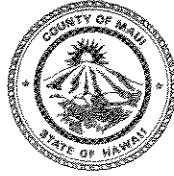


ALAN M. ARAKAWA  
Mayor  
MICHAEL W. FOLEY  
Director  
DON COUCH  
Deputy Director



COUNTY OF MAUI  
**DEPARTMENT OF PLANNING**

May 24, 2006

Ms. Genevieve Salmonson, Director  
Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

RECEIVED  
06 MAY 26 P2:37  
OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

Dear Ms. Salmonson:

RE: Final Environmental Assessment for the Proposed Royal Lahaina Resort Revitalization Project located at TMK: 4-4-008: 007 and 013, Kaanapali, Lahaina, Island of Maui, Hawaii (EA 2005/0014) (SM1 2005/0038) (SSV 2005/0005)

The Maui Planning Commission at its regular meeting on May 23, 2006, accepted the Final Environmental Assessment (FEA) for the subject project, and issued a Finding of No Significant Impact (FONSI). Please publish the FEA in the **June 8, 2006**, Office of Environmental Quality Control (OEQC) Environmental Notice.

We have enclosed a completed OEQC Publication Form and four (4) copies of the FEA. If you have any questions, please call Ms. Kivette Caigoy, Environmental Planner, of our office at 270-7735.

Sincerely,

MICHAEL W. FOLEY  
Planning Director

MWF:KAC:lar  
Enclosure

c: Jeff Hunt, Staff Planner  
Karylynn Kawahara, Munekiyo & Hiraga, Inc.  
EA Project File  
General File  
K:\WP\_DOCS\PLANNING\EA\2005\0014\_RoyalLahainaRevitalization\OEQCTransmitFEA.wpd

***Final  
Environmental Assessment  
in support of  
Applications for a  
Special Management Area  
Use Permit and Shoreline  
Setback Variance***

---

**ROYAL LAHAINA  
RESORT REVITALIZATION**

Prepared for:

May 2006

Royal Lahaina  
Development Group, LLC

  
MUNEKIYO & HIRAGA, INC.

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royallahirevitalifinalea.rpt

## Executive Summary

<b>Project Name:</b>	Royal Lahaina Resort Revitalization Project
<b>Type of Document:</b>	Final Environmental Assessment
<b>Legal Authority:</b>	Chapter 343, Hawaii Revised Statutes
<b>Applicable Trigger:</b>	Use of the Shoreline Setback Area
<b>Agency Determination:</b>	Findings of No Significant Impact
<b>Location:</b>	Maui Island Kaanapali, Lahaina, Maui, Hawaii TMK: 4-4-008:007 and 013
<b>Approving Agency:</b>	Maui Planning Commission 250 South High Street Wailuku, Hawaii 96793 Contact: Ms. Kivette Caigoy Phone: (808) 270-7735
<b>Applicant:</b>	Royal Lahaina Development Group, LLC Topa Financial Center 700 Bishop Street, Suite 2100 Honolulu, Hawaii 96813
<b>Consultant:</b>	Munekiyo & Hiraga, Inc. 305 High Street, Suite 104 Wailuku, Hawaii 96793 Contact: Karlynn Kawahara Phone: (808) 244-2015
<b>Project Summary:</b>	The applicant is proposing a revitalization project to the existing Royal Lahaina Resort property consisting of 26.875 acres. The proposed revitalization will include a decrease in the overall unit count from 583 units to 456 units, representing a decrease of 127 units. The revitalization consist of a new master plan with a mixed-use concept made up of 330 luxury hotel units and 126 new hotel/condominium villas. Other project components include new dining experiences, new spa and activity center, new lobby, new

water features, new roadways and pedestrian paths, new retail, new subterranean parking structure, all new infrastructure, and other related resort amenities.

Work within the shoreline setback area includes the demolition of a 3-story hotel structure, six (6) 2-story villas, a 1-story restaurant and a portion of the existing Ali'i Ballroom which is currently used for banquets and meetings. Other improvement activities within the shoreline setback area include repair and maintenance to existing structures including existing beach access stairways and landscape improvements.

Following review of the Draft EA by governmental agencies, the Maui Planning Commission at its February 14, 2006 meeting, the West Maui Taxpayers Association annual meeting on February 23, 2006, and the Urban Design Review Board meeting on April 18, 2006, the following revisions were made to the Royal Lahaina Revitalization plan: (a) a lateral beach access has been included in the proposed project, (b) the proposed 6-story building located along Honoapiilani Highway has been scaled down to a 4/5-story building, (c) the number of tennis courts have been increased from two (2) to four (4), (d) the number of public beach parking stalls have been increased from 12 to 26, including the 10 free valet parking stalls, (e) the public beach access along the southern border of the property has been secured with the neighboring landowner and (f) the applicant will work with the Department of Housing and Human Concerns to provide a voluntary affordable housing contribution. These revisions are reflected in the Final EA.



# ***Chapter 1***

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## ***Project Overview***

## **I. PROJECT OVERVIEW**

### **A. PROPERTY LOCATION, EXISTING USE, AND LAND OWNERSHIP**

The subject property is located in the Kaanapali Resort area, and is identified as TMK 4-4-008:007 and 013, Lahaina, Maui ("Property"). See Figure 1. The Property is bordered to the north by Maui Kaanapali Villas, to the east by Honoapiilani Highway, to the south by Kaanapali Golf Course and to the west by the ocean. The main access to the Property is from Kekaa Drive. See Figure 2.

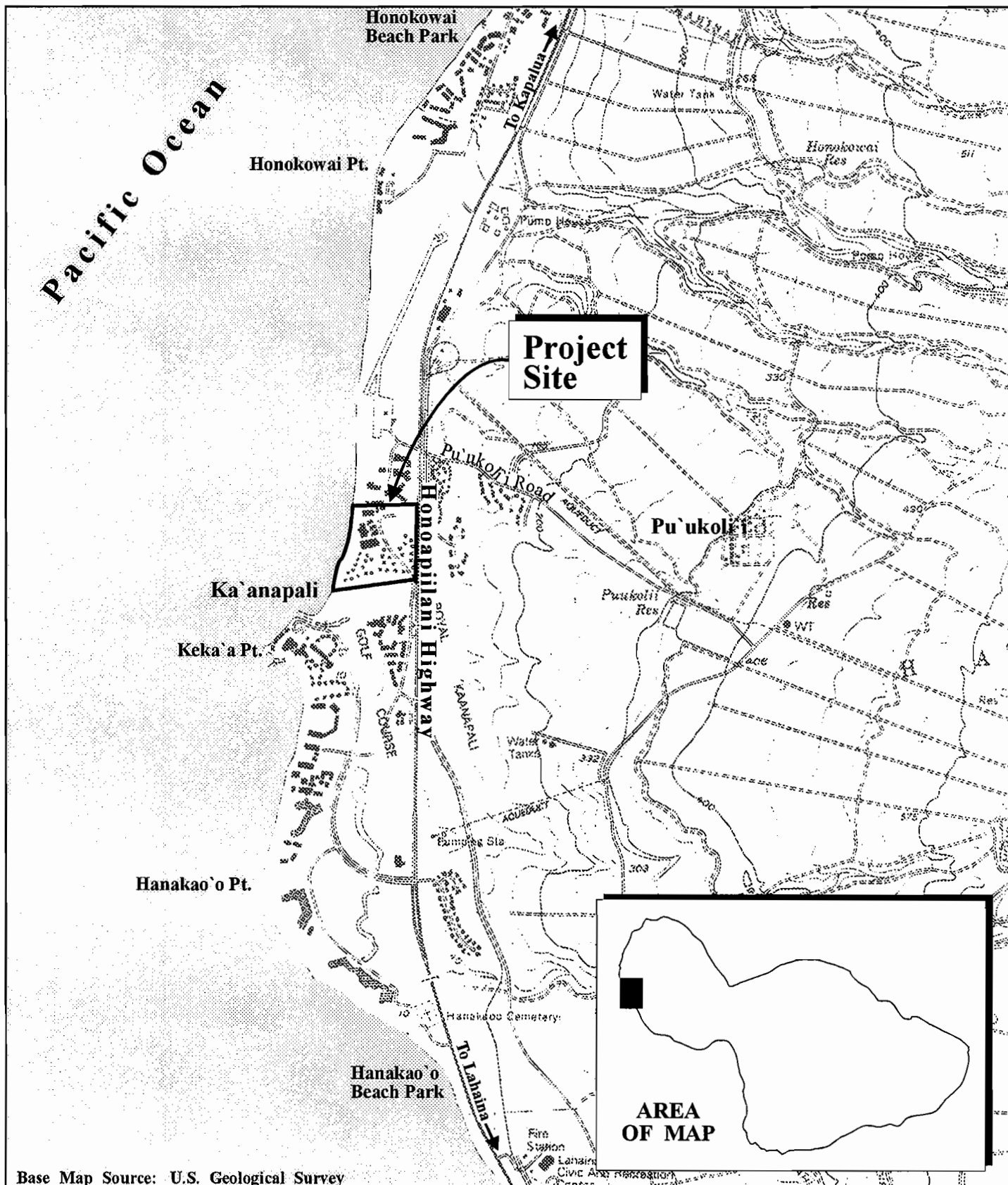
The Property currently consists of a 12-story hotel tower, a 3-story hotel tower, 1- and 2-story cottages, 1-story retail and restaurant buildings, 11 tennis courts, luau grounds, and a ballroom. Total number of suites, guestrooms and cottages are 583. All of the related resort improvements sit on approximately 26.875 acres of land. See Figure 3.

The Property is located within the H-M Hotel, H-2 Hotel, and A-2 Apartment County zoning districts and is designated for "Hotel" and "Open Space" use in the West Maui Community Plan.

The property is owned by Pleasant Travel Service. Royal Lahaina Development Group, LLC (RLDG), a wholly owned subsidiary of Pleasant Travel Service, is the applicant.

### **B. BACKGROUND**

On April 8, 2005, the Department of Planning granted a shoreline setback approval and SMA permit exemption for interior remodeling and upgrades for the 12-story hotel structure (Lahaina Kai Tower). See Appendix "A". Since this action involved combining rooms into suites, the overall room count of the Lahaina Kai Tower was decreased from 344 units to 330 units.



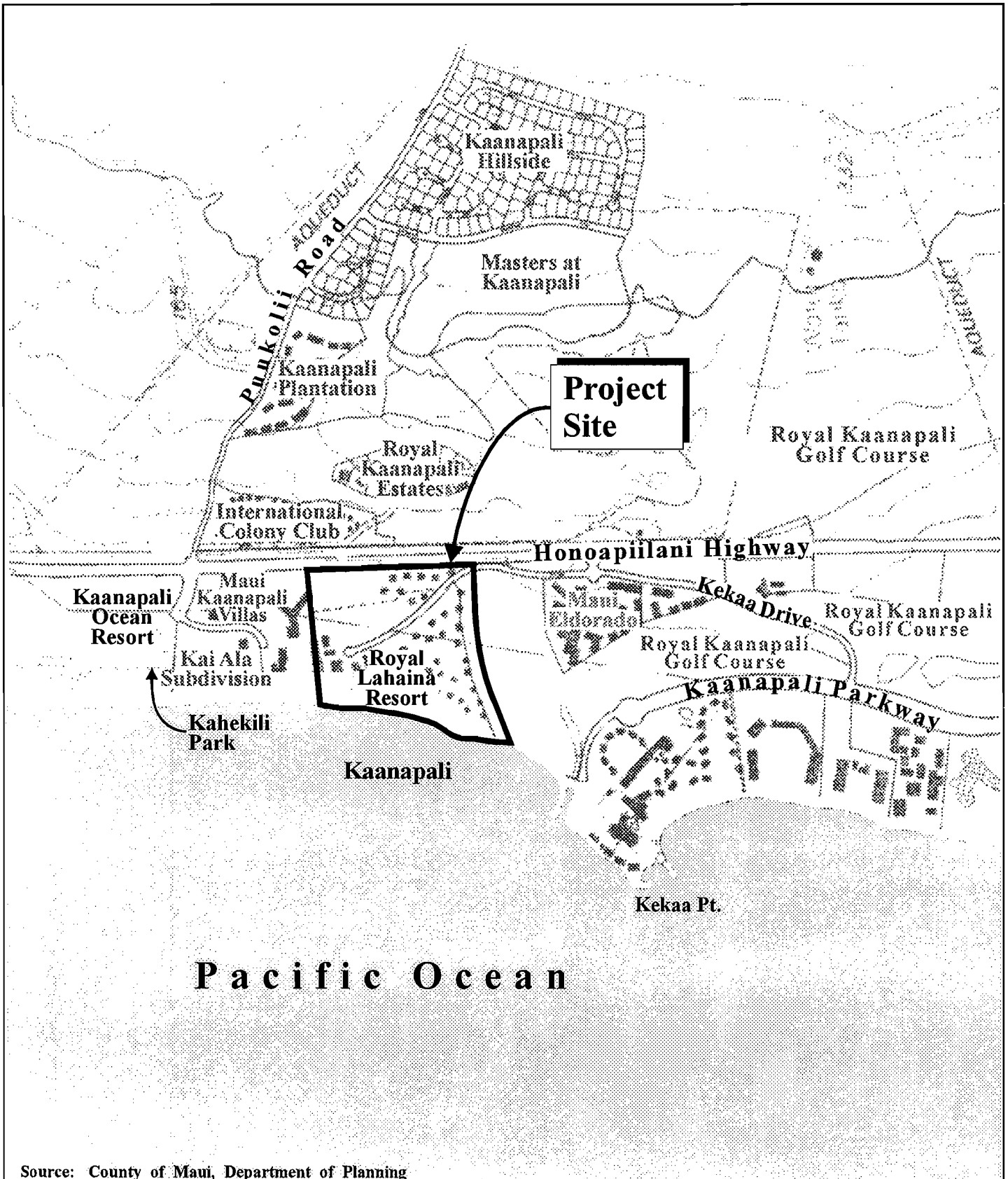
Base Map Source: U.S. Geological Survey

Figure 1

Royal Lahaina Resort  
Revitalization  
Regional Location Map



MUNEKIYO & HIRAGA, INC.



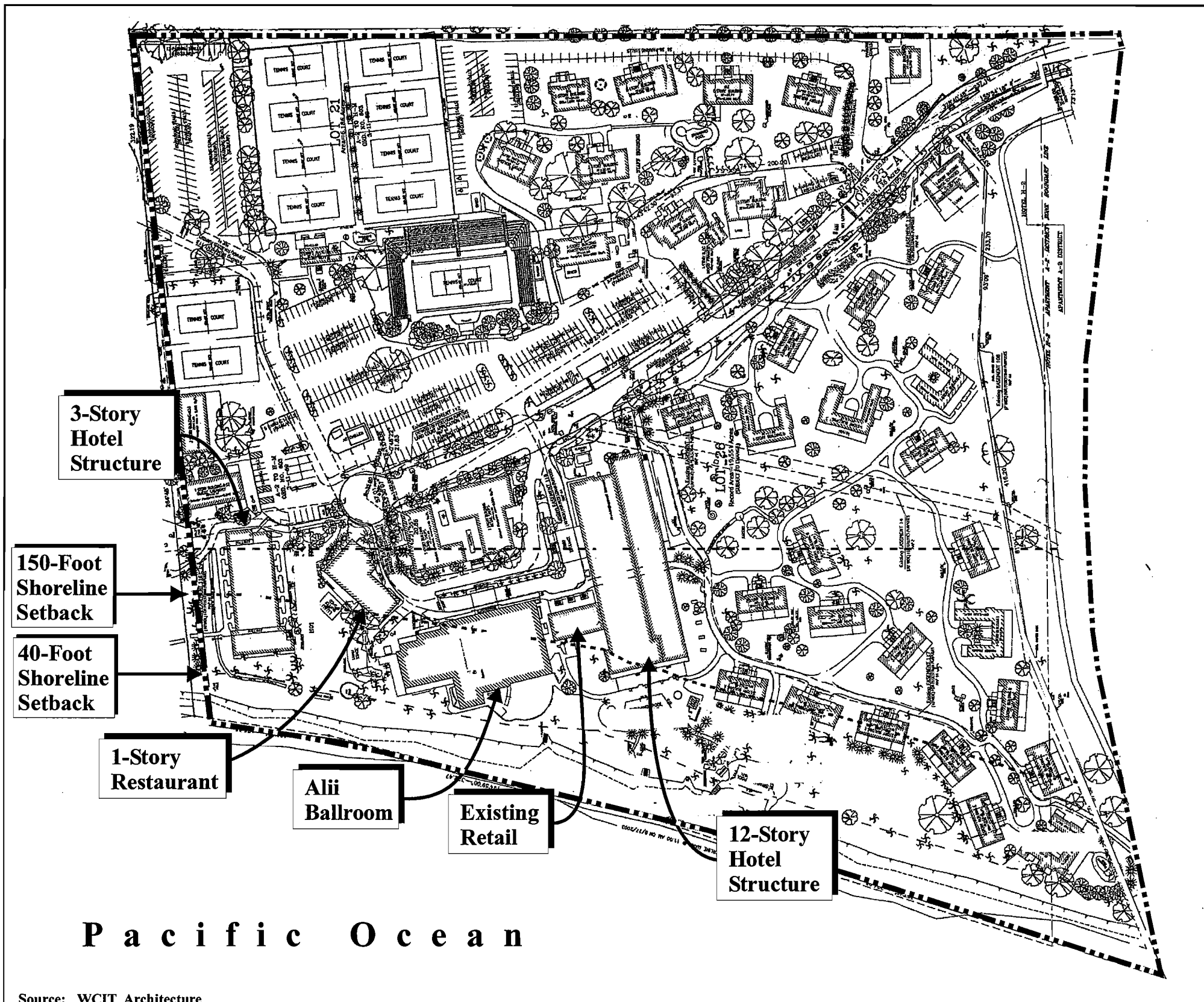
Source: County of Maui, Department of Planning

Figure 2

Royal Lahaina Resort  
Revitalization  
Area Location Map

NOT TO SCALE





Source: WCIT Architecture

Figure 3

Royal Lahaina Resort Revitalization  
Existing Site Plan

NOT TO SCALE



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Construction of the interior improvements commenced in March 2006.

**C. PROPOSED ACTION**

The proposed action consists of a revitalization of the resort complex which occupies the 26.875-acre site which was originally constructed in the early 1960s and completed in the early 1970s. The overall vision of this revitalization project is low in density and perpetuates the sense of place and legacy of the property, Kama'aina architecture, preserving the rich history and culture, while maintaining the simple and subtle elegance creating timelessness. Although the underlying zoning allows for a much greater density, keeping within this theme would allow the unique history and culture of the Royal Lahaina and West Maui to be preserved.

The revitalization consists of a new master plan with a mixed-use concept made up of a luxury 330-unit hotel and approximately 126 condominium/hotel villas for a total unit count of 456 units, representing a decrease of 127 units. The applicant plans to sell the new condominium/hotel villa units, which are proposed as two to four-bedroom options. The preliminary sale prices for the units are estimated between \$1.5 million to \$7 million. New owners of the condominium/hotel villa units will have the option of utilizing their units as private residences or they may be entered into a rental program and operated as short-term hotel accommodations. Although the applicant will offer rental services for the units, there will be no restriction on rental services, nor will there be a limit to the number of units that can be rented.

The proposed actions include the following demolition and new construction:

---

1. **Demolition**

Approximately 239 rooms will be demolished. Demolition within the 150-foot shoreline setback area consists of six (6) 2-story oceanfront cottage buildings (36 guest units), a 1-story restaurant (Don the Beachcomber), a 3-story hotel structure (65 guest units), and a 1-story retail complex and a portion of the Ali'i Ballroom that is used for banquets and meeting space. In addition to those structures, other hardened surfaces that will be demolished in the 150-foot shoreline setback area include, the concrete path near the three-story hotel building, two (2) stages at the luau gardens, the lanai and rock wall that abuts the Ali'i Ballroom, a former shuffleboard court, and concrete slab, located makai of the main hotel pool and a portion of two (2) existing beach access stairs.

The applicant acknowledges that some asbestos-containing building materials are present in the existing hotel structures. A limited asbestos sampling survey was conducted by Vuich Environmental Consultants, Inc. on February 1, 2005 which included samples from the 12-story Lahaina Kai Tower, the 3-story Royal Hale Building and four (4) individual cottages located in the 150-foot shoreline setback area that will be demolished. Presence of asbestos-containing material was confirmed and noted in good condition. The applicant confirms that all demolition and removal of all asbestos-containing material will be conducted per Occupational Safety and Health Administration (OSHA) and the State of Hawaii Occupational Safety and Health (HIOSH) Construction Standards for Asbestos removal and all U.S. Environmental Protection Agency (EPA) Nation Standards for Hazardous Air Pollutants (NESHAP) and Hawaii Administrative Rules (HAR) Chapter 11-501. Notification, emission control and

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waste disposal protocols will be conducted in accordance with NESHAP prior to any demolition. There will be no negative impacts associated with the hazardous material removal.

Demolition outside the shoreline setback area includes 24 1- and 2-story cottage buildings (138 guest units), a 1-story restaurant (Basil Tomatoes), 11 existing tennis courts and tennis ranch building, and the existing maintenance and grounds keeping buildings. A summary of demolition activities and renovation work is provided in Table 1.



**Table 1**

<b><i>Demolition Activities</i></b>	
Within 40-Foot Shoreline Setback Area	<ul style="list-style-type: none"> <li>• Removal of former shuffleboard court</li> <li>• Removal of concrete slab with stone detail</li> </ul>
Within 150-Foot Shoreline Setback Area	<ul style="list-style-type: none"> <li>• Removal of 3-story hotel structure (65 units)</li> <li>• Removal of 1-story restaurant structure (Don the Beachcomber)</li> <li>• Removal of a portion of existing 1-story Ali'i Ballroom structure</li> <li>• Removal of six (6) 2-story cottage structure (36 units)</li> <li>• Removal of pathway with concrete pavers near the 3-story hotel building structure</li> <li>• Removal of two (2) luau stages and luau grounds structure</li> </ul>
Remaining Area of Royal Lahaina Resort	<ul style="list-style-type: none"> <li>• Removal of 19 2-story cottage structures (114 units)</li> <li>• Removal of four (4) 1-story cottage structures (24 units)</li> <li>• Removal of three (3) 1-story structures (Laundry Facility, Maintenance Shops)</li> <li>• Removal of one (1) 1-story restaurant (Basil Tomatoes)</li> <li>• Removal of 11 tennis courts (including Tennis Stadium)</li> <li>• Removal of two (2) 1-story retail shops</li> </ul>
<b><i>Renovation Activities</i></b>	
Within 40-Foot Shoreline Setback Area	<ul style="list-style-type: none"> <li>• Renovations to three (3) existing beach access stairways</li> <li>• Retention of three (3) additional existing beach access stairways</li> <li>• Renovation to one (1) existing swimming pool deck</li> <li>• Renovation to one (1) existing 1-story cottage and pool area</li> </ul>
Within 150-Foot Shoreline Setback Area	<ul style="list-style-type: none"> <li>• Renovations to a portion of existing Ali'i Ballroom structure</li> <li>• Exterior renovations to the existing 11-story hotel structure and 1-story retail structure</li> <li>• Renovations to one (1) existing swimming pool deck</li> <li>• Renovations to two (2) existing kiosk structures (Pool Bar and Snack Shop and Beach Activity Rentals)</li> <li>• Installation of landscaping to replace demolished buildings</li> <li>• Renovations to existing Ali'i Ballroom lanai and rock wall surrounding lanai</li> <li>• Renovation to the existing awning over swimming pool area</li> <li>• Renovation to existing concrete walkways between 12-story hotel structure and two (2) swimming pools</li> <li>• Retention of three (3) existing shower facilities</li> <li>• Retention of existing CMU retaining wall near mauka swimming pool</li> </ul>

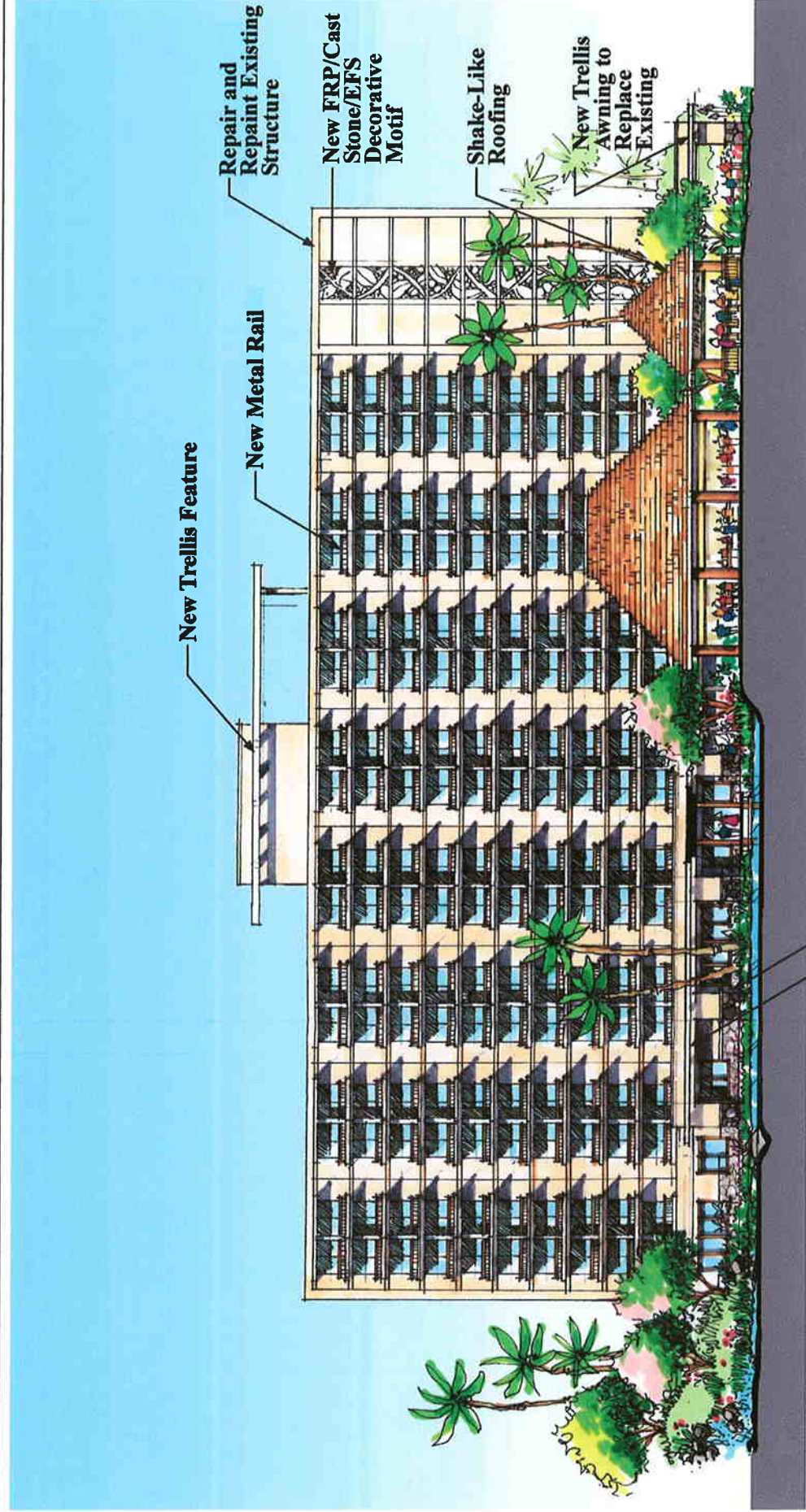
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2. **New Construction**

Separate from the interior upgrades being undertaken to provide 330 luxury hotel units, exterior modifications to the 12-story hotel building are proposed. These improvements include new trellis feature on the roof, new metal railings for lanais, new trellis awning to replace the existing covering near pool patio, new decorative finish walls for elevator lobby area and new decorative motif on north-makai corner of hotel structure. See Figure 4.

The proposed site plan for the revitalization project is shown in Figure 5. In addition, new construction of approximately 126 condominium/hotel villas in eight (8) buildings are proposed. Buildings will include a mixture of 2/3-story buildings, 3-story buildings, 3/4-story buildings and a new 4/5-story building. See Figure 6, Figure 7, and refer to Appendix "J" of this application document. Other improvements include new dining experiences, new spa and activity center, new lobby, new Children's ("Keiki") Center, new water features, new roadways and paths, new retail, new subterranean parking structure, new "back-of-the-house" facilities, public parking for beach access, new trolley stop, four (4) new tennis/sports courts, new golf driving cages, new owner services building, new beach recreation area, new beach lateral access path and public beach access, all new infrastructure, and related resort amenities. See Figure 8.

With regard to landscaping, it is noted that all existing trees 12-inches or greater in caliper which are not located within the path of construction, will be considered for preservation in place. However, all trees will be assessed by a certified arborist as to their overall health and whether they can be relocated or not. All trees deemed relocateable will be considered for on-site



**WATERFALL**  
**WATER FEATURE WITH LANAI BEYOND**  
**BRIDGE TO ELEVATOR LOBBY**  
 PLASTER FINISH WALLS WITH MOSSROCK VENEER BASE  
**NEW TRELLIS FEATURE**  
**NEW METAL RAIL**  
**REPAIR AND REPAINT EXISTING STRUCTURE**  
**NEW FRP/CAST STONE/EFS DECORATIVE MOTIF**  
**SHAKE-LIKE ROOFING**  
**NEW TRELLIS AWNING TO REPLACE EXISTING**  
**ALI'I DINING**  
**SANDBAR**  
**FINE DINING TERRACE BEYOND**

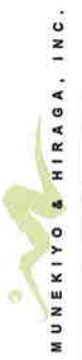
Source: WCIT Architecture

# Figure 4

## Royal Lahaina Resort Revitalization

### Existing 12-Story Building Exterior Improvements

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Prepared for: Royal Lahaina Development Group, LLC





Source: WCIT Architecture

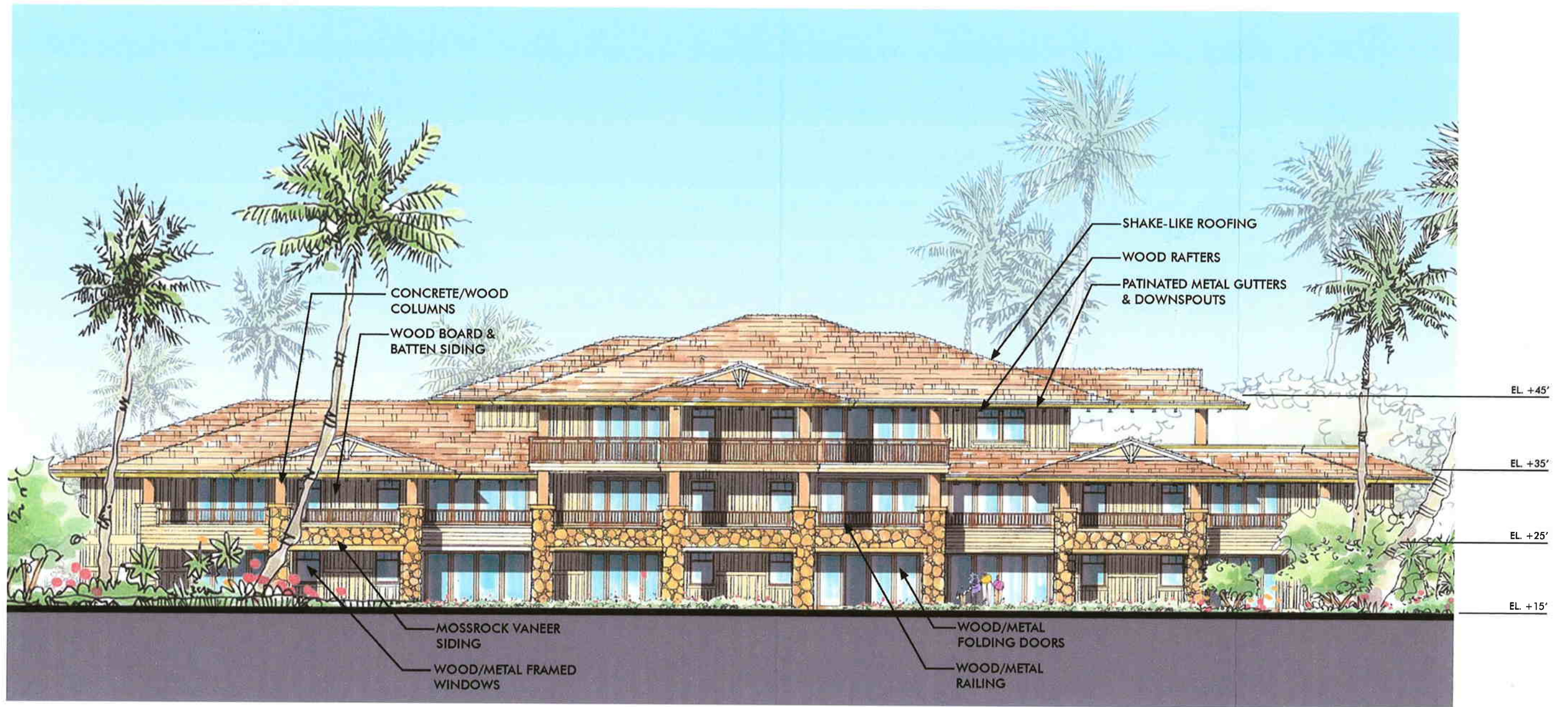
Figure 5

### Royal Lahaina Resort Revitalization Proposed Site Plan

NOT TO SCALE







## 2/3 Story Building Front Elevation

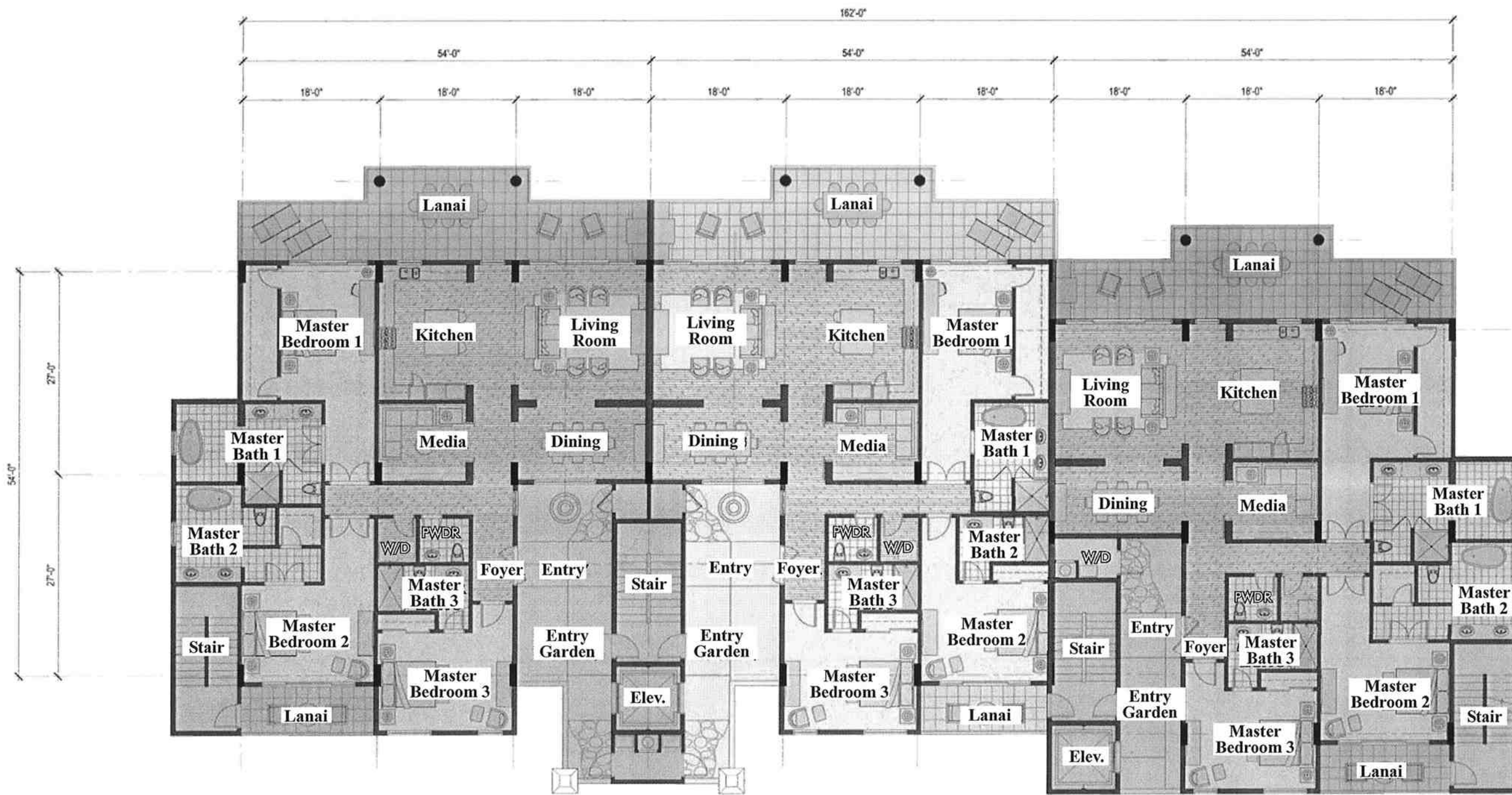
Source: WCIT Architecture

Figure 6

Royal Lahaina Resort Revitalization  
 Hotel/Condominium Front Elevation

NOT TO SCALE





**Unit Type 3A**

Interior Area 3,000 SF  
Lanai Area 1,070 SF

**Unit Type 3B**

Interior Area 2,800 SF  
Lanai Area 1,070 SF

**Unit Type 3C**

Interior Area 3,120 SF  
Lanai Area 1,120 SF

Source: WCIT Architecture

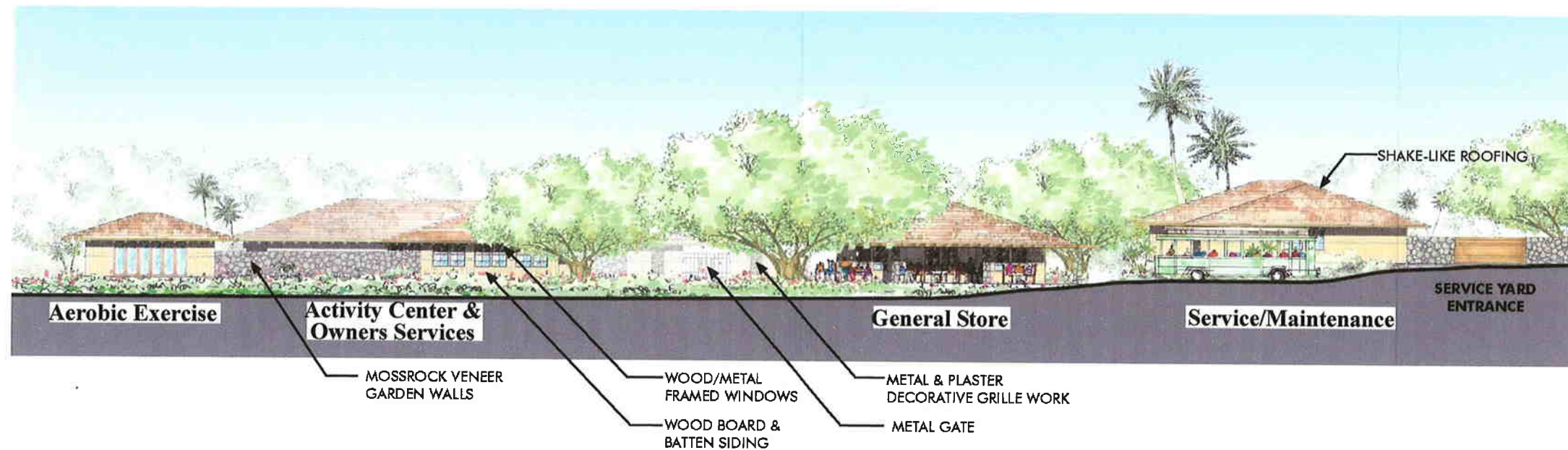
Figure 7

Royal Lahaina Resort Revitalization  
2/3-Story Hotel/Condominium Floor Plan

NOT TO SCALE



**New Lobby Building Side Elevation**



**Retail, Activity and Sports Entry Elevation**

Source: WCIT Architecture

Figure 8

Royal Lahaina Resort Revitalization  
Lobby Building and Retail, Activity and  
Sports Entry Elevations

NOT TO SCALE



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transplantation. Refer to Figure 5.

The applicant is working with Kaanapali Golf Course (KGC), its neighboring landowner to the south, to develop a separate pedestrian walkway to provide access to the beach. The proposed east-west public beach access will be provided partially on the Royal Lahaina property and partially on the KGC property. Included in the improvements are an improved walking surface, landscaping improvements and earthen berms to provide pedestrians with additional safety due to the close proximity to the Kaanapali North Course. See Figure 9.

Construction improvements within the shoreline area include scaling back and renovating the existing Alii Ballroom. The existing pools, restaurant (located within the hotel tower), retail shops (located between the hotel tower and the Alii Ballroom), two kiosks containing the Pool Bar and Snack Shop and Beach Activity Rentals, and the cottage (located on the south end of the Property) are also proposed to be renovated and repaired/maintained. Generally, materials utilized for the renovation of structures remaining within the 150-foot shoreline setback include: non-bearing partition walls, exterior siding, hardwood, natural stone, glass tile, paint, plaster and metal railings. A breakdown of materials by structure is noted in the project architect's letter of valuation. See Appendix "B". It is noted that in all instances, the building footprints of the remaining structures will not be increased. Fill material within the shoreline area will be limited to beach quality sand. Native landscaping will be utilized in this area to the extent possible. See Figure 10.



**Key**  
Public Beach Access Route



Source: WCIT Architecture

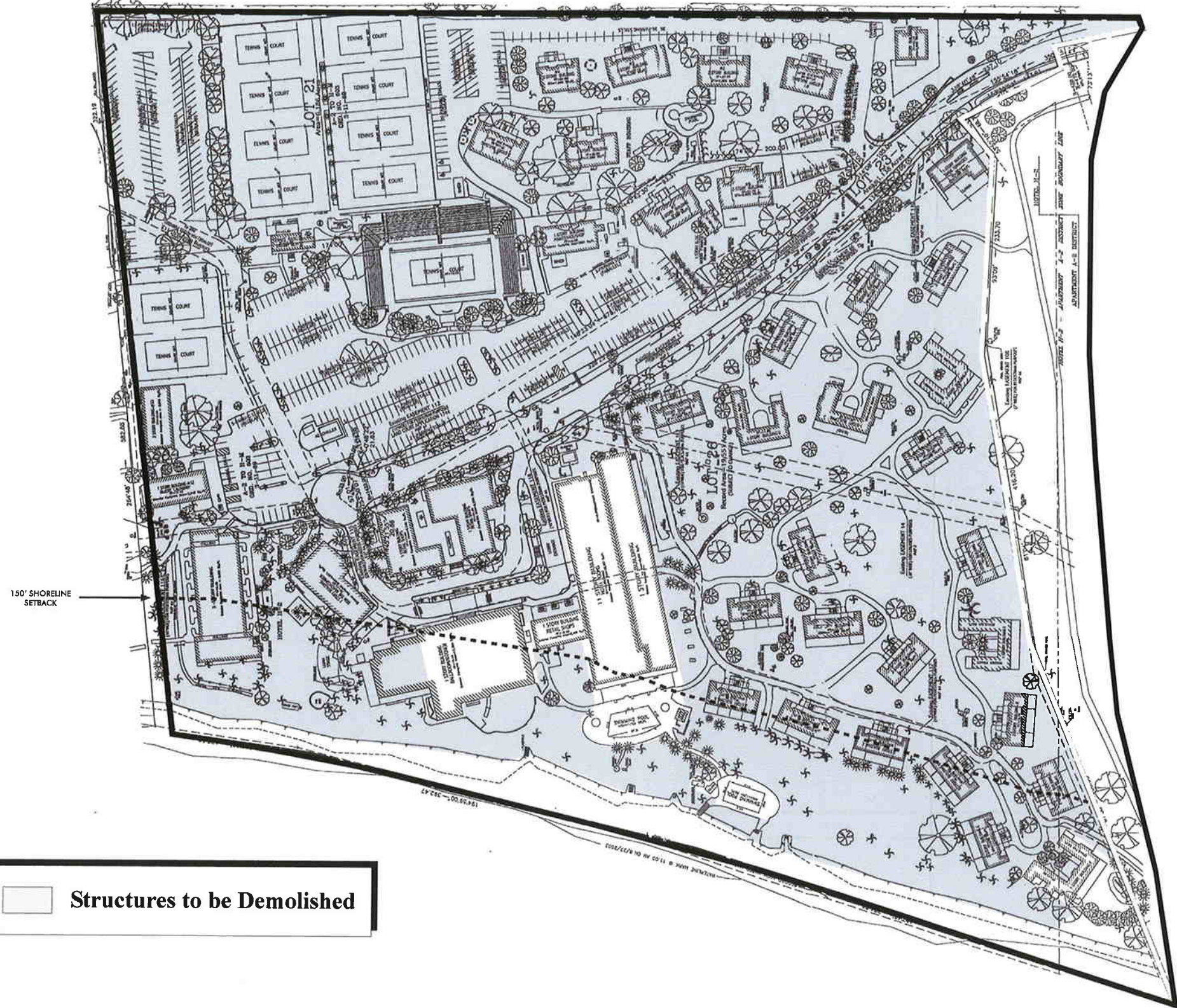
Figure 9

### Royal Lahaina Resort Revitalization Public Beach Access Routes

NOT TO SCALE







**Structures to be Demolished**

Source: WCIT Architecture

Figure 10

## Royal Lahaina Resort Revitalization Demolition Plan

NOT TO SCALE



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### 3. **Project Phasing and Cost**

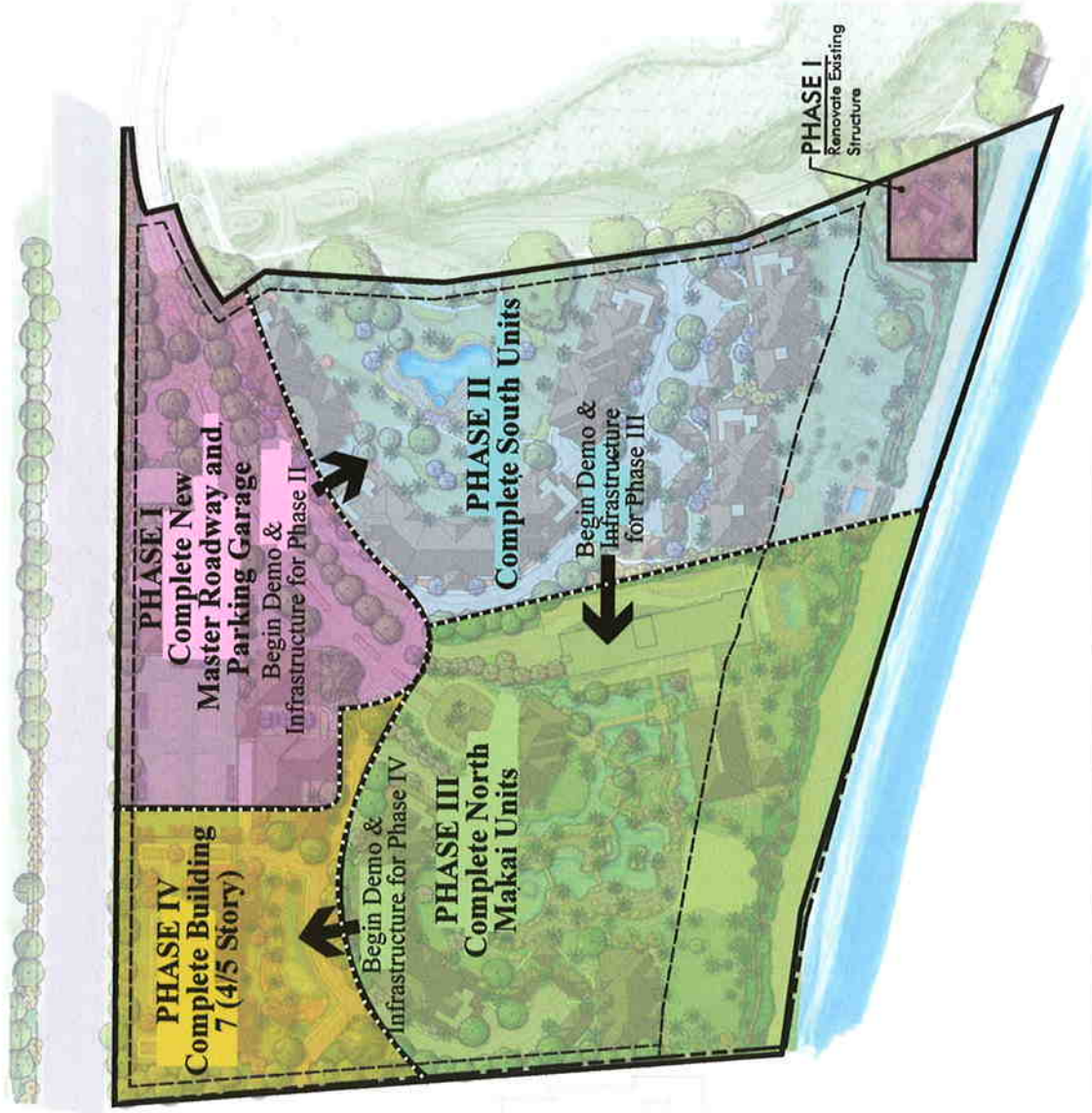
It is anticipated that the project will be constructed in four (4) phases to construct the appropriate new infrastructure, minimize disruptions for hotel guests, resources available for construction and to meet market demand.

The first phase is the “entrance and commercial” section which includes the new roadway from the entrance of the property to the new porte cochere for the hotel, Aloha greeter stand, 16 public beach access parking stalls, subterranean parking structure, consisting of 398 parking stalls, four (4) tennis/sports courts, activity center, owner services building, general store, maintenance and service building, new trolley stop, new lobby building and the recreational building located on the south end of the property, within the 150-foot shoreline setback.

The second phase includes the infrastructure and construction of the new condominium/hotel units on the “South/Golf” side of the resort, in a mixture of 2/3-story and 3/4 story buildings, which includes approximately 62 units and a new pool feature with barbeque area and restrooms. Related parking improvements include 106 underground parking spaces, 14 covered garage parking spaces and 14 uncovered parking spaces. See Figure 11 and refer to Figure 5.

The third phase includes the infrastructure and construction of the new condominium/hotel units located in three (3) buildings; consisting of approximately 28 units on the “North/Makai” side, related underground parking, along with the new pools and additional water features.





Source: WCIT Architecture

Figure 11



# Royal Lahaina Resort Revitalization Phasing Plan

NOT TO SCALE

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The fourth phase includes the infrastructure on the “North/Mauka” side of the property and construction of the new condominium/hotel units in a 4/5-story building on the north/mauka side near Honoapiilani Highway, which includes approximately 36 units, as well as a new pool feature and underground parking spaces.

Construction for the Royal Lahaina Resort revitalization project will commence upon receipt of all applicable regulatory permits and approvals. Construction is anticipated to begin in mid-2007. Complete build out of the project (all four (4) phases) is expected to take three (3) years. The total construction cost of the project is estimated at \$300 million.

**D. SHORELINE SETBACK VARIANCE AND SPECIAL MANAGEMENT AREA USE PERMIT ACTION SUMMARY**

The applicant is requesting a Shoreline Setback Variance for demolition and repair/maintenance activities to existing structures within the shoreline area. A SMA Use Permit is also being requested for the overall revitalization development. This Environmental Assessment document addresses both the Shoreline Setback Variance criteria and SMA Use Permit policies and objectives.

# ***Chapter II***

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***Description of Surrounding  
Land Uses, Climate and Soils***

## **II. DESCRIPTION OF SURROUNDING LAND USES, CLIMATE AND SOILS**

### **A. SURROUNDING LAND USES**

The project site encompasses an area of approximately 26.875 acres, and was developed for hotel use in the early 1960s and completed in the early 1970s.

The project site lies near the northern extent of existing development in the Kaanapali Beach Resort. See Figure 12. This master planned development consists of hotels, condominiums, single-family residential areas, two (2) championship golf courses, tennis facilities, as well as a shopping center, various restaurants and a whaling museum.

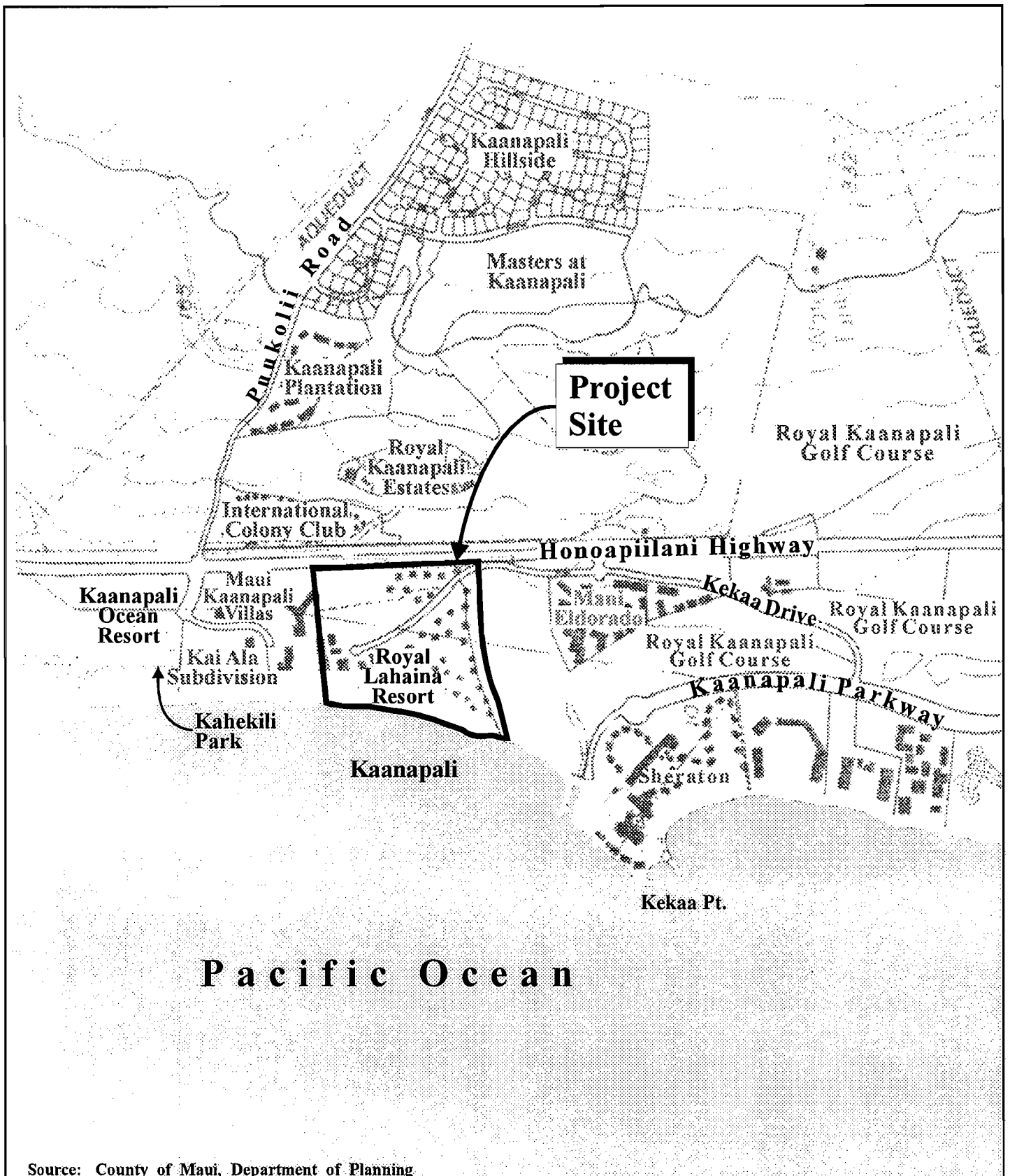
Land uses to the north of the project site include the Maui Kaanapali Villas and Kai Ala Subdivision. Honoapiilani Highway and Kaanapali North Golf Course reflect land uses to the east of the project site, while the Kaanapali North and South Golf Courses, Maui Eldorado, and Sheraton Maui Hotel comprise land uses to the south. The ocean adjoins the project site to the west. Refer to Figure 12.

### **B. CLIMATE**

Lahaina's climate is relatively uniform year-round due to the surrounding ocean, its tropical latitude, and its position relative to storm tracts and the Pacific anticyclone. Variations in climatic conditions among the island's different regions is largely attributable to local terrain.

Based on data collected by the National Weather Service, average monthly temperatures range from 71.5 to 78.0 degrees Fahrenheit.

Rainfall in Lahaina is highly seasonal, with most precipitation occurring



Source: County of Maui, Department of Planning

Figure 12

Royal Lahaina Resort  
Revitalization  
Surrounding Land Uses

NOT TO SCALE





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between October and April as a result of winter storms. The West Maui region receives most of its rainfall in the late afternoon and early evening. Data collected indicates that January is typically the wettest month, with 3.21 inches of rainfall, while June is the driest, with 0.08 inch. Average annual precipitation is approximately 14.62 inches. (Maui County Data Book, 2004).

Wind patterns in the Lahaina region are also seasonal, with tradewinds originating from the northeast occurring predominantly during the summer and approximately 50 percent of the time during the winter. Wind patterns also vary on a daily basis, with winds blowing onshore toward the warm land mass during the day and in the opposite direction toward the warm ocean during the evening.

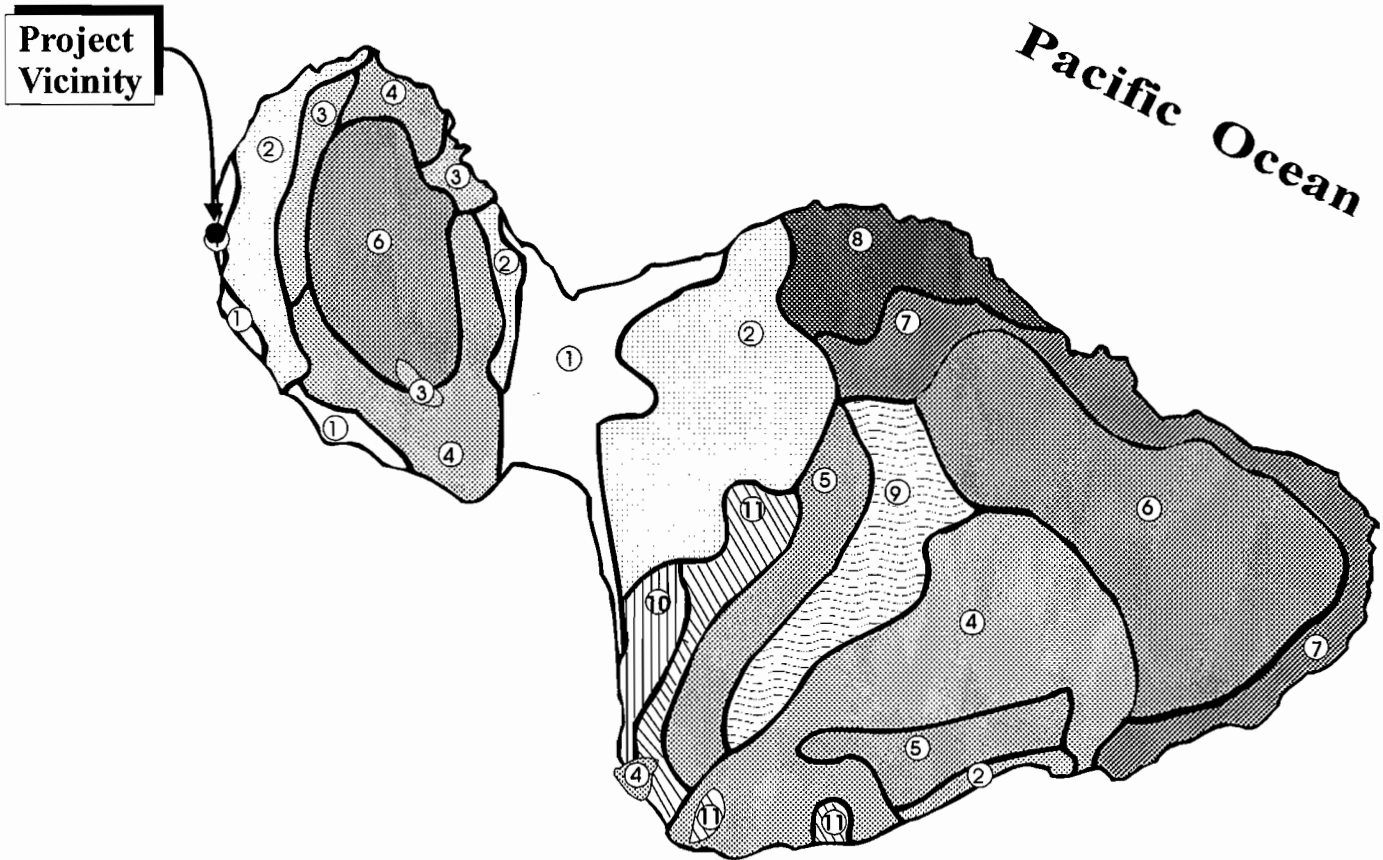
**C. SOILS**

Underlying the project site are the soils of the Pulehu-Ewa-Jaucas association. See Figure 13. The Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (U.S. Department of Agriculture, Soil Conservation Service, 1972) characterizes the soils of this association as deep and nearly level to moderately sloping. These soils possess well-drained to excessively drained features and are further typified by moderately fine to coarse-textured subsoils. This soil type is primarily found on alluvial fans and in basins.

According to the United States Department of Agriculture Soil Conservation Service's Soil Survey, the underlying soil at the project site consists of Ewa Silty Clay Loam (EaA) which is used for sugarcane and pasture. Ewa Silty Clay Loam erosion hazard is very slight and runoff is very slow. The project site also consists of Jaucas Sand (JaC) used for pasture, sugarcane, truck crops and urban development. Jaucas Sand

# LEGEND

- |  |                                     |
|--|-------------------------------------|
| ① Pulehu-Ewa-Jaucas association                | ⑦ Hana-Makaalae-Kailua association  |
| ② Waiakoa-Keahua-Molokai association           | ⑧ Pauwela-Haiku association         |
| ③ Honolua-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           |                                     |



Base Map Source: USDA Soil Conservation Service

Figure 13

## Royal Lahaina Resort Revitalization Soil Association Map

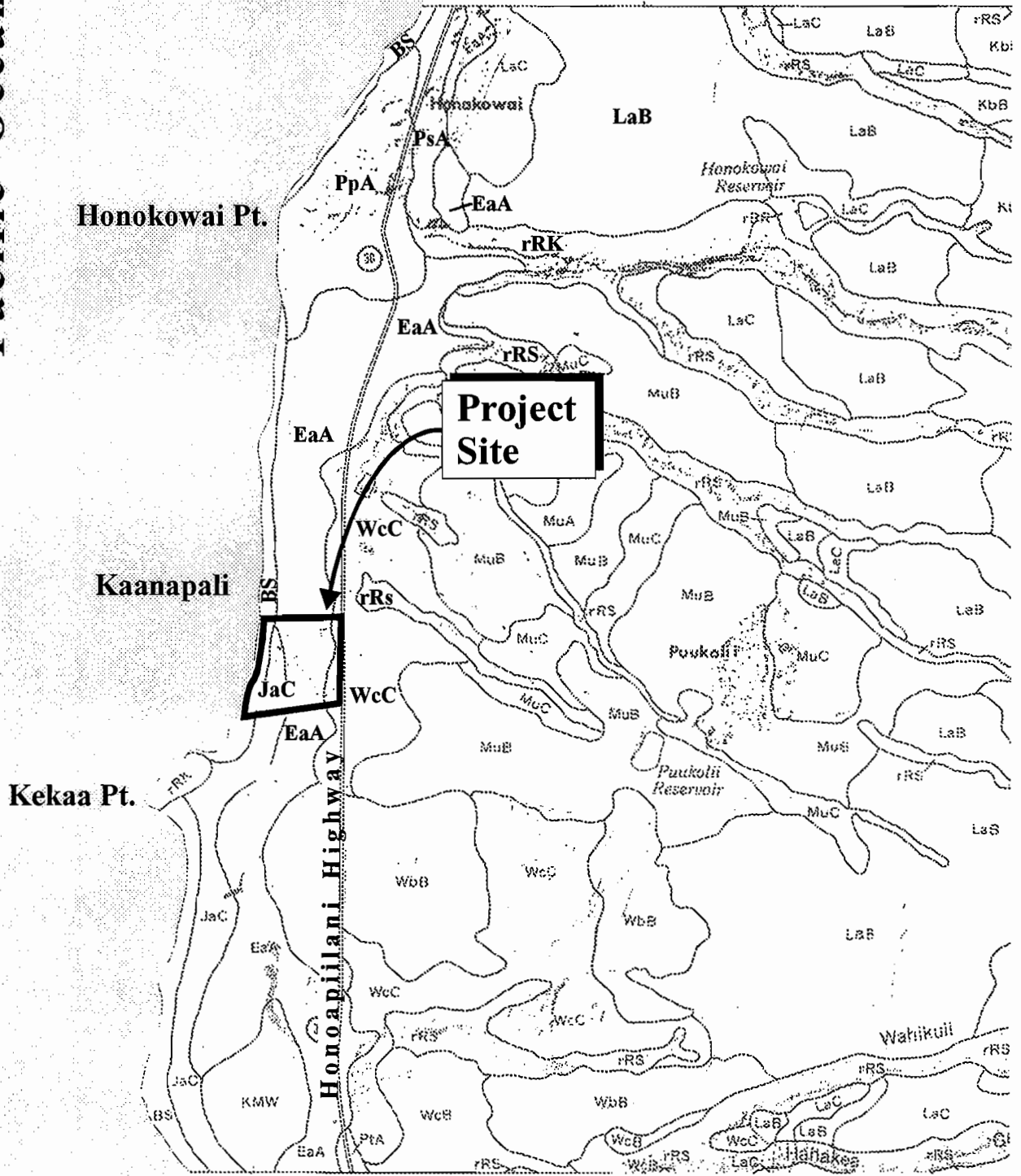
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has a rapid permeability and runoff is very slow to slow. Beaches (BS) is also classified at the project site which are mainly light-colored sands derived from coral and seashells. The eastern portion of the site, nearest to Honoapiilani Highway, also contains Wahikuli Stony Silty Clay (WcC). Wahikuli Stony Silty Clay is characterized by slow to medium runoff, and the erosion hazard is slight to moderate. See Figure 14.

Pacific Ocean



Project Site

Source: U.S. Department of Agriculture, Soil Conservation Service

Figure 14

Royal Lahaina Resort  
Revitalization  
Soil Classification Map

NOT TO SCALE



# ***Chapter III***

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***Description of the Affected  
Environment, Potential Impacts  
and Mitigation Measures***

### **III. DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES**

#### **A. PHYSICAL ENVIRONMENT**

##### **1. Topography**

###### **a. Existing Conditions**

Elevations within the project site range from 39 to 47 feet mean sea level (msl) along the eastern property line, running parallel to Honoapiilani Highway, to 13 feet msl along the northern border with the Maui Kaanapali complex, to about 12 feet msl above the berm along the western property line of the project site. With the exception of the areas immediately adjacent to the Honoapiilani Highway, the eastern portion of the property is characterized by moderate slopes, sloping towards the west. The western portion of the property is characterized by mild slopes and flat areas, sloping towards the east. See Preliminary Engineering Report, Appendix "C".

###### **b. Potential Impacts and Mitigation Measures**

Earthwork within the shoreline zone will be limited to minor beach quality sand fill to enhance and maintain the character and function of the shoreline area. All drainage improvements will satisfy the requirements of the County of Maui, Chapter 4: Rules for the Design of Storm Drainage Facilities in the County of Maui and the West Maui Watershed Manual. Details of drainage are discussed in section E.3 of this report.

The following Best Management Practices will be implemented during grading and construction to control

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erosion on the project site:

- A water truck will be utilized onsite during construction to provide immediate sprinkling, as needed.
- A temporary sediment basin will be constructed at the makai portion of the property.
- All cut and fill slopes will be sodded or planted immediately after grading work has been completed. Temporary berms and cut-off ditches will be installed as needed in order to direct flows to the siltation basins and to control erosion.

Erosion control measures and Best Management Practices will be implemented during the construction period to minimize soil erosion and sedimentation. An application for a National Pollutant Discharge Elimination System (NPDES) permit for construction-related activities will be submitted to the State Department of Health for review and approval as warranted.

## **2. Agriculture**

### **a. Existing Conditions**

#### **(1) Past and Present Use**

Prior to 1965, the lands underlying the project site were formerly utilized for sugarcane cultivation by Pioneer Mill Company, Ltd. Sugar would be processed and bagged at the mill in Lahaina and taken by train to the landing at Pu'u Keka'a (Black Rock). Other buildings were constructed in the area to aid in plantation activities, such as oil and molasses tanks, as well as a pavilion and beach

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cottages for the use of Pioneer Mill Company's personnel (Clark, p. 61). The project site has not been utilized for sugarcane cultivation since the 1960s. The Royal Lahaina Resort was developed in the early 1960s and completed in the early 1970s.

**(2) Land Study Bureau Classification**

According to the Land Study Bureau's Detailed Land Classification Map, the project site is rated for "Urban" uses. It is noted that when the Detailed Land Classification was produced in 1967, portions of the Kaanapali Resort were in existence. As such, the entire Kaanapali Resort area, from the existing Kaanapali Parkway to Puukolii Road to the north, was designated for Urban uses.

**(3) Agricultural Lands of Importance in the State of Hawaii**

The State Department of Agriculture has established four (4) categories of Agricultural Lands of Importance to the State of Hawaii (ALISH). "Prime" lands are those lands which possess the soil quality, growing season, and moisture supply needed to produce high yields of crops economically and when treated and managed according to modern farming techniques. "Unique" lands have similar crop specific characteristics, while lands rated "Other" are not classified as "Prime" or "Unique", but are of Statewide or local agricultural importance. Lands not rated "Prime", "Unique" or "Other", are "Unclassified".



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According to the ALISH map, the lands underlying the project site are designated as "Unclassified Agricultural Lands".

***b. Potential Impacts and Mitigation Measures***

The project site has been zoned for Hotel District (H-M, H-2) and Apartment District (A-2) use since the early 1960s. The site is also designated for Hotel and Open Space use by West Maui Community Plan (1996). The proposed project will involve the revitalization of approximately 26.875 acres of land which has been developed as a resort since 1961. The continued use of this land for the proposed project is not anticipated to affect the inventory of lands available for agricultural cultivation, nor is it expected to affect the inventory of land available for diversified agricultural use.

***3. Flood and Tsunami Hazards***

***a. Existing Conditions***

The Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM) shows that the project site is located within several flood zones. The majority of the project site is within Zone C, which is identified as an area of minimal flooding. The western boundary of the project sites is located in Zone A4, except for the shoreline portion of the site which is in Zone V12. See Figure 15. Areas designated A1 to A30 are subject to 100-year flood events, while areas designated V1 to V30 are subject to 100-year coastal flood events with velocity hazard (wave action). Within the project site, the base flood elevation for both the A4 and V12 Zones is 10 feet above mean sea level (AMSL).

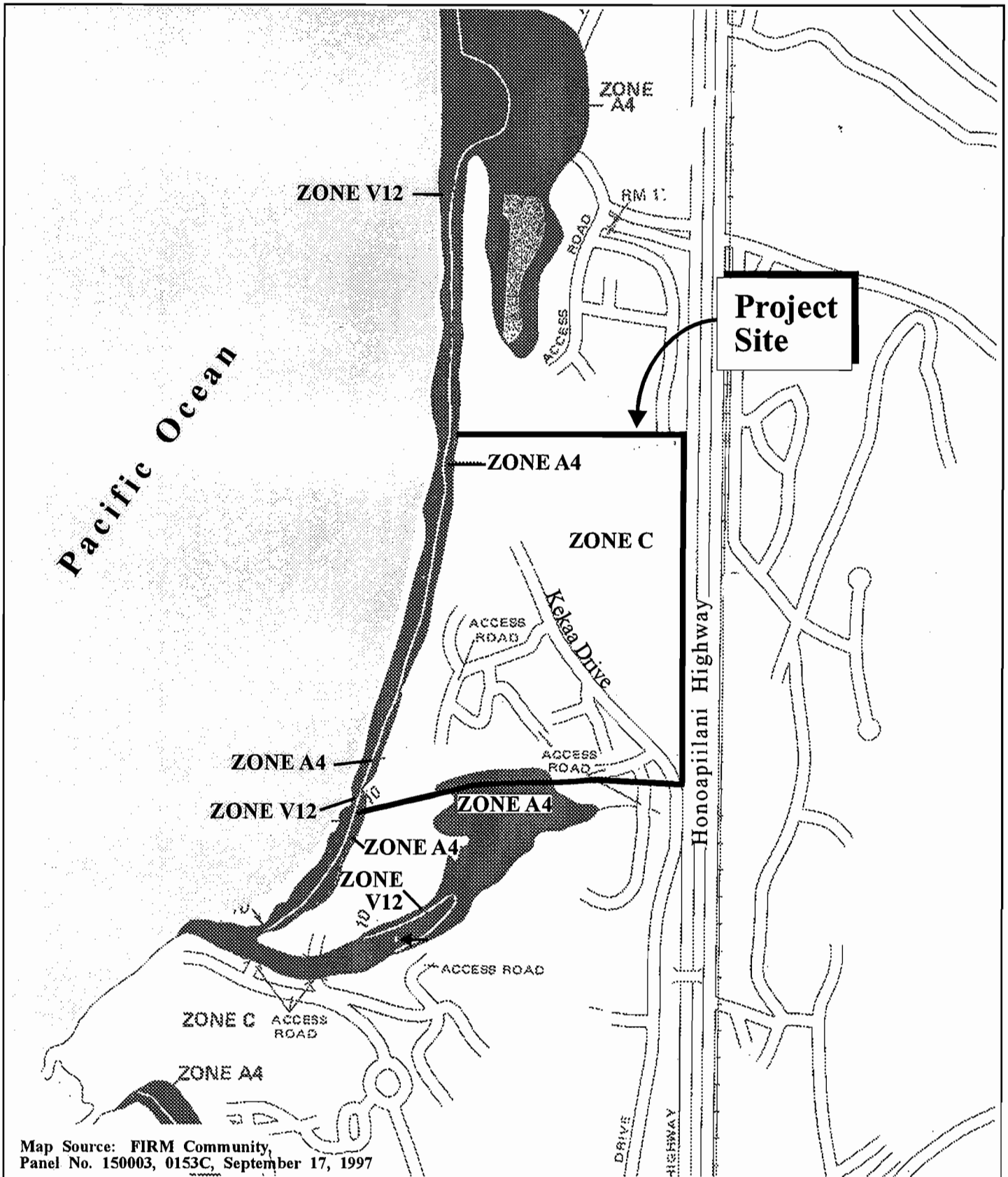


Figure 15

Royal Lahaina Resort  
Revitalization  
Flood Insurance Rate Map



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**b. Potential Impacts and Mitigation Measures**

As indicated by the FIRM and the Maui County Code, portions of the project site situated within Zones A4 and V12 have a base flood elevation of 10 feet AMSL, and are located within the County's special flood hazard area. No structures are proposed or proposed to be renovated within Zone V12.

Coordination with the County Department of Planning will be undertaken prior to the construction of any improvements within the flood hazard area and coastal high hazard area to ensure compliance with applicable flood hazard area development standards (i.e., beach quality sand fill).

**4. Wetlands**

No known wetlands are associated on the developed subject property.

**5. Flora and Fauna**

Since the property has been developed since the 1960s, no rare, threatened, or endangered species of flora or terrestrial fauna are known to inhabit the project site. As such, no adverse impacts are anticipated.

**6. Archaeological Resources**

**a. Existing Conditions**

Archaeological studies have been conducted on parcels in the vicinity of the project site. Since the advent of contract archaeology in the early 1970s and 1980s and the rapid urbanization and resort development of West Maui,

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numerous archaeological studies have been conducted in the Lahaina region. Much of the archaeological environment has been erased with the impact of the sugarcane and pineapple industry and the subsequent resort development. A summary of recent archaeological investigations in the ahupua'a of Hanaka'o'o is provided below and in the archaeological inventory survey report prepared for the subject project. See Appendix "D".

Paul H. Rosendal Inc. (PHRI) conducted a reconnaissance survey on portions of the Sheraton Maui in the Kaanapali Beach Resort in 1986. The Sheraton Maui is located south of the project site. The survey determined that the project area had undergone previous disturbance with development and the remaining natural topography included only the barren coastal flats and Pu'u Keka'a (Black Rock). PHRI (Graves, 1993) subsequently conducted an inventory survey at the Sheraton Maui. Subsurface testing in the form of 15 backhoe trenches identified numerous layers of introduced fill. No cultural remains were identified.

Xamanek Researches (Fredericksen, 1998) conducted archaeological monitoring during the redevelopment project at the Sheraton Maui. Results of the monitoring identified nine (9) random isolated finds of human remains and seven (7) primary burials. Coffin burials, and the remains of grave markers, were identified in association with a historic Japanese cemetery that was located on the study parcel. Another cemetery was reported to be located atop Pu'u Keka'a (Black Rock). During the initial construction in the

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1960s of the Sheraton Maui and other hotels along the Kaanapali Beach Resort ocean frontage, human remains were reported to have been disturbed.

Scientific Consultant Services (SCS) conducted an inventory survey at the Maui Marriott Ocean Club (McGerty and Spear, 2002). The survey, consisting of backhoe trenching in four (4) separate areas on the resort premises, identified previous subsurface disturbances associated with development. No pre-contact or historic materials were identified in any of the trenches.

Coordination with the Maui State Historic Preservation Division (SHPD) office was done to develop the scope of the survey as the Royal Lahaina Resort is currently operating. Testing was done in a two-phase plan. The first phase was conducted in areas of proposed development without impacting day-to-day operations of the resort. The second phase would be conducted prior to or during demolition, when all utilities would be inactive and hard surfaces, such as tennis courts and parking lots, would be demolished. The first phase of the archaeological inventory survey was completed on the project site in May 2005. The results of the first phase are included in an Archaeological Assessment Report prepared for the project. See Appendix "D".

For the first phase of the survey, a pedestrian surface assessment was conducted and a total of ten (10) trenches were excavated, oriented east/west and north/south,

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approximately 6.0 meters in length and 0.9 meters in width. The trenches were selectively located within areas of proposed development and where day-to-day activities of the hotel would not be impeded. The objective of the first phase of testing was to permit a representative sampling of the subject area and not to be intrusive with underground active utilities. The backhoe excavation was terminated when sterile subsoil or bedrock was encountered.

***b. Potential Impacts and Mitigation Measures***

No surface features were identified and no areas of exposed subsurface cultural deposition were encountered during the surface survey. The surface area of the parcel had undergone previous disturbance from resort development.

The archaeological inventory survey concluded that historically, the project area had undergone more than one (1) episode of extensive ground disturbance from resort development and prior sugarcane cultivation. No significant surface or subsurface cultural remains were identified within the portion of the project area for Phase I of the survey. All test trenches exhibited previous ground disturbance within the top two (2) feet.

Phase II inventory testing will be performed in areas that are currently improved as part of the hotel development. The inventory survey report noted that although the results of the Phase I testing were negative for cultural remains, archaeological monitoring is warranted due to buried human skeletal remains being documented at neighboring parcels,

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both developed and undeveloped. Archaeological monitoring during the demolition and construction related activities will be undertaken. An archaeological monitoring plan will be prepared and submitted to SHPD for review and approval, prior to the start of any construction work on the project. Should any cultural remains be encountered during construction, work will cease in the area and the SHPD will be contacted for appropriate mitigation measures.

7. **Cultural Resources**

a. **Existing Conditions**

A cultural impact assessment was prepared for the proposed project. The cultural impact assessment utilized historical references and cultural source materials, as well as interviews with long-time employees of the Royal Lahaina Resort to provide an assessment of the project area. Contact was also made with local Native Hawaiian organizations to inquire about cultural resources or practices of the area. While no traditional cultural practices were identified in the area within recent times, the report noted that with the development of the Kaanapali Resort in the 1960s, traditional fishing and gathering areas were lost. Although no adverse effects to cultural practices were identified with the proposed Royal Lahaina Resort Revitalization, the report further stated that it would be important to provide "access with dignity" and ensure that public access to the beaches are continued with adequate parking. See Appendix "E".

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***b. Potential Impacts and Mitigation Measures***

The cultural impact assessment provided research into the history of the area through various sources including historical research, contact with native Hawaiian and community groups and interviews with long-time employees. The assessment concluded that based on the historic information and responses from organizations, that Hawaiian rights related to gathering, access or other customary activities would not be affected and that there would be no direct adverse effect upon cultural practices or beliefs with the proposed revitalization project.

***8. Air Quality***

***a. Existing Conditions***

There are no known point sources of airborne emissions within proximity of the project site. Air quality in the vicinity may be temporarily affected by dust from agricultural lands to the northeast of the project site. Although minimal, airborne pollutants are largely attributable to vehicular exhaust from traffic along Honoapiilani Highway and nearby roadways. These sources, however, are intermittent and prevailing winds quickly disperse the particulates generated by these temporary sources. Overall, the air quality in the Kaanapali region is considered good.

***b. Potential Impacts and Mitigation Measures***

In the short-term, construction related activities will be the primary source of airborne pollutants. Site work involving clearing, demolition, grubbing, and grading operations will generate fugitive dust.



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Emissions from construction equipment and other vehicles involved in construction activities may temporarily affect the ambient air quality within the immediate vicinity. These effects, however, can be mitigated by proper maintenance of construction equipment and vehicles.

In addition, dust generated during construction, especially from earth-moving operations, such as excavating, trenching, and filling may also result in a temporary decrease in ambient air quality. Mitigation measures include utilizing dust barriers, waterwagons and/or sprinklers to control dust, and watering graded areas upon the completion of daily construction activities. On a long-term basis, the proposed project is not anticipated to generate any adverse air quality impacts.

9. **Noise Characteristics**

a. **Existing Conditions**

There are no fixed noise generators in the vicinity of the project site. Background noise levels are primarily attributable to vehicular traffic along Honoapiilani Highway and Kekaa Drive.

The project site is not affected by noise from arriving and departing aircraft utilizing the Kapalua-West Maui Airport.

b. **Potential Impacts and Mitigation Measures**

Ambient noise conditions may be temporarily affected by construction activities. Heavy construction machinery, such as backhoes, dump trucks, front-end loaders, paving

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equipment, and material-transport vehicles are anticipated to be the dominant noise-generating sources during the construction period.

Proper equipment and vehicle maintenance are anticipated to minimize noise levels. Equipment mufflers or other noise attenuating equipment may also be utilized as required.

An application for a Community Noise Permit for construction activities will be submitted to the State Department of Health for review and approval as necessary.

Upon completion, the proposed project is not expected to be a source of long-term adverse noise conditions.

**10. Scenic and Open Space Resources**

**a. Existing Conditions**

Within the subject parcels, a strip of land, approximately 40-foot wide (along Honoapiilani Highway) and another strip of land approximately 150-foot wide (along the shoreline), are designated for "Open Space" use by the West Maui Community Plan. Within these "Open Space" designated areas, existing vegetation include landscaped tropical resort plant materials and mature trees which currently limit views to the shoreline and from the shoreline to the mountains. Existing view corridors are mainly at the southern boundary of the site, adjacent to the Kaanapali North Golf Course. Additionally, there are existing buildings within the 150-foot shoreline setback area, including one (1) three-story building located along the northern extent of the property and eight

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(8) two-story buildings along Honoapiilani Highway which also limit views.

***b. Potential Impacts and Mitigation Measures***

The proposed development will slightly alter the existing character of the site from its existing architecturally designed resort. As previously noted, the proposed project calls for the demolition of buildings within the 150-foot shoreline setback area. Included in the demolition is the removal of a three-story building, as well as six (6) two-story structures. The removal of the three-story building will allow for increased views to and from the shoreline from the northern portion of the resort. Further, the removal of the two-story structures from the shoreline setback area will allow for an increase in landscaping around the site and dispersal of buildings to increase views from within the project site. While a new 4/5-story building is planned along the northeastern border of the property, landscaping will be increased to minimize the impact to the views along the Honoapiilani Highway. Additionally, the new building will be setback approximately 80 feet from the highway to reduce the visual impact. See Figure 16.

With regard to design, the proposed project will compliment the character of the Kaanapali Resort area. All buildings and landscaping will be reviewed and approved by the Kaanapali Operations Association.



Source: WCIT Architecture

**Figure 16** Royal Lahaina Resort Revitalization  
Proposed View Corridors



NOT TO SCALE

Prepared for: Royal Lahaina Development Group, LLC

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**11. Shoreline Character**

**a. Existing Conditions**

The shoreline along the project site was surveyed and submitted to DLNR for certification on September 16, 2005. The survey has been certified by the Department of Land and Natural Resources. See Appendix "F".

A Coastal Engineering Assessment (August 2005) was prepared for the shoreline area of the project site. See Appendix "G". According to this assessment, the shoreline area consists of tan colored, medium grain, primarily calcareous sand. The profiles and site observations show that the portion of Kaanapali Beach fronting the project site show that the beach was generally wide, with a well-established and well-maintained naupaka hedge along the entire berm crest. Landward of the naupaka hedge are resort facilities such as pools, buildings, and grassy lawns. The hedge is 20 to 30 feet wide, and vegetates a bank or berm crest that rises from an elevation of 8 to 12 feet on the beach side to 13 to 15 feet on the landward side. The backshore landward of the naupaka has been graded flat and is actively maintained by the resort. There is therefore, no evidence of natural coastal dunes, such as those that exist along the undeveloped northern part of the beach. The closest approach of a building to the beach is 20 feet from the vegetation line at the southern end of the property. The swimming pools are located 30 to 50 feet from the vegetation line. The restaurant is located 40 feet landward of the vegetation line, and the building at the north end of the property is 60 feet from the vegetation line. A fringing



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reef is present off of Honokowai Point. Along the remainder of the beach, there is no fringing reef, and the offshore bottom slopes relatively uniformly to a depth of 30 feet within about 700 feet of the shoreline (bottom slope one vertical to 25 horizontal), after which the bottom slope steepens to about one vertical to ten horizontal to a depth of 60 feet.

***b. Potential Impacts and Mitigation Measures***

The Royal Lahaina Resort shoreline consists of a wide, healthy beach with a well established and maintained naupaka hedge forming the vegetation line. Within the 150 foot setback, grassy lawns and walkways, and resort facilities such as swimming pools, a restaurant and assorted buildings currently occupy the backshore.

