 8.1) L III – unconsol. sand (10 YR 7/3) L IV – unconsol. sand (10 YR 6/3)	0-40 40-110 110-170 170-220	No material culture remains.
7	4.0 m. long by 2.0 m. deep	Layer I – sand (10 YR 6/3) Layer II – lithified sand (10 YR 8/1 to 8/2)	0-100 100-200	Layer I largely eroded away. Both strata sterile.
8	5.0 m. long by 1.5 m. deep	Layer I – sand (10 YR 6/3) Layer II – unconsol. sand (10YR7/3) L III – unconsol. Sand (10 YR 6/3) Layer IV – lithified sand (10 YR 8/1)	0-10 10-80 80-110 110-150	No material culture remains present.
9	5.5 m. long by 1.6 m. deep	Layer I – sand (10 YR 6/3) Layer II – unconsol. sand (10YR7/3) Layer III – lithified sand (10YR8/2)	0-20 20-100 100-160	No material culture remains present.
10	5.0 m. long by 1.7 m. deep	Layer I – sand (10 YR 6/3) Layer II – unconsol. sand (10YR7/3) Layer III-lithified sand (10YR8/2)	0-30 30-100 100-170	No material culture remains present.

Summary and Conclusions

Approximately one quarter of the project area has been impacted by previous earthmoving activities associated with the construction of the existing Hospice Maui facility—replacement of utility poles, and the installation of 2 County of Maui waterlines. However, it is important to note that this large sand dune appears to be largely intact. A total of 9 sand auger cores and 10 backhoe trenches were utilized to explore subsurface conditions on the undeveloped portions of the subject parcel. While BTs 1, 2, and 3 contained upper layers that had been impacted by clearing activities associated with the installation of the 2 waterlines, the lower strata contained in these trenches were intact. In addition, all of the auger core tests and the remaining backhoe trenches (BTs 4 through 10) revealed intact sand dune deposits. No significant material culture remains were encountered in any of our subsurface tests.

Mitigation Recommendations

While no evidence of a cultural deposit or human remains were encountered during the inventory survey of the parcel, much of the dune was found to be intact. This large dune lies between 140 and 220 feet AMSL. It is part of the Pu`u One sand dune formation, an area well known for containing precontact burials.

The development plans for this parcel call for the construction of one or more large parking lots to accommodate anticipated additional parking needs that will occur when Mahalani Street is widened.

As previously noted, much of the project area is relatively undisturbed and contains intact dune sand deposits. Large amounts of sand will need to be excavated in order to construct the planned parking lots. The possibility remains that human burials may be present in this dune. Consequently, archaeological monitoring of all earth moving activities is the recommended mitigation for any future work carried out on this portion of the Pu`u One sand dunes.

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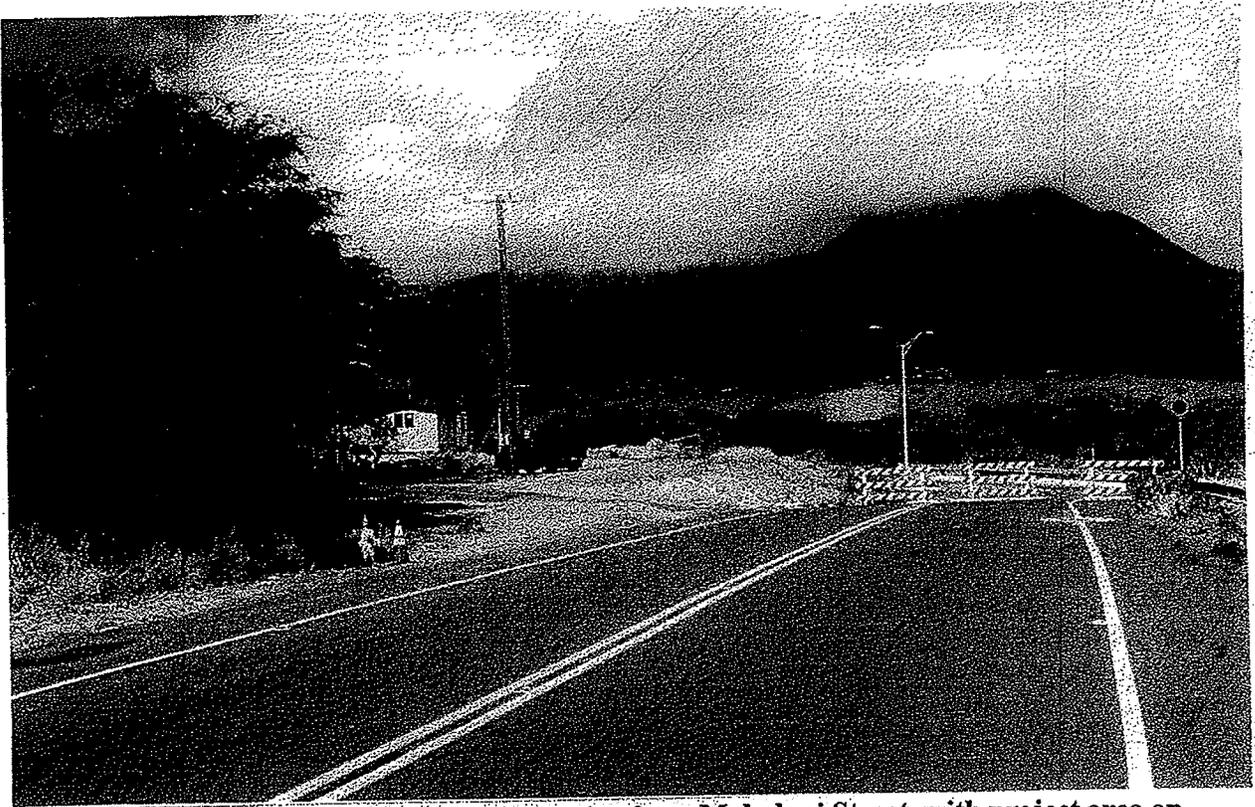


Photo 1 – View of West Maui mountains from Mahalani Street, with project area on the left.



Photo 2 – Concrete box associated with abandoned 12-inch waterline.