Previous studies of shoreline erosion indicate that the beach at the project site is stable and has experienced little net erosion. A historical review of University of Hawaii Coastal Geology Group aerial photos compared the low water mark between 1949 and 1997 and National Ocean Survey topographic survey charts from 1912 and 1932. The project site corresponded to the area located between transects 9 and 27. The study shows that the beach at the project site has been relatively stable, experiencing no net erosion at all transect locations except 19, 20 and 21 where minor erosion of between 0.07 to 0.14 feet per year was calculated. Refer to Appendix "G", Coastal Engineering Assessment. The study area is well protected from the northeast tradewind waves by the island of Maui itself, but is exposed to wave attack from passing tropical storms and hurricanes, Kona

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storms and North Pacific swells. The beach therefore, is dynamic and periodically subject to significant wave energy and large variations in beach position. Most recently, in January 2004, waves overtopped the beach and flooded the backshore. Dune overtopping and breaching also occurred recently at the northern end of the beach. The beach has since recovered and showed no signs of erosion.

The well-vegetated berm crest along the shoreline, with a crest elevation of 8 to 13 feet, provides the project site with important protection from storm waves. Care should be taken to maintain healthy vegetation along the dune to resist erosion and stabilize the dune.

A shoreline setback has been established 150 feet landward of the vegetation line. The proposed improvements to the Royal Lahaina Resort involve removing several structures that are currently located within the 150-foot setback area. Thus, the proposed project will result in a significant decrease in the number of structures located within the shoreline setback area. The structures that remain, however, may be susceptible to erosion and wave damage due to its proximity to the coast. However, the applicant represents that no long-term shoreline hardening structures will be constructed to protect the structures. Further, the coastal engineer noted that there has not been significant damage to the structures located within the 150-foot shoreline setback during the 1992 Hurricane Iniki event or the Kona storm in 2004. The engineer also noted that the beach fronting the Royal Lahaina resort quickly recovered as

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the beach was “wide and healthy” when a site visit was conducted in May 2005. See Appendix “G-1”.

The coastal engineer also provided a preliminary analysis for the proposed sand volleyball area. A beach recreation area is proposed within the shoreline setback area of the Royal Lahaina Resort. The beach recreation area will be located 100 feet landward of the vegetation line and certified shoreline and will be composed of beach quality sand. Refer to Figure 5. The sand will not contain more than six percent fines (0.074 mm) and not more than ten percent coarse material (4.76 mm), as specified by Department of Land and Natural Resources guidelines. A grain size analysis will be provided for the sand to be used in the beach recreation area. The beach recreation area will not modify the existing ground topography, and will replace the grassy lawn that presently exists at the proposed location. The naupaka hedge comprising the vegetation line will remain intact, with the exception of two (2) openings created to provide access to the beach. The proposed beach recreation area will therefore have no negative impacts to coastal waters. Rather, the new beach recreation area will have beneficial impacts by replacing the existing grass and soil with beach quality sand. During an extreme wave event that erodes the backshore, release of this beach quality sand would be beneficial rather than harmful to the beach and coastal zone.

The approximate quantity of sand required to widen the beach fronting the Royal Lahaina Resort by 15 feet is 9,000

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cubic yards. An estimate of the quantity of sand that might be used to make the beach recreation area is 300 cubic yards. While the addition of this sand to the backshore area would be beneficial, in the event of extreme beach erosion, the quantity of sand is insignificant and would do little to stem the shoreline erosion.

**12. Marine Environment**

**a. Existing Conditions**

The North Kaanapali Beach shoreline consists of a well-sorted, medium grain size calcareous beach. A fringing reef is present at Honokowai Point. Along the remainder of the beach, there is no fringing reef and the offshore bottom slopes relatively uniformly to a depth of 30 feet within about 700 feet of the shoreline (bottom slope one vertical to 25 horizontal), after which the bottom slope steepens to about one vertical to ten horizontal to a depth of 60 feet. The beach is bounded to the south by Kekaa Point and the ruins of the old sugarcane landing along the north side of the point. The offshore bottom is sandy to a distance of several hundred feet from shore. Refer to Coastal Engineering Assessment, Appendix "G".

**b. Potential Impacts and Mitigation Measures**

The applicant will develop a Best Management Practices (BMPs) plan and submit it to the Department of Public Works and Environmental Management (DPWEM) for review and approval. Upon approval, the BMPs will be implemented during demolition and construction activities to minimize any impacts to the shoreline and marine

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environment. Some of the BMPs to be proposed include the installation of dust and silt screens, sediment traps and stabilized construction entrances and other measures to minimize offsite tracking of sediment by construction vehicles.

**B. SOCIO-ECONOMIC CONDITIONS**

**1. Land Use and Community Character**

**a. Existing Conditions**

The majority of lands in the West Maui region are designated for either "Conservation" or "Agricultural" use by the State Land Use Commission. Generally, lands designated for "Conservation" and "Agricultural" uses occupy the higher and middle elevations, respectively, while lands designated for "Urban" use, such as the project site, are located at the lower elevations along the coast.

Pineapple fields and diversified agriculture, such as corn, bananas, melons and papayas, occupy much of the actively cultivated agricultural lands in the West Maui region. Since the closure of its sugar cane cultivation operations in September 1999, Pioneer Mill Company has set aside approximately 1,200 acres of their agricultural lands in Kaanapali to grow seed corn and coffee. Maui Land and Pineapple Company's pineapple fields span the lowlands below the West Maui Mountains north of Lahaina.

Kaanapali, Kapalua, Kahana, and Napili reflect Community Plan designations indicative of their resort nature. The Lahaina area is characterized by single-family, light

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industrial, business, and agricultural land uses. Lahaina Town has also been designated as a National Historic District as the former capital of the Hawaiian Kingdom and the whaling capital of Hawaii.

Part of West Maui's attraction can be attributed to its consistently dry and warm climate, as well as its sand beaches and scenic landscaped vistas. The vast number of visitor accommodations are located in the town of Lahaina and the resort communities of Kaanapali, Kapalua, Kahana, and Napili.

The Kapalua-West Maui Airport at Mahinahina provides commuter air services which conveniently link the West Maui region to Oahu and other neighbor islands. The airport is operated by the State Department of Transportation's Airports Division and is located approximately 1.5 miles to the north of the project site.

***b. Potential Impacts and Benefits***

The project site is situated along the northwestern coast of Maui which includes the residential communities of Lahaina, Honokowai, Kahana, and Napili, as well as the master planned resorts of Kaanapali and Kapalua.

Designated for resort development by the original 1960 Kaanapali master plan, as well as the 1983 and 1996 West Maui Community Plans, the subject property is situated within the existing developed portions of the Kaanapali Beach Resort.



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The proposed project conforms with current Community Plan land use designations and Maui County zoning. The project is also compatible with the land uses and development of the surrounding area.

**2. Population and Employment**

**a. Existing Conditions**

In 2000, the population of the island of Maui was 117,644 with 17,967 residents (15 percent) of the island's population living in West Maui (SMS, June 2002). Since 1970, West Maui has seen an increase in population, with the population growing from about 5,500 persons in 1970, to approximately 10,300 persons in 1980 and about 14,600 in 1990.

West Maui's population growth over the last three decades has kept pace with that of Maui County. In 2000, the population of Maui County was 128,241, compared to a 1990 population of 100,374 (SMS, June 2002). Population forecasts for the year 2010 reflect a West Maui population of 21,663, as well as an island-wide and County-wide population of 138,665 and 151,269, respectively (SMS, 2002).

In 2000, there were a total of 21,349 civilian jobs in the Lahaina area, of which 4,654 were self-employed jobs. In terms of employment distribution, more West Maui workers were employed in the service industry (43 percent) than the County-wide profile (33 percent). Because of West Maui's emphasis on service jobs, all other job sectors exhibited slightly lower distribution rates (SMS, June 2000).

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In March 2006, the unemployment rate for Maui County stood at 2.94 percent (State Department of Labor and Industrial Relations, April 2006).

***b. Potential Impacts and Benefits***

The Royal Lahaina revitalization plan incorporates a strategic phasing of development activities for numerous reasons. One of the reasons is that the resort is able to continue operating as a hotel throughout the revitalization process, thus mitigating the effect on the employee count at the property. The employee count will be reduced slightly (estimated at 12 percent to 15 percent) from the current employee count of 330, however this is projected to be only during the phased redevelopment process.

Further, there are measures in place to address the reduction in employee count during the phased redevelopment and then to retain the current employee count post revitalization. All employees have accrued sick, vacation and personal time, and in many cases, accrued vacation benefits alone amount to approximately 200 hours per employee, especially in the departments that may be most affected during the proposed phased redevelopment process. Therefore, the applicant will recommend to any employees that are affected to use accrued sick, vacation and personal time benefits during the phased redevelopment process. Further, post renovation, the number of employees whose positions were affected during the revitalization process will be allowed the opportunity to work at the property again due to the increased expectations of service

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delivery (pre-redevelopment = 2 star, and post-redevelopment = 5 star) and enhanced product presentation. It is reasonable to assume that the employee count may increase post-redevelopment, to counts that are higher than 330, based on comparisons with industry standards of similar 4 star and 5 star resort properties. Therefore, it is expected that the phased redevelopment process will be the most advantageous way to mitigate the reduction in employee count and it is also expected that the employee count will, at the very least, remain flat to its current 330 employee count due to the property enhancements and heightened service expectations post- redevelopment.

Since owners will occupy their units on a limited and transient basis, the proposed project is not expected to significantly influence population parameters.

Through direct and indirect job creation and employment, the proposed project will benefit the local community by providing employment opportunities during both the construction and post-development operational phases of the project.

3. **Economy**

a. **Existing Conditions**

Since the first development in Kaanapali nearly 50 years ago, the economy of Maui is substantially bolstered by the visitor industry. The significance of the visitor industry is especially evident in West Maui, which has emerged as one of the State's major resort destination areas.

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The strengthening of Hawaii's economy in 1999 and 2000 produced a 3 percent growth in employment in 2000. The island of Maui has shown the greatest strength in the economy by growing by 2.4 percent per year from 1998 to 2000. The strongest gains in Maui's employment were in the construction and services sector, which includes hotel employment.

Agriculture, another vital component of the West Maui economy, is handled by Maui Pineapple Company, Ltd. and Pioneer Mill Company, Ltd. Maui Pineapple's fields remain an important component of the region's agricultural base. Until the closure of sugarcane cultivation in September 1999, Pioneer Mill cultivated most of its approximately 6,700 acres of fee simple and leased lands. Pioneer Mill is currently utilizing portions of its lands to grow seed corn, coffee and diversified agriculture ventures.

***b. Potential Impacts and Benefits***

The proposed project will provide an opportunity for economic development and create positive short- and long-term benefits for the local economy. During the construction of the project, expenditures for labor, materials, and services will accrue to the community. Upon completion, the project and the businesses that support the project's operations will contribute to the long-term support of the economy through the contribution of property, income, general excise and transient accommodation taxes, the payment of employee wages, salaries, and benefits, and the purchase of goods and services from local merchants. In addition, visitors and

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owners will contribute to the economy through the purchases of goods and services during their stay.

4. **Housing**

a. **Existing Conditions**

In 2000, Maui County's housing supply totaled 56,377 housing units, representing a 31 percent increase from 1990. West Maui's housing supply in 2000 totaled 10,431 units, representing a 35 percent increase from 1990. West Maui's 2000 housing stock of 10,431 units had a vacancy rate of 42 percent, which was higher than the County-wide rate of 23 percent. West Maui's higher housing vacancy rate stems from units reserved for visitor use and secondary homes of absentee owners. In Maui County, approximately 76 percent of the vacant homes were categorized as seasonal, recreational units, while in West Maui, approximately 84 percent of the vacant homes were categorized as seasonal, recreational units. Excluding the vacant recreational units in 2000, there were approximately 3,089 vacant units in Maui County and approximately 704 vacant units in West Maui.

County-wide, owners lived in 58 percent of the occupied homes. Owner occupancy tended to be slightly lower in West Maui, with 51 percent of the units being owner-occupied.

Housing values in West Maui (January 2006 through February 2006) were noticeably higher than most of the County-wide housing supply. Whereas recent median home

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valuation for Maui County was \$692,000.00, West Maui's median was \$1,700,000.00 in Kaanapali, \$910,000.00 in Lahaina and \$1,137,500.00 in Napili/Honokowai (Realtor Association of Maui, April 2006).

***b. Potential Impacts and Benefits***

The Royal Lahaina Resort is an existing hotel accommodation, in operation since the early 1960s. It is noted that the proposed revitalization project will reduce the number of units at the resort by 127 units. As previously noted, effect on employment at the resort will be neutral with the revitalization project based on the number of anticipated positions to be retained by Royal Lahaina and the individual creation of jobs through services on the resort such as the spa, restaurants and retail operations. Additionally, the resort will remain open during demolition and construction and the applicant intends to retain as many existing employees as possible. Since existing employees are currently living on Maui, minimal impacts, if any, are anticipated for employee housing needs. It is also noted that the Royal Lahaina Development Group conducted a survey of its current employees. Approximately 67 percent of their employees reside in West Maui, while approximately 33 percent live in Central, Upcountry or South Maui. The Department of Housing and Human Concerns (DHHC) noted that no employee housing assessment would be sought for Royal Lahaina Resort due to the proposed reduction of units. Refer to Chapter X and Chapter XI of this document.

The applicant held discussions with former Amfac



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employees or persons who were associated with Amfac during the initial developments of Kaanapali Resort area and the Royal Lahaina Resort. Based on those conversations with various Amfac representatives, any employee or affordable housing conditions at the time of development were complied with by Amfac. RLDG is still working on obtaining source documents with Amfac representatives.

RLDG received two (2) letters from Department of Housing and Human Concerns, which stated that affordable requirements did not apply to the revitalization project since RLDG is decreasing the unit count from currently 583 units down to 456. Although RLDG has received letters confirming that an affordable housing assessment is not required, the applicant will meet with and work on an affordable housing contribution with the Department of Housing and Human Concerns.

**C. PUBLIC SERVICES AND FACILITIES**

**1. Police and Fire Protection Services**

**a. Existing Conditions**

The project site is within the service area of the Maui Police Department's Lahaina patrol district which services the West Maui region. The Lahaina Police Station is located in the Lahaina Civic Center complex at Wahikuli, about 2.5 miles to the south of the project site. The Lahaina Station was built in the early 1970s which includes 57 full-time personnel.

Fire prevention, suppression and protection services for the

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West Maui region are provided by the Department of Fire and Public Safety's Lahaina and Napili Fire Stations. The Lahaina Fire Station is approximately 2.5 miles to the south of the project site, while the Napili Fire Station is located approximately 5.0 miles to the northeast. The Lahaina Fire Station includes an engine and a ladder company, and is staffed by 30 full-time personnel. It also has a boat for ocean rescues. The Napili Fire Station consists of an engine company with 15 full-time firefighting personnel. All firefighting personnel are first-responder trained to provide emergency medical care.

***b. Potential Impacts and Mitigation Measures***

The proposed project is not anticipated to affect the capabilities of police and fire services. In addition, the existing operational limits of these services are not expected to be extended or affected.

***2. Health Facilities***

***a. Existing Conditions***

Maui Memorial Medical Center serves as the island's only major medical facility. Located in Wailuku, approximately 25.0 miles southeast of Lahaina, the 196-bed facility provides general, acute, and emergency care services for the island's residents and visitors. In addition, the Kaiser Permanente Medical Clinic, West Maui Healthcare Center, Maui Medical Group, Lahaina Physicians, and other medical and dental offices provide health care services for the region's residents and visitors.

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***b. Potential Impacts and Mitigation Measures***

The proposed project is not anticipated to affect the capabilities of existing medical facilities and services. In addition, the existing service area for emergency medical services is not expected to be extended or affected.

***3. Recreational Facilities***

***a. Existing Conditions***

West Maui is served by numerous recreational facilities offering diverse opportunities for the region's residents and visitors. There are numerous County and State recreational areas in West Maui. Approximately one-third of the County parks are situated along the shoreline and provide excellent opportunities for picnicking, swimming, diving, and other recreational activities. Popular surfing spots include D.T. Fleming Beach, Honolua Bay, Lahaina Harbor, Shark Pit, and "S" Turns. Kaanapali Beach is a white sand beach which is approximately 1.0 mile in length and extends from Honokowai Point at the north to Keka'a Point at the south. This beach is a popular recreational area for sunbathing, snorkeling, swimming, and other ocean activities. Kahekili Park, located to the north of the Royal Lahaina Resort, is privately owned and maintained. The park is open to the public and includes restrooms and shower facilities, grassed picnic areas, and a paved parking area. Located between Lots 2 and 3 of the North Beach Subdivision, the 10-acre open space/recreation area currently provides a parking area and shoreline access. No recreational amenities are located within this area. In addition, the Kaanapali Beach Resort and Kapalua Resort operate world-class golf courses

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which are available for public use.

***b. Potential Impacts and Mitigation Measures***

The Royal Lahaina Resort is a hotel accommodation that has been in operation since the early 1960s. The proposed revitalization project will reduce the number of visitor accommodations available at the resort by 127 units. While hotel and visitor accommodations are exempt from park assessments under Section 18.16.320, Parks and Playgrounds, of the Maui County Code (MCC), early consultation comments from the County of Maui Department of Parks and Recreation (DPR) indicate that an assessment may be sought on condominium units. Refer to Chapter X and Chapter XI of this document. The Royal Lahaina Resort currently has 11 tennis courts that are utilized for hotel guests and public usage. The tennis courts receive a reasonable amount of play during the morning and early evenings, however, there is not much play during the middle of the day due to heat. RLDG originally proposed to reduce the number of courts from 11 down to two (2) as part of its initial Draft EA submission. RLDG participated in various meetings including a community meeting on the project held on December 1, 2005, the Draft EA review by the Maui Planning Commission on February 14, 2006, the West Maui Taxpayers Association held on February 23, 2006, and various meetings with the Planning Department and tennis associations. Comments were received concerning the reduction in the number of tennis courts available, and as such, the applicant modified the project plans to increase the number of tennis courts from the originally planned from two

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(2) courts to four (4) courts. The applicant will also continue to work with the local and national tennis associations and junior tennis groups to continue to allow play on the Royal Lahaina current and proposed tennis courts.

In addition, the applicant met with the Parks and Recreation Department on three (3) separate occasions. The Royal Lahaina project will comply with the parks and recreation fees, in which RLDG has had preliminary discussions to contribute 100 percent of its parks and recreation fees toward the development of a new West Maui Community Tennis Facility. The Department of Parks and Recreation was very supportive of this recommendation and also encouraged RLDG to take the lead and spearhead this new tennis facility. The two (2) current potential sites proposed by the Parks Department are the Lahaina Civic Center and the Wainee Community.

At the West Maui Taxpayers Association meeting on February 23, 2006, the audience was supportive of RLDG as they presented plans for a new tennis facility in West Maui.

Separately, the applicant intends to provide a paved parking lot with 16 spaces for the public beach access located on the southern boundary of the site and will designate ten (10) free valet parking spaces in the parking structure for beach users. Separately, repair to three (3) existing stairways for beach access along the frontage of the project site is also planned.

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**4. Educational Facilities**

**a. Existing Conditions**

The State Department of Education operates four (4) public schools in the West Maui region. These schools are Lahainaluna High School, Lahaina Intermediate School, King Kamehameha III Elementary School, and Princess Nahienaena Elementary School. These public schools, as well as several privately operated pre-schools, elementary schools, and an intermediate school are located in the towns of Lahaina and Kapalua.

**b. Potential Impacts and Mitigation Measures**

Since owners will be mainly transient visitors, the proposed project is not anticipated to significantly affect existing educational facilities or resources.

**5. Solid Waste Disposal Service**

**a. Existing Conditions**

Residential refuse collection is provided by the County's Solid Waste Division. Private refuse collectors provide solid waste disposal services for commercial and institutional accounts. With the exception of the Hana region, residential and commercial solid waste from throughout the island is transported to the Central Maui Landfill at Puunene, about 30.0 miles to the southeast of the project site.

A refuse transfer station located at Olowalu, approximately 8.0 miles south of the project site, accepts household and green wastes, as well as used oil, for transport to the Central Maui Landfill in Puunene. The disposal of



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commercial and institutional refuse is not permitted at the Olowalu transfer station.

***b. Potential Impacts and Mitigation Measures***

The applicant prepared a Demolition and Solid Waste Management Plan to establish the protocol for the recycling and disposal of the solid waste that will be generated during the renovation of the existing hotel facilities. See Appendix "I". The Solid Waste Management Plan will be submitted to County of Maui Department of Public Works and Environmental Management for review and approval. Demolished and surplus materials and any other rubbish or debris, estimated at approximately 3,000 to 4,000 tons, as a result of the renovation work, shall be disposed of in accordance with applicable local, State and federal laws and regulations. Additionally, the applicant has initiated communications with not-for-profit agencies to determine if they are interested in receiving any usable materials such as appliances, plumbing fixtures, etc. Solid waste collection and disposal services for the proposed project will be provided by a commercial waste disposal service. To the extent practicable, waste diversion measures, such as recycling and composting, will be utilized for the operation of the project upon completion.

***D. ROADWAY INFRASTRUCTURE***

***1. Existing Roadway Infrastructure***

Access to existing Royal Lahaina Resort from Honoapiilani Highway is currently provided via Kekaa Drive. Honoapiilani Highway serves as the primary arterial roadway in the region

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oriented along the West Maui coast and connects to other regional highway systems serving other parts of the island. In the project vicinity, Honoapiilani Highway is generally linked to mauka-makai collector roads that serve the surrounding residences, resort areas, agricultural lands, and adjacent commercial areas.

**Honoapiilani Highway** is primarily a two-way, two-lane undivided State highway (Route 30) with a general posted speed limit of 45 miles per hour (mph) in the project vicinity. Honoapiilani Highway is the primary arterial in West Maui that is oriented in the north-south direction providing regional access along the coast with other areas of the island. Between Lower Honoapiilani Highway and Dickenson Street in Lahaina, Honoapiilani functions as a two-way, four-lane, undivided roadway.

**Kekaa Drive** is primarily a two-lane, two-way roadway generally oriented in the north-south direction. Approximately 730 feet (0.14 mile) south of the project site, a spur of Kekaa Drive heads mauka to connect with Honoapiilani Highway while the main roadway continues south to Kaanapali Parkway. At the intersection with Honoapiilani Highway, Kekaa Drive has one lane that serves right-turn traffic movements only. The northbound approach of the highway at this unsignalized t-intersection has two (2) through lanes and one (1) exclusive left-turn lane while the southbound approach has one (1) through lane and a shared through and right-turn lane.

**Puukoolii Road** is primarily a two-lane, two-way roadway generally oriented in the mauka-makai direction that provides access to the South Beach Mauka subdivisions located mauka of Honoapiilani

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Highway. At the intersection with Honoapiilani Highway, the Puukoolii Road approach has one (1) westbound shared left-turn and through lane and an exclusive right-turn lane.

**Kai Ala Drive** is a two-lane, two-way roadway that provides access to Kaanapali Ocean Resort, Maui Kaanapali Villas, Kai Ala Subdivision, and Kahekili Park on the makai side of the highway. At the intersection with Honoapiilani Highway and Puukoolii Road, the Kai Ala Drive approach has one (1) eastbound lane that serves left-turn and through traffic movements and one (1) lane that serves right-turn traffic movements.

**Lower Honoapiilani Road** is controlled by a three-phase traffic signal system, the northbound approach of Honoapiilani Highway has an exclusive left-turn lane, one (1) through lane, and a shared through and right-turn lane while the southbound approach has exclusive left-turn and right-turn lanes, and two (2) through lanes. Lower Honoapiilani Road is generally a two-lane, two-way roadway that heads northward from its origin at Honoapiilani Highway, through resort and commercial areas, hotels, residences, and other areas of accommodations, and continues as a private road through the Kapalua resort area. The Lower Honoapiilani Road approach of the intersection with Honoapiilani Highway has a shared left-turn through lane, and an exclusive right-turn lane. The westbound approach of the intersection is comprised of a two-lane, two-way roadway that provides access to the adjacent wastewater treatment plant.

**Kaanapali Parkway** is primarily a four-lane, two-way roadway generally oriented in the north-south direction that provides access

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to the resort and commercial areas, hotels, residences, and other areas of accommodations in Kaanapali makai of Honoapiilani Highway. At the intersection with the highway, the Kaanapali Parkway approach has two (2) exclusive right-turn lanes and a shared left-turn and through lane.

**Halelo Street** is a two-lane, two-way roadway that provides access to the adjacent residential area mauka of Honoapiilani Highway across Kaanapali Parkway. At the intersection with Honoapiilani Highway and Kaanapali Parkway, the Halelo Street approach has one (1) lane that serves all traffic movements.

**Leialii Parkway** is generally a two-lane, two-way roadway that provides access to a beach park makai of the Honoapiilani Highway and the Lahaina post office and Lahaina Civic Center mauka of the highway. At this intersection, the westbound approach of Leialii Parkway has a shared left-turn and through lane and an exclusive right-turn lane while the eastbound approach has one (1) lane that serves all traffic movements.

**Front Street** is primarily a two-lane, two-way roadway that heads southward from the intersection with Honoapiilani Highway and Fleming Road, through the commercial areas, residences, and other areas of accommodations in Lahaina, and intersects Honoapiilani Highway again south of Lahaina. At the intersection with the highway and Fleming Road, the Front Street approach has one (1) lane that serves all traffic movements.

**Fleming Road** is generally a two-lane, two-way roadway that provides access to adjacent residential areas mauka of the

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Honoapiilani Highway. At the intersection with the highway and Front Street, the Fleming Road approach has one (1) lane that serves all traffic movements.

2. **Traffic Impact Analysis**

A Traffic Assessment Report (TAR) was prepared for the project. See Appendix "H" and Appendix "H-1".

Field investigations were conducted on October 27 and 28, 2004 and May 4 and 5, 2005 at the following study intersections during morning and afternoon peak hours of traffic: Honoapiilani Highway and Lower Honoapiilani Road, Honoapiilani Highway, Puukoolii Road, and Kai Ala Drive, Honoapiilani Highway and Kekaa Drive, Honoapiilani Highway, Kaanapali Parkway and Halelo Street, Honoapiilani Highway and Leialii Street and Honoapiilani Highway, Front Street and Fleming Road. Additionally, traffic data from other reports for proposed developments in the region were also evaluated to ensure that an appropriate existing or baseline condition was used in the traffic analysis.

A summary of the TAR findings for the two (2) access intersections for the Royal Lahaina Resort (Honoapiilani Highway and Kekaa Drive and Honoapiilani Highway, Kaanapali Parkway and Halelo Street) follows.

a. **Existing Conditions**

**Honoapiilani Highway and Kekaa Drive**

At the intersection with Kekaa Drive, Honoapiilani Highway carries 989 vehicles northbound and 756 vehicles southbound during the AM peak period. During the PM

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peak period, traffic volumes are higher with 1,338 vehicles traveling northbound and 822 vehicles traveling southbound. The critical movement of the highway approaches is the northbound left-turn traffic movement which operates at LOS "B" during both peak periods of traffic.

The Kekaa Drive approach of the intersection carries 71 vehicles eastbound during the AM peak period. During the PM peak period, the traffic volume is slightly higher with 105 vehicles traveling eastbound. The Kekaa Drive approach of this intersection operates at LOS "C" and LOS "B" during the AM and PM peak periods, respectively. Vehicular queues occasionally on this approach during both peak periods of traffic, these queues would quickly dissipate since gaps in the through traffic stream on the highway are frequently available.

**Honoapiilani Highway, Kaanapali Parkway, and Halelo Street**

At the intersection with Kaanapali Parkway and Halelo Street, Honoapiilani Highway carries 1,441 vehicles northbound and 1,194 vehicles southbound. During the PM peak period, traffic volumes are higher with 1,482 vehicles traveling northbound and 1,443 vehicles traveling southbound. The critical movements of the highway approaches are the northbound left-turn and southbound through traffic movements which operate at LOS "D" during both peak periods. The most significant queuing along the highway occurred on the southbound approach with maximum vehicular queue lengths of between 12 and 15



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vehicles per lane observed. However, the vehicular queues on the highway were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

The Kaanapali Parkway approach of the intersection carries 437 vehicles eastbound during the AM peak period. During the PM peak period, the traffic volume is higher with 865 vehicles traveling eastbound. The left-turn and through traffic movement on the Kaanapali Parkway approach operates at LOS "D" during both peak periods while the right-turn traffic movement operates at LOS "B" during both peak periods. Due to the high volume of turning vehicles on this approach, vehicular queues periodically formed during both peak periods of traffic. However, these vehicular queues were observed to clear the intersection after each traffic signal cycle change during both peak periods.

The westbound approach of the intersection is comprised of Halelo Street. The traffic volumes along this roadway are low during both peak periods with only 20 vehicles on the approach during the AM peak period and only 17 vehicles during the PM peak period.

***b. Traffic Conditions with Project***

Trip methodology used for the TAR is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in "Trip Generation, 7<sup>th</sup> Edition," 2003. The projected vehicular trips generated by the proposed project were based on the

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proposed number of units within the project. In addition, traffic generated by the existing Royal Lahaina Resort was subtracted from the future traffic conditions to account for the project site's new unit counts. Table 2 summarizes the project site trip generation characteristics applied to the AM and PM peak hours of traffic for the development Year 2009.

**Table 2**

<b>PEAK HOUR TRIP GENERATION - RESORT HOTEL</b>			
<b>INDEPENDENT VARIABLE: Existing # of Units = 583</b>			
		<b>Projected Trip Ends</b>	
		<b>Rate</b>	<b>Totals</b>
AM Peak	Enter	0.238	(139)
	Exit	0.093	(54)
	Total	0.331	(193)
PM Peak	Enter	0.048	(28)
	Exit	0.065	(38)
	Total	0.113	(66)
<b>INDEPENDENT VARIABLE: Proposed # of Units = 455</b>			
		<b>Projected Trip Ends</b>	
		<b>Rate</b>	<b>Totals</b>
AM Peak	Enter	0.224	102
	Exit	0.088	40
	Total	0.312	142
PM Peak	Enter	0.048	22
	Exit	0.064	29
	Total	0.112	51
<b>TOTALS</b>			
		<b>Projected Trip Ends</b>	
AM Peak	Enter	(37)	
	Exit	(14)	
	Total	(51)	
PM Peak	Enter	(6)	
	Exit	(9)	
	Total	(15)	

As previously noted, access to the Royal Lahaina Resort is provided via Kekaa Drive which connects to Honoapiilani Highway both directly and indirectly via Kaanapali Parkway. Site-generated traffic was split between these two (2) routes on the highway, based on their assumed direction of travel,

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which was based upon current commercial and employment distributions throughout the area, as well as the convenience of the routes to and from the project site.

An analysis of both historical traffic data and traffic projections contained within the Maui Long-Range Transportation Plan (MLRTP) was made to determine the appropriate ambient growth of traffic demands in the project vicinity. Historical data, indicate an average annual traffic growth rate of approximately 2.5 percent, while the MLRTP indicates an average annual traffic growth rate of approximately 1.7 percent. The travel forecast for the project utilized the more conservative approach of a 2.5 percent annual growth rate, using the Year 2005 as the base year. Other area developments that are anticipated to be completed by the Year 2009 were also taken into consideration. Among the projects that were considered included: Miraval Kapalua, Westin Kaanapali Ocean Resort Lot 1 and Lot 2, the Villas at Kahana Ridge, Pulelehua and Pioneer Farms Phase I and Phase II. The determined traffic generation was applied to the ambient traffic growth, thus incorporating these additional applicable projects in the baseline traffic conditions. The purpose of including traffic demands from the other developments is to obtain a more realistic traffic forecast model and to ensure that any adverse traffic operational impacts can be properly addressed.

Traffic operations with the project were anticipated to remain similar to existing conditions during both peak periods in

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Year 2009. The analysis incorporates the developments of other projects with expected build-outs at Year 2009 or earlier. Traffic generated by the Royal Lahaina Resort is anticipated to decrease under project conditions due to the planned reduction in units, from 583 units to 455, by the proposed project. The projected traffic operations at the study intersections along Honoapiilani Highway are expected to be influenced primarily by ambient traffic growth, as well as, project-generated trips from other known developments expected to be completed and operational by Year 2009. As such, the critical traffic movements at all study intersections are expected to continue operating at levels of service similar to Year 2009 without project conditions. See Table 3.

**Table 3**

<b>COMPARISON OF EXISTING AND PROJECTED LEVELS OF SERVICE</b>								
<b>Intersection</b>	<b>Critical Movement</b>		<b>AM</b>			<b>PM</b>		
			<b>Exist</b>	<b>Year 2009</b>		<b>Exist</b>	<b>Year 2009</b>	
				<b>w/out project</b>	<b>w/ project</b>		<b>w/out project</b>	<b>w/ project</b>
Honoapiilani Hwy/Lower Honoapiilani Rd	Eastbound	RT	D	D	D	D	D	D
	Northbound	LT	D	D	D	D	D	D
Honoapiilani Hwy/ Puukolii Rd/ Kai Ala Dr	Westbound	LT-TH	D	D	D	D	D	D
	Northbound	TH	C	C	C	C	C	C
	Southbound	TH	D	D	D	D	D	D
Honoapiilani Hwy/ Kekaa Dr	Eastbound	RT	C	C	C	B	C	C
	Northbound	LT	B	B	B	B	B	B
Honoapiilani Hwy/ Kaanapali Pkwy/ Halelo St	Eastbound	LT-TH	D	D	D	D	D	D
		RT	B	C	C	B	C	C
	Northbound	LT	D	D	D	D	D	D
	Southbound	TH	D	D	D	D	D	D
Honoapiilani Hwy/ Leialii St	Northbound	TH-RT	D	D	D	C	B	B
	Southbound	TH-RT	C	C	C	D	D	D
Honoapiilani Hwy/Front St/ Fleming Rd	Eastbound	LT-TH-RT	D	D	D	D	D	D
	Westbound	LT-TH-RT	D	D	D	D	D	D
	Northbound	TH-RT	D	D	D	C	C	C
	Southbound	TH	C	C	C	D	D	D

At the request of the Maui Planning Commission, the applicant also had its traffic engineer prepare a supplemental TAR with regards to the anticipated traffic during construction. Refer to Appendix "H-1".

Construction Traffic

The contractor estimates that the number of peak construction workers onsite will be approximately 300 to 400



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per day. Construction workers will be directed to park onsite, as well as at designated offsite locations where they will be shuttled in to work with construction vans/buses. This measure is being proposed to avoid any excess traffic generation on Honoapiilani Highway and Kekaa Drive, as well as to minimize the onsite parking for construction.

**E. OTHER INFRASTRUCTURE SYSTEMS**

**1. Water**

**a. Existing Conditions**

The Kaanapali area in West Maui is served by a private water system owned and operated by Hawaii Water Service Company (HWSC) (formerly Kaanapali Water Corporation). The Royal Lahaina Resort is currently served by the HWSC water system which provides potable, fire protection, and irrigation water to the resort. Water to the project site is provided via a HWSC 12-inch line which enters the project site from a line located on Kekaa Drive. The 12-inch line is part of a looped system which serves both the Royal Lahaina Resort and the adjacent Maui Kaanapali Villas complex.

The existing Royal Lahaina Resort facilities are served by a total of seven (7) meters, five (5) potable, one (1) irrigation, and one (1) fire protection. The potable meters, all 4-inch, are located near the Basil Tomatoes Italian Grille restaurant, the tennis stadium, the hotel tower, the luau area, and the laundromat. The 3-inch irrigation meter is also located near the Basil Tomatoes Italian Grille restaurant to provide irrigation water to the landscaped areas surrounding the

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cottages. The fire protection meter is a 5/8-inch meter to service the hotel tower.

Based on existing uses at the Royal Lahaina Resort, an average daily demand of 215,689 gallons per day (gpd) was calculated for the resort facilities.

***b. Potential Impacts and Mitigation Measures***

A Preliminary Engineering Report was prepared for the proposed project. See Appendix "C". Potable water demands were derived using the project's program requirements provided by the architect and generalized simulation of projected demands for similar developments. Line sizes will be determined during the design phase of the project.

An average daily demand of 189,140 gpd was determined for potable water for the revitalization project, based on the Department of Water Supply Water System Standards dated 2002. This average daily demand represents a 12.3 percent decrease compared to the existing demand of 215,689 gpd.

The average daily demand for irrigation water is projected at 76,610 gpd for the Revitalization project.

***Proposed Improvements***

Discussions with the Hawaii Water Service (HWSC) personnel indicate that, at this time, the HWSC system in the area is sufficient with regard to sources, storage, and transmission capacity to support the revitalization project.

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Construction of the 126 condominium/hotel units and pool complexes will require relocating the existing 12-inch water main. The new relocated water main will connect to the existing water main in Kekaa Drive near the entrance to the project site and will follow the alignment of the new access road for the revitalization project. The relocated water main will connect back into the water main serving the adjacent Maui Kaanapali Villas complex.

The potable water system improvements for the project will consist of a new water meter vault, reduced pressure backflow prevention device, and necessary distribution waterline piping to the various site structures.

The fire protection water service laterals for the project site will consist of detector check meters and waterlines extending to the various buildings. The site fire protection system will consist of waterlines extending around the buildings with fire hydrants spaced at 250-foot intervals. The mechanical engineer will verify the need for a fire pump for the 12-story hotel tower and the other buildings during the design phase of the project.

The irrigation water supply for the project is anticipated to be via connection to the relocated water main within the new driveway entry. A separate meter will be installed for the irrigation system.

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2. **Wastewater**

a. **Existing Conditions**

The existing sanitary sewer collection system serving the project site consists of a 15-inch gravity line located within a sewer easement that bisects the project site in a north-south direction. This 15-inch gravity line also serves the Maui Kaanapali Villas complex north of the project site. The gravity collection system continues south from the project site to a series of wastewater pump stations, identified as Kaanapali No. 3 Wastewater Pump Station (WWPS No. 3), WWPS No. 1, and WWPS No. 2. This system also provides service to other resorts within the Kaanapali Resort area. The system is owned and maintained by the County of Maui. At this time, there are no capacity concerns, for WWPS No. 1, 2, or 3, that will limit the proposed improvements for the property.

The Lahaina Wastewater Reclamation Facility (LWRF) total treatment capacity is currently 9.0 million gallons per day (mgd), with 6.0 mgd for secondary treatment and 3.0 mgd for R-1 treatment. Presently, the facility treats about 5.3 mgd of wastewater. Approximately 1.0 mgd of the R-1 treated effluent is used to irrigate the Royal Kaanapali Golf Courses, the landscaped areas along Honoapiilani Highway, and the landscaped median of the Kaanapali Parkway. The remaining treated effluent (4.3 mgd) is disposed into four (4) injection wells located within the facility. Under the conditions in the U.S. Environmental Protection Agency (EPA) permit, the County is allowed to dispose a maximum flow of 6.7 mgd into the injection wells.

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The LWRF is located approximately 1.1 miles north of the project site along Honoapiilani Highway.

An average sanitary sewer volume of 261,570 gpd is calculated for the existing Royal Lahaina Resort and associated uses.

***b. Potential Impacts and Mitigation Measures***

Sanitary sewer volumes for the revitalization project were derived using the project's program requirements provided by the architect and generalized simulation of projected demands for similar developments. Line sizes will be determined during the design phase of the project.

An average sanitary sewer volume of 158,800 gpd is projected for the revitalization project, based on County guidelines for wastewater contribution. This projected sewer volume is approximately 39.3 percent lower than the existing volume of 261,570 gpd.

Discussions with Royal Lahaina Resort and County of Maui Wastewater Reclamation Division (WRD) personnel indicate that, at this time, the WRD system in the area is sufficient with regard to the capacity of the gravity sewerlines, sewer pump stations, and treatment plant to support the revitalization. In addition, it should be noted, that the projected wastewater generated by the revitalization would be less than generated under existing conditions.

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### **Proposed Improvements**

Construction of the new condominium/hotel villas and pool complexes will require relocation of the existing 15-inch sewer main so that it is clear of the new structures. The relocated sewer main will continue to provide sewer service for the adjacent Maui Kaanapali Villas Complex. The sewer main easement will also be relocated to match the location of the new line.

Removal of wastewater from the project site is anticipated to be via a connection to the relocated 15-inch gravity sewer main. A new wastewater collection system consisting of new sewer manholes and gravity lines will provide sewer service of the various site structures. Refer to Appendix "B".

### **3. Drainage**

#### **a. Existing Conditions**

The grounds of the existing Royal Lahaina Resort are well maintained with groundcover throughout the site. Drainage for the existing Royal Lahaina Resort site is collected by a system of drain lines, drain inlets, catch basins and storm drain manholes throughout the site. Flow from the site are conveyed to the main drainage system.

The main drainage system serving the Royal Lahaina Resort is located within a utility easement, extending from the east side of the main tower toward approximately the middle of the southern property line.

It is noted that the use of filter inserts in the drain inlets



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within the parking areas and roadways have been incorporated into the drainage system to mitigate sediment and petroleum products from entering the storm drainage system.

Additionally, it is noted that regular maintenance discharge water and overflow water from the new pools and water features will flow to a drywell. No discharge water from the pools and water features will enter the sanitary sewer or landscaping nor is it anticipated to have an impact on coastal waters.

***b. Potential Impacts and Mitigation Measures***

A Preliminary Drainage Report was prepared for the proposed project. Refer to Appendix "C". The report concluded that due to an increase in landscaping on the project site, there will be a decrease in storm water runoff generated by the site. As a result of the decrease in stormwater generated by the proposed development, the project's storm drainage plan will not cause any adverse effects to the existing drainage system and thus, the construction of an underground detention basin system is not required. Improvements to the existing onsite storm drainage system is likely to consist of a combination of drain inlets, storm drain manholes and underground piping.

***4. Electrical and Communication Systems***

***a. Existing Conditions***

The existing electrical service to the project site is a 12.47 kV, 3-phase, 4-wire system which comes from the Puukolii

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substation, located across Honoapiilani Highway, above Puukoolii Road. The existing distribution line is located underground along Kekaa Drive.

Concerns have been expressed by Maui Electric Company, Ltd. (MECO) regarding the existing electrical system at the Royal Lahaina Resort. In particular, the existing switchgear serving the site is outdated and should be upgraded.

Telephone service to the site and surrounding area is provided by the Hawaiian Telcom trunk system, located on Kekaa Drive. Service enters the project site from the access road and continues through the project site to service hotel and other existing uses.

Cable service for the project site and surrounding area is provided by Oceanic Time Warner Cable from a main underground cable located along Kekaa Drive. The main cable along Kekaa Drive is adequate to service the future development.

***b. Potential Impacts and Mitigation Measures***

Based on correspondence with MECO, electrical service is available to service the project site. New underground ductlines for electrical, telephone and internet and cable television service will be extended from the existing underground ductlines along Kekaa Drive.

Due to the reduction of units from the existing Royal Lahaina Resort, the proposed project is not anticipated to place

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significant demands on electrical, telephone and cable television services.

It is also noted that the project will incorporate portions of the "Guidelines for Sustainable Building Design in Hawaii", as practical. Some of the features will include installation of low-flow fixtures as required by the Uniform Building Code, reuse of existing structures, incorporation of pedestrian pathways and the use of permeable pavement, where possible.

***F. CUMULATIVE AND SECONDARY IMPACTS***

A cumulative impact is defined as an impact to 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. Actions, particularly those that involve the construction of public facilities or infrastructure, may stimulate secondary impacts such as increases in population and growth, or increases in the demand for public services. In order to assess the potential cumulative and secondary impacts related to the development of the proposed project, the West Maui Community Plan has been utilized as the basis for reasonably foreseeable future development in the region. The Community Plan reflects current and projected conditions in West Maui and sets forth goals, objectives, policies, and recommendations to guide the development of the region, as well as enhance its overall living environment.

Secondary impacts include a potential increase in the population of the West Maui region, as well as the effects of induced growth, such as the need for additional infrastructure improvements and public services.

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Long-term growth and development in the West Maui region are guided by the West Maui Community Plan. Conformance with the Community Plan, as well as any other State and County land use policies, plans, and controls involves the appropriate and adequate mitigation of impacts relating to a proposed action.

Cumulative impacts primarily relate to the long-term relationship of the proposed action to the overall development of the Kaanapali Resort. The project is the second revitalization project in the Kaanapali Resort. From a long-term perspective, the redevelopment and conversion of units to timeshare or vacation rental units in the Kaanapali Resort will affect employment and requirements for public services and infrastructure.

From a long-term economic standpoint, the revitalization of the Royal Lahaina Resort will have a neutral effect on employment based on the number of employee positions retained. There are additional indirect jobs that are anticipated to be created by vendors operating the restaurants, spa, retail shops and concierge facilities on the revitalized project. Demolition and construction activities are anticipated to support the local economy in the near term.

The Kaanapali Resort was a master-planned resort project which was implemented incrementally over several years since the early 1960s. Should other area projects decide to renovate or revitalize their properties, regional as well as project related mitigating measures must be put in place. For example, from a traffic impact standpoint, the Lahaina Bypass Highway or other mitigating measures may be needed to enable an increase of units in the Kaanapali Resort. However, the completed Honoapiilani Highway Widening Project was viewed as an incremental approach to addressing traffic impacts associated with the development

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of the previous projects. Subsequent projects will require separate traffic analysis to determine the adequacy of the existing roadway infrastructure and review possible mitigative measures.

Future increases in traffic volume attributable to regional growth, including traffic generated by any new regional projects, will need to be addressed in order to enable subsequent projects to proceed. Similar analysis and mitigative improvements for drainage and water and wastewater infrastructure will need to be implemented. From a planning standpoint, requirements for these infrastructure components have been planned or have adequate capacities to accommodate the implementation of the proposed Royal Lahaina Resort Revitalization.

From a cumulative standpoint, impacts for noise and air quality are anticipated to be neutral in the long term. The Royal Lahaina Resort is an existing operation and as previously noted, temporary impacts during demolition and construction are anticipated for the area, however, following completion of the project, there should be no change to the current conditions of noise and air quality in the area. There are other proposed development projects for the Kaanapali Resort area. Without detailed information on each project however, it is difficult to determine what impact the proposed projects may or may not have on noise and air quality in the area. However, it is assumed that like the Royal Lahaina project, there will be similar temporary impacts to noise and air quality during any demolition and/or construction activities.

Visually, the Royal Lahaina Revitalization project will provide a positive increase in "opening up" views to the ocean with the demolition of several existing buildings in the 150-foot shoreline setback area. It is difficult to determine what visual impacts other proposed West Maui impacts may

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have, however, it is noted that a majority of the proposed projects have existing land entitlements. As such, these projects were included in the long-term plan for West Maui and are likely in areas of existing urban development, so visual impacts are anticipated to be minimal.

As previously noted, the Royal Lahaina revitalization project is proposing a reduction in the existing number of units, by approximately 127 units. As such, the existing impact to water, wastewater, and solid waste is anticipated to be reduced. Further, with the demolition and removal of existing structures in the shoreline setback area, landscaping will be increased. The additional landscaping will provide for additional drainage capacity. As previously noted, without detailed information on proposed projects in the West Maui area, it is difficult to determine what, if any, the impacts for water, wastewater and solid waste would be. However, it is assumed that any "new" development would require some infrastructure improvements for utility services such as water, and that the project will account for those improvements.

As previously noted, the Royal Lahaina Resort is an existing hotel accommodation in West Maui. As such, the project site has extensive existing landscaping installed. Plans for the revitalization call for the reuse of the trees and plants onsite, where possible. Thus, there is no cumulative impact to flora and fauna anticipated for the project. Each of the proposed projects for West Maui would review their project site to determine if there would be any impacts to flora and/or fauna with their proposed development.

Public services and facilities which serve the West Maui community must also be expanded over time to accommodate the anticipated regional population growth, a portion of which will be attributed to the Royal

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Lahaina Resort Revitalization due to the change in nature of the resort from hotel accommodations to hotel accommodations and possible residential/short-term vacation uses. From this standpoint, additional tax revenues generated by long-term regional and islandwide increases in business opportunities will need to be applied for the provision of public services and facilities.



# ***Chapter IV***

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## ***Alternatives Analysis***

## **IV. ALTERNATIVES ANALYSIS**

### **A. GENERAL ALTERNATIVES**

#### **1. No Action Alternative**

The Kaanapali Beach Resort is Hawaii's first master-planned destination resort and is also one of the most successful. This master-planned resort destination is the product of long-range planning efforts undertaken by Amfac nearly 50 years ago. The development of the resort was based on the concept of managing development and utilizing long-range planning objectives to establish a master plan which would result in an economically viable development.

The existing Royal Lahaina Resort is approximately 44 years old, with the cottages completed in 1961 and the hotel tower completed in 1971, and has not undergone a major renovation since its opening. Currently, project features include 583 units in one (1) 12-story building, one (1) 3-story building and 31 1-story and 2-story cottages for hotel use, 11 tennis courts, a retail complex as well as a luau ground, three (3) pools and three (3) restaurant facilities. While the Resort enjoys a fair level of occupancy year round, the applicant would like to upgrade the facilities to remain competitive in the visitor accommodations market. One (1) project in the Kaanapali Resort underwent a major renovation in the last 10 years and several other projects are in process to upgrade as well.

Further, there is a trend in the visitor accommodations industry to offer a hybrid of vacation rentals, the condominium/hotel. This option allows for the purchase and private ownership of a unit, while also affording the owner the option to rent the unit when it is

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not in use. The applicant has decided to pursue this option at their project.

When considering the approved land uses and the desire of the applicant to upgrade its facilities to remain competitive in the visitor accommodations market, the "no action" alternative was not deemed feasible.

2. **Deferred Action Alternative**

A "deferred action" alternative would have similar consequences as the "no action" alternative in that the land use objectives of the proposed project would be delayed and would not be immediately realized.

This alternative could result in potentially higher development costs due to increases in labor and material costs or as a result of changes to infrastructure or the existing physical or socio-economic environment (i.e., window of opportunity and opportunity costs). Based on the preceding, the "deferred action" alternative was not considered.

**B. SITE DEVELOPMENT ALTERNATIVES**

The evaluation of site development alternatives generally encompasses a wide range of criteria such as densities, facilities, amenities, and infrastructure, as well as various physical, socio-economic and environmental considerations. The following factors were considered in evaluating site development alternatives for the proposed project:

1. Density (number of units per acre);
2. Development costs (amenities, facilities, utilities);

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3. Quality of the visitor experience;
  4. Total occupancy;
  5. Total expenditures;
  6. Sales and marketability;
  7. Economic benefits to the community (direct and indirect employment);
  8. Potential impacts to the physical and socio-economic environment; and
  9. Financial viability.

With regard to the foregoing, the proposed action has been selected as the preferred alternative on the basis of the following:

1. The appropriate mix and sizing of visitor accommodations and amenities to be provided;
2. The high quality visitor experience that would be provided by the project's accommodations and amenities;
3. The appropriate density and uses (i.e., number of units, recreational amenities, open space common areas, commercial and support facilities) on the available land;
4. The consideration of potential impacts and benefits to the physical and socio-economic environment, and infrastructure (refer to the sections in Chapter III, relating to Potential Impacts and Mitigation Measures); and
5. The beneficial economic impacts resulting from the sales and operation of a high quality development.

Based on the existing zoning and floor to area ratios, a greater density is allowed on the project site. Potentially, the project could propose up to seven (7) 12-story hotel structures and a 5-story parking garage. See Figure 17 and Figure 18.



Seven (7) New 12-Story Towers = 816 new units  
 5-Story Parking Structure = 1,500 stalls  
**Total New Area Developed = 1,159,080 SF**

Source: WCIT Architecture

Figure 17

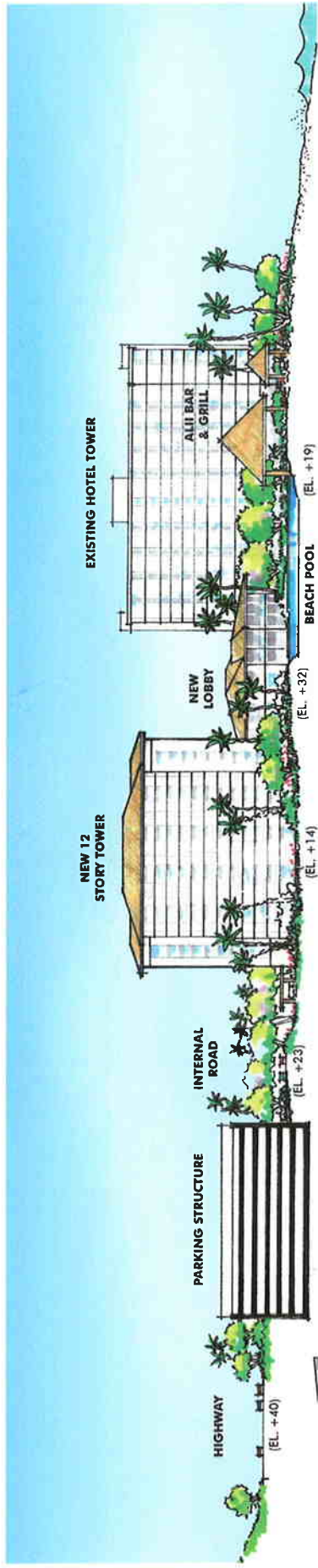
Royal Lahaina Resort  
 Revitalization

NOT TO SCALE

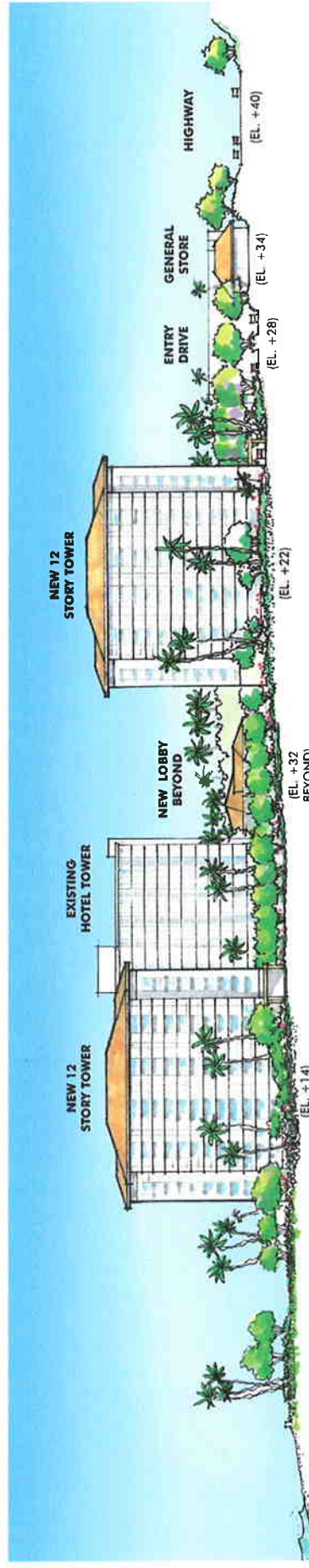
Alternative Development Site Plan







**South View Site Section**



**North View Site Section**

Source: WCIT Architecture

**Figure 18**

**Royal Lahaina Resort Revitalization**  
 Alternative Development Plan Site Sections

NOT TO SCALE

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In its review of the Draft EA for the proposed project, the Maui Planning Commission commented that it would like to have the following alternatives reviewed in the Final EA: the alternative of using permeable pavement throughout the project, a discussion of an alternative of removing all structures within the 150-foot shoreline setback, additional parking spaces for public beach users, locating the public beach parking closer to the shoreline and alternatives to address comments made by interviewees in the Cultural Impact Assessment. Refer to Section XI of this document.

The applicant reviewed the possibility of adding permeable pavement throughout the project site with its civil engineering consultant and landscape architect. As a result, it was determined that it is possible to include some permeable surface as part of the Royal Lahaina Revitalization. The applicant is considering use of permeable surfaces for fire lane access areas due to some resiliency issues with the green materials. It is also noted, however, that the project is reducing the amount of existing non-permeable surface area and replacing it with landscaping with the construction of the proposed parking structure.

With regards to the alternative of removing all structures within the 150-foot shoreline setback area, the Royal Lahaina Resort plans to remove the existing 3-story building (consisting of 65 hotel rooms), six (6) two-story cottages (consisting of 36 hotel rooms), a one-story restaurant building, and a portion of the Alii Ballroom (including snack bar, amenity center and showers). Refer to Table 1. The structures that Royal Lahaina plans to keep within the 150-foot shoreline setback, are the Alii Ballroom, the 12-story hotel tower (a portion of which is located within the 150-foot setback area), the two pools and ancillary structures (snack bar and amenity center) and a one-story cottage that will be used as a



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recreation center. The Alii Ballroom could be removed, however, its vaulted roof is recognized as a classic example of Hawaiian architecture, that would likely not be reproducible today due to construction costs. The Alii Ballroom was one of the original structures at the Royal Lahaina Resort, and the applicant felt that the preservation of the Ballroom would be important as a signature icon for the resort.

The removal of the 12-story hotel tower would remove the hotel aspect from the project, which was not the intention of the applicant. Removal of the portion of the tower that is within the 150-foot shoreline setback area would also pose difficulty due to the structural issues that would result from the removal of a portion of the 12-story hotel tower. This would also require the closing of the resort, which the applicant wanted to avoid so their employees could continue to work. Lastly, the cost to rebuild the hotel tower would be prohibitive to the project and if it were removed, it is uncertain whether or not the tower would be rebuilt. While this may improve the view corridor along Honoapiilani Highway, there would be a loss of hotel rooms, employment, and tourism revenues in the Kaanapali area. The hotel is anticipated to employ approximately 330 employees should the project proceed.

The two (2) pools and related structures, as well as the one-story cottage structure will be key to the recreational portion of the whole revitalization plan for the Royal Lahaina Resort. The pools and related structures will be renovated to upgrade the facilities. It would be difficult to remove and rebuild the pools outside of the 150-foot shoreline setback area, due to the current programming of the site. These pools will continue to be utilized by hotel guests and spa patrons once the revitalization is complete. There are new pools planned further east within the site, however, some of the pools will only be available to the new condominium

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owners and guests. As such, the two (2) pools will continue to be a needed amenity for hotel guests. The proposed recreational center is also among one of the original buildings constructed at the Royal Lahaina Resort. With the revitalization providing new condominium/hotel villas which will be privately owned, the applicant feels that there is a need to provide a "community amenity" for the new owners. The proposed recreation center is currently included in the accommodations at the Royal Lahaina Resort, however, in reviewing the options for the revitalization, it was determined that the cottage could be renovated to serve as the recreation center for the condominium/hotel villas owners and guests. This was viewed as a better alternative as opposed to construction of a new building.

It is noted that there are no code requirements for public beach parking, however, in its initial plan, 12 public beach parking stalls were proposed for the Royal Lahaina revitalization project. Following the Maui Planning Commission meeting on the review of the Draft EA and review by the Urban Design Review Board on April 18, 2006, the applicant reviewed the possibility of increasing the number of stalls available at the public beach parking lot and to determine whether it would be possible to place the parking stalls closer to the shoreline. As a result, the Royal Lahaina Development Group is proposing to provide 16 surface parking spaces at the new public beach parking and offer free valet parking, up to 10 stalls, for beach users, for a total of 26 stalls for public beach users. The free valet parking will allow for beach users to drop off their families and supplies (coolers, beach chairs, etc.) as close to the beach as possible and have their car parked in the parking structure. In reviewing options for locating the public beach parking lot closer to the shoreline, it was determined that programming the space would be difficult due to the layout of the condominium/hotel villas. As such, the free valet parking

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was proposed as an option for providing closer access to the beach.

Lastly, the Maui Planning Commission noted that there were comments with regards to access to the Kaanapali shoreline in the past and how residents used the Kaanapali area as a fishing area for sustenance. The applicant has and will continue to provide access through their property for the beach fronting the Royal Lahaina Resort. There is no intention to prevent access to the beach. The Royal Lahaina Development Group is proposing additional public beach parking stalls within the resort property and is proposing to provide a public beach access pathway between the Royal Lahaina Resort and the Kaanapali Golf Course with the neighboring landowner (KGC). The applicant and KGC will share in the cost of constructing this new public beach access. As such, it is believed that the proposed Royal Lahaina Revitalization project will address the main comments of interviewees in the Cultural Impact Assessment, which was to insure that public beach access is provided and that local residents will be welcomed at the resort.

Although there are other configurations, layouts, and combinations of facilities and amenities which could be examined, the proposed alternative addresses the foregoing site development criteria while considering the potential short- and long-term adverse impacts related to the development of the project as described in the sections of Chapter III regarding Potential Impacts and Mitigation Measures.

# ***Chapter V***

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***Summary of Adverse  
Environmental Effects  
Which Cannot Be Avoided***

## **V. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED**

The proposed project will result in some construction-related impacts as described in the sections of Chapter III pertaining to Potential Impacts and Mitigation Measures.

Potential effects include noise-generated impacts occurring from demolition and construction activities. In addition, there may be temporary air quality impacts associated with dust generated from construction activities, and exhaust emissions discharged by construction equipment.

Chapter III also describes potential environmental impacts which are anticipated to result from the development of the proposed project. These impacts include the modification of existing view corridors. It should be noted, however, that these impacts are anticipated to be mitigated and in some areas, improved through the implementation of appropriate measures identified in Chapter III.

# ***Chapter VI***

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***Irreversible and Irretrievable  
Commitments of Resources***

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

The proposed project is anticipated to result in the irreversible and irretrievable commitment of certain natural and fiscal resources. Major resource commitments include the land on which the project will be redeveloped, as well as fuel, labor, funding, and material resources. Impacts relating to the use of these resources should be weighed against the expected positive socio-economic benefits to be derived from the project versus the consequences of taking no action.

The commitment of resources required for the development of the project includes building materials and labor, both of which are non-renewable and irretrievable. In addition, the proposed project is not anticipated to require a substantial commitment of government services or facilities. In general, the proposed action is not anticipated to place significant additional requirements upon public services and the infrastructure, and in some instances, will reduce existing demands.

# ***Chapter VII***

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***Relationship to Governmental  
Plans, Policies and Controls***



## **VII. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS**

### **A. STATE LAND USE DISTRICTS**

Pursuant to Chapter 205A, HRS, all lands in the State have been divided and placed into one of four land use districts by the State Land Use Commission. These land use districts have been designated "Urban", "Rural", "Agriculture", and "Conservation". The project site is located within the State "Urban" district. See Figure 19. The proposed project is compatible with, and permitted within, the State "Urban" land use district.

### **B. HAWAII STATE PLAN**

Chapter 226, HRS, also known as the Hawaii State Plan, is a long-range comprehensive plan which serves as a guide for the future long-range development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. The proposed actions are consistent with the following goals, objectives, policies, and priority guidelines:

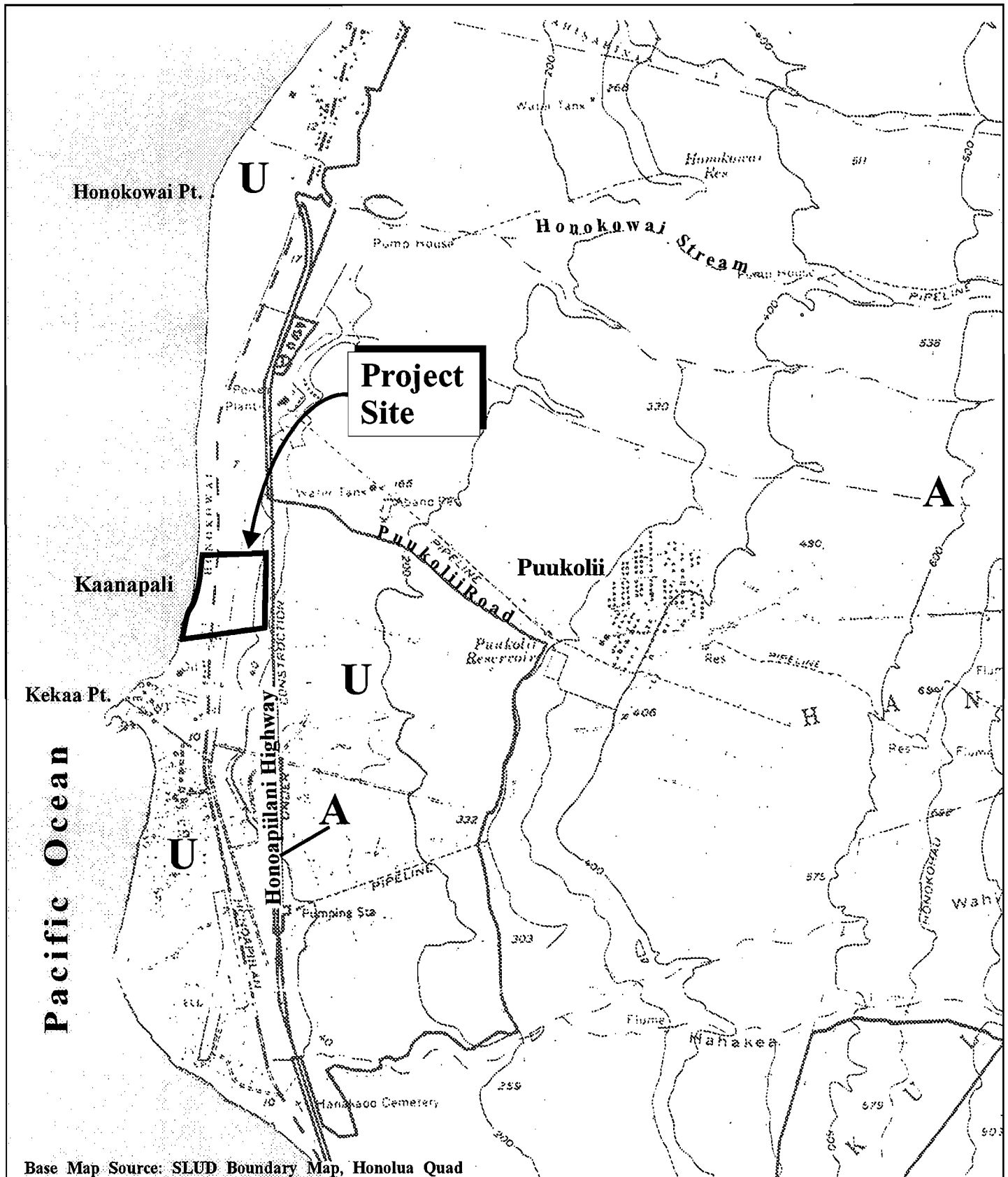
#### **Goals**

- a. A strong, viable economy characterized by stability, diversity, and growth that enables the fulfillment of the needs and expectations of Hawaii's present and future generations.
- b. Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.

#### **Objectives and Policies**

##### **Sec. 226-5 Objective and policies for population**

Policy (b)(3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.



Base Map Source: SLUD Boundary Map, Honolua Quad

Figure 19

# Royal Lahaina Resort Revitalization

State Land Use District Classifications



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**Sec. 226-8 Objective and policies for the economy - visitor industry**

Objective (a) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.

Policy (b)(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.

Policy (b)(3) Improve the quality of existing visitor destination areas.

Policy (b)(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaii's people.

Policy (b)(6) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the visitor industry.

**Priority Guidelines**

**Sec. 226-103 Economic priority guidelines**

Priority Guideline (a)(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:

- (A) An industry that can take advantage of Hawaii's unique location and available physical and human resources.
- (B) A clean industry that would have minimal adverse effects on Hawaii's environment.
- (C) An industry that is willing to hire and train Hawaii's people to meet the industry's labor needs at all levels of employment.
- (D) An industry that would provide reasonable income and steady employment.

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Priority Guideline (b)(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawaii's residents and visitors.

Priority Guideline (b)(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.

Priority Guideline (b)(5) Develop and maintain career opportunities in the visitor industry for Hawaii's people, with emphasis on managerial positions.

**C. MAUI COUNTY GENERAL PLAN**

The 1990 update of the Maui County General Plan establishes broad objectives and policies to guide the long-range development of the County. As indicated by the Maui County Charter:

*"...indicate desired population and physical development patterns for each island within the county; shall address the unique problems and needs of each island and region within the county; shall explain the 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."*

The proposed project is in keeping with the following General Plan objectives relating to land use, economic activity, and the visitor industry.

**Objective: Land Use:**

- To use the land within the County for the social and economic

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betterment of the County's residents.

**Objective: Economic Activity:**

- To provide an economic climate which will achieve stabilization, controlled expansion, and diversification of the County's economic base.

**Objectives: Visitor Industry:**

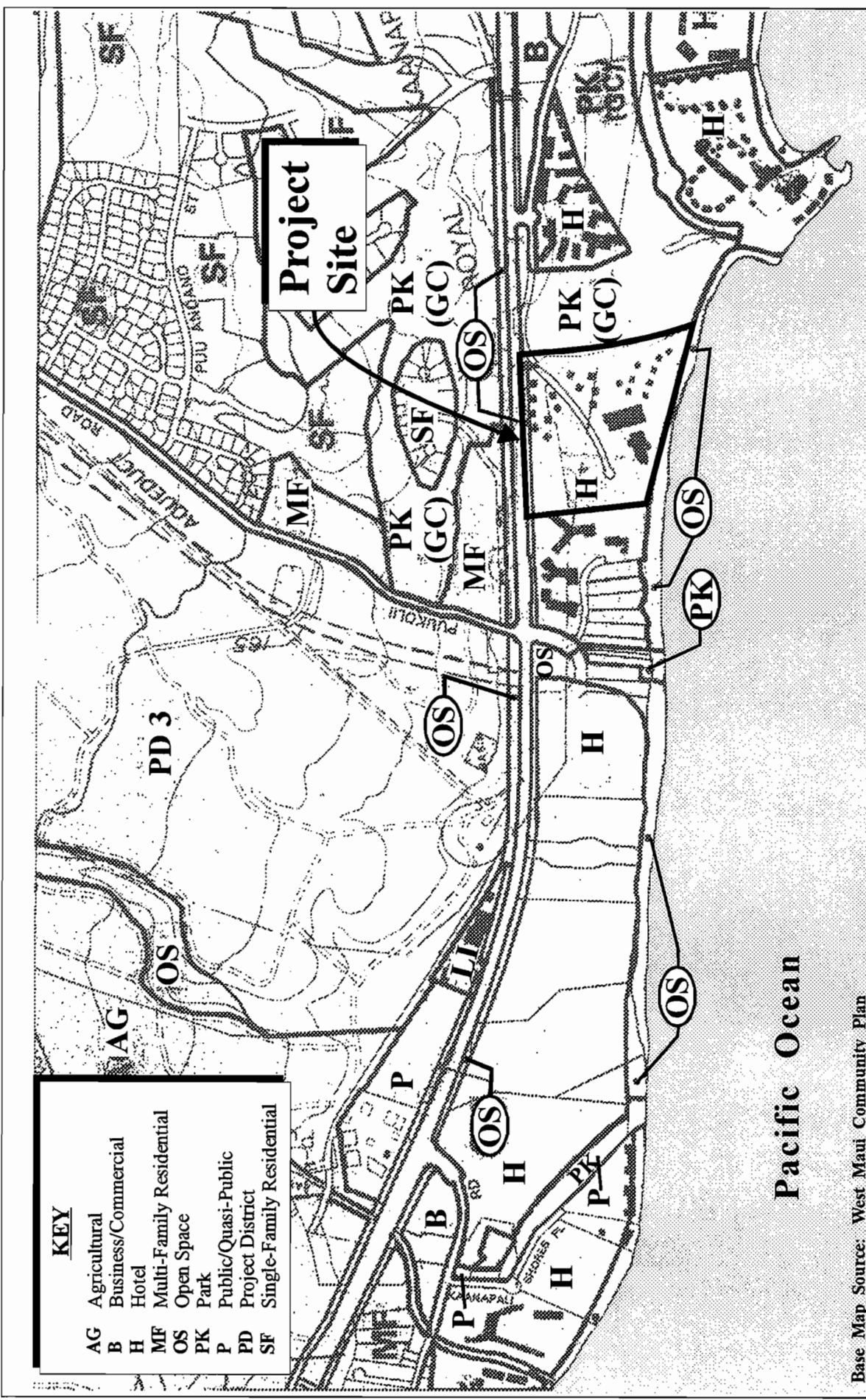
- To require exceptional and continuing quality in the development of visitor industry facilities.
- To control the development of visitor facilities so that they do not infringe upon the traditional social, economic and environmental values of the community.
- To ensure that visitor industry facilities shall not disrupt agricultural and social pursuits and will not be allowed to deplete the County's natural resources.
- To develop a visitor industry which will enhance the social and economic lifestyles of Maui County's residents.

**D. WEST MAUI COMMUNITY PLAN**

The project site is located in the West Maui Community Plan region, one (1) of the nine (9) Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plans, which are 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.

Land use guidelines are established by the West Maui Community Plan land use map, and as indicated, the project sites are situated within an area designated for "Hotel" and "Open Space" uses. See Figure 20.

The resort site is consistent with the community plan designations of



**KEY**

AG	Agricultural
B	Business/Commercial
H	Hotel
MF	Multi-Family Residential
OS	Open Space
PK	Park
P	Public/Quasi-Public
PD	Project District
SF	Single-Family Residential

**Project Site**

Pacific Ocean

Base Map Source: West Maui Community Plan

**Figure 20**

**Royal Lahaina Resort Revitalization**

West Maui Community Plan Land Use Designations



NOT TO SCALE

Prepared for: Royal Lahaina Development Group, LLC



MUNEKIYO & HIRAGA, INC.

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hotel.

The West Maui Community Plan sets forth goals which are statements identifying preferred future conditions. Goals associated with the development of the proposed project include the following:

**Land Use**

**Goal:**

An attractive, well-planned community with a mixture of compatible land uses in appropriate areas to accommodate the future needs of residents and visitors in a manner that provides for the stable social and economic well-being of residents and the preservation and enhancement of the region's open space areas and natural environmental resources.

**Objectives and Policies for the West Maui Region in General**

- Protect and enhance the quality of the marine environment.
- Establish an appropriate supply of urban land within the region to meet the needs of the community over the next 20 years. The Community Plan and its map shall define the urban growth limits for the region and all zoning requests and/or proposed land uses and developments shall be consistent with the West Maui Community Plan and its land use map.

**Environment**

**Goal:**

A clean and attractive physical, natural and marine environment in which man-made developments on or alterations to the natural and marine environment are based on sound environmental and ecological practices, and important scenic and open space resources are preserved and protected for public use and enjoyment.

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### **Objectives and Policies**

- Protect the quality of nearshore and offshore waters.
- Preserve, protect and/or nourish the shoreline sand dune formations throughout the planning region. These topographic features are essential to beach preservation and a significant element of the natural setting that should be protected.
- Promote the planting of trees and other landscape planting to enhance streetscapes and the built environment.
- Protect the shoreline and beaches by preserving waterfront land as open space wherever possible.
- Promote drainage and stormwater management practices that prevent flooding and protect coastal water quality.

### **Economic Activity**

#### **Goal:**

A diversified economy that provides a range of stable employment opportunities for residents, allows for desired commercial services for the community, and supports the existing visitor and agricultural industries, all in a manner that will enhance both the community's quality of life and the environment.

### **Objectives and Policies**

- Promote a diversified economic base which offers long-term employment to West Maui residents, and maintains overall stability in economic activity in the areas of:
  - a. Visitor accommodations

### **Cultural Resources**

#### **Objectives and Policies**

- Ensure adequate access to our public shoreline areas for public recreation, including lateral continuity.



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## **Urban Design**

### **Goal:**

An attractive and functionally integrated urban environment that enhances neighborhood character, promotes quality design at the resort destinations of Kaanapali and Kapalua, defines a unified landscape planting and beautification theme along major public roads and highways, watercourses, and at major public facilities, and recognizes the historic importance and traditions of the region.

### **Objectives and Policies for the West Maui Region in General**

- Enhance the appearance of major public roads and highways in the region.
- Maintain a high level of design quality for West Maui resort destination areas.
- Incorporate drought-tolerant plant species in future landscape planting.
- Emphasize contrasting earth-tone color schemes for buildings and avoid bright or garish colors.

## **Infrastructure**

### **Objectives and Policies for Water and Utilities**

- Encourage the installation of underground electrical, telephone and cable television lines.

### **Objectives and Policies for Drainage**

- Insure that new developments will not result in adverse flooding conditions for downstream properties by requiring onsite retention facilities for stormwater runoff generated by the development.

## **Social Infrastructure**

### **Objective and Policies for Recreation and Open Space**

- Ensure adequate public access to shoreline areas, including

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lateral access to establish the continuity of public shorelines.

**Planning Standards**

**Land Use Standards**

- All zoning and land use approvals shall be consistent with the West Maui Community Plan and its land use policies.

**Environmental Aspects**

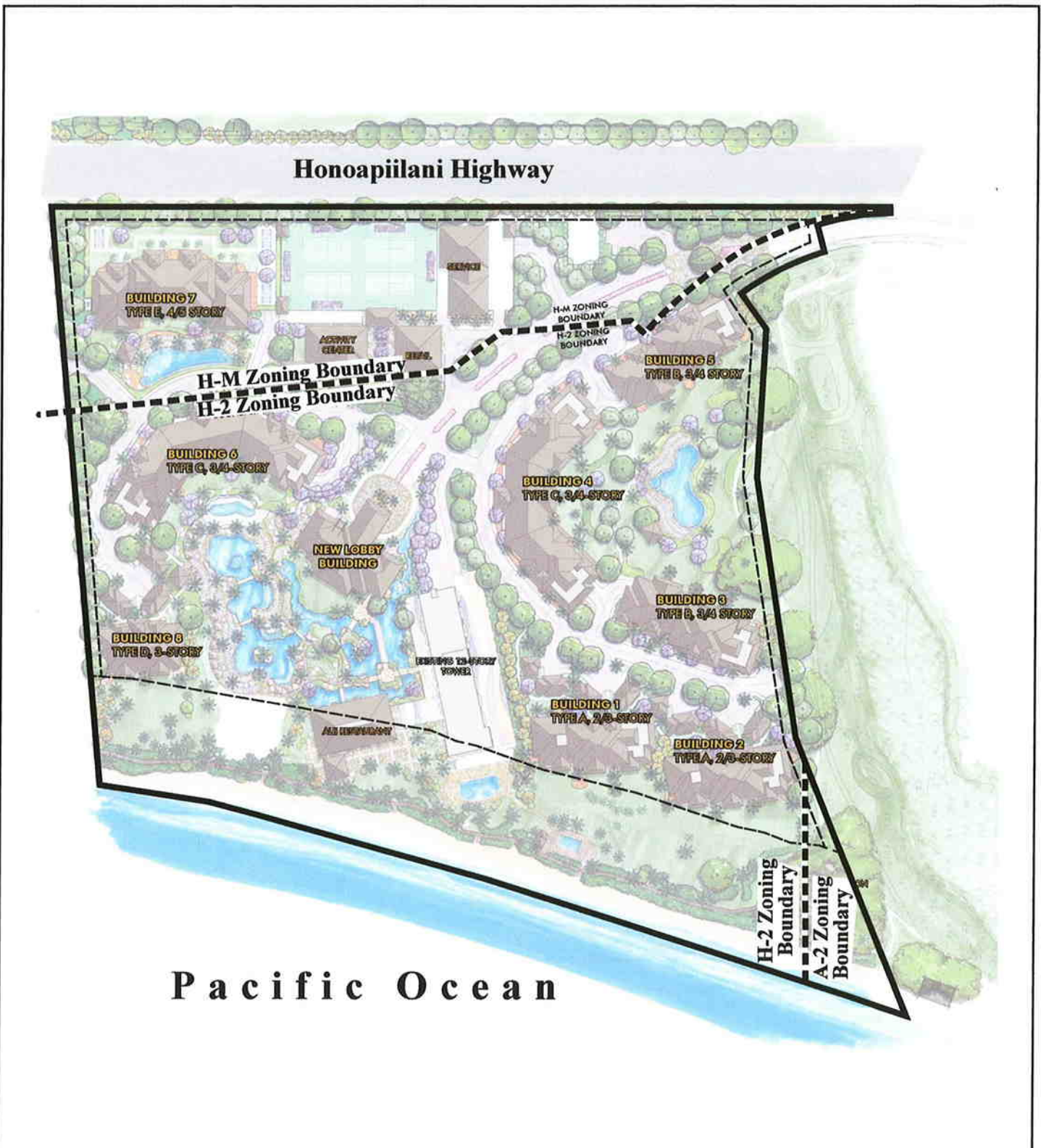
- Preserve the shoreline sand dune formations throughout the planning region. These topographic features are a significant element of the natural setting and should be protected from any actions which would detract from their scenic value.
- Promote the planting of trees and other landscape planting to enhance streetscapes and the built-environment.
- Insure that new developments will not result in adverse soil erosion or flooding conditions for downstream properties.

**E. ZONING**

The subject resort development property is zoned "H-M Hotel", "H-2, Hotel" and "A-2, Apartment". See Figure 21. The proposed revitalization project with visitor accommodations, resort retail and recreational facilities are allowable under the current property.

**F. COUNTY OF MAUI - SPECIAL MANAGEMENT AREA**

The Property is located within the County of Maui's Special Management Area (SMA). Pursuant to Chapter 205A, HRS, and the Rules and Regulations of the Maui Planning Commission, actions proposed within the SMA are evaluated with respect to SMA objectives, policies and guidelines. This section addresses the project's relationship to applicable coastal zone management considerations, as set forth in Chapter 205A, HRS and the Rules and Regulations of the Maui Planning Commission.



Source: WCIT Architecture

Figure 21

Royal Lahaina Resort  
Revitalization  
Zoning Map

NOT TO SCALE



Prepared for: Royal Lahaina Development Group, LLC

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1. **Recreational Resources**

**Objective:** Provide coastal recreational resources accessible to the public.

**Policies:**

- a. Improve coordination and funding of coastal recreation planning and management; and
- b. Provide adequate, accessible and diverse recreational opportunities in the coastal zone management area by:
  - i. Protecting coastal resources uniquely suited for recreation 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 sandy 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; and
  - vii. Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of

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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 of the Hawaii Revised Statutes.

**Response:** The proposed action is not anticipated to adversely affect existing public access to the beach fronting the project site. Public access to the beach will continue to be provided from the existing public beach accesses located on the property.

In addition, three (3) existing stairways providing access to the beach from the coastal sand dune will be repaired within the 150-foot shoreline setback. To minimize impacts to beach processes, the walkways will be of temporary construction (breakaway design). Beach quality sand will be placed in the shoreline setback area to enhance the dunes and accommodate grade transitions.

All proposed work in the shoreline area will be implemented in accordance with the provisions of the County grading ordinance.

**2. Historical/Cultural Resources**

**Objective:** Protect, preserve and where desirable, restore those natural and man-made 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 archaeological 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.

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**Response:** As previously noted, an archaeological inventory survey report was completed on unimproved portions of the existing Royal Lahaina Resort. Based on consultation with the State Historic Preservation Division (SHPD), the applicant intends to have a second archaeological inventory study conducted during the demolition of structures at the site to minimize the impact to current guest functions. Following review by the SHPD of the second inventory survey report, the applicant will prepare an archaeological monitoring plan for review and approval by the SHPD, if required.

Should any artifacts or human remains be inadvertently discovered during work in this area, work shall immediately cease in the area of the find and the find shall be protected from further damage. The SHPD, and as applicable the Maui/Lanai Islands Burial Council, shall be promptly notified to determine the significance of the find and to establish appropriate mitigative measures.

3. **Scenic and Open Space Resources**

**Objectives:** 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 land forms 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

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dependent to locate in inland areas.

**Response:** As previously noted, the removal of structures within the 150-foot shoreline setback area is anticipated to expand the view corridor to the north of the project site both to and from the shoreline. The 150-foot shoreline setback area will be landscaped to provide for additional “green” area on the resort. Additionally, the revitalization of the project site allows for the redistribution of buildings to improve view corridors from within the site.

4. **Coastal Ecosystem**

**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 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:** As previously noted, the Preliminary Drainage Report prepared for the project concluded that no drainage improvements are proposed for the revitalization project due to the increase of landscaped area. Best Management Practices (BMPs) will be

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implemented to minimize the effects of stormwater runoff during demolition of structures and construction of the project.

Additionally, the applicant will install filters in the drain inlets located within the roadways and parking areas to mitigate sediment and petroleum products from entering the storm drain system.

Work within the 150-foot shoreline setback area will be limited to demolition of existing structures, renovation of existing structures and pools, installation of landscaping and the renovation of existing beach stairways of temporary construction (breakaway design).

5. **Economic Use**

**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 developments 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. Utilization of presently designated locations is not feasible;
  - ii. Adverse environmental effects are minimized; and



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- iii. The development is important to the State's economy.

**Response:** The proposed project is a significant component of the Kaanapali Beach Resort master plan. As one of the State's top visitor destinations, the continued evolution of the Kaanapali Beach Resort is an integral factor in the continuing growth of the local economy.

The proposed project is consistent with the goals of the West Maui Community Plan, which guides growth and development in the region.

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, point and nonpoint source pollution hazards;
- b. Control development in areas subject to storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source 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 and pollution control program.

**Response:** The shoreline and southwestern sections of the project site lie within Zone A4, areas of 100-year flooding and Zone V12, areas subject to 100-year coastal flood events with velocity hazard (wave action). The remainder of the project site falls within Zone

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C, an area of minimal flooding. Coordination with County agencies will be undertaken prior to construction to ensure compliance with applicable flood hazard area development standards.

As previously noted the new beach recreation area will provide additional beach quality sand in the area. In an extreme wave event that erodes the backshore, the release of beach quality sand would be beneficial to the beach and coastal zone.

Also, there are existing drainage improvements onsite. No new drainage improvements are proposed as the increase in landscape area will be sufficient to accommodate stormwater runoff from the proposed revitalization project. Filters will be installed in the drain inlets in the parking areas and project roadways to mitigate sediment and petroleum products.

In this context, the proposed mitigative measures will ensure that the proposed project will not adversely affect adjoining properties from the effects of flooding, erosion and storm waves.

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 general public to facilitate public participation in the planning and review process.

**Response:** All aspects of development will be conducted in accordance with applicable State and County requirements. Opportunities for public review and consideration of the proposed action is offered through the SMA permitting process.

The applicant has met with the Kaanapali Operations Association (KOA) on three (3) occasions. Members of KOA are representatives of the resort and recreational operations at the Kaanapali Resort.

The applicant held a community meeting on the proposed project on December 1, 2005 and also presented the project to the West Maui Taxpayers Association on February 23, 2006.

## **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.

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**Response:** A public hearing is required as part of the SMA review and approval process. As such, the proposed project addresses the SMA objective of stimulating public awareness, education, and participation in coastal management.

The applicant has met with the KOA to present the proposed project for their review and comment. Two (2) meetings were held with their Architectural Review Committee and a presentation was made at a KOA general meeting.