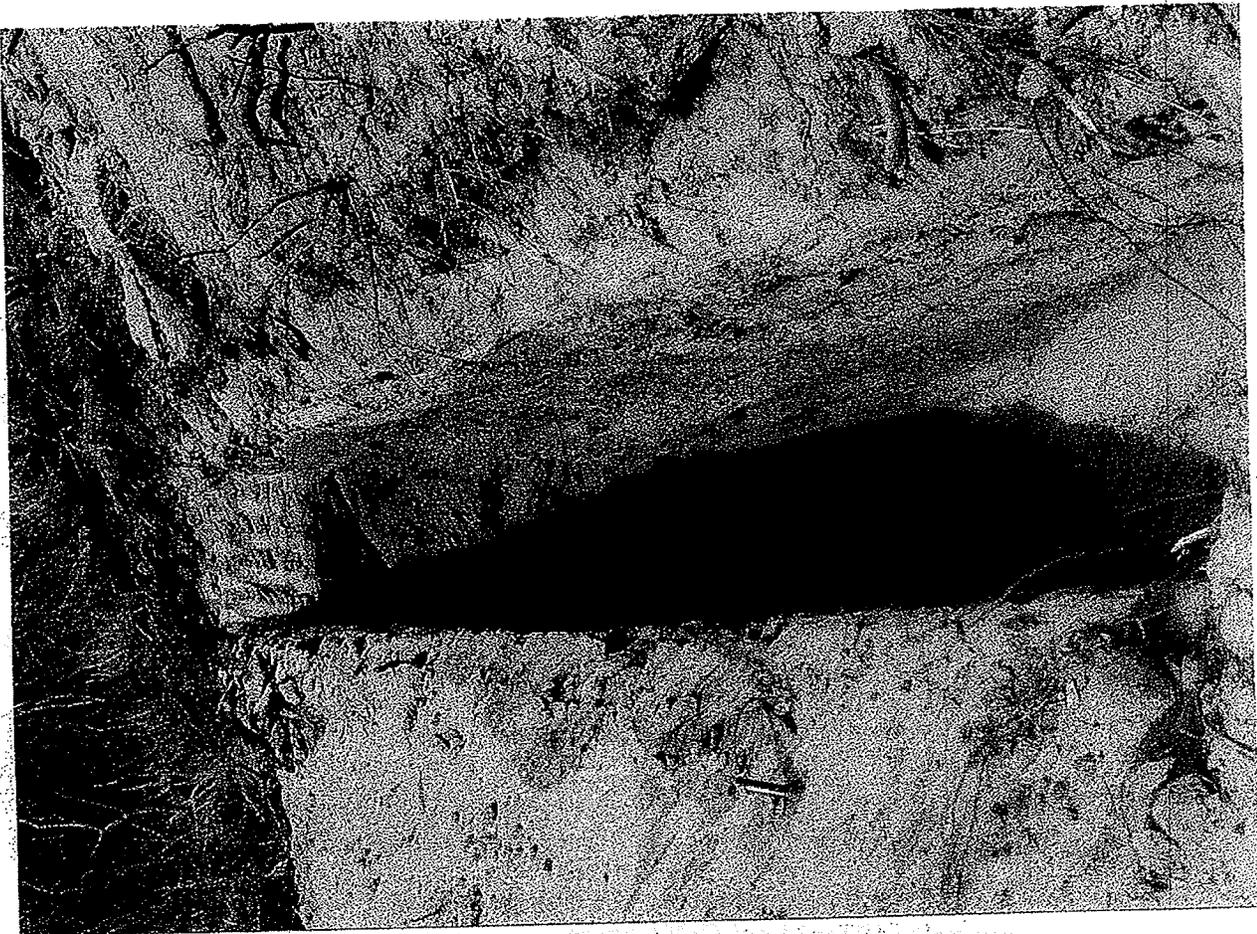


Photo 4 – Backhoe Trench # 1.



Photo 3 – View of study parcel, looking to the southeast.

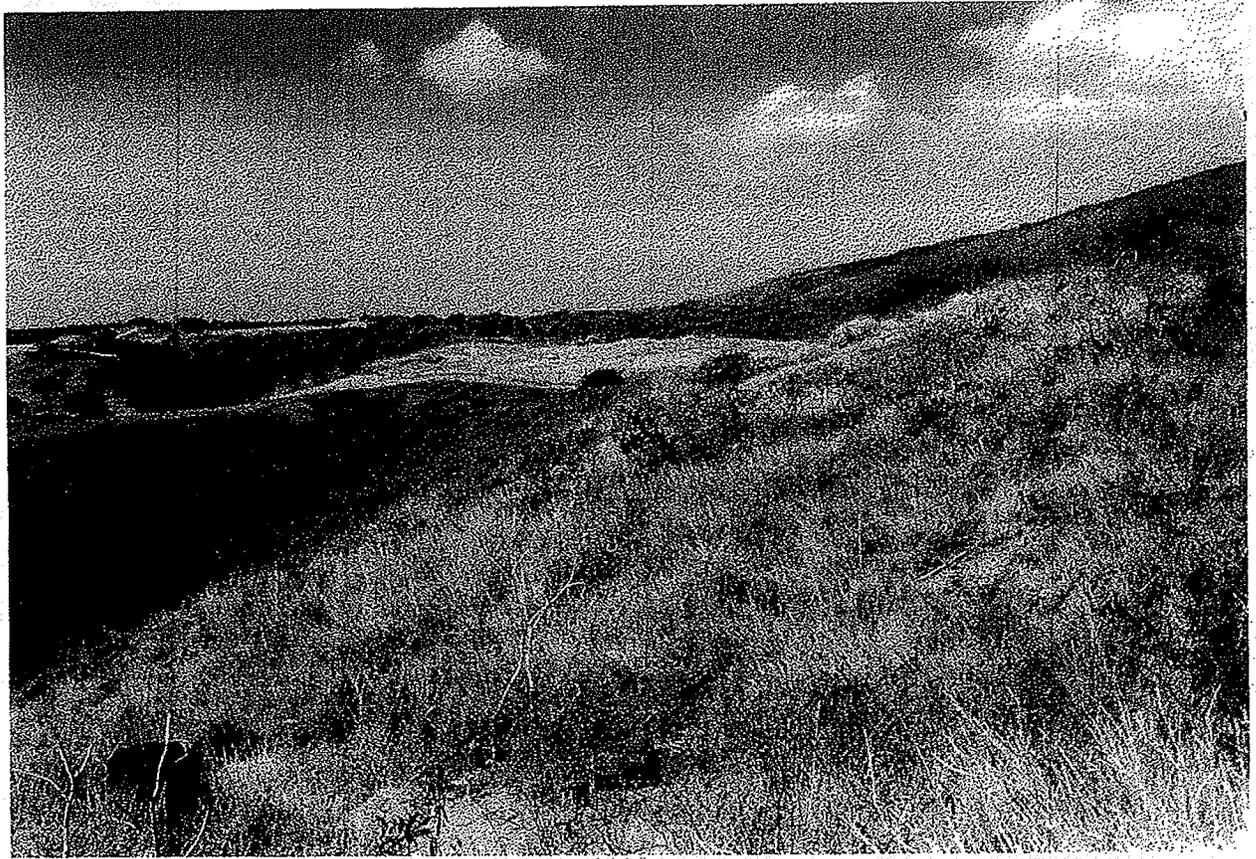


Photo 5 – View of study parcel, looking to the south. Note: green areas to the left are part of Maui Lani Golf Course.

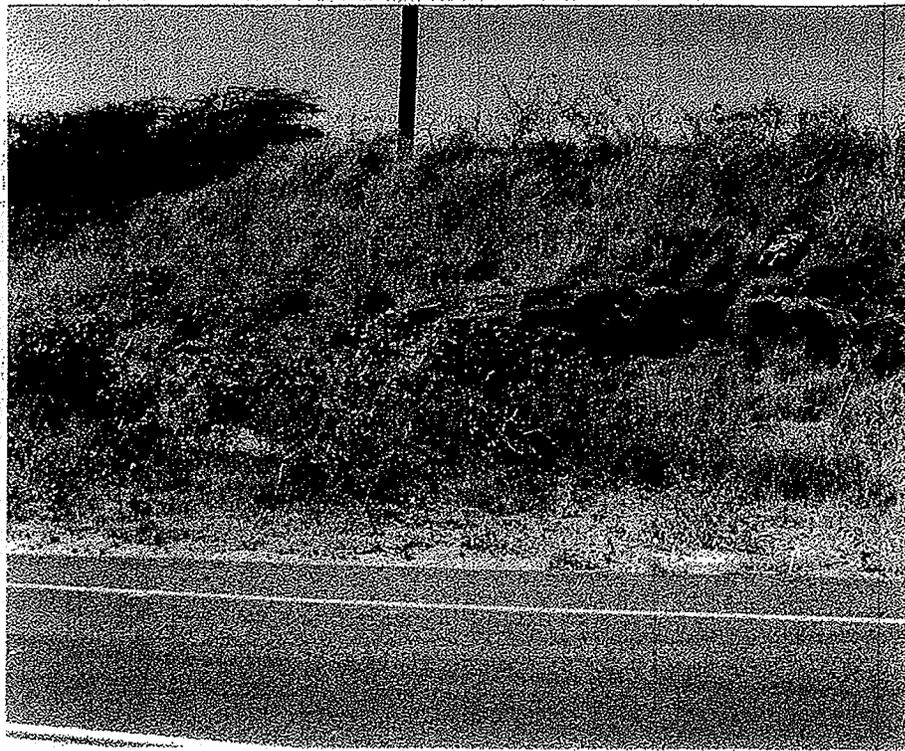


Photo 6 – Lithified sand formation exposed along Mahalani Street.

APPENDIX C.

Summary of Interview with Kimokeo Kapahulehua

HOSPICE MAUI CARE FACILITY

Cultural Interview

Interview with: Kimokeo Kapahulehua

Date of Interview: September 3, 2013

Interviewed by: Bryan Esmeralda
Munekiyo & Hiraga, Inc.

The interview with Kimokeo Kapahulehua took place on September 3, 2013 at the office of Munekiyo & Hiraga, Inc. in Wailuku, Maui.