A meeting with surrounding property owners was held on December 1, 2005 to present and discuss the proposed project. As previously noted, the project was also presented to the West Maui Taxpayers Association in February 2006.

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:** As previously noted, work within the 150-foot shoreline setback area will be limited to demolition of structures, renovation

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of existing structures and pools, landscape activities and the renovation of existing beach stairways of temporary construction (wood, recyclable plastic, or similar material). No impacts to the coastal sand dune are anticipated from the development of the project. All work in the shoreline area will be implemented in accordance with the provisions of the County grading ordinance.

**10. Marine Resources**

**Objective:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

**Policies:**

- (A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;
- (B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;
- (C) 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;
- (D) 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
- (E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

**Response:** As previously noted, BMPs will be implemented to minimize construction-related impacts to marine resources.

In addition to the foregoing objectives and policies, SMA permit review criteria pursuant to Act 224 provides that:

No special management area use permit or special management area minor permit shall be granted for

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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.

In addressing light pollution issues, the proposed project's exterior site lighting will be carefully shielded and directed away from the shoreline and ocean water areas. Areas throughout the property where safety and security illumination is necessary, such as pathways, roadways and parking lots, will be illuminated with fully shielded light sources. Special attention will be given to the placement of the fully shielded luminaries to avoid unnecessary trespass onto shoreline and ocean water areas as well as adjacent properties. Any dramatic lighting of landscape features (i.e. uplighting of trees) will also be directed away from shoreline and ocean water areas and will be illuminated only during a portion of the evening hours. Refer to Appendix "J", Preliminary Development and Landscape Plans, of this document.

**G. SHORELINE ZONE CONSIDERATIONS**

As previously noted, the applicant has filed a Shoreline Setback Variance (SSV) request due to the nature of the proposed demolition and renovation activities within the 150-foot shoreline setback area. Refer to Table 1. Work within the shoreline setback area is governed by Chapter 203, Shoreline Rules For The Maui Planning Commission (Commission).

The shoreline rules regulate the use and activities of land within the shoreline environment in order to protect the health, safety, and welfare of the public by providing minimum protection from known coastal natural

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hazards; and to ensure that the public use and enjoyment of shoreline resources are preserved and protected for future generations in accordance with the Hawaii Coastal Zone Management Law, HRS Chapter 205A.

**1. Shoreline Setback Determination**

According to the Maui Shoreline Atlas, prepared by the University of Hawaii Coastal Geology Group, the project site corresponds to the area between transects 9 and 27 of North Kaanapali. This study shows that the beach at the project site has been relatively stable, experiencing no net erosion at all transect locations, except 19, 20, and 21, where minor erosion of between 0.07 to 0.14 foot per year was calculated. Therefore, the erosion rate setback would be calculated at a maximum distance of 27 feet ( $20 \text{ feet} + 0.14 \times 50$ ) (*Sea Engineering, 2005*). See Figure 22.

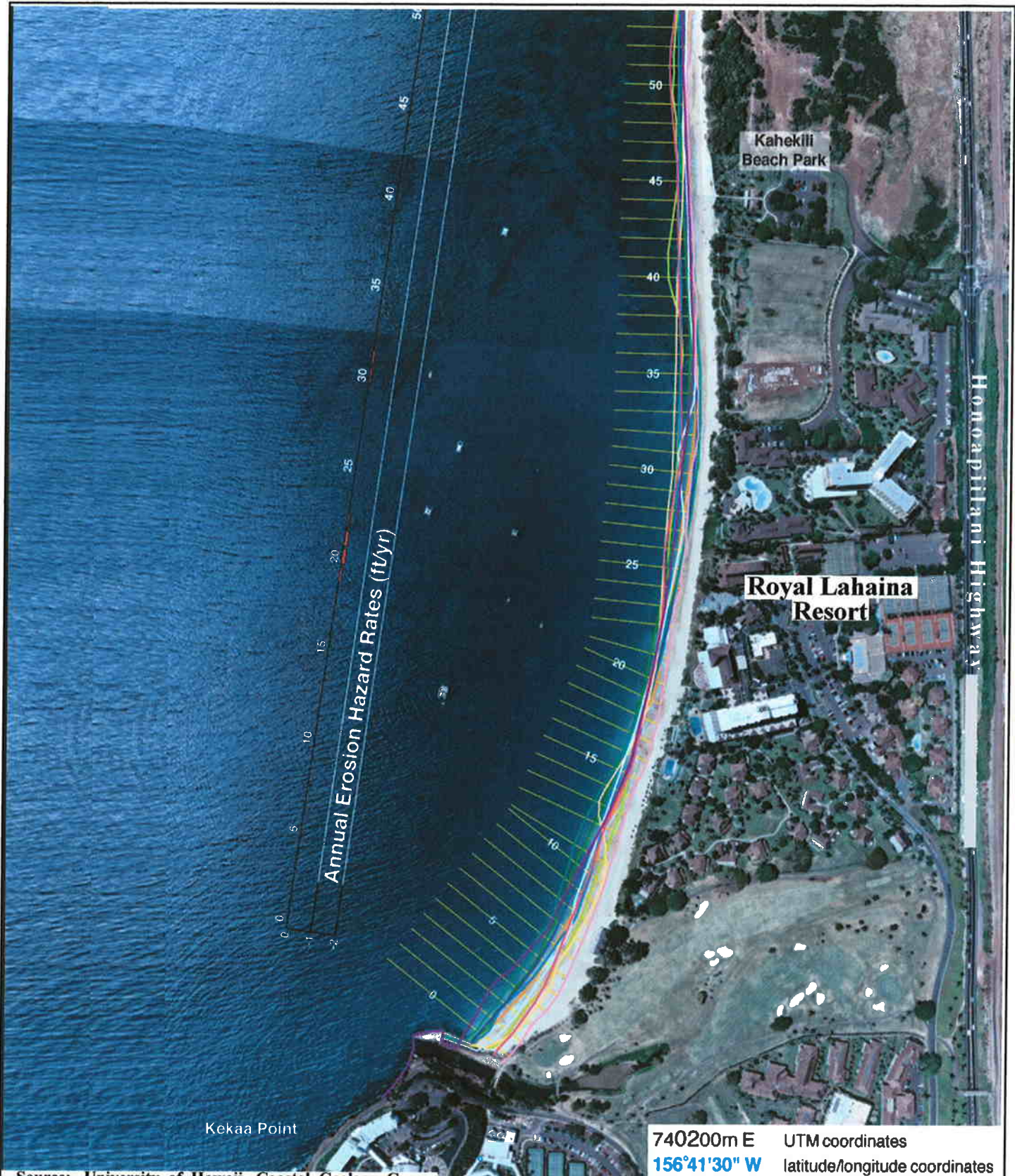
Since the average lot depth of the subject property abutting the shoreline is over 600 feet, the shoreline setback for the Royal Lahaina Resort development property is determined to be 150 feet from the shoreline.

**2. Shoreline Processes**

Previous studies of shoreline erosion indicate that the beach at the project site has been relatively stable, experiencing no net erosion at all transect locations except in three (3) locations, where minor erosion, of between 0.07 to 0.14 foot per year was calculated. The beach is dynamic and can experience wide swings in beach positions.

The study area is very well protected from the northeast tradewind waves by the island of Maui itself. The island of Molokai partially shelters the study area from a north swell, however a portion of the





Source: University of Hawaii, Coastal Geology Group

Figure 22

Royal Lahaina Resort  
 Revitalization  
 North Kaanapali Shoreline  
 Erosion Hazard Rates

NOT TO SCALE



Prepared for: Royal Lahaina Development Group, LLC



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north swell wave energy refracts and diffracts around the east end of Molokai to reach the Kaanapali coast. The islands of Lanai and Kahoolawe also partially block south swell and Kona storm waves from reaching the study area. The Kaanapali coast is exposed to wave attack from passing tropical storms and hurricanes, Kona storms and North Pacific storms. Although infrequent, these storm waves represent extreme conditions for design purposes.

### 3. **Proposed Improvements**

Work within the 150-foot shoreline setback area includes the following:

#### **Demolition activities:**

- Demolition of an existing 3-story hotel structure consisting of 65 guest units located on the north edge of the property
- Demolition of six (6) 2-story guest cottages, consisting of 36 units
- Demolition of a 1-story restaurant (Don the Beachcomber) and a portion of the Ali'i Ballroom
- Demolition of walkways, former shuffleboard court and luau stages

#### **Renovation:**

- Scaling back the Alii Ballroom restaurant away from the shoreline and repair/maintenance activities
- Repair and maintenance to an existing retail shop located between the hotel tower and Alii Ballroom
- Interior renovation work on an existing guest cottage that has been utilized as a hotel use with the Royal Lahaina Resort operation
- Repair/maintenance to two (2) existing pool areas
- Repair/maintenance to three (3) existing stairways for beach access
- Repair/maintenance to two (2) existing kiosks (Pool Bar & Snack Shop and Beach Activity Rentals)

Refer Table 1 for a listing of demolition and renovation activities

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within the Shoreline Setback areas. See Appendix K for a display of the Shoreline Erosion Hazard Rate, Certified Shoreline and Structures remaining in the Shoreline Setback Area for the Royal Lahaina Resort.

**New structures and activities:**

- Minor grading
- Installation of landscaping and irrigation to vegetate lands where former buildings stood in the 150-foot shoreline setback area
- Placement of beach quality sand
- Lateral beach access path

The aforementioned improvements within the shoreline area, for the most part, involve demolition and repair/maintenance, interior/exterior improvements to existing structures. These improvements could fall under the following sections which would require review and approval of the Planning Director:

*§12-203-12(8), minor structure or activity within the shoreline area which does not adversely affect beach processes, does not artificially fix the shoreline, and does not interfere with public access or public views to and along the shoreline and which meets the purpose of this chapter, HRS Chapter 205A, as amended, and Section 19.62.090, Maui County Code, relating to coastal high hazard districts.*

*§12-203-12(5) A structure that has been legally permitted, and is the subject of repairs that are valued by a licensed professional engineer or architect at less than fifty percent of the current replacement cost of the structure and which neither enlarge the structure nor intensify the use of the structure.*

Although removing structures away from the shoreline area would meet the intent and purpose of the Shoreline Setback Rules, as

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well as HRS Chapter 205A Coastal Zone Management, “demolition” activities are not specifically mentioned in the definition of a minor structure or activity pursuant to previously mentioned §12-203-12(8). Therefore, based on guidance from the Planning Department, a shoreline variance is being sought for demolition activities together with the building renovations and other minor structures/activities in the context of reviewing impacts in a comprehensive and cumulative manner.

**4. Criteria for Approval of a Variance**

Criteria for approval of a variance can be found in §12-203-15 of the shoreline rules. A shoreline area variance may be granted for a structure or activity otherwise prohibited by this chapter, if the Commission finds, based on the record presented, that the proposed structure or activity is necessary for ancillary existing uses or minor improvements which will not create adverse effects to the beach processes and without the improvements, the applicant can show hardship.

Before granting a hardship variance, the Commission must determine that the applicant’s proposal is a reasonable use of the land. Because of the dynamic nature of the shoreline environment, inappropriate development may easily pose a risk to individuals or to the public health and safety. For this reason, the determination of the reasonableness of the use of land should properly consider factors such as shoreline conditions, erosion, surf and flood conditions and the geography of the lot.

**5. Variance Justification**

**a. Demolition Activities**

Removing major structures currently within the shoreline

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area clearly meets the purpose of the shoreline rules to: (1) ensure the use and enjoyment of the shoreline area for the public to the fullest extent possible; (2) preserve the natural shoreline environment; (3) limit man-made features in the shoreline to features compatible with the shoreline area; (4) protect the natural movement of the shoreline from development; and (5) protect, preserve, and where desirable, restore the quality of scenic and open space resources. Further, as part of the overall project, adequate public access to and along the shoreline will be provided.

Currently, the applicant has six (6) shoreline stairways that provide access to the beach fronting the project site. The stairways were provided to allow a safe access to the beach for guests and public users as there is a significant drop in elevation, of three (3) to seven (7) feet from the shoreline area to the beach, which would pose a hazard for access. There is an existing public beach access walkway located on the south boundary of the project site. Additionally, the Royal Lahaina Resort Revitalization project will include a parking lot for public beach access users, with 16 stalls. The public beach parking lot will be located near the entrance of the Royal Lahaina Resort, which is also in close proximity to the public beach access. Refer to Figure 5.

As previously noted, the applicant also intends to designate 10 valet parking spaces to provide free parking for beach users in the parking structure. The free valet parking will be provided to allow for users to drop-off family members and equipment (i.e. coolers, beach chairs, etc.) closer to the beach for easier access.

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During demolition and construction work, Best Management Practices (BMPs) will be employed to mitigate the effects of construction-related activities within the shoreline setback. Among the BMPs that may be employed are the installation and maintenance of a dust/silt fence during construction work, sediment traps, stabilized construction entrances, and other measures to minimize offsite tracking of sediment by construction vehicles, inlet protection and vegetated filter strips.

Demolition also meets the criteria for a Shoreline Setback Variance by being necessary or ancillary to landscaping, where the proposed activity will not adversely affect beach processes and will not artificially fix the shoreline and where private facilities or improvements are clearly in the public interest by moving structures away from the shoreline area and creating more open space resources.

Finally, all demolition activities will be located outside the coastal erosion hazard zone as described in the Shoreline Processes section.

***b. Renovations***

All repair/maintenance/interior and exterior renovation activities are under 50 percent of the current replacement cost of the existing structure. Refer to Appendix "B".

As such, the Planning Director may grant approval for the proposed renovation activities since it falls under §12-203-12(5) which states,

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*"A structure that has been legally permitted, and is the subject of repairs that are valued by a licensed professional engineer or architect at less than fifty percent of the current replacement cost of the structure and which neither enlarge the structure nor intensify the use of the structure",*

The interior renovations proposed for the cottage building is located approximately 20 feet from the shoreline. Although this structure has historically been infrequently threatened by intermittent high surf and tide episodes, no damage has occurred since its construction. It is noted that the overall long term erosion rates are stable at Kaanapali Beach. As previously noted, the Coastal Engineering Report prepared for the project found that the beach fronting the project site is stable, and has experienced little net erosion. Minor erosion of between 0.07 to 0.14 foot per year was calculated.

Should the structures be threatened by high tide and surf, the applicant represents that no long-term shoreline hardening structures will be constructed to protect the structures.

**c. Minor Structures/Activities**

All minor structures/activities proposed within the shoreline area (lateral beach access) will be located outside the 40-foot shoreline setback area and would meet the following definitions:

"Minor activity" means an activity that does not adversely impact the existing grade of the setback area and shall be

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limited to activities related to landscaping, installation of beach quality sand to enhance existing dunes and accommodate grade transitions, minor clearing (grubbing) of vegetation, and minor grading which is not subject to HRS Chapter 343.

"Minor structure" means a man-made structure that costs less than \$125,000.00, does not impede the natural movement of the shoreline, does not alter the existing grade of the shoreline area, and shall be limited to: landscape features (*i.e.*, barbecues, lighting, benches, chairs, borders, wooden trellis, bird feeders, signs, safety improvements, etc.); movable/portable lifeguard stands; walkways for access; landscaping in conjunction with irrigation systems; outdoor shower and water faucets; utility poles and accessory structures along existing corridors; and temporary tents for special events not exceeding fourteen consecutive days in duration during any three-month period.

As such, the director may grant administrative approval pursuant to §12-203-12(8) which states:

*A structure or activity that has been determined by the director to be a minor structure or activity within the shoreline area which does not adversely affect beach processes, does not artificially fix the shoreline, and does not interfere with public access or public views to and along the shoreline and which meets the purpose of this chapter, HRS chapter 205A, as amended, and section 19.62.090, Maui County Code, relating to coastal high hazard districts.*

# ***Chapter VIII***

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***Anticipated Determination  
and Findings of Reasons  
Supporting the Determination***



## **VIII. ANTICIPATED DETERMINATION AND FINDINGS OF REASONS SUPPORTING THE DETERMINATION**

The significance criteria of Section 12, of the Administrative Rules of Title 11, Chapter 200, "Environmental Impact Statement Rules", were reviewed and analyzed to determine whether the completed action will have adverse impacts to the environment.

### **1. No Irrevocable Commitment to Loss or Destruction of any Natural or Cultural Resources Would Occur as a Result of the Project**

The proposed project will not result in any adverse environmental impacts. The project site has been in use as a hotel accommodation since the early 1960s. There are no known rare, threatened, or endangered species of flora, fauna or avifauna located within the project site.

As previously noted, both archaeological and cultural impact assessment reports were prepared for the proposed project. While the first phase of the archaeological assessment did not uncover any historical properties during subsurface testing, the applicant's consultant is working with the State Historic Preservation Division (SHPD) and will file an archaeological monitoring plan for review and approval if required. The second phase of the archaeological assessment will be undertaken during demolition and construction activities to review the lands where permanent structures were contained. Should any historical or cultural remains be discovered during demolition or construction, work will cease in the immediate area of the find and consultation will be sought with the SHPD to determine mitigation measures.

The cultural impact assessment concluded that the project site does not contain any cultural resources, however, it noted that public beach access should be retained to allow non-guests to utilize the beach fronting the property. The project proposes to provide a parking lot for public beach

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access with 16 stalls. The parking lot will be located in close proximity to the existing public beach access walkway. Additionally, free valet parking will be available to beach users to provide closer access to the beach.

2. **The Proposed Action Would Not Curtail the Range of Beneficial Uses of the Environment**

The proposed project and the commitment of land resources would not curtail the range or beneficial uses of the environment. As previously noted, the project proposes to include a parking lot and free valet parking for public beach users, as well as the replacement of beach stair accesses for the safety of users. Additionally, the demolition of existing buildings within the shoreline setback area will allow for the expansion of open space to the ocean views from the project site.

3. **The Proposed Action Does Not Conflict with the State's Long-Term Environmental Policies or Goals or Guidelines as Expressed in Chapter 344, Hawaii Revised Statutes**

The State's Environmental Policy and Guidelines are set forth in Chapter 344, Hawaii Revised Statutes. The proposed action does not contravene provisions of Chapter 344, Hawaii Revised Statutes.

4. **The Economic or Social Welfare of the Community or State Would Not Be Substantially Affected**

The proposed project will have a beneficial impact on the local economy both during and after construction. It is anticipated that there will be a significant number of new jobs created during the construction activities. Further, it is anticipated that the Royal Lahaina Resort will employ at a minimum a total of 330 employees through direct hotel/accommodation activities. Additional employment is anticipated with the retail components of the project. The condominium/hotel units will also allow for indirect economic benefit with the residents of these units contributing to the economy through the use of goods and services in the community, as well

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as the payment of real property taxes and potentially, transient accommodation taxes. No adverse impacts to the economic or social welfare of the community or state are anticipated.

5. **The Proposed Action Does Not Affect Public Health**

No adverse impacts to the public's health and welfare are anticipated as a result of the proposed project. As previously noted, BMPs will be employed during demolition and construction work to mitigate any environmental impacts.

6. **No Substantial Secondary Impacts, Such as Population Changes or Effects on Public Facilities are Anticipated**

The proposed project may involve a slight increase in residents to West Maui with the introduction of the condominium/hotel units. The units will be purchased for long-term and short-term use. Owners will have the option to rent out their units when they are not in use. This increase in population is anticipated to be minimal in comparison to other master planned residential projects in the West Maui area.

From a land use standpoint, the proposed project is in keeping with the objectives, policies and implementing actions of the West Maui Community Plan. The proposed project complements and is compatible with surrounding resort uses.

No adverse impacts to water and wastewater capacities and facilities are anticipated as the Royal Lahaina Resort Revitalization project will be reducing the number of units from the existing resort by 128 units.

7. **No Substantial Degradation of Environmental Quality is Anticipated**

During the demolition and construction phases of the project, there will be short-term air quality and noise impacts as a result of the project. In the

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long term, effect on air quality and ambient noise levels should be minimal and similar to the existing quality levels. The project will add open space and improve the scenic character of the area with the demolition of structures in the shoreline setback area.

8. **The Proposed Action Does Not Involve a Commitment to Larger Actions, Nor Would Cumulative Impacts Result in Considerable Effects on the Environment**

The proposed action does not represent a commitment to larger actions. While the project will be completed in phases, it is anticipated that the project will be completed within three (3) years from the start of construction. In addition, the proposed action is not expected to result in cumulative impacts that would adversely affect the environment.

9. **No Rare, Threatened or Endangered Species or Their Habitats Would Be Adversely Affected By the Proposed Action**

The Royal Lahaina Resort has been in existence since the early 1960s. There are no rare, threatened or endangered species of flora, fauna or avifauna that will be adversely affected by the proposed action.

10. **Air Quality, Water Quality or Ambient Noise Levels Would Not Be Detrimentially Affected by the Action**

Demolition and construction activities will result in short-term air quality and ambient noise impacts. Dust control measures, such as regular watering and sprinkling, will be implemented to minimize wind-blown emissions. Noise impacts will occur primarily from construction-related activities. It is anticipated that construction will be limited to daylight working hours. Water quality is not anticipated to be affected with the implementation of BMPs.

In the long term, the project is not anticipated to have a significant impact on air, noise and quality.

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11. **The Proposed Project Would Not Affect Environmentally Sensitive Areas, Such as Flood Plains, Tsunami Zones, Erosion-prone Areas, Geologically Hazardous Lands, Estuaries, Fresh Waters or Coastal Waters**

The project site is located within the tsunami evacuation zone and has, in the past, experienced some flooding during storm events. It is noted, however, that a majority of the existing structures within the 150-foot shoreline setback area will be demolished as part of the revitalization plan. The remaining structures will be renovated and coordination will be sought with the County of Maui to insure that remaining structures meet requirements for development in flood hazard areas. The project will comply with Chapter 19.62 of the Maui County Code (MCC), Flood Hazard Areas, as applicable.

12. **The Proposed Action Would Not Substantially Affect Scenic Views and Viewplanes Identified in County Plans or Studies**

The proposed Royal Lahaina Resort Revitalization project will improve the viewplanes of the Pacific Ocean along the Honoapiilani Highway with the removal of existing structures in the shoreline setback area. The area will be landscaped and the scenic vistas will be improved overall.

13. **The Proposed Action Would Not Require Substantial Energy Consumption**

The proposed project will involve the short-term commitment of fuel for equipment, vehicles and machinery during demolition and construction activities. Electricity requirements for the proposed project are anticipated to be reduced from current needs, due to the reduction in units at the Resort. The fuel consumption and electricity needs are not anticipated to result in a substantial consumption of energy resources.

Based on the foregoing findings, it is anticipated that the proposed action will not result in significant adverse impacts.

# ***Chapter IX***

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***List of Permits and Approvals***

## **IX. LIST OF PERMITS AND APPROVALS**

The following permits and approvals will be required prior to the implementation of the proposed Royal Lahaina Resort Revitalization project.

### **State of Hawaii**

1. NPDES permit (for stormwater discharge associated with construction activities)

### **County of Maui**

1. County Special Management Area Use Permit
2. Shoreline Setback Variance
3. Grading Permit
4. Building Permits
5. Demolition Permits

# ***Chapter X***

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***Agencies Consulted During  
the Preparation of the Draft  
Environmental Assessment,  
Letters Received and Responses  
to Substantive Comments***



## **X. AGENCIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT, LETTER RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS**

The following agencies were consulted during the preparation of the Draft Environmental Assessment. Agency comments and responses to substantive comments are also included in this section.

1. Ranae Ganske-Cerizo, Acting District Conservationist  
**Natural Resources Conservation Service**  
**U.S. Department of Agriculture**  
210 Imi Kala Street, Suite 209  
Wailuku, Hawaii 96793-2100
2. George Young, P.E.  
**U.S. Department of the Army**  
U.S. Army Engineer District,  
Honolulu  
Building 230  
Fort Shafter, Hawaii 96858-5440
3. Robert P. Smith  
Pacific Islands Manager  
**U. S. Fish and Wildlife Service**  
300 Ala Moana Blvd.  
Rm. 3-122, Box 50088  
Honolulu, Hawaii 96813
4. Mary Lou Kobayashi,  
Planning Program Administrator  
State of Hawaii  
**Office of Planning**  
P. O. Box 2359  
Honolulu, Hawaii 96804
5. Patricia Hamamoto, Superintendent  
State of Hawaii  
**Department of Education**  
P. O. Box 2360  
Honolulu, Hawaii 96804
6. Denis Lau, Chief  
**Clean Water Branch**  
State of Hawaii  
**Department of Health**  
919 Ala Moana Blvd., Room 300  
Honolulu, Hawaii 96814
7. Herbert Matsubayashi  
District Environmental Health  
State of Hawaii  
**Department of Health**  
54 High Street  
Wailuku, Hawaii 96793
8. Peter Young  
State of Hawaii  
**Department of Land and Natural Resources**  
P. O. Box 621  
Honolulu, Hawaii 96809
9. Melanie Chinen, Administrator  
State of Hawaii  
**Department of Land and Natural Resources**  
**State Historic Preservation Division**  
601 Kamokila Blvd., Room 555  
Kapolei, Hawaii 96707
10. Rodney Haraga, Director  
State of Hawaii  
**Department of Transportation**  
869 Punchbowl Street  
Honolulu, Hawaii 96813

- 
11. Clyde Namu'o, Administrator  
**Office of Hawaiian Affairs**  
711 Kapiolani Boulevard, Suite 500  
Honolulu, Hawaii 96813
12. Carl Kaupalolo, Chief  
County of Maui  
**Department of Fire and Public Safety**  
200 Dairy Road  
Kahului, Hawaii 96732
13. Alice Lee, Director  
County of Maui  
**Department of Housing and Human Concerns**  
200 South High Street  
Wailuku, Hawaii 96793
14. Michael W. Foley, Director  
County of Maui  
**Department of Planning**  
250 South High Street  
Wailuku, Hawaii 96793
15. Glenn Correa, Director  
County of Maui  
**Department of Parks and Recreation**  
700 Hali'a Nako Street, Unit 2  
Wailuku, Hawaii 96793
16. Milton Arakawa, Director  
County of Maui  
**Department of Public Works and Environmental Management**  
200 South High Street  
Wailuku, Hawaii 96793
17. Thomas Phillips, Chief  
County of Maui  
**Police Department**  
55 Mahalani Street  
Wailuku, Hawaii 96793
18. George Tengan, Director  
County of Maui  
**Department of Water Supply**  
200 South High Street  
Wailuku, Hawaii 96793
19. Maui Electric Company, Ltd.  
P. O. Box 398  
Kahului, Hawaii 96732
20. Joseph Pluta  
**West Maui Taxpayers Association**  
P. O. Box 10338  
Lahaina, Hawaii 96761

MAY 31 2005



DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, HONOLULU  
FT. SHAFTER, HAWAII 96858-5440

May 27, 2005

REPLY TO  
ATTENTION OF

Regulatory Branch

Daren Suzuki, Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, HI 96793

Subject: Early consultation on Environmental Assessment (EA) for the Royal Lahaina Resort revitalization project, Kaanapali, Maui, Hawaii (TMK: (2) 4-4-008:007 and 013).

Dear Mr. Suzuki:

This office has reviewed the information you provided on May 17, 2005 pursuant to Section 10 of the Rivers and Harbors Act (RHA) and Section 404 of the Clean Water Act (CWA). Section 10 of the RHA requires that a Department of the Army (DA) permit be obtained for certain structures or work in or affecting navigable waters of the United States (33 U.S.C. 403). Section 404 of the CWA requires that a DA permit be obtained prior to the placement or discharge of dredged and/or fill material into waters of the U.S. (33 U.S.C. 1344).

The proposed work involves demolition, renovation and new construction within the existing Royal Lahaina Resort complex, including the 150-foot shoreline setback area adjacent to the Pacific Ocean. The Pacific Ocean forms the resort's western boundary and is subject to regulation under both Section 10 of the RHA and Section 404 of the CWA. The project description indicates that fill material consisting of beach quality sand may be placed within the shoreline area. Provided the fill is not placed below (waterward) of the Mean Higher High Water (MHHW) mark on the shoreline, no DA permit will be required for the proposed work.

Please note that *any* work, including, but not limited to, the deposition of dredged and/or fill material, that is proposed waterward of the MHHW may be subject to Corps jurisdiction under Section 10 authority, and the applicant is strongly encouraged to contact this office for a determination of DA jurisdiction if any such work is proposed.

Based on your brief description of work and the United States Geological Survey (USGS) topographic quadrangle for the project area, it does not appear that the proposed work would involve the discharge of dredged or fill material into waters of the United States, including wetlands, subject to Corps jurisdiction under Section 404 of the CWA.

If you have any further questions, please contact Ms. Connie Ramsey by electronic mail at [Connie.L.Ramsey@usace.army.mil](mailto:Connie.L.Ramsey@usace.army.mil), by telephone at 808-438-2039, or by facsimile at 808-438-4060 and refer to File No. **POH-2005-310**. Thank you for your cooperation with our regulatory program.

Sincerely,

A handwritten signature in black ink, appearing to read "George P. Young".

George P. Young, P.E.  
Chief, Regulatory Branch



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

July 18, 2005

George P. Young, P.E., Chief  
Department of the Army  
Regulatory Branch  
U.S. Army Engineer District, Honolulu  
Fort Shafter, Hawaii 96858-5440

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and  
013, Kaanapali, Maui

Dear Mr. Young:

Thank you for your letter dated May 27, 2005, providing preliminary comments for the above-mentioned project. On behalf of the Royal Lahaina Development Group, LLC, we would like to provide the following response to your comments.

It is confirmed that no fill material will be placed below the mean higher high water mark of the shoreline. A valid certified shoreline survey and preliminary grading plans will be provided in the subject's Draft Environmental Assessment (EA).

Thank you for the opportunity to comment. A copy of the Draft EA will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at (808) 244-2015.

Very truly yours,

Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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JUN 01 2005

United States Department of Agriculture



 NRCS Natural Resources  
Conservation Service

*Our People...Our Islands...In Harmony*

210 Imi Kala Street, Suite #209, Wailuku, HI 96793-2100

May 31, 2005

Mr. Darren Suzuki, Planner  
Munekiyo & Hiraga, Inc.  
305 High Street Suite 104  
Wailuku, Hawaii 96793

Dear Mr. Suzuki,

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Lahaina, Maui

We highly recommend a construction entrance such as a pad of gravel over filter cloth located where traffic leaves a construction site. As vehicles drive over the gravel the moist sand and sediment will be collected from the vehicles wheels which will reduce offsite transport of sediment into the ocean.

Locate potential nonpoint pollutant sources away from the ocean and critical areas. Material stock piles, access roads and other land-disturbing activities should be located away from critical areas that drain directly into sensitive water bodies. Plan and stage land disturbance activities so that only the area currently under construction is exposed. As soon as the area grading and construction in an area are complete, the area should be stabilized and vegetated.

Thank you for the opportunity to comment.

Sincerely,

Ranae F. Ganske-Cerizo  
District Conservationist



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

July 18, 2005

Ranae F. Ganske-Cerizo  
District Conservationist  
United States Department of Agriculture  
Natural Resources Conservation Service  
210 Imi Kala Street, Suite #209  
Wailuku, Maui, Hawaii 96793

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Maui

Dear Ms. Ganske-Cerizo:

Thank you for your letter dated May 31, 2005, providing preliminary comments for the above-mentioned project. On behalf of the Royal Lahaina Development Group, LLC, we would like to offer the following response to your comments.

A Best Management Practices (BMPs) plan will be implemented during project construction to mitigate soil erosion and control dust. BMPs will include the following:

1. Installation of silt fences and dust fences, as appropriate. Location and construction details will be reviewed during the grading and building permit process.
2. Installation of temporary stabilized ingress/egress to minimize offsite tracking of sediment by construction vehicles. Location and construction details will be reviewed during the grading and building permit process.
3. Use of a water truck to dampen the area (including construction access road) for dust control.
4. Immediately stabilizing and grassing all exposed areas after grading.


Thank you for the opportunity to comment. A copy of the Draft Environmental Assessment will be provided to your office for further review and comment upon completion.

environment  
planning  
governance

Ranae F. Ganske-Cerizo  
District Conservationist  
July 18, 2005  
Page 2

Should you have any questions, please contact me at 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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MAY 27 2005

PHONE (808) 594-1888

FAX (808) 594-1865



**STATE OF HAWAII**  
**OFFICE OF HAWAIIAN AFFAIRS**  
711 KAPI'OLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813

HRD05/1856B

May 25, 2005

Daren Suzuki  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, HI 96793

**RE: Royal Lahaina Resort Revitalization Project, Kā'anapali, Lahaina, Maui, TMK:  
4-4-008:007 & 013.**

Dear Mr. Suzuki,

OHA is in receipt of your May 17, 2005 request for comment on the above listed proposed project, TMK: 4-4-008:007 & 013. OHA offers the following comments:

OHA recommends that an Archaeological Monitoring Report be drafted in support of this project. Because there is a possibility of encountering buried human remains, all ground altering activities (i.e. utility excavations, dewatering pits and building footings) should be monitored by a professional archaeologist. It is also advisable that an Archaeological Inventory Survey be conducted to better appreciate the nature of possible adverse effects to cultural properties within the area of proposed development.

OHA requests that consideration be given to native Hawaiian gathering and access rights during and after construction activities. Gathering rights and access shall not be restricted except as necessary to ensure safety. If safety-related restrictions are put in place, alternate public access routes must be provided.

Native flora should be incorporated into future landscaping plans for the Royal Lahaina Resort. This will both give the developed area a sense of authenticity and will promote a native ecosystem.

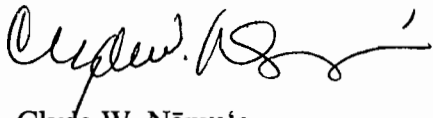
OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.



Daren Suzuki  
May 25, 2005  
Page 2

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck at 594-0239 or [jessey@oha.org](mailto:jessey@oha.org).

‘O wau iho nō,

A handwritten signature in black ink, appearing to read 'Clyde W. Nāmu‘o', with a long horizontal flourish extending to the right.

Clyde W. Nāmu‘o  
Administrator

CC: Thelma Shimaoka  
OHA Community Affairs Coordinator  
140 Hoohana St., Ste. 206  
Kahului, HI 96732



MICHAEL T. MUNEKIYO  
GWEN DHASHI HIRAGA  
MITSURU "MICH" HIRANO

July 18, 2005

Clyde W. Namu`o, Administrator  
State of Hawaii  
Office of Hawaiian Affairs  
711 Kapi`olani Boulevard, Suite 500  
Honolulu, Hawaii 96813

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and  
013, Kaanapali, Maui

Dear Mr. Namu`o:

Thank you for your letter dated May 25, 2005, providing preliminary comments for the above-mentioned project. On behalf of the applicant, Royal Lahaina Development Group, LLC, we would like to offer the following response to your comments.

An Archaeological Inventory Survey and a Cultural Impact Assessment Report will be appended to the Draft Environmental Assessment (EA). These reports would address possible adverse effects on historic/cultural resources within the subject property. Should any human skeletal remains be identified during construction work, the remains will be treated in accordance with current State preservation law and administrative rules for the treatment of inadvertent discoveries, including required coordination with the Maui/Lanai Islands Burial Council.

The applicant acknowledges and is aware of existing laws pertaining to native Hawaiian gathering and access rights.

Utilization of native vegetation is being considered in the project landscaping plans.

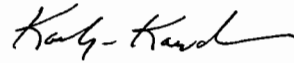
Thank you for the opportunity to comment. A copy of the Draft EA will be provided to your office for further review and comment upon completion.

environment  
planning

Clyde W. Namu`o, Administrator  
July 18, 2005  
Page 2

Should you have any questions, please contact me at (808) 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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LINDA LINGLE  
GOVERNOR



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

JUN 09 2005

RODNEY K. HARAGA  
DIRECTOR

Deputy Directors  
BRUCE Y. MATSUI  
BARRY FUKUNAGA  
BRENNON T. MORIOKA  
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.1775

June 2, 2005

Mr. Daren Suzuki  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Mr. Suzuki:

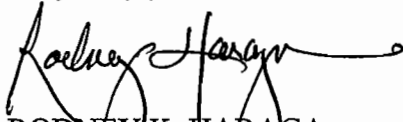
Subject: Royal Lahaina Resort Revitalization Project  
Environmental Assessment Pre-Consultation  
TMK: 4-4-008: 007 and 013

Thank you for your letter notifying us of the subject proposed project.

Our interest and concern will be on the project's traffic generation and its contribution to the cumulative traffic in the Kaanapali Resort area impacting Honoapiilani Highway. A traffic assessment report for the project should be prepared and copies of the report provided to our Department for review and approval.

We appreciate the courtesy of your advance notification.

Very truly yours,

  
RODNEY K. HARAGA  
Director of Transportation

c: Michael W. Foley, Maui Department of Planning



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

July 18, 2005

Rodney K. Haraga, Director  
State of Hawaii  
Department of Transportation  
869 Punchbowl Street  
Honolulu, Hawaii 96813

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Maui

Dear Mr. Haraga:

Thank you for your letter dated June 2, 2005, providing preliminary comments for the above-mentioned project.

On behalf of the applicant, Royal Lahaina Development Group, LLC, please be advised that a traffic assessment report will be appended to the Draft Environmental Assessment (EA) in accordance with your recommendations

Thank you for the opportunity to comment. A copy of the Draft EA will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at (808) 244-2015.

Very truly yours,

  
Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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environment  
planning

**lori**

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**From:** Jiakai Liu [JLiu@eha.health.state.hi.us]  
**Sent:** Wednesday, June 01, 2005 10:18 AM  
**To:** planning@mhinconline.com  
**Subject:** Royal Lahaina Resort Revitalization Project

Dear Mr. Suzuki:

Thank you for allowing us to review the subject project. We offer Standard Comments at: <http://www.state.hi.us/health/environmental/env-planning/landuse/landuse.html> or by clicking (Standard Comments ) for the EA pre-consultation.

Please send DEA or any subsequent documents to the DOH Environmental Planning Office directly at:

Environmental Planning Office  
919 Ala Moana Blvd., Room 312  
Honolulu, Hawaii 96814

Mahalo

JiakaiLiu  
Land Use Review Coordinator  
Environmental Planning Office /DOH  
(808)586-4346

**Environmental Planning Office** Updated 5/13/05

The Environmental Planning Office (EPO) is responsible for several surface water quality management programs mandated by the federal Clean Water Act or dictated by State policy. (<http://www.state.hi.us/doh/eh/epo/wqm/wqm.htm>). Among these responsibilities, EPO:

- maintains the *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)* (<http://www.state.hi.us/doh/eh/epo/wqm/303dpcfinal.pdf>);
- develops and establishes Total Maximum Daily Loads (TMDLs) for listed waters (suggesting how much existing pollutant loads should be reduced in order to attain water quality standards, please see <http://www.epa.gov/owow/tmdl/intro.html>);
- writes TMDL Implementation Plans describing how suggested pollutant load reductions can be achieved; and
- conducts assessments of stream habitat quality and biological integrity.

To facilitate TMDL development and implementation, and to assist with our assessment of the potential impact of proposed actions upon water quality, pollutant loading, and biological resources in receiving waters, we suggest that environmental review documents, permit applications, and related submittals include the following standard information and analyses:

**Waterbody type and class**

1. Identify the waterbody type and class, as defined in Hawaii Administrative Rules Chapter 11-54 (<http://www.state.hi.us/health/about/rules/11-54.pdf>), of all potentially affected water bodies<sup>1</sup>.

**Existing water quality management actions**

2. Identify any existing National Pollutant Discharge Elimination System (NPDES) permits and related connection permits (issued by permittees) that will govern the management of water that runs off or is discharged from the proposed project site or facility. Please include NPDES and other permit numbers; names of permittees, permitted facilities, and receiving waters (including waterbody type and class as in 1. above); diagrams showing drainage/discharge pathways and outfall locations; and note any permit conditions that may specifically apply to the proposed project.
3. Identify any planning documents, groups, and projects that include specific prescriptions for water quality management at the proposed project site and in the potentially affected waterbodies. Please note those prescriptions that may specifically apply to the proposed project.

**Pending water quality management actions**

4. Identify all potentially affected water bodies that appear on the current *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)* including the listed

waterbody, geographic scope of listing, and pollutant(s) (See Table 5 at <http://www.hawaii.gov/health/environmental/env-planning/wqm/303dpcfinal.pdf>).

5. If the proposed project involves potentially affected water bodies that appear on the current *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)*, identify and quantify expected changes in the following site and watershed conditions and characteristics:
  - surface permeability
  - hydrologic response of surface (timing, magnitude, and pathways)
  - receiving water hydrology
  - runoff and discharge constituents
  - pollutant concentrations and loads in receiving waters
  - aquatic habitat quality and the integrity of aquatic biota

Where TMDLs are already established they include pollutant load allocations for the surrounding lands and point source discharges. In these cases, we suggest that the submittal specify how the proposed project would contribute to achieving the applicable load reductions.

Where TMDLs are yet to be established and implemented, a first step in achieving TMDL objectives is to prevent any project-related increases in pollutant loads. This is generally accomplished through the proper application of suitable best management practices in all phases of the project and adherence to any applicable ordinances, standards, and permit conditions. In these cases we suggest that the submittal specify how the proposed project would contribute to reducing the polluted discharge and runoff entering the receiving waters, including plans for additional pollutant load reduction practices in future management of the surrounding lands and drainage/discharge systems.

### **Proposed Action and Alternatives Considered**

We suggest that each submittal identify and analyze potential project impacts at a watershed scale by considering the potential contribution of the proposed project to cumulative, multi-project watershed effects on hydrology, water quality, and aquatic and riparian ecosystems.

We also suggest that each submittal broadly evaluate project alternatives by identifying more than one engineering solution for proposed projects. In particular, we suggest the consideration of "alternative," "soft," and "green" engineering solutions for channel modifications that would provide a more environmentally friendly and aesthetically pleasing channel environment and minimize the destruction of natural landscapes.

If you have any questions about these comments or EPO programs, please contact Jiakai Liu at 586-4346.

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<sup>1</sup>"Potentially affected waterbodies" means those in which proposed project activity would take place and any others that could receive water discharged by the proposed project activity or water flowing down from the proposed project site. These waterbodies can be presented as a chain of receiving waters whose top link is at the project site upslope and whose bottom link is in



Pacific Ocean "oceanic waters," with all receiving waters named according to conventions established by Chapter 11-54 and the *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)*. For example, a recent project proposed for Nuhelewai Stream, Oahu (a tributary of Kapalama Canal) might potentially affect Nuhelewai Stream, Kapalama Canal, Honolulu Harbor and Shore Areas, and the Pacific Ocean.

LINDA LINGLE  
GOVERNOR OF HAWAII



JUN 13 2005

CHIYOME L. FUKINO, M. D.  
DIRECTOR OF HEALTH

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

**STATE OF HAWAII**  
DEPARTMENT OF HEALTH  
MAUI DISTRICT HEALTH OFFICE  
54 HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2102

June 13, 2005

Mr. Daren Suzuki  
Planner  
Munekiyo & Hiraga, Inc.  
305 South High Street, Suite 104  
Wailuku, Hawai'i 96793

Dear Mr. Suzuki:

Subject: **Royal Lahaina Resort Revitalization Project**  
**TMK: (2) 4-4-008: 007 and 013**

Thank you for the opportunity to participate in the early consultation process for the environmental assessment. The following comments are offered:

1. National Pollutant Discharge Elimination System (NPDES) permit coverage is required for this project. The Clean Water Branch should be contacted at 808 586-4309.
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.
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.

Mr. Daren Suzuki  
June 13, 2005  
Page 2

HAR, Chapter 501, "Asbestos Requirements" requires owners or operators of a demolition or renovation activity to thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos using a certified inspector pursuant to HAR, Chapter 504. The Applicant is required to file with the Noise, Radiation and Indoor Air Quality Branch, Asbestos Demolition/Renovation Notification at least ten (10) working days prior to the demolition of each building (regardless of the presence of asbestos) or the disturbance of regulated asbestos containing materials during renovation activities. All regulated quantities and types of asbestos containing materials would be subject to emission control, proper collection, containerizing, and disposal at a permitted landfill by a licensed asbestos contractor using certified persons. Questions concerning asbestos requirements should be directed to Mr. Thomas Lileikis of the Noise, Radiation and Indoor Air Quality Branch at (808) 586-5800.

Should you have any questions, please call me at 984-8230.

Sincerely,

A handwritten signature in black ink, appearing to read 'H. Matsubayashi', enclosed within a large, hand-drawn oval.

Herbert S. Matsubayashi  
District Environmental Health Program Chief

July 18, 2005

Herbert S. Matsubayashi  
District Environmental Health Program Chief  
State of Hawaii  
Department of Health  
Maui District Health Office  
54 South High Street  
Wailuku, Hawaii 96793

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Maui

Dear Mr. Matsubayashi:

Thank you for your letter dated June 13, 2005, providing preliminary comments for the above-mentioned project. On behalf of the applicant, Royal Lahaina Development Group, LLC, we would like to offer the following response to your comments:

**National Pollutant Discharge Elimination System (NPDES)**

We acknowledge that a NPDES permit coverage is required for this project. The Clean Water Branch will be contacted prior to grading/construction activities to secure applicable permits as required.

**Community Noise Control**

We confirm that the proposed project will comply with Hawaii Administrative Rules (HAR) Chapter 11-46 "Community Noise Control" and a noise permit, if required, will be obtained prior to the commencement of work. We also acknowledge that Chapter 11-46 sets maximum sound levels from stationary equipment such as compressors and HVAC equipment. The placement of these types of equipment will be considered during the planning, design and construction of the building and installation of these types of equipment.

**Asbestos Requirements**

We confirm that the proposed project will comply with HAR Chapter 501 and 504 pertaining to Asbestos Requirements. An Asbestos Demolition/Renovation Notification will be filed

environment  
planning

Herbert S. Matsubayashi, Chief  
July 18, 2005  
Page 2

with the Noise, Radiation and Indoor Air Quality Branch, prior to demolition activities. It is acknowledged that all regulated quantities and types of asbestos containing materials would be subject to emission control, proper collection, containerizing, and disposal at a permitted landfill by a licensed asbestos contractor using certified persons.

Thank you for the opportunity to comment. A copy of the Draft EA will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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MAY 25 2005

ALAN M. ARAKAWA  
MAYOR



CARL M. KAUPALOLO  
CHIEF

NEAL A. BAL  
DEPUTY CHIEF

**COUNTY OF MAUI**  
**DEPARTMENT OF FIRE AND PUBLIC SAFETY**

200 DAIRY ROAD  
KAHULUI, MAUI, HAWAII 96732  
(808) 270-7561  
FAX (808) 270-7919

May 23, 2005

Mr. Daren Suzuki, Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, #104  
Wailuku, Hawaii 96793

Subject: Royal Lahaina Resort Revitalization Project, TMK (2)4-4-008:007 & 013

Dear Mr. Suzuki,

I have had the opportunity to review your request prior to preparing the Environmental Assessment. At this time, I would like to bring to your attention specific items that have come up in the past. Some may not be directly related to the environment but are considered safety issues. Please contact me at 270-7568 if there are any questions or concerns.

1. The fire alarm system, and procedures in case of fire, have been inadequate in the past and a thorough plan and procedure needs to be worked out with management and the fire department.
2. The fire department connections and related appliances need to be labeled in detail accordingly. In the past, these connections have been unlabeled and blocked by vegetation and landscaping.
3. A thorough fire inspection is past due on the property and will be scheduled soon.

Sincerely,

A handwritten signature in black ink, appearing to read "Valeriano F. Martin".

Valeriano F. Martin  
Captain  
Fire Prevention Bureau



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

July 18, 2005

Valeriano F. Martin, Captain  
Fire Prevention Bureau  
County of Maui  
Department of Fire and Public Safety  
200 Dairy Road  
Kahului, Maui, Hawaii 96732

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Maui

Dear Mr. Martin:

Thank you for your letter dated May 23, 2005, providing preliminary comments for the above-mentioned project. On behalf of the Royal Lahaina Development Group, LLC, we would like to offer the following response to your comments.

The applicant is aware of your comments relative to existing safety issues in connection with the subject property. It is the applicant's intent to address all existing safety issues, as well as meeting current fire code requirements for the proposed revitalization project.

Thank you for the opportunity to comment. A copy of the Draft Environmental Assessment will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at 244-2015.

Very truly yours,

Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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environment  
planning

MAY 31 2005

ALAN M. ARAKAWA  
Mayor



GLENN T. CORREA  
Director

JOHN L. BUCK III  
Deputy Director

(808) 270-7230  
Fax (808) 270-7934

## DEPARTMENT OF PARKS & RECREATION

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

May 23, 2005

Daren Suzuki, Planner  
Munekiyo & Hiraga, Inc.  
305 High Street Suite 104  
Wailuku, Hawaii 96793

**RE: Royal Lahaina Resort Revitalization Project**  
**TMK: (2) 4-4-008:007 and 013**

Dear Mr. Suzuki:

Thank you for the opportunity to participate in the early consultation process for the Royal Lahaina Resort Revitalization Project Environmental Assessment.

Our only comment at this time would be that a cash contribution to meet park assessment requirements would need to be satisfied for all "condominium" units developed through the project.

Should you have any questions or need of additional comment or clarification, please call me, or Patrick Matsui, Chief of Parks Planning & Development at 808-270-7931.

Sincerely,

A handwritten signature in black ink, appearing to read "Glenn T. Correa", written over a horizontal line.

Glenn T. Correa  
Director

c: Patrick Matsui, Chief of Parks Planning & Development





MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

July 18, 2005

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

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Maui

Dear Mr. Correa:

Thank you for your letter dated May 23, 2005, providing preliminary comments for the above-mentioned project. On behalf of the Royal Lahaina Development Group, LLC, we would like to provide the following responses to your comments.

The revitalization project will consist of a new master plan made up of approximately 330 hotel units and 110 condominium/hotel villas (total unit count of 440 units). These condominium/hotel villas will be operated primarily as a "hotel" for short-term transient accommodations as the future owner's desired option. Details of this use will be further discussed in the Draft Environmental Assessment (EA).

Recreational issues relative to public beach access parking and shoreline access and use will also be discussed in the Draft EA.

Thank you for the opportunity to comment. A copy of the Draft EA will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at 244-2015.

Very truly yours,

Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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planning

JUN 08 2005



DEPARTMENT OF  
**HOUSING AND HUMAN CONCERNS**  
COUNTY OF MAUI

ALAN M. ARAKAWA  
Mayor

ALICE L. LEE  
Director

HERMAN T. ANDAYA  
Deputy Director

---

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165

May 31, 2005

Mr. Daren Suzuki, Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Mr. Suzuki:

Subject: **Royal Lahaina Resort Revitalization Project,  
TMK 4-4-008:007 and 013, Kaanapali, Lahaina,  
Maui**

We have reviewed your May 17, 2005 letter and enclosure and would like to offer the following comments:

1. The enclosure to your letter indicated that the project currently consists of 583 suites, guest rooms and cottages, and that the revitalization project will decrease the number of transient vacation rental units in the project to 440 units.
2. Since the revitalization project will result in a decrease of 143 transient vacation rental units, the provisions of Chapter 2.94, Maui County Code will not apply.
3. Please confirm that none of the 440 new renovated transient vacation rental units will have "lock-off" units, as each "lock-up" unit is counted as a separate unit and will affect the total count of new units.

Thank you for the opportunity to comment.

Very truly yours,

ALICE L. LEE  
Director

ETO:bp  
c: Housing Administrator

July 18, 2005

Alice L. Lee, Director  
County of Maui  
Department of Housing and Human Concerns  
200 South High Street  
Wailuku, Hawaii 96793

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Maui

Dear Ms. Lee:

Thank you for your letter dated May 31, 2005, providing preliminary comments for the above-mentioned project.

On behalf of the Royal Lahaina Development Group, LLC, we would like to confirm that there will be no transient vacation rental units with "lock-offs".

Thank you for the opportunity to comment. A copy of the Draft Environmental Assessment will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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JUN 13 2005



ALAN M. ARAKAWA  
MAYOR

OUR REFERENCE  
ti  
YOUR REFERENCE

**POLICE DEPARTMENT**  
COUNTY OF MAUI

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



THOMAS M. PHILLIPS  
CHIEF OF POLICE

KEKUHAPUIO R. AKANA  
DEPUTY CHIEF OF POLICE

June 6, 2005

Mr. Daren Suzuki, Planner  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, HI 96793

Dear Mr. Suzuki:

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and  
013, Kaanapali, Maui

Thank you for your letter of May 17, 2005, requesting comments on the above  
subject.

We have reviewed the information submitted for this project and have enclosed a  
copy of our comments. Thank you for giving us the opportunity to comment on this project.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Glenn Miyahira".

Acting Assistant Chief Glenn Miyahira  
for: Thomas M. Phillips  
Chief of Police

c: Michael Foley, Planning Department

Enclosure

**TO :** THOMAS M. PHILLIPS, CHIEF OF POLICE, MAUI POLICE DEPARTMENT  
**VIA :** CHANNELS  
**FROM :** SCOTT Y. MIGITA, POLICE OFFICER III, LAHAINA BICYCLE PATROL  
**SUBJECT :** ROYAL LAHAINA RESORT REVITALIZATION PROJECT, TMK 4-4-008:007 AND 013, KAA NAPALI, LAHAINA, MAUI

We will have another opportunity to review comment on the project as part of the EA process at which time we can provide more input as necessary.

Sir, this To/From is being submitted regarding a Royal Lahaina Resort Revitalization project TMK 4-4-008:007 and 013 in Kaanapali. Daren SUZUKI, Planner, of Munekiyo & Hiraga, Inc. is requesting consultation for this project prior to preparing the Environmental Assessment (EA). The Royal Lahaina Development Group, LLC, proposes a revitalization project at the existing Royal Lahaina Resort property. This property is located on the Kaanapali Resort area and is bordered to the north by Maui Kaanapali Villas, to the east by Honoapiilani Highway (#30), to the south by Kaanapali Golf Courses, and to the west by the ocean. The main access to the property is via Kekaa Drive.

This revitalization proposal consists of a mixed use concept consisting of a luxury 330 unit hotel and approximately 110 condominium/hotel villas for a total unit count of 440 units. This would be a decrease of 143 units from the existing unit count and an addition of various new amenities.

At this time, this officer has not heard or received complaints regarding the issue of traffic and safety in this particular area. Kekaa Drive is a privately owned roadway and is open to public access. This roadway is not ordinarily heavily used throughout all hours of the day and evening. Honoapiilani Highway which intersects with Kekaa Drive allows traffic to make only a right hand turn leaving Kekaa Drive and both right and left turns from the highway into Kekaa Drive. A minimal impact on traffic in this area is anticipated as a result of this project, however comments regarding the impact on traffic in this area is being requested which may warrant a traffic impact analysis.

Submitted for your information and perusal.

CONCUR!  
 S.Y. Migita 1512  
 6/11/05 1300

AGREE.  
 A/CPT. V. [Signature]  
 06/07/05 @ 1134 (hrs)

Respectfully submitted,



Scott Y. MIGITA, E-1122  
 P.O. III, Bike Patrol Officer  
 05/27/2005 at 2042 hours



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

July 18, 2005

Thomas M. Phillips, Chief  
County of Maui  
Police Department  
55 Mahalani Street  
Wailuku, Hawaii 96793

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and  
013, Kaanapali, Maui

Dear Mr. Phillips:

Thank you for your letter dated June 6, 2005, providing preliminary comments for the above-mentioned project.

On behalf of the applicant, Royal Lahaina Development Group, LLC, please be advised that a traffic assessment report will be appended to the Draft Environmental Assessment (EA) in accordance with your recommendations.

Thank you for the opportunity to comment. A copy of the Draft EA will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at 244-2015.

Very truly yours,

Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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environment  
planning

ALAN M. ARAKAWA  
Mayor

MICHAEL W. FOLEY  
Director

WAYNE A. BOTEILHO  
Deputy Director



COUNTY OF MAUI  
**DEPARTMENT OF PLANNING**

June 22, 2005

Mr. Daren Suzuki  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, HI 96793

Dear Mr. Suzuki;

RE: Preconsultation Comments for the Proposed Revitalization of the Royal Lahaina Resort located at TMK: 4-4-008: 007 and 013, Kaanapali, Lahaina, Island of Maui, Hawaii (LTR 2005/1445)

The Maui Planning Department (Department) is in receipt of your request for preconsultation comments in preparation of a Draft Environmental Assessment (DEA) for the proposed revitalization of the Royal Lahaina Resort. The Department's comments are as follows:

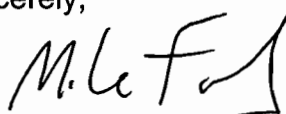
1. Land Use Designations are as follows:
  - a. Land Use Commission, Chapter 205, HRS: Urban District
  - b. West Maui Community Plan: Hotel
  - c. Zoning, Title 19, MCC: Parcel 7: H-2 and H-M, Hotel District; and A-2, Apartment District; and Parcel 13: H-M, Hotel District
2. The project area is located within the Special Management Area and requires review in accordance with Chapter 205A, HRS, Special Management Area Rules of the Maui Planning Commission, and the Shoreline Setback Rules of the Maui Planning Commission.
3. Include a site plan which highlights the location of the proposed buildings scheduled for demolition. Include the age of the structures proposed for demolition.
4. Discuss provisions for public beach parking and access to and along the shoreline.

Mr. Daren Suzuki  
June 22, 2005  
Page 2

5. Discuss any changes to the view planes with the new structures from the highway.
6. Discuss impacts to water use and the provision of using reclaimed water for irrigation purposes.
7. Shoreline Setback Analysis
  - a. Provide a valid Certified Shoreline Map as approved by the Board of Land and Natural Resources (BLNR). Include the shoreline setback line relative to the certified shoreline map on all site plans.
  - b. Provide a discussion and analysis of the erosion rate for the Property.
  - c. Identify all proposed and existing structures located within the shoreline setback area on a site plan.
8. The Department recommends removing all buildings located within the shoreline setback area of the property.
9. Sinks, bathtubs, toilets, light fixtures, and other materials should be recycled to the extent possible in order to minimize the quantity of waste landfilled from demolition activities.

Thank you for the opportunity to comment. Should you require further clarification, please contact Ms. Kivette Caigoy, Environmental Planner, at 270-7735.

Sincerely,



MICHAEL W. FOLEY  
Planning Director

MWF:KAC:dm

c: Wayne Boteilho, Deputy Planning Director  
Clayton Yoshida, Planning Program Administrator  
Kivette Caigoy, Environmental Planner  
Ann Cua, Staff Planner  
General File  
K:\WP\_DOCS\PLANNING\EA\PreConComments\2005\1445\_RoyalLahainaRenov.wpd



July 18, 2005

Michael W. Foley, Director  
Department of Planning  
200 South High Street  
Wailuku, Hawaii 96793

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Maui

Dear Mr. Foley:

Thank you for your letter dated June 22, 2005, providing preliminary comments for the above-mentioned project. On behalf of the Royal Lahaina Development Group, LLC, we would like to provide the following responses to your comments:

1. We acknowledge and confirm the land use designations provided for the subject properties.
2. We acknowledge and confirm that the project sites are subject to the Special Management Area Rules of the Maui Planning Commission and the Shoreline Setback Rules of the Maui Planning Commission.
3. A site plan which highlights the location of the proposed buildings will be provided in the Draft Environmental Assessment (EA). The age of the structures will also be discussed in the Draft EA.
4. Provisions for public beach parking and access to and along the shoreline will be discussed in the Draft EA.
5. A view corridor study on existing and proposed views will be provided in the Draft EA.
6. The impacts on water use will be discussed in the preliminary engineering report. At this time, it is anticipated that there will be no impacts on water use as a result of decreasing the overall unit count. To further conserve water resources, utilizing reclaimed water for irrigation will be considered in the Draft EA.

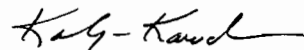
Michael W. Foley, Director  
July 18, 2005  
Page 2

7. A shoreline setback analysis will be provided in the Draft EA. A coastal engineering report will further supplement this analysis.
8. A discussion on all existing nonconforming buildings located within the shoreline setback area will be discussed in the Draft EA.
9. Reusing or donating bathroom fixtures or other building materials will be considered during demolition activities.

Thank you for the opportunity to comment. A copy of the Draft EA will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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ALAN M. ARAKAWA  
Mayor  
MICHAEL W. FOLEY  
Director  
WAYNE A. BOTEILHO  
Deputy Director



OCT 27 2005

COUNTY OF MAUI  
**DEPARTMENT OF PLANNING**

October 26, 2005

Ms. Karlynn Kawahara  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Kawahara:

RE: Comments on the Draft Environmental Assessment for the Proposed Royal Lahaina Resort Revitalization Project located at TMK: 4-4-008: 007 and 013, Kaanapali, Lahaina, Island of Maui, Hawaii (EA 2005/0014)

The Maui Planning Department (Department) is in receipt of your request for comments on the draft copy of the Draft Environmental Assessment (DEA) for the proposed revitalization project of the Royal Lahaina Resort in Kaanapali, Maui. In addition, Department staff conducted a site visit on October 6, 2005. The Department provides the following comments:

1. Expand Table 1 to list additional structures noted during the site visit including, but not limited to, walkways, showers, rockwalls, fencing, concrete slabs, and stairways. Differentiate which structures are located within the 150-foot and 40-foot shoreline setback areas. Confirm the location of each structure on the existing site plan.
  - a. Include documentation establishing the legality of each structure. Documentation may include building permits or historical aerial photographs. Include copies for the Special Management Area (SMA) and Shoreline Setback Variance applications.
  - b. For those structures to be retained, discuss the construction materials.
2. Identify any significant trees that will be retained or replanted.

3. Include a valid *Certified* Shoreline Survey from the Board of Land and Natural Resources (BLNR).
4. Discuss the anticipated cost of the two (2) unit types.
5. Discuss the proposed lighting plan, potential impacts, and mitigative measures.
6. The site plan shows a public beach access way on the east adjacent property (golf course). This pathway is used both by pedestrians and golf carts. The Applicant indicated, during the site visit, plans to negotiate with the adjacent property owner to establish a separate paved walkway strictly for pedestrians. This discussion should be included in the DEA.
7. At the Urban Design Review Board (UDRB) meeting on October 4, 2005, for The Residences at Kaanapali, the Board recommended an additional 20 public beach parking spaces in addition to the 10 proposed. Based on this recent recommendation, discuss the feasibility of including additional public beach parking spaces for the proposed project.
8. Discuss maintenance plans for the various pools and how pool water will be discharged and disposed during regular maintenance and cleaning activities. Discuss potential impacts and mitigative measures to nearshore coastal waters.
9. For the proposed sand volleyball area located near the southwestern corner of the property, provide further discussion relative to the following:
  - a. Provide further analysis and discussion of the potential impacts and mitigative measures to nearshore coastal waters during events of high, intense wave action. Provide a sieve analysis of the beach sand to be used as fill for this area. Identify the percent of fines (sediment/clay) in the sand to be used. Please be advised that the Department of Land and Natural Resources (DLNR), Office of Conservation and Coastal Lands (OCCL) requires 5% or less in fines for beach nourishment programs.

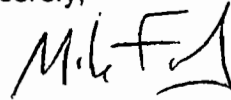
- b. This area has the potential of serving as a sand reservoir for the property. At some point in the future during events of high, intense wave action, this reservoir can be used to replenish the beach. Planning and establishing a beach management and/or nourishment program now could prove to be beneficial in the long term. As such, the Department recommends considering this function as part of the project. Implementation may require further consultation and additional permits from the DLNR, OCCL.
10. The buildings were constructed in the 1960s and 1970s. Asbestos-containing building materials and lead-based paint were not banned in the State of Hawaii until the 1970s. As such, there is a likelihood that these types of materials were used in the construction of the hotel structures. In addition, arsenic-containing Canec board was often used in construction. Confirm whether these types of materials are present in the buildings scheduled for demolition. Discuss potential impacts and proposed mitigative measures.
11. Discuss potential impacts that the phased implementation of the proposed action may pose to current employment opportunities.  
  
Clarify the number of employment positions currently available and compare with the number of employment positions post development.  
  
If there is an initial loss of jobs, does the Applicant intend to establish an employee replacement program as a mitigation measure?
12. Discuss the feasibility of incorporating oil-water separators into the drainage system as a mitigative measure to reduce the potential for petroleum loaded stormwater from discharging into nearshore coastal waters.
13. Multiple hotels are scheduled for major renovations or complete demolition which poses the potential for a significant increase in municipal solid waste entering the landfills. Discuss the approximate waste tonnage from demolition activities that will be disposed of both in the Central Maui Landfill and the Maalaea Construction & Demolition Landfill.  
  
In order to preserve the space in the landfills, the Solid Waste Management Plan should implement recycling practices to the

Ms. Karlynn Kawahara  
October 26, 2005  
Page 4

maximum extent practicable for items such as, but not limited to,  
sinks, fixtures, furniture, toilets, lumber, etc.

Thank you for the opportunity to comment. Should you require further clarification,  
please contact Ms. Kivette Caigoy, Environmental Planner, at 270-7735.

Sincerely,

A handwritten signature in black ink, appearing to read "M. W. Foley". The signature is stylized with a large, sweeping "F" and a checkmark-like flourish at the end.

MICHAEL W. FOLEY  
Planning Director

MWF:KAC:lar

c: Wayne A. Boteilho, Deputy Planning Director  
Clayton Yoshida, Planning Program Administrator  
Kivette Caigoy, Environmental Planner  
Ann Cua, Staff Planner  
EA Project File  
General File  
K:\WP\_DOCS\PLANNING\EA\2005\0014\_RoyalLahainaRevitalization\Dept\_DEAComments.wpd



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

November 17, 2005

Michael W. Foley, Director  
Department of Planning  
250 South High Street  
Wailuku, Hawaii 96793

SUBJECT: (DRAFT) Draft Environmental Assessment for the Proposed Royal Lahaina Resort Revitalization Project, Located at TMK 4-4-008:007 and 013, Kaanapali, Lahaina, Maui, Hawaii (EA 2005/0014)

Dear Mr. Foley:

We are in receipt of your letter dated October 26, 2005 regarding the Planning Department's comments on the subject document. On behalf of our client, Royal Lahaina Development Group, LLC (Applicant), we would like to offer the following responses to your concerns

1. We note your comment with regards to the expansion of Table 1 to include structures (including but not limited to walkways, showers, rock walls, fencing, etc.) within the 150 foot shoreline setback area. The Draft Environmental Assessment will include an expanded table to define which structures are located in the 150-foot and 40-foot shoreline setback areas. Also, more details will be added to the site plan.
  - a. Historical aerial photographs figures of the Royal Lahaina Resort will be included in the Special Management Area (SMA) and Shoreline Setback Variance (SSV) applications.
  - b. We note your comment with regards to the construction materials to be used on the structures that will be retained. Appendix "H" of the Draft Environmental Assessment (DEA) contained a letter of valuation from the project's architect which included a description of the renovation activities of the structures that will remain in the shoreline setback area (SSA). A paragraph regarding the proposed construction materials for structures remaining in the SSA will be included in the final DEA.
2. We note your comment with regards to the identification of any significant trees that will be retained or replanted. The project's landscape architect noted that all trees

12-inches or greater in caliper and not located within the path of construction will be considered for preservation in place. However, all trees will be assessed by a certified arborist as to their overall health and whether they can be relocated or not. All trees deemed relocatable will be considered for on-site transplantation.

3. We note your comment regarding a valid Certified Shoreline Survey from the Board of Land and Natural Resources (BLNR). We note that the Applicant is in the process of certifying its shoreline with the BLNR. A copy of the certified Shoreline Survey will be provided to the Planning Department under separate cover, once completed.
4. Further clarification was sought with Environmental Planner Kivette Caigoy on this item. It is noted that an expanded discussion will be included in the final DEA to discuss the rental program and the preliminary sales price for the condominium/hotel units.
5. Further clarification was sought with Planner Caigoy on this item. It was brought to our attention that the Hawaii Legislature recently passed Act 224, related to lighting in the shoreline area. Upon review of the Act, the landscape architect noted that no landscape lighting will be directed toward the ocean. Landscape lighting will consist of uplighting of trees and low level path lighting. Further, the project's architect noted that exterior site lighting will be carefully shielded and directed away from the shoreline and ocean water areas. Areas throughout the property where safety and security illumination is necessary, such as pathways, roadways and parking lots, will be illuminated with fully shielded light sources. Special attention will be given to the placement of the fully shielded luminaires to avoid unnecessary trespass onto shoreline and ocean water areas as well as adjacent properties. Any dramatic lighting of landscape features will also be directed away from shoreline and ocean water areas and will be turned on only during a portion of the evening hours. The final DEA will include a discussion on the lighting near the shoreline area, any potential impacts and mitigative measures.
6. We note your comment regarding including a discussion of the potential pedestrian walkway along the southern border of the Royal Lahaina Resort. The Applicant notes that discussions are ongoing with the Kaanapali Golf Course, the owner of the property where the proposed pedestrian path would be located. The Applicant still intends to work jointly with Kaanapali Golf Course to pursue the walkway, however, as indicated in your comments, the walkway will not be included as part of the proposed Royal Lahaina Resort Revitalization project. A brief description of the walkway will be included in the DEA for information purposes only.



7. We acknowledge your comment with regards to the Urban Design Review Board's recommendation for additional public beach parking stalls for the Residences at Kapalua project. As noted in the draft DEA, the Applicant is proposing a dedicated public beach access parking lot with 12 stalls. Options for additional public beach access stalls are being reviewed by the Applicant.
8. The project's pool consultant noted that regular maintenance discharge water and overflow water from the pool and water features will be sent to a drywell. No discharge water from the pools and water features will enter the sanitary sewer system, landscaping or have an impact on coastal waters.
9. The project's coastal engineer provided the following responses to questions on the sand volleyball area.
  - a. A sand volleyball area is proposed within the shoreline setback area of the Royal Lahaina Resort. The sand volleyball area will be located 100 feet landward of the vegetation line and certified shoreline, and will be composed of beach quality sand. The sand will not contain more than six percent fines (0.074mm) and not more than ten percent coarse material (4.76mm), as specified by Department of Land and Natural Resources guidelines. A grain size analysis will be provided of the sand to be used in the volleyball area. The volleyball area will not modify the existing ground topography, and will replace the grassy lawn that presently exists at the proposed location. The naupaka hedge comprising the vegetation line will remain intact, with the exception of one (1) opening, created to provide access to the beach. The proposed sand volleyball area will therefore have no negative impacts to coastal waters. Rather, the volleyball area will have beneficial impacts by replacing the existing grass and soil with beach quality sand. During an extreme wave event that erodes the backshore, release of this beach quality sand would be beneficial rather than harmful to the beach and coastal zone.
  - b. The approximate quantity of sand required to widen the beach fronting the Royal Lahaina Resort by 15 feet is 9000 cubic yards. An estimate of the quantity of sand that might be used to make the volleyball area is 300 cubic yards. While the addition of this sand to the backshore area would be beneficial in the event of extreme erosion, the quantity of sand is insignificant and would do little to stem the shoreline erosion. It is therefore not realistic to consider this area as a potential reservoir for beach replenishment.

10. The Applicant acknowledges that some asbestos-containing building materials are present in the existing hotel structures. A limited asbestos sampling survey was conducted by Vuich Environmental Consultants, Inc. on February 1, 2005 which included samples from the 12-story Lahaina Kai Tower, the 3-story Royal Hale Building and 4 individual cottages. Presence of asbestos-containing material was confirmed and noted in good condition. The Applicant confirms that all demolition and removal of all asbestos-containing material will be conducted per OSHA and HIOSH Construction Standards for Asbestos removal and all EPA Nation Standards for Hazardous Air Pollutants (NESHAP) and Hawaii Administrative Rules (HAR) Chapter 11-501. Notification, emission control and waste disposal protocols will be conducted in accordance with NESHAP prior to any demolition. There will be no negative impacts associated with the hazardous material removal.
11. The redevelopment plan incorporates a strategic phasing of development activities for numerous reasons. One of the more important reasons is that the Royal Lahaina Resort is able to continue operating as a hotel throughout the redevelopment process, mitigating the effect on the employee count at the property. The employee count is anticipated to reduce slightly (estimated at 12 percent - 15 percent) from the current employee count of 330, however, this is projected to be only during the phased redevelopment process. Further, there are measures in place to address the reduction in employee count during the phased redevelopment and then to retain the current employee count post redevelopment. Overall, however, it is expected that the employee count will, at the very least, remain flat to its current 330 count due to the property enhancements and heightened service expectations post redevelopment. A more detailed discussion of the employment mitigation measures will be included in the final DEA.
12. The civil engineering consultant will incorporate the use of filter inserts in the drain inlets within the parking areas and roadways to help mitigate sediment and petroleum products from entering the storm drainage system.
13. The Applicant agrees to prepare a Solid Waste Management Plan to establish the protocol for the recycling and disposal of the solid waste which will be generated during the renovation of the existing hotel facilities. The Solid Waste Management Plan will be submitted to County of Maui Department of Public Works and Environmental Management for review and approval. Demolished and surplus materials and any other rubbish or debris, estimated at approximately 3,000 to 4,000 tons, as a result of the renovation work shall be hauled off and disposed of

Michael W. Foley, Director  
November 17, 2005  
Page 5

off the project site in accordance with applicable local, State and federal laws and regulations. Additionally, the Applicant has initiated communications with various not-for-profit organizations to see if they are interested in acquiring materials such as appliances or plumbing fixtures, from the property.

As noted, the draft DEA will be revised and finalized to incorporate the comments received from your department. The final DEA will be filed concurrently with the SMA and SSV applications for the proposed Royal Lahaina Resort Revitalization project. Should you have any questions, please feel free to contact me at 244-2015.

Very truly yours,



Gwen Ohashi Hiraga  
Project Manager

GOH:lh

cc: Gary Hogan and Matt Delaney, Royal Lahaina Development Group, LLC  
Rob Iopa, WCIT Architecture, Inc.  
Michael Fujita, Wilson Okamoto Associates, Inc.  
Aaron Akau, Belt Collins, Inc.  
Mark Ericksen, Sea Engineering, Inc.  
Michael Wright, Michael Wright & Associates, Inc.

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JUL 14 2005

ALAN M. ARAKAWA  
Mayor

MILTON M. ARAKAWA, A.I.C.P.  
Director

MICHAEL M. MIYAMOTO  
Deputy Director

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



COUNTY OF MAUI  
**DEPARTMENT OF PUBLIC WORKS  
AND ENVIRONMENTAL MANAGEMENT**  
200 SOUTH HIGH STREET, ROOM 322  
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.  
Development Services Administration

TRACY TAKAMINE, P.E.  
Wastewater Reclamation Division

CARY YAMASHITA, P.E.  
Engineering Division

BRIAN HASHIRO, P.E.  
Highways Division

Solid Waste Division

July 12, 2005

Mr. Daren Suzuki, Planner  
MUNEKIYO & HIRAGA, INC.  
305 High Street, Suite 104  
Wailuku, Maui, Hawaii 96793

Dear Mr. Suzuki:

**SUBJECT: EARLY CONSULTATION  
ROYAL LAHAINA RESORT REVITALIZATION PROJECT  
TMK: (2) 4-4-008:007, 013**

We reviewed the subject application and have the following comments:

1. The project may be subject to the provisions of Section 18.04.470 (Subdivision) of the Maui County Code (MCC) which states, in part:

“. . . the construction of four or more dwelling units on a lot, parcel, or site shall be subject to the provisions of this title.”

If this section applies, park fees may be imposed.

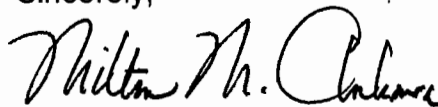
2. Include plan for solid waste disposal/reuse/recycling.
3. Although wastewater system capacity is currently available as of July 6, 2005, the developer should be informed that wastewater system capacity cannot be ensured until the issuance of the building permit.
4. Wastewater contribution calculations are required before building permit is issued.

Mr. Daren Suzuki, Planner  
July 12, 2005  
Page 2

5. Developer is not required to pay assessment fees for this area at the current time.
6. Developer is required to fund any necessary off-site improvements to collection system and wastewater pump stations.
7. Plans should show the installation of a service manhole near the property line prior to connection to the County sewer.
8. Provide a letter from Amfac Property Development Corp. indicating the portion of the wastewater allocation that will be set aside to accommodate the project.
9. Commercial kitchen facilities within the proposed project shall comply with pre-treatment requirements (including grease interceptors, sample boxes, screens, etc.).
10. Non-contact cooling water, condensate, etc. should not drain to the wastewater system.
11. Indicate on the plans the ownership of each easement (in favor of which party). Note: County will not accept sewer easements that traverse private property.
12. Hold-Harmless Agreement should be executed. A signed agreement is required before the Wastewater Reclamation Division (WWRD) will give recommendations for final subdivision approval.

Please call Michael Miyamoto at 270-7845 if you have any questions regarding this letter.

Sincerely,



MILTON M. ARAKAWA, A.I.C.P.  
Director

MMA:MMM:da

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September 14, 2005

Milton Arakawa, A.I.C.P., Director  
County of Maui  
Department of Public Works and  
Environmental Management  
200 South High Street  
Wailuku, Hawaii 96793

SUBJECT: Proposed Royal Lahaina Resort Revitalization, TMK: 4-4-008:007 and  
013, Lahaina, Maui, Hawaii

Dear Mr. Arakawa:

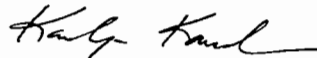
We are in receipt of your letter dated July 12, 2005 regarding your early consultation comments on the subject project. On behalf of our client, Royal Lahaina Development Group, LLC (RLD), we would like to offer the following responses to your comments.

1. We note your comments with regards to the application of Section 18.04.470 (Subdivision) of the Maui County Code (MCC) regarding the four-dwelling subdivision. The applicant will consult with the Department of Parks and Recreation regarding the applicability of park assessment fees for the project.
2. We concur with your comment and will submit a solid waste disposal/reuse/recycling plan to the Department of Public Works and Environmental Management (DPWEM) for review and approval.
3. We note your comments with regards to wastewater capacity. The proposed project will reduce the number of units at the Royal Lahaina Resort by 128 units, and thus, a reduction of approximately 39 percent of existing wastewater use is anticipated. A preliminary engineering report will be provided in the Draft Environmental Assessment (DEA).
4. We note your comment with regards to wastewater contribution calculations. RLD will provide wastewater calculations when building permit applications are submitted.
5. We concur with your comment.
6. We concur with your comment with regards to offsite improvements for the wastewater system.
7. We note your comment with regards to plans and installation of service manholes. Your comments have been forwarded to the civil engineering consultant.

8. There is no wastewater allocation anticipated from Amfac Property Development Corp. for the proposed Royal Lahaina Resort revitalization project. Also refer to response no. 3.
9. We concur with your comment. Plans for kitchen facilities will incorporate required pretreatment infrastructure.
10. We acknowledge your comment with regards to non-contact cooling water and condensate draining into the wastewater system.
11. We concur with your comment and note that there is an existing sewer easement on the property. The easement will be relocated to accommodate new structures on the property, however, it will remain privately-owned and maintained. The sewer easement will be indicated on the project maps, with a notation of which party the easement is in favor of.
12. We note your comment with regards to the Hold-Harmless Agreement. The applicant will insure that an agreement is executed for wastewater services, prior to final subdivision application.

A copy of the DEA will be provided to DPWEM for review and comment, upon submission and acceptance by the Department of Planning. Should you have any further questions, please feel free to contact me at 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:tn

cc: Matt Delaney, Royal Lahaina Development Group, LLC  
Michael Wright, Michael Wright & Associates, Inc.  
Rob Iopa, WCIT Architecture  
Michael Fujita, Wilson Okamoto Corporation

JUN 03 2005



June 1, 2005

Mr. Daren Suzuki  
Munekiyo & Hiraga, Inc.  
305 S. High Street, Suite 104  
Wailuku, HI 96793

Dear Mr. Suzuki:

Subject: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Lahaina, Maui

Thank you for allowing us to comment on the subject project.

In reviewing the information transmitted and our records, we have no objection to the subject project. As noted on page 5 under New Construction in the Project Summary, Royal Lahaina is planning to install all new infrastructure. If any of the existing electrical system is utilized, especially the customer's switchgear, we do have a concern as this switchgear is outdated and poses a safety concern to our company's personnel. We have had earlier correspondence with Royal Lahaina regarding this matter. We encourage the applicant's electrical consultant to meet with us as soon as practical to verify these concerns and other electrical requirements for the project so that service can be provided on a timely basis.

If you have any questions or concerns, please call Dan Takahata at 871-2385.

Sincerely,

A handwritten signature in black ink that reads "Neal Shinyama". The signature is written in a cursive, flowing style.

Neal Shinyama  
Manager, Engineering

NS/dt:lh





MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

July 18, 2005

Neal Shinyama, Manager  
Maui Electric Company, Ltd.  
P.O. Box 398  
Kahului, Hawaii 96733

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and  
013, Kaanapali, Maui

Dear Mr. Shinyama:

Thank you for your letter dated June 1, 2005, providing preliminary comments for the above-mentioned project.

Your letter has been forwarded to the applicant, Royal Lahaina Development Group, LLC, who has begun preliminary discussions on the project. The applicant's electrical consultant has also contacted your office to initiate discussions on electrical requirements for the project.

Thank you for the opportunity to comment. A copy of the Draft Environmental Assessment will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at 244-2015.

Very truly yours,

Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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JUL 05 2005



July 1, 2005

Mr. Roger Fong  
Wilson Okamoto Corporation  
1907 South Beretania Street, Suite 400  
Honolulu, HI 96826

Dear Mr. Fong:

Subject: Royal Lahaina Resort Remodeling  
TMK No. 4-4-008:007 & 013

Thank you for allowing us to comment on the subject project.

This is in response to your letter dated June 13, 2005. The following are the answers to your questions in the letter:

1. The name of the substation is Puukolii Substation.
2. The location of the substation is at the top of Puukolii Road, about a mile or so mauka of Honoapiilani Highway.
3. The current electrical service provided is primary service of 12.47kV, 3 phase, 4 wire.
4. Electrical service is available to the existing property and for the proposed project.
5. The location of the existing service is located underground along Kekaa Dr feeding the existing site.
6. There are existing MECO easements on the subject property for the current service. Dependent on the electrical design for the proposed remodeling, additional easements may be required by MECO.
7. Other comments:
  - MECO recommends that the existing switchgear not be used for the proposed project, as the switchgear is outdated and poses a safety concern to MECO's personnel. MECO has made previous proposals to the Royal Lahaina Resort to upgrade the switchgear; however, has not received a response.
  - With the current primary service, Royal Lahaina Resort owns the distribution system on their side of the revenue meter and is responsible for the operation and maintenance of this equipment. In addition, MECO is not allowed under law to perform any work on customer owned equipment. Therefore, in design of the electrical system for the remodeling, Royal Lahaina Resort and their electrical consultant may want to review this matter; taking into the consideration the customer's ability to operate and maintain a high voltage distribution system.

We encourage the applicant's electrical consultant to meet with us as soon as practical to verify these concerns and other electrical requirements for the project so that service can be provided on a timely basis.

Mr. Fong/DT-Royal Lahaina Resort  
July 1, 2005  
P. 2

If you have any questions or concerns, please call Dan Takahata at 871-2385.

Sincerely,



Neal Shinyama  
Manager, Engineering

NS/dt:ikh

Cc: Brian Kealoha (MECO)  
✓ Darren Suzuki (Munekiyo Hiraga)



# ***Chapter XI***

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***Letters Received During the Draft  
Environmental Assessment Public  
Comment Period and Responses  
to Substantive Comments***

## **XI. LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT PUBLIC COMMENT PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS**

A Draft Environmental Assessment for the subject project was filed and published in the Office of Environmental Quality Control's The Environmental Notice on January 8, 2006.

Comments on the Draft EA were received during the 30-day public comment period. Comments, as well as responses to substantive comments, are included in this chapter. In addition to agency comments, the Draft EA was reviewed and discussed by the Maui Planning Commission at its meeting of February 14, 2006. The Planning Commission's comments and the applicant's response to those comments are also incorporated in this chapter.

United States Department of Agriculture

06 JAN 17 P1 59



Natural Resources Conservation Service  
210 Ima Kaia Street, Suite 209  
Wailuku, HI 96793-2100  
(808) 244-3100

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

*Our People...Our Islands...In Harmony*

January 13, 2006

Ms. Kivette A. Caigoy, Staff Planner  
Department of Planning  
County of Maui, Hawaii  
250 South High Street  
Wailuku, Hawaii 96793

Regarding: Draft Environmental Assessment and Applications for a Special  
Management Area Use Permit and Shoreline Setback Variance for Royal  
Lahaina Resort Revitalization Project, Lahaina, Maui, HI  
TMK: (2) 4-4-008: 007 and 013

Dear Ms. Caigoy,

I have received a copy of the Draft Environmental Assessment and Applications for a  
Special Management Area Use Permit and Shoreline Setback Variance for Royal  
Lahaina Resort Revitalization Project in Lahaina. I appreciate the opportunity to review  
the project. However, I have no comments concerning the permitting and applications  
at this time.

Sincerely,

Diana L. Perry  
Civil Engineer

Cc: Ranae Ganske-Cerizo, NRCS



**DEPARTMENT OF THE ARMY**  
U.S. ARMY ENGINEER DISTRICT, HONOLULU  
BUILDING 223  
FORT SHAFTER, HAWAII 96858-5440

REPLY TO  
ATTENTION OF: CEPOH-EC-T

'06 JAN 31 P12:22

January 31, 2006

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

Civil Works Technical Branch

Mr. Kivette A. Caigoy, Staff Planner  
County of Maui  
Department of Planning  
250 South High Street  
Wailuku, Maui, Hawaii 96793

Dear Mr. Caigoy:

Thank you for the opportunity to review and comment on the Special Management Area Application and Draft Environmental Assessment (DEA) for the Royal Lahaina Resort Revitalization Project, Maui (TMK 4-4-8: 7 and 13). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

- a. Our Regulatory Branch does not have any additional comments to provide regarding DA permit requirements previously provided in their letter dated May 7, 2005.
- b. We concur with the flood information provided on page 29 of the DEA.

Should you have any questions, please call Ms. Jessie Dobinchick of my staff at 438-8876.

Sincerely,

*James Pennaz*  
James Pennaz, P.E.  
Chief, Civil Works  
Technical Branch



LINDA LINGLE  
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M. D.  
DIRECTOR OF HEALTH

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

06 JAN 24 AM 48

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
MAUI DISTRICT HEALTH OFFICE  
54 HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2102  
DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

January 23, 2006

Mr. Michael W. Foley  
Director  
Department of Planning  
County of Maui  
250 South High Street  
Wailuku, Hawai'i 96793

Attention: Kivette A. Caigoy

Dear Mr. Foley:

Subject: **Royal Lahaina Resort Revitalization**  
**TMK: (2) 4-4-008: 007 and 013**  
**EA 2005/0014, SM1 2005/0038 and SSV 2005/0005**

Thank you for the opportunity to comment on the proposed project at the Royal Lahaina Resort. In addition to the comments provided during the early consultation process, the following comments are offered:

The wastewater disposal systems for the filter systems of the swimming pools and water features should be designed and operated to prevent any discharges into the ocean.

Should you have any questions, please call me at 808 984-8230.

Sincerely,

Herbert S. Matsubayashi  
District Environmental Health Program Chief





MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN KAWAHARA

February 10, 2006

Herbert Matsubayashi, District Environmental  
Health Program Chief  
Maui District Health Office  
Department of Health  
54 High Street  
Wailuku, Hawaii 96793

**SUBJECT: Draft Environmental Assessment, Special Management Area Use Permit and Shoreline Setback Variance Applications for Proposed Royal Lahaina Resort Revitalization, TMK: 4-4-008:007 and 013, Lahaina, Maui, Hawaii**

Dear Mr. Matsubayashi:

We are in receipt of your comments dated January 23, 2006 on the subject project. On behalf of the applicant, Royal Lahaina Development Group, LLC (RLDG), we would like to offer the following responses to your comments.

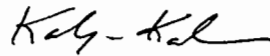
1. We acknowledge your comments dated June 13, 2005 submitted during the early consultation period. We note that we responded to your comments via letter dated July 18, 2005. Please see attached response letter.
2. We note your comment regarding the wastewater disposal of the swimming pools and water features. RLDG will work with its pool consultant and civil engineer, to provide an on-site drywell system for disposal of the backwash of the pool/water feature filters.

planning environment

Herbert Matsubayashi, District Environmental  
Health Program Chief  
February 10, 2006  
Page 2

Thank you for your comments. Should you have any further questions, please do not hesitate to call me at 244-2015.

Very truly yours,



Karlynn Kawahara  
Project Manager

KK:tn

Attachment

cc: Gary Hogan and Matt Delaney, Royal Lahaina Development Group, LLC  
(w/attachment)  
Rob Iopa, WCIT Architecture, Inc. (w/attachment)  
Michael Fujita, Wilson Okamoto Corporation (w/attachment)  
Michael Wright, Michael Wright & Associates, Inc. (w/attachment)  
Michael Foley, Department of Planning (w/attachment)

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MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

July 18, 2005

Herbert S. Matsubayashi  
District Environmental Health Program Chief  
State of Hawaii  
Department of Health  
Maui District Health Office  
54 South High Street  
Wailuku, Hawaii 96793

SUBJECT: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Maui

Dear Mr. Matsubayashi:

Thank you for your letter dated June 13, 2005, providing preliminary comments for the above-mentioned project. On behalf of the applicant, Royal Lahaina Development Group, LLC, we would like to offer the following response to your comments:

**National Pollutant Discharge Elimination System (NPDES)**

We acknowledge that a NPDES permit coverage is required for this project. The Clean Water Branch will be contacted prior to grading/construction activities to secure applicable permits as required.

**Community Noise Control**

We confirm that the proposed project will comply with Hawaii Administrative Rules (HAR) Chapter 11-46 "Community Noise Control" and a noise permit, if required, will be obtained prior to the commencement of work. We also acknowledge that Chapter 11-46 sets maximum sound levels from stationary equipment such as compressors and HVAC equipment. The placement of these types of equipment will be considered during the planning, design and construction of the building and installation of these types of equipment.

**Asbestos Requirements**

We confirm that the proposed project will comply with HAR Chapter 501 and 504 pertaining to Asbestos Requirements. An Asbestos Demolition/Renovation Notification will be filed

planning environment

Herbert S. Matsubayashi, Chief

July 18, 2005

Page 2

with the Noise, Radiation and Indoor Air Quality Branch, prior to demolition activities. It is acknowledged that all regulated quantities and types of asbestos containing materials would be subject to emission control, proper collection, containerizing, and disposal at a permitted landfill by a licensed asbestos contractor using certified persons.

Thank you for the opportunity to comment. A copy of the Draft EA will be provided to your office for further review and comment upon completion.

Should you have any questions, please contact me at 244-2015.

Very truly yours,



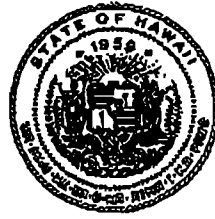
Karlynn Kawahara, Planner

KK:mg

cc: Matt Delaney, Royal Lahaina Resort

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LINDA LINGLIF  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
  
ROBERT K. MASUDA  
DEPUTY DIRECTOR  
  
DEAN NAKANO  
ACTING DEPUTY DIRECTOR - WATER  
  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

January 25, 2006  
SM1 2005-0038.RCM

LD-NAV

Honorable Michael W. Foley  
Planning Director, County of Maui  
Planning Department  
250 S. High Street  
Wailuku, Hawaii 96793

06 JAN 27 AM 1:50  
DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

Dear Mr. Foley:

Subject: I. D. No.: SM1 2005 0038 - TMK: (2) 4-4-006: 007 and 01  
Applicant: Royal Lahaina Development Group, LLC  
Project: Royal Lahaina Resort Revitalization

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

- Division of Forestry and Wildlife
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Maui District Land Office

Enclosed please find a copy of the Commission on Water Resource Management comments.

Based on the attached responses, the Department of Land and Natural Resources has no other comment to offer on the subject matter. If you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

RUSSELL Y. TSUI  
Administrator

C: MDLO

LINDA LINGLE  
GOVERNOR OF HAWAII



MAUI DISTRICT  
LAND DIVISION

PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA  
DEPUTY DIRECTOR

DEAN NAKANO  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

2006 JAN 11 PM 1:00

January 9, 2006  
SM1 2005 0038.CMT

LD/NAV  
Suspense Date: 1/19/06

MEMORANDUM:

TO: XXX Division of Forestry & Wildlife  
XXX Engineering Division  
XXX Commission on Water Resource Management  
XXX Office of Conservation and Coastal Lands  
XXX Land-Maui District Land Office

FROM: Russell Tsuji, Administrator  
Land Division

SUBJECT: I.D. No.: SM12005/0038 - SSV 2005/0005  
Project: Royal Lahaina Resort Revitalization  
Applicant: Royal Lahaina Development Group, LLC  
Authority: County of Maui Department of Planning  
TMKs: (2) 4-4-008: 007 and 013

06 JAN 19 P1:40  
DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

Please review the attached document pertaining to the subject matter and submit your comment (if any) back to us on Division letterhead signed and dated by the suspense date.

Should you need more time to review the subject matter, please contact Nicholas A. Vaccaro at 587-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Division: MDLG

Signed: [Signature]

Date: 1/18/06

Name: DANIEL ORNELLAS

LINDA LINGLE  
GOVERNOR OF HAWAII



RECEIVED



'06 JAN 11

FORESTRY & WILDLIFE  
STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

PETER T. YOUNG  
CHAIRMAN  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
ROBERT K. MASUDA  
DEPUTY DIRECTOR  
DEAN NAKANO  
DEPUTY DIRECTOR - WATER

RECEIVED  
LAND DIVISION

2006 JAN 11

DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCE  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES IMPROVEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

January 9, 2006  
SM1 2005 0038.CMT

LD/NAV  
Suspense Date: 1/19/06

MEMORANDUM:

TO:  XXX Division of Forestry & Wildlife  
 XXX Engineering Division  
 XXX Commission on Water Resource Management  
 XXX Office of Conservation and Coastal Lands  
 XXX Land-Maui District Land Office

FROM: Russell Tsuji, Administrator  
Land Division

SUBJECT: I.D. No.: SM12005/0038 - SSV 2005/0005  
Project: Royal Lahaina Resort Revitalization  
Applicant: Royal Lahaina Development Group, LLC  
Authority: County of Maui Department of Planning  
TMKs: (2) 4-4-008: 007 and 013

Please review the attached document pertaining to the subject matter and submit your comment (if any) back to us on Division letterhead signed and dated by the suspense date.

Should you need more time to review the subject matter, please contact Nicholas A. Vaccaro at 587-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Division: \_\_\_\_\_

Signed:

Date: JAN 11 2006

Name: **PAUL J. CONRY, ADMINISTRATOR**  
**DIVISION OF FORESTRY AND WILDLIFE**

LINDA LINGLE  
GOVERNOR OF HAWAIIPETER T. YOUNG  
CHAIRPERSONMEREDITH J. CHING  
JAMES A. FRAZIER  
NEAL S. FUJIWARA  
CHIYOME L. FUKINO, M.D.  
LAWRENCE H. MIKE, M.D., J.D.  
STEPHANIE A. WHALENDEAN A. NAKANO  
ACTING DEPUTY DIRECTOR

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
**COMMISSION ON WATER RESOURCE MANAGEMENT**  
P.O. BOX 621  
HONOLULU, HAWAII 96806

January 17, 2005

REF:

TO: Russell Tsujii, Administrator  
Land Division

FROM: Dean A. Nakano, Acting Deputy Director *DAK*  
Commission on Water Resource Management

SUBJECT: Royal Lahaina Resort Renovation Draft EA, SMAPA

FILE NO.: SM1 2005/0038 -- SSV 2005/0005

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. 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 [www.hawaii.gov/dlnr/cwrm/forms.htm](http://www.hawaii.gov/dlnr/cwrm/forms.htm).

4. The proposed water supply source for the project is located in a designated ground-water management area, and a Water Use Permit is required prior to use of ground water.
5. A Well Construction Permit(s) is (are) required before the commencement of any well construction work.
6. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
7. 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.

DRF-LD 04/15/2005



Russell Tsujii  
Page 2  
January 17, 2005

- 8. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- 9. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a stream channel.
- 10. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.
- 11. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
- 12. 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.
- 13. We recommend that the report identify feasible alternative non-potable water resources, including reclaimed wastewater.
- OTHER:

.. \_ \_ It appears that total water supply demand will be decreased by this project .. \_ \_ \_ \_ \_

If there are any questions, please contact Charley Ice at 587-0251.

PHONE (808) 594-1888

FAX (808) 594-1865



06 FEB -1 AM 11:40

STATE OF HAWAII  
OFFICE OF HAWAIIAN AFFAIRS  
711 KAPI'OLANI BOULEVARD, SUITE 509  
HONOLULU, HAWAII 96813  
DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

HRD05/1856C

January 27, 2006

Kivette Caigoy, Staff Planner  
County of Maui, Department of Planning  
250 South High Street  
Wailuku, HI 96793

**RE: Draft Environmental Assessment for the Proposed Royal Lahaina Resort Revitalization, Lahaina, Maui, TMK (2) 4-4-008: 007 & 013.**

Dear Kivette Caigoy,

The Office of Hawaiian Affairs (OHA) is in receipt of your January 10, 2006 request for comment on the above listed proposed project, TMK (2) 4-4-008: 007 & 013. OHA offers the following comments:

Our staff appreciates the applicant's compliance with our staff's recommendations regarding archaeological studies and monitoring, conducting a cultural assessment, honoring native access rights and landscaping with native species. Our office has no further comment at this time.

OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck at (808) 594-0239 or [jessey@oha.org](mailto:jessey@oha.org).

'O wau iho nō,

Clyde W. Nāmu'o  
Administrator

CC: Thelma Shimaoka  
OHA Community Affairs Coordinator (Maui)  
140 Hoohana St., Ste. 206  
Kahului, HI 96732

LINDA LINGLE  
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON  
DIRECTOR

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET  
SUITE 702  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185  
FACSIMILE (808) 586-4186  
E-mail: oeqc@health.state.hi.us

January 31, 2006

Michael Foley  
Maui Planning Department  
250 South High St.  
Wailuku, HI 96793

Attn: Kivette Caigoy

Dear Mr. Foley:

Subject: Draft environmental assessment (EA), **Royal Lahaina Resort Revitalization**

We have the following comments:

Cumulative impacts:

The traffic report in the draft EA notes other projects in the region which should be completed soon:

- Maui Breakers
- Villas at Kahana Ridge
- Lokahi Pacific
- Kaanapali Ocean Resort North Beach Lots
- Kaanapali Golf Estates
- Pioneer Farms
- Maui Preparatory Academy
- Pulelehua
- Villages at Lealii

In addition, EAs and EISs on the Hyatt Regency, Kapalua Bay Residences, Kaanapali 2020 Plan and the Maui Ocean Club Sequel have been recent submissions to this office. Besides traffic, your analysis of cumulative impacts for the region as a whole should include other factors such as noise, air quality, water resources, visual aspects, changes to infrastructure, solid waste and wastewater, drainage, and flora and fauna. This is required by the environmental impact statement law. Include this in the final EA.

Shoreline access: During the construction period, will public access to the shoreline be blocked? If so, for how long?

Michael Foley  
January 31, 2006  
Page 2

**Shoreline areas:** Figure 3 shows two shoreline areas, labeled as the 40-foot setback and the 150-foot setback. Is the 150-foot area possibly the SMA boundary? Correct or clarify this in this figure and on Table 1.

**Sustainable building techniques:** Please consider applying sustainable building techniques presented in the "Guidelines for Sustainable Building Design in Hawaii." In the final EA include a description of any of the techniques you will implement. Contact our office for a paper copy or go to our website at <http://www.state.hi.us/health/oeqc/guidance/sustainable.htm>.

**Recycling and reuse:** In addition to your proposed donation of materials and items remaining after demolition to local charitable organizations, we strongly recommend establishment of a recycling plan for construction and demolition solid waste.

If you have any questions, call Nancy Heinrich at 586-4185.

Sincerely,

  
GENEVIEVE SALMONSON  
Director

c: Karlynn Kawahara, Munekiyo & Hiraga



MICHAEL T. MUNEKIYODO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
  
KARLYNN KAWAHARA

February 10, 2006

Genevieve Salmonson, Director  
State of Hawaii  
Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

**SUBJECT: Draft Environmental Assessment, Special Management Area Use Permit and Shoreline Setback Variance Applications for Proposed Royal Lahaina Resort Revitalization, TMK: 4-4-008:007 and 013, Lahaina, Maui, Hawaii**

Dear Ms. Salmonson:

Thank you for your letter dated January 31, 2006, providing us with your comments on the Draft Environmental Assessment prepared for the proposed project. On behalf of our client, Royal Lahaina Development Group, LLC (RLDG), we would like to offer the following responses.

1. We note your comments with regards to secondary and cumulative impacts associated with the project. The Draft Environmental Assessment (Draft EA) contained a cumulative and secondary impact review section, however, we will review and expand on the analysis for the subject project in the Final EA.
2. Shoreline access to the beach fronting the Royal Lahaina Resort will remain open for the duration of the construction period. RLDG will work with the contractor, once selected, to prepare a beach access plan during construction to insure safe access for pedestrians and beach users.
3. We note your comment with regards to the labeling of Figure 3 and the 40-foot and 150-foot shoreline setback areas. It is noted that these are not the Special Management Area boundaries. The 150-foot setback is the County of Maui Shoreline Setback Area, while the 40-foot boundary is the setback limit for structures along the shoreline.
4. We note your comment with regards to the application of sustainable building techniques. We will include a description of any techniques the project will utilize in the Final EA.

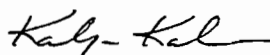
environment  
planning

Genevieve Salmonson, Director  
February 10, 2006  
Page 2

5. RLDG will be preparing a detailed demolition and recycling plan for the Royal Lahaina Revitalization project. A copy of the plan will be included in the Final EA.

Should you have any questions, please feel free to contact me at (808) 244-2015.

Very truly yours,



Karlynn Kawahara  
Project Manager

KK:tn

cc: Gary Hogan and Matt Delaney, Royal Lahaina Development Group, LLC  
Rob Iopa, WCIT Architecture, Inc.  
Pete Pascua, Wilson Okamoto Corporation  
Michael Fujita, Wilson Okamoto Corporation  
Michael Wright, Michael Wright & Associates, Inc.  
Michael Foley, Department of Planning

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STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
P.O. BOX 2360  
HONOLULU, HAWAII 96804

06 FEB -6 P2:15

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

OFFICE OF BUSINESS SERVICES

February 2, 2006

Mr. Michael W. Foley, Director  
County of Maui  
250 South High Street  
Wailuku, Hawaii 96793

Dear Mr. Foley:

ATTN: Kivette A. Caigoy, Staff Planner

Subject: Draft Environmental Assessment and Application for Special Management Area Permit and Shoreline Setback Variance for Royal Lahaina Resort Revitalization, TMK: 4-4-8:007 and 013, Kaanapali, Maui

The Department of Education (DOE) has reviewed the Draft Environmental Assessment and applications for the Special Management Area Permit (SMA) and the Shoreline Setback Variance. The DOE does not request a school fair-share contribution condition on applications for SMA permits shoreline setbacks.

DOE has no further comment on the applications and appreciates the opportunity to review the plans. If you have any questions, please call me at 586-3444 or Heidi Meeker of the Facilities Development Branch at 733-4862.

Sincerely,

Randy Moore  
Acting Assistant Superintendent

RM:ly

cc: Duane Kashiwai, Facilities Development Branch  
Ron Okamura, CAS, Hana/Lahaina/Lanai/Molokai Complex Areas

LINDA LINGLE  
GOVERNOR



RUSS K. SAITO  
Comptroller

KATHERINE H. THOMASON  
Deputy Comptroller

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING  
AND GENERAL SERVICES  
SURVEY DIVISION  
P.O. BOX 119  
HONOLULU, HAWAII 96810-0119

Response Refer to:  
Ma-055 (06)

February 7, 2006

06 FEB -8 P2:59  
DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

MEMORANDUM

TO: Michael W. Foley, Planning Director  
Maui County Planning Department

ATTN.: Kivette A. Caigoy, Staff Planner

FROM: Reid K. Siarot, State Land Surveyor *RKA*  
DAGS, Survey Division

SUBJECT: I.D.: EA 2005/0014; SM1 2005/0038; and SSV 2005/0005  
TMK: 4-4-08:007 and 013  
Project Name: Royal Lahaina Resort Revitalization  
Applicant: Royal Lahaina Development Group LLC

The subject proposal has been reviewed and confirmed that no Government Survey Triangulation Stations or Benchmarks are affected. Survey has no objections to the proposed project.

Should you have any questions, please call me at 586-0390.



LINDA LINGLE  
GOVERNOR



RODNEY K. HARAGA  
DIRECTOR

Deputy Directors  
BRUCE Y. MATSUI  
BARRY FUKUNAGA  
BRENNON T. MORIOKA  
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.2044

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5087

06 FEB 17 12:50  
DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

February 15, 2006

Mr. Michael W. Foley  
Director  
Department of Planning  
County of Maui  
250 South High Street  
Wailuku, Hawaii 96793

Dear Mr. Foley:

Subject: Royal Lahaina Resort Revitalization Project  
Draft Environment Assessment (EA 2005/0014),  
Special Management Area Use Permit (SM1 2005/0038), and  
Shoreline Setback Variance (SSV 2005/0005)  
TMK: (2) 4-4-008: 007 and 013

We have the following comments on the subject proposed project for changes to an existing resort hotel complex:

1. This project is one of several underway or planned for development in the Kaanapali Resort area that use Kekaa Drive and Kaanapali Parkway to access Honoapiilani Highway.
2. The traffic report for the project claims that there will be a reduction in traffic volume and impact after the renovations and improvements are done. However, we have concerns regarding the cumulative impacts to our highway facilities that are attributable to all projects in the area, including this one.
3. We suggest that the developer be required to submit subsequent traffic count reports after the subject revitalization is completed and the resort complex is in operation. This could then be compared to the projections provided in the project's traffic report. If the applicant is asked to do a post-development traffic count report, we request that a copy of the report be provided to us to assist us in monitoring the continuing changes to and build-out of the Kaanapali Resort area. Should such a report indicate that traffic volumes exceed the project's projections, the applicant should be required to participate in and contribute its fair share of intersection and roadway improvements that may be necessary along Honoapiilani Highway at and around the Kaanapali Resort area.

Mr. Michael W. Foley  
Page 2  
February 15, 2006

STP 8.2044

We appreciate the opportunity to provide our comments.

Very truly yours,



RODNEY K. HARAGA  
Director of Transportation



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN KAWAHARA

March 13, 2006

Rodney Haraga, Director  
State of Hawaii  
Department of Transportation  
869 Punchbowl Street  
Honolulu, Hawaii 96813-5097

**SUBJECT: Draft Environmental Assessment for Proposed Royal Lahaina Resort Revitalization, TMK: 4-4-008:007 and 013, Kaanapali, Maui, Hawaii - STP. 8/2044**

Dear Mr. Haraga:

Thank you for your letter dated February 15, 2006 regarding the subject project. On behalf of our client, Royal Lahaina Development Group, LLC (RLDG) we would like to offer the following responses to your comments.

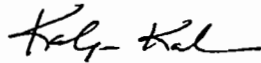
1. We note your comment with regards to projects in the Kaanapali Resort. We note that the primary vehicle access for the Royal Lahaina Resort is Kekaa Drive.
2. We acknowledge your comment with regards to the cumulative impacts of planned projects in the area. It is noted that the Traffic Impact Analysis Report prepared for the Royal Lahaina Resort Revitalization project evaluated the cumulative impacts up to the project's build-out horizon year and incorporated other proposed projects in the area that are anticipated to be online at that time.
3. RLDG is willing to consider the preparation of a post-development traffic count report for Kekaa Drive, as it is the main vehicular access for the project site. Should a post-development traffic report be prepared, a copy of the report will be provided to your office.

planning environment  
environment

Rodney Haraga, Director  
March 13, 2006  
Page 2

Should you have any further questions, please do not hesitate to call me at (808) 244-2015.

Very truly yours,



Karlynn Kawahara  
Project Manager

KK:tn

cc: Gary Hogan and Matt Delaney, Royal Lahaina Development Group, LLC  
Rob Iopa, WCIT Architecture, Inc.  
Pete Pascua, Wilson Okamoto Corporation  
Michael W. Foley, Department of Planning (via delivery)

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**UNIVERSITY OF HAWAII AT MANOA**

College of Natural Sciences  
Marine Option Program

06 FEB 21 12 53

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED



Jeff Hunt  
Planning Division  
250 South High Street  
Wailuku, Maui, Hawaii 96793

Aloha Jeff,

The Marine Option Program of the University of Hawaii at Manoa would like to say that we have no comment on the Royal Lahaina Resort Revitalization project, subject :I.D.: EA 2005/0014; SM1 2005/0038; and SSV 2005/0005. I also would like to apologize on behalf of the Marine Option Program for the delay of this response.

Thank you for your patience,

Sincerely,

*Richard Strobel*  
Richard Strobel, MOP Secretary

For Sherwood Maynard, Director

# UNIVERSITY OF HAWAI'I

---

Sea Grant Extension Service  
Maui Community College

02/23/2006

Michael Foley  
Director  
Maui Planning Department  
250 South High Street  
Wailuku, HI, 96793

Dear Mr. Foley,

**Re: Final Environmental Assessment and Applications for a Special Management Area Use Permit and Shoreline Setback Variance, Royal Lahaina Resort Revitalization Project**

Thank you for the opportunity to comment on the above document. In general, the plan looks very good from the perspective of protection of coastal resources. It is great to see that the Royal Lahaina plans to decrease the density of development in the Shoreline Setback Area by removing several structures. This will be beneficial to coastal resources by reducing the need for shore protection under erosional conditions.

The fact that there is little evidence of long term erosion at the Royal Lahaina is excellent and bodes well for the future of the beach and the resort. However, despite their relative infrequency, it is important to plan for the episodic storm, high surf and hurricane events, so that structures are not damaged, shoreline processes are not impeded, and public health and safety is not jeopardized, when these high energy events do occur.

My comments and questions on the Draft EA are as follows:

- 1) Table 1 outlines demolition and renovation activities within the 40-foot and 150-foot setback areas. Renovations within the 40-foot setback are listed as improvements to beach access stairways. However, based on the scale that appears on the shoreline survey map, it appears that the 40-foot setback line crosses through the center of the makai pool. This does not coincide with all the sketches throughout the rest of the draft EA that show the 40-foot setback line sketched on the makai edge of the pool. According to the shoreline survey map, the makai edge of the pool falls less than 30 feet from the shoreline, and the makai deck of the pool falls less than 25 feet from the shoreline. Could you please verify these distances, and confirm whether or not the pool falls within the 40 foot setback area? If it does, please add this to the renovations planned in the 40-foot setback in Table 1. It would seem that even if the pool itself does not fall within the setback area, the pool deck does fall within the 40 foot setback area, so if renovations to the pool deck are planned, this should be listed under the 40-foot section in table 1.

- 2) The proximity of the pool mentioned above in (1) to the shoreline is of concern, due to the dynamic nature of the shoreline under episodic storm or high surf events. While such events have been relatively infrequent over the last 20 years, studies of long-term trends in ocean surface temperatures and associated frequency of storms suggest that we are currently entering a 20-30 year period of increased likelihood of Kona storm and hurricane events. (The Pacific Decadal Oscillation is an El Nino-like phenomenon that occurs over a scale of decades, bringing changes in ocean surface temperature lasting 20-30 years. Given Hawaii's location, the next 20-30 years are predicted to bring warmer ocean surface temperatures, leading to an increase in Kona storm and hurricane activity.) In addition, sea level rise will continue to increase the likelihood of berm overtopping by waves during such events. As such, the possibility of events that may affect the pool, leading to the release of chlorinated water to nearshore areas and with the pool potentially acting as an obstruction to coastal processes, will likely increase. Thus, there should be some consideration given to removal of this pool and associated structures.
- 3) The proximity of the structure at the south end of the property to the shoreline (20 feet) is of some concern due to its likelihood of interference in natural shoreline processes in a high surf or storm event. The mention in the Draft EA that no hardening structures will be constructed to protect the structures within the setback area is appreciated. The fact that the structures in the setback area are allowable due to their date of original construction is understood; however it should be noted that during a storm event, these structures may interfere with natural shoreline processes and potentially pose a risk to human safety; thus, ideally, all structures within the setback area would be removed.
- 4) The beach access stairways should ideally be constructed of wood and supported by posts. Please see enclosed guidelines (labeled "Appendix B"; note, there is no Appendix A; this Appendix B was copied from another document)
- 5) While I have not yet conducted a site visit (but plan to do so in the next few weeks), my understanding is that the beach access stairways are necessitated by a scarp, or near-vertical drop-off down to the beach. This may be of concern due to the safety hazard it creates. While such scarps are usually indicators of erosion, my understanding is that this scarp has existed and changed only minimally throughout most of the lifetime of the resort. Its existence, then, could be due to a combination of grading of the former dune that was done when the resort was being built that left the graded property level higher than the natural elevation for the equilibrium beach and dune profile; and the presence of dense, tight-rooted vegetation (grass and naupaka) that prohibits the release of the underlying sand to form a natural back-beach slope. It may be possible to remediate the hazard posed by the scarp and even remove the need for stairs in two ways;
  - a) place sand along the base of the scarp to bring the level of the beach up; chances are that this would need to be an ongoing effort as the beach would

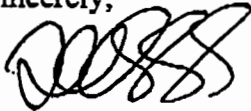
seek to reestablish its current equilibrium shape, and foot traffic would eventually wear down the sand.

b) remove the tight-weave vegetation at the edge of the bank, which would allow the sand underneath the vegetation to be released and form a more natural slope.

6) The number of beach access locations should be evaluated. A general guideline is a minimum 150-foot spacing between access locations, to minimize the impact to the dune/berm area. It may be that not all 6 currently-existing access locations are necessary.

Thank you for the opportunity to comment on this application. I look forward to conducting a site visit in the near future to perhaps provide more in-depth recommendations.

Sincerely,



Zoe Norcross-Nu'u  
Sea Grant Extension Agent



## **APPENDIX B**

### **Dune Walkover Guidelines**

**From the Federal Emergency Management Agency  
Coastal Construction Manual, 2002**

**This appendix contains copies of the following two publications,  
which provide design criteria for beach walkover structures:**

***Beach/Dune Walkover Guidelines*, by the Florida Bureau of Beaches and Coastal  
Systems, Florida Department of Environmental Protection, Revised January 1998**

***Beach Dune Walkover Structures*, SUSF-SG-76, by Todd L. Walton, Jr., and  
Thomas C. Skinner. Published by the Marine Advisory Program of the Florida  
Cooperative Extension Service and Florida Sea Grant, March 1983.**



## **BUREAU OF BEACHES AND COASTAL SYSTEMS BEACH/DUNE WALKOVER GUIDELINES**

### **INTRODUCTION**

In many areas of the State, sand dunes provide a significant amount of protection to the upland property, to upland development, and to adjacent beach areas. The Department, therefore, encourages the construction of elevated walkover structures which are designed to protect the dune topography and dune vegetation from pedestrian traffic and which allow for the natural reconstruction and revegetation of damaged or eroded dunes.

### **PERMIT REQUIREMENTS**

A permit from the Florida Department of Environmental Protection is required for construction of walkovers on most sandy beaches fronting on the open waters of the Atlantic Ocean or Gulf of Mexico. In areas where a coastal construction control line has been established pursuant to provisions of Section 161.053, Florida Statutes, a permit is required for all excavation, construction, or other activities with the potential to cause beach erosion or damage coastal vegetation. Permits for walkovers contain standard conditions which require construction to be conducted in a manner that minimizes short term disturbance to the dune system and existing vegetation. Replacement of vegetation destroyed during construction with similar plants suitable for beach and dune stabilization is required. Only limited excavation for the placement of support posts is authorized for construction of walkovers. The construction of walkovers may not occur during the marine turtle nesting season, typically May 1 through October 31, except for Brevard through Dade counties (March 1 through October 31).

### **GENERAL DESIGN**

Walkovers to be constructed across vegetated dunes or across heavily vegetated beach berms should be post-supported and elevated a sufficient distance above the existing or proposed vegetation to allow for sand build-up and clearance above the vegetation (this may be several feet depending on the type of vegetation). Walkovers should generally be constructed perpendicular to the shoreline and extend at least to the seaward toe of the frontal dune or the existing line of vegetation but not farther than 10 feet seaward of the vegetation. Support posts should not be installed into dune slopes which are steeper than approximately 30 degrees. Whenever possible, stairways leading from the top or crest of a dune down to the beach should be designed to completely span the seaward slope of the dune.

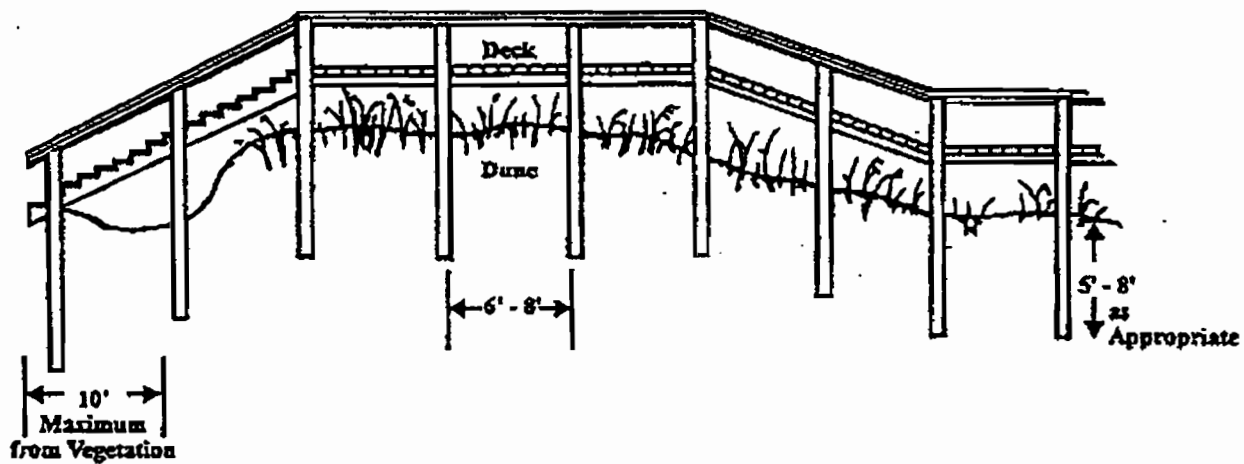
### **DESIGN CRITERIA FOR SINGLE FAMILY DEVELOPMENTS**

Walkovers should be designed as minor structures and need not meet specific structural requirements to resist wind and wave forces, but should be designed to produce minimum scour of the beach and dune topography during a storm event and to reduce the potential for damage to upland structures as airborne or waterborne debris. The width of the walkover structure should not exceed 4 feet. The railing should be limited to a handrail and one center guard rail. The posts

for the walkover structure should be 4-inch by 4-inch (although 6-inch posts may be allowed), should be embedded deep enough to support typical live and dead loads (minimum of 5 feet.), and should not be encased in concrete. Typical spacing between post bents is 6 to 8 feet. Supporting beams, bents, and stair stringers should not be greater than 2-inch by 12-inch pressure treated lumber. Connections may be fastened with bolts or nails hotdipped galvanized or stainless steel. All lumber should be pressure treated.

### DESIGN CRITERIA FOR MULTI FAMILY DEVELOPMENTS

The number of walkovers within the development depends on the expected volume and type of traffic; however, the width of each walkover allowed should not exceed 6-feet. Where more than one walkover is authorized within the development, a minimum 150-foot spacing should be provided between authorized walkovers. The piles for the typical walkover are 6-inch in diameter and should be embedded approximately 8 feet to account for both structural stability and possible dune deflation losses. Since the structural design guidelines provided herein may not apply to many of these structures, designers of such structures are encouraged to consult the Bureau staff.



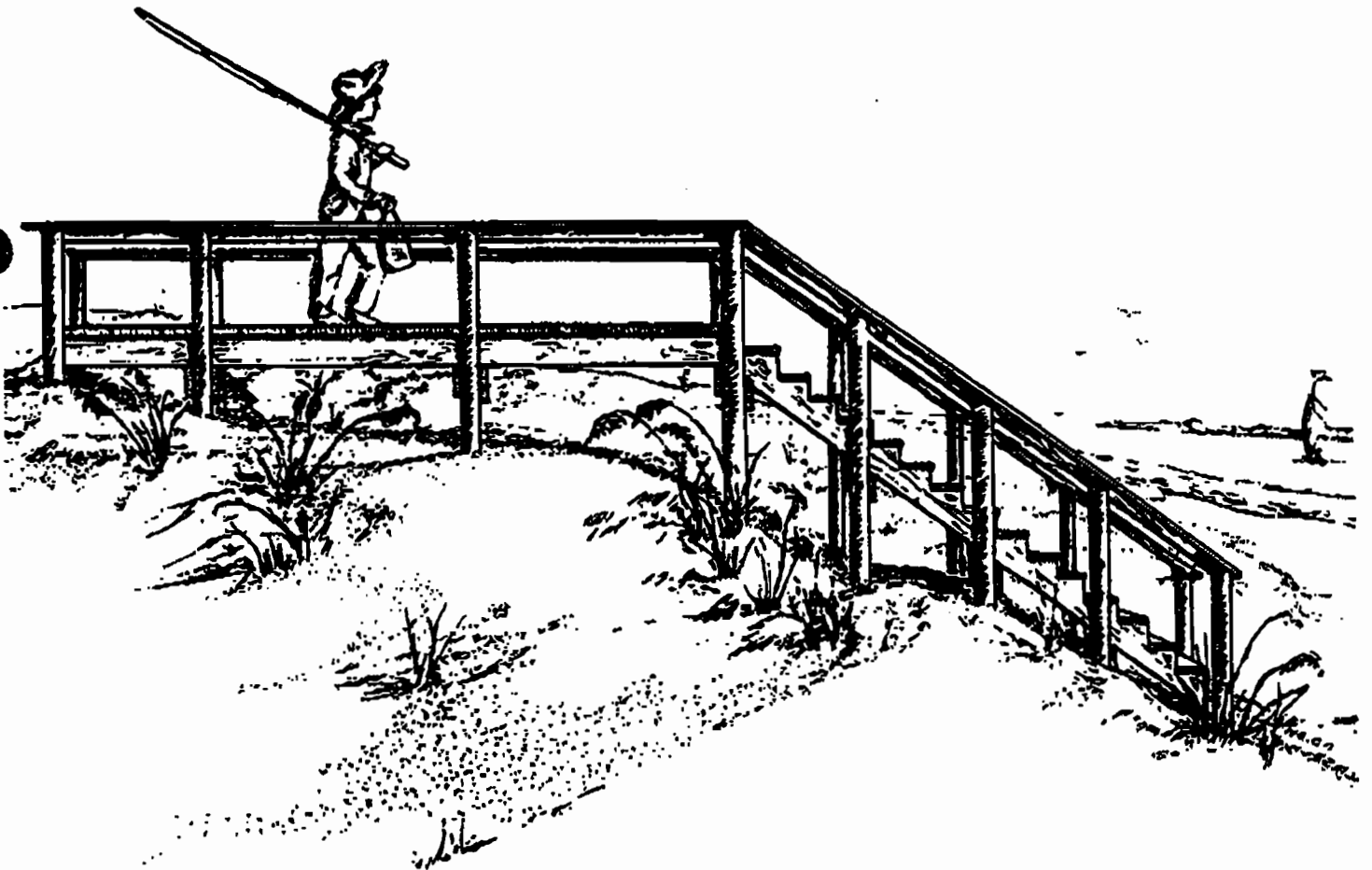
Revised January 1998



MAP-18

# Beach Dune Walkover Structures

Todd L. Walton, Jr. and Thomas C. Skinner



*The State University System of Florida Sea Grant College is supported by award of the Office of Sea Grant, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, grant number NA80AA-D-00038, under provisions of the National Sea Grant College and Programs Act of 1968. This information is published by the Marine Advisory Program which functions as a component of the Florida Cooperative Extension Service, John T. Woeste, dean, in conducting Cooperative Extension work in Agriculture, Home Economics, and Marine Sciences, State of Florida, U. S. Department of Agriculture, U. S. Department of Commerce, and Boards of County Commissioners, cooperating. Printed and distributed in furtherance of the Acts of Congress of May 8 and June 14, 1914. The Florida Sea Grant College is an Equal Employment Opportunity-Affirmative Action employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, color, sex, or national origin.*

This public document was promulgated at a cost of \$166.25 or 11 cents per copy, to provide information on construction of beach dune walkover structures. Cost does not include postage and handling.

12/31/76  
11/14/81  
3/1.5M/83

\*This publication is a reprint with revisions of Marine Advisory Bulletin SUSF-SG-76-006 originally published in 1976. The number has been changed to MAP-18.

## BEACH DUNE WALKOVER STRUCTURES

by .

Todd L. Walton, Jr.<sup>1</sup> and Thomas C. Skinner<sup>2</sup>

### INTRODUCTION

The idea behind this publication originally came from the Bureau of Beaches and Shores, Department of Natural Resources, State of Florida. It was recognized that numerous dune systems within our state were undergoing destruction due to the loss of vegetation caused by unrestricted access to the beach over the dune systems. As the vegetation was lost, the wind became capable of eroding the dune and caused a progressive deterioration of the entire dune system.

In areas of high human traffic, a beach walkover structure is needed to save this vegetation. Two structure designs are presented in this publication. Figures 1 through 7 give details of a structure for use in areas of heavy foot traffic. A good example of such use might be for a condominium or a community public access ramp. The depths of pilings account for both depth necessary for structure stability and added depth to account for possible dune deflation losses.

Figures 8 and 9 give details of a smaller structure more suitable for the typical coastal land owner where only light foot traffic is expected. The depth of pilings in sand is correspondingly less which should minimize interference with the dune system in construction of the walkway. It should be noted that any construction seaward of the State Coastal Construction

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<sup>1</sup> Coastal Engineering Advisory Specialist, Marine Advisory Program, with the Coastal and Oceanographic Engineering Laboratory, University of Florida.

<sup>2</sup> Extension Agricultural Engineer, Florida Cooperative Extension Service, IFAS University of Florida.

Setback Line (Reference 1) must be permitted by the Bureau of Beaches and Shores, Department of Natural Resources.

The designs are basic enough such that various alternatives can be added to the designs without altering the structures to a great degree. One such alteration would be a transverse extension of the deck section with benches for people to sit on overlooking the beach area. The addition of properly spaced skid resistant materials to the decking of the ramp section of the large walkover structure would make the deck and the deck extension accessible to handicapped people in wheelchairs. Additional features which could also be added are limited only by the planner's imagination.

The authors would like to thank both Mr. Gill Hill and Mr. William Sensabaugh of the Bureau of Beaches and Shores, Department of Natural Resources, for the ideas and suggestions used in these plans. The authors hope that this publication will lead to the building of more walkover structures in areas where dune systems are threatened by human traffic. The authors also hope to hear any suggestions, comments, or criticism which might be included in a future revision of this publication.

## MATERIALS SPECIFICATION SHEET

### (1) Wood

All wood to be pressure treated in accordance with American Wood Preservers Association Standard C-2. The preservative used should be a waterborne preservative such as Type B or C or equivalent as covered in Federal Specification TT-W-535 and AWPA Standards P5, C2, and C-14. The type wood to be used depends on the quality of the construction desired. A suitable inexpensive wood for construction would be southern pine. Higher grade and more expensive woods would be the heartwood of Bald Cypress, Redwood, or Eastern Red Cedar. Very expensive but extremely durable and decay resistant woods would be Greenheart or Basra Locus. "Rough cut" lumber can be used on all lumber in the substructure while "dressed" (i.e. surfaced) lumber should be used on the flooring and hand-rails. Further information on the specifications for buying lumber can be found in Reference 2.

### (2) Hardware

All bolts and other hardware to be hot dipped galvanized.

### (3) Nails

All nails to be galvanized.

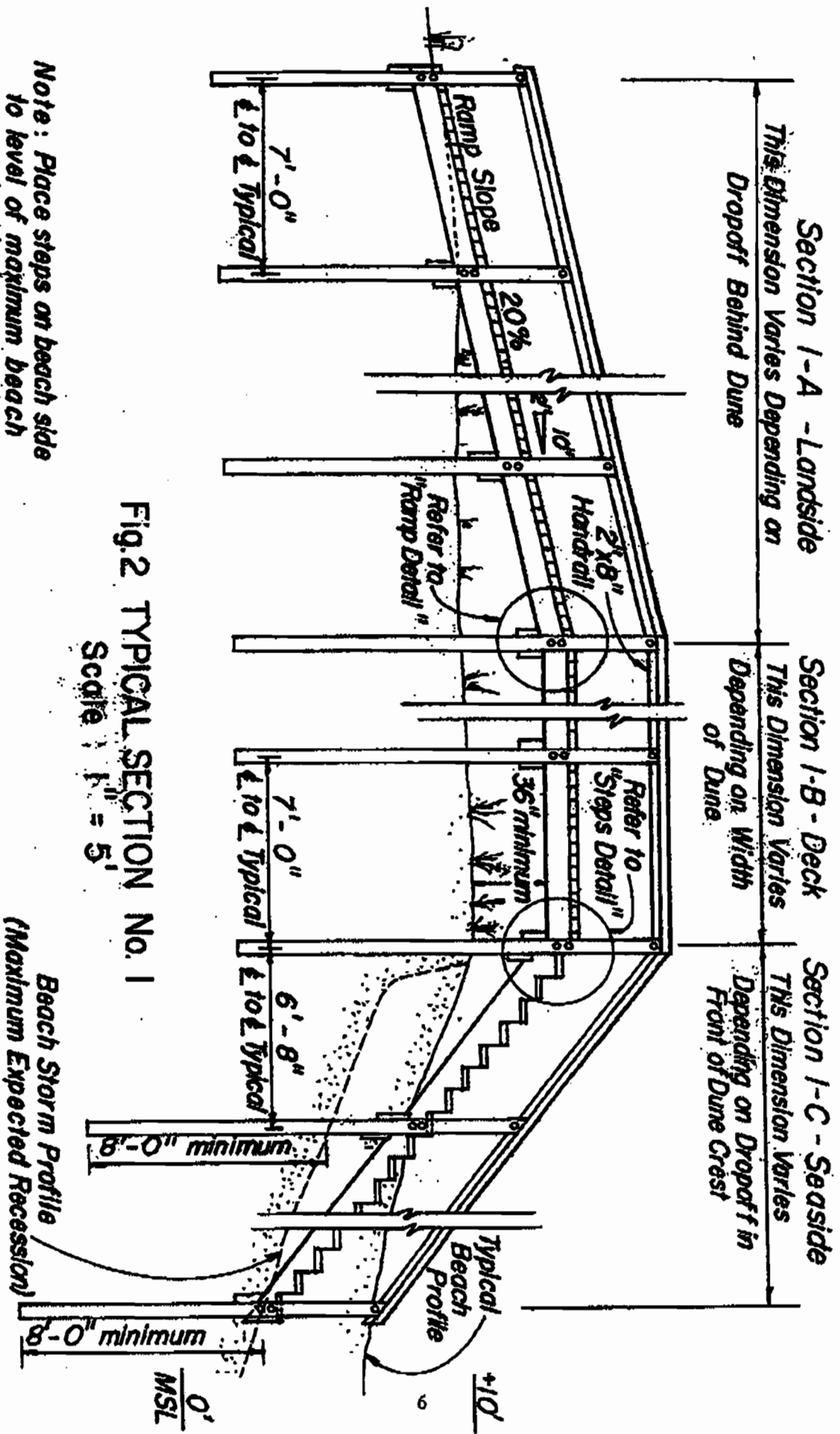


**GENERAL NOTES**

- (1) Bolts in handrails shall have nut end toward post. Countersink so that bolt does not project beyond post. Trim excess of projecting bolts after fastening.
- (2) Use bolts for all connections to posts.
- (3) Do not encase bottoms of pilings in concrete. This would be termed objectionable construction in obtaining a permit from the Bureau of Beaches and Shores.
- (4) Some may find the pitch of the steps (8 on 10) too steep; likewise the ramp slope (20%) is too steep for handicap access (8.33% recommended). The design may be modified accordingly.
- (5) Check with local building officials to make sure the design contained herein, or as modified, conforms to local codes and ordinances.

- 
1. Coastal Construction Setback Line by J. A. Purpura and W.M. Sensabaugh, Marine Advisory Bulletin, SUSF-SG-74-002, Florida Cooperative Extension Service, 1974. (Out-of-Print).
  2. Wood Handbook: Wood as an Engineering Material, U.S.D.A., Forest Products Laboratory, 1974.
  3. Timber Design and Construction Handbook, McGraw Hill Publishing Co., 1956.
  4. Wood Engineering, G. Gurfinkel, Southern Forest Products Association, 1973.

*Note: Place steps on beach side to level of maximum beach recession during a severe storm or tropical hurricane*

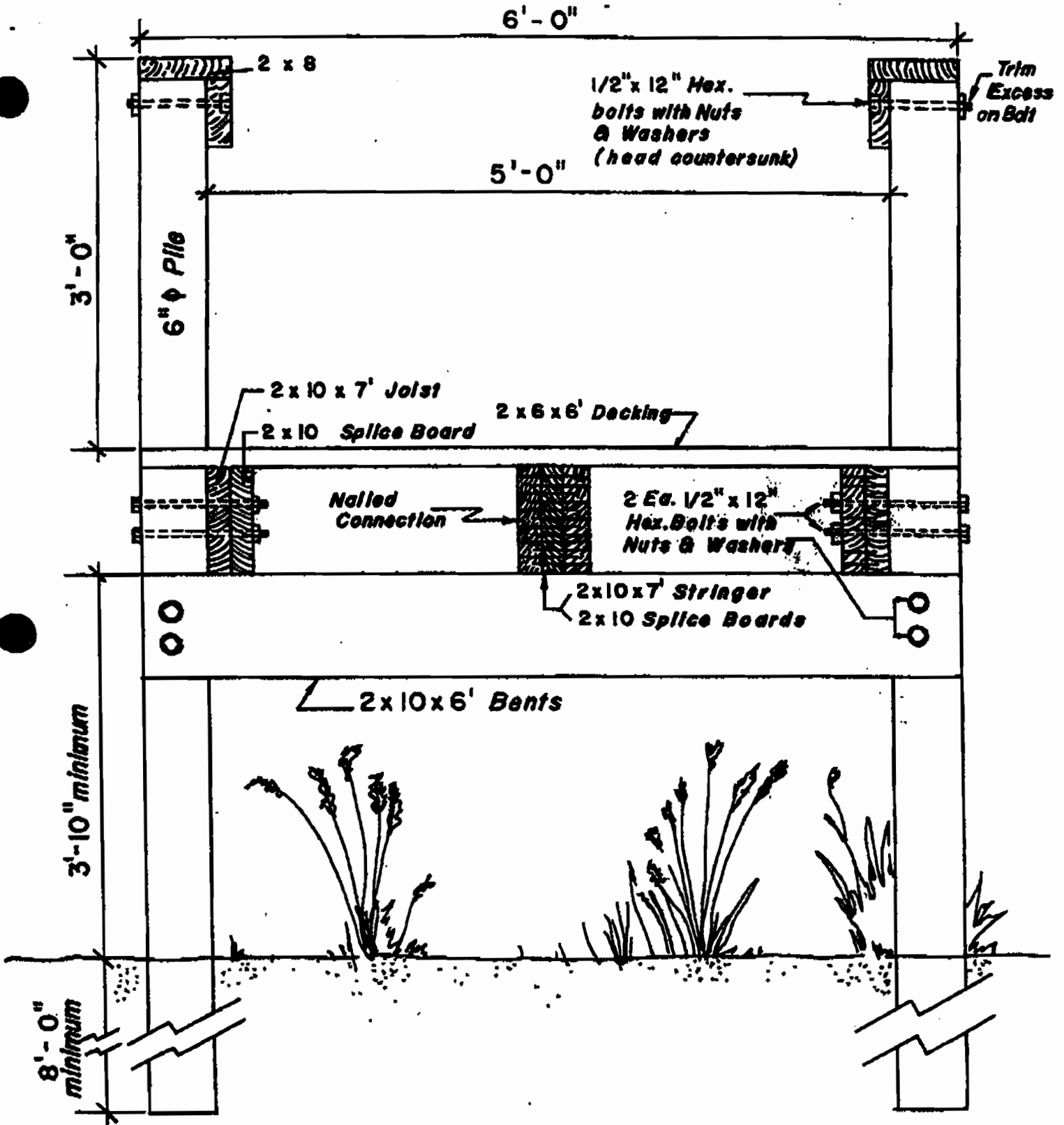


**Fig.2 TYPICAL SECTION No. 1**

Scale: 1" = 5'

Beach Storm Profile (Maximum Expected Recession)

0' MSL



**Fig.3 TYPICAL SECTION I-B DECK**  
 Scale: 1" = 1'-0"

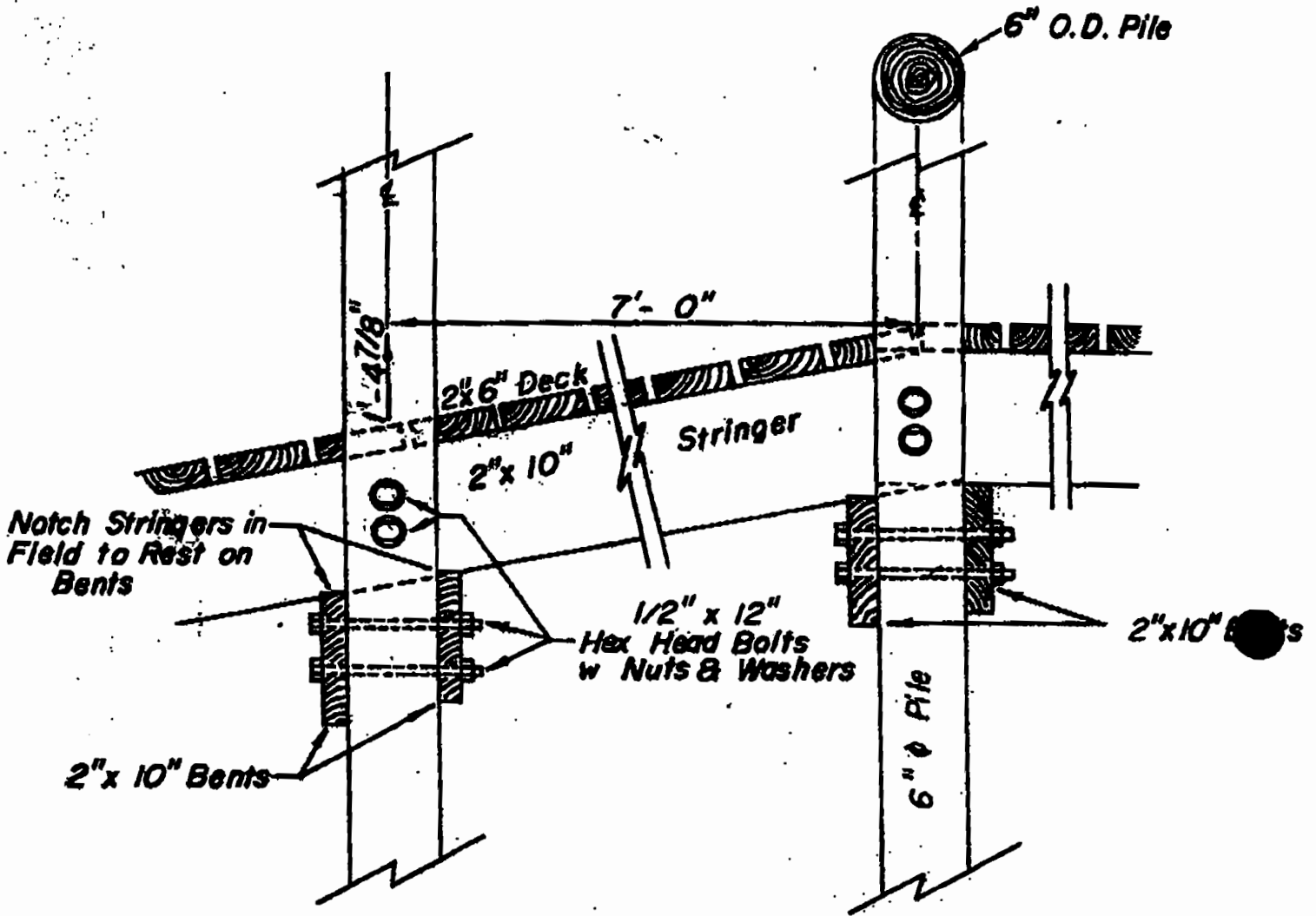


Fig. 4 TYPICAL RAMP DETAIL

Scale: 1" = 1'-0"

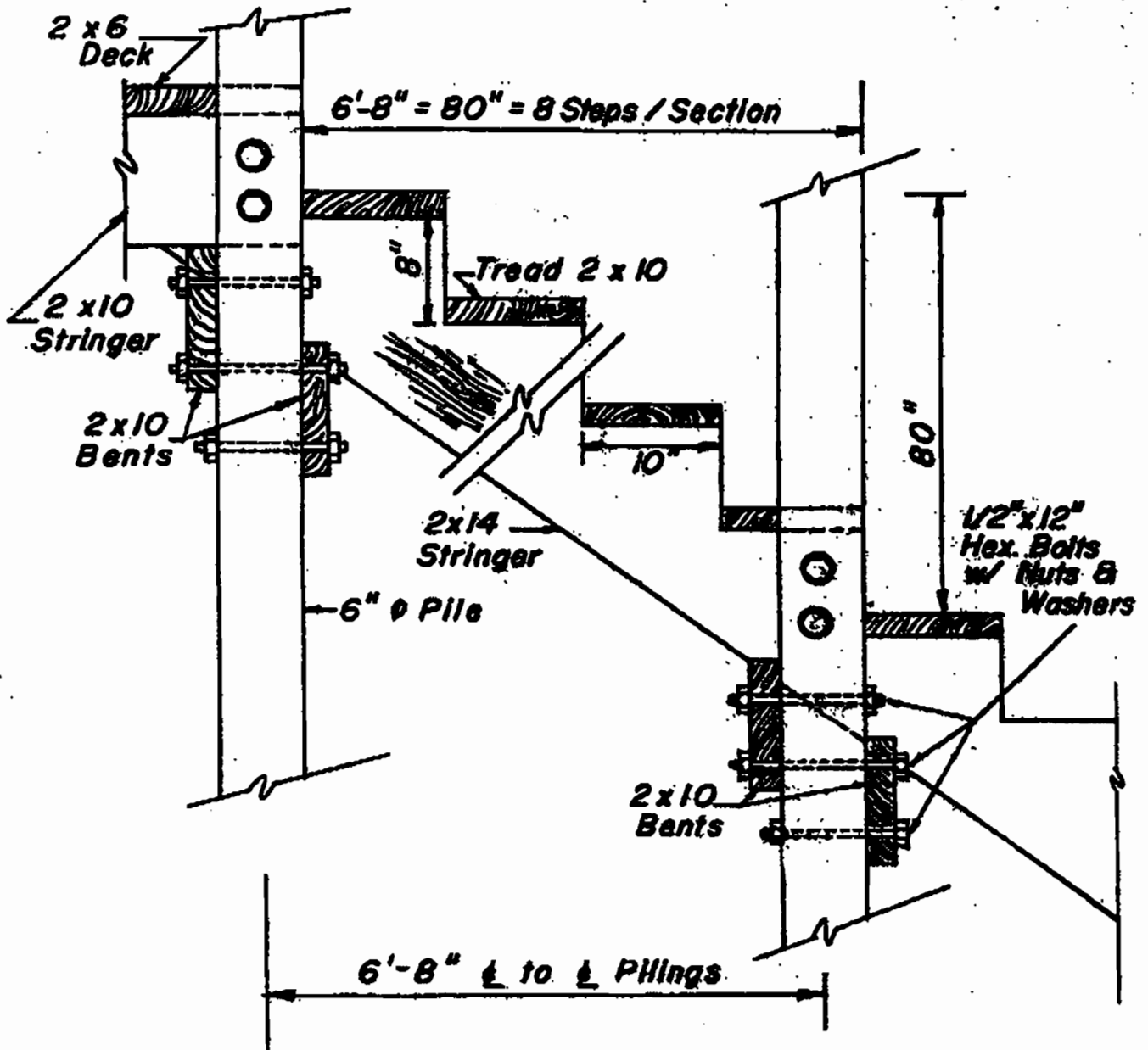
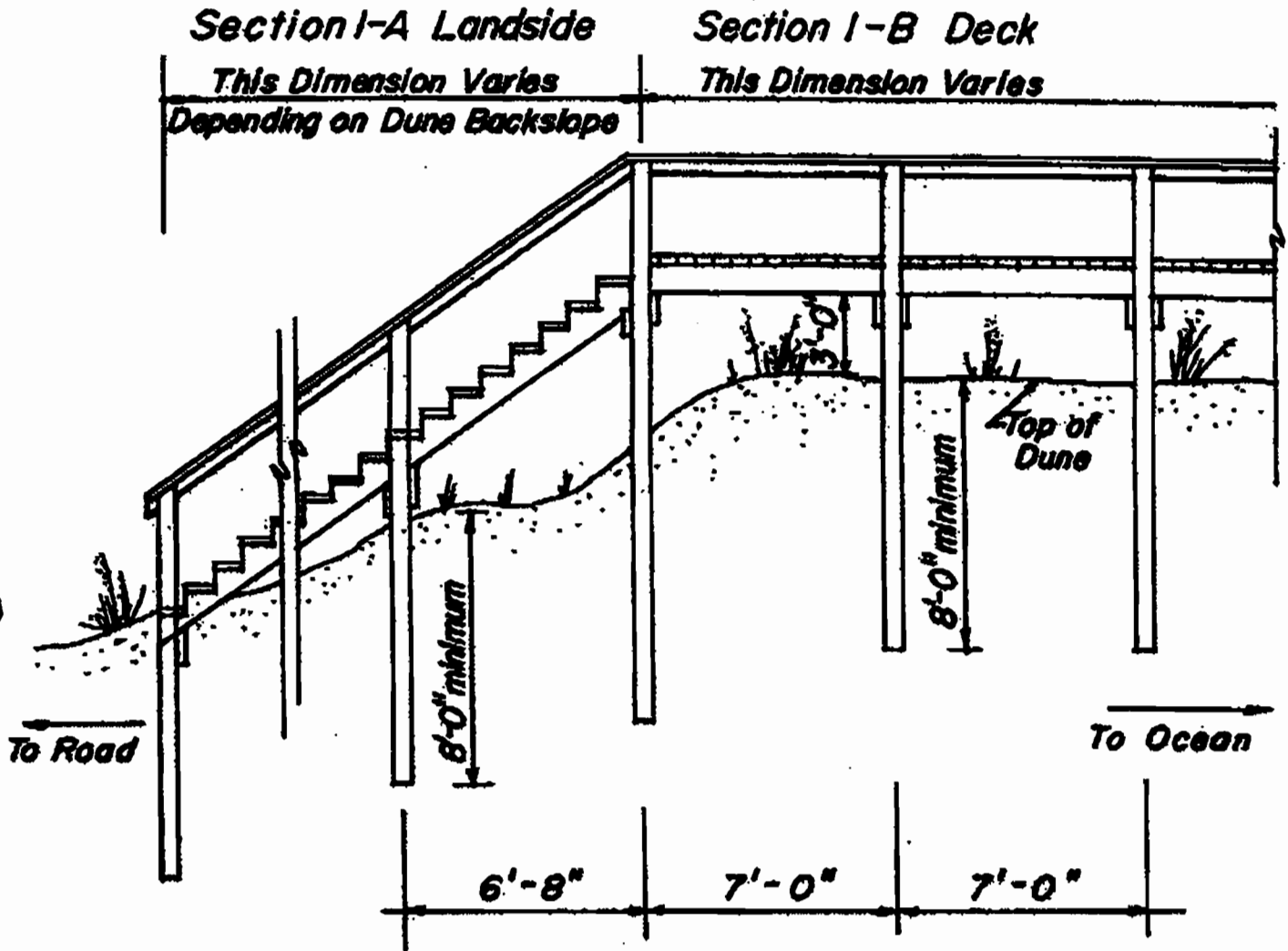


Fig. 5 TYPICAL STEPS DETAIL  
Scale : 1" = 1'-0"

*Include as many step sections as necessary to grade from top of dune + 3 feet to base of rear dune.*



**Fig.7 ALTERNATE SECTION No.1**

**Scale : 1" = 5'-0"**

**(Refer to details as per Figure 2)**

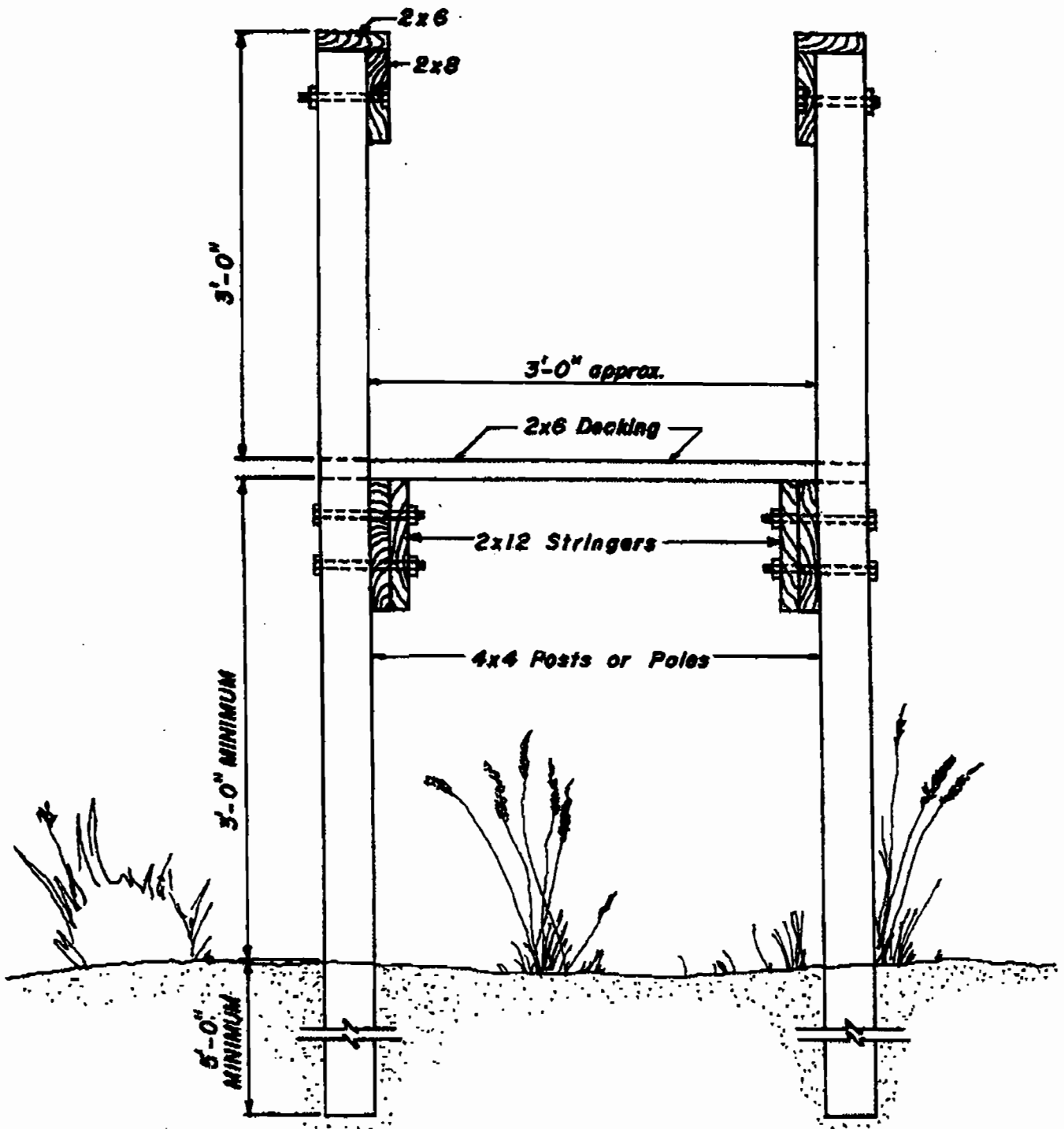
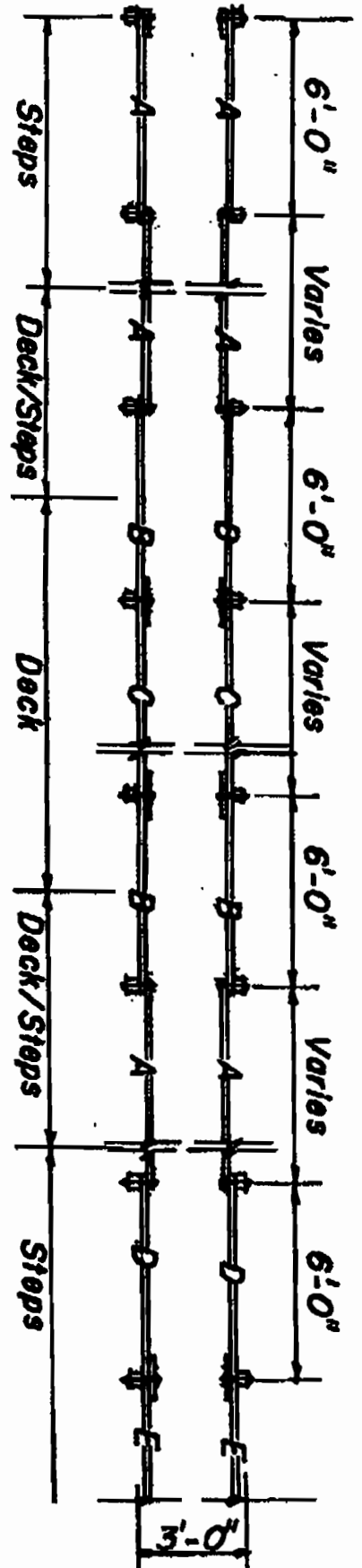


FIG. 8 TYPICAL SECTION scale: 1"=1'-0"



STRINGER DIMENSION	
A	2 x 12 x 8" notched for steps
B	2 x 12 x 7-9"
C	2 x 12 x 6"
D	2 x 12 x 7-8" notched for steps
E	2 x 12 x 7-6" notched for steps
F	SPLICE BLOCK DIMENSION 2 x 12 x 1-6"

BILL OF MATERIALS	
QUANT	ITEM DESCRIPTION
106	2 1/2" Stringers & Splice Blocks
16	4 x 4" Posts or Poles
66	1/2" x 12" Hex Bolt w/ nut and washers
36	2 1/2" x 20" drilled
28	2 1/2" x 20" drilled
4	2 1/2" x 20" drilled

Note: All splice blocks to be notched to stringers to provide both lateral and bearing support of joints. All pile bolted connections to be 1/2" x 12" hex bolt with nut and washers.

Bill of Materials based on 24' deck and step lengths, 6' and 12'.

FIG. 9 TYPICAL STRINGER LAYOUT  
scale: 1 1/2" = 5'





MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

KARLYNN KAWAHARA

April 17, 2006

Zoe Norcross-Nu'u  
University of Hawaii  
Sea Grant Extension Service  
310 Kaahumanu Avenue  
Kahului, Hawaii 96732

**SUBJECT: Draft Environmental Assessment for the Proposed Royal Lahaina Resort Revitalization, TMK: 4-4-008:007 and 013, Lahaina, Maui, Hawaii**

---

Dear Ms. Norcross-Nu'u:

We are in receipt of your letter dated February 23, 2006 regarding your comments on the Draft Environmental Assessment (Draft EA) for the subject project. On behalf of our client, Royal Lahaina Development Group, LLC (RLDG), we would like to offer the following responses to your comments.

1. The distance between the makai edge of the pool and the shoreline is 29 feet, according to the certified shoreline map. Thus, the smaller pool falls within the 40 foot shoreline setback area. Table 1 in the Draft EA will be adjusted accordingly in the Final EA.
2. We note your comment with regards to the proximity of the makai pool in relation to the shoreline. RLDG is planning to include an alternative analysis which reviews the possibility of the removal of all structures from the 150-foot shoreline setback area in the Final EA.
3. We note your comment with regards to the existing building that is planned to serve as a recreation center upon completion of the Royal Lahaina Resort's revitalization. As previously noted, RLDG will be discussing the removal of all structures within the 150-foot shoreline setback area as an alternative in the Final EA.
4. Thank you for providing the information on the beach access stairways. This information has been forwarded to the applicant and the project's architect. As we noted in our meeting on February 14, 2006, RLDG is continuing to work with the Department of Land and Natural Resources, Office of

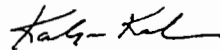
environment  
planning

Conservation and Coastal Lands (OCCL) with the design of the beach access stairways. We will continue to keep in contact with you also as the plans are finalized. Final plans will also be included in the Final EA.

5. Thank you for your comments with regards to the beach drop-off and possible remedies for the situation. Your comments have been forwarded to the project's coastal engineer for review and possible inclusion in the project, as applicable.
6. We note your comment with regards to the number of existing beach accesses. RLDG will evaluate the feasibility of continuing to maintain the six (6) beach stairs and/or consider the possible reduction of accesses as you recommend.

Should you have any further questions, please feel free to contact me at 244-2015.

Very truly yours,



Karlynn Kawahara  
Project Manager

KK:tn

cc: Gary Hogan and Matt Delaney, Royal Lahaina Development Group, LLC  
Rob Iopa, WCIT Architecture  
Marc Ericksen, Sea Engineering  
Michael Wright, Michael Wright & Associates, Inc.  
Michael Foley, Department of Planning



DEPARTMENT OF  
**HOUSING AND HUMAN CONCERNS**  
COUNTY OF MAUI

ALAN M. AKUNAWA  
Mayor

ALICE L. LEE  
Director

HERMAN T. ANDAYA  
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165

January 12, 2006

06 JAN 17 01:08  
DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

TO: KIVETTE A. CAIGOY, Staff Planner  
Department of Planning

FROM: ALICE L. LEE, Director  
Department of Housing and Human Concerns

SUBJECT: I.D.: EA 2005/0014; SM1 2005/0038 and  
SSV 2005/0005  
TMK: (2)4-4-008:007 AND 013  
PROJECT NAME: ROYAL LAHAINA RESORT REVITALIZATION  
APPLICANT: ROYAL LAHAINA DEVELOPMENT GROUP LLC

We have reviewed the subject project's Draft Environmental Assessment and Applications for a Special Management Area Use Permit and Shoreline Setback Variance and would like to offer the following comments:

1. We have been informed by the applicant's consultant that none of the 455 new units will include "lock-off" units.
2. The revitalization of the project will involve a decrease of 128 units in the overall unit count (583 units to 455 units).
3. Pursuant to Section 2.94.050A, Maui County Code (MCC), the project is excluded from the affordable housing requirements of Chapter 2.94, MCC.

Thank you for the opportunity to comment. We are returning the draft EA and applications for your use.

Attachment  
ETO:hs  
c: Housing Administrator



# POLICE DEPARTMENT COUNTY OF MAUI



ALAN M. ARAKAWA  
MAYOR

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

THOMAS M. PHILLIPS  
CHIEF OF POLICE

OUR REFERENCE  
YOUR REFERENCE

KEKUHAUPIO R. AKANA  
DEPUTY CHIEF OF POLICE

January 18, 2006

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED  
06 JAN 19 AM 02

## MEMORANDUM

TO : MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM : THOMAS M. PHILLIPS, CHIEF OF POLICE

SUBJECT : I.D. : EA 2005/0014; SM1 2005/0038; and SSV  
2005/0005  
TMK : (2) 4-4-008: 007 and 013  
Project  
Name : Royal Lahaina Resort Revitalization  
Applicant : Royal Lahaina Development Group LLC

       No recommendation or comment to offer.

  x   Refer to enclosed comments and/or recommendations.


As always, thank you for giving us the opportunity to comment on this project.

Assistant Chief Sydney Kikuchi  
For: THOMAS M. PHILLIPS  
Chief of Police

Enclosure

COPY

**TO :** THOMAS M. PHILLIPS, CHIEF OF POLICE, MAUI POLICE DEPARTMENT

**VIA :** CHANNELS  01/18/06

**FROM :** SCOTT Y. MIGITA, POLICE OFFICER III, LAHAINA BICYCLE PATROL

**SUBJECT:** DRAFT ENVIRONMENTAL ASSESSMENT AND APPLICATIONS FOR A SPECIAL MANAGEMENT AREA USE PERMIT AND SHORELINE SETBACK VARIANCE: ROYAL LAHAINA RESORT REVITALIZATION PROJECT

Sir, this To.From is being submitted regarding a proposed revitalization project to the existing Royal Lahaina Resort property. This proposed revitalization will include a decrease in the overall unit count from 583 units to 455 units, representing a decrease of 128 units. A new master plan is proposed as part of this revitalization with a mixed use concept made up of 330 luxury hotel units and 125 new hotel/condominium villas. Other project components include new dining experiences, new spa and activity center, new lobby, water features, roadways and paths, retail, parking structure, infrastructure, and other related resort amenities. The project within the shoreline setback area includes the demolition of a three story hotel structure, six 2-story villas, a one story restaurant, and a portion of the existing Ali'i Ballroom currently used for banquets and meetings. Improvement activities within the shoreline setback area include repair and maintenance to existing structures including existing beach access stairways and landscape improvements. This Draft Environmental Assessment is being submitted by the County of Maui, Department of Planning for comments on behalf of project applicant Royal Lahaina Development Group, LLC and consultant, Munekiyo & Hiraga, Inc.

The subject property is located in the Kaanapali Resort area and is bordered to the north by Maui Kaanapali Villas, to the east by Honoapiilani Highway (#30), to the south by Kaanapali Golf Course, and to the west by the ocean. The main access to the property is via Kekaa Drive.

A Traffic Assessment Report has been prepared for this proposed project (Appendix "H"), where on page 68, concludes that "Traffic operations with the project were anticipated to remain similar to existing conditions during both peak periods in Year 2009". It also states, "Traffic generated by the Royal Lahaina Resort is anticipated to decrease under project conditions due to the planned reduction in units, from 583 units to 455, by the proposed project. The projected traffic operations at the study intersections along Honoapiilani Highway are expected to be influenced primarily by ambient traffic growth, as well as, project-generated trips from other known developments expected to be completed and operational by Year 2009. As such, the critical traffic movements at all study intersections are expected to continue operating at levels of service similar to Year 2009 without project conditions."

Page 2

In conclusion, this project resort area is considered private property and in addition, this section of Honoapiilani Highway is not normally heavily used throughout all hours of the day and evening, therefore, an anticipated overall minimal impact on traffic is expected as a result of the construction and development of this project.

Concur!

*[Handwritten signature]*  
1/12/06 USL

Concur w/ OFFICERS ASSESSMENT -  
A/LT - *[Handwritten signature]* 1/12/06

Concur

*[Handwritten signature]* 1/12/06

Respectfully submitted,

*[Handwritten signature]*

Scott Y. MIGITA, E-1122  
P.O. III, Bike Patrol Officer  
01/12/2006 at 1353 hours

ALAN M. ARAKAWA  
Mayor



GLENN T. CORREA  
Director

JOHN L. BUCK III  
Deputy Director

**DEPARTMENT OF PARKS & RECREATION**  
700 Hali'a Nakoa Street, Unit 2, Waituku, Hawaii 96793

(808) 270-7230  
Fax (808) 270-7934

# MEMORANDUM

January 20, 2006

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

06 JUN 25 09:41

**TO:** Michael W. Foley, Planning Director

**FROM:**  Glenn T. Correa, Director

**SUBJECT:** Royal Lahaina Resort Revitalization Project  
TMK: (2) 4-4-008: 007 and 013  
Draft Environmental Assessment - EA 2005/0014  
Special Management Area Permit Application - SM1 2005/0038  
Shoreline Setback Variance - SSV 2005/0005

Thank you for the opportunity to review and comment on the Draft Environmental Assessment, Special Management Area Permit Application, and the Shoreline Setback Variance for the Royal Lahaina Resort Revitalization Project.

At this time we have no additional comments to offer other than those given during the preparation of the draft environmental assessment and included in Chapter X of the application.

Should you have any questions, or need of additional information, please call me, or Patrick Matsui, Chief of Parks Planning & Development at extension 7387.

c: Patrick Matsui, Chief of Parks Planning & Development

ALAN M. ARAKAWA  
Mayor



GEORGE Y. TENGAN  
Director

ERIC H. YAMASHIGE, P.E., L.S.  
Deputy Director

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

06 FEB -9 P2:33

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

February 7, 2006

Ms. Kivette A. Caigoy, Staff Planner  
Planning Department  
250 South Street  
Wailuku, HI 96793

**SUBJECT:** ID: EA 2005/0014; SM1 2005/0038 & SSV 2005/0005  
TMK: (2) 4-4-008:007 & 013  
Project Name: Royal Lahaina Resort Revitalization

Dear Ms. Caigoy:

Thank you for the opportunity to review this project proposal.

#### **Source Availability and Consumption**

The project site is within DWS service area, however, it is served by a private water company. The applicant proposes to serve the project with the Hawaii Water Service Company wells located in the Honokowai aquifer.

Based on system standards, anticipated increase in water use is about 456,000 gallons. Actual demand depends on intensity of use, water features and occupation factors. -

#### **System Infrastructure**

DWS does not review or set requirements on projects served by private water systems for domestic and fire protection purposes. However, we recommend that the Planning Department require that water systems be built in accordance with the Statewide Water System Standards as certified by a licensed engineer.

#### **Conservation**

We note that native plants will be utilized to the maximum extent for landscaping. Native plants adapted to the area, conserve water and protect the watershed from degradation due to invasive alien species. The project is located in the Maui County Planting Plan - Plant Zones 3 & 5. Attached is a list of appropriate plants for the zones as well as potentially invasive plants to avoid for reference.

*"By Water All Things Find Life"*





Page 2

Ms. Kivette Caigoy  
Royal Lahaina Resort Revitalization  
February 7, 2006

Additional water conservation measures are listed below and should be considered in the project design and construction:

Use brackish and /or reclaimed water sources for dust control and for all non-potable water uses during various phases of construction. Reclaimed water is readily available at the Lahaina Wastewater Reclamation Facility.

Eliminate Single-Pass Cooling: Single-pass, water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20. Although prohibited by code, single-pass water cooling is still manufactured into some models of air conditioners, freezers, and commercial refrigerators.

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.

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. Refer to the attached handout, "The Costly Drip". The applicant should establish a regular maintenance program.

Limit Irrigated Turf: Limit irrigated turf to 25% or less of total landscaped area. Low-water use shrubs and ground covers can be equally attractive and require substantially less water than turf.

Look for Opportunities to Conserve Water: A few examples of these are as follows: When clearing driveways, etc. of debris, use a broom instead of a hose; check for leaks in faucets and toilet tanks.

### **Pollution Prevention**

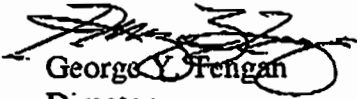
The project overlies the Honokowai Aquifer which has an estimated sustainable yield of 8 MGD of potable water. In order to protect ground and surface water resources, we recommend that the applicant adopt Best Management Practices (BMPs) designed to minimize infiltration and runoff from demolition, construction and vehicle operations. We ask the applicant to take precautionary measures during demolition and construction to prevent construction materials and debris and eroded soils from entering coastal waters. The following are sample BMPs which should be implemented during building demolition:

- a. Storm drain covers or a similarly effective containment device must be placed on all nearby drains to prevent dirty runoff and loose particles from entering the storm drainage system. Covers must be placed at the beginning of the work day and the accumulated materials collected and disposed before removing the covers at the end of the work day. If storm drains are not present, dikes, berms or other methods must be used to protect overland discharge paths from runoff.
- b. Street gutters, sidewalks, driveways, and other paved surfaces in the immediate area of the demolition must be swept at the end of each work day to collect and properly dispose of loose debris and garbage.
- c. Water should be sprayed throughout the site to help control wind blowing fine materials such as soil, concrete dust, and paint chips. The amount of water must be controlled so that runoff from the site does not occur, yet dust control is achieved.
- d. Schedule demolition to take place at a dry time of the year.

Page 3  
Ms. Kivette Caigoy  
Royal Lahaina Resort Revitalization  
February 7, 2006

Should you have any questions, please call our Water Resources and Planning Division at 244-8550.

Sincerely,



George Y. Fengan  
Director  
eam

c: engineering division  
applicant, with attachments:

The Costly Drip

- Maui County Planting Plan - Plant Zones 3 & 5 - Saving Water in the Yard - What and How to Plant in your Area
- Ordinance No. 2108 - A Bill for an Ordinance Amending Chapter 16.20 of the Maui County Code, Pertaining to the Plumbing Code
- Selected BMP's from "Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters"-EPA
- A Checklist of Water Conservation Ideas for Commercial Buildings
- A Checklist of Water Conservation Ideas for Hotels and Motels
- A Checklist of Water Conservation Ideas for Condominiums

D:\My Documents\WP\Proj Rev\Lahaina Proj\Royal Lah Resort Rev\_ EA\_SM1\_SSV.wpd

ALAN M. ARAKAWA  
MAYOR



CARL M. KAUPALOLO  
CHIEF

NEAL A. BAL  
DEPUTY CHIEF

06 FEB 15 P4:16

**COUNTY OF MAUI**  
DEPARTMENT OF FIRE AND PUBLIC SAFETY

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

200 DAIRY ROAD  
KAHULUI, MAUI, HAWAII 96732  
(808) 270-7561  
FAX (808) 270-7919

February 15, 2006

Ms. Kivette A. Caigoy, Staff Planner  
Department of Planning, County of Maui  
250 South High Street  
Wailuku, Hawaii 96793

**Subject: EA 2005/0014; SM1 2005/0038; and SSV 2005/0005 TMK (2)4-4-008:007 & 013  
ROYAL LAHAINA RESORT REVITALIZATION**

Dear Ms. Caigoy,

Thank you for the opportunity to comment on the above subject. We look forward to working with the developer during the building permit and construction process. Please feel free to contact Lieutenant Scott English at 270-7122 if there are any questions or concerns.

Sincerely,

Valeriano F. Martin  
Captain  
Fire Prevention Bureau

FEB 17 2006

ALAN M. ARAKAWA  
Mayor  
MICHAEL W. FOLEY  
Director  
WAYNE A. BOTEILHO  
Deputy Director



COUNTY OF MAUI  
**DEPARTMENT OF PLANNING**

February 16, 2006

Ms. Karlynn Kawahara  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Ms. Kawahara:

RE: Draft Environmental Assessment for the Proposed Royal Lahaina Resort Revitalization Project located at TMK: 4-4-008: 007 and 013, Kaanapali, Lahaina, Island of Maui, Hawaii (EA 2005/0014) (SM1 2005/0038) (SSV 2005/0005)

At the regular meeting of February 14, 2006, the Maui Planning Commission (Commission) reviewed the above-referenced document and provided the following comments:

1. Project Description

Provide further discussion as to the tennis facilities present and post development.

2. Water

At what depth is the underlying water table? Discuss any impacts to the proposed underground parking structure.

3. Shoreline

According to the Coastal Engineering Assessment in Appendix G, the shoreline is being maintained by existing naupaka. The Commission cautions that the naupaka is not the definitive shoreline, and the historic dune system may be revitalized. Is the naupaka currently being irrigated? Discuss the Applicant's intentions related to the naupaka and the dune system with the proposed project.

4. Affordable Housing

- a. Discuss the affordable housing measures in place at the time the property was initially developed. Discuss whether the property has ever been assessed for affordable housing requirements.
- b. The Applicant represented that Amfac initially master planned the Kaanapali Resort area. Provide additional discussion as to whether Amfac built initial structures or provided a monetary contribution for affordable housing.
- c. Section III.B.4.b states "Since existing employees are currently living on Maui, minimal impacts, if any, are anticipated for employee housing needs." This statement is presumptuous and should be supported with additional documentation.
- d. Comments from the County Department of Housing and Human Concerns (DHHC), dated May 31, 2005, states that "Since the revitalization project will result in a decrease of 143 transient vacation rental units, the provisions of Chapter 2.94, Maui County Code will not apply." However, the Commission notes that any new employees will need affordable housing regardless of this statement, and additional information should be included within the Final EA to discuss the rationale of no provision for creating new affordable units.

5. View Analysis

The proposed 6-story building and 3-story parking structure is located near the highway (refer to Figure 16). Provide further analysis as to the height of the buildings in relation to the elevation of the highway. Discuss the rationale in positioning the buildings next to the highway. Provide further discussion on how the view will be impacted from the highway with the proposed development.

6. Public Beach Access

- a. Provide further discussion and clarification of existing and proposed accessways. The discussion should include agreements with the neighboring property owner and any existing pedestrian easements on the property site.