Kimokeo Kapahulehua is a tremendous resource of Hawaiian cultural knowledge on Maui. Born in 1947, Kimokeo is three-quarters Hawaiian by blood, a rarity in today's times. His knowledge and tireless efforts in the preservation of the Hawaiian culture has led him to serve within a number of community organizations that all aim to perpetuate and educate people in the Hawaiian culture. Today, Kimokeo is one (1) of three (3) partners that operate the firm Hana Pono, LLC, which was established in 2005 and specializes in cultural assessments, surveys, and monitoring.

Originally from Kauai, Kimokeo has had a long history on Maui which contributed to his extensive knowledge and work relating to the Hawaiian culture. When asked about the location of the proposed project, the Central Maui sand hills area, Kimokeo stated that to his knowledge, there are no cultural practices that occur today, nor did the land serve as the location for any historical cultural practices. In addition, there are no indigenous plants in the area that need protection.

According to Kimokeo, Hawaiians did not use the sand in the subject area for anything other than burials for Hawaiians residing in Central Maui. Kimokeo stated that the sand could not support human life or plant life. Kimokeo mentioned that there are claims to the Battle of Kakanilua occurring within the Central Maui area, but these claims have not been confirmed by historical evidence.

When asked what his personal thoughts on the subject area were in regards to the Hawaiian culture, Kimokeo explained that it's not a rich area in terms of natural resources. Kimokeo went on to explain that water is *waiwai* or wealth to Hawaiians, and the sand hills area had no wealth, as it had no water.

In light of the fact that the subject area contains no cultural practices today, nor does it hold any ties to historical cultural practices, Kimokeo offered no cultural recommendations.

APPENDIX D.

Summary of Interview with Leslie “Les” Kuloloio

HOSPICE MAUI CARE FACILITY

Cultural Interview

Interview with: Leslie “Les” Kuloloio

Interview date: September 12, 2013

Interviewed by: Bryan Esmeralda
Munekiyo & Hiraga, Inc.

The interview with Leslie Kuloloio took place at the office of Munekiyo & Hiraga, Inc. on September 12, 2013. Leslie (Uncle Les) Kuloloio’s passion for perpetuating the Hawaiian culture and history becomes evident during the first five (5) minutes of conversation. For years, Uncle Les has been involved in numerous community organizations and has held a number of jobs, which he speaks of with immeasurable amounts of fondness and gratitude, most of which have been geared toward educating people about the Hawaiian culture.

Born in 1940 in Paia, Uncle Les has lived on Maui all of his life. The youngest of four (4) children raised in the plantation camps of Paia and Kuau by his parents, Uncle Les now resides in Kahului where his family moved to during the 1950s, when “Dream City” was just becoming a reality.

Since graduating high school in 1959, Uncle Les has lived a full and accomplished life. “I’m a person who gets bored quick,” Uncle Les explained when asked about his work experience. This assertion quickly became an understatement as he began talking about his many jobs which range from enlisting in the Army after high school, to construction work and core testing with Intercontinental Drillers. It wasn’t until 1980 that Uncle Les’ extensive work with the Hawaiian culture began.

1980 was a significant year in Uncle Les’ career as this was the year he began teaching Hawaiian language with his mother, and also the year that he became part of the first team sent to Kahoolawe to conduct archaeological surveys. This inaugural Kahoolawe expedition was the first time that Uncle Les worked with archaeologists, and it was then that he knew he wanted to learn more. From this opportunity, Uncle Les began subsequent decades of work with the Protect Kahoolawe Ohana, and other organizations that work to preserve the island as an educational resource, as well as years of archaeological work and historical research to learn Hawaii’s history.

When asked about the site of the proposed project, Uncle Les replied, “in knowing an area, you gotta know your island.” Fortunately, Uncle Les possesses this knowledge. Since 1993, Uncle Les has worked with the Maui Lani development as a cultural consultant dealing mainly with assuring appropriate protocol are followed by archaeologists with regards to burials and historic properties discovered in the area.

According to Uncle Les, the Hospice Maui lot is situated on a very unique area that has been present in Central Maui for thousands of years. Sand, blown from the northern coast of the island over many generations, has come to form the area known by Maui residents as "sandhills". Prior to habitation of the island and the formation of the dunes, numerous gulches carrying fresh water from the mountains traversed Maui's central plain. Today, no topographic features aside from the sand are evidenced in the area.

When asked about the cultural significance of the area, Uncle Les replied that through his many years of work, particularly through his 20 years with Maui Lani, he has never encountered any historical habitation, ceremonial, or culturally significant properties in the area. There have been many burials and artifacts discovered, but these have all been properly inventoried and reported to the State Historic Preservation Division. Any work done today in the area of the proposed project, Uncle Les added, would likely not result in the discovery of any additional burials or artifacts as the sandhills area has been disturbed for years for the construction of roads and other developments.

Uncle Les, a person who loves working with people, shared his support for the proposed project. As Maui grows, he explained, the greater the need will be for health-related institutions. Uncle Les concluded by stating that the area can be considered to be an area that will not be subject to any cultural impacts as a result of the proposed project.

APPENDIX E.

Traffic Assessment Report

Phillip Rowell and Associates

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November 26, 2013

Dr. Greg LaGoy
c/o Munekiyo & Hiraga
305 High Street, Suite 104
Wailuku, Maui, HI 96793

Attn: Erin Mukai

Re: **Traffic Impact Assessment Assessment
Hospice Maui Care Facility
Wailuku, Maui, Hawaii**

Dear Dr. Lagoy:

Phillip Rowell and Associates have completed the following Traffic Impact Assessment Report (TIAR) for a proposed 4,500 square foot facility at the Hospice Maui Care Facility in Wailuku, Maui. The report is presented in the following format:

- A. Project Location and Description
- C. Study Approach
- D. Description of Existing Streets and Intersection Controls
- E. Existing Peak Hour Traffic Volumes
- F. Public Transportation
- G. Level-of-Service Concept
- H. Existing Levels-of-Service
- I. Existing Deficiencies
- J. Background Traffic Projections
- K. Project Trip Generation
- L. Background Plus Project Projections
- M. Traffic Impact Assessment
- N. Mitigation
- O. Summary and Recommendations

A. Project Location and Description

The proposed action is the construction of one-story, 4,500 square foot facility. The new facility will include five bedrooms, two and a half bathrooms, a kitchen and family rooms.

The project is located in the southeast quadrant of the intersection of Mahalani Street at Maui Lani Parkway. Access and egress will be via the existing driveway along the south side of Mahalani Street approximated 100 feet east of Maui Lani parkway (measured from the centerline of driveway to stop line for westbound traffic at Maui Lani Parkway).

Attachment A is a aerial photograph of the study area and study intersections.

B. Purpose of Study

The purpose of this traffic assessment is to confirm that there are no traffic operational problems in the immediate vicinity of the project.

C. Study Approach

1. A preliminary trip generation analysis was performed to determine the scope of the traffic analysis required. This analysis was performed using trip generation data provided in *Trip Generation*¹, published by the Institute of Transportation Engineers. This is the standard reference for trip generation studies. The trip generation analysis estimated that the proposed action will generate 3 trips during the morning peak hour and 4 trips during the afternoon peak hour. This implies that the scope of work should be limited to an "access location and design review." Attachment B indicates the requirements of this type of traffic assessment. Accordingly, the intersections of Mahalani Street at Maui Lani Parkway and Mahalani Street at the Hospice Driveway.
2. A field reconnaissance was performed to confirm existing roadway cross-sections, intersection lane configurations, traffic control devices, and surrounding land uses.
3. Manual traffic counts were performed at the study intersections. These counts were performed for the morning and afternoon peak hours. Existing intersection levels-of-service were estimated using the methodology described in the *Highway Capacity Manual*. The results of this level-of-service analysis confirmed that there are no traffic related operational problems at the study intersections.
4. Peak hour traffic that the proposed project will generate was estimated using trip generation analysis procedures recommended by the Institute of Transportation Engineers. Project generated traffic was distributed and assigned to the adjacent roadway network.
5. A level-of-service analysis for future traffic conditions with traffic generated by the study project was performed to confirm that there will be no operational deficiencies as a result of project generated traffic.

D. Description of Existing Streets and Intersection Controls

Attachment A is an aerial photograph of Mahalani Street between Maui Lani Parkway and the Hospice Driveway.