- b. What is the distance from the proposed public beach parking lot to the beach?
  - c. Provide supporting documentation and a discussion of the methodology in determining twelve (12) parking stalls is sufficient for public use. Supporting documentation may include the internal surveys previously conducted.
7. Although the project proposes a reduction in the number of units, which has been equated to a reduction in potential impacts on infrastructure, the project will continue to demand on various systems (i.e. water, wastewater, and medical facilities), as well as, continue to contribute to existing inadequacies (i.e. traffic). As such, to state that no impacts are anticipated because of a reduction in units is inconclusive. The proposed action should contribute towards the infrastructure of West Maui.
8. Provide a detailed Demolition and Recycling Plan in the Final EA.
9. Blasting of hard rock may be required for site development. Expand the Final EA to include a discussion of the potential impacts from such activities for the entire project area. In addition, include a detailed discussion of proposed mitigative measures.
10. Expand the Alternatives Analysis to include the following:
- a. Discuss the alternative of using permeable pavement throughout the project.
  - b. Shoreline setbacks should be a buffer between the project and any potential high wave action. The Coastal Engineering Assessment in Appendix G (page 23) surmises that the structures to remain within the 150 foot shoreline setback area, particularly the pools and building to the south, have been threatened with erosion and wave damage in the past, and remain susceptible to such damage in the future.

As such, include a discussion of the alternative of removing all structures within the 150 foot shoreline setback.

Ms. Karlynn Kawahara  
February 16, 2006  
Page 4

- c. Discuss the alternative of providing 20 additional spaces (in addition to the 12 proposed) on the property for public beach parking.
- d. Discuss alternatives for locating the public beach parking lot within the project site closer to the shoreline.
- e. Discuss alternatives to address specific comments by Interviewees in the Cultural Impact Assessment regarding public beach use and access.

Further, please be advised that any additional site plans/drawings and site photos that were referenced at the meeting but not included in the Draft EA should be included in the Final EA.

Thank you for the opportunity to comment. Should you require further clarification, please contact Ms. Kivette Caigoy, Environmental Planner, at 270-7735.

Sincerely,



MICHAEL W. FOLEY  
Planning Director

MWF:KAC:lar

c: Wayne A. Boteilho, Deputy Planning Director  
Clayton Yoshida, Planning Program Administrator  
Kivette Caigoy, Environmental Planner  
Jeff Hunt, Staff Planner  
EA Project File  
General File  
K:\WP\_DOCS\PLANNING\EA\2005\0014\_RoyalLahainaRevitalization\MPC\_DEAComments.wpd



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN KAWAHARA

April 24, 2006

Michael W. Foley, Director  
Department of Planning  
250 South High Street  
Wailuku, Hawaii 96793

**SUBJECT: Draft Environmental Assessment for the Proposed Royal Lahaina Resort Revitalization Project, Located at TMK 4-4-008:007 and 013, Kaanapali, Lahaina, Maui, Hawaii (EA 2005/0014)**

Dear Mr. Foley:

We are in receipt of your letter dated February 16, 2006 regarding the Maui Planning Commission's (Commission) comments on the subject document. On behalf of our client, Royal Lahaina Development Group, LLC (RLDG), we would like to offer the following responses to the Commission's comments.

1. We note the comment with regards to further discussion of the tennis facilities at the Royal Lahaina Resort. Additional information relating to present and post development will be included in the Final Environmental Assessment (Final EA).
2. It is estimated that the depth of the underlying water table ranges between elevation 0 to 4 feet in the Royal Lahaina project site. As such, RLDG is working with its architect to examine and possibly revise the parking structure for the project. Any revised plans will be presented to the Urban Design Review Board (UDRB) and included in the draft Final EA for review by the Commission.
3. We note the Commission's comment that the naupaka hedge is not the definitive shoreline. RLDG is currently processing a shoreline certification map with the Department of Land and Natural Resources. The existing naupaka hedge is not irrigated by the Royal Lahaina Resort. RLDG intends to maintain the existing naupaka hedge and dunes in their current location, however, two (2) small portions (each approximately 6 feet wide) will be removed as part of the new beach recreation area.
4. a. As noted at the February 14, 2006 Commission meeting, it is our understanding that the original developers, Amfac, were required to provide affordable housing in relation to the development of the Kaanapali Resort,

environment  
planning  
government



including the Royal Lahaina property. We are continuing to research the affordable housing that was provided for the project and plan to include an expanded discussion on prior affordable housing projects in the Final EA.

- b. As previously noted, discussion of previous affordable housing obligations will be provided in the Final EA.
  - c. As noted in the Draft EA and in the presentation to the Commission, the Royal Lahaina Resort will remain open for business during the revitalization process. As such, it is RLDG's intent to maintain as many existing employees as possible. Further, it is noted that RLDG conducted a survey of their existing employees. Of their 330 employees, approximately 67 percent reside in West Maui, while approximately 31 percent live in Central and South Maui. RLDG is not intending to hire new employees from off-island.
  - d. We note the comment with regards to the provision of housing for new employees. As previously noted, RLDG does not intend to hire new employees from off-island. Further discussion will be included in the Final EA with regards to the applicability of affordable housing for the project.
5. The placement of the six-story building and parking structure were planned along the Honoapiilani Highway corridor to preserve the views for the neighboring Maui Kaanapali Villas property. By setting the building and parking structure to the east property line, RLDG was able to preserve the Maui Kaanapali Villas makai views. However, based on the comments from the Commission's review of the Draft EA, the project team evaluated the visual impacts of the parking structure and six-story building along Honoapiilani Highway. As a result, the parking structure has been lowered five (5) feet. Additional landscaping is being considered along the Honoapiilani Highway corridor to "shield" the tennis courts and parking structure. Lastly, RLDG is considering the lowering of the six-story building along Honoapiilani Highway to a four to five-story building. Any revised plans will be presented to the UDRB and included in the draft Final EA. The parking structure was also sited to be centrally located for all resort operations (i.e., tennis facility, general store, hotel, etc.). The low structure was placed in the center corridor to protect views to the ocean.
6. a. We note the comment regarding further discussion of the potential pedestrian walkway along the southern boundary of the Royal Lahaina

Resort. The applicant notes that discussions are still ongoing with the Kaanapali Golf Course, the owner of the property where a portion of the proposed pedestrian path would be located. The applicant intends to work jointly with Kaanapali Golf Course to pursue the walkway, which will be included as part of the proposed Royal Lahaina Resort Revitalization project. A brief description of the walkway is included in the Draft EA for information purposes and any additional information will be included in the Final EA. Further, plans will be presented to the UDRB for review and comment. A figure will also be added to the Final EA to indicate existing pedestrian easements.

- b. The approximate distance from the proposed public beach parking lot to the beach is 1,400 feet.
  - c. RLDG conducted a survey of guests over a two (2) week period during the month of February 2005, and noted that during that time, there was an average of 6.5 cars per day for guests who identified themselves as beach users. Based on that use, RLDG felt that the 12 public parking stalls would be sufficient for beach goers. The Royal Lahaina Resort has hired a "greeter" at the entrance to the resort to help direct guests to the lobby, restaurants, tennis facilities and beach access to answer questions, and assist with the luau parking. The full-time greeter is part of their overall increased service plan for the resort. Following the MPC meeting, RLDG had the greeter conduct additional surveys of guests from February 2006 to April 2006, where by the average number of cars for beach users remained about the same. Please see attached memo regarding the survey of guests.
7. We note the Commission's comment with regards to impacts. It should be clarified that the reduction in the number of units is not being equated to a reduction in potential traffic impacts. The reduction in units is being equated to, however, the reduction of site-generated traffic, according to the project's traffic engineer. Traffic demands in the vicinity are expected to increase regardless of the proposed development due to ambient growth, as well as other projects in the vicinity. As indicated, project-specific site-generated traffic is expected to decrease due to the reduction of units, as well as the proposed types of uses. It is also recognized that the reduction of project-related trips will continue to contribute to the existing roadway facilities, but such contribution is expected to be less than what is currently being contributed by the Royal Lahaina Resort. The projected future traffic

conditions are expected to remain similar with, or without, the proposed Royal Lahaina Resort Revitalization project, with all traffic movements at the study intersections operating within the same general range of acceptable levels of service during the peak traffic commuter periods.

Further, it is noted that there is an existing impact to water, sewer, etc., as the Royal Lahaina Resort is an existing operation. RLDG recognizes that with the revitalization project, there will still be an impact to utilities and infrastructure as resort operations are planned to continue. However, there is an anticipated reduction from the current use, due to the reduction of units.

8. A detailed Demolition and Recycling Plan will be included in the Final EA.
9. We note the Commission's comment with regards to blasting for the project. Drilling and blasting may be required to facilitate rock excavation on the project site. Should blasting be required, the RLDG will hire an independent consultant to assist in determining the impact of blasting in the area and acquire information about the existing structures and the entire nearby area. To remove speculation about the amount of vibration generated by the blasting work, multiple site seismic monitoring devices will be utilized to measure and record the vibration level of each blast.
10.
  - a. The Final EA will include a discussion in the alternatives section regarding the possible inclusion of permeable pavement in the project.
  - b. We note the Commission's comments with regards to the Coastal Engineering report. Please note that the structures have not sustained damage in the past. A discussion will be included in the alternatives section of the Final EA regarding the removal of all structures within the 150-foot shoreline setback.
  - c. The potential for 20 additional public beach parking stalls will be discussed in the alternatives section of the Final EA.
  - d. The applicant will review options and provide a discussion in the alternatives section of the Final EA on locating public beach parking and drop off locations closer to the shoreline.

Michael W. Foley, Director  
April 24, 2006  
Page 5

- e. The applicant will review alternatives to address the comments made by interviewees in the Cultural Impact Assessment with regards to public beach use and access.

Lastly, we note your comment with regards to additional drawings and site photos for inclusion in the Final EA. Plans that are referenced in the Final EA will be included, however, we note that a full set of the preliminary development plans are included in the consolidated Special Management Area Use Permit and Shoreline Setback Variance applications.

Should you have any questions, please feel free to contact me at 244-2015.

Very truly yours,



Karlynn Kawahara  
Project Manager

KK:tn

Attachment

cc: Gary Hogan and Matt Delaney, Royal Lahaina Development Group, LLC (w/attachment)  
Rob Iopa, WCIT Architecture, Inc. (w/attachment)  
Michael Fujita, Wilson Okamoto Corporation (w/attachment)  
Pete Pascua, Wilson Okamoto Corporation (w/attachment)  
Michael Terry, Belt Collins, Inc. (w/attachment)  
Michael Wright, Michael Wright & Associates, Inc. (w/attachment)  
Marc Ericksen, Sea Engineering, Inc. (w/attachment)



TO: Karlynn Kawahara  
Gwen Hiraga  
Munekiyo & Hiraga

FROM: Matthew S. Delaney

DATE: April 10, 2006

RE: Royal Lahaina Resort Parking Surveys

During our Royal Lahaina Revitalization Draft EA presentation at the February 14, 2006 Maui Planning Commission meeting, the Commission requested Royal Lahaina to provide the internal surveys that were conducted in determining our methodology of providing twelve (12) public beach access stalls.

During our preliminary pre-planning stages of this revitalization project, the Royal Lahaina security staff conducted an internal survey of beach parking users over a two-week period from February 7<sup>th</sup> – 20<sup>th</sup>, 2005. We have attached the 2005 internal survey as Exhibit A.

The results of the two-week survey, which was the basis for our methodology for determining the number of parking stalls to provide, was an average of 6.5 cars per day going to the beach. The peak number of beach parking was 12 cars on Saturday, February 12<sup>th</sup>. Historically at the Royal Lahaina, there are more public beach goers on weekends; therefore we assumed the peak of 12 cars on a weekend day for our revitalization project.

Subsequent to our Draft EA presentation to the Commission on February 14<sup>th</sup>, we conducted an updated parking survey over the last seven (7) weeks. We plan to continue this survey going forward which is very beneficial for our revitalization project. We have an Aloha Greeter who is stationed at the entrance of the property and surveys all cars coming through the entrance, which is the only way in and out of the property for the public to access. In addition to beach use, this recent internal survey also recorded vehicles entering for tennis, restaurants, retail and early luau entrances. We have attached the current 2006 survey as Exhibit B.

The results of the most recent seven week survey is consistent with the previous survey conducted one year ago in February 2005. The current survey recorded an average of 6.0 cars per day going to the beach, with a peak of 11 cars on February 22, 2006 and April 7, 2006.

If you require any additional information, please do not hesitate to contact me at (808) 599-6911 or via email at [matt@hawaiihotels.com](mailto:matt@hawaiihotels.com). Mahalo!

*Topa Financial Center, 700 Bishop Street, Suite 2100, Honolulu, HI 96813  
808.599.6900 Phone / 808-599-6622 Fax*

ROYAL LAHAINA RESORT  
INTERNAL PARKING SURVEY  
FEBRUARY 2005

Beach Parking Survey Summary  
Beach Parking Users Over a two week period  
at Royal Lahaina Resort, Survey conducted Internally

7-Feb Mon	4
8-Feb Tues	1
9-Feb Wed	6
10-Feb Thurs	6
11-Feb Fri	5
12-Feb Sat	12
13-Feb Sun	10
14-Feb Mon	2
15-Feb Tues	5
16-Feb Wed	4
17-Feb Thurs	8
18-Feb Fri	7
19-Feb Sat	11
20-Feb Sun	10
Average	6.5 Cars Per Day

ROYAL LAHAINA RESORT  
INTERNAL PARKING SURVEY  
FEBRUARY - APRIL 2006

	SAT	SUN	MON	TUE	WED	THU	FRI		
			20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	TOTAL	AVERAGE CARS PER DAY
BEACH			6	6	11	6	6	34	6.8
TENNIS			8	12	20	15	11	66	13.2
RESTAURANTS			4	4	2	4	2	16	3.2
RETAIL			2	13	8	10	7	40	8.0
EARLY LUAAU			4	5	13	14	8	44	8.8
			27-Feb	28-Feb	1-Mar	2-Mar	30-Mar	TOTAL	AVERAGE CARS PER DAY
BEACH			6	2	4	8	5	25	5.0
TENNIS			13	8	8	13	6	48	9.6
RESTAURANTS			3	7	4	6	9	29	5.8
RETAIL			11	10	8	7	4	40	8.0
EARLY LUAAU			5	2	15	10	23	55	11.0
			6-Mar	7-Mar	8-Mar	9-Mar	10-Mar	TOTAL	AVERAGE CARS PER DAY
BEACH			5	7	6	8	6	32	6.4
TENNIS			8	8	6	7	5	34	6.8
RESTAURANTS			5	4	4	6	5	24	4.8
RETAIL			6	4	5	6	3	24	4.8
EARLY LUAAU			10	5	21	10	7	53	10.6
			13-Mar	14-Mar	15-Mar	16-Mar	17-Mar	TOTAL	AVERAGE CARS PER DAY
BEACH			8		5	6	4	23	5.8
TENNIS			4		7	7	6	24	6.0
RESTAURANTS			5		5	6	6	22	5.5
RETAIL			4		4	6	6	20	5.0
EARLY LUAAU			7		11	15	15	48	12.0
			20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	TOTAL	AVERAGE CARS PER DAY
BEACH			5	6	4	6	4	25	5.0
TENNIS			7	8	6	6	7	34	6.8
RESTAURANTS			5	5	7	4	6	27	5.4
RETAIL			4	6	3	5	2	20	4.0
EARLY LUAAU			10	8	12	13	16	59	11.8
			27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	TOTAL	AVERAGE CARS PER DAY
BEACH			3	4	2	5	0	14	2.8
TENNIS			5	7	5	8	6	31	6.2
RESTAURANTS			4	4	5	3	5	21	4.2
RETAIL			4	5	4	5	6	24	4.8
EARLY LUAAU			8	11	15	9	12	55	11.0
	1-Apr	2-Apr	3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	TOTAL	AVERAGE CARS PER DAY
BEACH	7	6	3	4	7	6	11	44	8.8
TENNIS	8	5	6	8	7	6	4	44	8.8
RESTAURANTS	5	4	4	3	4	3	0	23	4.6
RETAIL	4	5	4	5	5	5	3	31	6.2
EARLY LUAAU	0	6	8	11	15	12	18	70	14.0
	8-Apr	9-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	TOTAL	AVERAGE CARS PER DAY
BEACH	4	9						13	6.5
TENNIS	3	13						16	8.0
RESTAURANTS	2	1						3	1.5
RETAIL	6	7						13	6.6
EARLY LUAAU	3	0						3	1.6

AVG PER DAY	SAT	SUN	MON	TUE	WED	THU	FRI	TOTAL	AVERAGE CARS PER DAY
BEACH	5.6	7.6	6.1	4.8	6.6	7.6	5.8	41.9	6.0
TENNIS	5.5	9.0	7.3	8.5	8.4	10.3	7.5	56.5	8.1
RESTAURANTS	3.5	2.5	4.3	4.5	4.4	5.3	5.5	30.0	4.3
RETAIL	5.0	6.0	5.0	7.2	5.3	7.3	5.2	41.0	5.9
EARLY LUAAU	1.5	3.0	7.4	7.0	14.6	13.8	16.5	63.8	9.1

**NOTE:** Royal Lahaina positioned a gate greeter commencing on February 20, 2006 to work Monday through Friday. Effective April 1, 2006, Royal Lahaina expanded this position to provide a gate greeter 7 days a week, including weekends.

ALAN M. ARAKAWA  
Mayor

MICHAEL W. FOLEY  
Director

WAYNE A. BOTEILHO  
Deputy Director



MAY 03 2006

COUNTY OF MAUI  
**DEPARTMENT OF PLANNING**

April 27, 2006

Chair Wayne Hedani  
and Members of the Maui Planning Commission  
County of Maui  
250 South High Street  
Wailuku, Hawaii 96793

Dear Chair Hedani and Commission Members:

**RE: Urban Design Review Board**  
**Project Name: Royal Lahaina Resort Renovation**  
**TMK: (2) 4-4-008:007**  
**I.D. No.: SM1 2005/0038, SSV 2005/0005**

At its regular meeting on April 18, 2006, the Maui Urban Design Review Board (Board) reviewed the design, landscaping, architectural plans, and related aspects of the proposed project referenced above. Based upon those considerations within the Board's purview, it voted to recommend approval of the plan, with the following recommendations:

1. That the Planning Commission determine the number of public parking spaces to be required, including any limitations to free public valet parking. If this determination results in a significant increase in the amount of paved surfaces or has a significant effect on aesthetics, then the Planning Commission will refer the project plans back to the Urban Design Review Board. Any such free valet public parking will be available for the duration of the project, unless amended by the Planning Commission. If no free public valet parking is provided, then the public parking area will be accessible prior to entering the greeting station.
2. That signage should be installed at the entrance to the resort that welcomes the public and informs them that free valet public parking and a public parking lot are available.
3. That vegetation along the northern property line will be retained. And vegetation along the southern portion of the east property line will not obscure existing views towards the ocean.



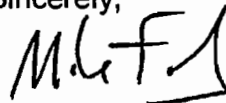
Chair Wayne Hedani  
and Members of the Maui Planning Commission  
April 27, 2006  
Page 2

4. That a 'before and after,' north-to-south photo montage of the site from the highway will be presented to the Planning Commission for their review.
5. That consideration be given to the location of the pathway from the public parking area to the shore, to be moved closer to the proposed building in the southeast corner of the property. And if such pathway is on any adjacent property, an agreement with that property owner will be obtained, assuring public use of the pathway.
6. That a public path, lateral to the beach, shall be developed on the site providing access from the north to the south property boundaries.
7. That the Ali'i Ballroom and its "Hawai'ian Style" roof along with its associated structures should be allowed to remain in order to off-set and lessen the massing of the existing tower.

The Board respectfully requests that its recommendations be considered by the Maui Planning Commission during deliberations on this application at the pertinent Maui Planning Commission meeting.

If additional clarification is required, please contact Mr. Jeff Hunt, AICP, Staff Planner, of this office at [jeff.hunt@co.maui.hi.us](mailto:jeff.hunt@co.maui.hi.us) or 270-6271.

Sincerely,



for

DEMETREOS CALLINICOS, CHAIR  
Maui County Urban Design Review Board

MWF:JH:lar

c: Clayton I. Yoshida, AICP, Planning Program Administrator  
Karlynn Kawahara, Munekiyo & Hiraga, Inc.  
Jeff Hunt, AICP, Staff Planner  
UDRB File  
Project File  
General File  
K:\WP\_DOCS\PLANNING\SM1\2005\0038\_RoyalLahainaRenovation\UDRB\_approval.wpd



MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

KARLYNN KAWAHARA

May 9, 2006

Michael W. Foley, Director  
Department of Planning  
250 South High Street  
Wailuku, Hawaii 96793

SUBJECT: Urban Design Review Board Comments on Proposed Royal Lahaina Resort Revitalization Project, Located at TMK 4-4-008:007 and 013, Kaanapali, Lahaina, Maui, Hawaii (SM1 2005/0038, SSV 2005/0005)

Dear Mr. Foley:

We are in receipt of your letter dated April 27, 2005 regarding the Urban Design Review Boards (UDRB) comments on the subject project. On behalf of our client, Royal Lahaina Development Group, LLC (RLDG), we would like to offer the following responses to the UDRB comments.

1. Pursuant to our meeting with Planners Jeff Hunt and Kivette Caigoy, RLDG and its architect have reviewed the possibility of additional parking stalls at the public beach parking lot. As a result, four (4) additional stalls can be added to the public beach parking lot at the entrance of the resort, for a total of 16 stalls. Additionally, RLDG is willing to designate 10 additional dedicated public beach access stalls in the parking structure, as well as providing free valet parking to public beach users.
2. RLDG is willing to install signage at the entrance of the resort, at the greeter station, to welcome the public and inform them about the free valet parking lot for beach users, as well as the public beach parking lot.
3. RLDG concurs with the UDRB's comment with regards to the maintaining of existing landscaping along the northern property line. Landscaping along the southern portion of the east boundary will not obscure existing views to the ocean.
4. A photo montage exhibit is being prepared for the Maui Planning Commission's review.
5. RLDG is reviewing the possibility of moving the pathway from the public beach parking lot closer to the southeast corner of the property. RLDG is having its civil engineer review the topography in the area and its architect review the proposed structures for the area. RLDG has an agreement with Kaanapali Golf Course

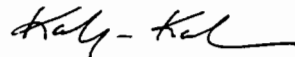
Michael W. Foley, Director  
May 9, 2006  
Page 2

(KGC), the neighboring landowner to the south, to jointly develop the pedestrian access which crosses both RLDG and KGC properties.

6. RLDG and its architect have designed a lateral beach access on the site, from its north to south boundaries. This new path has been included in the Final EA for the project.
7. RLDG concurs with the UDRB's comment of maintaining the Ali'i Ballroom and related structures.

Should you have any questions, please feel free to contact me at 244-2015.

Very truly yours,



Karlynn Kawahara  
Project Manager

KK:tn

cc: Gary Hogan and Matt Delaney, Royal Lahaina Development Group, LLC  
Rob Iopa, WCIT Architecture, Inc.  
Michael Fujita, Wilson Okamoto Associates, Inc.  
Michael Terry, Belt Collins, Inc.

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ALAN M. ARAKAWA  
Mayor

MILTON M. ARAKAWA, A.I.C.P.  
Director

MICHAEL M. MIYAMOTO  
Deputy Director

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



COUNTY OF MAUI  
**DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT**  
200 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96798  
RECEIVED

RALPH NAGAMINE, L.S., P.E.  
Development Services Administration

DAVID TAYLOR, P.E.  
Wastewater Reclamation Division

CARY YAMASHITA, P.E.  
Engineering Division

BRIAN HASHIRO, P.E.  
Highways Division

TRACY TAKAMINE, P.E.  
Solid Waste Division

March 2, 2006

MEMO TO: MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM: *Milton M. Arakawa* MILTON M. ARAKAWA, A.I.C.P., DIRECTOR OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT, SPECIAL MANAGEMENT AREA USE PERMIT AND SHORELINE SETBACK VARIANCE ROYAL LAHAINA RESORT REVITALIZATION PROJECT  
TMK: (2) 4-4-008:007  
EA 2005/0014, SM1 2005/0038, SSV 2005/0005

We reviewed the subject application and have the following comments:

1. Although wastewater system capacity is currently available as of February 21, 2006, the developer should be informed that wastewater system capacity cannot be ensured until the issuance of the building permit.
2. Wastewater contribution calculations are required before building permit is issued. Use water bills to determine the existing discharge. Show a comparison of existing and proposed flows.
3. Developer is not required to pay assessment fees for this area at the current time.
4. Developer is required to fund any necessary off-site improvements to collection system and wastewater pump stations.

**Memo to Michael W. Foley, Planning Director**  
**March 2, 2006**  
**Page 2**

5. All relocated sewer lines must be constructed within a 15 foot wide easement recorded with the Bureau of Conveyances. No trees shall be planted in the easement area. Trees planted within five (5) feet of the easement area shall have root barriers installed.
6. Sewer line size and design must be approved by the Wastewater Reclamation Division (WWRD).
7. Plans should show the installation of a service manhole near the property line prior to connection to the County sewer.
8. Kitchen facilities within the proposed project shall comply with pre-treatment requirements (including grease interceptors, sample boxes, screens, etc.).
9. Non-contact cooling water, condensate, etc. should not drain to the wastewater system.
10. All lines and manholes require vehicular and equipment access for maintenance, construction and repairs.
11. Hold-Harmless Agreement should be executed. Signed agreement required before WWRD will give recommendations for final subdivision approval.
12. Recommend that irrigation system be designed for future connection to the County of Maui's WWRD reclaimed water distribution line. Contact Steve Parabolicoli at WWRD at 270-7420 for further information.
13. The architect and owner are advised that the project is subject to possible tsunami and flood inundation. As such, said project must conform to Ordinance No. 1145, pertaining to flood hazard districts.
14. A verification shall be provided by a Registered Civil Engineer that the grading and runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties.
15. A detailed and final drainage report and a Best Management Practices (BMP) Plan shall be submitted with the grading plans for review and approval prior to issuance of grading permits. The drainage report shall include hydrologic and hydraulic calculations

**Memo to Michael W. Foley, Planning Director  
March 2, 2006  
Page 3**

and the schemes for disposal of runoff waters. It must comply with the provisions of the "Rules and Design of Storm Drainage Facilities in the County of Maui" and must provide verification that the grading and runoff water generated by the project will not have an adverse effect on adjacent and downstream properties. The BMP plan shall show the location and details of structural and non-structural measures to control erosion and sedimentation to the maximum extent practicable.

16. During construction of this project, all construction employee parking shall be accommodated on the project site and not within the County road right-of-way.
17. All existing features such as structures, driveways, drainage ways, edge of the pavement, etc. shall be shown on the project plat plan.
18. A detailed final Traffic Impact Assessment Report for the entire development shall be submitted for our review and approval. The report shall also address regional traffic impacts and include assessments from the local community police officer.
19. For all infrastructure that may be dedicated to the County, preliminary construction plan submittal shall include a completed technical assistance review performed by the Disability and Communication Access Board (DCAB) for compliance with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) for all facilities. All technical and structural infeasible assessments shall be the responsibility of the developer and an agreement waiving the County of Maui of any future liability, including redesign and reconstruction, for said facility shall be recorded with the State Bureau of Conveyances.
20. We recommend that the design consultants review Maui County's adopted 1997 Uniform Building Code's exit requirements for all buildings containing more than three (3) dwelling units (R-1 occupancy).

If you have any questions regarding this memorandum, please call Michael Miyamoto at 270-7845.

**MMA:MMM:da**

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MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO

KARLYNN KAWAHARA

April 24, 2006

Milton Arakawa, Director  
County of Maui  
Department of Public Works and  
Environmental Management  
200 South High Street  
Wailuku, Hawaii 96793

**SUBJECT: Draft Environmental Assessment for the Proposed Royal Lahaina Resort Revitalization, TMK: 4-4-008:007 and 013, Lahaina, Maui, Hawaii**

Dear Mr. Arakawa:

We are in receipt of your letter dated March 2, 2006 regarding your comments on the Draft Environmental Assessment (Draft EA) for the subject project. On behalf of our client, Royal Lahaina Development Group, LLC (RLDG), we would like to offer the following responses to your comments.

1. We acknowledge your comment with regards to wastewater capacity. It is noted that the Royal Lahaina Resort has existing County wastewater service and anticipates a slight reduction in capacity with the revitalization project.
2. We note your comment with regards to wastewater contribution calculations. We will submit required calculations at the time of building permit.
3. Thank you for your comment with regards to the wastewater assessment.
4. RLDG will fund any necessary off-site improvements to the collection system and wastewater pump stations.
5. Your comments on relocated sewer lines have been referred to the project's civil engineer and landscape architect for review and incorporation as applicable.
6. Plans will be submitted to the Wastewater Reclamation Division for review and approval.
7. Plans will indicate the location of a service manhole near the property line.

environment  
planning  
government

8. We concur with your comment with regards to kitchen facilities and pre-treatment requirements.
9. We acknowledge your comment with regards to non-contact cooling water and condensate draining into the wastewater system.
10. RLDG will insure that lines and manholes will have vehicular and equipment access for maintenance, construction and repairs.
11. We note your comment with regards to the hold harmless agreement. The applicant will insure that an agreement is executed for wastewater services, prior to final subdivision application.
12. RLDG is willing to consider connection to the County's reclaimed water line when it is available in the area. The applicant is proposing the installation of a dual irrigation system to utilize potable water until reclaimed water is available.
13. We acknowledge your comment with regards to the project's location within a possible tsunami and flood inundation area. Your comments have been forwarded to the project's architect for review and implementation, as applicable.
14. The project's civil engineer will provide verification that the project's proposed grading will not have an adverse effect to downstream and neighboring properties.
15. We concur with your comment. A Best Management Practices (BMPs) plan will be submitted to your department for review and approval.
16. We acknowledge your comment with regards to construction parking. Construction parking will be accommodated on site as possible, however, we anticipate some construction parking will be handled off site. No construction parking will occur in the County rights-of-way.
17. We concur with your comment.
18. A detailed Traffic Assessment Report (TAR) was prepared and included in the Draft EA. Please let me know if you have further comments on the TAR. A supplementary traffic assessment report will also be included in the Final EA. The Maui Police Department has reviewed and provided comments on the Royal Lahaina project. Please see attached comments.

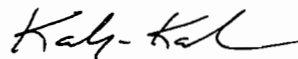


Milton Arakawa, Director  
April 24, 2006  
Page 3

19. We acknowledge your comment with regards to seeking review and approval by the Disability and Communication Access Board for any improvements intended to be dedicated to the County of Maui.
20. We note your comment with regard to the review of the 1997 Uniform Building Code's exit requirements. Your comment has been forwarded to the project's architect for review and implementation, as applicable.

Should you have any further questions, please feel free to contact me at 244-2015.

Very truly yours,



Karlynn Kawahara  
Project Manager

KK:tn  
Enclosure

cc: Gary Hogan and Matt Delaney, Royal Lahaina Development Group, LLC  
(w/enclosure)  
Rob Iopa, WCIT Architecture (w/enclosure)  
Michael Fujita, Wilson Okamoto Corporation (w/enclosure)  
Pete Pascua, Wilson Okamoto Corporation (w/enclosure)  
Michael Terry, Belt Collins & Associates (w/enclosure)  
Michael Wright, Michael Wright & Associates, Inc. (w/enclosure)  
Michael Foley, Department of Planning (w/enclosure)

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# POLICE DEPARTMENT COUNTY OF MAUI



**ALAN M. ARAKAWA**  
MAYOR

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

**THOMAS M. PHILLIPS**  
CHIEF OF POLICE

OUR REFERENCE  
ti  
YOUR REFERENCE

**KEKUHAUPIO R. AKANA**  
DEPUTY CHIEF OF POLICE

January 18, 2006

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED  
06 JAN 19 10:02

## MEMORANDUM

TO : MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM : THOMAS M. PHILLIPS, CHIEF OF POLICE

SUBJECT : I.D. : EA 2005/0014; SM1 2005/0038; and SSV  
2005/0005

TMK : (2) 4-4-008: 007 and 013

Project Name : Royal Lahaina Resort Revitalization

Applicant : Royal Lahaina Development Group LLC

       No recommendation or comment to offer.

  x   Refer to enclosed comments and/or recommendations.

As always, thank you for giving us the opportunity to comment on this project.

Assistant Chief Sydney Kikuchi  
For: THOMAS M. PHILLIPS  
Chief of Police

Enclosure

COPY

**TO :** THOMAS M. PHILLIPS, CHIEF OF POLICE, MAUI POLICE DEPARTMENT

**VIA :** CHANNELS

*Handwritten signature and date: 01/18/06*

**FROM :** SCOTT Y. MIGITA, POLICE OFFICER III, LAHAINA BICYCLE PATROL

**SUBJECT:** DRAFT ENVIRONMENTAL ASSESSMENT AND APPLICATIONS FOR A SPECIAL MANAGEMENT AREA USE PERMIT AND SHORELINE SETBACK VARIANCE: ROYAL LAHAINA RESORT REVITALIZATION PROJECT

Sir, this To From is being submitted regarding a proposed revitalization project to the existing Royal Lahaina Resort property. This proposed revitalization will include a decrease in the overall unit count from 583 units to 455 units, representing a decrease of 128 units. A new master plan is proposed as part of this revitalization with a mixed use concept made up of 330 luxury hotel units and 125 new hotel/condominium villas. Other project components include new dining experiences, new spa and activity center, new lobby, water features, roadways and paths, retail, parking structure, infrastructure, and other related resort amenities. The project within the shoreline setback area includes the demolition of a three story hotel structure, six 2-story villas, a one story restaurant, and a portion of the existing Ali'i Ballroom currently used for banquets and meetings. Improvement activities within the shoreline setback area include repair and maintenance to existing structures including existing beach access stairways and landscape improvements. This Draft Environmental Assessment is being submitted by the County of Maui, Department of Planning for comments on behalf of project applicant Royal Lahaina Development Group, LLC and consultant, Munekiyo & Hiraga, Inc.

The subject property is located in the Kaanapali Resort area and is bordered to the north by Maui Kaanapali Villas, to the east by Honoapiilani Highway (#30), to the south by Kaanapali Golf Course, and to the west by the ocean. The main access to the property is via Kekaa Drive.

A Traffic Assessment Report has been prepared for this proposed project (Appendix "H"), where on page 68, concludes that "Traffic operations with the project were anticipated to remain similar to existing conditions during both peak periods in Year 2009". It also states, "Traffic generated by the Royal Lahaina Resort is anticipated to decrease under project conditions due to the planned reduction in units, from 583 units to 455, by the proposed project. The projected traffic operations at the study intersections along Honoapiilani Highway are expected to be influenced primarily by ambient traffic growth, as well as, project-generated trips from other known developments expected to be completed and operational by Year 2009. As such, the critical traffic movements at all study intersections are expected to continue operating at levels of service similar to Year 2009 without project conditions."

Page 2

In conclusion, this project resort area is considered private property and in addition, this section of Honoapiilani Highway is not normally heavily used throughout all hours of the day and evening, therefore, an anticipated overall minimal impact on traffic is expected as a result of the construction and development of this project.

Concure!

*[Handwritten signature]*  
1/12/06 US10

Concure w/ OFFICERS ASSESSMENT  
A/lt - D/Rick 7<sup>th</sup> 4  
1/12/06

Concure

*[Handwritten signature]* 1/12/06

Respectfully submitted,

*[Handwritten signature]*

Scott Y. MIGITA, E-1122  
P.O. III, Bike Patrol Officer  
01/12/2006 at 1353 hours



06 JAN 20 P1 59

DEPT OF PLANNING  
COUNTY OF MAUI  
RECEIVED

January 16, 2006

Ms. Kivette A. Caigoy, Staff Planner  
County of Maui – Department of Planning  
250 South High Street  
Wailuku, Hawaii 96793

Dear Ms. Caigoy,

Subject: Royal Lahaina Resort Revitalization Project –  
Draft Environmental Assessment and Applications for a Special Management  
Area Use Permit and Shoreline Setback Variance  
Lahaina, Maui, Hawaii  
TMK: (2) 4-4-008: 007 and 013

Thank you for allowing us to comment on the subject project, which was dated December 2005 and received on January 6, 2006.

In reviewing our records and the information received, Maui Electric Company (MECO) has no objection to the project at this time. However, we would like to reiterate some of our earlier comments that were made through correspondence dated June 1, 2005 (Mr. Daren Suzuki of Munekiyo & Hiraga, Inc.) and July 1, 2005 (Mr. Roger Fong of Wilson Okamoto Corporation): "MECO recommends that the existing switchgear not be used for the proposed project, as the switchgear is outdated and poses a safety concern....." Also, "with the current primary service, Royal Lahaina Resort owns the distribution system on their side of the revenue meter and is responsible for the operation and maintenance of this equipment. In addition, MECO is not allowed under law to perform any work on customer owned equipment. Therefore, in design of the electrical system for the remodeling, Royal Lahaina Resort and their electrical consultant may want to review this matter; taking into the consideration the customer's ability to operate and maintain a high voltage distribution system."

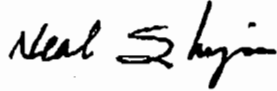
We highly encourage the applicant's electrical consultant to submit the electrical demand requirements and meet with us as soon as practical to verify these concerns and other electrical requirements so that service can be provided on a timely basis.

In addition, we suggest that the developer and/or their consultant make contact with Walter Enomoto of our Demand Side Management (DSM) group at 872-3283 to review potential energy conservation and efficiency opportunities for their project.

Royal Lahaina Resort Revitalization Project  
January 16, 2006  
P. 2

Should you have any other questions or concerns, please call Ray Okazaki at 871-2340.

Sincerely,



Neal Shinyama  
Manager, Engineering

NS/ro:lh

cc: Walter Enomoto – MECO DSM





MICHAEL T. MUNEKIYO  
GWEN OHASHI HIRAGA  
MITSURU "MICH" HIRANO  
KARLYNN KAWAHARA

February 10, 2006

Mr. Neal Shinyama  
Manager, Engineering  
Maui Electric Company, Ltd.  
P.O. Box 398  
Kahului, Hawaii 96733-6898

**SUBJECT: Draft Environmental Assessment, Special Management Area Use Permit and Shoreline Setback Variance Applications for Proposed Royal Lahaina Resort Revitalization, TMK: 4-4-008:007 and 013, Lahaina, Maui, Hawaii**

Dear Mr. Shinyama:

Thank you for your letter dated January 16, 2006, providing us with your comments on the proposed project.

Royal Lahaina Development Group, LLC (RLDG) will have its electrical engineer contact your office to discuss electrical needs for the project, including the existing and planned electrical infrastructure. Additionally, RDLG's electrical consultant will contact the Demand Side Management group to review potential energy conservation and efficiency opportunities.

Should you have any questions, please feel free to contact me at 244-2015.

Very truly yours,

Karlynn Kawahara  
Project Manager

KK:tn

cc: Gary Hogan and Matt Delaney, Royal Lahaina Development Group, LLC  
Michael Fujita, Wilson Okamoto Corporation  
Michael Wright, Michael Wright & Associates, Inc.  
Michael Foley, Department of Planning

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environment  
planning

# ***References***

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## References

Clark, John, The Beaches of Maui County, University Press of Hawaii, Honolulu, 1980

County of Maui Charter (2003 Edition).

County of Maui, General Plan of the County of Maui, (1990 Update).

County of Maui, Office of Economic Development, Maui County Data Book 2004, December 2004.

County of Maui, West Maui Community Plan, February 1996.

Environmental Assessment Company, A Quantitative Assessment of Water Quality and Marine Communities in an Area Fronting the Development of the North Beach Project Site (Former Kaanapali Airstrip), West Maui, Hawaii, February 2003 Survey.

Federal Emergency Management Agency, Flood Insurance Rate Map Community/Panel No. 150003/0153C, September 17, 1997.

Helber, Hastert & Kimura, Final Environmental Impact Statement - North Beach, October 1987.

Munekiyo & Arakawa, Inc., Application for Special Management Area Use Permit - Kaanapali Ocean Resort, March 1997.

Munekiyo & Arakawa, Inc., Final Environmental Assessment - Honoapiilani Highway Widening (Kaanapali Parkway to Honokowai Stream), April 1998.

Munekiyo, Arakawa & Hiraga, Inc., Final Environmental Assessment - Westside Resource Center, December 2000.

Munekiyo & Hiraga, Inc., Application for Special Management Area Use Permit, Kaanapali Ocean Resort Villas Expansion, November 2003.

Munekiyo & Hiraga, Inc., Final Environmental Assessment - Proposed Front Street Commercial Building, October 2002.

Munekiyo & Hiraga, Inc., Honua Kai, Kaanapali North Beach-Application for Planned Development Step II and Special Management Area Use Permit, June 2004.

Munekiyo & Hiraga, Inc., Lahaina Wastewater Pump Station Nos. 5 and 6 - Force Main Improvements, September 2002.

Realtor Association of Maui, April 2006.

SMS, Maui County Community Plan Update Program: Socio-Economic Forecast - Phase I Report (Final Version), June 14, 2002.

State Department of Labor and Industrial Relations, April 2006.

State of Hawaii, Department of Agriculture, Agricultural Lands of Importance to the State of Hawaii, January 1997.

University of Hawaii, Department of Geography, Atlas of Hawaii, Third Edition, 1999.

U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, 1972.

# ***Appendices***

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# ***A p p e n d i x A***

---

***Letter Dated April 8, 2005  
from Department of Planning***

APR 13 2005

ALAN M. ARAKAWA  
Mayor

MICHAEL W. FOLEY  
Director

WAYNE A. BOTEILHO  
Deputy Director



COUNTY OF MAUI  
**DEPARTMENT OF PLANNING**

April 8, 2005

Mr. Daren Suzuki  
Munekiyo & Hiraga, Inc.  
305 High Street, Suite 104  
Wailuku, Hawaii 96793

Dear Mr. Suzuki:

RE: Shoreline Determination (SSD), Shoreline Setback Approval and Special Management Area Permit Exemption – For Interior Remodeling and Upgrades at the Royal Lahaina Resort, Honoapi'ilani Highway, TMK: 4-4-008:007, Lahaina, Maui, Hawaii (SMX 2005/0165) (SSD 2005/0007) (SSA 2005/0005) (SM5 2005/0168)

The Planning Department has reviewed the assessment application which was received on March 14, 2005, and in accordance with the Shoreline Rules for the Maui Planning Commission, Section 12-203-3, 12-203-6, 12-203-11 and 12-203-12, a determination has been made relative to the above-reference project that:

1. The property is a shoreline parcel and is subject to the Shoreline Rules including shoreline setback requirements;
2. There are sufficient photographs of the shoreline area to make a determination regarding coastal and shoreline impacts;
3. The application includes a stamped signed letter, dated March 7, 2005, from Robert K. Iopa, President WCIT Architecture, validating that the replacement cost of the structures is estimated at \$58 million and the anticipated project cost (repairs) is \$9 million.
4. The application lacks a signed State Certified Shoreline but acknowledges and does not contest the applicability of the Shoreline Rules for Maui County;
5. Transects #10 - #29 of the North Kaanapali erosion map intercept are in proximity to the subject property;

Mr. Daren Suzuki  
April 8, 2005  
Page 2

6. The Annual Erosion Hazard Rate for these transects are:
  - a. -0.4 : #10
  - b. -0.3 : #11, 12, 13, 14, 15, 26, and 27
  - c. -0.2 : #16, 25, and 28
  - d. -0.1 : #17, 19, 20, 21, 22, and 24
  - e. 0.0 : #18, 23, and 29
7. The Average Lot Depth is greater than 600 feet, equating to a shoreline setback of 150 feet, and
8. The applicable shoreline setback is 150 feet.

Accordingly, the proposed structures and activities are partly in the shoreline setback area. Since the applicability of the Shoreline Rules are not in question, and given that the structures and proposed activities lie in the shoreline area, a State Certified Shoreline survey is not required. Moreover, based on the representations made in your application received on March 14, 2005, the proposed activity is permissible within the shoreline setback area as described in 12-203-12 (A)(5):

A structure that has been legally permitted and is subject to repairs that are valued by a licensed professional architect at less than fifty percent of the current replacement cost which neither enlarge nor intensify the use of the structure.

Relative to the Special Management Area Assessment application, the Department finds that the proposed action qualifies as "repair, maintenance or interior alterations to existing structures" and "Non structural improvements to existing commercial structure." Further, the potential environmental and ecological effects of the above-reference project have been reviewed in accordance with the significance criteria set forth in Section 12-202-12(e) of the Special Management Area (SMA) Rules for the Maui Planning Commission.

Based upon this review, the Department finds that the project will not have a cumulative impact, or a significant environmental or ecological effect on the SMA within which the project site is located. As such, the project is not a development and is, therefore, exempt from the permit procedures of the SMA Rules for the Maui Planning Commission.

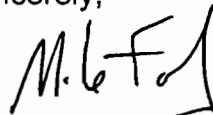
In addition to the above determinations, you are hereby granted Shoreline Setback Approval subject to the following conditions:

Mr. Daren Suzuki  
April 8, 2005  
Page 3

1. That proposed construction shall be limited to interior work, repairs to the existing lanais and re-framing of nonstructural walls in guests units and elevator corridors as represented by the applicant.
2. That no debris shall be placed within the shoreline setback area during project construction.
3. That the project area shall be properly screened during construction and cleared of all construction materials upon completion of the project.

Thank you for your cooperation. If additional clarification is required, please contact Ms. Ann T. Cua, Staff Planner, of this office at 270-7735.

Sincerely,



MICHAEL W. FOLEY

MWF:ATC:lar

c: Clayton I. Yoshida, AICP, Planning Program Administrator  
Aaron H. Shinmoto, PE, Planning Program Administrator  
Thorne Abbott, Coastal Resources Planner  
Ann Cua, Project Planner  
05/SSA File (w/ Assessment Booklet)  
05/SSD File  
05/SM5 File (w/ Assessment Booklet)  
General File  
K:\WP\_DOCS\PLANNING\SM5\2005\0168\_RoyalLahainaRepairs\approval.wpd

# ***A p p e n d i x B***

---

***Letter of Valuation  
for Activities in the  
Shoreline Setback Area***





# WCITARCHITECTURE

20 September 2005

Mr. Michael Foley  
Director, Planning Department  
County of Maui  
200 South High St.  
Wailuku, Maui, Hawaii 96793

**RE: Application for Special Management Area Use Permit: Royal Lahaina Resort**

Aloha Director Foley,

WCITARCHITECTURE respectfully submits the following descriptions regarding the proposed repairs, maintenance, renovations and upgrades proposed to existing structures and hardscape elements within the shoreline setback area as part of the Royal Lahaina Resort Special Management Area Use Permit application.

## **Alii Ballroom**

*Current Replacement Cost:* \$24,192,000  
*Proposed Repair Cost:* \$11,946,500 (estimated)

Repairs and renovations to the existing Alii Ballroom for conversion to new Restaurant and Sand Bar. Existing structural system to be retained. Selected repair and replacement of exterior siding, roofing, and doors and windows. Selected reorganization of interior space to include non-bearing partition walls, and interior finishes to include hardwood, stone, and plaster. (See *Attachment #1 – 'A'*)

## **Hotel Tower**

*Current Replacement Cost:* \$17,532,000  
*Proposed Repair Cost:* \$ 2,425,000 (estimated)

Repairs and renovations to the existing Hotel Tower. Exterior tower modifications to include new decorative Hawaiian motif panels, new railings and new paint. In addition, a new trellis awning is proposed to replace the existing awning structure over outdoor terrace.

Interior repair and renovations include the conversion of a portion of the existing restaurant to a new spa lounge (evening restaurant) to compliment the remainder of the spa planned mauka of the 150' shoreline setback (majority of existing ground floor lobby to be converted to spa). In all cases, the existing structural system will be retained. Selected repair and replacement of exterior stone pavers, railing, and doors and windows. Selected reorganization of interior space to include non-bearing partition walls, and interior finishes to include hardwood, stone, and plaster. (See *Attachment #1 – 'B'*)

### **Hotel Pools and Pool Deck**

*Current Replacement Cost: \$400,000*  
*Proposed Repair Cost: \$145,500 (estimated)*

Existing pool and pool deck to remain and receive new finish material in natural stone and glass tile. (See *Attachment #1 – 'C'*)

### **Beach Access Stairs**

*Current Replacement Cost: \$60,000*  
*Proposed Repair Cost: \$28,000 (estimated)*

Existing beach access wood stairs (6) to be replaced with 3 new sectional concrete stairs for beach access purposes. Stairs to be constructed in "break-away" fashion to meet county standards regarding storm surge and beach erosion occurrences. New sectional metal rail will be included for safety. (See *Attachment #1 – 'D'*)

### **Beach/Pool Kiosk Structures**

*Current Replacement Cost: \$175,000*  
*Proposed Repair Cost: \$ 73,500 (estimated)*

Existing Beach/Pool Kiosk Structures to remain and receive selected repair and replacement of exterior siding, roofing, and closure system. (See *Attachment #1 – 'E'*)

Mr. Michael Foley  
Director, Planning Department  
County of Maui  
*Special Management Area Use Permit: Royal Lahaina Resort*  
20 September 2005  
Page 3

**Royal Cottage – Structure**

*Current Replacement Cost:* \$2,572,500  
*Proposed Repair Cost:* \$1,194,000 (estimated)

Repairs and renovations to the existing Royal Cottage for conversion to new Beach Club. Existing structural system to be retained. Selected repair and replacement of exterior siding, roofing, and doors and windows. Selected reorganization of interior space to include non-bearing partition walls, new restroom facilities, interior doors and interior finishes to include hardwood, stone, and plaster. (See *Attachment #1 – ‘F’*)

**Royal Cottage – Pool, Pool Deck and Water Feature**

*Current Replacement Cost:* \$200,000  
*Proposed Repair Cost:* \$ 87,500 (estimated)

Existing pool and pool deck to remain and receive new finish material in natural stone and glass tile. Existing Water Feature to remain and be re-sculpted and re-planted. (See *Attachment #1 – ‘G’*)

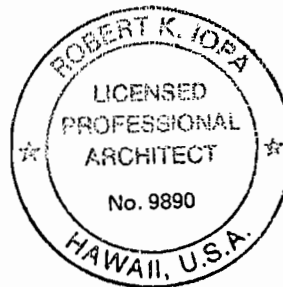
**Project Total Values for Building Related Work within Shoreline Setback Area**

*Total Current Replacement Cost:* \$45,131,500  
*Total Proposed Repair Cost:* \$15,900,000 (estimated)

Sincerely,  
WCITARCHITECTURE



Robert K. Iopa  
President



# ***A p p e n d i x C***

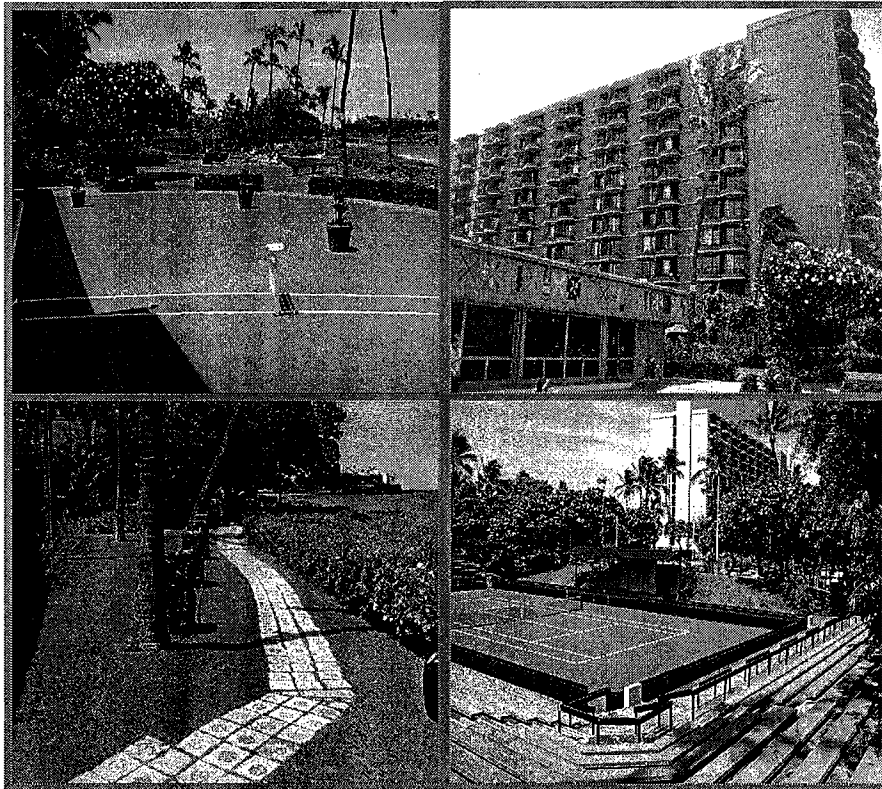
---

***Preliminary  
Engineering Report***

# Preliminary Engineering Report Civil Infrastructure

## Royal Lahaina Resort Revitalization

Kaanapali, Maui, Hawaii  
TMK: 4-4-008: 007 and 013



Submitted to



711 KAPIOLANI BOULEVARD, SUITE 1290  
HONOLULU HAWAII 96813

WCITARCHITECTURE



WILSON OKAMOTO  
CORPORATION

1907 S. BERETANIA ST TEL 808.946.2277  
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HONOLULU, HI 96826 [www.wilsonokamoto.com](http://www.wilsonokamoto.com)

# **Preliminary Engineering Report Civil Infrastructure**

## **Royal Lahaina Resort Revitalization**

**Kaanapali, Maui, Hawaii**  
Tax Map Key: 4-4-008: 007 and 013

**Prepared for:**

**WCIT Architecture**  
711 Kapiolani Boulevard, Suite 1290  
Honolulu Hawaii 96813

**Prepared by:**



**Wilson Okamoto Corporation**  
Engineers and Planners  
1907 South Beretania Street, Suite 400  
Honolulu, Hawaii 96826  
WOC Job No. 7416-01

May 3, 2006

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- Appendix A Sewage Design Flow Calculations
- Appendix B Water Demand Calculations
- Appendix C Preliminary Drainage Report
- Appendix D Maui Electric Company, Ltd. (MECO) Letter



## **EXECUTIVE SUMMARY**

A preliminary engineering assessment of the proposed Royal Lahaina Resort Revitalization project was conducted to review the site infrastructure and utilities systems, identify possible constraints to development, and to describe proposed improvements to sanitary sewer, water systems, storm drainage, roadway, parking, electrical, telephone, cable, and data communications systems.

Sewer: sanitary sewer service is available to support the Revitalization project consisting of renovation of the hotel, condominium/hotel units, and supporting amenities. Based on the expected sewage flows of approximately 159,055 gallons per day (gpd), the County of Maui collection system in the vicinity of the project site and the Lahaina Wastewater Reclamation Facility both have adequate capacity to collect and treat the expected flows from the development. Anticipated improvements include relocation of the existing 15-inch sewer and a new on-site sewer collection system consisting of sewer manholes and gravity sewerlines. The on-site sewer collection system will connect to the relocated sewer system that will bisect the project site.

Water: potable water service from the Hawaii Water Service, which operates the private water system which serves Kanaapali and other parts of west Maui, is available from the 12-inch water main located on Kekaa Drive. The expected water demand is approximately 189,700 gallons per day (gpd) for the hotel, condominium/ hotel units, and supporting amenities. Development of the proposed project will require the relocation of the existing 12-inch waterline extending through the project site. Separate potable water service and fire protection lateral connections will be required to the relocated 12-inch water main. The new connection will also include new domestic meters for potable water system and detector check meters for the fire protection system. The expected irrigation demand is 71,610 gpd for the landscaped areas.

Site Grading, Flooding, and Storm Drainage: elevations within the project site range from approximately 40 feet mean sea level (msl) near the eastern corner of the property north of Kekaa Drive and to approximately 12 to 13-feet near the pool area fronting the hotel building. Access to the shoreline from the pool area is via wooden stairs. Runoff generated as a result of site improvements will be directed to the existing 48-inch

concrete drainline located near the central portion of the project site. Thus, there will be no change from the currently used system for disposing storm water runoff.

Roadway and Parking System: access to the project site will retain the existing connection to Kekaa Drive, the privately-owned two-lane road servicing resort traffic traveling in the north-south direction. Kekaa Drive is owned and maintained by Kaanapali Operations Association from its connection to Honoapiilani Highway to a point about 100 feet from the entry into the project site. Parking for the Revitalization project will include approximately 600 total parking stalls of which 350 will be located in a new parking structure, 10 will be at-grade public beach access parking and the remaining 240 will be both open and covered at-grade parking stalls for the condominium/hotel units. The public beach access parking lot will be located near the south east corner of the project site near the main entry.

Electrical, Telephone, Cable and Data Systems: electrical, telephone, and cable TV service, and data line access to the Internet for the project site are available and will be provided through Maui Electric Company, Hawaiian Telecom, and Oceanic Time Warner Cable. New underground ductlines will be extended from the existing underground system located along Kekaa Drive.

## **1. INTRODUCTION**

### **1.1 Report Purpose**

Based on the Site Master Plan prepared by WCIT, this Preliminary Engineering Report presents the preliminary assessment of the infrastructure and utility systems which service the project site. The objective of the report is to review existing infrastructure systems, determine project demands, identify possible constraints based on the projected demands, and describe proposed improvements relative to:

- sanitary sewer,
- water systems,
- storm drainage,
- parking and roadway,
- electrical system,
- telephone, cable, and data communication systems.

The proposed improvements are preliminary concepts and subject to change based on refinement of plans and availability of more detailed information.

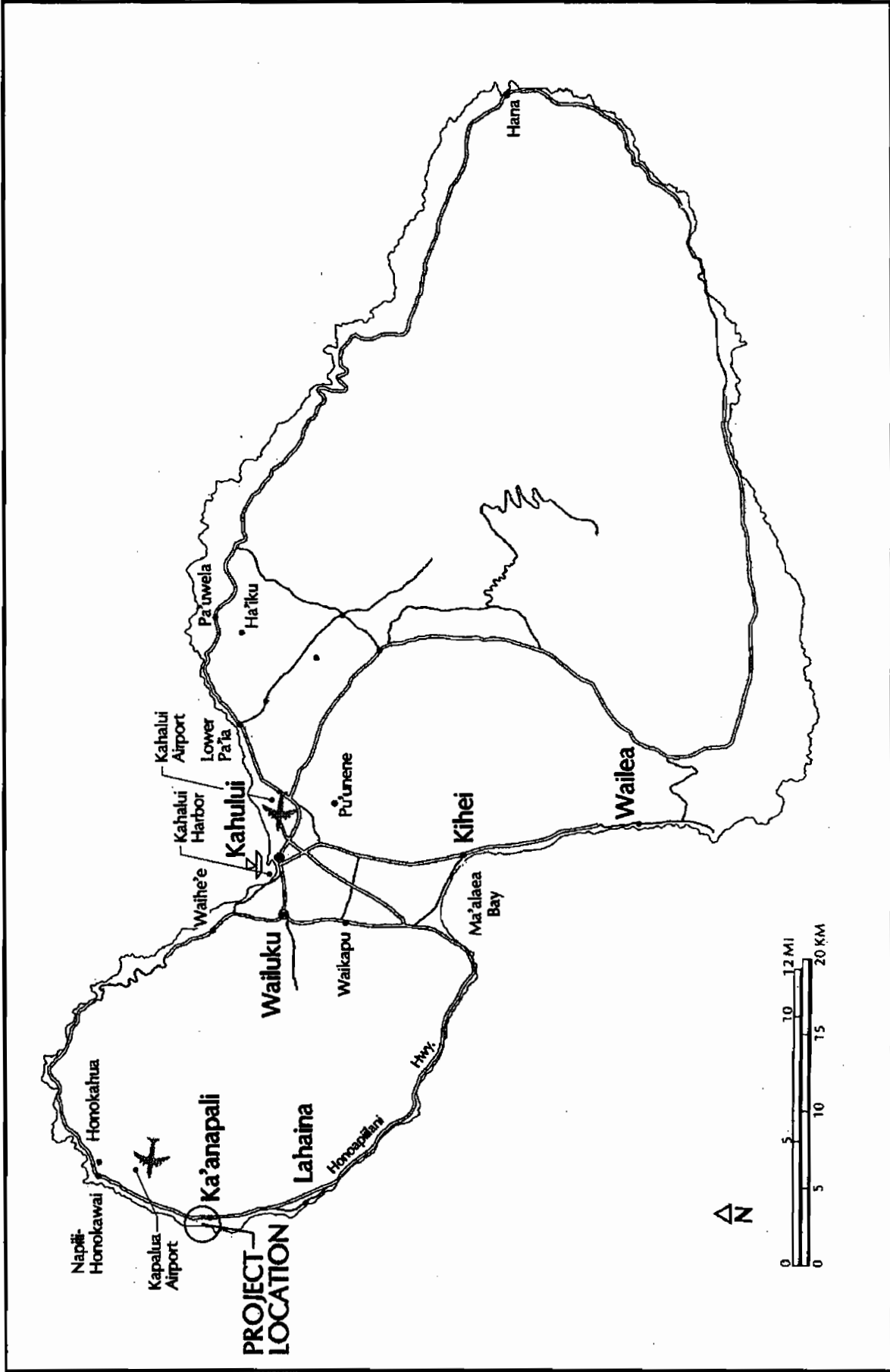
### **1.2 Project Information**

#### **1.2.1 Project Location**

The project site occupies approximately 26.875 acres on two parcels, Tax Map Key: 4-4-008:007 and 013, both located west or makai of Honoapiilani Highway. The project site is bounded by the Pacific Ocean to the west, Honoapiilani Highway to east, the Royal Kaanapali North golf course to the south, and the Maui Kaanapali Villas hotel and condominium complex to the north. (See Figures 1-1, 1-2, and 1-3).

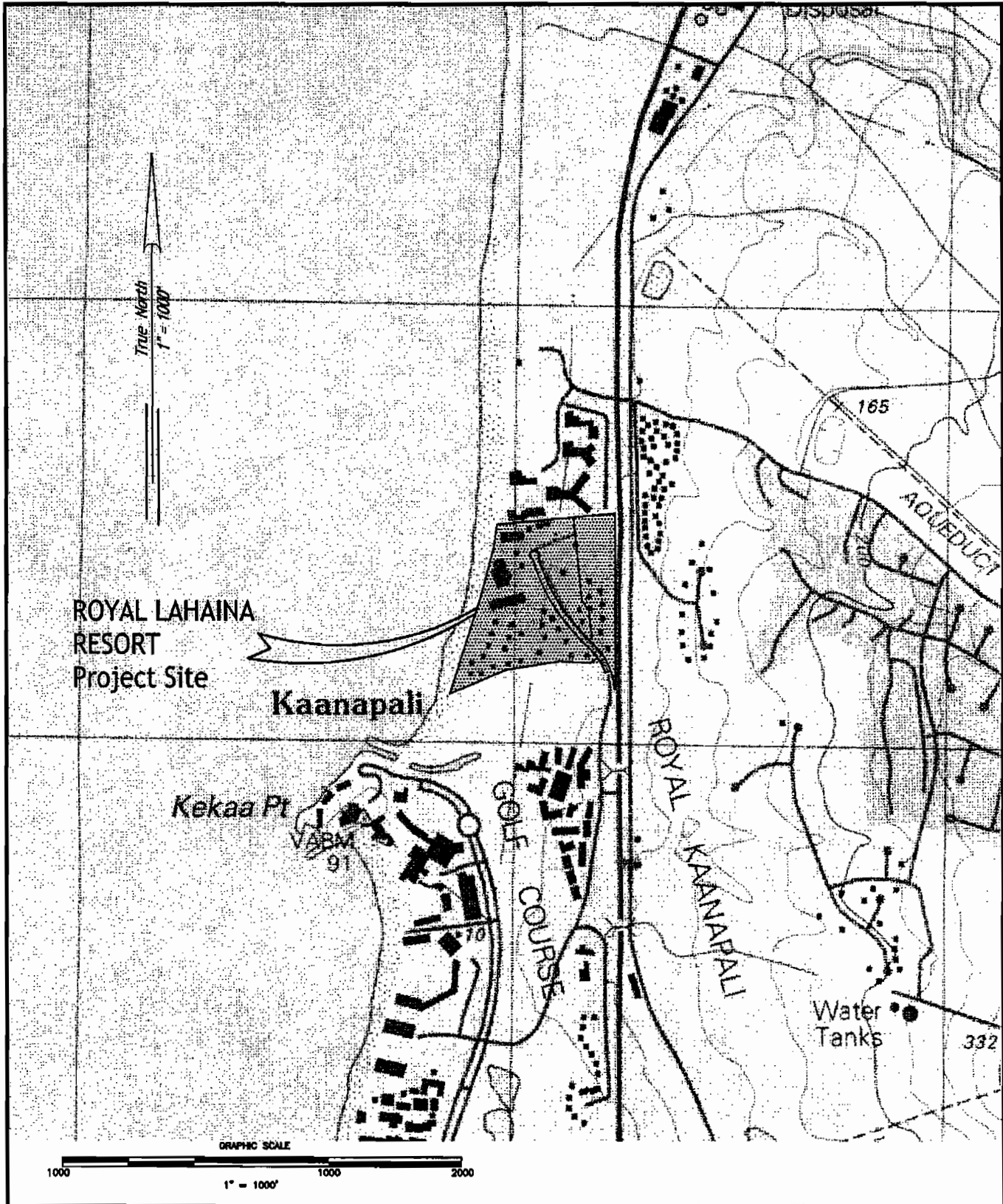
#### **1.2.2 Project Improvements**

The existing Royal Lahaina Resort consists of 344 hotel units in a 12-story tower, 65 hotel units in a 3-story building, 131 hotel units in 22 low-rise guest cottages, and 43



**PROJECT  
LOCATION**

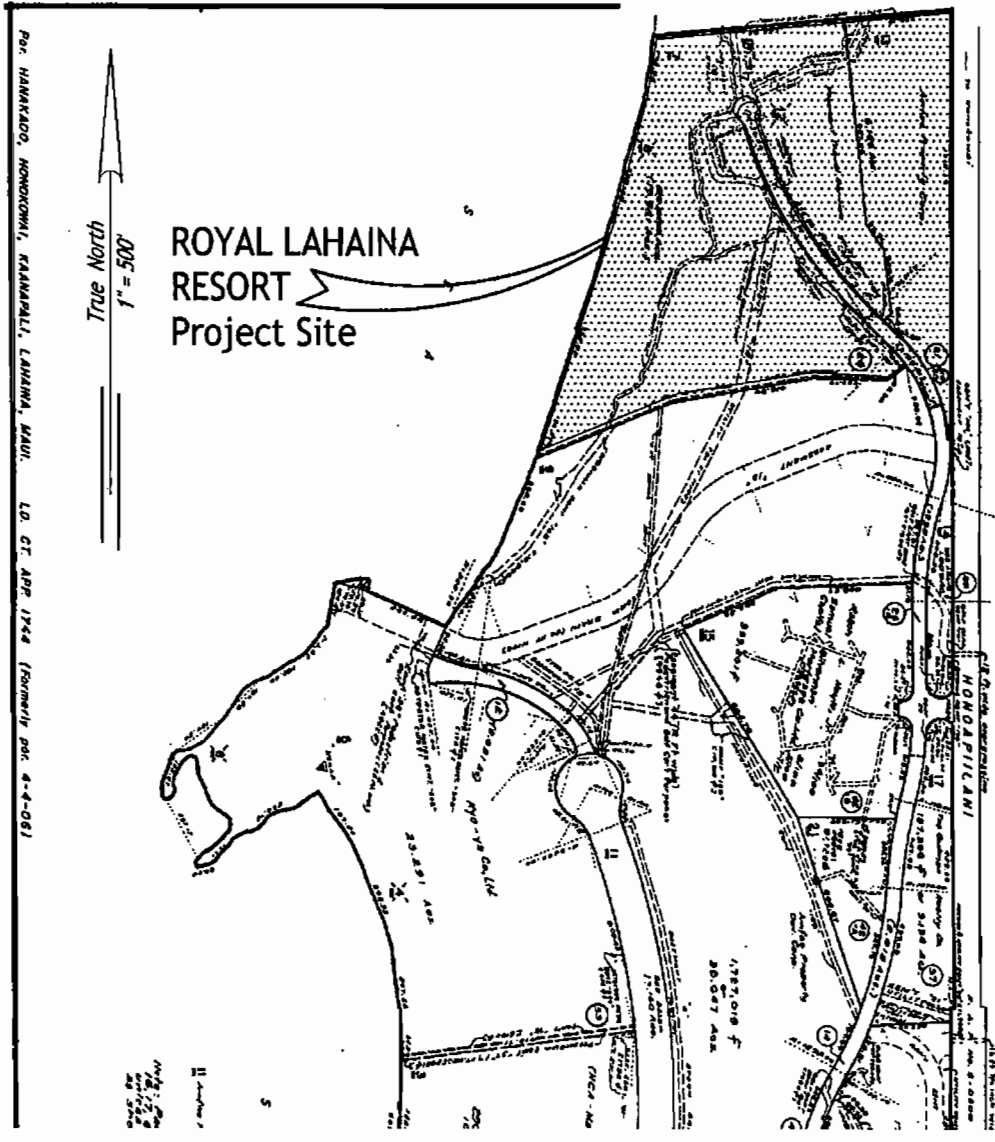
<p><b>FIGURE 1-1</b></p>	<p>ROYAL LAHAINA RESORT LAHAINA, MAUI, HAWAII</p>
<p><b>VICINITY MAP</b></p>	
<p><b>WILSON OKAMOTO CORPORATION ENGINEERS • PLANNERS</b></p>	



ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

LOCATION MAP

FIGURE  
1-2



WILSON OKAMOTO  
CORPORATION  
ENGINEERS • PLANNERS

ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

TMK : 4-4-008 : 007 & 013

FIGURE  
1-3

long-term rental units, a luau area with seating space for up to 800 guests, restaurants, bars, retail shops, meeting space, associated amenities, and the Royal Lahaina Tennis Ranch.

Royal Lahaina Resort Development Group intends to remove a portion of the existing facilities and to revitalize the approximately 26.875-acre oceanfront property. The Revitalization is anticipated to consist of a total of approximately 456 hotel and condominium units, consisting of 330 hotel units located in the 12-story tower and 126 condominium units located in 8 new buildings, a new 350 stall sub terrain parking structure, and at-grade parking lot improvements. Other improvements include associated amenities such as a new lobby and meeting space, new restaurants, new retail, new spa and activity center, new Children's Center, new water features, 2 new tennis courts, new basketball/sport court, new golf driving cages, and new service buildings.

The preliminary site plan shows access will be from the existing extension of Kekaa Drive into the project site. No changes are anticipated to this existing access road connection to Kekaa Drive and to the Kaanapali trolley access to the adjacent Maui Kaanapali Villas complex. Public beach access parking will be provided within the project site and public access to the beach will continue by walking along the pathway adjacent to the northern edge of the golf course, as well as along the main driveway through the center of the project site.

## **2. SANITARY SEWER SYSTEM**

### **2.1 Background**

The private on-site sewer collection system transports sewage flows to the County of Maui Wastewater Reclamation Division (WRD) collection system which provides sanitary sewer service for the area near the project site. Royal Lahaina Resort engineers were consulted in June 2005 to determine appropriate tie in locations to the existing sewer collection system. The Wastewater Reclamation Division was also consulted in June 2005 to verify existing facility capacities and preliminary development plans.

### **2.2 Existing Conditions**

The existing sanitary sewer collection system serving the project site consists of a 15-inch gravity line located within a sewer easement that bisects the project site in a north-south direction. This 15-inch gravity line also serves the Maui Kaaanapli Villas complex north of the project site (See Figure 2-1). The gravity collection system continues south from the project site to a series of wastewater pump stations, identified as Kaanapali No. 3 Wastewater Pump Station (WWPS No. 3), WWPS No. 1, and WWPS No. 2. This system also provides service to other resorts within the Kaanapali Resort area. The system is owned and maintained by the County of Maui. At this time, there are no capacity concerns, for WWPS No. 1, 2 or 3, that will limit the proposed improvements for the property.

The LWRF total treatment capacity is currently 9.0 million gallons per day (mgd), with 6.0 mgd for secondary treatment and 3.0 mgd for R-1 treatment. Presently, the facility treats about 5.3 mgd of wastewater. Approximately 1.0 mgd of the R-1 treated effluent is used to irrigate the Royal Kaanapali golf courses, the landscaped areas along Honoapiilani Highway, and the landscaped median of the Kaanapali Parkway. The remaining treated effluent (4.3 mgd) is disposed into four injection wells located within the facility. Under the conditions in the US Environmental Protection Agency (EPA) permit, the County is allowed to dispose a maximum flow of 6.7 mgd into the injection wells.



The LWRF is located approximately 1.1 miles north of the project site along Honoapiilani Highway.

Based on the County guidelines for wastewater contribution, an average sanitary sewer volume of 261,570 gpd is calculated for the existing Royal Lahaina Resort and associated uses, which includes an average of 450 guests at luaus. (See Appendix A).

### **2.3 Projected Demands**

Sanitary sewer volumes for the Revitalization project were derived using the project's program requirements provided by WCIT and generalized simulation of projected demands for similar developments. Line sizes will be determined during the design phase of the project.

An average sanitary sewer volume of 159,055 gpd is projected for the Revitalization project, based on County guidelines for wastewater contribution. This projected sewer volume is approximately 39.2 percent lower than the existing volume of 261,570 gpd. (See Appendix A).

True North  
Scale: 1 in. = 200 ft.

EXIST SEWERLINE EASEMENT

TO ROYAL  
KAANAPALI  
NORTH GOLF  
COURSE

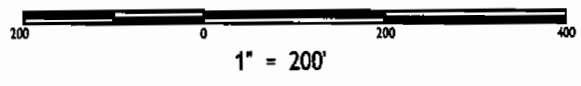
EXISTING  
SEWERLINE  
EASEMENT

FROM MAUI  
KAANAPALI  
VILLAS

**LEGEND**

- — — — — PROPERTY LINE
- ES — — — — — EXISTING SEWER LINE
- EXISTING SEWER MANHOLE

**GRAPHIC SCALE**



ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

**EXISTING SEWER SYSTEM**

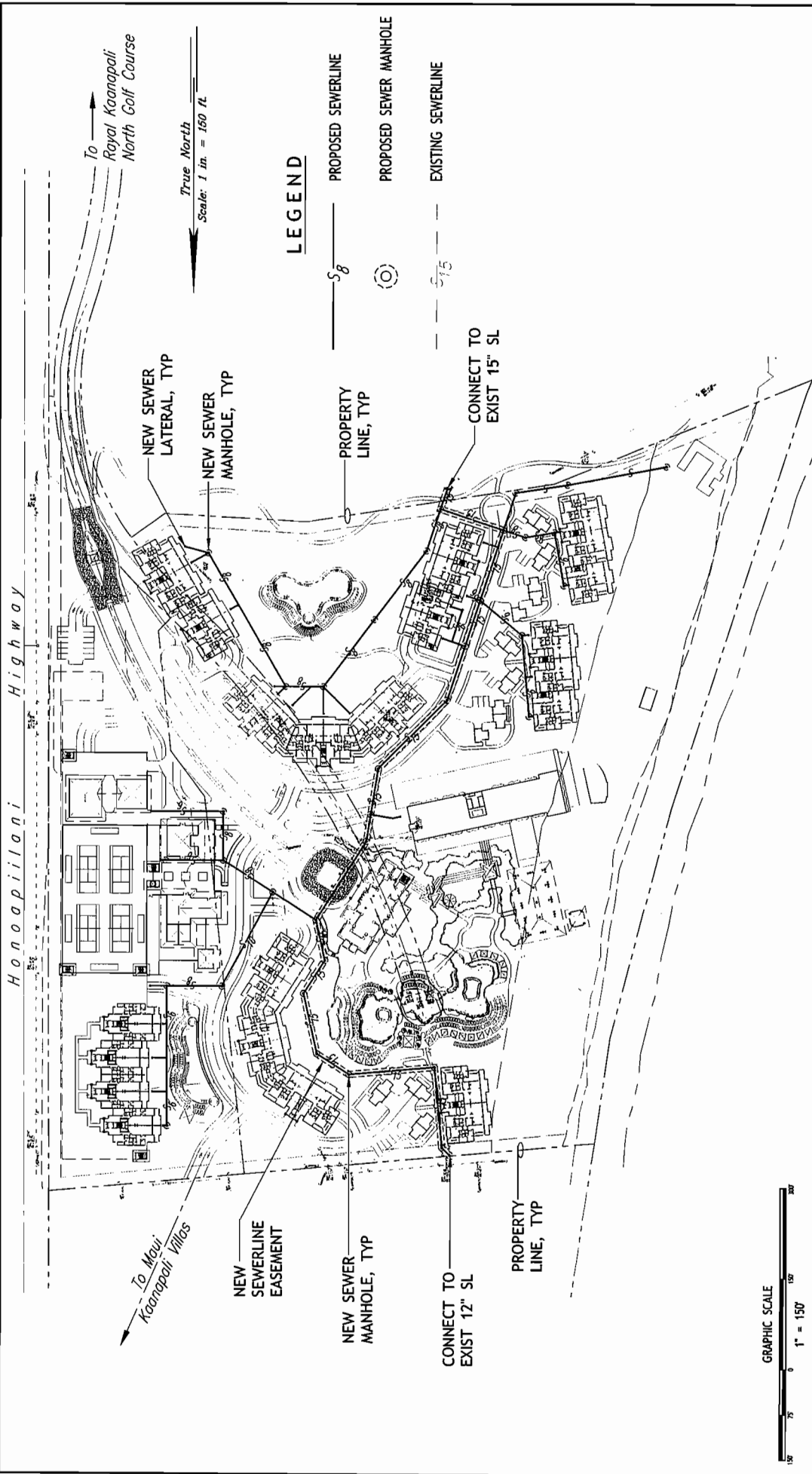
**FIGURE  
2-1**

## **2.4 Proposed Improvements**

Discussions with Royal Lahaina Resort utility and WRD personnel indicate that, at this time, the WRD system in the area is sufficient with regard to the capacity of the gravity sewerlines, sewer pump stations, and treatment plant to support the Revitalization. In addition, it should be noted, that the projected wastewater generated by the Revitalization would be less than generated under existing conditions.

Construction of the new condominium/hotel units and pool complexes will require relocation of the existing 15-inch sewer main so that it is clear of the new structures. The relocated sewer main will continue to provide sewer service for the adjacent Maui Kaanapali Villas Complex. The sewer main easement will also be relocated to match the location of the new line.

Removal of wastewater from the project site is anticipated to be via a connection to the relocated 15-inch gravity sewer main. A new wastewater collection system consisting of new sewer manholes and gravity lines will provide sewer service of the various site structures. Figure 2-2 shows the Conceptual Sanitary Sewer System Plan.



**LEGEND**

- PROPOSED SEWERLINE
- ⊙ PROPOSED SEWER MANHOLE
- - - EXISTING SEWERLINE

**ROYAL LAHAINA RESORT REVITALIZATION**  
 KAA NAPALI, MAUI, HAWAII

**PROPOSED SEWER SYSTEM**

FIGURE  
 2-2



### **3. WATER SYSTEMS**

#### **3.1 Background**

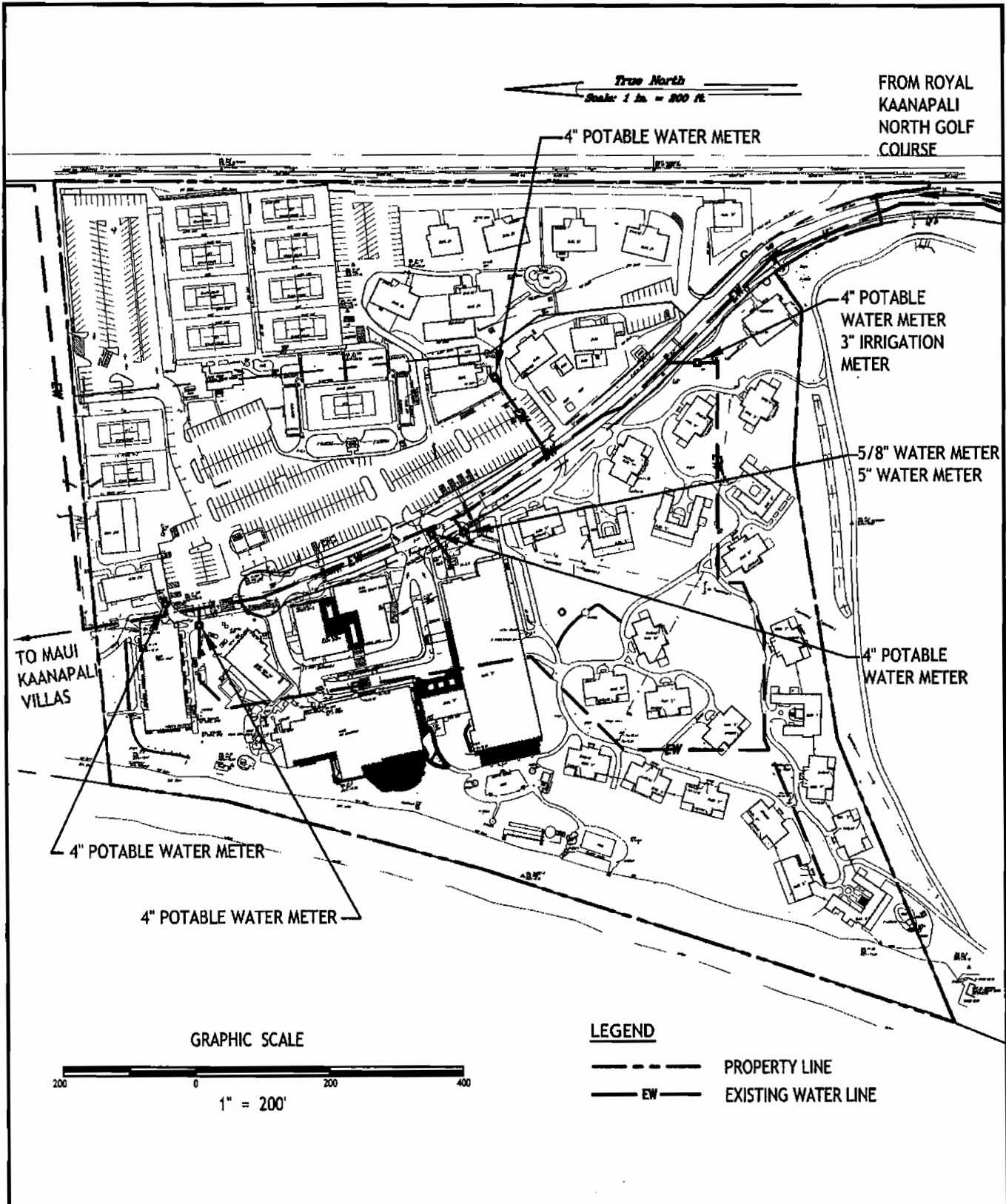
Hawaii Water Service (formerly Kaanapali Water Corporation) provides a private water system to service the Kaanapali area in West Maui, which includes the project site. Resort engineers for the Royal Lahaina Resort were consulted in June 2005 to collect information about the water system and to determine current water consumption for the existing resort complex.

#### **3.2 Existing Conditions**

The Royal Lahaina Resort is currently served by the HWS water system which provides potable, fire protection, and irrigation water to the resort. Water to the project site is provided via a HWS 12-inch line which enters the project site from a line located on Kekaa Drive. The 12-inch line is part of a looped system which serves both the Royal Lahaina Resort and the adjacent Maui Kaanapali Villas complex. (See Figure 3-1)

The existing Royal Lahaina Resort facilities are served by a total of seven meters, five potable, one irrigation, and one fire protection. The potable meters, all 4-inch, are located near the Basil Tomatoes Italian Grille restaurant, the tennis stadium, the hotel tower, the luau area, and the laundromat. The 3-inch irrigation meter is also located near the Basil Tomatoes Italian Grille restaurant to provide irrigation water to the landscaped areas surrounding the cottages. The fire protection meter is a 5/8-inch meter to service the hotel tower.

The potable water system that serves the project site uses a 1.5-million gallon concrete reservoir located at elevation 254 feet mean sea level (msl), which is one of three 1.5-million gallon storage reservoirs serving the West Maui area. This lower-level reservoir serves uses located in the service area from 0 to 150 feet msl and is located about 0.4 miles south of the project site and approximately 0.4 miles east of Honoapiilani Highway. Based on existing uses at the Royal Lahaina Resort, an average daily demand of 215,689 gpd was calculated for the Resort facilities. (See Appendix B).



ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

---

**EXISTING WATER SYSTEM**

**FIGURE**  
**3-1**

### **3.3 Projected Demands**

Potable water demands were derived using the project's program requirements provided by WCIT and generalized simulation of projected demands for similar developments. Line sizes will be determined during the design phase of the project.

An average daily demand of 189,700 gpd was determined for potable water for the Revitalization project, based on the Department of Water Supply Water System Standards dated 2002. This average daily demand represents a 12.0 percent decrease compared to the existing demand of 215,689 gpd. (See Appendix B).

The source of potable water is seven deep wells located between elevations 650 feet to 1,090 feet above mean sea level (msl) located in the west Maui area. These wells have the capacity to produce of up to 7.31 million gallons per day (mgd). Since one of the wells is used as a back-up well and assuming one well is out of service, the five remaining wells have a production capacity of 4.90 mgd. The HWS system currently provides its service area with about 2.75 mgd of water.

The average daily demand for irrigation water is projected at 76,610 gpd for the Revitalization project.

### **3.4 Proposed Improvements**

Discussions with the Hawaii Water Service (HWS) personnel indicate that, at this time, the HWS system in the area is sufficient with regard to sources, storage, and transmission capacity to support the Revitalization project.

Construction of the 11 new buildings and pool complexes will require relocating the existing 12-inch water main. The new relocated water main will connect to the existing water main in Kekaa Drive near the entrance to the project site and will follow the alignment of the new access road for the Revitalization project. The relocated water main will connect back into the water main serving the adjacent Maui Kaanapali Villas complex.

The potable water supply for the Revitalization project will consist of standard improvements including, water meter vault, reduced pressure backflow prevention device, and necessary distribution waterline piping to the various site structures. (See Figure 3-2).

The fire protection water service laterals for the project site will consist of detector check meters and waterlines extending to the various buildings. The site fire protection system will consist of waterlines extending around the buildings with fire hydrants spaced at 250-foot intervals. The mechanical engineer will verify the need for a fire pump for the 12-story hotel tower and the other buildings during the design phase of the project.

The irrigation water supply for the project is anticipated to be via connection to the relocated water main within the new driveway entry. A separate meter will be installed for the irrigation system.



Honoapiilani Highway

To  
Royal Kaanapali  
North Golf Course

True North  
Scale: 1 in. = 150 ft.