Mahalani Street is a County roadway connecting Maui Lani Parkway and Kaahumanu Avenue. In the vicinity of the project, Mahalani Street is a two-lane, two-way roadway. There are shoulders along both sides. Parking is allowed along the north shoulder. There are no sidewalks and no curbs and gutters.

Maui Lani Parkway is also a County roadway with a north-south orientation. Generally, the roadway is a four-lane, divided roadway with a grassed median and separate left turn lanes. There are bike lanes, sidewalks, curbs and gutters along both sides.

The intersection of Mahalani Street at Maui Lani Parkway is a STOP sign controlled T-intersection. The northbound and southbound approaches are Maui Lani Parkway. The westbound approach is Mahalani Street and is the STOP sign controlled approach. The northbound approach has one

¹ Institute of Transportation Engineers, *Trip Generation, 8th Edition*, 2003, Washington, D.C.

through lane and one right turn only lane. The southbound approach has one left turn lane and two through lanes. The westbound approach is one optional left or right turn lane.

The intersection of Mahalani Street at the Hospice Driveway is also a STOP sign controlled T-intersection. The eastbound and westbound approaches are Mahalani Street. The northbound approach is the Hospice Driveway and is the controlled approach. All approaches are one lane each.

E. Existing Peak Hour Traffic Volumes

Current weekday peak hour traffic volumes at the study intersections were obtained from manual traffic counts. Both intersections were counted from 6:30 AM to 8:30 AM and from 3:00 PM to 5:00 PM on Thursday, November 21, 2013. The counts are summarized on Attachment C. Heavy vehicles and pedestrians were counted concurrently with the vehicular counts. The results of the count of heavy vehicles is also shown. Only four (4) pedestrians were during the morning peak hour and two (2) during the afternoon peak hour.

F. Public Transportation

A review of Maui Bus routes determined that at the time this report is being written, the Maui Bus operates Routes 1 and 2 (the Wailuku Loop) along Maui Lani Parkway and Mahalani Street. There are no bus stops in the vicinity of either study intersection.

G. Level-of-Service Concept

"Level-of-Service" is a term which denotes any of an infinite number of combinations of traffic operating conditions that may occur on a given lane or roadway when it is subjected to various traffic volumes. Level-of-service (LOS) is a qualitative measure of the effect of a number of factors which include space, speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

There are six levels-of-service, A through F, which relate to the driving conditions from best to worst, respectively. The characteristics of traffic operations for each level-of-service are summarized in Table 1. In general, LOS A represents free-flow conditions with no congestion. LOS F, on the other hand, represents severe congestion with stop-and-go conditions. *Level-of-service D is typically considered acceptable for peak hour conditions in urban areas.*²

Corresponding to each level-of-service shown in the table is a volume/capacity ratio. This is the ratio of either existing or projected traffic volumes to the capacity of the intersection. Capacity is defined as the maximum number of vehicles that can be accommodated by the roadway during a specified period of time. The capacity of a particular roadway is dependent upon its physical characteristics such as the number of lanes, the operational characteristics of the roadway (one-way, two-way, turn prohibitions, bus stops, etc.), the type of traffic using the roadway (trucks, buses, etc.) and turning movements.

² Institute of Transportation Engineers, *Transportation Impact Analyses for Site Development: A Recommended Practice*, 2006, page 60

Table 1 Level-of-Service Definitions for Signalized Intersections⁽¹⁾

Level of Service	Interpretation	Volume-to-Capacity Ratio ⁽²⁾	Stopped Delay (Seconds)
A, B	Uncongested operations; all vehicles clear in a single cycle.	0.000-0.700	<20.0
C	Light congestion; occasional backups on critical approaches	0.701-0.800	20.1-35.0
D	Congestion on critical approaches but intersection functional. Vehicles must wait through more than one cycle during short periods. No long standing lines formed.	0.801-0.900	35.1-55.0
E	Severe congestion with some standing lines on critical approaches. Blockage of intersection may occur if signal does not provide protected turning movements.	0.901-1.000	55.1-80.0
F	Total breakdown with stop-and-go operation	>1.001	>80.0

Notes:
 (1) Source: *Highway Capacity Manual*, 2000.
 (2) This is the ratio of the calculated critical volume to Level-of-Service E Capacity.

Like signalized intersections, the operating conditions of intersections controlled by stop signs can be classified by a level-of-service from A to F. However, the method for determining level-of-service for unsignalized intersections is based on the use of gaps in traffic on the major street by vehicles crossing or turning through that stream. The capacity of the controlled legs of an intersection is based on two factors: 1) the distribution of gaps in the major street traffic stream, and 2) driver judgement in selecting gaps through which to execute a desired maneuver. The criteria for level-of-service at an unsignalized intersection is therefore based on delay of each turning movement. Table 2 summarizes the definitions for level-of-service and the corresponding delay.

Table 2 Level-of-Service Definitions for Unsignalized Intersections⁽¹⁾

Level-of-Service	Expected Delay to Minor Street Traffic	Delay (Seconds)
A	Little or no delay	<10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	See note (2) below	>50.1

Notes:
 (1) Source: *Highway Capacity Manual*, 2000.
 (2) When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement of the intersection.

H. Existing Levels-of-Service

The results of the level-of-service analysis are summarized in Table 3. Shown in the table are the average vehicle delays and levels-of-service of the controlled movements and the weighted delay and corresponding level-of-service of the overall intersection. The *Highway Capacity Manual* does not calculate delays for uncontrolled lane groups. Also shown in the table are the estimated queue lengths. Synchro reports the queue lengths in feet.

Table 3 Existing (2013) Levels-of-Service

Approach and Lane Group	AM Peak Hour			PM Peak Hour		
	7:00 AM to 8:00 AM			4:00 PM to 5:00 PM		
	Delay ⁽¹⁾	LOS ⁽²⁾	95 th Queue ⁽³⁾	Delay	LOS	95 th Queue
Mahalani Street at Maui Lani Parkway	2.9	A	NC	4.6	A	NC
Westbound Left & Right	15.4	C	34	13.5	B	44
Southbound Left	9.6	A	5	8.2	A	3
Mahalani Parkway at Hospice Driveway	0.0	A	NC	0.2	A	NC
Westbound Left & Right	0.1	A	0	0.0	A	0
Northbound Left & Right	11.0	B	0	11.1	B	1

NOTES:
 (1) Delay is in seconds per vehicle.
 (2) LOS denotes Level-of-Service.
 (3) 95th percentile queue in feet as reported by Synchro.
 (4) NC = Not calculated
 (5) See Attachment D for Level-of-Service Worksheets.

The level-of-service analysis concluded that all controlled lane groups of the study intersections currently operate at Level-of-Service A or B. This implies good operating conditions, minimal delays and no operational deficiencies.

I. Existing Deficiencies

For signalized intersections, Level-of-Service D is the minimum acceptable Level-of-Service³ and that this standard is applicable to the overall intersection and major through movements. Minor movements, such as left turns, and minor side street approaches may operate at Level-of-Service E or F for short periods of time during the peak hours so that the overall intersection and major movements along the major highway will operate at Level-of-Service D, or better. All volume-to-capacity ratios must be 1.00 or less⁴.

A standard has not be established for unsignalized intersections. Therefore, we have used a standard that Level-of-Service D is an acceptable level-of-service for major controlled lane groups, such as left turns from a major street to a minor street. Side street approaches may operate at Level-of-Service E or F for short periods of time. This is determined from the delays of the individual lane groups. If the delay of any of the side street approaches appears to be so long that it will affect the overall level-of-service of the intersection, then mitigation measures should be accessed.

Using the above standards, no existing deficiencies were identified at the study intersections.

J. Background Traffic Projections

Background traffic projections are defined as future background traffic conditions without proposed project generated traffic. Future traffic growth consists of ambient background growth and trips

³ Institute of Transportation Engineers, *Transportation Impact Analyses for Site Development: A Recommended Practice*, 2006, page 60.

⁴ Transportation Research Board, *Highway Capacity Manual*, Washington, D.C., 2000, p. 16-35.

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generated by other known development projects in or adjacent to the study area. Ambient background growth is a result of regional growth and cannot be attributed to a specific project. This background growth rate also compensates for any small development projects that are not identified as another known project.

Background Growth

The *Maui Long Range Transportation Plan*⁵ concluded that traffic in Maui would increase an average of 1.6% per year from 1990 to 2020. This growth rate was used to estimate the background growth between 2013 and 2016. The growth factor was calculated using the following formula:

$$F = (1 + i)^n$$

where F = Growth Factor

i = Average annual growth rate, or 0.005

n = Growth period in years

The estimated background growth was applied to all movements at the intersection of Mahalani Street at Maui Lani Parkway and the eastbound and westbound through traffic along Mahalani Street at the Hospice Driveway. See Attachment E.

Other Known Projects

Traffic that will be generated by the new Safeway shopping center at the intersection of Kaahumanu Avenue and Maui Lani Parkway was added to the traffic projections of the study intersections. The traffic assignments from the TIAR for the shopping center were obtained and used. See Attachment E.

Traffic projections for 2016 were estimated by superimposing the background growth and trips generated by other known project onto the 2013 traffic counts. The resulting 2016 traffic projections are shown as Attachment E.

K. Project Trip Generation

Future traffic volumes that the proposed action will be generated were estimated using the methodology described in the *Trip Generation Handbook*⁶ and data provided in *Trip Generation*⁷. This method uses trip generation equations or rates to estimate the number of trips that the project, or action, will generate during the peak hours of the project and/or along the adjacent street.

The proposed action is the construction of a 4,500 square foot hospice facility. *Trip Generation* does not contain trip generation data for hospice facilities. The most comparable use for which *Trip*

⁵ Kaku Associates, *Maui Long Range Land Transportation Plan*, October 1996

⁶ Institute of Transportation Engineers, *Trip Generation Handbook*, Washington, D.C., 2004

⁷ Institute of Transportation Engineers, *Trip Generation, 8th Edition*, Washington, D.C., 2008

Generation contains data is a nursing home. Therefore, trip generation rates for a nursing home was used for the trip generation analysis.

The trip generation rates are based on the gross square footage of the building. The trip generation rates used for the trip generation analysis and the results are summarized in Table 4. The conclusion of the trip generation analysis is that the project will generate a total of 3 trips during the morning peak hour and 4 trips during the afternoon peak hour.

Table 4 Trip Generation Analysis

Period & Direction		Nursing Home (LU Code 620)		
		Trips per Student or Percent ⁽¹⁾	TGSF	Trips
AM Peak Hour of Adjacent Street	Total	0.55	4,500	3
	Inbound	71%		2
	Outbound	29%		1
PM Peak Hour Adjacent Street	Total	0.74		4
	Inbound	52%		2
	Outbound	48%		2

Notes:
 (1) TGSF = 1,000 Gross Square Feet
 (2) Source: Institute of Transportation Engineers, *Trip Generation 8th Edition*, Washington, DC, 2008, pages 1179 & 1180

Project trips were distributed and assigned based on existing traffic approach and departure patterns of traffic at the study intersection as estimated from the traffic counts. The resulting project trip assignments are shown on Attachment G.

L. Background Plus Project Projections

Background plus project traffic projections were estimated by superimposing the peak hourly traffic generated by the proposed project on the background (without project) peak hour traffic projections. This assumes that the peak hourly trips generated by the project coincide with the peak hour of the adjacent street. This represents a worse-case condition as it assumes that the peak hours of the intersection approaches and the peak hour of the study project coincide. The resulting background plus project peak hour traffic projections are shown in Attachment G.

M. Traffic Impact Assessment

The traffic impacts of the proposed action were quantified by an assessment of changes in traffic volumes and levels-of-service of the study intersections.

Changes in Total Intersection Volumes

An analysis of the project's share of 2016 background plus project intersection approach volumes at the study intersections is summarized in Table 5. The table summarizes the project's share of total 2016 peak hour approach volumes at each intersection. Also shown are the percentages of

2016 background plus project traffic that is the result of background growth and traffic generated by related projects.

Table 5 Analysis of Project's Share of Total Intersection Approach Volumes ⁽¹⁾

Intersection	Period	Existing	2016 Background	2016 Background Plus Project	Background Growth		Project Traffic	
					Trips	Percent of Total Traffic ⁽²⁾	Trips	Percent of Total Traffic ⁽²⁾
Mahalani Street at Maui Lani Parkway	AM	972	1081	1082	109	10.1%	1	0.1%
	PM	762	1041	1043	279	26.7%	2	0.2%
Mahalani Street at Hospice Driveway	AM	576	613	616	37	6.0%	3	0.5%
	PM	499	572	576	73	12.7%	4	0.7%

Notes:
(1) Volumes shown are total intersection approach volumes or projections.
(2) Percentage of total 2015 background plus project traffic.
(3) Data to be provided in final draft report.

Level-of-Service Analysis

A level-of-service analysis was performed for "without project" and "with project" conditions to confirm that the intersections will operate at an acceptable level-of-service and that there are no traffic operational deficiencies that are the result of project generated traffic. The results of the level-of-service analysis are summarized in Table 6. In general, the level-of-service analysis concluded that there are no changes in the level-of-service of the overall intersections or any of the controlled lane groups. All movements will operate at Level-of-Service C, or better, which implies good operating conditions.

Table 6 Future (2016) Levels-of-Service

Approach	AM Peak Hour						PM Peak Hour					
	Without Project			With Project			Without Project			With Project		
	Delay ⁽¹⁾	LOS ⁽²⁾	95 th Queue	Delay	LOS	95 th Queue	Delay	LOS	95 th Queue	Delay	LOS	95 th Queue
Mahalani Street at Maui Lani Parkway	3.2	A	NC	3.2	A	NC	6.1	A	NC	6.2	A	NC
Westbound Left & Right	17.6	C	44	17.6	C	44	21.5	C	91	21.6	C	92
Southbound Left	10.0	A	6	10.0	A	7	8.7	A	6	8.7	A	6
Mahalani Street at Hospice Driveway	0.0	A	NC	0.1	A	NC	0.1	A	NC	0.2	A	NC
Westbound Left & Thru	0.1	A	0	0.1	A	0	0.0	A	0	0.1	A	0
Northbound Left & Right	11.3	B	0	11.3	B	0	11.6	B	1	11.7	B	1

NOTES:
(1) Delay is in seconds per vehicle.
(2) LOS denotes Level-of-Service.
(3) 95th Percentile queue in feet as reported by Synchro.
(4) See Attachment F for Level-of-Service Worksheets for "without project" conditions.
(5) See Attachment H for Level-of-Service Worksheets for "with project" conditions.

Dr. Greg LaGoy
c/o Munekiyo & Hiraga
November 26, 2013
Page 9

The level-of-service analysis of the intersection of Mahalani Street at Maui Lani Parkway concluded that northbound and southbound traffic along Maui Lani Parkway will operate at Level-of-Service A without and with project generated traffic. This implies that the additional traffic generated by the project has a negligible impact on through traffic along Maui Lani Parkway. There is only a minimal impact on the southbound left turn queue as a result of the additional traffic.

The level-of-service analysis of the intersection of Mahalani Street at the Hospice Driveway concluded that the level-of-service of traffic exiting the Hospice will not change as a result of project generated traffic. Levels-of-Service A and B are high levels-of-service implying minimal delays and negligible operating deficiencies. The high level-of-service along Mahalani Street indicates that traffic turning left into the project will have a negligible impact on through traffic along Mahalani Street.

N. Mitigation

Using the standard discussed in Section I of this report, no additional mitigation is recommended.