CONNECT TO  
EXIST 12" WL

NEW  
WATERLINE  
EASEMENT

PROPERTY  
LINE, TYP

NEW WATER  
METER, TYP

NEW SERVICE  
LATERAL, TYP

To Maui  
Kaanapali Villas

CONNECT TO  
EXIST 12" WL

NEW FIRE  
HYDRANT,  
TYP

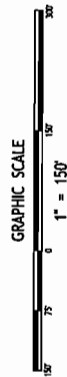
NEW WATER  
METER, TYP

PROPERTY  
LINE, TYP

**LEGEND**

— 12" — PROPOSED WATERLINE

- - - 12" - - - EXISTING WATERLINE



**ROYAL LAHAINA RESORT REVITALIZATION**  
KAANAPALI, MAUI, HAWAII

**PROPOSED WATER SYSTEM**

FIGURE  
3-2

**WILSON OKAMOTO  
CORPORATION**  
ENGINEERS • PLANNERS

## **4. SITE GRADING, FLOODING, AND STORM DRAINAGE SYSTEM**

### **4.1 Background**

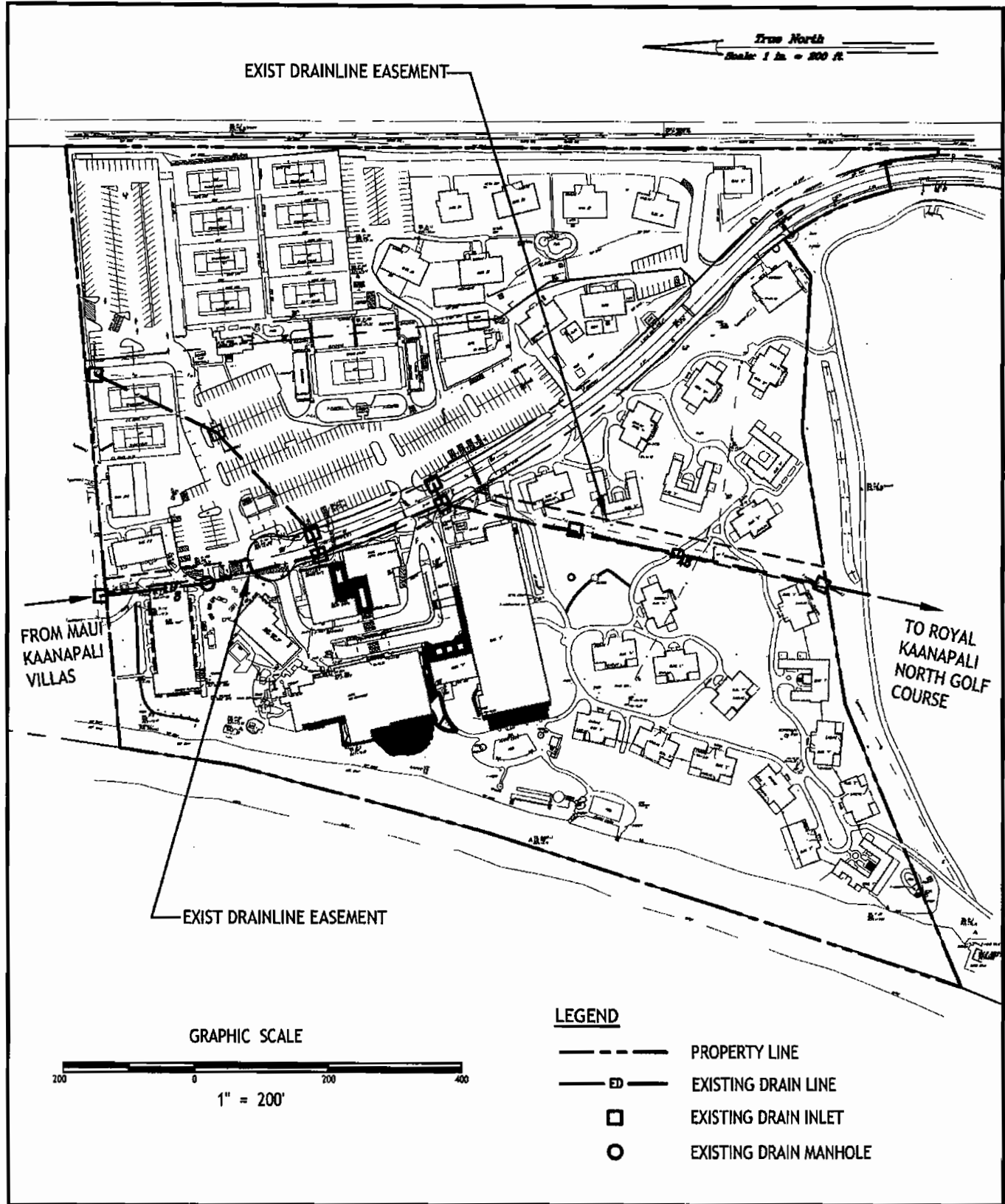
The site grading, flooding, and storm drainage system are based on a site investigation and discussions with engineers for the Royal Lahaina Resort conducted in June 2005.

### **4.2 Existing Conditions**

Elevations within the project site range from approximately 39 to 47 feet mean sea level (msl) along the eastern property line, to about 13 feet msl along the northern border with the Maui Kaanapali Villas complex, and to about 12 feet msl above the berm along the shoreline. The existing access driveway slopes to the north with the at-grade parking lot near the tennis courts at about 10 feet msl. The access drive to the hotel entry rises from 8 feet msl to about 18 feet msl at the lobby entrance. The landscaped areas surrounding the existing cottages are relatively flat and lie at about elevation 10 feet msl.

Drainage for the existing Royal Lahaina Resort is collected by a system of drainlines, drain inlets, catch basins, and storm drain manholes throughout the site. Flow from the project site is conveyed to the south by an existing 48-inch concrete drainline that parallels the existing sewer main, bisecting the project site. A 24-inch drainline extension of the 48-inch line drains portions of the Maui Kaanapali Villas complex. The 48-inch line continues to the south under the adjacent golf course and outflows into the water feature, which connects to the ocean on the north side of Kekaa Point. (See Figure 4-1).

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panel No: 150003 0153 C dated September 17, 1997 shows that the project site is located within two zones. The eastern majority of the project site is located in Zone C, identified as an area of minimal flooding. The western coastline of the project site is located in Zone A4, identified as an area affected by a 100-year flood event with base flood elevation +10.0 feet msl; and Zone V12, identified as an area of 100-year coastal flooding with velocity (wave action), with base flood elevations and flood hazard factors undetermined. (See Figure 4-2).



**LEGEND**

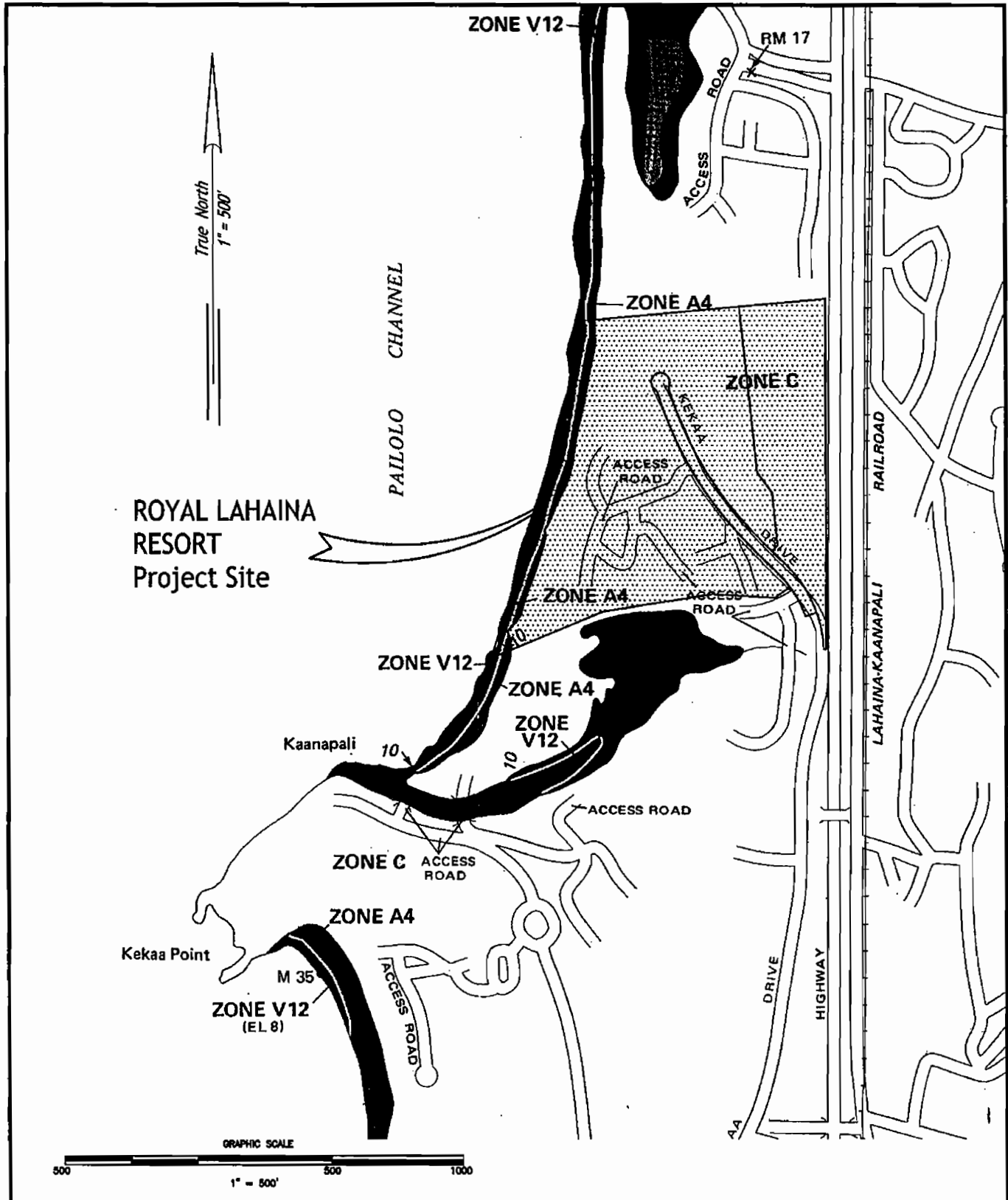
- — — — — PROPERTY LINE
- ED — — — EXISTING DRAIN LINE
- EXISTING DRAIN INLET
- EXISTING DRAIN MANHOLE



ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

**EXISTING DRAIN SYSTEM**

**FIGURE**  
**4-1**



ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

**FLOOD ZONE MAP**

FIGURE  
4-2

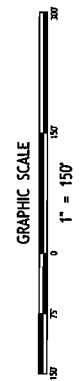
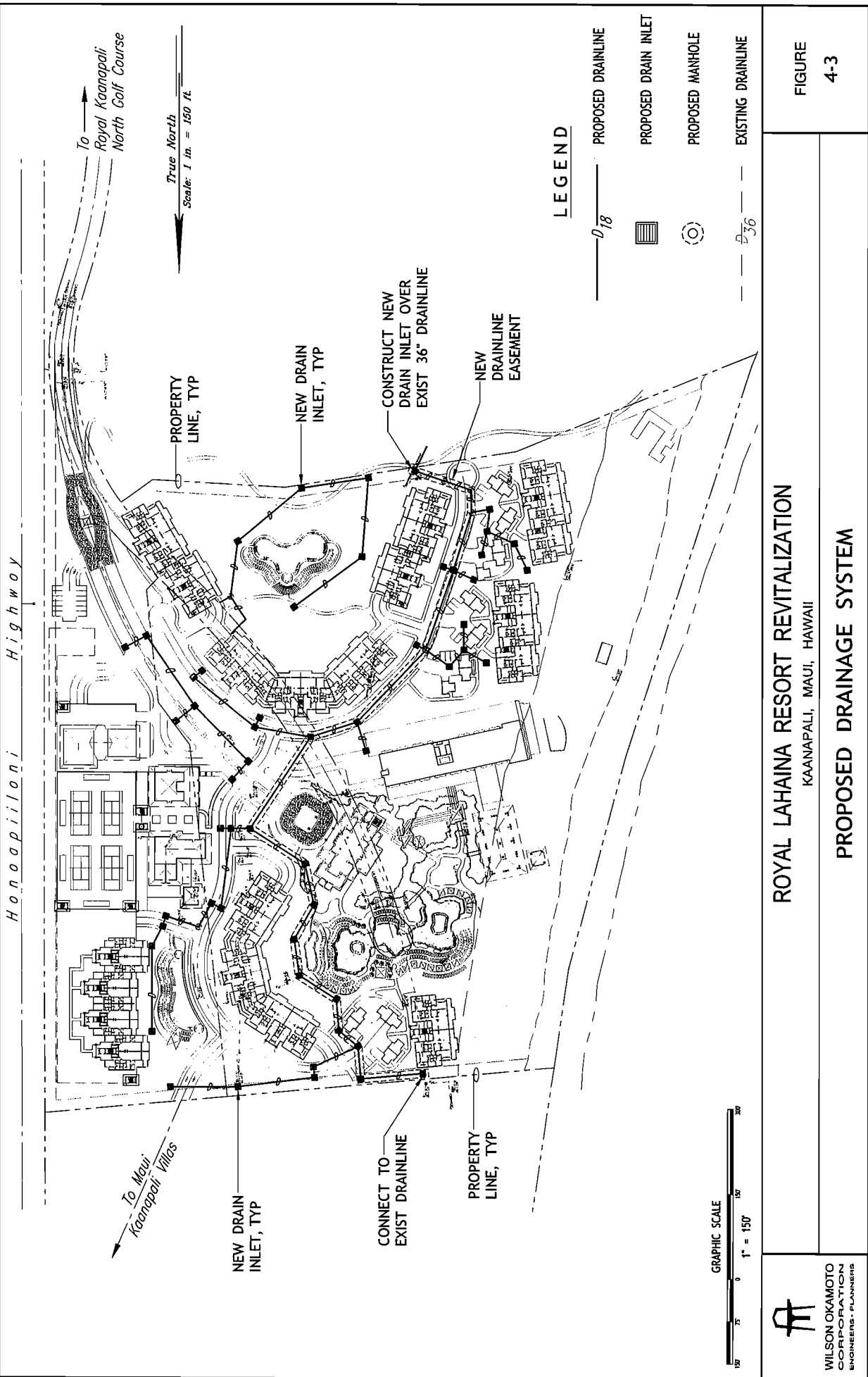
### **4.3 Projected Demands**

Storm drainage volumes for the project site were derived using the Site Master Plan provided by WCIT and generalized simulation of projected demands for similar developments. The proposed on-site storm drainage system is likely to consist of a combination of drain inlets, storm drain manholes, and underground piping. (See Figure 4-3). Line sizes, inlet locations, drywell requirements and detention/retention requirements will be determined during the design phase of the project.

Estimated storm drainage flow rates for a 50-year, 1-hour rainfall event, are 83.88 cubic feet per second (cfs) for existing conditions and 75.02 cfs for proposed conditions. Since the Revitalization is anticipated to reduce the volume of storm water generated by the project site, there will not be a requirement for on-site storage of the storm water. (See Appendix C).

### **4.4 Proposed Improvements**

The County requires all developments to include a site-specific Water Quality Management Plan, which will incorporate Best Management Practices (BMPs), in plans for the developed sites. The BMPs will include plans for both the construction and operation phases of the development. The BMPs will be created with guidelines from a number of sources including Hawaii's Coastal Nonpoint Pollution Control Program Management Plan, the West Maui Watershed Owners Manual Chapters 2 & 4, and Island Stewardship: Guide to Preventing Water Pollution for Maui's Homes and Businesses. We propose to work with the project Landscape Architect to investigate flow-through treatment systems such as vegetated swales and/or bioretention (vegetated landscaped areas) basins to mitigate debris, sediment, and other pollutants from entering the storm drainage system and ultimately the ocean. At a minimum, we propose to install filter inserts such as KriStar Enterprises, Inc.'s Flo-gard™ system into all proposed drain inlets as well as existing drain inlets. The Flo-gard™ filter inserts incorporate a stainless steel support frame with a polypropylene woven monofilament geotextile fabric containment area for sediment and debris mitigation. Absorbent filled pouches can be inserted in the containment area for mitigation of petroleum products. (See Figure 4-4).

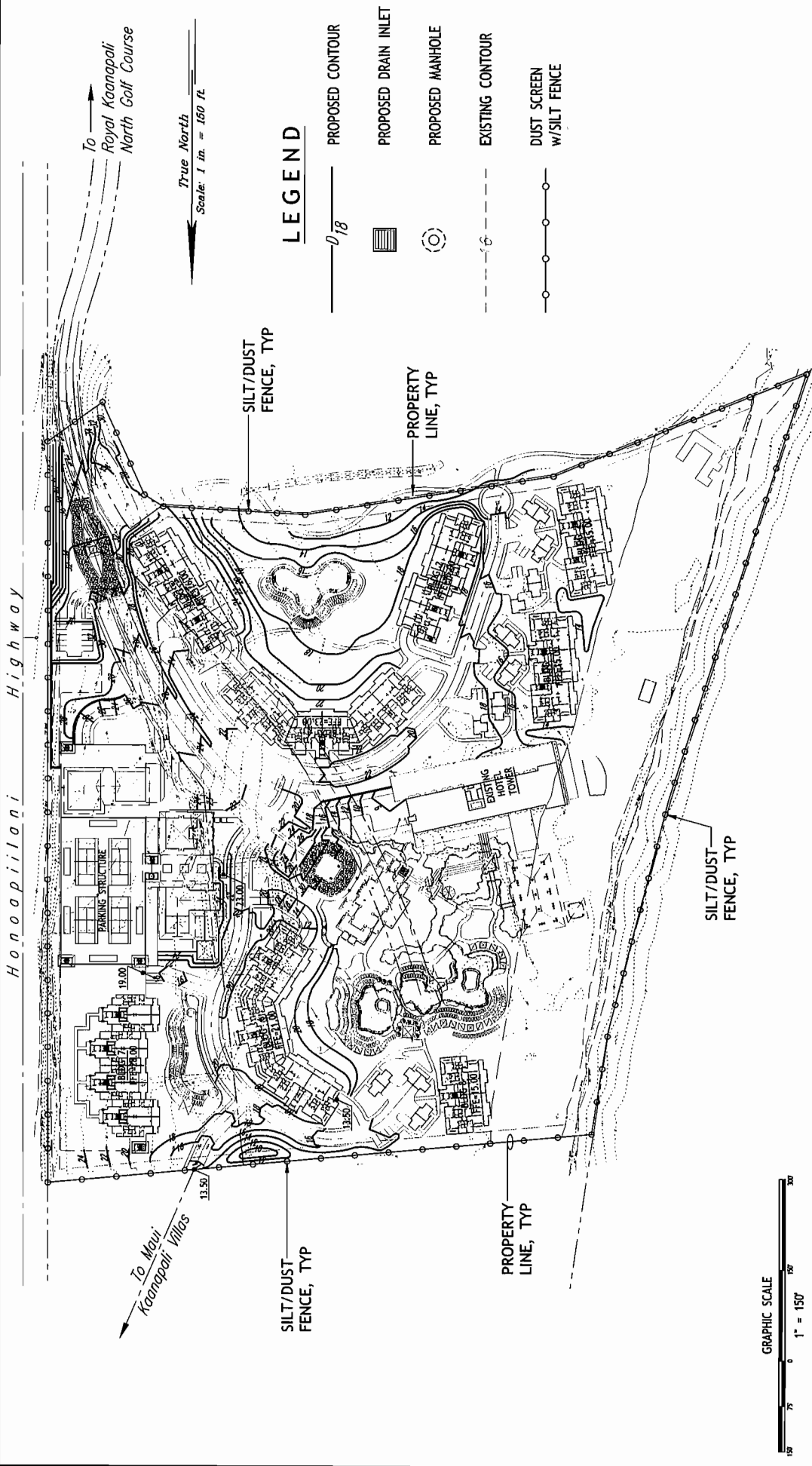


**LEGEND**

- 0.18 — PROPOSED DRAINLINE
- ▣ PROPOSED DRAIN INLET
- ⊙ PROPOSED MANHOLE
- - - 0.36 - - - EXISTING DRAINLINE

**ROYAL LAHAINA RESORT REVITALIZATION**  
 KAA NAPALI, MAUI, HAWAII  
**PROPOSED DRAINAGE SYSTEM**

FIGURE  
 4-3



**ROYAL LAHAINA RESORT REVITALIZATION**  
KAANAPALI, MAUI, HAWAII

**PROPOSED GRADING AND EROSION CONTROL PLAN**

FIGURE  
4-4

## **5. ROADWAY and PARKING SYSTEM**

### **5.1 Background**

The analysis of the roadway and parking system is based on the review of the Site Master Plan prepared by WCIT. A Traffic Assessment Report (TAR) was prepared to identify existing traffic conditions and impacts from the Revitalization. This section will concentrate on project site related roadway and parking system.

### **5.2 Existing Conditions**

The project site lies west of Honoapiilani Highway, State Route 30, the primary arterial in West Maui. Honoapiilani Highway is a two-way, four-lane, divided roadway near the project site oriented in a north-south direction, provides regional access to the resort communities located along the western coast of Maui.

Access to the project site is via Kekaa Drive a two-lane, two-way roadway generally oriented in the north-south direction. Approximately 730 feet (0.14 miles) south of the project site, a spur of Kekaa Drive turns east/mauka to connect with Honoapiilani Highway, while the main roadway continues south to Kaanapali Parkway. At the unsignalized T-intersection with Honoapiilani Highway, Kekaa Drive has one lane that serves right-turn traffic movements only. The northbound approach from Honoapiilani Highway at the intersection has two through lanes and one exclusive left-turn lane while the southbound approach has one through lane and a shared through and right-turn lane.

Within the project site, the extension of Kekaa Drive continues northward and then turns east, or mauka, until it reaches the boundary with the Maui Kaanapali Villas complex where a sliding gate separates the two properties. The trolley uses the sliding gate to access the Maui Kaanapali Villas complex. The driveway access includes a bus turn around near the northern border of the project site.

Three bus systems currently provide service to the project site, the County of Maui system, the Kaanapali trolley, and Kaanapali coach tour buses. A bus stop (Royal Hale)



located north of the hotel tower serves as pick up/drop off point for the bus systems serving the project site.

Near the existing project site entry, a loop road to the east serves the long-term rental units and the parking lot adjacent to tennis courts. The main parking lot, located near the center portion of the project site, serves the hotel tower and the tennis complex. The other large parking lot, located at the northeast corner of the project site, serves the tennis complex and as overflow guest, restaurant, and luau, parking.

### **5.3 Project Demands**

Vehicular parking provided for the project is based on information provided by WCIT. Parking for the Revitalization project will include approximately 600 total parking stalls of which 350 will be located in a new sub terrain parking structure, 10 will be located in the at-grade public beach access parking and the remaining 240 will be both open and covered at-grade parking stalls for the condominium/hotel units. The public access parking lot will be located near the south east corner of the project site near the main entry.

### **5.4 Proposed Improvements**

Based on the Site Master Plan prepared by WCIT, the roadway system serving the Revitalization project will be connected to Kekaa Drive, in a manner similar to current conditions. In general, the roadway and entry to the project site appear to have adequate capacity to accommodate normal traffic.

Emergency and fire truck vehicles will also utilize the access road to access the project site. The roadway system will be required to accommodate a 50,000 lb fire truck with either a hammerhead or cul-de-sac turnaround located near the terminus of the fire access lane. The turnaround area shall be designed for the fire truck's outside turning radius of 40.5-feet.

The Traffic Assessment Report (TAR) examined AM and PM traffic conditions for the west Maui area including at the following six intersections with Honoapiilani Highway:

- Lower Honoapiilani Road
- Puukolii Road and Kai Ala Drive
- Kekaa Drive
- Kaanapali Parkway and Halelo Street
- Leialii Street
- Front Street and Fleming Road.

The TAR noted, that in the coming years, the west Maui area is expected to undergo significant growth as evidenced by the number of projects in various stages of planning and approval. The following 12 other developments are expected to be completed by the Year 2009 when the Royal Lahaina Resort Revitalization is anticipated to be finished:

1. Maui Breakers
2. Villas at Kahana Ridge
3. Lokahi Pacific
4. North Beach Lot 1
5. North Beach Lot 2
6. North Beach Lot 4
7. Kaanapali Golf Estates Parcels 22 and 23
8. Pioneer Farms Phases I and II
9. Maui Preparatory Academy
10. Pulelehua,
11. Residences at Kapalua Bay
12. Villages at Leialii

The TAR found that traffic operations with the proposed revitalization of the Royal Lahaina Resort are expected to remain similar to Year 2009 without project conditions. In comparison to existing conditions, traffic generated by the Royal Lahaina Resort is anticipated to decrease under with project conditions due to the planned reduction in units, from 583 units to 455 units, as well as the planned alteration of existing resort uses which is expected to decrease occupancy in some areas from approximately 88 percent to 50 percent. As such, the traffic movements at the intersections of Honoapiilani Highway with Lower Honoapiilani Road, Puukolii Road/Kai Ala Drive, Kekaa Drive, Kaanapali Parkway/Halelo Street, Leialii Street, and Front Street/Fleming Road are anticipated to continue operating at similar levels of service to without project conditions.

## **6. ELECTRICAL, TELEPHONE, CABLE, AND DATA SYSTEMS**

### **6.1 Background**

Electrical service for the proposed project will be provided by Maui Electric Company, Ltd (MECO). MECO was consulted in June 2005 to determine service availability based on existing facility capacities and development plans.

Telephone service for the project will be provided by Hawaiian Telecom. Internet and cable TV service for the project will be provided by Oceanic Time Warner Cable. Hawaiian Telecom and Oceanic Time Warner Cable were consulted in June 2005 to determine service availability based on existing facility capacities and development plans.

### **6.2 Existing Conditions**

The existing electric service to the project site is a 12.47 kV, 3-phase, 4-wire system which comes from the Puukoolii substation, located across Honoapiilani Highway above Puukoolii Road. The existing distribution line is located underground along Kekaa Drive. There are no electrical easements located within the property. There are safety concerns for MECOs personnel, should any portion of the existing electrical system remain. In particular, the existing switchgear serving the site is outdated. It should be noted that MECO indicates service should not be a problem, but the electrical consultant should review the proposed plans with MECO at earliest convenience.

Telephone service to the project site and surrounding area is provided from the Hawaii Telecom trunk system located on Kekaa Drive. Service enters the project site from the access road and continues through the project site to service hotel and other existing uses.

Cable service for the project site and surrounding area is provided by Oceanic Time Warner Cable from a main underground cable located along Kekaa Drive. The main cable along Kekaa Drive is adequate to service the future development.

### **6.3 Projected Demands**

Based on correspondence with MECO, dated June 1, 2005 (See Appendix D), MECO acknowledges that electrical service is available to serve the project site. However, MECO recommends that the electrical design consultants meet with MECO to verify demands required to service the future development.

### **6.4 Proposed Improvements**

New underground ductlines for electrical, telephone, Internet, and cable service will be extended from existing underground ductlines along Kekaa Drive.

## 7. OTHER UTILITIES

### 7.1 Fuel Systems

The project site contains a total of nine above-ground fuel tanks used for storage of propane, diesel fuel, and unleaded gasoline. The existing propane systems to provide fuel for the hotel, restaurant kitchens, the spa, and luau area. The system consists of a total of five above-ground steel tanks located as shown below.

Tank Type	Location	Size	Purpose	Service Provided To
Propane	North of Tomato Italian Grille	1000	Restaurant	Tomato Italian Grille
Propane	Across Main driveway from Bldg. "T"	500	Portable	Torches, grills, etc
Propane	North face of Bldg that is located to the south of Main Tournament Tennis Court	1150	Spa water heater	Tennis Ranch, hotel guests
Propane (2)	In the parking lot, east of the cul-de-sac turnaround	2000 each	Kitchens	Hotel

In addition, the project site contains three above-ground storage tank which provide diesel fuel for the hot water heaters and the emergency generator in the 12-story hotel tower, for the hot water heaters in the 3-story hotel building, and for the employee housing units located on the northern portion of the project site. The diesel fuel system is shown below:

Tank Type	Location	Size	Purpose	Service Provided To
Diesel ConVault	Lahaina Kai Tower (12-story) loading dock	2000	Water heaters	Guest rooms
Diesel Convault	Maintenance Shop	500	Water heaters	Employee Housing
Diesel SuperVault	North of Royal Hale (3-story building)	1000	Water heaters	Guest rooms

Two of the diesel tanks are Convault-type double wall steel and concrete tanks. The County of Maui Department of Fire Control has permitted use of double wall, above

ground fuel tanks for use in Maui. Thus, if desired, these tanks could be reused within the project site as part of the Revitalization project.

Lastly, the project site contains an above ground diesel fuel tank used to provide fuel for vehicles and equipment used on-site by the Royal Lahaina Resort. The unleaded fuel system is shown below.

<b>Tank Type</b>	<b>Location</b>	<b>Size</b>	<b>Purpose</b>	<b>Service Provided To</b>
Unleaded Fuel Supervault	Across Main driveway from Bldg. "T"	500		On-site vehicles, equipment

## **7.2 Grease Trap Tanks**

The project site contains three underground grease trap tanks, one 2,000-gallon tank located along the southern side of the hotel near the center, one 2,000-gallon tank located near the northeast corner of the Alii Ballroom, and one 500-gallon tank near the Basil Tomatoes Italian Grille restaurant.

The State of Hawaii Department of Health (DOH) Underground Storage Tank Section has determined that Title 11 Chapter 281, Underground Storage Tanks, does not apply to underground grease trap tanks. The DOH indicated that the grease trap tanks are not regulated by Chapter 281, as the tanks would not contain toxic substances, as might be found in underground fuel tanks.

## **APPENDICES**

## **Appendix A**

### **Sewage Design Flow Calculations**



### Existing Sewage Design Flow Calculations

Average Daily Wastewater Flow Rates (ADWFR) based on Wastewater Reclamation Division Wastewater Flow Standards dated September 28, 1993.

#### Existing Sewage Design Flow Calculations

Existing Facility	Units	ADWFR (gallons per day per unit)	ADWF (gallons per day)
Main Hotel (12-story)	344 Resort units	350	120,400
Hotel (3-story)	65 Resort units	350	22,750
Guest Cottages	131 Units	350	45,850
Long Term Rentals	43 Units	255	10,965
Retail/Comm.	10 employee	15	150
Don the Beachcomber	180 Seats	80	14,400
Royal Ocean Terrace	116 Seats	80	9,280
Royal Ocean Lounge	60 Seats	15	900
Luau	450 Seats	80	36,000
Tennis Ranch	35 Persons	25	875
		Total	261,570

The total Average Daily Wastewater Flow for the Royal Lahaina Resort (including auxiliary uses such as restaurants, lounge, and luau), tennis ranch, and retail is approximately 261,570 gpd.

### Proposed Sewage Design Flow Calculations

Average Daily Wastewater Flow Rates (ADWFR) based on Wastewater Reclamation Division Wastewater Flow Standards dated September 28, 1993.

### Proposed Sewage Design Flow Calculations

Proposed Facility	Units	ADWFR (gallons per day per unit)	ADWF (gallons per day)
Main Hotel	330 resort unit	350	115,500
Condominium/Hotel	126 unit	255	32,130
Retail/Comm.	25 employee	15	375
Spa	30 patrons	25	750
Spa Lounge	30 seats	80	2,400
Fine Dining	60 seats	80	4,800
General Store/Deli	20 seats	80	1,600
Sand Bar	100 seats	15	1,500
		Total	159,055

The total Average Daily Wastewater Flow for the Royal Lahaina Resort Revitalization project will be approximately 159,055 gpd.

The total decrease in wastewater generated is  $261,570 - 159,055 = 102,515$  gal/day.

$$102,515/261,570 = 39.2\%$$

## **Appendix B**

### **Water Demand Calculations**

### Existing Water Demands Calculations

Assumptions:

Average Daily Demand (ADD) rates per Water System Standards. 2002.

350 gpd per resort unit

560 gals/unit multi-family low rise

140 gals/1,000 sq. ft.

### Existing Water Demand Calculations

Existing Facility	Units	ADWFR (gallons per day per unit)	ADWF (gallons per day)
Main Hotel (12-story)	344 resort units	350	120,400
Hotel (3-story)	65 resort units	350	22,750
Guest Cottages	131 Units	350	45,850
Long Term Rentals	43 Units	560	24,080
Retail/Comm.	12,386 Sq. ft.	140/1,000 sq. ft.	1,734
Tennis Ranch	35 Persons	25	875
		Total	215,689

The total existing Average Daily Demand for the Royal Lahaina Resort (including auxiliary uses such as restaurants, lounge, and luau), tennis ranch, and retail is approximately 215,689 gpd.

### Proposed Water Demands Calculations

**Assumptions:**

Average Daily Demand (ADD) rates per Water System Standards. 2002.

350 gpd per resort unit

560 gals/unit multi-family low rise

140 gals/1,000 sq. ft.

### Proposed Water Demand Calculations

Existing Facility	Units	ADWFR (gallons per day per unit)	ADWF (gallons per day)
Main Hotel (12-story)	330 resort units	350	115,500
Condominium/Hotel	126 Units	560	70,560
Retail/Comm.	26,000 Sq. ft.	140/1,000 sq.ft.	3,640
Total			189,700

The total proposed Average Daily Demand for the Royal Lahaina Resort (including auxiliary uses such as restaurants, spa, and bar, and retail) is approximately 189,700 gpd.

The total decrease in water demand is  $215,689 - 189,700 = 25,989$  gal/day.

$$26,989/215,689 = 12.0\%$$

## **Appendix C**

### **Preliminary Drainage Report**

**PRELIMINARY DRAINAGE STUDY**  
**FOR THE**  
**ROYAL LAHAINA RESORT REVITALIZATION**

**TAX MAP KEY: 4-4-008: 007 & 013**

**Prepared For:**

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**WOC Job No. 7416-01**

August 2005

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APPENDIX A

- FIGURE 1 PROJECT SITE EXISTING CONDITION DRAINAGE PLAN
- FIGURE 2 PROJECT SITE PROPOSED CONDITION DRAINAGE PLAN

APPENDIX B

- TABLE B-1 Flowrate Calculations



## **I. INTRODUCTION**

### **A. Purpose**

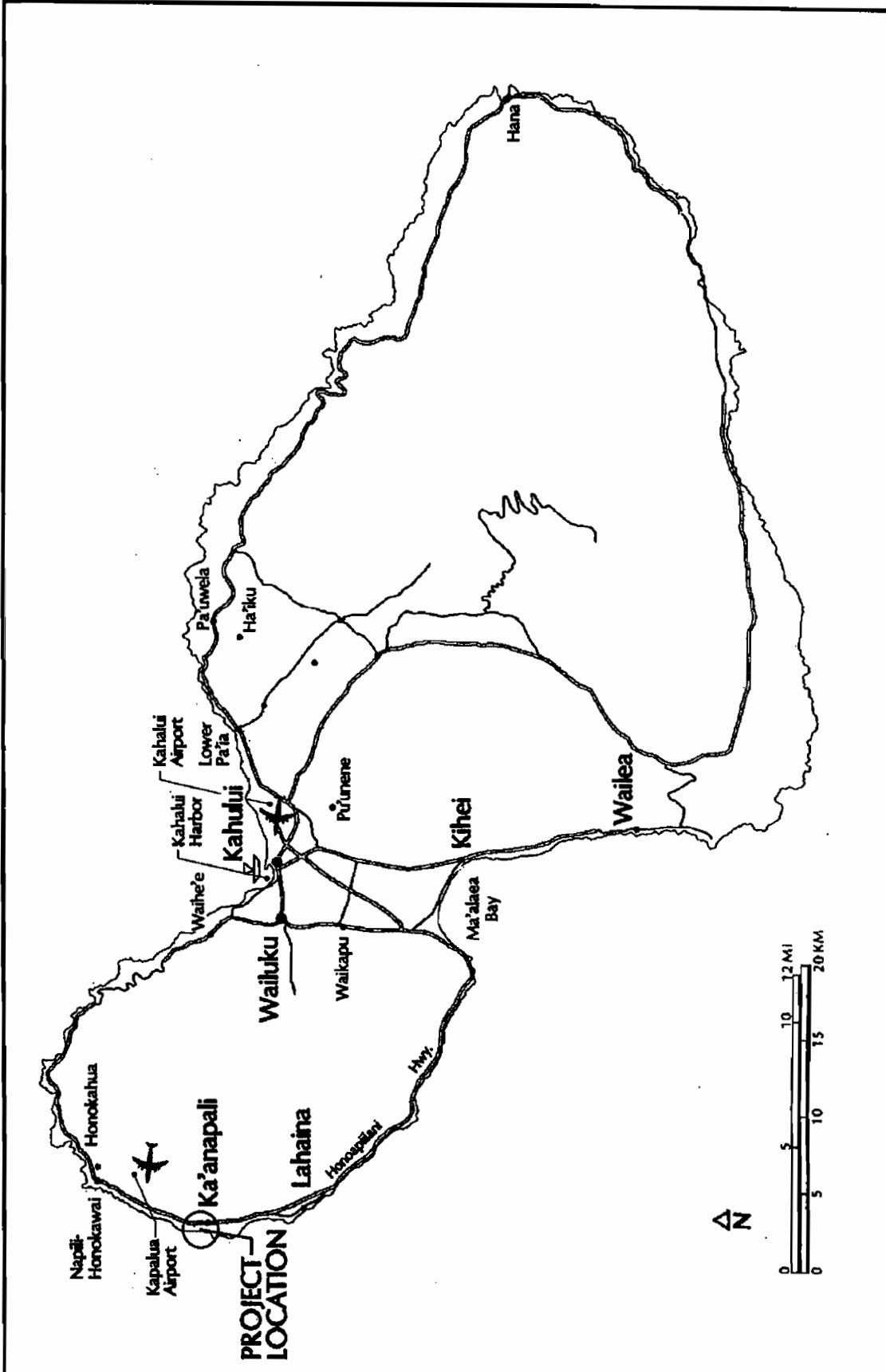
This hydrology study was conducted to:

1. Calculate storm runoff quantities occurring at the proposed Royal Lahaina Resort project site under existing and proposed conditions.
2. Determine required drainage improvements such as inlets, drywells, sub-drains, sump areas, and on-site and off-site detention basins.
3. Ensure compliance with the “Rules for the Design of Storm Drainage Facilities in the County of Maui”, Department of Public Works and Waste Management, County of Maui, November 12, 1995. (Rules for Design).

### **B. Proposed Project Location and Description**

The project site is identified by TMK: 4-4-008: 007 and 013. Parcels 007 and 013 consist of areas 6.186 and 20.689 acres, respectively, and are located in Lahaina on the island of Maui. The project site is irregular shaped and bound by Honoapiilani Highway to the east, the Pacific Ocean to the west, the Royal Kaanapali North golf course to the south, and the Maui Kaanapali Villas hotel to the north. (See Figures 1 and 2).

The resort project is to consist of 330 hotel units, 110 residential units, and associated amenities, such as an activity pool area, landscaped gardens, and at-grade parking lot improvements.



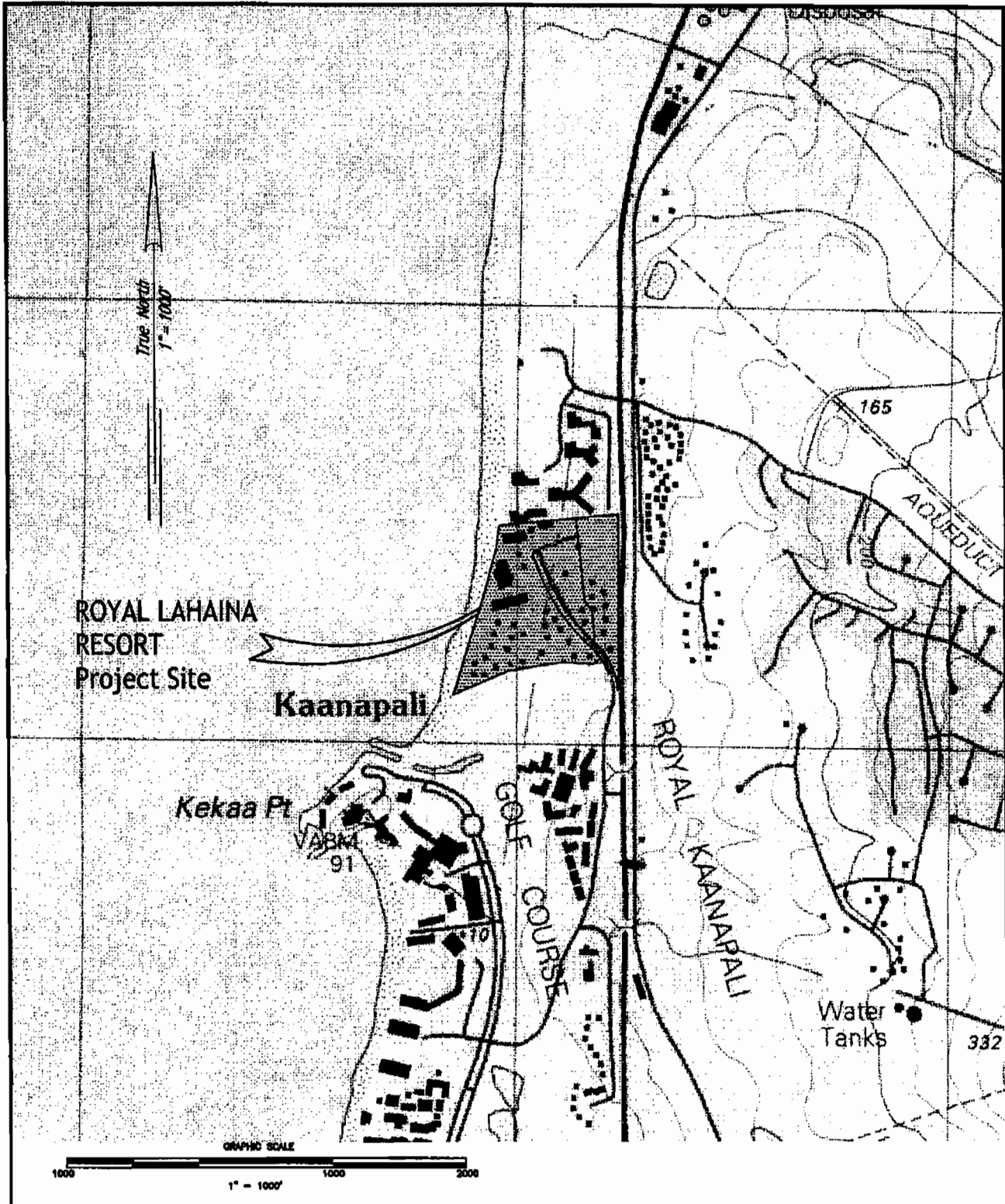
ROYAL LAHAINA RESORT  
LAHAINA, MAUI, HAWAII

FIGURE  
1

VICINITY MAP



WILSON OKAMOTO  
CORPORATION  
ENGINEERS, PLANNERS



ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

LOCATION MAP

FIGURE  
2

### **C. Existing Topography**

The proposed project area is located along the west coast of Maui in Lahaina. Elevations within the project site range from 39 to 47-feet mean sea level (msl) along the eastern propertyline, running parallel to Honoapiilani Highway, to 13-feet msl along the northern border with the Maui Kaanapali complex, to about 12-feet msl above the berm along the western propertyline of the project site. With the exception of the areas immediately adjacent to the Honoapiilani Highway, the eastern portion of the property is characterized by moderate slopes, sloping toward the west. The western portion of the property is characterized by mild slopes and flat areas, sloping toward the east.

### **D. Soils**

Soil series and mapping units for the island of Maui are found in maps in the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii" dated August 1972, prepared by the U.S. Department of Agricultural, Soil Conservation Service (currently Natural Resources Conservation Services). The underlying soil within the Royal Lahaina Resort project site consists of the following (see Figure 3):

#### Beach Sand (BS)

The Beach Sand consists mainly of light-colored sands derived from coral and seashells and is highly suitable for resort development.

#### Jaucas Sand (JaC)

Consists of excessively drained soil that occur as narrow strips on coastal plains, adjacent to the ocean. Permeability is rapid, and runoff is very slow to slow. The hazard of water erosion is slight, but wind erosion is a severe hazard where vegetation has been removed.

Ewa Silty Clay Loam (EaA)

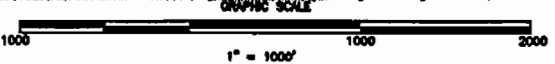
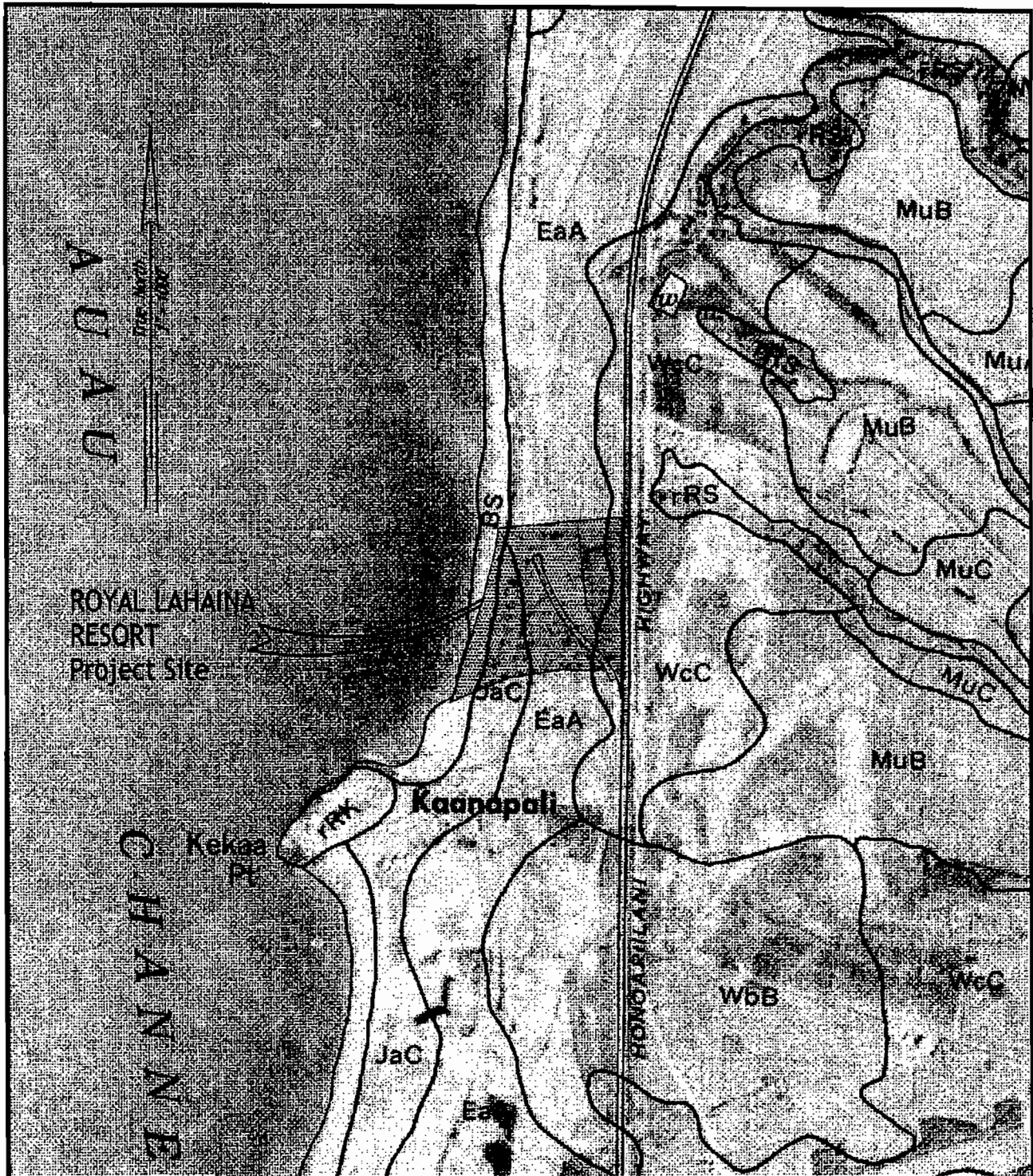
Ewa Silty Clay Loam is characterized by very slow runoff and no more than slight erosion hazard.

Wahikuli Stony Silty Clay (WcC)

Wahikuli Stony Silty Clay is characterized by slow to medium runoff, and the erosion hazard is slight to moderate.

**E. Vegetation**

With the exception of shoreline area and developed areas, the existing landscaped areas of the project site are well covered with grass, plants, and trees.



ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

SOIL CLASSIFICATION MAP

FIGURE  
3

## **II. EXISTING DRAINAGE CONDITIONS**

### **A. Drainage**

The grounds of the existing Royal Lahaina Resort are well maintained with groundcover throughout the site. Drainage for the existing Royal Lahaina Resort site is collected by a system of drainlines, drain inlets, catch basins, and storm drain manholes throughout the site. Flow from the site is conveyed to the main drainage system.

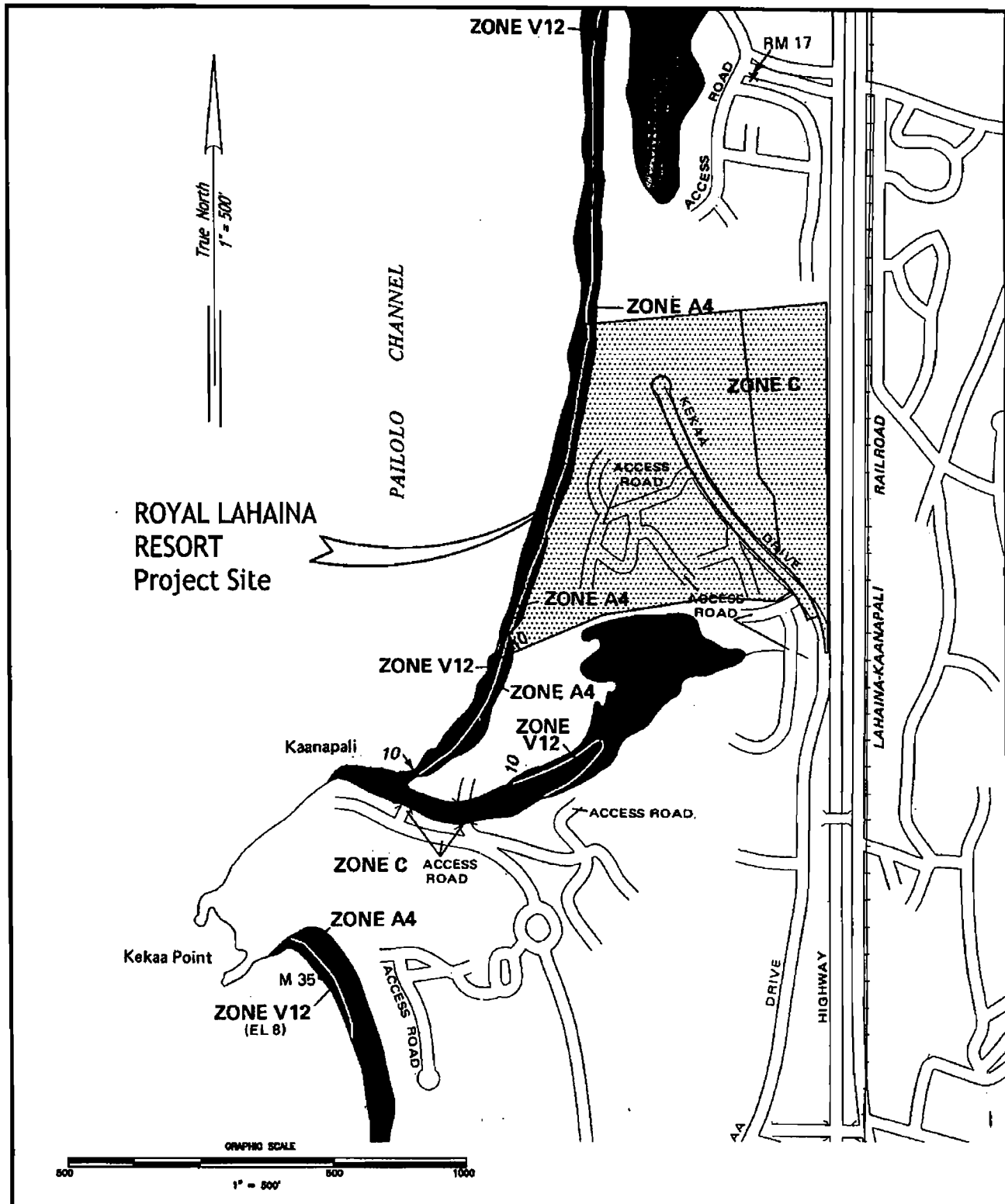
The main drainage system serving the RLR is located within a utility easement, extending from the east side of the main tower toward the approximate middle of the southern propertyline.

In determining the stormwater runoff generated by the site, we divide the project site into pervious (landscaped) areas and non-pervious (paved and structured) areas and determine the flow contributed to the drainage system. (See Figure A-1 of Appendix A).

### **B. Flood Hazard**

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Maui County, Panel Number 150003 0153C dated September 17, 1997 shows that the project site is located within three zones. The eastern majority of the project site is located in Zone C. The western coastline of the project site is located in Zone A4 and V12 (See Figure 4).

- A4 : Areas of 100-year flood, base flood elevations and flood factors determined to be at elevation 10.
- C : Areas of minimal flooding.
- V12 : Areas of 100-year coastal flood with velocity (wave action), base flood elevations and flood hazard factors not determined.



ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

FLOOD ZONE MAP

FIGURE  
4



### III. PROPOSED DRAINAGE CONDITIONS

#### A. Proposed On-Site Drainage

Proposed topography will be similar to that of the existing condition. Placement of the proposed drainage system is projected to define multiple drainage basins. For comparison purposes, we divide the project site into pervious (landscaped) areas and non-pervious (paved and structured) areas and determine the flow contributed to the drainage system (See Figure A-2 of Appendix A).

Proposed improvements will include the construction of a system of drainlines, drain inlets, catch basins, storm drain manholes, and underground detention basins. The proposed improvements will direct flow from the newly constructed drainlines to the existing 48" drainline outletting to the ocean.

### IV. HYDROLOGY ANALYSIS

#### A. Rational Method

Design runoff flows were determined by the Rational Method expressed as:

$$Q = C * I * A$$

where:

Q = Flowrate in cubic feet per second (cfs)

C = Runoff coefficient

I = Rainfall intensity in inches per hour for a duration equal to the time of concentration.

A = Drainage area, in acres

### Drainage Area (A)

Limits of the drainage basins were delineated based on topographic features. The total contributing drainage area was determined to be 26.875 acres.

### Rainfall Intensity (I)

The concentration runoff time and design rainfall intensity were determined in accordance with plates 1 and 2 respectively, as shown in the Rules for Design. A 1-hour rainfall value of 2.5 inches/hour was used based on a 50-year 1-hour rainfall in the Lahaina area.

### Runoff Coefficient (C)

Table 1-A of the Rules for Design was used to determine the runoff coefficient for the landscaped and paved conditions.

$C_l = 0.15$  for landscaped areas

$C_p = 0.95$  for paved areas

Although the existing and proposed developments serve a similar purpose, the proposed development plans will provide a greater area of landscaping.

### Results

Peak discharge or flowrate in cubic feet per second (cfs) as calculated by the Rational Method for both the existing and proposed conditions are shown in Table B-1 of Appendix B.

Based on a 50-year, 1-hour storm event, a discharge of 83.88 cfs was determined for the existing on-site runoff. A discharge of 75.02 cfs was determined for the proposed on-site runoff. The 8.86 cfs decrease in storm runoff generated by the project site can be attributed to an increase in pervious areas as a result of added landscaping.

## V. CONCLUSION

“Rules for the Design of Storm Drainage Facilities in the County of Maui”, require that all increases in storm water runoff, based on a 50-year, 1-hour storm, shall be stored on site. Due to the increase in landscaping, there is a decrease in storm water runoff generated by the site. Therefore, construction of underground detention basin systems is not required.

As a result of the decrease in stormwater generated by the proposed development, the project’s storm drainage plan will not cause any adverse effects to the drainage system serving the property or adjacent properties.

## **VI. REFERENCES**

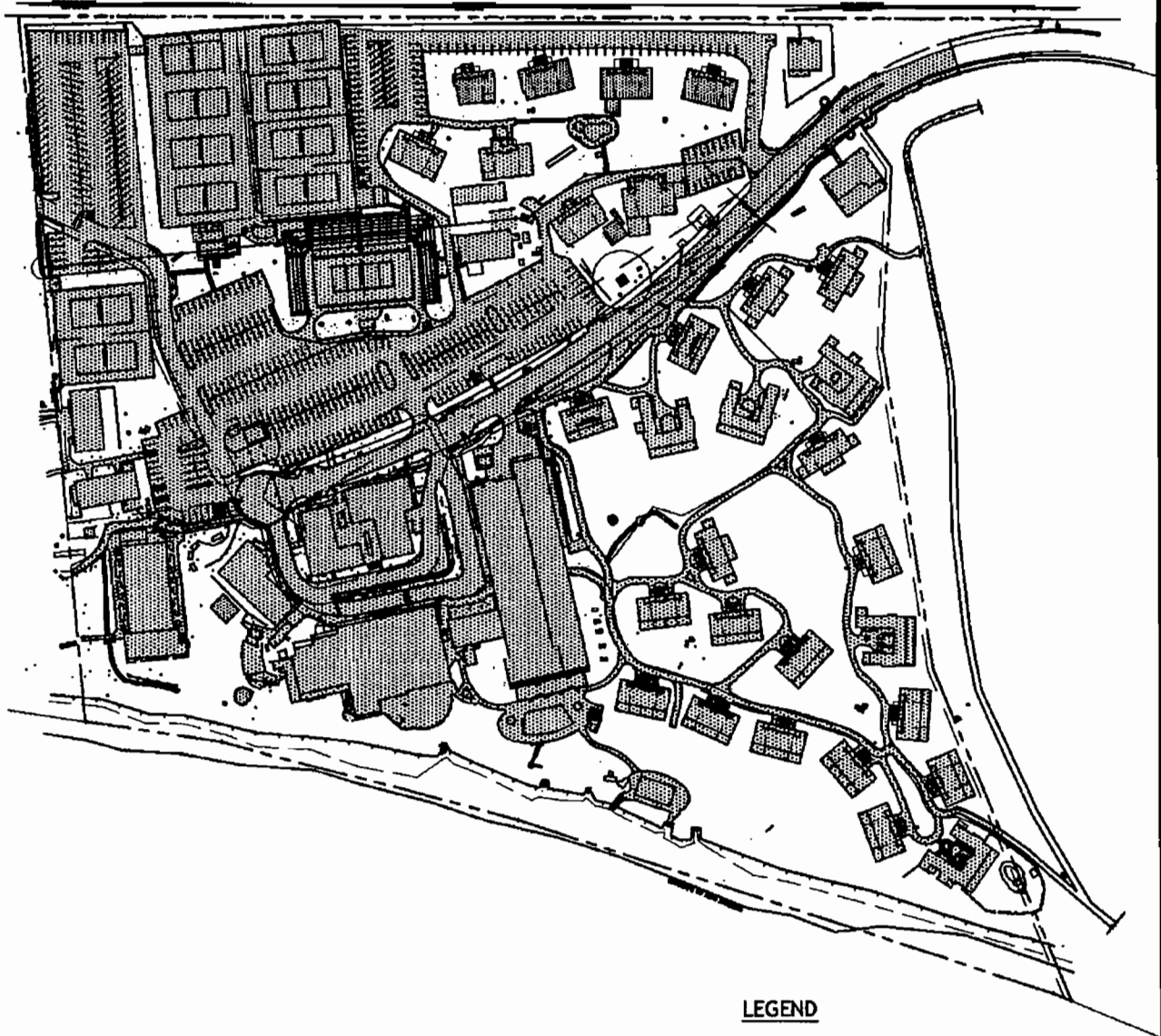
1. "Rules for the Design of Storm Drainage Facilities in the County of Maui", Department of Public Works and Waste Management, County of Maui, July 1995.
2. "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii", United States Department of Agriculture Soil Conservation Service in cooperation with University of Hawaii Agricultural Experiment Station, August 1972.

APPENDIX A

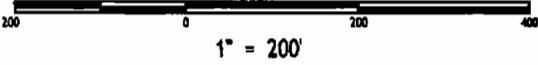
FIGURE A-1 PROJECT SITE - EXISTING CONDITION DRAINAGE PLAN

FIGURE A-2 PROJECT SITE - PROPOSED CONDITION DRAINAGE PLAN

True North  
Scale: 1 in. = 800 ft.



GRAPHIC SCALE



**LEGEND**

- PROPERTY LINE
- ▨ PAVED/STRUCTURED AREAS
- LANDSCAPED AREAS

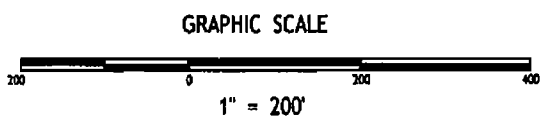
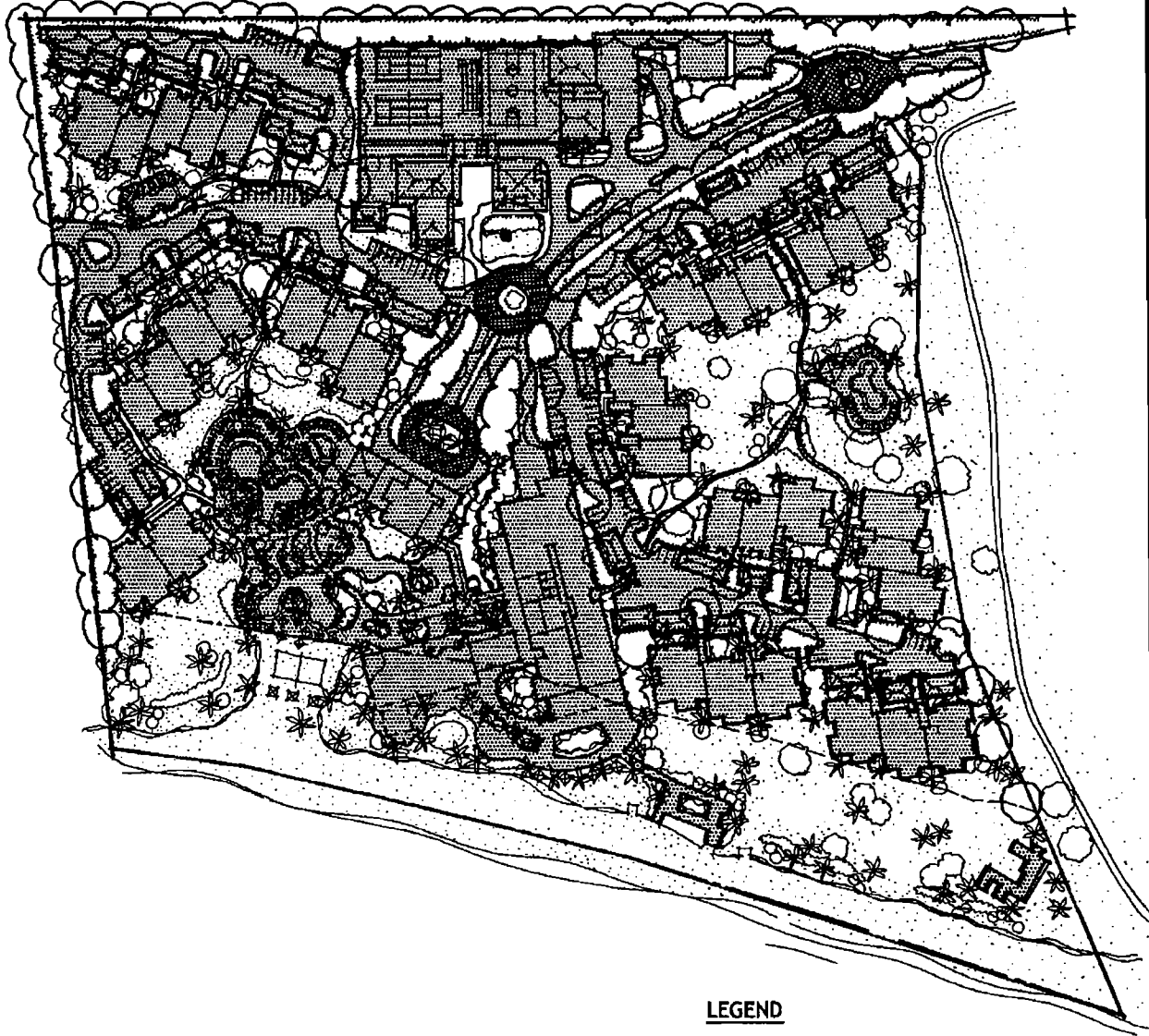


ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

**PROJECT SITE EXISTING COND DRAIN PLAN**

**FIGURE  
A-1**

True North  
Scale: 1 in. = 200 ft.



- LEGEND**
- PROPERTY LINE
  - ▨ PAVED/STRUCTURED AREAS
  - LANDSCAPED AREAS



ROYAL LAHAINA REVITALIZATION  
LAHAINA, MAUI, HAWAII

PROJECT SITE PROPOSED COND DRAIN PLAN

FIGURE  
A-2

APPENDIX B

TABLE B-1      Flowrate Calculations



Table B-1  
Flowrate Calculations

<b>Existing Condition - Royal Lahaina Resort Project Site</b>										
DRAINAGE BASIN	DRAINAGE AREA (sf)	DRAINAGE AREA (ac)	LENGTH (ft)	Tc	I'	I	C	Q (cfs)		
Paved	659,925	15.150	900	8	2.5	5.4	0.95	77.72		
Landscaped	510,749	11.725	600	30	2.5	3.5	0.15	6.16		
<b>Total</b>		<b>26.875</b>						<b>83.88</b>		
<b>Proposed Condition - Royal Lahaina Resort Project Site</b>										
DRAINAGE BASIN	DRAINAGE AREA (sf)	DRAINAGE AREA (ac)	LENGTH (ft)	Tc	I'	I	C	Q (cfs)		
Paved	576,158	13.227	900	8	2.5	5.4	0.95	67.85		
Landscaped	594,517	13.648	600	30	2.5	3.5	0.15	7.17		
<b>Total</b>		<b>26.875</b>						<b>75.02</b>		

## **Appendix D**

### **Maui Electric Company, Ltd. (MECO) Letter**

7416-01

6/15/05  
DMF  
RQF  
FILE



June 1, 2005

Mr. Daren Suzuki  
Munekiyo & Hiraga, Inc.  
305 S. High Street, Suite 104  
Wailuku, HI 96793

Dear Mr. Suzuki:

Subject: Royal Lahaina Resort Revitalization Project, TMK 4-4-008:007 and 013, Kaanapali, Lahaina, Maui

Thank you for allowing us to comment on the subject project.

In reviewing the information transmitted and our records, we have no objection to the subject project. As noted on page 5 under New Construction in the Project Summary, Royal Lahaina is planning to install all new infrastructure. If any of the existing electrical system is utilized, especially the customer's switchgear, we do have a concern as this switchgear is outdated and poses a safety concern to our company's personnel. We have had earlier correspondence with Royal Lahaina regarding this matter. We encourage the applicant's electrical consultant to meet with us as soon as practical to verify these concerns and other electrical requirements for the project so that service can be provided on a timely basis.

If you have any questions or concerns, please call Dan Takahata at 871-2385.

Sincerely,

Neal Shinyama  
Manager, Engineering

NS/dt:lh



**Royal Lahaina Resort**

Application for SMA Use Permit:  
 Royal Lahaina Resort  
 ATTACHMENT # 1



September 20, 2005

# ***Appendix D***

---

***Archaeological  
Assessment Report***

**ARCHAEOLOGICAL INVENTORY SURVEY REPORT  
FOR THE ROYAL LAHAINA RESORT REDEVELOPMENT  
HANAKA'O'O AHUPUA'A, LAHAINA DISTRICT  
ISLAND OF MAUI  
TMK 4-4-08:07, 13**

**FOR  
Royal Lahaina Development Group, LLC.**

**BY  
Diane Guerriero B.A., and Lisa Rotunno-Hazuka B.A.,  
and  
Jeffrey Pantaleo, M.A.**

**AUGUST 2005**



***ARCHAEOLOGICAL SERVICES HAWAII, LLC*  
1930 A Vineyard Street  
Wailuku, HI 96793**



## EXECUTIVE SUMMARY

Archaeological Services Hawaii (ASH), LLC, of Wailuku, conducted an archaeological inventory survey of the proposed Royal Lahaina Resort redevelopment project, on a 28-acre beachfront parcel located in the *ahupua'a* of Hanaka'o'o, Lahaina District, Maui Island (TMK 4-4-08:07 & 13). The objective of the survey was to satisfy historic preservation regulatory review inventory requirements of the Department of Land and Natural Resources, State Historic Preservation Division (DLNR-SHPD), as contained within Hawaii Administrative Rules, Rules Governing Standards for Inventory Surveys and Reports, Chapter 13-276 and Chapter 6E-42 Historic Preservation Review – Special Management Area Assessment for an Exempt Action Determination.

Prior to the implementation of fieldwork, Mr. Michael Wright of Michael Wright and Associates contacted Dr. Melissa Kirkendall, staff archaeologist of the Department of Land and Natural Resources, State Historic Preservation Division (DLNR-SHPD) to discuss the appropriate scope of inventory level testing. During this consultation, it was determined that since the hotel is currently operational, testing would be implemented in a two-phased plan. The first phase of testing would be implemented in areas of proposed development without impacting day to day operations. The second phase of testing would be instituted prior to or during demolition when all utilities would be inactive, and hard improvements such as tennis courts, parking areas and concrete walkways could be destroyed through backhoe testing. These test results would be discussed with Dr. Kirkendall and then presented as an addendum to this Inventory Survey report.

Fieldwork was conducted on May 10, 2005, by Ms. Diane Guerriero, B.A., under the direction of Ms. Lisa Rotunno-Hazuka, B.A., and overall supervision of Mr. Jeffrey Pantaleo, M.A. A total of 10 trenches were excavated during this phase of investigation. These trenches were executed in selected localities within the eastern portion of the project area as these areas were proposed for future development and considered non-intrusive to existing underground utilities. Representative stratigraphic profiles were recorded and photographic overviews were taken of each trench. Trenches locations were plotted on the master plan map. Results of the current phase of investigation were negative for both surface and subsurface historic properties within the tested portions of the parcel. The lack of subsurface cultural deposits is partially attributed to the extensive disturbances the parcel has undergone during the development of the resort, associated utilities, infrastructure, and adjacent golf course. Remnant sections of a modern asphalt road, sewer piping with previously disturbed subsurface materials, active electrical, water, and irrigation utilities were identified during the test trenching.

Archaeological monitoring during construction-related activities will likely be recommended upon the completion of phase two inventory level testing. The monitoring program is necessary because of the potential for significant traditional Hawaiian cultural remains and historic features extant within the subject property.

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## INTRODUCTION

At the request of Michael Wright & Associates, Inc., Archaeological Services Hawaii (ASH), LLC, conducted an archaeological assessment of a 28.0-acre parcel at the Royal Lahaina Resort in Ka'anapali, situated in the *ahupua'a* of Hanaka'o'o and Honokowai, Lahaina District, Island of Maui (TMK: 4-4-08:07 & 13). The purpose of the current investigation was to determine presence/absence, and extent of surface archaeological resources in the project area and to ascertain the potential for buried cultural remains. This manuscript seeks to satisfy all current historic preservation review requirements of Department of Land and Natural Resources – State Historic Preservation Division (DLNR-SHPD) Chapter 13-. Fieldwork was performed on May 10<sup>th</sup>, 2005, by Ms. Diane Guerriero, B.A., under the direction of Ms. Lisa Rotunno-Hazuka, B.A. Mr. Jeffrey Pantaleo, M.A. acted as Principal Investigator.

## PROJECT AREA

The project area (TMK 4-4-08:07 & 13), encompassing 28-acres, is a coastal property situated along the lower leeward northwestern slopes of West Maui in Ka'anapali, Hanaka'o'o and Honokowai *ahupua'a*, Lahaina District (Fig. 1 & 2). It is located north of the Historic Lahaina District (State Site 50-50-03-3001) and Kekaa Point in the resort area known as Ka'anapali. The project parcel is bounded by Honoapiilani Highway on the east, the Pacific Ocean on the west, Ka'anapali Villas Resort on the north, and the Ka'anapali Golf Course on the south (Fig. 3).

## ENVIRONMENTAL SETTING

The project area is located on the shore in the leeward side of the West Maui Mountains, and receives between 15-20 inches of rain annually, with most occurring during the winter months between November and February (Armstrong 1983:56). The entire project area, developed in the 1960s for the Royal Lahaina Resort, has undergone extensive land alteration with agricultural and resort development. Vegetation in the subject parcel is comprised of introduced ornamental species, landscaped to compliment the resort grounds. Vegetation consists of coconut palms (*Cocos nucifera*), Manila palms (*Veitchia merrillii*), plumeria (*Plumeria sp.*), hau (*Hibiscus tiliaceus*), and various exotic plants; flowers, shrubs, and a ground of cover of Saint Augustine grass (*Stenotaphrum secundatum*).

Figure 1: Project Location on a Map of Maui

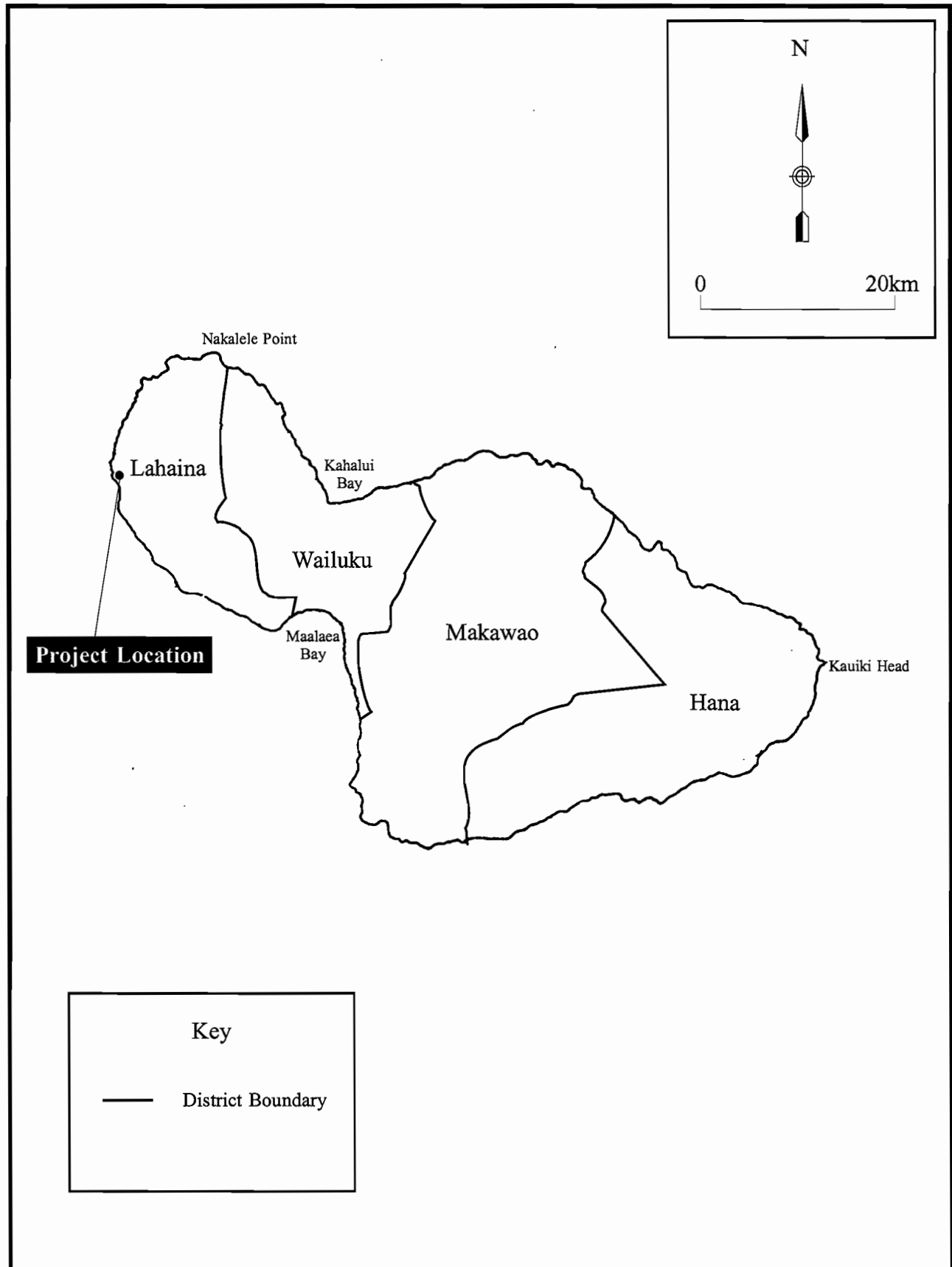
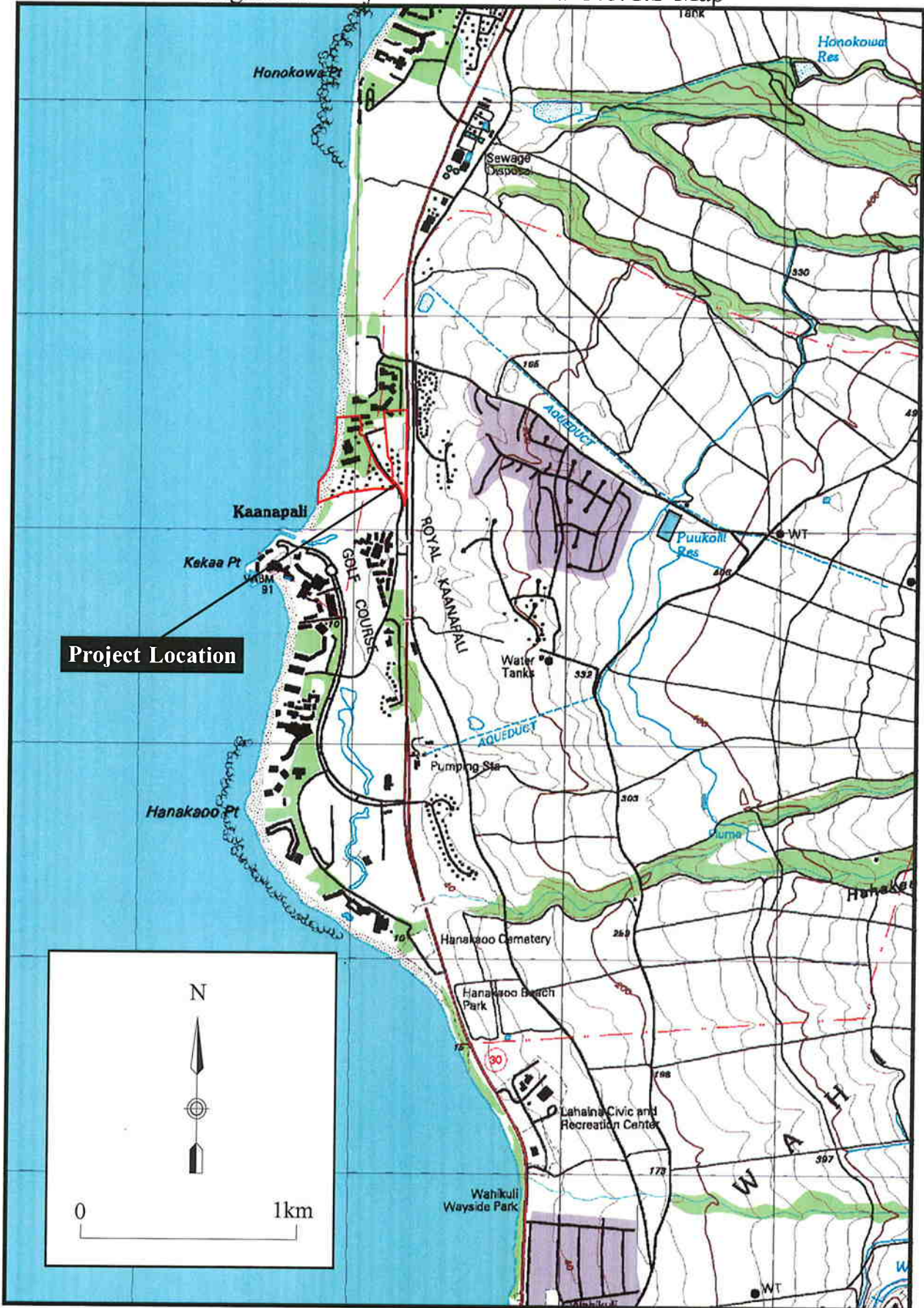


Figure 2: Project Location on a U.S.G.S Map

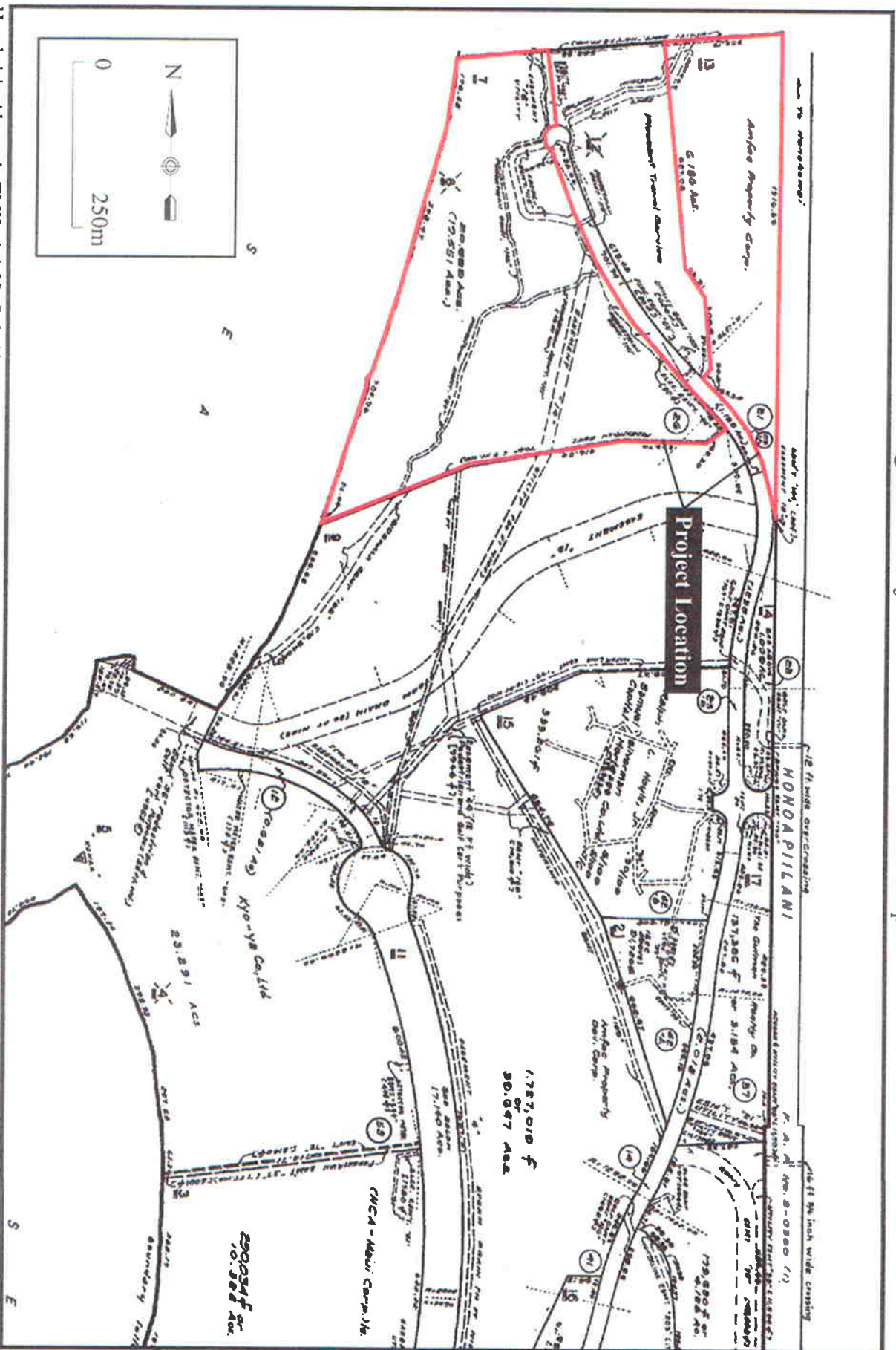


Hanaka'o'o Ahupua'a TMK: 4-4-08: 7 & 13

source: U.S.G.S. 7.5 Minute Series (Topographic)  
Lahaina Quadrangle 1983



Figure 3: Project Location on a TMK Map



Hanaka'o'o Ahupua'a TMK: 4-4-08: 7 & 13

source: Department of Taxation, Tax Maps Bureau 1976

The topography of the parcel is relatively flat being the inland portion of a sandy beach with a slight slope towards the ocean. Elevation ranges from sea level to about 40 feet above mean sea level (amsl). Soils in the parcel belong to the Pulehu-Ewa-Jaucas association (Foote *et al.* 1972:8). These soils, occurring on alluvial fans and in basins developed from alluvium weathered basalt and/or calcareous material, are deep, nearly level to moderately sloping, well drained and excessively drained soils that have a moderately textured to coarse-textured subsoil or underlying material. Ewa soils, in particular, which occur from 0 to 600 feet above mean sea level, have a surface and substratum of dark reddish-brown color (5YR and 2.5YR), and are friable silty clay loams. These soils are primarily associated with sugarcane production, home-sites, and wildlife habitat. Soil in the current parcel is a silty clay loam associated with a 0 to 3% slope. Runoff is very slow and erosion hazard is slight. Specific to the area are soils belonging to the Jaucus Series. These soils consist of pale brown to very pale brown, excessively drained sand, derived from corals and marine shells, and occur as narrow strips on coastal plains more than 60 inches deep (Ibid.48).

## **HISTORICAL BACKGROUND**

Historical summaries for the Lahaina region have been presented elsewhere. The reader is referred to the Community Planning Inc. (1961) and Klieger et al. (1995) for a detailed history of Lahaina. A brief historical summary of Lahaina will be presented here.

### **Traditional Setting**

Traditionally, the division of Maui's lands into districts or (*moku*) and sub-districts was performed by a *kahuna* (priest) named Kalaiha'ohia, during the time of the *ali'i* Kaka'alaneo (Beckwith 1940:383). Further land divisions within the *moku* were *ahupua'a*, which ideally incorporated all the natural resources necessary for traditional subsistence strategies.

*Ahupua'a* boundaries were said to have been established about 500 years ago and remain largely unchanged (Sterling 1998:3); thus, it is expected that the current boundaries of Hanaka'o'o approximate its prehistoric ones.