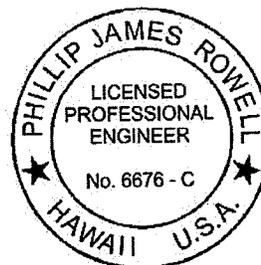
O. Summary and Recommendations

1. The proposed action is the construction of one-story, 4,500 square foot facility. The new facility will include five bedrooms, two and a half bathrooms, a kitchen and family rooms.
2. The project is located in the southeast quadrant of the intersection of Mahalani Street at Maui Lani Parkway. Access and egress will be via the existing driveway along the south side of Mahalani Street approximated 100 feet east of Maui Lani parkway (measured from the centerline of driveway to stop line for westbound traffic at Maui Lani Parkway).
3. The trip generation analysis concluded that the project will generate a total of 3 trips during the morning peak hour and 4 trips during the afternoon peak hour.
4. The level-of-service analysis of the intersection of Mahalani Street at Maui Lani Parkway concluded that northbound and southbound traffic along Maui Lani Parkway will operate at Level-of-Service A without and with project generated traffic. This implies that the additional traffic generated by the project has a negligible impact on through traffic along Maui Lani Parkway. There is only a minimal impact on the southbound left turn queue as a result of the additional traffic.
5. The level-of-service analysis of the intersection of Mahalani Street at the Hospice Driveway concluded that the level-of-service of traffic exiting the Hospice will not change as a result of project generated traffic. Levels-of-Service A and B are high levels-of-service implying minimal delays and negligible operating deficiencies. The high level-of-service along Mahalani Street indicates that traffic turning left into the project will have a negligible impact on through traffic along Mahalani Street.
6. Based on the field reconnaissance and observations during the traffic counts, current sight distances of the study intersections appear to be acceptable. There is a potential problem for vehicles existing the project because the northbound to eastbound right turns do not stop and are not looking for a vehicle exiting from the driveway. The applicant should frequently maintain shrubbery along the roadside adjacent to property to maintain adequate sight distances for both vehicles exiting the project and vehicle making the right turn.

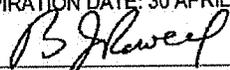
Respectfully submitted,
PHILLIP ROWELL AND ASSOCIATES



Phillip J. Rowell, P.E.
Principal



EXPIRATION DATE: 30 APRIL 2014



THIS WORK WAS PREPARED BY
ME OR UNDER MY DIRECT SUPERVISION

List of Attachments

- A. Aerial Photograph of Study Area and Study Intersections
- B. Suggested Requirements for Various Types of Traffic Impact Analyses
- C. Existing (2013) Peak Hour Traffic Volumes
- D. Level-of-Service Worksheets for Existing Conditions
- E. Background Growth, Project Trip Assignments and 2016 Background Peak Hour Traffic Projections
- F. Level-of-Service Worksheets for 2016 Background Conditions
- G. Project Trip Assignments and 2016 Background Plus Project Peak Hour Traffic Projections
- H. Level-of-Service Worksheets for 2016 Background Plus Project Conditions



Source: Google Earth



Attachment A AERIAL PHOTOGRAPH OF STUDY AREA AND STUDY INTERSECTIONS

November 2013

LEGEND	
②	STUDY INTERSECTION

Attachment B

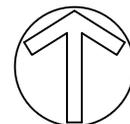
Suggested Requirements for Various Types of Traffic Impact Analyses ⁽¹⁾

	Trip Generation Threshold			
	Access Location & Design Review	Small Development: Traffic Impact Assessment	Medium Development: Traffic Impact Statement	Large Development: Regional Traffic Analysis
	$T \leq 100$ Peak Hour Trips	$100 < T \leq 500$ Peak Hour Trips	$500 < T \leq 1000$ Peak Hour Trips	$T > 1000$ Peak Hour Trips
Pre-application meeting or discussion	✓	✓	✓	✓
Analysis of Roadway Issues				
Existing condition analysis within study area	✓	✓	✓	✓
Sight distance evaluation	✓	✓	✓	✓
Nearby driveway locations	?	✓	✓	✓
Existing traffic conditions at nearby intersections and driveways		✓	✓	✓
Future road improvements		?	✓	✓
Crash experience in proximity to site	?	✓	✓	✓
Trip generation of adjacent development		?	✓	✓
Trip distribution analysis		✓	✓	✓
Background traffic growth		?	✓	✓
Future conditions analysis at nearby intersections		?	✓	✓
Mitigation identification and evaluation		?	?	✓
Site Issues				
Traffic generation	✓	✓	✓	✓
Traffic distribution	?	✓	✓	✓
Evaluate number, location & spacing of access points	?	✓	✓	✓
Evaluate access design, queuing, etc.	✓	✓	✓	✓
Evaluate site circulation	✓	✓	✓	✓
Other Analyses				
Gap analysis for unsignalized locations		?	?	✓
TSM/TDM ⁽²⁾ Mitigation measures (car- or van-pooling, transit, etc.)- transit agency participation	?	?	?	✓
Effect on traffic signal progression, analysis of proposed signal locations		(3)	?	✓

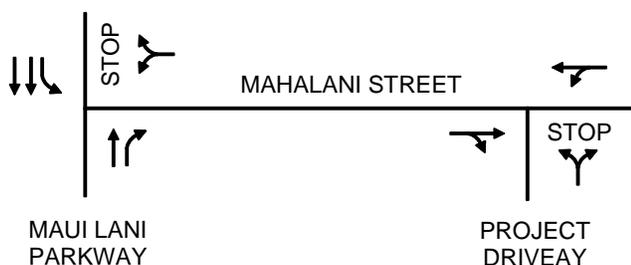
Notes:

1. Source: Institute of Transportation Engineers, *Transportation and Land Development*, Washington, D.C., 2002, p.3-6
2. TSM/TDM = Transportation System Management/Transportation Demand Management
3. A traffic signal should not be permitted.

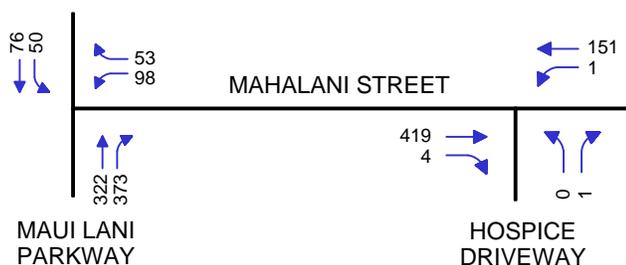
Key: ✓ = required
 ? = may be appropriate on a case-by-case basis



NOMINAL NORTH
NOT TO SCALE

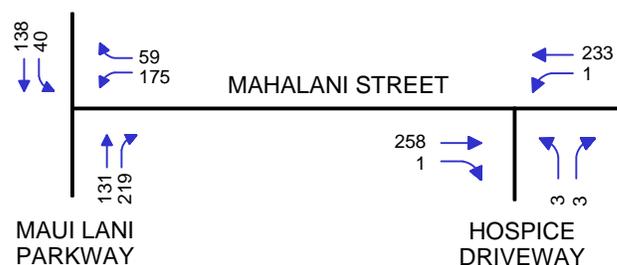


EXISTING LANE CONFIGURATION
AND RIGHT-OF-WAY CONTROL



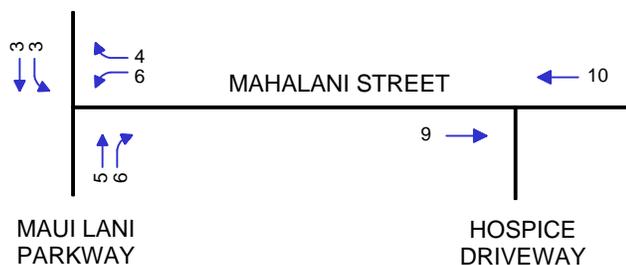
TOTAL AM PEAK HOUR VEHICLES

7:00 AM to 8:00 AM

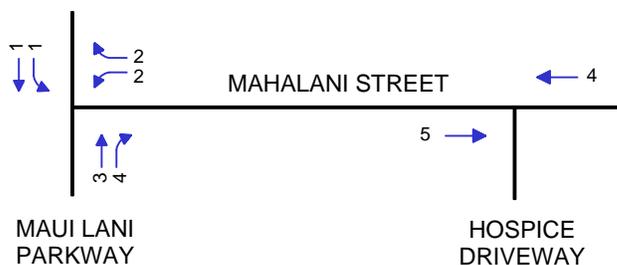


TOTAL PM PEAK HOUR VEHICLES

4:00 PM to 5:00 PM



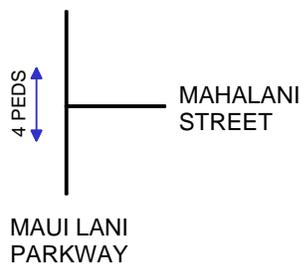
AM PEAK HOUR HEAVY VEHICLES



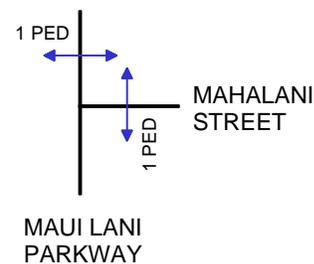
PM PEAK HOUR HEAVY VEHICLES

NOTES:

1. HEAVY VEHICLES ARE DEFINED BY THE HIGHWAY CAPACITY MANUAL AS "A VEHICLE WITH MORE THAN FOUR WHEELS TOUCHING THE PAVEMENT DURING NORMAL OPERATION" (PAGE 5-7).
2. TRAFFIC COUNTS WERE PERFORMED ON THURSDAY, NOVEMBER 21, 2013.



AM PEDESTRIANS



PM PEDESTRIANS

Attachment C
EXISTING 2013 PEAK HOUR TRAFFIC VOLUMES

NOVEMBER 2013

Attachment D
Level-of-Service Worksheets for Existing Conditions

HCM Unsignalized Intersection Capacity Analysis
 1: MAHALANI STREET & MAUI LANI PARKWAY

3/28/2014



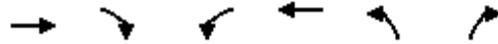
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙		↑	↗	↙	↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	98	53	322	373	50	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	107	58	350	405	54	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	500	350			755	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	500	350			755	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	77	91			93	
cM capacity (veh/h)	460	638			831	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	164	350	405	54	41	41
Volume Left	107	0	0	54	0	0
Volume Right	58	0	405	0	0	0
cSH	510	1700	1700	831	1700	1700
Volume to Capacity	0.32	0.21	0.24	0.07	0.02	0.02
Queue Length 95th (ft)	34	0	0	5	0	0
Control Delay (s)	15.4	0.0	0.0	9.6	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	15.4	0.0		3.8		
Approach LOS	C					

Intersection Summary			
Average Delay		2.9	
Intersection Capacity Utilization	39.0%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 2: MAHALANI STREET & HOSPICE DRIVEWAY

3/28/2014



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	↩
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	419	4	1	151	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	455	4	1	164	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			460		624	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			460		624	458
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1086		444	597
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	460	165	1			
Volume Left	0	1	0			
Volume Right	4	0	1			
cSH	1700	1086	597			
Volume to Capacity	0.27	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.1	11.0			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	11.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		32.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 1: MAHALANI STREET & MAUI LANI PARKWAY

3/28/2014



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↵		↑	↗	↖	↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	175	59	131	219	40	138
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	190	64	142	238	43	150
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	304	142			380	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	142			380	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	93			96	
cM capacity (veh/h)	630	870			1153	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	254	142	238	43	75	75
Volume Left	190	0	0	43	0	0
Volume Right	64	0	238	0	0	0
cSH	677	1700	1700	1153	1700	1700
Volume to Capacity	0.38	0.08	0.14	0.04	0.04	0.04
Queue Length 95th (ft)	44	0	0	3	0	0
Control Delay (s)	13.5	0.0	0.0	8.2	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	13.5	0.0		1.9		
Approach LOS	B					

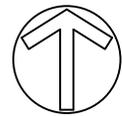
Intersection Summary			
Average Delay		4.6	
Intersection Capacity Utilization	33.5%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 2: MAHALANI STREET & HOSPICE DRIVEWAY

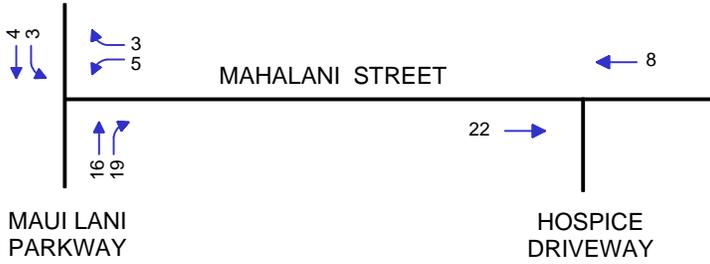
3/28/2014



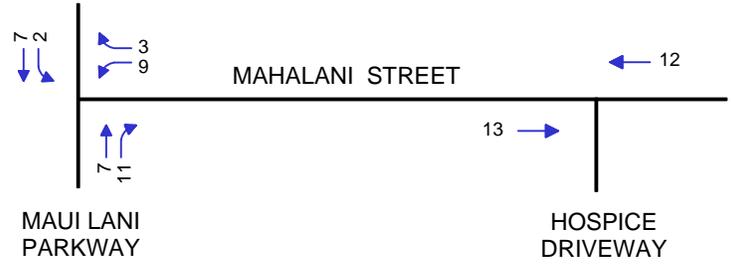
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	↻
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	258	1	1	233	3	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	280	1	1	253	3	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			282		536	281
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			282		536	281
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1264		500	751
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	282	254	7			
Volume Left	0	1	3			
Volume Right	1	0	3			
cSH	1700	1264	600			
Volume to Capacity	0.17	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.0	11.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.0	11.1			
Approach LOS			B			
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization		23.6%		ICU Level of Service		A
Analysis Period (min)			15			



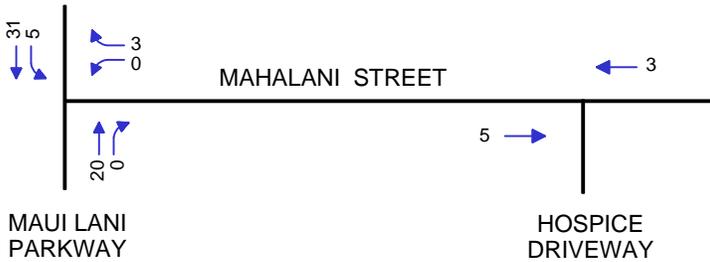
NOMINAL NORTH
NOT TO SCALE



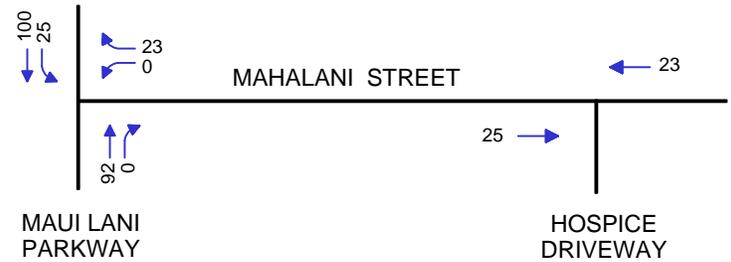
2013 TO 2016 AM BACKGROUND GROWTH



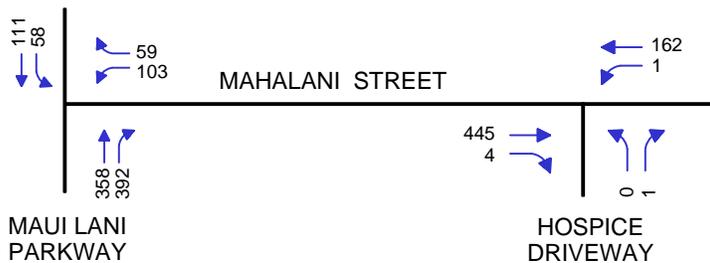
2013 TO 2016 PM BACKGROUND GROWTH



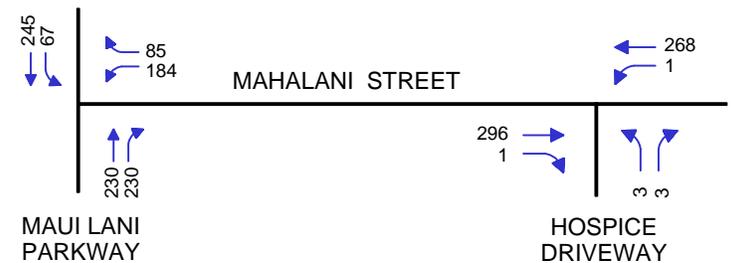
RELATED PROJECTS' TRIPS



RELATED PROJECTS' TRIPS



2016 BACKGROUND AM PEAK PROJECTIONS



2016 BACKGROUND PM PEAK PROJECTIONS

Attachment E 2013 TO 2016 BACKGROUND GROWTH, RELATED PROJECTS' TRIP ASSIGNMENTS AND 2016 PEAK HOUR TRAFFIC PROJECTIONS

Attachment F
Level-of-Service Worksheets for 2016 Background Conditions

HCM Unsignalized Intersection Capacity Analysis
 1: MAHALANI STREET & MAUI LANI PARKWAY