Traditional cultural beliefs of the Hawaiian people and their *'aina* (land) are intertwined and that their spiritual parents *Papa*, the earth, and *Wakea*, the sky, gave birth to the island of Maui, and the high chiefs who ruled it.

The island of Maui was named for the demigod Maui (Pukui *et al.* 1974), a trickster hero known throughout Polynesia and ancestor of all Hawaiian people. Kamakau (1991:129) says that the island was originally called *'Thi-kapalau-maewa*, and that it was called Maui only after Maui became famous for his exploits.

The area known today as Ka'anapali, was traditionally known as Keka'a, the capital of Maui, during the reign of the *ali'i* Kaka'alaneo. Reportedly Kaka'alaneo along with his brother Kakae jointly ruled over Maui and Lana'i (Sterling 1982). According to Fornander, Kakae was a populated area:

Many houses were constructed and the people cultivated a great deal of potatoes, bananas, sugar cane, and things of a like nature...the country from above Kekaa to Hahakea and Wahikuli, that country now covered in cactus...was all cultivated; Kekaa became a city populated by a great many; this chief [Kaalaneo] also planted the breadfruit and kukui trees down at Lahaina (Fornander 1974:540 in Kawachi 1995).

A large stone in Keka'a (Ka'anapali) known as *Pohaku o Wahine o Manua* was a legend named after a woman (*Wahine-o-Manua*) who sought shelter there while fleeing from her abusive husband (Thrum 1909:45).

Lahaina is said to refer to the "cruel sun" in reference to the droughts of the surrounding area (Pukui *et al.* 1974:127). Pukui *et al.* also suggests that an older name for Lahaina is *Lele*, literally to jump from place to place. Ashdown suggests that Lahaina, or Laha'aina is derived from Laha'ina-loa, a noted seer of the region (Borthwick *et al.* 2001:13).

What little is known about the ancient community of Lahaina is described in Kamakau (1961), Thrum (1909), Walker (1931), Kirch (1985), Sterling (1998), and Klieger (1998), as a royal chiefly center for centuries. "Since at least about A.D. 950, the Lahaina area had been favored by such great chiefs as Hua-a-Pohukaina, Kaka'alaneo, and Kahekili. Powerful chiefs resided and built *heiau* along the coast. Streams and springs generated from the West Maui Mountains allowed for potable water resources close to the shore.

The generally calm ocean conditions and beach frontage allowed for easy canoe access (Borthwick et al. 2001:4)”.

Early historic references to the Lahaina District describe a rich agricultural oasis fed by aqueducts descending from the well-watered valleys. “This oasis extended...about three leagues in length [nine miles along the coast] and one [three miles] in its greatest breadth. Beyond this all is dry and barren” (Handy and Handy 1972:493). The diversity of water fed cultivated crops included coconut, breadfruit, paper mulberry, banana, taro, sweet potato, sugar cane, and a variety of melons and gourds.

### **Early Historical Accounts**

Since Hawaiians had no formal written language, early historical accounts of Hawaii were recorded by early Hawaiian historians and foreigners to the islands. These descriptions are invaluable as they provide vivid representations of the area and its use.

During the 18<sup>th</sup> century a series of battles were undertaken, which were intended to unify the islands. In West Maui, a form of scorched earth strategy was implemented, which may have seriously disrupted the agricultural output and lifestyles of residents in the region of the project area. In the mid-eighteenth century, Alapa`i nui of Hawaii was waging war against the O`ahu *Mo`i* Peleioholani on Maui in the regions surrounding Lahaina. Irrigation systems, terraces and *auwai* were destroyed, negating the productive capabilities of the *lo`i* systems in the valleys below (Pantaleo et al. 2004:11, Kamakau 1992:74).

... What was this war like? It employed the unusual method in warfare of drying up the streams of Kaua`ula, Kahana, and Mahoma (which is the stream near Lahainaluna). The wet taro patches and the brooks were dried up so that there was no food for the forces of Ka-uhi or for the country people. Alapa`i's men kept close watch over the brooks of Olowalu, Ukumehame, Wailuku and Honokowai...at Honokowai an engagement took place between the two armies, and the forces of Alapa`i were slaughtered and fled to Keawawa (Ibid).

Four decades after Alapa`i's destructive strategies were employed, the effect on the regions' productivity could still be seen. Portlock (1789) confirmed that in 1786 western Maui had been devastated by the wars of unification” (Pantaleo et al. 2004).

Maui was an important center of political and social development during the late prehistoric and early historic period; it served as the residence of powerful chiefs (Kirch 1985:134). Oral traditions relate the importance of Lahaina Town as a place of royal residences. Maui Island *Mo`i* from Pi`ilani to Kahekili have resided in the vicinity of the



project area (Kamakau 1992, Klieger et al. 1995, Fredericksen and Fredericksen 1988, 1993, Borthwick et al. 2001).

Kamakau (1961), Thrum (1909), Walker (1931), and Sterling (1998:29) describe events related to Wailehua Heiau, which was formerly on the Lahaina coast in the *ahupua`a* of Makila (south of the current subject parcel). The *heiau* was reportedly constructed by the eldest son of Kekaulike, Kauhiaimokuakama, around 1738. The building of the *heiau* was responsible for a revolt by Kauhiaimoluakama against Kamehameha-nui, incited by Pinnaau, a priest and counselor. The sacrificial *heiau* was subsequently consecrated by Liholiho in 1802 (Haun et al. 2001:6).

The other *heiau* reportedly existed near the mouth of Pahumanamana Stream near the old “brick palace” complex of Kamehameha I at Keawaiki (Klieger et al. 1995:28).

“In the first half of the 19<sup>th</sup> century, during the Kamehameha dynasty, the port of Lahaina became a prominent center for the whaling industry until the mid-1800s and the seat of royal government” (Pantaleo et al. 2004:11).

Kamehameha I had a residence built for him in Lahaina town by foreigners (the Brick Palace) and subsequently resided in Lahaina for a year (1802) while collecting taxes due from Maui and the three adjacent islands. The Brick Palace was located *makai* of the present Lahaina library. Historian W.D. Alexander writes: “It stood among the taro patches and fish ponds, the coconut, *hala*, and *kou* trees in front of the present library (Maui Historical Society).”

Lahaina became the capital of the Kingdom of Hawai`i, from ca. 1820 to 1845, when Kamehameha III moved the capital to Honolulu. Kamehameha II and Kamehameha III resided part time in Lahaina. Kamehameha III had residences at Hale Pi`ula (the official palace) and Moku`ula (his private residence), on the island of Moku`ula within the Mokuhinia Fishpond, a short distance, north of the current study parcel (Fredericksen and Fredericksen 1988, Klieger et al. 1995).

### Historic Land Use

With the arrival of Captain James Cook, three miles offshore from Kahului Bay, Maui, on the 26<sup>th</sup> of November in 1778, the recorded events that followed the contact between Europeans and the indigenous population of Maui began.

Kamehameha I favorite wife, Hana-born Ka'ahumanu, served as his counselor. After he died in 1819, she declared herself Kuhina nui, or ruler, with the new young king Liholiho, also known as Kamehameha II. Their place of residence in Lahaina became the capital of the kingdom. From the time of Liholiho's departure for England in 1823 and until her death in 1832, Ka'ahumanu virtually ruled the kingdom, because Liholiho died abroad, and his brother Kaikēaouli, or Kamehameha III, was only twelve years old when he was proclaimed king (Duensing 1993, Guerriero 2004).

When Kamehameha I died, the strength of the ancient *kapu* system of religion began to fail. Ka'ahumanu, who disagreed with the restrictions of traditional Hawaiian religion, persuaded Liholiho to break the *kapu*, an act that unintentionally cleared the way for the arrival of the Christian missionaries in the year 1820.

The old religion began to die as *heiau* were destroyed and abandoned. The breakdown of the Hawaiian *kapu* system helped to initiate acceptance of the new religion.

With the arrival of the missionaries in Hawaii in 1820 every aspect of Hawaiian society was influenced. A Western-style government began to take form. In 1839, Kamehameha III (Kaikēaouli) promulgated a declaration of rights known as Hawaii's Magna Carta and, just a year later, Hawaii's first constitution was written.

During the reign of Kamehameha III, a dramatic change in land ownership, known as the Mahele or division, occurred in which lands previously administered by the king passed into private ownership; and it is from this division of land parcels that present ownership is established. The traditional system was a form of stewardship without ownership, in which tribute in the form of goods or services, generated by the common citizenship occupying the land, was passed through a hierarchy of overseers, sub-chiefs, and district chiefs or chiefeses to the king. The

Mahele separated lands in three major divisions: Crown Lands, Government Lands, and Konohiki Lands. Land Commission Awards were given, generally without cost except for surveying fees, to native tenants who could establish, through witnesses, that they had lived on or gained sustenance from a particular parcel of land. Government Lands (grants) could be purchased fee simple. Awards and Grants were confirmed by a Royal Patent. In Lahaina, as well as Hilo and Honolulu, commoners claiming house lots were required to pay commutation amounting to one quarter of the appraised value, to the government before obtaining a Royal Patent on their awards (Chinen 1961:16, Pantaleo et al. 2004:12).

With the establishment of a system of private land ownership many landless Native Hawaiians signed on as laborers in the emerging sugar industry. "In 1849 Judge A.W. Parsons established a sugar mill, which along with 1,000 acres was later sold at auction to O.H. Gluck. Henry Dickerson, a Lahaina storeowner, began a plantation in 1859, and the following year his Lahaina Sugar Company encouraged the establishment of yet another plantation owned and operated by the Pioneer Mill Company" (Haun et al. 2001:16). The Pioneer Mill Co. played a significant role in the historical and demographic development of Lahaina and surrounding areas from the 1860s until relatively recent times (ca 1950s). With the emerging sugar industry many foreign laborers were employed from China, Japan, the Philippines, Korea, and Portugal. Separated by ethnicity, sugar plantation camps were established throughout the Lahaina region.

The Pioneer Mill Co., engaged solely in the business of raising and processing sugarcane. The Pioneer Mill Co. was established in 1863 by Lahaina entrepreneurs James Cambell and Henry Turton in partnership with Benjamin Pitman, a Hilo merchant. In 1885 H. Hackfield & Company, predecessor of the present owner Amfac/JMB Hawaii, Inc., bought control of the company (Dorrance 2000:63).

The Pioneer Mill Co. built a narrow gauge railroad to transport cane from its west Maui fields to their mill in Lahaina. In 1883 construction of the railroad was completed, running from its terminus at Honokowai along the coast to the mill at Lahaina (Conde 1973:252-253, Pantaleo et al. 2004:15).

Sugar would be processed and bagged at the mill in Lahaina and then taken by train to the landing at Pu'u Keka'a (Black Rock). Other buildings had been constructed there to aid in the plantation activities,

such as oil and molasses tanks, as well as a pavilion and some beach cottages on the beach for the use of Pioneer Mill Company's personnel (Clark 1989:61 in Morawski and Dega 2003:12).

By the turn of the century, the Pioneer Mill Company controlled 12,500 acres of land, in 1931 Pioneer Mill bought the Olowalu Sugar Company and by 1936 the mill controlled over 24,000 acres and the water resources collected from the valleys of the West Maui Mountain at Launiupoko, Kaua`ula, Kahana, Kahoma, Honokowai, and Honokahua. "The diversion of water resources by irrigation systems included tunnels, ditches, and flumes. The plantation diverted the streams that fed the coastal fishponds and taro fields creating stagnant swamps, or drying the fields and ponds completely" (Haun et al. 2001:18).

The shift from sugar plantation to tourism was initiated in the late 1950s, when Amfac/JMB Inc. put plans in motion to construct a major resort area in Ka'anapali centered around the area of Pu'u Keka'a. It was at this time that the present study parcel of the Royal Lahaina resort was designed and constructed.

#### Land Tenure

The entire *ahupua'a* of Hanaka'o'o' (LCA 7715) was awarded to Lot Kapuaiwa Kamehameha (Kamehameha V) during the Mahele (N.T. 1850 v.10:316). There are no LCAs in the vicinity of the present study parcel. Four LCAs were awarded in the *ahupua'a* of Hanaka'o'o and are listed below.

**Table I.**

L.C.A. Awards near the Project Area, As Described in the Award Books of the Land Commission

NAME	LCA	R.P.	LAND	ACREAGE
Alu	3425-B	8246	Hanaka'o'o	2 roods 12 rods
Kaiheekai, J.H.	11086	3581	Hanaka'o'o	3 Acs, 1 rood, 3 rods
Kamehameha, Lot	7715	2567	Hanaka'o'o	3853Acs, 1 rood 37 rods
Pupuka	502	3535	Hanaka'o'o	1 Ac 2 roods 23 rods

“The first is a piece of Kalo land, bounded by my land on one side, and by that of Hiliaia, a Kanaka on the other. The second piece is Kula land joining mine and Koke’s. My father gave this land to Alu about the year 1833, and no one disputes his title to this day.”

Part of the land awarded to Kaiheekai, J.H. (LCA 11086, R.P. 3581) contained four parcels in Ka’anapali, Hanaka’o’o that are listed as taro patches *mauka* in Paunau pali, taro land in Pupuka’s land, pasture in Puunoa *ahupua’a* of Hanaka’o’o and one patch at Puuhoowali “Government going up and down road (N.T.v.9:54).”

Part of the land awarded to Pupuka (LCA 502, R.P. 3535) contained a house interest in Ka’anapali at Piholaalau, 7 patches at Kuholilia in Ka’anapali, pasture in Hanaka’o’o at Paaku, Ka’anapali, patches in Ka’anapali at Kaiheekai’s land, patches in Ka’anapali at Makapo, and one patch *makai* and Ka’anapali at Kahele (N.T. v.10:107).

Traditionally Ka’anapali is the name of an ancient *kalana* (a division of land smaller than a *moku*) whose lands were rezoned and subsumed into a new Lahaina district by the Hawaiian Legislature in 1859 (Clark 1989).

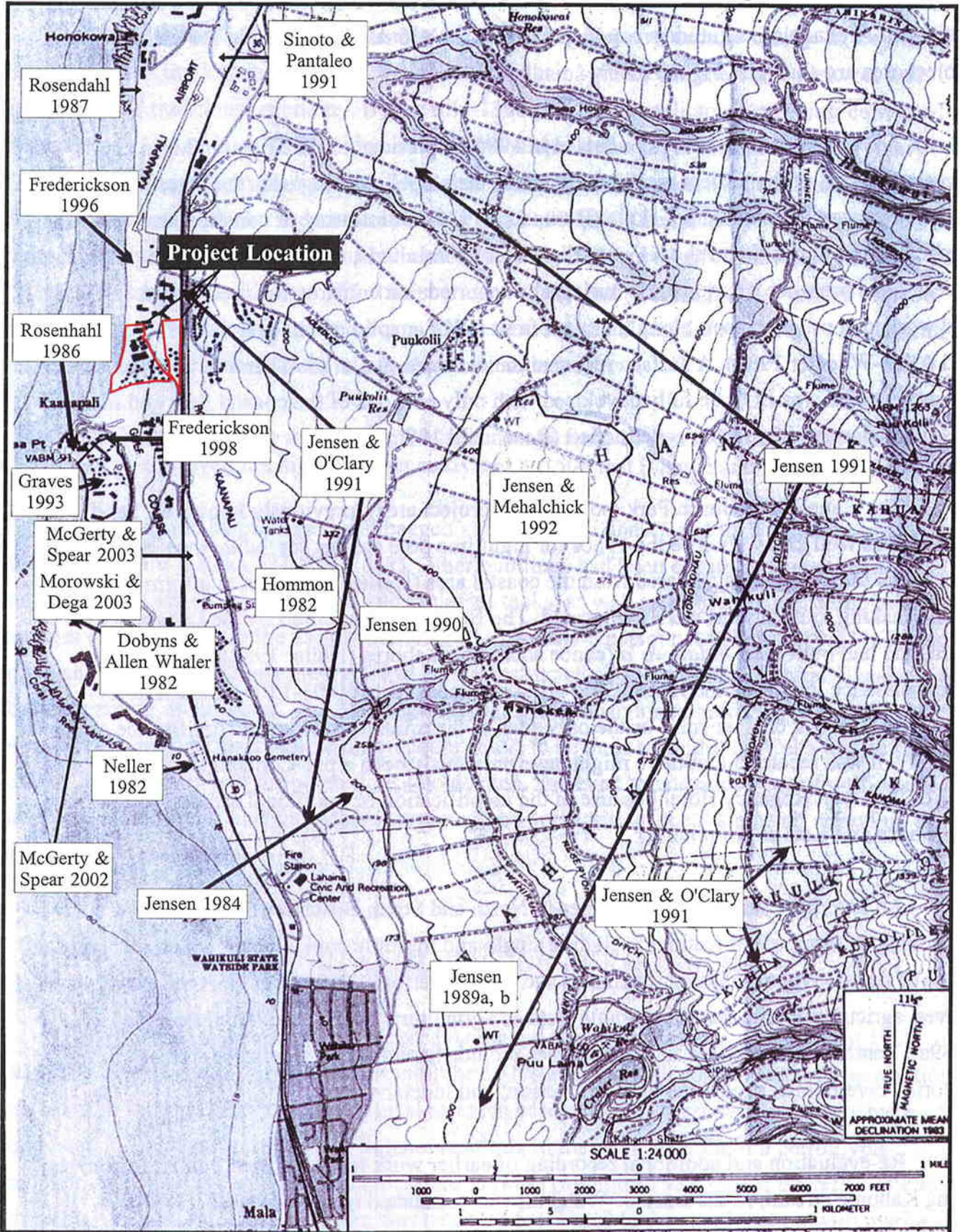
## **PREVIOUS ARCHAEOLOGY**

Winslow Walker (1931) is most often credited with his pioneering archaeological work on the island of Maui in the 1920s; Walker conducted a survey for the Bishop Museum focusing on large sites and *heiau*. Walker investigated several *heiau* in the Lahaina District (Sites 7-11) that had previously been referenced by Thrum in 1923, but found that they had been destroyed and only traces of wall remnants were found remaining.

Since the advent of contract archaeology in the early 1970s and 1980s and the rapid urbanization and resort development of West Maui, numerous archaeological studies have been conducted in the Lahaina region (Table II; Fig. 4) Much of the archaeological environment has been erased with the impact of the sugarcane and pineapple industry and subsequent resort development. This section will present a summary of more recent results of archaeological investigations in the *ahupua’a* of Hanaka’o’o. Table 2 lists the previous archaeological investigations conducted within the *ahupua’a* of Hanaka’o’o and



Figure 4: Location of Previous Archaeological Investigations



Hanaka'o'o Ahupua'a TMK: 4-4-08: 7 & 13

adapted from: Morowski and Dega, 2003



close proximity of the current study parcel and Figure 3 depicts their locations. Those studies with noteworthy results are listed below.

The Lahaina bypass road has undergone numerous studies, part of which included the *ahupua'a* of Hanaka'o'o (Barrera 1989, Jensen and O'Claray 1991, Jensen and Mehalchick 1992, Jensen 1994).

Cultural remains identified in the inland sugarcane fields of Lahaina, but not impacted by the sugar cultivation, included plantation related sites and traditional sites including enclosures, walls, rock mounds, petroglyphs, rockshelters, terraces, temporary habitation sites, agricultural sites, a possible burial, and *'auwai* (Hommon 1982, Barrera 1989, and Jensen 1989, 1991).

Paul H. Rosendahl Inc. (PHRI) conducted an archaeological inventory survey of approximately 340-acres (Jensen 1991). Results of the survey identified nine sites with 49 component features including enclosures, terraces, walls, trail, habitation, possible burial, and pre-Contact and historic agricultural features. Extensive agricultural features were identified in Hahakea and Kahoma gulches in areas where sugarcane activities were absent.

South of the present study parcel an inventory survey was conducted by PHRI in the North and South Beach area (Jensen 1989a). Results of survey of a 1,200-acre parcel identified 12 sites and 44 component features including, platforms, walled enclosures, petroglyphs, overhangs, caves, graves, agricultural terraces, and an historic road.

PHRI (Rosendahl 1986) conducted a reconnaissance survey on portions of the Sheraton Maui in the Ka'anapali Beach Resort, located south of the current study parcel. The survey determined that the project area had undergone previous disturbance with development and the remaining natural topography included only the barren coastal flats and Pu'u Keka'a. (Black Rock).

Table II. Previous Archaeological Investigations in Hanaka'o'o *Ahupua'a*

Author/Year	Ahupua'a	Site No. (50--)	Archaeological Investigation	Description
Hammatt 1978	Hanaka'o'o	None	Reconnaissance	No identified sites
Dobyns & Allen-Wheeler 1982	Hanaka'o'o	50-03-2940	Monitoring	Previously disturbed human remains belonging to four individuals and two in situ burials were identified and six basalt flakes
Neller 1982	Hanaka'o'o	50-03-1204	Assessment and Reconnaissance	Site 1204 Grinding Stones was re-identified, the historic Chinese cemetery and rock crusher site were deemed significant
Hommon 1982	Hanaka'o'o	50-03-2001 through 2010	Reconnaissance	Agricultural Terraces and Retaining Walls
Barrera 1986	Hanaka'o'o	None	Reconnaissance	No identified sites
Rosendahl, 1987	Hanaka'o'o	None	Subsurface Reconnaissance	No identified sites
Sinoto 1990	Hanaka'o'o	None	Assessment	No identified sites
Jensen 1990	Hanaka'o'o	50-03-2489, 2490	Inventory Survey	Seven previously identified sites and 1 newly identified site included 49 component features, a trail, enclosures, habitation, poss. burial or cairn, and agricultural terraces
Donham 1992	Hanaka'o'o	50-03-2948	SHPD Recovery	Poss. Ku'ula Stone recovered from Au'au Channel near Hanaka'o'o Pt.



Table II. cont'd

Graves 1993	Hanaka'o'o	None	Inventory Survey	No identified sites
Fredericksen & Fredericksen 1996	Hanaka'o'o	None	Monitoring	No identified sites
Federicksen 1998	Hanaka'o'o	50-03-4136	Monitoring	9 random finds of human remains and 7 primary historic burials were identified; grave markers belonging to the Japanese cemetery
McGerty & Spear 2002	Hanaka'o'o	None	Inventory Survey	No identified sites
Morawski & Dega 2003	Hanaka'o'o	None	Inventory Survey	No identified sites
McGerty & Spear 2003	Hanaka'o'o	None	Cultural Impact Statement	

PHRI (Graves 1993) subsequently conducted an inventory survey at the Sheraton Maui. Subsurface testing in the form of 15 backhoe trenches identified numerous layers of introduced fill. No cultural remains were identified.

Xamanek (Fredericksen 1998) conducted archaeological monitoring during the re-development project at the Sheraton Maui. Results of monitoring identified nine random isolated finds of human remains and seven primary burials. Coffin burials, and the remains of grave markers, were identified in association with an historic Japanese cemetery that was located on the study parcel. Another cemetery was reported to be located atop Pu'u Keka'a (Black Rock). During initial construction in the 1960s of the Sheraton Maui and other hotels along the Ka'anapali Beach Resort ocean frontage, human remains were reported to have been disturbed.

Scientific Consultant Services (SCS) conducted an inventory survey at the Maui Marriott Ocean Club (McGerty and Spear 2002). The survey, consisting of backhoe trenching in four separate areas on the resort premises, identified previous subsurface disturbances associated with development. No pre-Contact or historic materials were identified in any of the trenches.

Monitoring during construction was conducted along the beachfront property at the Ka'anapali Alii Condominiums in the Ka'anapali Beach Resort, located south of the Sheraton Maui. Results of monitoring identified pre-Contact burials, State Site 50-50-03-2940 (Dobyns and Allen-Wheeler 1982).

During redevelopment at the Maui Marriott Ocean Club at Ka'anapali Beach Resort, human remains (State Site 50-03-4985) were identified during excavation of a pool along the beach front. The remains were found in fill that had previously been disturbed during the initial construction in the 1960s (pers. comm., Rotunno-Hazuka 2000).

South of the present study parcel at the Hanaka'o'o Beach Park a reconnaissance survey conducted by State Archeologist Earl Neller (1982) identified the Hanaka'o'o grinding stones (State Site 50-03-1204), the historic Chinese cemetery, rock crusher ruins, and an historic culvert.

SCS completed a cultural impact assessment on a piece of property located across from the Ka'anapali Beach Resort. The report includes archival and documentary research from both published and unpublished sources while examining cultural practices and beliefs within the broad geographical area of Hanaka'o'o *ahupua'a* (McGerty and Spear 2003).

## **SETTLEMENT PATTERN**

Land use and settlement patterns along the Lahaina coast of West Maui appear to conform to those described for similar regions of the Hawaiian Islands. Oral traditions, historical accounts, and archaeological investigations indicate that the area supported a large traditional population and early occupation (Pantaleo *et al.* 2004).

The traditional settlement pattern for the Lahaina coastal zone would indicate permanent habitation, with dry land cultivation and taro *lo'i*. More extensive cultivation would focus inland along the alluvial slopes and far inland in the upper regions of the West Maui Mountains where forest resources would be harvested.

Late prehistoric/early historic settlement in Lahaina was characterized by permanent habitation along the coast and limited agricultural expansion into harsher, more ecologically marginal regions (Kirch 1977).

Radiocarbon dates from the Lahaina District indicated that settlement probably occurred by the 1100 to 1200's. Radiocarbon dates spanning the 1400s to historic period indicate increased population and intensity of land use. The settlement pattern included permanent habitation along the coast and inland, along the main drainages. The valley bottoms were intensively cultivated with irrigated taro and the slopes with dry-land crops. At the lower reaches of the mountain slopes, the stream water was spread by *auwai* to a broad band of taro pondfields just inland of the coastal settlements (Haun *et al.* 2004).

Permanent habitation probably occurred inland as well, with intermediate areas being used for transit stops during *mauka-makai* travels. Sites in these intermediate zones may consist of temporary habitation features such as rock-shelters with exterior modifications, C- and U-shaped enclosures, trails, and trail markers. During the late historic into the historic period, a few permanent habitation sites in the form of feature complexes may

have been established in the mid-elevation zones. The formal feature types of inland occupation sites in the Lahaina area are again not well known, but can be surmised to have consisted of enclosures, platforms, and terraces, much like those in the neighboring areas.

Available archaeological data is lacking in the upper elevation zones with more rainfall. However, information gleaned from early historic land records suggests that taro cultivation was prevalent in the upland gulches and dryland agriculture on the slopes along with the gathering of forest resources. Prominent religious sites, such as *heiau*, were most likely represented by well-constructed, notched enclosures and formalized platforms. The formal religious sites were situated along the coast, on ridge crests and lower slopes overlooking the ocean.

During the post-1850s era, with the advent of ranching and commercial agricultural activities in the form of sugar cane cultivation, large tracts of the upland areas were transformed into cultivation fields and the coastal areas were utilized for habitation. Thus, Lahaina was used primarily for sugar cane cultivation. The features associated with this period consisted of long, stone walls, large corrals, enclosures, and large stone piles. Such large-scale activities adversely affected the native Hawaiian inhabitants of the small *kuleana*, who were forced to abandon their holdings and move elsewhere or work for the sugar industry. Toward the late 1800s, permanent habitation flourished in the coastal areas of Lahaina. Historic accounts attest to the concentration of settlement and cultivated areas in the Lahaina area. Habitation sites in the later historic periods took the form of wooden houses within walled yards, generally clustered close to the main roadways or boat landings on the coastal areas. During this period, much of the inland permanent habitation areas were being abandoned, probably along with the intermediate zone and near-shore inland areas immediately behind the coastal settlements.

#### **SITE EXPECTABILITY**

No surface features are present in the project area, thus only subsurface remains in the form of buried structural remains, cultural deposits, or features are expected. Midden, charcoal, artifacts, and fire features may be encountered. The remains would most likely be related to habitation and marine exploitation. Based on the results of work at neighboring parcels, the potential presence of human burials cannot be discounted.

## **METHODS**

A review of previous archaeological investigations in the vicinity was conducted at the State Historic Preservation Division (SHPD) libraries of the Department of Land and Natural Resources (DLNR) at both the Maui and O'ahu offices. Historic land tenure records were researched at the Bureau of Conveyances and Land Management Branch of DLNR, and at the Survey Division of the State Department of Accounting and General Services.

The fieldwork was performed by Ms. Diane Guerriero, B.A. on May 10, 2005. Since the parcel is currently developed and historic properties were not visible on the surface, subsurface testing through backhoe trenching was deemed appropriate. In consultation with Dr. Kirkendall, it was determined that 20 backhoe trenches should be excavated throughout the project area. It was also determined that inventory level testing should progress within a two-phased program where initial backhoe trenching (n=10) would be performed in areas that would not impact day to day operations at the resort. Phase II backhoe trenching (n=10) would be implemented during demolition and renovations, and these results would be presented as an addendum to the current study. To ascertain the location of these trenches, the proposed development plan map (Fig. 5) was overlaid onto the existing conditions map. The areas which were proposed for development that were not currently improved would be the main test area. These main test areas encompass approximately 8.0 acres.

For the current investigation a total of ten trenches were excavated, oriented east/west and north/south, approximately 6.0 meters in length and 0.9 meters in width. The trenches were selectively located within areas of proposed development and where day to day activities of the hotel would not be impeded. The objective of this first phase of testing was to permit a representative sampling of the subject area and not to be intrusive with underground active utilities. The backhoe excavation was undertaken with the supervision of the archaeologist and terminated when sterile subsoil or bedrock was reached. Representative profiles were recorded and soils were described. Locations of trenches were plotted on a base map provided by the client. Color photographs on 35mm format were taken of project area and trench overviews.





During the course of this project, all accepted standard archaeological procedures and practices were followed. Field notes, maps, and photographs, are being curated by Archaeological Services Hawaii, LLC, in Wailuku.

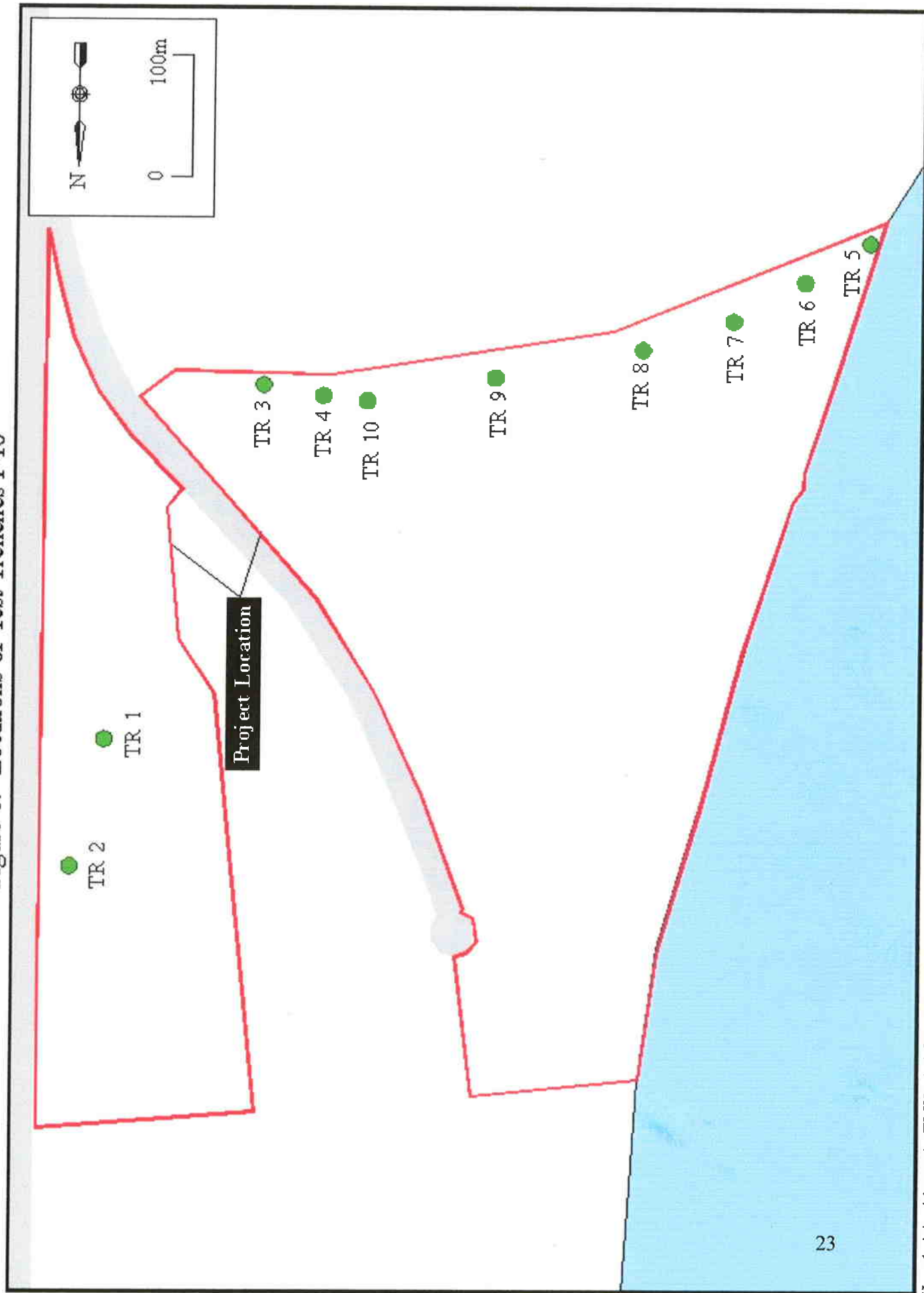
## RESULTS OF FIELDWORK

No surface features were identified and no areas of exposed subsurface cultural deposition were encountered during the surface survey. The surface area of the parcel had undergone previous episodes of disturbance from resort development.

Test trenches were excavated using a backhoe at selected localities for subsurface sampling. A total of ten backhoe trenches (TR1-10) were excavated during the current investigation. TR1 and TR2 were located in the eastern half (*mauka*) of the parcel, TR3, 4, 9, & 10 were located in the southeastern half (*mauka*) of the parcel, and TR5, 6, 7, & 8, were located in the southwestern (*makai*) portion of the parcel (Fig. 6). The trenches were situated in a manner that allowed for maximal coverage of the area without unduly disturbing the landscape and underground active utilities. Table III presents descriptive summaries of TR1-10. Locations of backhoe trenches are depicted on Figure 4, and representative stratigraphic columns and profiles for TR1-10 are depicted on Figure 5. Photographic overviews of TR 1-10 are included in Appendix A.

Generally, two similar stratigraphic layers are represented in TR1-10 with the presence of sand in coastal trenches TR5-9. An "A" horizon (Duff Layer), consisting of landscaped grass overlying a fill layer of silty sandy loam with red clay, sand inclusions and abundant roots, was present across the entire project area. Underlying the "A" horizon was Layer I, silty sandy clay fill layer overlying Layer II, reddish brown silty clay. Underlying Layer II was Layer III, coarse marine sand with coral pieces in TR5-9. All trenches exhibited previous subsurface disturbance from underground active and non-active utility lines.

Figure 6: Locations of Test Trenches 1-10





**Table III. Descriptive Summary of Trenches 1-10**

Trench	Length	Width	Depth	Orient.	Layer I	Layer II	Layer III	Cultural
1	4m	2ft.	1.4	50/230	Fill	Silty Clay	Bedrock	Sterile
2	2m	2-4ft	0.40m	80/260	Fill	Broke Waterline		
3	6m	2ft	1.25m	80/260	Fill	Silty Clay	Bedrock	Sterile
4	6m	2ft.	1.3m	30/210	Fill	Silty Clay	Old Sewerline	
5	6m	2ft.	2m	350/170	Fill	Silty Clay	Sand	Sterile
6	6m	2ft.	1.5m	340/160	Fill	Silty Clay	Sand	Sterile
7	6m	2ft.	1.5m	90/270	Fill	Silty Clay	Sand	Sterile
8	6m	2ft.	1.55m	360/180	Fill	Silty Clay	Sand	Asphalt Paving Between Layer I and II
9	6m	2ft.	1.76m	20/200	Fill	Road Fill with a'a cinders	Sand	Sterile
10	6m	2ft.	1.3m	40/220	Fill	Silty Clay	Irrigation Lines	

**Trench 1**

**Layer I** (12/42cmbs): dark reddish brown (7.5 3/3), fill, silty sandy loam with medium-grain coralline sand inclusions; non-sticky, non-plastic, abundant fine to medium roots. Culturally sterile; clear, irregular boundary

**Layer II** (42/1.4mbs): reddish brown (5YR 2.5/2), silt clay; medium roots, slightly sticky, slightly plastic. Culturally sterile; excavation terminated at bedrock

**Trench 2**

**Layer I** (12/40cmbs): brown (10YR 5/3), fill; silty sandy loam with medium-grain coralline sand inclusions; non-sticky, non-plastic, abundant fine to medium roots

**Layer II** (40/1.4mbs): reddish brown (5YR 2.5/2), silt clay; medium roots, slightly sticky, slightly plastic. Terminated due to broken water line.

**Trench 3**

**Layer I** (12/30cmbs): brown (10YR 5/3), fill; silty sandy loam with medium-grain coralline sand inclusions; non-sticky, non-plastic, abundant fine to medium roots. Culturally sterile; clear, irregular boundary

**Layer II** (30/1.25mbs): reddish brown (5YR 2.5/2), silt clay; medium roots, slightly sticky, slightly plastic. At 93/1.03m below surface a charcoal lens was observed, upon investigation it was determined to be a shallow deposit related to previous agricultural activity associated with sugarcane production. Culturally sterile; excavation terminated at bedrock

**Trench 4**

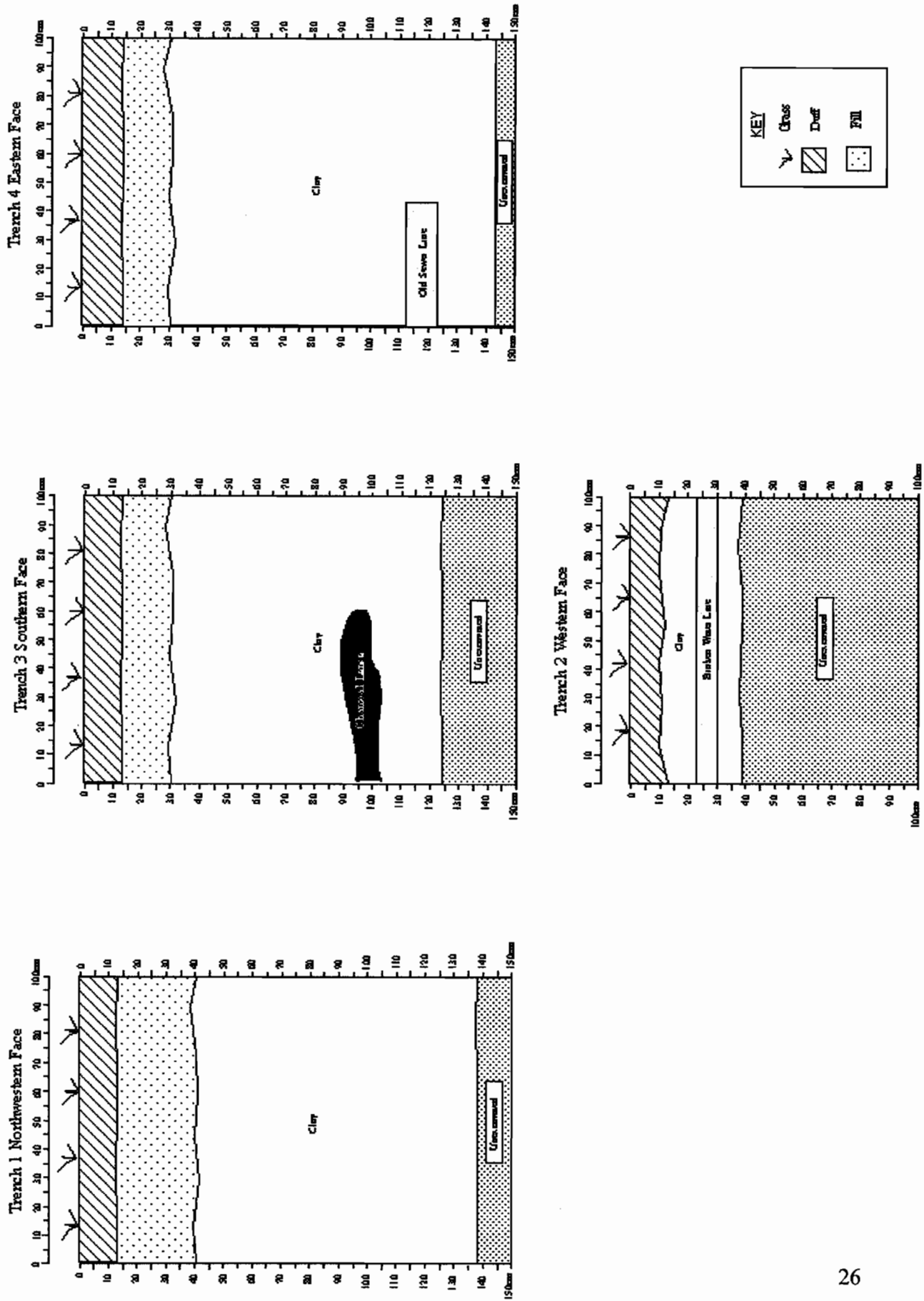
**Layer I** (12/30cmbs): brown (10YR 5/3), fill; silt loam with medium-grain coralline sand inclusions; non-sticky, non-plastic, abundant medium to large roots. Culturally sterile; clear, irregular boundary

**Layer II** (30/1.5cmbs): reddish brown (5YR 2.5/2), silt clay with medium roots; slightly sticky, slightly plastic. At 45cmbs a possible trench outline was noted in the southeast profile, and at 1.3m below surface an old cement sewer line was identified. Culturally sterile; excavation terminated in sterile substratum

**Trench 5**

**Layer I** (12/45cmbs): fill; silt loam with medium-grain coralline sand and clay inclusions; non-sticky, non-plastic, abundant medium to large roots. Culturally sterile; clear, irregular boundary

Figure 7: Profiles of Test Trenches 1-4



**Layer II (45/55cmbs):** reddish brown (5YR 2.5/2), silt clay with medium roots; slightly sticky, slightly plastic; abrupt boundary and culturally sterile

**Layer III (55/2mbs):** mottled yellow (10YR 7/6 moist), sand; strong, coarse single grain, coral pieces; loose, non-sticky, non-plastic consistence; no roots; culturally sterile; layer continues below base of trench

#### **Trench 6**

**Layer I (12/50cmbs):** fill; silt loam with medium-grain coralline sand inclusions; non-sticky, non-plastic, abundant medium roots. Culturally sterile; clear, irregular boundary

**Layer II (50/62cmbs):** reddish brown (5YR 2.5/2), silty clay with sand inclusions; abundant fine to medium roots, slightly sticky, slightly plastic. Culturally sterile; clear, abrupt boundary

**Layer III (62/1.5mbs):** mottled yellow (10YR 7/6 moist) sand; strong, coarse single grain, coral pieces, loose, non-sticky, non-plastic consistence; no roots; culturally sterile; layer continues below base of trench

#### **Trench 7**

**Layer I (12/53cmbs):** brown (7.5YR 3/4), sandy silty loam with medium-grain coralline sand inclusions; non-sticky, non-plastic, abundant fine roots. Culturally sterile; clear, irregular boundary

**Layer II (53/63cmbs):** reddish brown (5YR 2.5/2), silt clay with sand inclusions; abundant fine to medium roots, slightly sticky, slightly plastic. Culturally sterile; clear, abrupt boundary

**Layer III (63/1.5mbs):** mottled yellow (10YR 7/6 moist) sand; strong, coarse single grain, coral pieces; loose, non-sticky, non-plastic consistence; no roots; culturally sterile; layer continues below base of trench

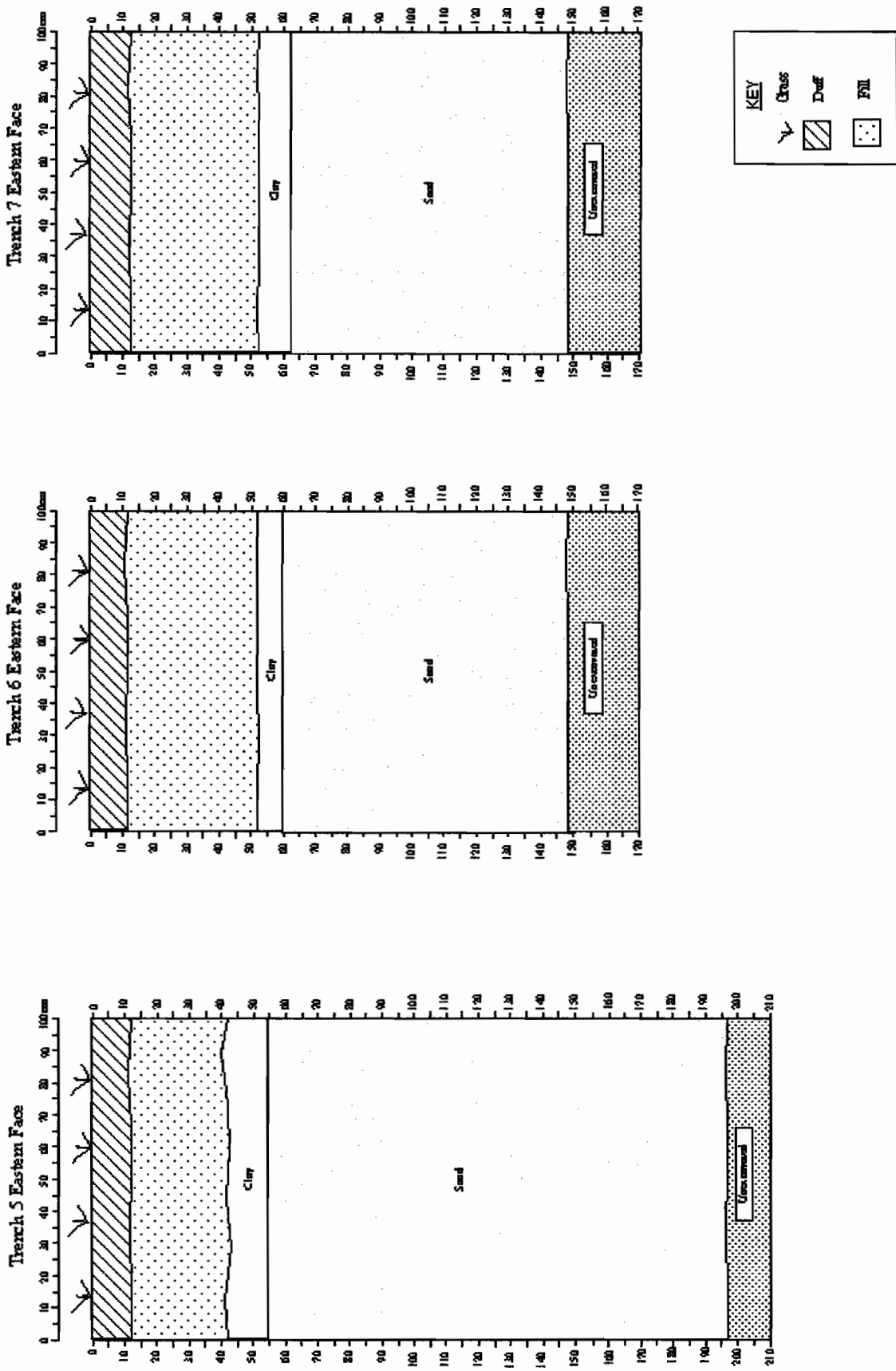
#### **Trench 8**

**Layer I (12/42cmbs):** brown (10YR 5/3) fill; silty loam with medium-grain coralline sand inclusions; non-sticky, non-plastic, abundant fine to medium roots. Culturally sterile; clear, irregular boundary

**Layer I/II (43/48cmbs)** asphalt paving

**Layer II (48/101cmbs):** reddish brown (5YR 4/4), silt with cinder inclusions; reddish brown sand inclusions; non-sticky, non-plastic. Culturally sterile; clear, abrupt boundary. Roadbed gravel under asphalt paving

Figure 8: Profiles of Test Trenches 5-7



**Layer III** (101/1.55cmbs): mottled yellow (10YR 7/6 moist) sand; strong, coarse single grain, coral pieces; loose, non-sticky, non-plastic consistence; no roots; culturally sterile; layer continues below base of trench

**Trench 9**

**Layer I** (12/42cmbs): brown (10YR 5/3), fill; silty loam with medium-grain coralline sand inclusions and small angular cobbles; non-sticky, non-plastic, abundant fine to medium roots. Culturally sterile; clear, irregular boundary

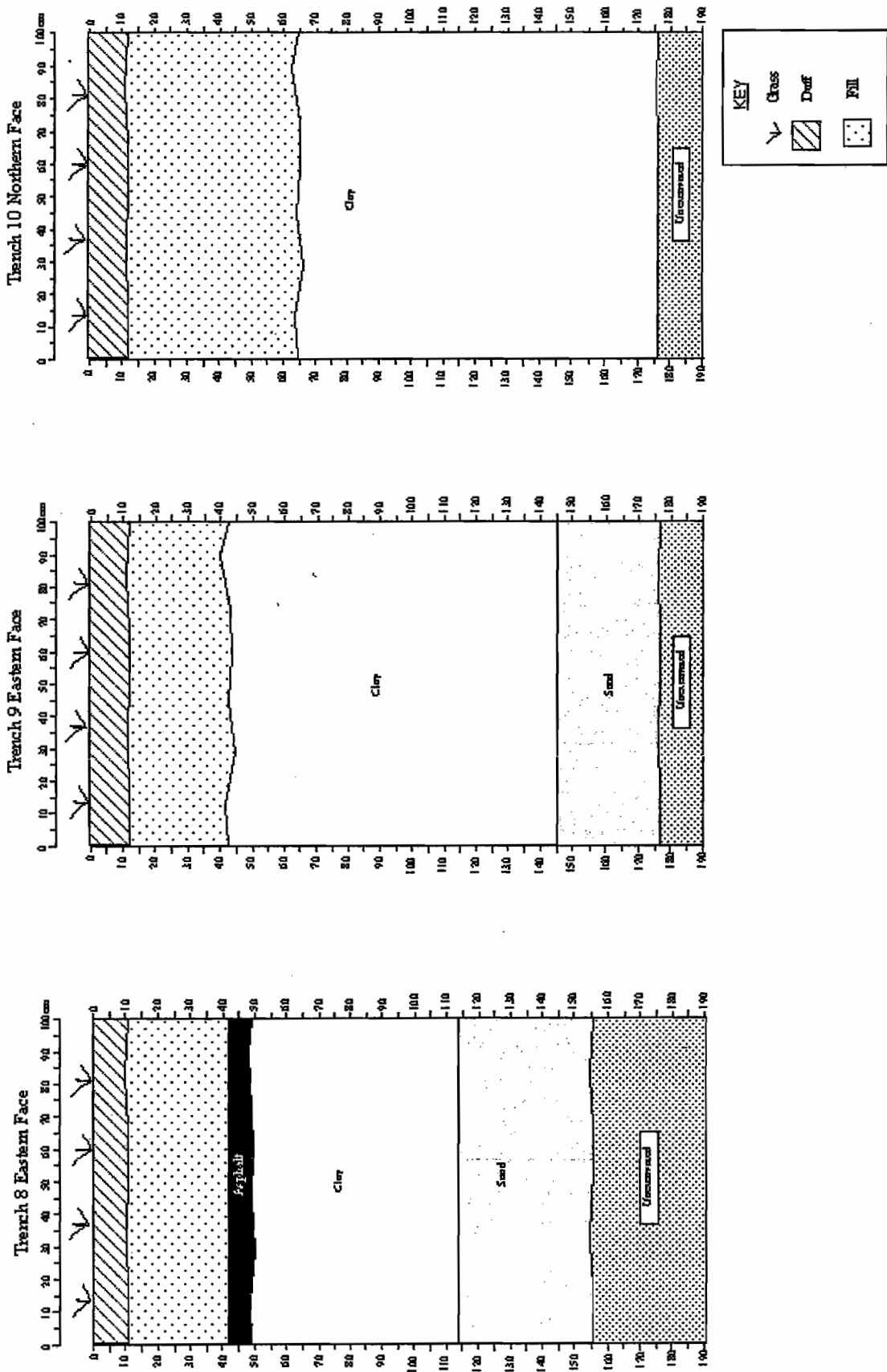
**Layer II** (42/147cmbs): reddish brown (5YR 2.5/2), silt clay with sand inclusions and abundant fine to medium roots; slightly sticky, slightly plastic. Culturally sterile; clear, abrupt boundary

**Trench 10**

**Layer I** (12/66cmbs): brown (10YR 5/3), fill; silty loam with medium-grain coralline sand inclusions and small angular cobbles; non-sticky, non-plastic, abundant fine to medium roots. Culturally sterile; clear, irregular boundary

**Layer II** (30/102 cmbs): silt clay with medium roots; slightly sticky, slightly plastic. Culturally sterile; terminated at bedrock

Figure 9: Profiles of Test Trenches 8-10



## **DISCUSSION**

Historically the project area had undergone more than one episode of extensive ground disturbance from resort development and sugarcane cultivation. Modern materials identified may be associated with prior occupation by the Pioneer Mill operations.

No significant surface or subsurface cultural remains were identified within the tested portions of the project area. All test trenches exhibited previous ground disturbance within the top two feet. The 10 backhoe trenches implemented for the phase I testing program, were excavated in areas that were accessible and currently not improved, as well as in areas that were proposed for development which did not contain active underground utilities.

In consultation with the State Historic Preservation Division (SHPD), additional archaeological testing, designated as Phase II, will be conducted in conjunction with the demolition and renovation of the existing buildings and grounds. Results of this subsequent testing will be included as an addendum to this report.

## **RECOMMENDATIONS**

Phase II inventory level testing should be performed in areas that were inaccessible during this current undertaking. Testing should be focused in areas that are not currently improved but are slated for new development. Dr. Kirkendall will be consulted prior to initiating the phase II testing program. Archaeological monitoring during demolition and construction related activities is also recommended for this project area. Although the results of the above testing were negative for cultural remains, archaeological monitoring is warranted due to buried human skeletal remains being documented at neighboring parcels both developed and undeveloped. Prior to commencing any construction-related activities, an archaeological monitoring plan shall be prepared for approval by the State Historic Preservation Division of the Department of Land and Natural Resources.



## REFERENCES

- Armstrong, R.W., J.A. Bier, and S. Chang  
1973 *Atlas of Hawaii*. University of Hawaii Press, Honolulu  
  
1983:2 *Atlas of Hawaii* University of Hawaii Press, Honolulu
- Barrera, W.  
1986 *North Beach, Maui: Archaeological Reconnaissance*. Chinago, Inc. Prepared for Helbert, Hastert, Van Horn and Kimura. Report on file DLNR, Kapolei  
  
1988 *Honoapiilani Highway, Maui: Archaeological Reconnaissance*. Chinago, Inc. Prepared for Environmental Communications, Inc. Report on file DLNR, Kapolei
- Beckwith, Martha  
1940 *Hawaiian Mythology*. The University Press of Hawaii, Honolulu
- Chinen, Jon J.  
1961 *Original Land Titles in Hawaii*. Copyright 1961 Jon Jitsuzo Chinen, Honolulu
- Clark, John  
1989 *The Beaches of Maui County*. The University Press of Hawaii, Honolulu
- Community Planning, Inc.  
1961 *Lahaina Historical Restoration and Preservation*. Prepared for Board of Supervisors and Lahaina Restoration Committee by Community Planners, Inc.
- Conde, J.C.  
1973 *Sugar Trains: Narrow Gauge Rails of Hawaii*. Felton, California: Glenwood Publishers
- DLNR (Department of Land and Natural Resources)  
1998 *Hawaii Administrative Rules, Title 13. Dept. of Land and Natural Resources, Subtitle 13, State Historic Preservation Division Rules*. Report on file DLNR, Kapolei
- Dobyns, S., and J. Allen-Wheeler  
1982 *Archaeological Monitoring at the Site of the Kaanapali Alii Condominium, Island of Maui*. Department of Anthropology, B.P. Bishop Museum. Prepared for Egan Stanley Corp. Report on file DLNR, Kapolei
- Donham Theresa K.  
1992 *A Possible Ku'ula Stone Recovered from Au'au Channel, Near Hanaka'o'o Point, Ka'anapali, Maui*. SHPD-Maui. Report on file DLNR, Kapolei

- FR  
n.d. *Foreign Register of Kuleana Claims Recorded by the Board of Commissioners to Quiet Land Titles in the Hawaiian Islands.* Manuscript. Hawaii State Archives
- FT  
n.d. *Foreign Testimony Recorded by the Board of Commissioners to Quiet Land Titles in the Hawaiian Islands.* Manuscript. Hawaii State Archives
- Foote, D., E.L. Hill, S. Nakamura, and F. Stephens  
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai.* U.S.D.A. Soil Conservation Service, U.S. Government Printing Office, Washington, D.C.
- Fornander, Abraham  
1916-1920 *Collection of Hawaiian Antiquities and Folk-Lore (6 Vols.).* University of Hawaii Press, Honolulu
- Fredericksen, Demaris L.  
1998 *Monitoring Report for The Sheraton-Maui Redevelopment Project, Hanaka'o'o Ahupua'a, Lahaina District, Maui Island (TMK: 4-4-08:5).* Xamanek Researchers. Prepared for Mr. George Hayakawa, Kyo-Ya Company, Ltd. Report on file DLNR, Kapolei
- Fredericksen, W.M. and Demaris L. Fredericksen  
1996 *Archaeological Monitoring Report for the Kai Ala Subdivision, Ahupua'a of Hanaka'o'o, Lahaina District, Island of Maui (TMK:4-4-06:15).* Xamanek Researchers. Prepared for Glen Walters, AMFAC, Inc. Report on file DLNR, Kapolei
- Gilmore, A.B.  
1936 *The Hawaii Sugar Manual, New Orleans, USA*
- Graves, K., Donna  
1993 *Archaeological Subsurface Inventory Survey, Sheraton-Maui Redevelopment Project, Land of Hanaka'o'o, Lahaina District, Island of Maui.* Prepared for Helber, Hastert & Fee. Report on file DLNR, Kapolei
- Handy, E.S.C.  
1940 *The Hawaiian Planter: His Plants, Methods and Areas of Cultivation.* BPBM Bulletin 161. Bishop Museum, Honolulu
- Handy, E.S.C., and E.G. Handy  
1972 *Native Planters in Old Hawaii – Their life, Lore and Environment.* Bulletin 233. B.P. Bishop Museum. Report on file DLNR, Kapolei
- Hommom, R.  
1982 *An Archaeological Reconnaissance Survey of the North Beach Mauka and South Beach Mauka Areas, Hanaka'o'o, West Maui.* Prepared for Belt, Collins and Associates. Report on file DLNR, Kapolei

Jensen, Peter M.

- 1989a *Archaeological Inventory Survey, North Beach Mauka/South Beach Mauka Development Sites, Land of Hanaka'o'o, Lahaina District, Island of Maui.* Paul H. Rosendahl, Ph.D., Inc. Prepared for AMFAC Inc. Report on file DLNR, Kapolei
- 1989b *Archaeological Inventory Survey, Lahaina Master Planned Project Site, Land of Hanaka'o'o, Lahaina District, Island of Maui.* Paul H. Rosendahl, Ph.D., Inc., Hilo. Prepared for Housing Finance Development Corporation. Report on file DLNR, Kapolei
- 1990 *Archaeological Inventory Survey, South Beach Mauka Development Site, Land of Hanaka'o'o, Lahaina District, Island of Maui* PHRI, Hilo. Prepared for AMFAC/JMB Hawaii, Inc. Paul H. Rosendahl, Ph.D., Inc., Hilo. Report on file DLNR, Kapolei
- 1991 *Archaeological Inventory Survey Honoapiilani Highway Realignment Project, Lahaina Bypass Section – Modified Corridor Alignment, Lands of Honokowai, Hanaka'o'o, Wahukuli, Panaewa, Kuia, Halakaa, Puehuhumu, Pahoa, Polanui and Laumiupoko, Lahaina District, Island of Maui.* PHRI Report 1064-022092. Prepared for Munekiyo & Associates, Inc. Report on file DLNR, Kapolei
- 1994 *Archaeological Inventory Survey Lahaina Bypass Highway New Connector Roads Project Area, Land of Hanaka'o'o, Lahaina District, Island of Maui.* PHRI Hilo. AMFAC/JMB Hawaii. Report on file DLNR, Kapolei

Jensen M. Peter and Gemma Mehalchick

- 1992 *Archaeological Inventory Survey, The Puukolii Village Project Area, Land of Hanaka'o'o, Lahaina District, Island of Maui.* PHRI, Hilo. Prepared for AMFAC Property Investment Corporation Report on file DLNR, Kapolei

Jensen, Peter M. and Jenny O'Claray

- 1991 *Supplemental Archaeological Survey Lahaina Master Planned Project Offsite Sewer, Water Improvements, and Cane Haul Road, Lands of Wahikuli, Hanaka'o'o, Honokawai, Kuhua, Kuholiea, Puou, Puuiki, and Aki, Lahaina District, Island of Maui.* PHRI, Hilo. Prepared for Housing Finance and Development Corporation. Report on file DLNR, Kapolei

Kamakau, S.

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

Kame'eleihiwa, Lilikala

- 1992 *Native Land and Foreign Desires: Pehea La E Pono Ai?* Bishop Museum Press, Honolulu

- Kalakaua, King David  
 1888 *The Legends and Myths of Hawaii*. Charles L. Webster and Co., New York
- Kirch, Patrick V.  
 1974 "The Chronology of Early Hawaiian Settlement." *Archaeology and Physical Anthropology in Oceania* 9:110-119
- 1977 "Valley Agricultural Systems in Prehistoric Hawaiian: An Archaeological Consideration." *Asian Perspectives* 20: 246 - 280
- 1985 *Feathered Gods and Fishhooks*. University of Hawaii Press, Honolulu
- Klieger, P., B. Dixon, S. Lebo, H. Lennstrom, D. Gosser, S. Clark  
 1995 *Moku'ula: History and Archaeological Excavations at the Private Palace of King Kamehameha III in Lahaina, Maui*. Anthropology Department, Bishop Museum, Honolulu. Prepared for Lahaina Restoration Foundation. Report on file DLNR, Kapolei
- Mcdonald, G.A., A.T. Abbot, and F.L. Peterson  
 1970 *Volcanoes in the Sea*. University of Hawaii Press, Honolulu
- McGerty, L. and R. Spear  
 2002 *An Archaeological Inventory Survey at the Maui Marriott Ocean Club, in the Ahupua'a of Hanaka'o'o, Island of Maui, Hawaii [TMK:4-4-13:001]*. Prepared for the Maui Marriott Resort and Ocean Club. Report on file DLNR, Kapolei
- 2003 *A Cultural Impact Assessment of a Piece of Property Located in Ka'anapali, Hanaka'o'o Ahupua'a, Lahaina District, Maui Island, Hawai'i [TMK:4-4-06:56]*. Prepared for Bob Johnston of LANDTEC Inc. Report on file DLNR, Kapolei
- Morawski, L and M. Dega  
 2003 *Archaeological Inventory Survey of a 7.65 Acre Property at Lot 10-H, Ahupua'a of Hanaka'o'o, District of Lahaina, Island of Maui, Hawai'i*. Prepared for Bob Johnston of LANDTEC Inc. Report on file DLNR, Kapolei
- Munsell Color  
 1972 *Munsell Soil Color Charts*. MacBeth Division, Kollmorgan Corporation, Baltimore
- NR  
 n.d. *Native Register of Kuleana Claims Recorded by the Board of Commissioners to Quiet Land Titles in the Hawaiian Islands*. Manuscript. Hawaii State Archives
- NT  
 n.d. *Native Testimony Recorded by the Board of Commissioners to Quiet Land Titles in the Hawaiian Islands*. Manuscript. Hawaii State Archives

- Neal, Marie C.  
1965 *In Gardens of Hawaii*. Bishop Museum Special Publication No.50. Bishop Museum Press, Honolulu
- Neller, Earl  
1982 *An Archaeological Reconnaissance of Hahakea Beach Park, Hanaka'o'o, Maui, TMK: 4-4-06:33*. Report on file DLNR, Kapolei
- Pantaleo, J., and Paul Titchenal  
2004 *Archaeological Inventory Survey Report For The Pulelehua Community Project TMK 4-3-01:31 Por. Mahinahina 1, 2, 3, Mahinahina 4, and Kahana Ahupua`a, Lahaina and Ka'anapali Districts, Island of Maui*. Archaeological Services Hawaii, LLC, Wailuku. Prepared for Maui Land and Pineapple, Inc. Report on file DLNR, Kapolei
- Pukui, Mary Kawena, Samuel H. Elbert and Esther T. Moyokini  
1976 *Place Names of Hawai'i*. University of Hawai'i Press, Honolulu
- Rosendahl, M.L.K.  
1987 *Subsurface Archaeological Reconnaissance Survey, North Beach Development Site, Land of Hanakao, Lahaina District, Island of Maui*. Paul H. Rosendahl, Ph.D., Inc. Report 321-061587. Report on file DLNR, Kapolei
- Rosendahl, Paul H.  
1986 *Archaeological Field Inspection, Maui Master Plan Project Area, Lands of Honokawai and Hanakoo, Lahaina District, Island of Maui*. PHRI, Hilo. Prepared for Wimberly, Allison, Tong and Goo. Report on file DLNR, Kapolei
- 1987 *A Plan for Archaeological Monitoring of Shoreline Construction, Kaanapali North Beach Development Site, Land of Hanakao, Lahaina District, Island of Maui*. Paul H. Rosendahl, Ph.D., Inc. Report 345-082487. Prepared for Kaanapali North Beach Venture. Report on file DLNR, Kapolei
- Sinoto, Aki  
1990 *Letter to MTM Consulting, November 11, 1990. Subject: Proposed Kai Ala Subdivision, Ka'anapali, Maui, TMK: 4-4-06:15*. Bishop Museum, Honolulu, Hawaii. Aki Sinoto Consulting, Honolulu. Report on file DLNR, Kapolei
- Sinoto, A., and Jeffrey Pantaleo  
1991 *Archaeological Inventory Survey of: TMK: 4-4-01: 2, 11, and 12, Honokowai, Lahaina, Maui*. Prepared for Richard M. Sato & Associates, Inc. Aki Sinoto Consulting, Honolulu. Report on file DLNR, Kapolei
- Stearns, H.T.  
1946 *Geology of the Hawaiian Islands*. Hawaii Division of Hydrology, Bulletin 8

Sterling, Elspeth P

1998 *Sites of Maui*. BPBM Press. Honolulu. Report on file DLNR, Kapolei

Thrum, T.G.

1909 *Heiaus and Heiau Sites Throughout the Hawaii Islands. Island of Hawaii. Hawaiian Almanac and Annual 1909:38-43*. Honolulu

1923 *Heiaus of Hawaii Nei*. Thrum's Hawaiian Annual: 24-27

Walker, Winslow

1931 *Archaeology of Maui*. Ms. in Dept. Anthropology. B.P. Bishop Museum, Honolulu

**APPENDIX A**  
**Photographic Overviews of Trenches TR1-10**

# ***A p p e n d i x E***

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## ***Cultural Impact Assessment Report***



**CULTURAL IMPACT ASSESSMENT ON TWO PARCELS  
INCORPORATING THE ROYAL LAHAINA HOTEL IN  
KA`ANAPALI, HANAKA`Ō`Ō AHUPUA`A, LAHAINA DISTRICT,  
MAUI ISLAND, HAWAII  
[TMK 4-4-08:7, 13]**

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Revised August 2005

Prepared for:  
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**700 Bishop Street, Suite 2100**  
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## INTRODUCTION

Scientific Consultant Services (SCS), Inc. has been contracted by the Royal Lahaina Development Group, LLC to conduct a Cultural Impact Assessment on two parcels incorporating the Royal Lahaina Hotel in Ka`anapali, Hanaka`ō`ō, Ahupua`a, Lahaina District, Maui Island, Hawai`i [TMK: 4-4-08:7, 13] (Figure 1). Based on conversations with the Royal Lahaina Development Group, plans for the parcels include the renovation of several buildings and development of the surrounding property.

The Constitution of the State of Hawai`i clearly states the duty of the State and its agencies is to preserve, protect, and prevent interference with the traditional and customary rights of native Hawaiians. Article XII, Section 7 requires the State to “protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua`a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778” (2000). Beginning in 1850 with establishment of Hawai`i Revised Statutes (HRS) 7-1, native Hawaiians were given access rights to undeveloped private property and waterways in order to gather specific natural resources for customary uses. In 1992, the State of Hawai`i Supreme Court, reaffirmed HRS 7-1 and expanded it to include, “native Hawaiian rights...may extend beyond the ahupua`a in which a native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner” (Pele Defense Fund v. Paty, 73 Haw.578, 1992).

Act 50, enacted by the Legislature of the State of Hawaii (2000) with House Bill 2895, relating to Environmental Impact Statements, proposes that:

...there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii’s culture, and traditional and customary rights...[H.B. No. 2895].

Act 50 requires state agencies and other developers to assess the effects of proposed land use or shoreline developments on the “cultural practices of the community and State” as part of the HRS Chapter 343 environmental review process (2001). Its purpose has broadened, “to promote and protect cultural beliefs, practices and resources of native Hawaiians [and] other

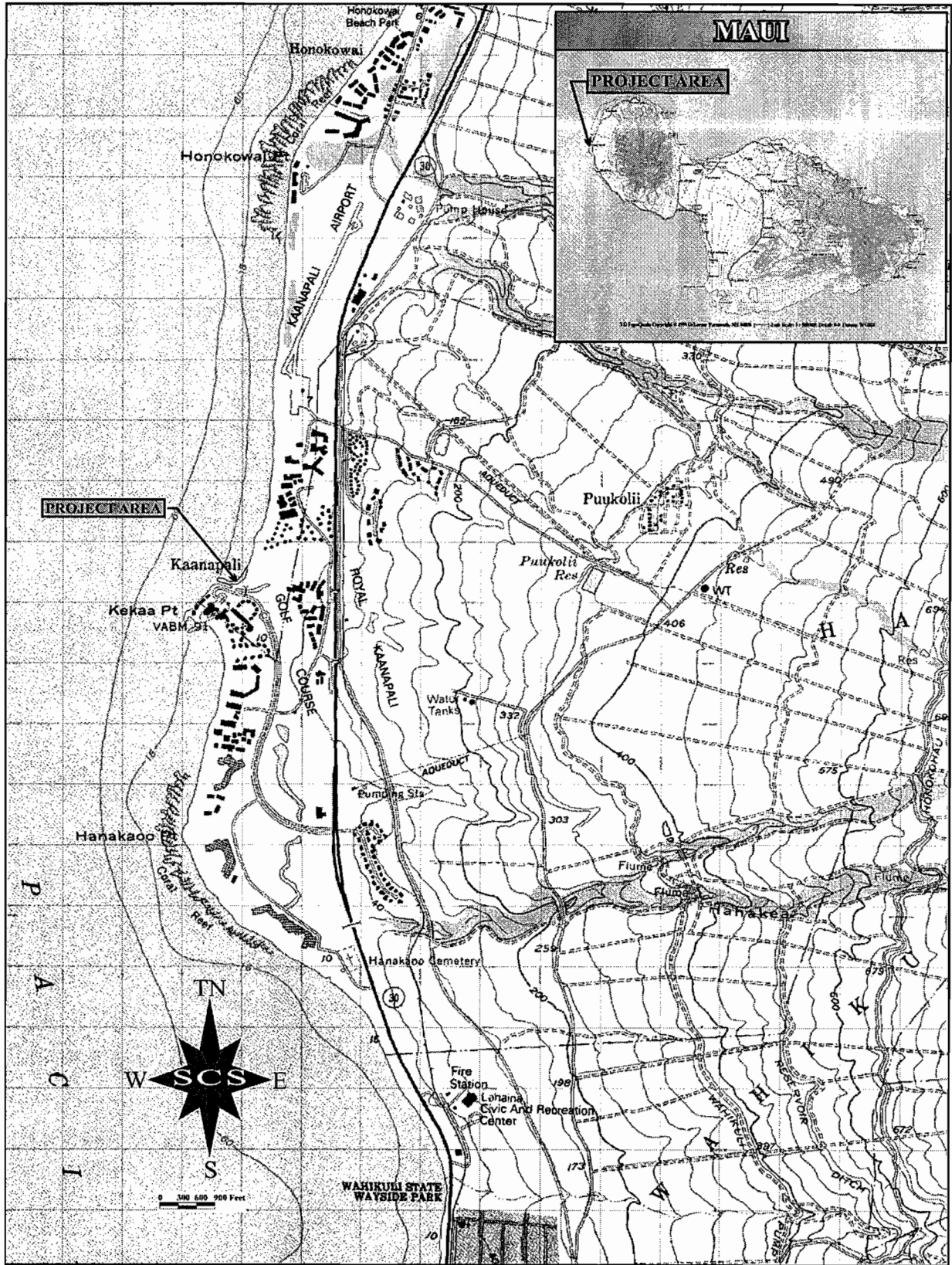


Figure 1: USGS Quadrangle Map Showing Project Area Location.

ethnic groups, and it also amends the definition of ‘significant effect’ to be re-defined as “the sum of effects on the quality of the environment including actions that are...contrary to the State’s environmental policies...or adversely affect the economic welfare, social welfare, or cultural practices of the community and State” (H.B. 2895, Act 50, 2000). Thus, not only are properties evaluated for impact to Native Hawaiians, but also for other ethnic groups as well.

Act 50 requires an assessment of cultural practices to be included in the Environmental Assessments and the Environmental Impact Statements, and to be taken into consideration during the planning process. The concept of geographical expansion is recognized by using, as an example, “the broad geographical area, e.g. district or *ahupua`a*” (OEQC 1997). It was decided that the process should identify ‘anthropological’ cultural practices, rather than ‘social’ cultural practices. For example, *limu* (edible seaweed) gathering would be considered an anthropological cultural practice, while a modern-day marathon would be considered a social cultural practice.

According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 1997):

The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religions and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both manmade and natural which support such cultural beliefs.

This Cultural Impact Assessment involves evaluating the probability of impacts on identified cultural values and rights within the project area and its vicinity.

### **METHODOLOGY**

This Cultural Impact Assessment was prepared in accordance with the methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997). In outlining the “Cultural Impact Assessment Methodology”, the OEQC state:

...information may be obtained through scoping, community meetings, ethnographic interviews and oral histories...[1997].

This report contains archival and documentary research, as well as communication with organizations having knowledge of the project area, its cultural resources, and its practices and beliefs. This Cultural Impact Assessment was prepared in accordance with the methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997). The assessment concerning cultural impacts should address, but not be limited to, the following matters:

- (1) a discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained;
- (2) a description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken;
- (3) ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained;
- (4) biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area;
- (5) a discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken, as well as the particular perspective of the authors, if appropriate, any opposing views, and any other relevant constraints, limitations or biases;
- (6) a discussion concerning the cultural resources, practices and beliefs identified, and for the resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site;
- (7) a discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project;
- (8) an explanation of confidential information that has been withheld from public disclosure in the assessment;
- (9) a discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs;

- (10) an analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place, and;
- (11) the inclusion of bibliography of references, and attached records of interviews which were allowed to be disclosed.

Based on the inclusion of the above information, assessments of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

### **ARCHIVAL RESEARCH**

Archival research focused on a historical documentary study involving both published and unpublished sources. These included legendary accounts of native and early foreign writers; early historical journals and narratives; historic maps and land records such as Land Commission Awards, Royal Patent Grants, and Boundary Commission records; historic accounts, and previous archaeological project reports.

### **INTERVIEW METHODOLOGY**

When appropriate, interviews are conducted in accordance with Federal and State laws and guidelines. Individuals and/or groups who have knowledge of traditional practices and beliefs associated with a project area or who know of historical properties within a project area are sought for consultation. Individuals who have particular knowledge of traditions passed down from preceding generations and a personal familiarity with the project area are invited to share their relevant information. Often people are recommended for their expertise or can be located by visiting the area. Organizations, such as Hawaiian Civic Clubs, the Island Branch of Office of Hawaiian Affairs, historical societies, Island Trail clubs, and Planning Commissions are invited to contribute their input and suggest further avenues of inquiry, as well as specific individuals to interview.

When interviewees are identified, a standard procedure follows. Personal interviews are taped and then transcribed. These draft transcripts are returned to each of the participants for their review and comments. After corrections are made, each individual signs a release form, making the information available for this study. Key topics discussed with the interviewees vary from project to project, but usually include: personal association to the *ahupua`a*, land use in the project's vicinity; knowledge of traditional trails, gathering areas, water sources, religious sites;

place names and their meanings; stories that were handed down concerning special places or events in the vicinity of the project area; evidence of previous activities identified while in the project vicinity.

In this case, the project area had been under development for over 40 years. Letters, briefly outlining the development plans along with maps of the project area, were sent to organizations whose jurisdiction includes knowledge of the area with an invitation for consultation. Consultation was sought from the Maui Office of Hawaiian Affairs, Community Resource Coordinator, Maui; the Office of Hawaiian Affairs, O`ahu; Cultural Resource Planner for the Maui Planning Department; and the Central Maui Civic Club. Three members of the Lahaina community, Camilla Lanse, Gilbert Sablas, and Barney Lagbas who are presently working at the Royal Lahaina Hotel were also interviewed. Based on this research, an assessment of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

#### **PROJECT AREA AND VICINITY**

The project area is located in Ka`anapali north of Keka`a Point. It encompasses two parcels on the west coast of Maui Island. It is bounded by the ocean to the west, HonoaPi`ilani Highway to the East and developed sections of Ka`anapali to the north and south (Figure 2).

#### **CULTURAL HISTORICAL CONTEXT**

The island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. Pu`u Kukui, forming the west end of the island (1,215m above mean sea level), is composed of large, heavily eroded amphitheater valleys that contain well-developed permanent stream systems that watered fertile agricultural lands extending to the coast. The deep valleys of West Maui and their associated coastal regions have been witness to many battles in ancient times and were coveted productive landscapes.

#### **PAST POLITICAL BOUNDARIES**

Traditionally, the division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha`ōhia, during the time of the *ali`i* Kaka`alaneo (Beckwith 1940:383; Fornander places Kaka`alaneo at the end of the 15<sup>th</sup> century or the beginning of the 16<sup>th</sup> century [Fornander 1919-20, Vol. 6:248]). Land was considered the property of the king or *ali`i`ai moku* (the *ali`i* who eats the island/district), which he held in trust for the gods. The title of *ali`i`ai moku* ensured rights and responsibilities pertaining to the land, but did not confer absolute ownership. The king kept the parcels he wanted, his higher chiefs



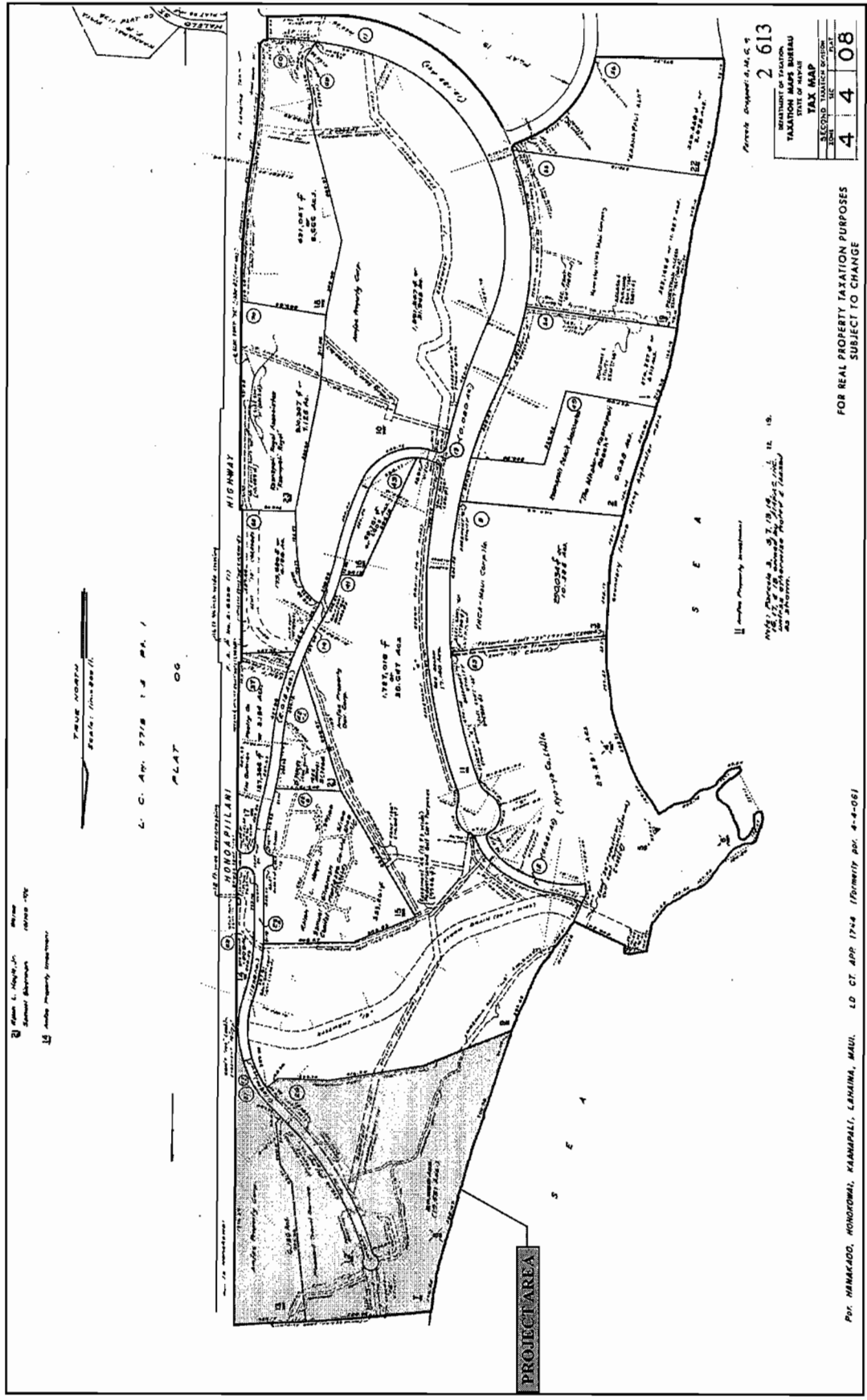


Figure 2: Tax Map Key [TMK] Showing Project Area.

received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka`āinana* (commoners) worked the individual plots of land.

In general, several terms, such as *moku*, *ahupua`a*, *`ili* or *`ili`āina* were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua`a*) which customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua`a* were therefore, able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *`ili`āina* or *`ili* were smaller land divisions next to importance to the *ahupua`a* and were administered by the chief who controlled the *ahupua`a* in which it was located (*ibid*:33; Lucas 1995:40). The *mo`o`āina* were narrow strips of land within an *`ili*. The land holding of a tenant or *hoa`āina* residing in a *ahupua`a* was called a *kuleana* (Lucas 1995:61). The project area is located in the *ahupua`a* of Hanakaō`ō, which translated means literally “the digging stick bay” and perhaps refers to the gardens known in the area (Pukui *et al.*:74).

#### **TRADITIONAL SETTLEMENT PATTERNS**

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various *ahupua`a*. During pre-Contact times, there were primarily two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugar cane, *Saccharum officinarum*) and *mai`a* (banana, *Musa* sp.), were also grown and, where appropriate, such crops as *`uala* (sweet potato, *Ipomoea batatas*) were produced. This was the typical agricultural pattern seen during traditional times on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Agricultural development on the leeward side of Maui was likely to have begun early in what is known as the Expansion Period (AD 1200-1400, Kirch 1985).

#### **WAHI PANI (LEGENDARY PLACES)**

Scattered amongst the agricultural and habitation sites were other places of cultural significance to the *kama`āina* of the district. At least eight *heiau* were recorded in the vicinity of the ancient village of Lāhainā, fishing *ko`a* (shrine) were present along the beach and on the slopes above the bays, and petroglyphs were inscribed in many places whose meanings have yet to be fully understood (Thrum 1908, 1916, 1917; Walker 1930:103). Pearl shell was gathered

from Makaiwa Beach for the eyes of the *ki`i* (image, picture) and battles were fought along the coast (Sterling 1998:45). A portion of the paved trail built by Kihapi`ilani, son of the great chief Pi`ilani, was identified along the Kā`anapali coast (Sterling 1998).

To the south and close to the project area is Pu`u Keka`a, made famous by being the birthplace of the sons of chiefs and long associated with ghosts, strange occurrences, and the skeletons of defeated invaders (Fornander 1918–19, Vol. 5:542). In Fornander, S. Kaha stated:

Concerning the great amount of human bones at this place. On account of the great number of people at this place there are numerous skeletons [this was the vicinity of several bloody battles], as if thousands of people died there; it is there that the Lahainaluna students go to get skeletons for them when they are studying anatomy. The bones are plentiful there; they completely cover the sand.

This is a ghostly place. Some time a number of people came from Kaanapali (from the other side) going to Lahaina in the dark. When they came to Kekaa stones rolled down from the top of the hill without any cause. Listening to it, it seemed as if the hill was tumbling down; the people going along were startled and they explained, Kekaa is ghostly! Kekaa is ghostly!" Certainly this is a strange thing for this hill to do [*ibid*].

It was also believed that Pu`u Ka`a was a *leina a ka`uhane*, or soul's leap similar to O`ahu's Ka`ena Point. Naha says:

It is said that when a person dies his spirit journeys to Kekaa; if he has a friend there who had previously died, that one would drive it away when the spirit is nearing Kekaa. Sometimes the spirit of a person would return and re-enter the body, and cause it to come to life again; that is what happened to those who are living again. Many souls came to this place Kekaa. It is called the Leina-a-ka-uhane, the leaping place of the soul... [*ibid*].

According to legend, the lands surrounding Pu`u Keka`a were once areas of intense cultivation and the capital and home of the Maui chief, Kaka`alaneo, when he ruled West Maui. Kaka`alaneo lived on the *pu`u* with his wife, a chiefess from Moloka`i.

Kekaa was the capitol of Maui when Kalaalaneo was reigning over West Maui... Many houses were constructed and people cultivated a great deal of potatoes, bananas, sugar cane, and things of a like

nature. I have been told that the country from Kekaa to Hahakea and Wahikuli –that country now covered by cactus, in a northwesterly direction for Lahaina-was all cultivated. This chief [Kakaalaneo] also planted bread fruit and kukui trees down at Lahaina. Some of these trees southwest of the Lahaina fort, were called the bread fruit trees of Kauheana [Fornander 5:540–541].