3/28/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶		↑	↷	↶	↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	103	59	358	392	58	111
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	64	389	426	63	121
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576	389			815	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576	389			815	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	72	89			92	
cM capacity (veh/h)	406	601			789	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	176	389	426	63	60	60
Volume Left	112	0	0	63	0	0
Volume Right	64	0	426	0	0	0
cSH	460	1700	1700	789	1700	1700
Volume to Capacity	0.38	0.23	0.25	0.08	0.04	0.04
Queue Length 95th (ft)	44	0	0	6	0	0
Control Delay (s)	17.6	0.0	0.0	10.0	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	17.6	0.0		3.4		
Approach LOS	C					
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			41.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: MAHALANI STREET & HOSPICE DRIVEWAY

3/28/2014



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖		↘
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	445	4	1	162	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	484	4	1	176	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			488		664	486
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			488		664	486
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1060		421	575
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	488	177	1			
Volume Left	0	1	0			
Volume Right	4	0	1			
cSH	1700	1060	575			
Volume to Capacity	0.29	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.1	11.3			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			33.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 1: MAHALANI STREET & MAUI LANI PARKWAY

3/28/2014



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙		↑	↗	↙	↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	184	85	230	230	67	245
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	200	92	250	250	73	266
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	529	250			500	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	529	250			500	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	54	88			93	
cM capacity (veh/h)	439	741			1040	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	292	250	250	73	133	133
Volume Left	200	0	0	73	0	0
Volume Right	92	0	250	0	0	0
cSH	504	1700	1700	1040	1700	1700
Volume to Capacity	0.58	0.15	0.15	0.07	0.08	0.08
Queue Length 95th (ft)	91	0	0	6	0	0
Control Delay (s)	21.5	0.0	0.0	8.7	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	21.5	0.0		1.9		
Approach LOS	C					

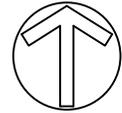
Intersection Summary						
Average Delay			6.1			
Intersection Capacity Utilization		41.2%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: MAHALANI STREET & HOSPICE DRIVEWAY

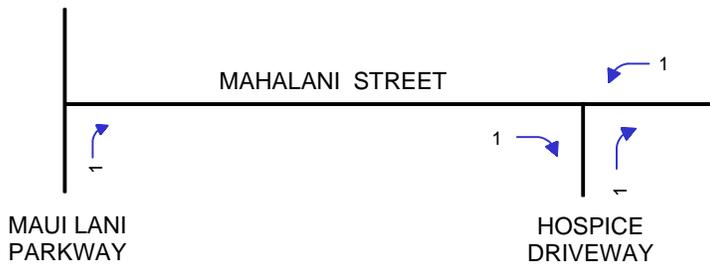
3/28/2014



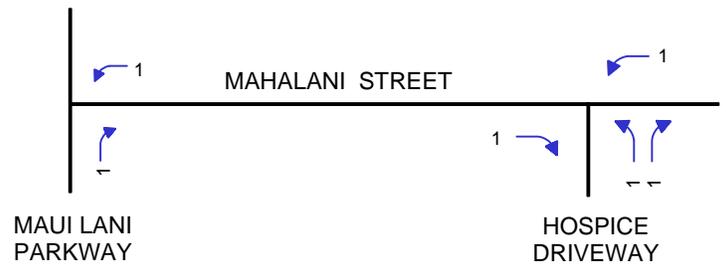
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	↻
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	296	1	1	268	3	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	322	1	1	291	3	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			323		616	322
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			323		616	322
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1220		449	712
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	323	292	7			
Volume Left	0	1	3			
Volume Right	1	0	3			
cSH	1700	1220	551			
Volume to Capacity	0.19	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.0	11.6			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization		25.6%		ICU Level of Service		A
Analysis Period (min)			15			



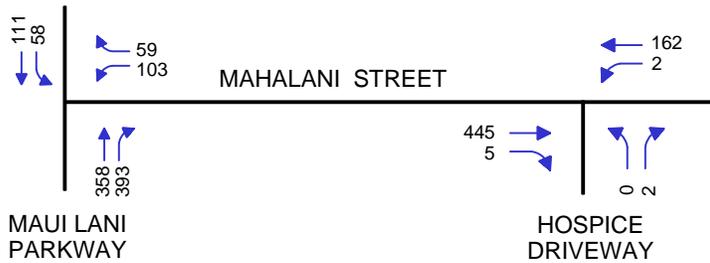
NOMINAL NORTH
NOT TO SCALE



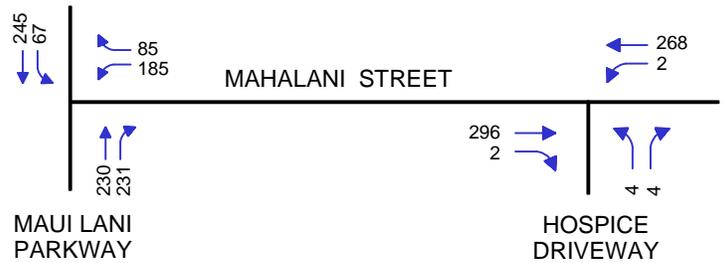
AM PROJECT TRIP ASSIGNMENTS



PM PROJECT TRIP ASSIGNMENTS



2016 BACKGROUND AM PEAK PROJECTIONS



2016 BACKGROUND PM PEAK PROJECTIONS

Attachment G PROJECT TRIP ASSIGNMENTS AND 2016 BACKGROUND PLUS PROJECT PEAK HOUR TRAFFIC PROJECTIONS

Attachment H
Level-of-Service Worksheets for 2016 Background Plus Project
Conditions

HCM Unsignalized Intersection Capacity Analysis
 1: MAHALANI STREET & MAUI LANI PARKWAY

3/28/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	103	59	358	393	58	111
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	112	64	389	427	63	121
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576	389			816	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576	389			816	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	72	89			92	
cM capacity (veh/h)	406	601			788	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	176	389	427	63	60	60
Volume Left	112	0	0	63	0	0
Volume Right	64	0	427	0	0	0
cSH	460	1700	1700	788	1700	1700
Volume to Capacity	0.38	0.23	0.25	0.08	0.04	0.04
Queue Length 95th (ft)	44	0	0	7	0	0
Control Delay (s)	17.6	0.0	0.0	10.0	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	17.6	0.0		3.4		
Approach LOS	C					
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			41.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: MAHALANI STREET & HOSPICE DRIVEWAY

3/28/2014



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	↻
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	445	5	2	162	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	484	5	2	176	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			489		667	486
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			489		667	486
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1059		419	575
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	489	178	2			
Volume Left	0	2	0			
Volume Right	5	0	2			
cSH	1700	1059	575			
Volume to Capacity	0.29	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.1	11.3			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization		33.7%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 1: MAHALANI STREET & MAUI LANI PARKWAY

3/28/2014



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↵		↑	↗	↖	↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	185	85	230	231	67	245
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	201	92	250	251	73	266
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	529	250			501	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	529	250			501	
tC, single (s)	6.9	7.0			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	54	88			93	
cM capacity (veh/h)	439	741			1039	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	293	250	251	73	133	133
Volume Left	201	0	0	73	0	0
Volume Right	92	0	251	0	0	0
cSH	504	1700	1700	1039	1700	1700
Volume to Capacity	0.58	0.15	0.15	0.07	0.08	0.08
Queue Length 95th (ft)	92	0	0	6	0	0
Control Delay (s)	21.6	0.0	0.0	8.7	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	21.6	0.0		1.9		
Approach LOS	C					

Intersection Summary						
Average Delay			6.2			
Intersection Capacity Utilization		41.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
2: MAHALANI STREET & HOSPICE DRIVEWAY

3/28/2014



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	↻
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	296	2	2	268	4	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	322	2	2	291	4	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			324		618	323
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			324		618	323
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1219		447	711
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	324	293	9			
Volume Left	0	2	4			
Volume Right	2	0	4			
cSH	1700	1219	549			
Volume to Capacity	0.19	0.00	0.02			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.1	11.7			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	11.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization		25.7%		ICU Level of Service		A
Analysis Period (min)			15			