Kaka`alaneo's possessions included fishponds in Hana and a famous breadfruit grove he planted outside of Lāhainā (Handy and Handy 1972). His son, Ka`ulula`au, became famous for traveling around Lāna`i fighting ghosts (Sterling 1998). Maui, the demi-god himself, was associated with the hill:

At Kekaa lived Maui and Moemoe...The great desire of one [Moemoe] was to sleep. The other [Maui] desired to travel. When Moemoe slept, Maui was traveling, each according to his taste...[Moemoe] made up his mind...to search for his friend, Maui. A road on the northeast side of Kekaa was named after one of these men; it is called “Ke alanui kikeekee a Maui”-the zig zag pathway of Maui” [Fornander 1918-19, Vol. 5:540–544].

Another story concerning Pu`u Keka`a was related in “Tales from the Temples” (Thrum 1909). According to Thrum, Wahine-o-Manu`a was badly treated by her husband. She ran away to the temple of Haluluko`ako`a in the *ahupua`a* of Wahikuli. An owl-god guided her from the *heiau, mauka* of Pu`u Keka`a where she rested before escaping. The stone by which she rested is even today called Pōhaku-o-Wahine-o-Manu`a (the stone of the woman of Manu`a).

It is recorded that Pu`ū Keka`a was the burial place for Kekaulike's oldest son, Kauhi`aimoku-a-kama who was defeated by his brother and Uncle at the Battle of Koko-o-namoku further south at Makaiwa Beach (Sterling 1998). Kahekili succeeded his brother Kamehameha-Nui as ruler of Maui and to prove he was a true descendant of the gods, he leapt from the `Ū-ha-ne lele or Soul-Leaping Place of Maui. No ordinary man would dare to do this (*ibid.*). Kamakau records a burial site used by the *maka`āinana* of the district:

Waiuli...is a deep pit where the corpses of the common people were thrown...It is directly mauka of Honokohau, Honolua, and Honokahua, and for those from Lahaina to Kahakuloa, it was the common burial place. The body of anyone from those places who had died on Molokai was brought back to that place [Kamakau 1964:39].

## LĀHAINĀ DISTRICT SETTLEMENT PATTERNS

In Hawai`i, much of the coastal lands were preferred for chiefly residence. Easily accessible resources such as offshore and onshore fish ponds, the sea with its fishing and surfing—known as the sports of kings, and some of the most extensive and fertile wet taro lands were located in the area (Kirch and Sahlins, 1992 Vol. 1:19). Inland resources necessary for subsistence, could easily be brought to the *ali`i* residences on the coast from nearby inland plantations. The majority of farming was situated in the lower portions of stream valleys where there were broader alluvial flat lands or on bends in the streams where alluvial terraces could be modified to take advantage of the stream flow. Dry land cultivation occurred in colluvial areas at the base of gulch walls or on flat slopes (Kirch 1985; Kirch and Sahlins 1992, Vol. 2:59). Lāhainā had the added advantage of a calm roadstead and close proximity to Lāna`i, and Moloka`i (Handy and Handy 1972).

Trails extended from the coast to the mountains, linking the two for both economic and social reasons. A trail known as the *alanui* or “King’s trail” built by Kihapi`ilani, extended along the coast passing through all the major communities between Lāhainā and Mākena, After the conquest of Maui by Kamehameha I, Lāhainā became the capitol of the Hawaiian Kingdom until it moved to Honolulu in 1855.

Most of the *ahupua`a* on the coast have been overshadowed by the famous roadstead and village of Lāhainā. In addition, a high percentage of archaeological sites in the Lahaina District have been impacted by early historic and modern day agricultural activities. Therefore, little is known about the settlement patterns outside of the city. However, ethnographic and historic literature, often our only link to the past, reveal that the lands around Lāhainā were rich agricultural areas irrigated by aqueducts originating in well-watered valleys with permanent occupation predominately on the coast. Handy and Handy have stated the space cultivated by the natives of Lāhainā at about “...three leagues [9 miles] in length, and one in its greatest breadth. Beyond this all is dry and barren; everything recalls the image of desolation” (1972:593). Crops cultivated included coconut, breadfruit, paper mulberry, banana, taro, sweet potato, sugar cane, and gourds.

Menzies, the naturalist and surgeon on board HMS Discovery during Captain George Vancouver’s 1793 tour, made these observations of the Lāhainā coast and village:

[We]...soon entered the verge of the woods where we observed the rugged bands of a large rivulet that came out of the chasm cultivated and watered with great neatness and industry. Even the

shelving cliffs of rock were planted with esculent roots, banked in and watered by aqueducts from the rivulet with as much art as if their level had been taken by the most ingenious engineer...[Menziés 1920:105].

...to see the village of Lahaina, which we could scattered along shore on a low tract of land that was nearly divided into little fields and laid out in the highest state of cultivation and improvement by being planted in the most regulated manner with the different esculent roots and useful vegetables of the country, and watered at pleasure by aqueducts that ran here and there along the banks intersecting the fields, and in this manner branching through the greatest part of the plantation [Menziés 1920:112].

Little had changed twenty-six years later when J. Arago visited Hawai'i with Captain Louis de Freycinet in 1819. He recorded:

The environs of Lahaina are like a garden. It would be difficult to find a soil more fertile, or a people who can turn it to greater advantage...various sorts of vegetables and plants...amongst which we distinguish the Caribee-cabbage, named here taro; double rows of banana, bread-fruit, cocoa-nut, palma-christi, and the paper-mulberry trees...[Arago cited in Handy and Handy 1972:493].

Rev. C.S. Stewart, a missionary in 1823 assigned to the Lāhainā station, also commented on the attractiveness of the environs:

The settlement is far more beautiful than any place we have yet seen on the Islands. The entire district stretching nearly three miles along the seaside, is covered with luxuriant groves, not only of the cocconut, the only tree we have before seen except on the tops of the mountains, but also of the breadfruit and the kou...while the banana plant, kappa and sugar-cane are abundant, and extend almost to the beach, on which a fine surf constantly rolls [Taylor 1928:42].

...The breadfruit trees stand as thickly as those of a regularly planted orchard, and beneath them are kalo patches and fishponds, 20 or 30 yards square, filled with stagnant water, and interspersed with kappa trees, groves of banana, rows of the sugar cane, and bunches of the potato and melon...It scarcely ever rains, not oftener, we are told, than half a dozen times during the year, and the land is watered entirely by conducting streams, which rush from the mountains, by artificial courses, on every plantation.

Each farmer has a right, established by custom, to the water every fifth day [Taylor 1928:43].

### **THE GREAT MĀHELE**

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on western law. While it is a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Kame`eleihiwa 1992:169-70, 176; Kelly 1983:45, 1998:4; Daws 1962:111; Kuykendall 1938 Vol. I:145). The Great Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were thus made available and private ownership was instituted, the *maka`āinana* (commoners), if they had been made aware of the procedures, were able to claim the plots on which they had been cultivating and living. These claims did not include any previously cultivated but presently fallow land, *`okipū* (on O`ahu), stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kame`eleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16). The entire *ahupua`a* of Hanaka`ō`ō (LCA 7715) was awarded to Lot Kamehameha (Kamehameha V). Kā`anapali is the name of an ancient *kalana* that was obliterated by the Hawaiian Legislature in 1859 by combining its lands in a new Lahaina District (Clark 1989:60-61). There were no LCAs in the vicinity of the present project area.

### **HISTORIC LAND USE**

Lāhainā, long the port of choice and where commercial endeavors had succeeded the traditional economy, suffered with the demise of the whaling industry and the change in Capitol of the Hawaiian Kingdom to Honolulu. By the mid-1800s the Kā`anapali area was being converted from traditional agriculture to commercial sugar cane. As early as 1849, Judge A.W. Parsons operated a sugar mill in Lāhainā. Henry Dickenson began a sugar plantation in 1859 that was quickly followed by the Pioneer Mill Co. By 1883, Pioneer Mill Co. had assets in excess of \$50,000,000 (Simpich 1974). Pioneer Mill's railroad extended from the center of Lāhainā Village to a point north of the town of Pu`ukoli`i in Hanaka`ō`ō and was as close as 350 feet above mean sea level at its northern end (Condé 1975). Pioneer Mill Co. reorganized in 1900 at which time its cane fields were located along the coast for 10 miles with some areas extending back as far as two and one half miles:

The bulk of the crop is raised on lands that range from 10 feet to 700 feet elevation above sea level; the highest being cultivated at 1500 feet [Condé and Best 1973:254].

Sugar would be processed and bagged at the mill in Lāhainā and then taken by train to the landing at Pu`u Keka`a (Black Rock). Other buildings had been constructed there to aid in the plantations activities, such as oil and molasses tanks, as well as a pavilion and some beach cottages on the beach for the use of Pioneer Mill Company's personnel (Clark 1980:61). To add to the enjoyment, a quarter-mile track had been constructed on the tidal flats (previously the site of the Battle of Koko-o-na-moku) behind Hanaka`ō`ō for horse racing on holidays. The Kā`anapali Landing was abandoned before World War II and by 1957 plans were in motion for a multi-million dollar resort to be built around Pu`u Keka`a. The shift to tourism in the 1950s sent the plantations into decline, however, the development of golf courses, hotels, condominiums, and shops have continued the popularity of the Kā`anapali region up to and including the present.

### INTERVIEWS

An interview with three individuals was conducted on August 10, 2005 at the Royal Lahaina Hotel. Those present included Camilla Lanse, who has worked for hotel for 34 years, Gilbert Sablas, who started working for hotel in 1968 and Barney Lagbas, who started working for hotel in 1966. All are residents of the area and Gilbert and Barney were born and raised in Lahaina. Presented below is a summary of the interview.

Both Barney and Gilbert were born and raised in Lahaina. Camilla was originally from Wailuku, but has been at the hotel for 34 years. Gilbert's parents are now in their 80s and 90s and still live in the area. As a child, he was taken by his father along the coast from the location of the Hyatt to Honokōwai to go fishing. Different coves offered different resource, similar to different departments in a modern day super market. If Gilbert and his father wanted a certain kind of fish, they would go to the place that was known to provide that particular resource. In the traditional way, they were taught to only take what they needed at that time and leave the rest for others. Through these activities, Gilbert's generation was taught cultural values.

Traditionally, people are taught to fish and gather in their own area, or as in the past, their own *ahupua`a*. They were told not to take other people's resources. Even now, it is uncomfortable for them to go somewhere else to get what they rightfully should have access to in their own backyard.



With the building of each hotel, local people saw their fishing grounds along the coast becoming fewer and fewer until there were none at all. In the old days, these beaches and fishing areas were used by families for picnics and gathering. Some would camp over the weekends to do their fishing and some would just spend the day with relatives. It was a gathering place for the community. Fishing and gathering activities were an important part of peoples' livelihood, not just done for recreation. A few areas (by the Marriot and Westin) had *limu* and *`opihi* and crabs could be caught in some of the coves.

With the influx of tourists, the beaches have become so crowded that it is impossible to do throw-net and line fishing. For a while, fishermen would go to the old pier previously used by the sugar plantations in spite of the lack of parking making access all the more difficult . People who fish take supplies with them and it is not easy to have to haul fishing gear for miles to get to a particular spot because of no parking. This applies especially to the older generation of fishermen like Gilbert's father who is 97 years old and cannot carry all that is needed to a fishing spot from far away. However, the pier has recently been fenced off and there can be no fishing there anymore unless one sneaks on to it.

Ka`anapali has very few access lanes to the beach and local fishermen who have attempted to approach fishing spots through various hotel grounds were chased away by Ka`anapali security guards. Some of the hotels along Ka`anapali have provided stalls for parking, but they are very few. One hotel along the strip only has four parking stalls for non-hotel guests. Even with the access to the beach, this prevents local people from coming to enjoy the ocean. There have been rumors to the affect that part of the Ka`anapali resort might become a gated community, disallowing access to everyone except hotel guests

Access with dignity means a reasonable amount of parking should be provided by commercial ventures.

### **SUMMARY AND CULTURAL ASSESSMEMNT**

As suggested in the "Guidelines for Accessing Cultural Impacts" (OEQC 1997), CIAs incorporating personal interviews should include ethnographic and oral history interview procedures, circumstances attending the interviews, as well as the results of this consultation. It is also permissible to include organizations with individuals familiar with cultural practices and features associated with the project area.

The “level of effort undertaken” (OEQC 1997) has not been officially defined and is left up to the investigator. To SCS, a good faith effort means contacting agencies by letter, interviewing people who may be affected by the project or who know its history, researching sensitive areas and previous land use, holding meetings in which the public is invited to testify, notifying the community through the media, and other appropriate strategies based on the type of project being proposed and its impact potential. In the case of the present parcel that has been under development for 40 years, letters of inquiry were sent to organizations whose expertise would include the project area. Consultation was sought from the Maui Office of Hawaiian Affairs, Community Resource Coordinator, Maui; the Office of Hawaiian Affairs, O`ahu; Cultural Resource Planner for the Maui Planning Department; and the Central Maui Civic Club. Archival research included historical and cultural resources.

Additionally, historical and cultural source materials were also consulted, extensively used, and can be found listed in the References Cited portion of the report. Such scholars as Thrum (1908, 1916 1917), Fornander (1919, 1969), Walker (1930), Kuykendall (1938), Beckwith (1940), Chinen (1961), Handy and Handy (1972), Puku`i *et al.* (1974), Kelly (1983, 1998), and Kame`eleihiwa (1992) have contributed, and continue to contribute, to our knowledge and understanding of Hawai`i, past and present. The works of these and other authors were consulted and incorporated in the report where appropriate. Land use document research was supplied by the Waihona `Aina Data base (2005).

Analysis of the potential effect of the project on cultural resources, practices or beliefs, the potential to isolate cultural resources, maintain practices or beliefs in their original setting, and the potential of the project to introduce elements that may alter the setting in which cultural practices take place is a requirement of the OEQC (No. 10, 1997). The project area has not been used for traditional cultural purposes within recent times. However, access to those places that have traditionally been a part of local culture is an issue and was the main concern of those interviewed. Most of the beach side of the Ka`anapali area was developed in the 1960s when there was little, if any, cultural sensitivity and certainly no laws enforced to protect cultural resources. The passing of Act 50 in April 2000 mandates the assessment of impacts on cultural practices by the proposed project. As stated earlier, this includes the cultural resources of the different groups comprising the multi-ethnic community of Hawai`i. Cultural resources can include sites, behaviours, values, beliefs, rights and stories, among other things. The beaches and ocean along the coast are identified cultural resources that should be available to all local people. The few places that have beach access along Ka`anapali, have so little parking, as to

virtually make the access un-accessible. By addressing these issues, the present project has an opportunity to address some of the mistakes of the 1960s pertaining to cultural rights.

The loss of cultural knowledge can be partially attributed to the difficulty for a people to access their traditional places and practice their cultural activities. The more difficult it is to access, the more uncomfortable they are made to feel, the less they will go there. Slowly the traditional names are forgotten, the stories associated with a place fade away, along with the values that are taught through them, and eventually nothing is remembered. These places were associated with cultural values and beliefs that were remembered through the events that took place there. Many experts feel the environment is culturally patterned and as such, a mnemonic device, assisting the memory in retaining the stories, the beliefs, the attitudes, values and behaviors of ancestors (King 2003). Every one of those beaches and coves had their Hawaiian names and undoubtedly, people of the past knew the best place for certain types of fish and other select resources (*limu, `a`ama, hā`ke`uke, opihi*, etc.). Today, we do not know the place names and their stories have vanished.

Access grudgingly given, as in the 1960s by some developers, is not appropriate today. There must not only be access, but access with dignity. This means not being chased away by security guards, not being interrogated as to what they are doing there, or having to sneak to fishing and gathering places. It also means parking areas should be provided for the local community.

It can be assumed that the visual impact of the Royal Lahaina Hotel will be a continuation of, and in accordance with, development practices that have been in place since the 1960s. The project area has not been used for traditional cultural purposes within recent times except for the coastal section that continues to provide ocean resources to members of the community. Conversations with the Royal Lahaina Development Group, have established plans for the parcels to include the renovation of several buildings and development of the surrounding property.

Based on the response from various organizations, resort development in Kā`anapali region in the recent past, and through archival research, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering will not be affected by development activities on Parcels 7 and 13. However, access to beach resources is an issue that needs to be addressed. It is recommended that Cultural Advisors be consulted during the planning process. In this way, appropriate mitigation measures, if

needed, can be put in place before development occurs and access with dignity to ocean resources can be assured. Because there were no activities identified on Parcels 7 and 13, there are no adverse effects.

## REFERENCES CITED

Beckwith, Martha

1940 *Hawaiian Mythology*. University of Hawai'i Press: Honolulu.

Chinen, Jon

1961 Original Land Titles in Hawaii. Copyright 1961 Jon Jitsuzo Chinen. Library of Congress Catalogue Card No. 61-17314.

Clark, John

1980 *The Beaches of Maui County*. A Kolowalu Book, University Press of Hawaii: Honolulu.

Condé, Jesse, and Gerald Best

1973 *Sugar Trains, Narrow Gauge Rails of Hawaii*. Glenwood Publishers: Felton, California.

Daws, G.

1968 *Shoal of Time: History of the Hawaiian Islands*. University of Hawai'i Press. Honolulu.

Fornander, Abraham

1969 *An Account of the Polynesian Race, Its Origins and Migrations*. Vol. 1 to 3. Charles E. Tuttle Co. Inc.: Jutland.

1919 *Hawaiian Antiquities and Folklore*. Bishop Museum Press: Honolulu.

Handy, E.S. Craighill and E.G. Handy

1972 Native Planters in Old Hawai'i. *Bishop Museum Bulletin* 233. Honolulu.

Kamakau, Samuel

1964 Ka Po'e Kahiko. *Bishop Museum Special Publication* 51. Honolulu.

Kame'eleihiwa, Lilikalā

1992 *Native Land and Foreign Desires: Pehea La E Pono Ai?* Bishop Museum Press. Honolulu.

Kelly, Marion

1983 *Nā Māla o Kona: Gardens of Kona*. Dept. of Anthropology Report Series 83-2. Bishop Museum. Honolulu.

1998 "Gunboat Diplomacy, Sandalwood Lust and National Debt" In *Ka Wai Ola o OHA*, Vol. 15, No. 4, April 1998.

- King, Thomas F.  
2003 *Places that Count*. Rowman and Littlefield Publishers, Inc. Walnut Creek.
- Kirch, Patrick  
1985 *Feathered Gods and Fishhooks: An Introduction to Hawaiian Archaeology and Prehistory*. University of Hawaii Press, Honolulu.
- Kirch, Patrick V. and Marshall Sahlins  
1992 *Anahulu*. Vol. 1 and 2. University of Chicago Press. Chicago.
- Kuykendall, R.S.  
1938 *The Hawaiian Kingdom*. Vol. 1. University of Hawai'i Press. Honolulu.
- Lucas, Paul F. Nahoā  
1995 *A Dictionary of Hawaiian Legal Land-terms*. Native Hawaiian Legal Corporation. University of Hawai'i Committee for the Preservation and Study of Hawaiian Language, Art and Culture.. University of Hawai'i Press.
- Lyons, C.J.  
1875 "Land Matters in Hawaii". *The Islander*, Vol. I. Honolulu.
- Menzies, Archibald  
1928 *Hawaii New, 128 Years ago*. W.F. Wilson, ed. New Freedom Publishers: Honolulu.
- OEQC (Hawaii State Office of Environmental Quality Control)  
1997 "Guidelines for Assessing Cultural Impacts." Adopted by the Environmental Council, November 1997
- Pukui, Mary Kawena, Samuel Elbert, Esther Mookini  
1974 *Place Names of Hawaii*. University of Hawai'i Press: Honolulu.
- Simpich, F.  
1974 *Dynasty in the Pacific*. New York: McGraw-Hill Book Co.
- Speakman, Cummins  
1978 *Mowee, An Informal History of the Hawaiian Island*. Cal Central Press: San Francisco.
- Sterling, Elspeth  
1998 *Sites of Maui*. Bishop Museum Press. Honolulu.
- Taylor, A.P.  
1928 *Lāhainā: The Versailles of Old Hawaii*. Thirty-Seventh Annual Report, Hawaiian Historical Society.

Thrum, Thomas

1908 Heiaus and Heiau Sites Throughout the Hawaiian Islands. *Hawaiian Almanac and Annual for 1909*. Honolulu

1916 Maui's Heiaus and Heiau Sites Revised. *Hawaiian Almanac and Annual for 1917*. Honolulu.

1917 More Heiau Sites. *Hawaiian Almanac and Annual for 1918*. Honolulu

Walker, W.M.

1930 *Archaeology of Maui*. Ms. On file State Historic Preservation Division. Honolulu.

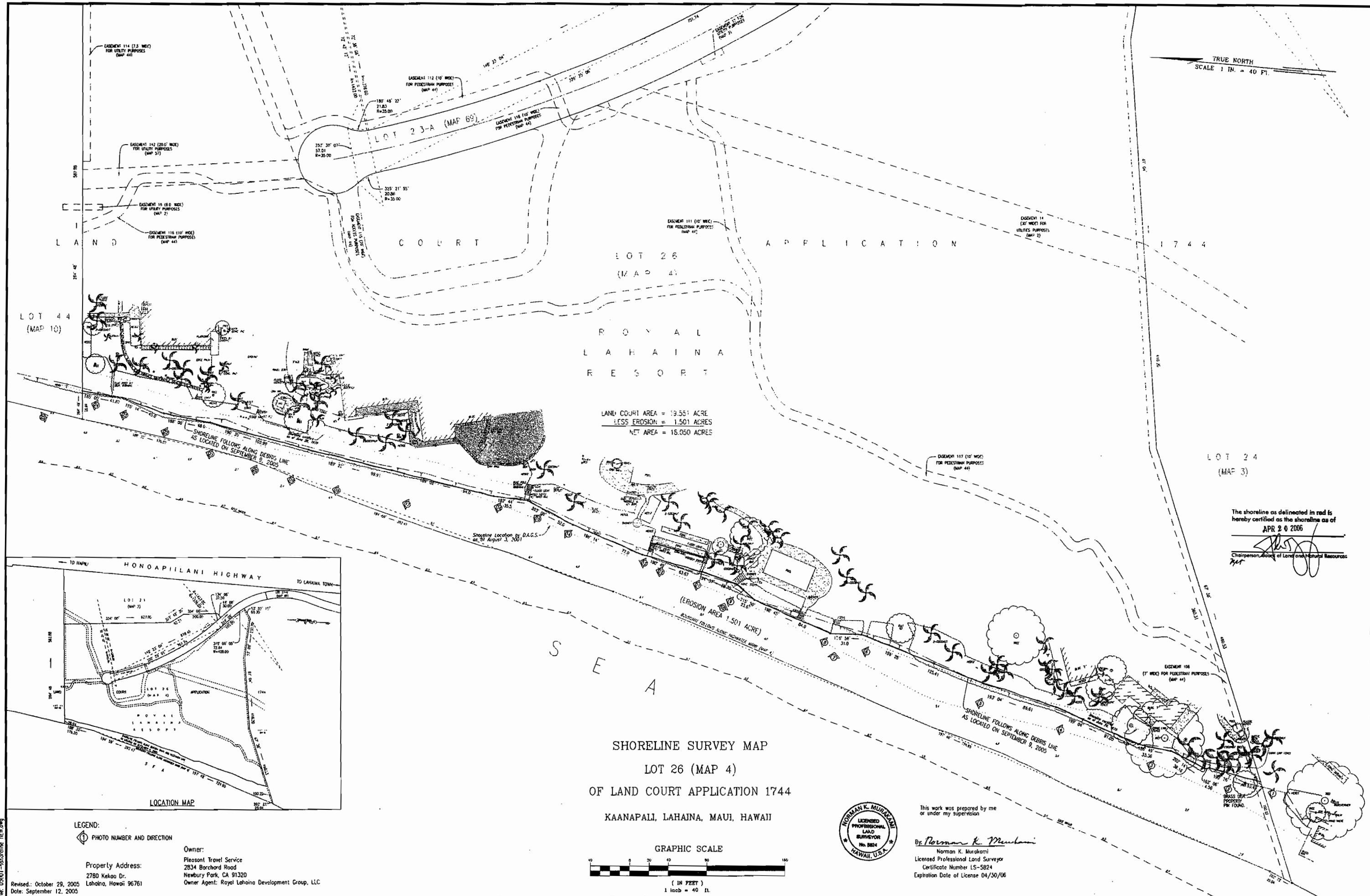
# ***Appendix F***

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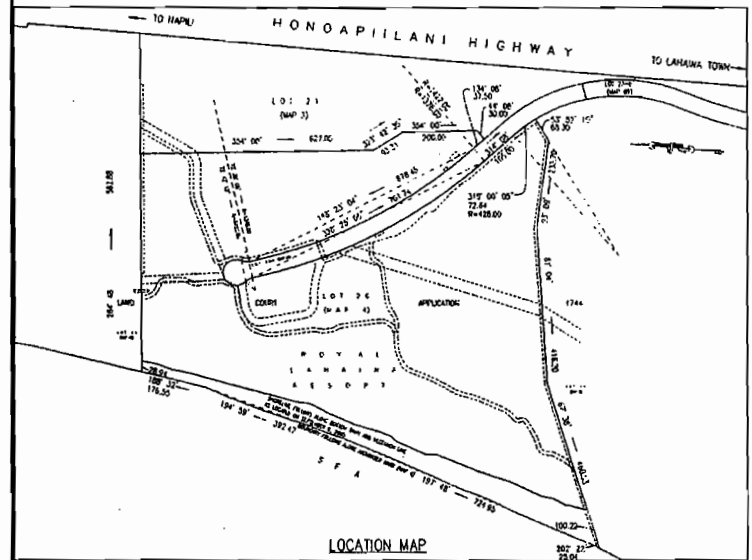
***Certified  
Shoreline Map***



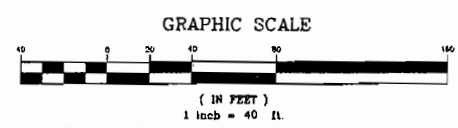
TRUE NORTH  
SCALE 1 IN. = 40 FT.



The shoreline as delineated in red is hereby certified as the shoreline as of  
**APR 20 2006**  
*[Signature]*  
Chairperson, Board of Land and Natural Resources



SHORELINE SURVEY MAP  
LOT 26 (MAP 4)  
OF LAND COURT APPLICATION 1744  
KAANAPALI, LAHAINA, MAUI, HAWAII



This work was prepared by me or under my supervision  
By *Norman K. Murakami*  
Norman K. Murakami  
Licensed Professional Land Surveyor  
Certificate Number LS-5824  
Expiration Date of License 04/30/06

LEGEND:  
① PHOTO NUMBER AND DIRECTION

Owner:  
Pleasant Travel Service  
2834 Borchard Road  
Newbury Park, CA 91320  
Owner Agent: Royal Lahaina Development Group, LLC

Property Address:  
2780 Kekoa Dr.  
Lahaina, Hawaii 96761

Revised: October 29, 2005  
Date: September 12, 2005

# ***Appendix G***

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***Coastal Engineering  
Assessment***

**Coastal Engineering Assessment  
Royal Lahaina Resort  
North Beach, Kaanapali**

August 2005

*Prepared for:*

Royal Lahaina Development Group LLC  
700 Bishop Street, Suite 2100  
Honolulu, Hawaii 96813

*Submitted by:*

Sea Engineering, Inc.  
Makai Research Pier  
Waimanalo, Hawaii 96795

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# Coastal Engineering Assessment Royal Lahaina Resort, Kaanapali

## 1.0 INTRODUCTION

The Royal Lahaina Resort is planning to renovate its property along North Kaanapali Beach, Maui. North Kaanapali Beach is the approximately 6,000-foot long shoreline stretching between Kekaa and Honokowai Points, on the west coast of the Island of Maui (Figure 1). The Royal Lahaina Resort is located along the southern part of the beach, approximately 600 feet north of Kekaa Point. Neighboring properties include the Maui Eldorado to the south and the Aston Kaanapali Villas to the north. The plans for the Royal Lahaina Resort within the shoreline setback area include removing the 3-story hotel tower consisting of 65 guest units located on the north edge of the property; removing six 2-story oceanfront cottages consisting of 36 guest units; a 1-story restaurant (currently Don the Beachcomber); downsizing and renovating the Alii Ballroom; and repair and maintenance of the recreation center, located at the south end of the property. Figure 2 shows the draft conceptual site plan for the project, while Figure 4 shows the existing site plan with the buildings that are planned to be removed. A Special Management Area (SMA) Development Permit is being prepared for this work.

In support of the SMA permit, Sea Engineering, Inc. was contracted to complete a coastal engineering evaluation of the shoreline along the resort. Specific work tasks included the following:

- A site investigation to evaluate existing shoreline conditions, measure beach and dune profiles, collect sand samples and take photographs;
- A coastal engineering assessment to characterize beach processes, assess beach erosion and accretion, and locate the landward limit of the dune.

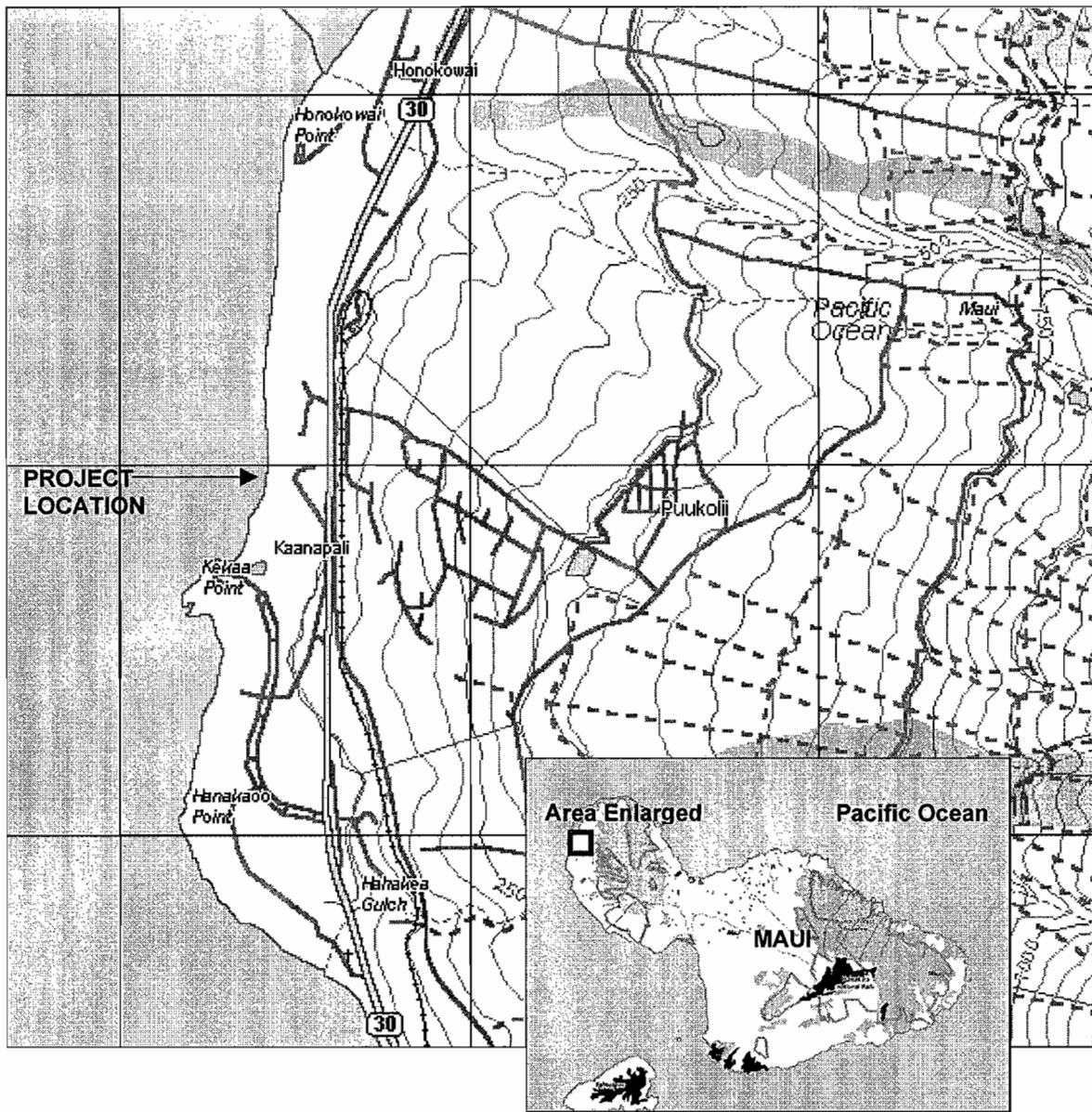


Figure 1. Project Location

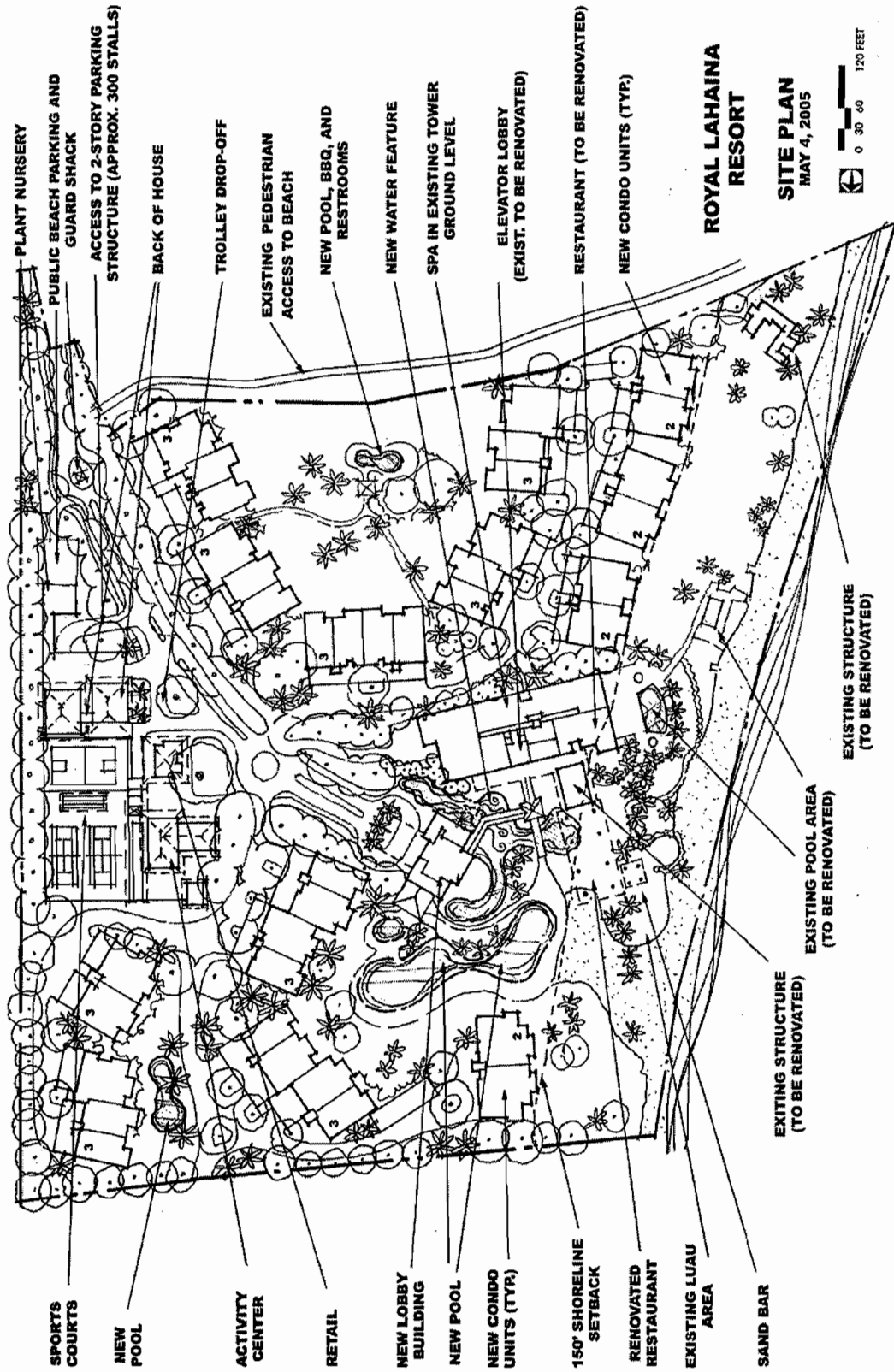
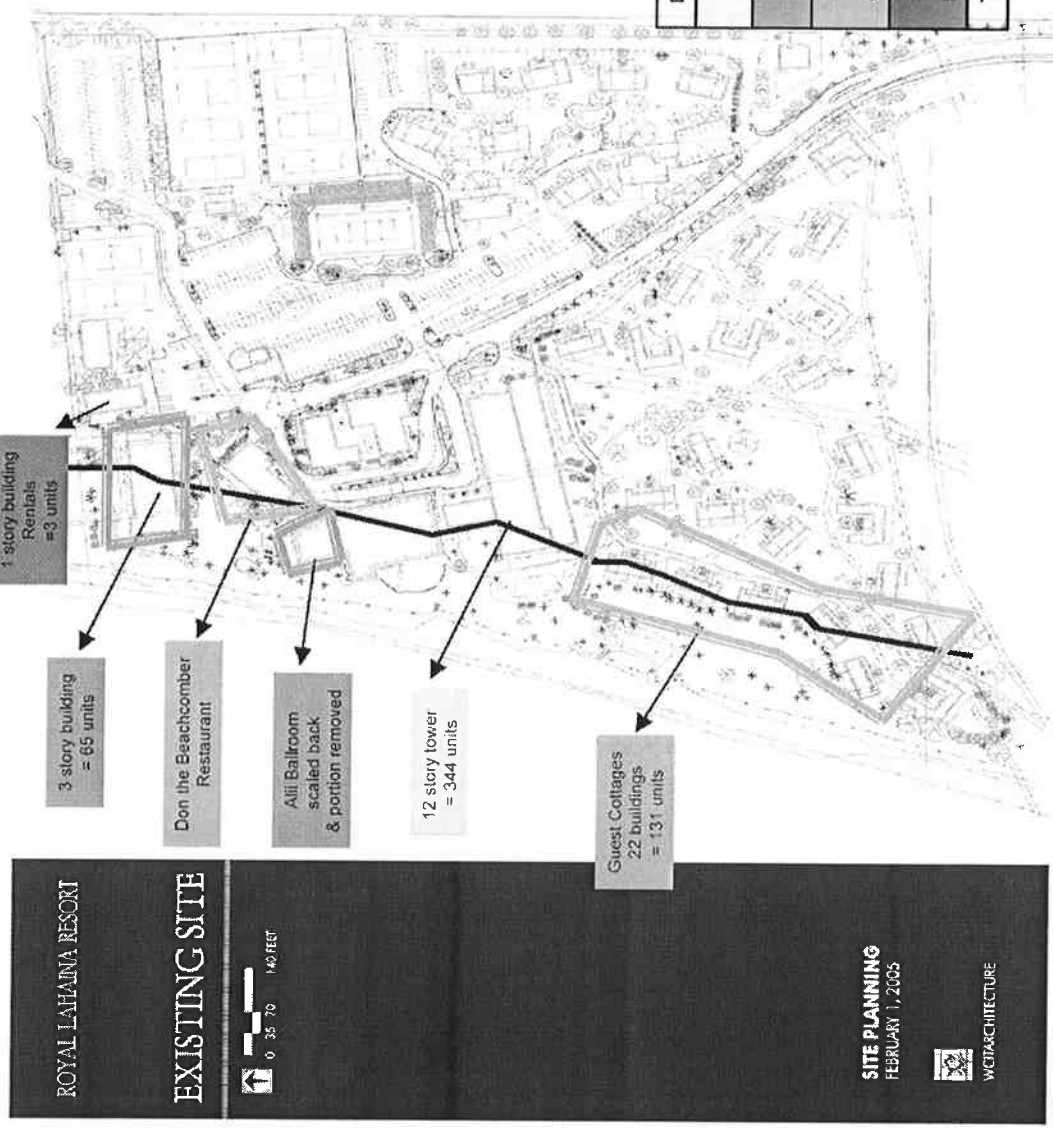


Figure 2. Draft Royal Lahaina Resort Improvements Site Plan (subject to change)



Building	Description	Units
12 story tower	336 studios, 7 - 1br suites	344
3 story tower	65 studios	65
Guest Cottages	22 cottages, 17 - 2 story, 5 - 1 story	131
Rental Buildings	1-1 story, 1-2 story 9-cottages	3 7 33
<b>TOTAL</b>		<b>583</b>

Figure 3. Structures within the shoreline setback that are to be removed.

ROYAL LAHAINA RESORT

EXISTING SITE



SITE PLANNING  
FEBRUARY 1, 2005





## 2.0 SHORELINE DESCRIPTION

The North Kaanapali Beach shoreline consists of a well-sorted, medium grain size calcareous beach. Backshore beach crest (vegetation line) elevations average 10 to 13 feet above mean sea level (msl). All elevations in this report are referenced to the mean sea level datum. A fringing reef is present at Honokowai Point. Along the remainder of the beach, there is no fringing reef, and the offshore bottom slopes relatively uniformly to a depth of 30 feet within about 700 feet of the shoreline (bottom slope one vertical to 25 horizontal), after which the bottom slope steepens to about one vertical to ten horizontal to a depth of 60 feet. The beach is bounded to the south by Kekaa Point (Black Rock) and the ruins of the old sugar cane landing along the north side of the point. The Royal Lahaina Resort is located in the south part of the beach, approximately 600 feet north of Kekaa Point. The resort spans 1325 feet of the shoreline.

A site investigation was conducted on May 6, 2005 to describe existing shoreline conditions, measure beach and dune profiles, collect sand samples and take photographs. The profile locations, as well as the shoreline elevation contours, resort facilities, and the recently submitted certified shoreline location (this shoreline certification had not yet been approved at the time this report was produced), are shown on Figure 4.

Sand samples were collected from the middle and top of the beach between Profiles 1 and 2. The sample analysis results, presented in Figure 5, show that the beach is composed of tan colored, medium grained (0.25 – 0.5 mm), primarily calcareous sand. There was little variation in the samples. Previous analyses have shown that the sand in North Kaanapali Beach is typically composed of 75% calcium carbonate.

Four profiles were measured along the project shoreline, as shown in Figure 4. The profile plots are shown in Figure 6. The profiles and site observations show the beach was generally wide, with a well-established and well-maintained naupaka hedge along the entire berm crest (Photos 1, 4 and 7). Landward of the naupaka hedge are resort facilities such as pools, buildings and grassy lawns (Photos 2, 3, 5 and 6). Figure 4 shows that the shoreline submitted for certification is located typically within the naupaka hedge at the top of the bank.

Profile 1 was located approximately 50 feet to the south of the north property boundary (Photo 1). At Profile 1, the beach was about 90 feet wide from the vegetation line (edge of naupaka hedge) to the water line (0 feet MSL). The beach slope was variable with a flat berm nearly 20 feet wide at the 8 foot elevation. The average beach slope was 1V:11H. The naupaka hedge was about 27 feet wide and extended from an elevation of 8 feet to nearly 13 feet (Figure 6). The backshore is occupied by a grassy lawn, a walkway, and a three-story hotel building located about 70 feet landward of the vegetation line (Photo 2). The backshore elevation was approximately 13 feet.

Profile 2 was located about 530 feet south of the north property boundary, in the vicinity of the northernmost swimming pool. The beach at this location was 80 feet wide from the vegetation line to the water line (0 feet MSL). The beach slope was relatively even, averaging 1V:8.3H (Figure 6). The naupaka hedge was 24 feet wide, rising from an elevation of 10.6 feet to 14.7 feet. The backshore is occupied by a swimming pool and pool deck located about 50 feet

landward of the vegetation line, and a large building approximately 100 feet landward of the vegetation line. The backshore elevation is typically 15 feet.

Profile 3 was located 400 feet north of the south property border. The distance from the vegetation line to the water line (0 feet MSL) was 115 feet. The beach slope was variable (Figure 6). The naupaka hedge was 25 feet wide, at an elevation of 11 to 15 feet. Seaward of the naupaka, there was a relatively flat berm more than 30 feet wide with an elevation of roughly 10 feet. The beach then successively steepens and flattens before reaching the water line (0 feet MSL). The backshore is occupied by a wide, grassy lawn (Photo 5), and resort bungalows located approximately 120 feet from the vegetation line. Between Profiles 2 and 3, a second swimming pool is located 30 feet from the vegetation line. The backshore elevation is 14 to 15 feet.

Profile 4 was measured along the southern property border, 30 feet north of the Maui Eldorado Beach Cabana (Photo 8). The beach was roughly 105 feet wide from the vegetation line to the water line (0 feet MSL). The beach slope was highly irregular along this profile. A flat berm at an elevation of 12 feet extended 40 feet seaward of the vegetation line, and a 4-foot high scarp had been cut into the berm between the 7 and 3-foot elevations (Figure 6). The naupaka hedge was 28 feet wide, at an elevation of 12 to 13 feet. The backshore contains a grassy lawn, a walkway approximately 57 feet from the vegetation line, and a golf course on the landward side of the walkway. The resort building located closest to the vegetation line (20 feet inland of the vegetation line) is located approximately 150 feet north of the southern property border (Photo 6). The Maui Eldorado beach cabana is located 30 feet south of the property. The cabana is built out on the beach berm, approximately 40 feet seaward of the vegetation line (Photo 8).

In summary, the beach along the project shoreline is wide and healthy, and there was no evidence of shoreline erosion during the site visit. Cusped undulations (beach cusps) and scarps cut into the winter season sand berm were present along the beach, indicating a dynamic beach with active sand movement and beach response to changing wave events. A well-established and maintained naupaka hedge marks the vegetation line. The hedge is 20 to 30 feet wide, and vegetates a bank or berm crest that rises from an elevation of 8–12 feet on the beach side to 13–15 feet on the landward side. Narrow paths or wooden stairs provide access to the beach through the naupaka. The backshore landward of the naupaka has been graded flat and is actively maintained by the resort. There is therefore no evidence of natural coastal dunes, such as those that exist along the undeveloped northern part of the beach. The backshore is occupied by grassy lawn, walkways and coastal facilities such as a restaurant, two swimming pools, and assorted buildings. The closest approach of a building to the beach is the cottage located 20 feet from the vegetation line at the southern end of the property. The swimming pools are located 30 to 50 feet from the vegetation line. The restaurant/ballroom is located 40 feet landward of the vegetation line, and the building at the north end of the property is 60 feet from the vegetation line.

The offshore bottom is sandy to a distance of several hundred feet from shore.



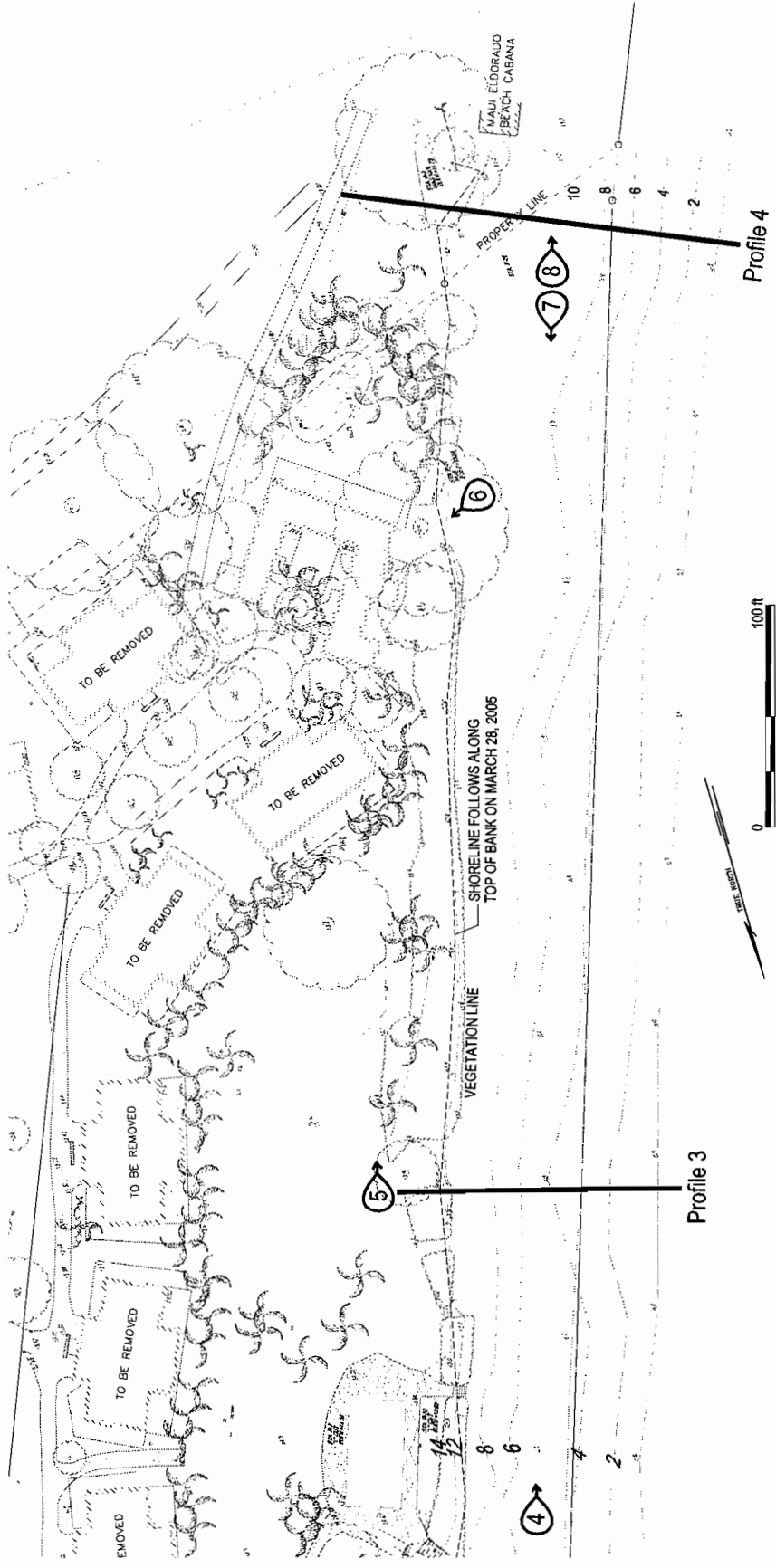
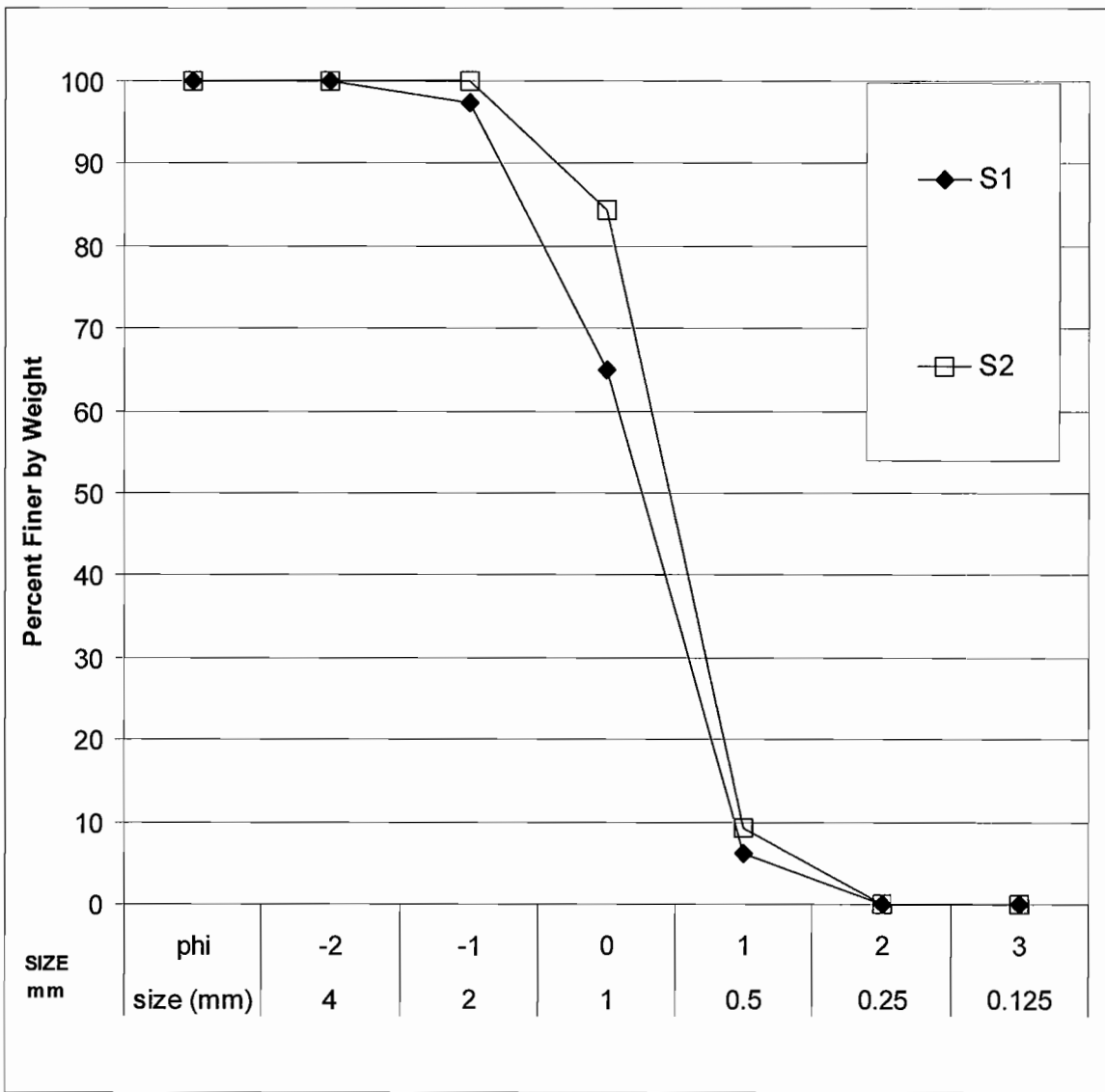


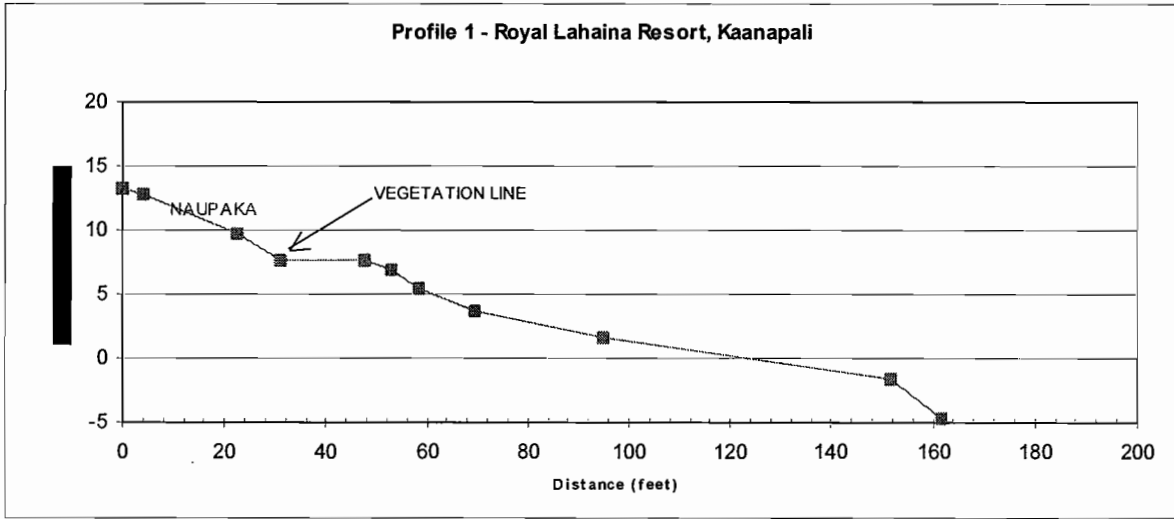
Figure 4 (continued)

### GRAIN SIZE DISTRIBUTION

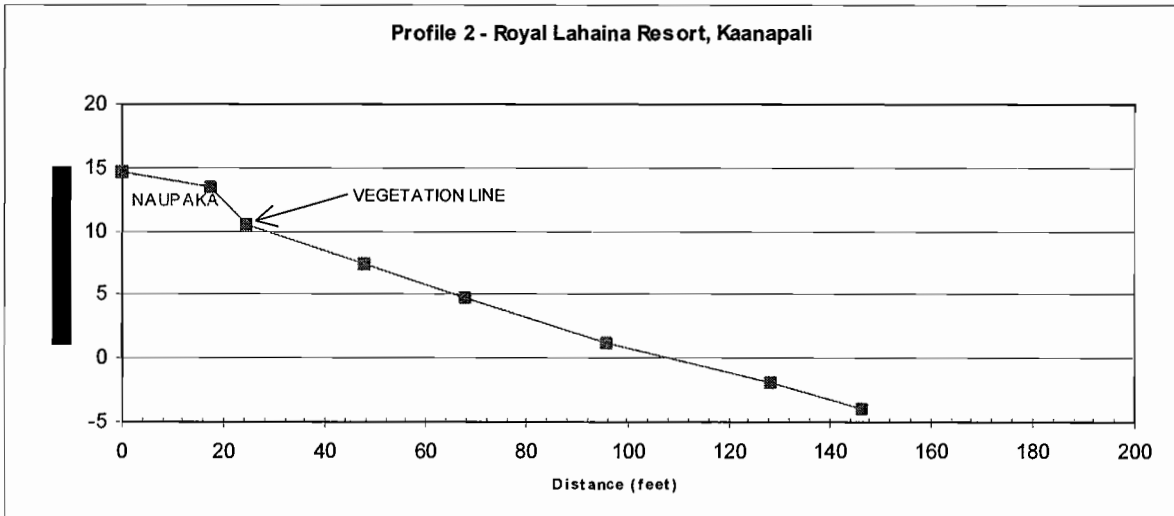


**Figure 5. Sand Sample Analysis**

Figure 6. Profiles

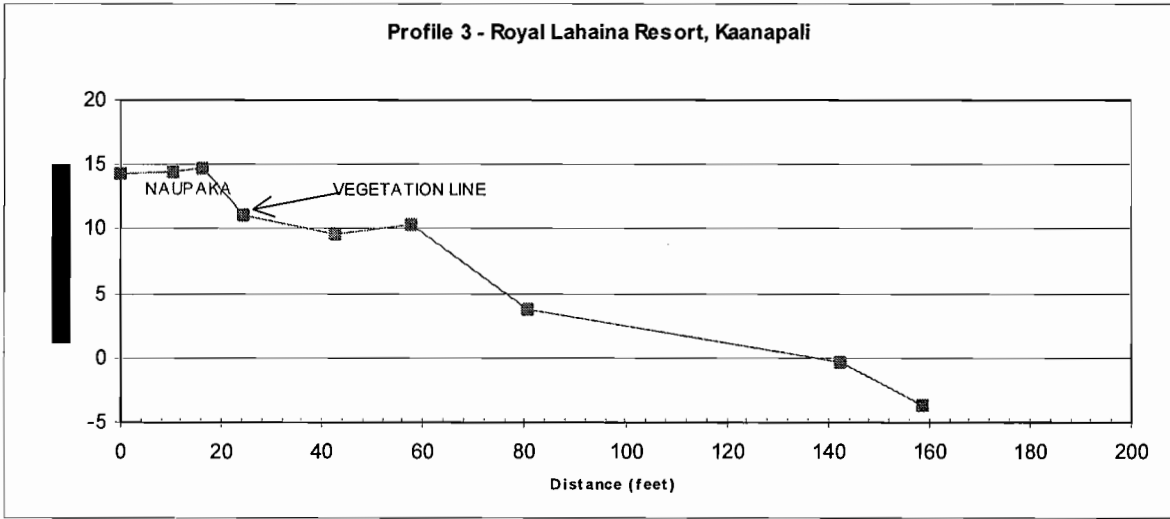


Profile 1

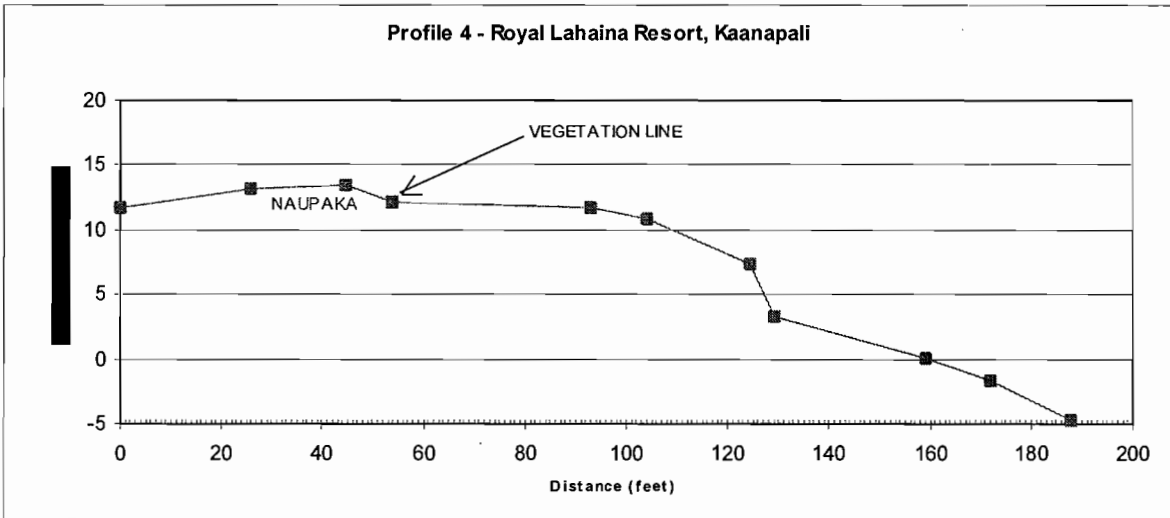


Profile 2

Figure 6 (continued). Profiles



Profile 3



Profile 4

### 3.0 SHORELINE HISTORY AND PROCESSES

The erosion history of North Kaanapali Beach has been analyzed using aerial photographs by Sea Engineering (1991) and by the U.H. Coastal Geology Group (2003). Sea Engineering digitized the vegetation line in aerial photographs taken in 1949, 1961, 1975, 1987 and 1988. Shoreline movements were measured at discrete transects along the shoreline. The results of this study are presented in Figure 7. Transect 15 corresponds to the Royal Lahaina project site. The study shows that at Transect 15, the vegetation line eroded 35 feet between 1949 and 1961, but accreted 24 feet between 1961 and 1988. This study concluded that sand movement along this beach varies seasonally, depending on north and south swell and Kona storm waves.

The U.H. Coastal Geology Group compared the low water mark digitized from 9 aerial photos between 1949 and 1997, and National Ocean Survey topographic survey charts from 1912 and 1932. The results of this study are presented in Figures 8 and 9. The project site corresponds to the area between transects 9 and 27 on the photos. This study shows that the beach at the project site has been relatively stable, experiencing no net erosion at all transect locations except 19, 20 and 21, where minor erosion of between 0.07 to 0.14 feet per year was calculated. The digitized water lines also showed wide variations from year to year, indicating that the beach is dynamic, and can experience wide swings in beach position.

To evaluate seasonal beach changes, Sea Engineering (1986), measured shoreline profiles every 250 feet between Kekaa and Honokowai Points at 6 week intervals between April 1 (end of winter season) and October 6 (end of summer season), 1986. The profiles extended from the vegetation line on top of the beach slope to the approximate 5-foot water depth. The profiles measured beach changes and sand transport during the summer season and showed that sand moved northward along the beach under the influence of summer south swell. Thus, there was significant recession of the shoreline immediately north of Kekaa Point, and some accretion of the beach further to the north towards Honokowai Point. Kekaa Point forms the southern boundary of North Kaanapali Beach and little or no sand moves north past the point to replace that which is being moved northward from the point, thus a significant recession in beach position occurs during the summer season. Conversely, during the winter season, when sand is moving southward along the beach, it stops at Kekaa Point and accretion and significant beach movement seaward occurs. In the middle of North Beach, in the vicinity of the project area, there is considerable seasonal sand movement, either north or south, however the horizontal beach changes are much less than occurs at the end of the beach as sand moving away from a given point is replaced by sand moving in.

Discussions with hotel personnel indicate that the shoreline is infrequently threatened with large waves and erosion. Two flooding events were noted in the past 40 years. Most recently, during January 2004, waves overtopped the naupaka hedge and flooded the backshore in the vicinity of the swimming pools and the building at the south end of the property. Sandbags were emplaced landward of the vegetation line to protect these facilities. During this event, the seaward-side roots of the tree in Photo 6 were exposed, and enough sand had eroded that a person could stand underneath them. The site visit on May 6, 2005, however, revealed that the beach had fully recovered; the beach was wide, the tree roots were buried, and no evidence of shoreline erosion or damage was visible. The project area has also been subject to two hurricanes, Iwa in 1982 and



Iniki in 1992, that caused damage along the west facing coasts of Maui. During Iniki, there was some flooding of the 3-story building at the north end of the property, and of the pools and bungalows. The historical aerial photographic analyses indicate, however, that there was no lasting damage to the shoreline at the project site from these hurricanes.

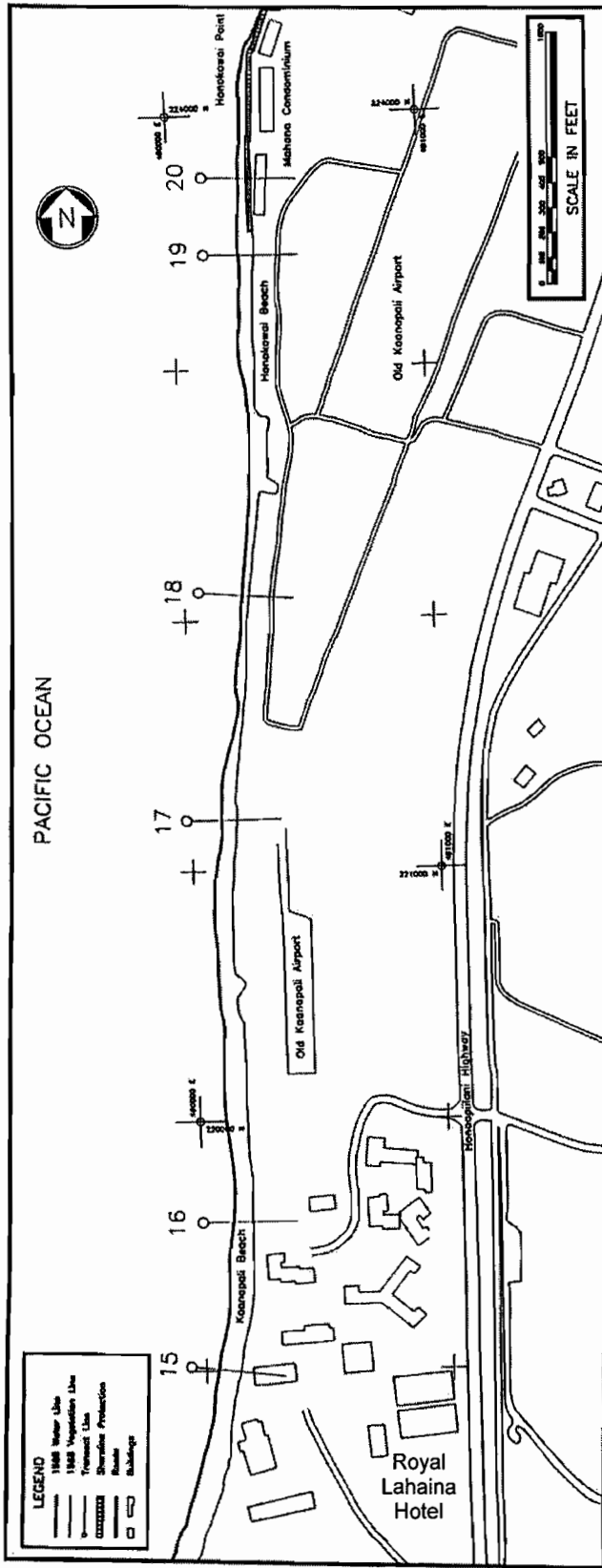
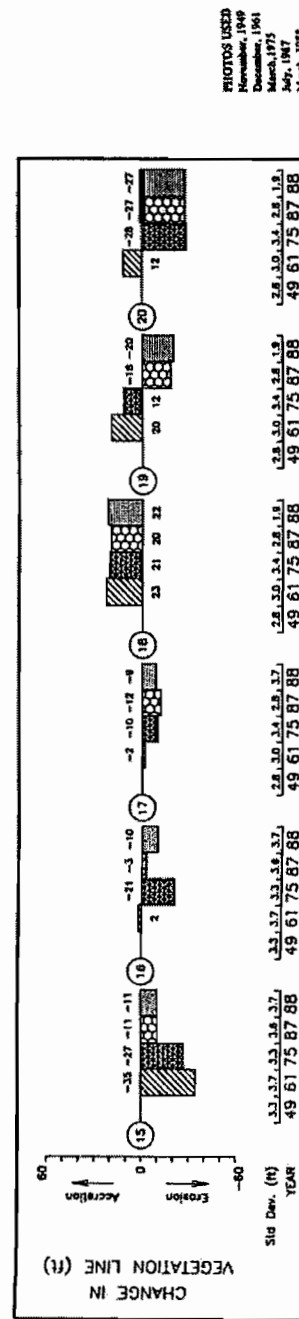
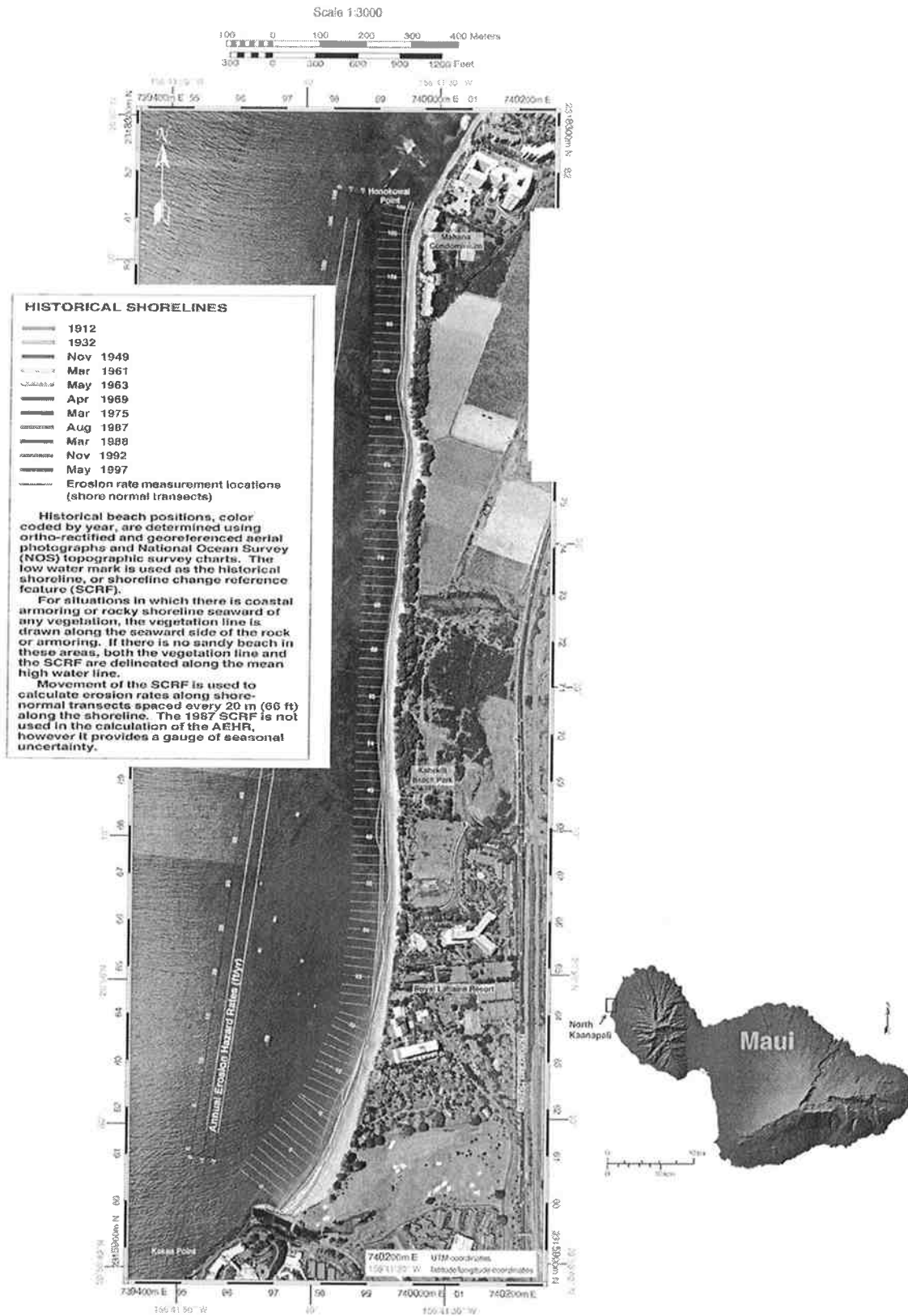


Figure 7. North Kaanapali Beach Historical Vegetation Line Changes  
(Sea Engineering Inc., 1991)



PHOTOS USED  
November, 1949  
December, 1961  
March, 1975  
July, 1987  
March, 1988

Figure 6. North Beach Historical  
Vegetation Line Changes  
(Sea Engineering, 1991)



**Figure 8. North Beach Kaanapali Historical Shoreline Change Analysis**  
(U.S. Coastal Geology Group, 2003)

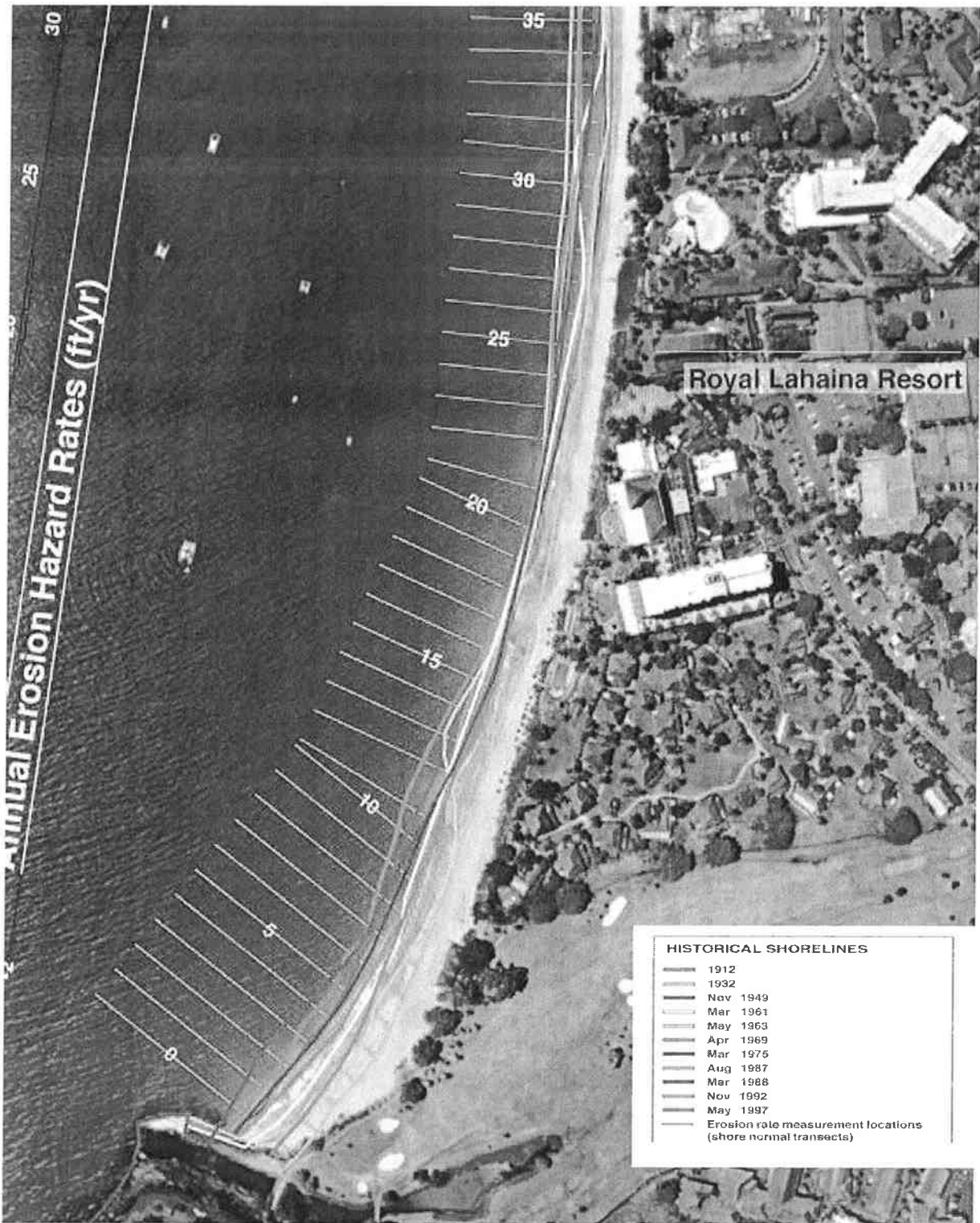


Figure 9. Historical Shoreline Change Along the Project Shoreline

## 4.0 GENERAL OCEANOGRAPHIC ENVIRONMENT

### 4.1 Wave Climate

The general Hawaiian wave climate can be described by four primary wave types; northeast tradewind waves, south swell, North Pacific swell, and Kona waves. These wave types and their general approach directions are shown on Figure 10.

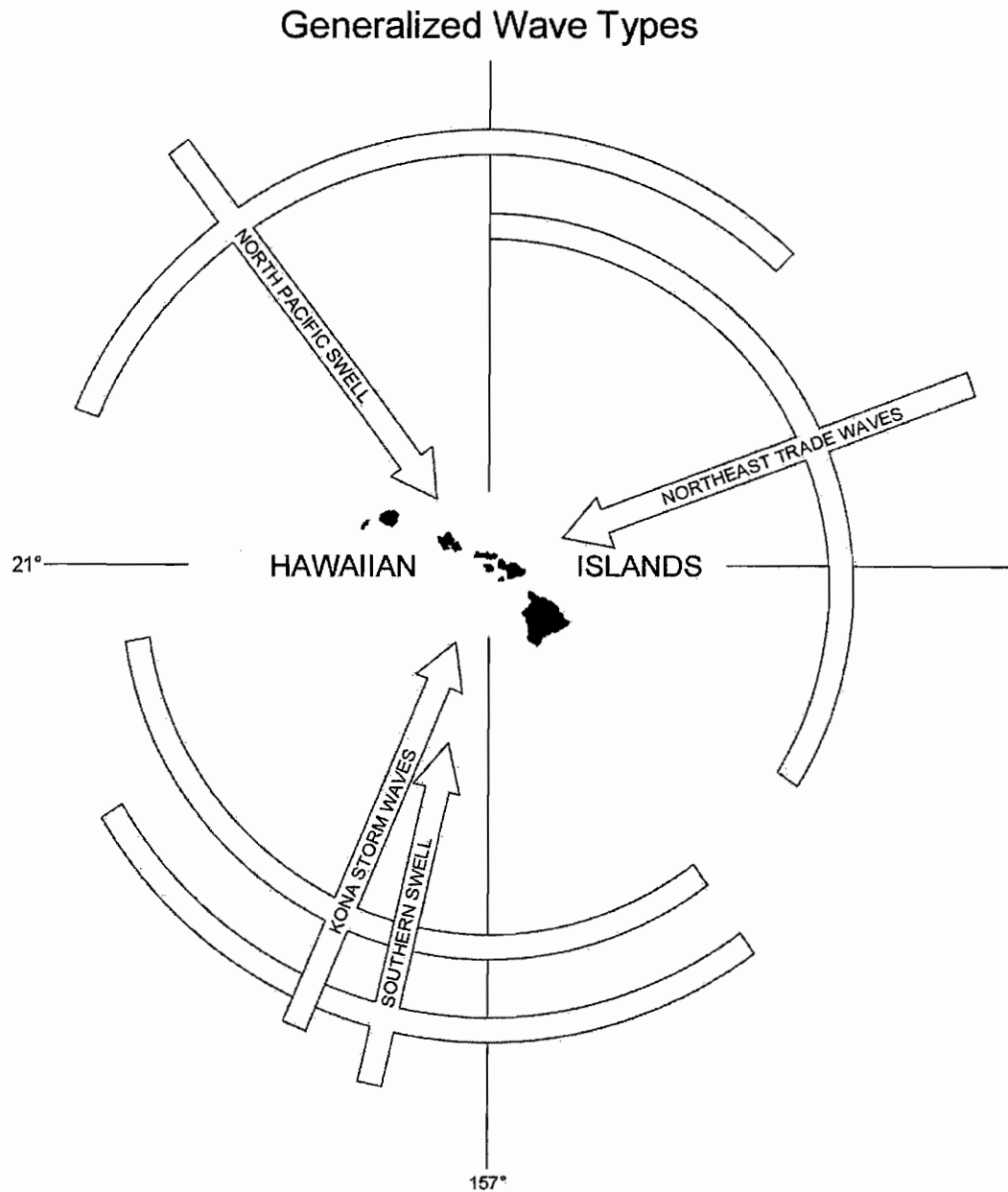
Tradewind waves may be present in Hawaiian water throughout most of the year, but are most frequent between April and September, the summer season, when they usually dominate the Hawaiian wave climate. They result from the strong and steady tradewinds blowing from the northeast quadrant over long fetches of open ocean. The deepwater tradewind waves typically have periods of 6 to 8 seconds and heights of 4 to 10 feet.

South swell is generated by southern hemisphere storms and is most prevalent during the months of April through October. These long, low waves approach from the southeast through southwest, with periods of 12 to 20 seconds and deepwater heights of 1 to 6 feet. North Pacific swell is produced by severe winter storms in the Aleutian area of the North Pacific Ocean and by mid-latitude low-pressure areas. North swell may arrive in the Hawaiian Islands throughout the year but is largest and most frequent during the winter months of October through March. North or northeast swell is sometimes generated by winter storms northeast of the islands. North Pacific swell typically has periods of 12 to 20 seconds and heights of 5 to 15 feet.

Kona waves are generated by intense winds associated with local fronts or low-pressure systems and typically have periods ranging from 6 to 10 seconds and heights greater than 10 feet. These waves approach from the south to west, with the largest waves usually from the southwest. Deepwater wave heights during a severe Kona storm in January 1980 were about 17 feet with a period of 9 seconds.

The study area is very well protected from the northeast tradewind waves by the island of Maui itself. The island of Molokai partially shelters the study area from north swell, however a portion of the north swell wave energy refracts and diffracts around the east end of Molokai to reach the Kaanapali coast. The islands of Lanai and Kahoolawe also partially block south swell and Kona storm waves from reaching the study area.

The Kaanapali coast is exposed to wave attack from passing tropical storms and hurricanes, Kona storms and North Pacific storms. Although infrequent, these storm waves represent extreme conditions for design purposes.



**Figure 10. Generalized Wave Types**

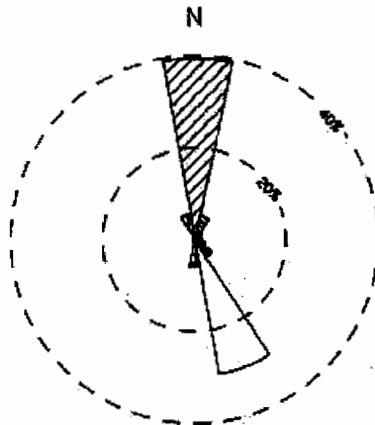
#### 4.2 Currents and Circulation

Nearshore current speed and direction and general circulation patterns in the vicinity of the project area were measured by Sea Engineering in 1986 and 1993 using an *in situ* recording current meter and drift drogues. The current meter provided a continuous record of subsurface current speed and direction at a fixed location, while the drift drogues provided information on

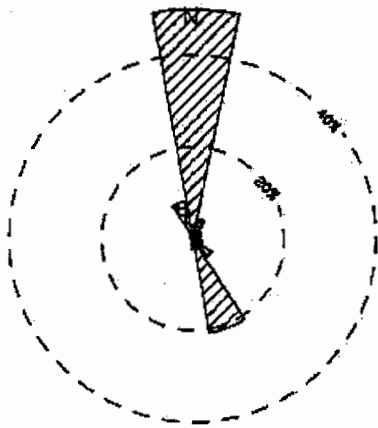
horizontal and vertical current gradients and the general flow pattern. A General Oceanics Model 6011-T current meter was deployed offshore of the project site from March 12, 1986 to June 10, 1986. The meter was located at the 25-foot depth in a total water depth of 30 feet. From November 1992 to December 1993, the meter was redeployed at a 60-foot depth, in a total water depth of 105 feet.

The current meter data for the winter and summer seasons in 1993 are summarized in Figures 11 and 12 respectively. The data indicates that the prevailing currents are reversing semi-diurnal tidal currents. The predominant ebb tide current is to the north, with average speeds of 21 to 28 cm/s, and it is directionally consistent. The flood tide current is less directionally consistent. During the summer, northward and south-southeastward currents occurred almost equally during the flood tide, at average speeds of 21 to 28 cm/s. During the winter, south-southeastward currents were predominant during the flood tide, occurring about 40% of the time at average speeds greater than 28 cm/s; northward currents occurred 30% of the time during the flood tide at average speeds of 21 to 28 cm/s. The net transport during the ebbing tide was 9 to 14 cm/sec to the north, and during the flooding tide was an almost 0.3 to 0.6 cm/sec to the southeast. The overall net transport was to the north at 4 to 7 cm/sec.

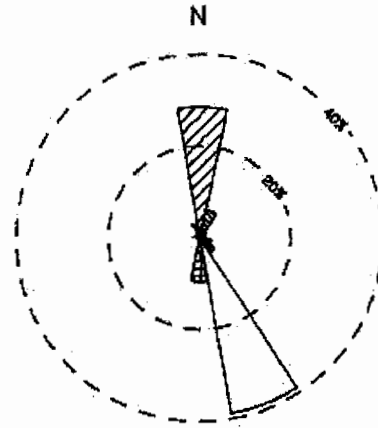
NORTH BEACH MAUKA (KAANAPALI)  
 11/10/92 - 2/18/93  
 Station: A  
 Meter/Water Depth: 52' / 105'



OVERALL  
 Net Transport: 3.5 cm/s 055 MN



EBB TIDE  
 Net Transport: 9.1 cm/s 010 MN



FLOOD TIDE  
 Net Transport: 6.3 cm/s 140 MN

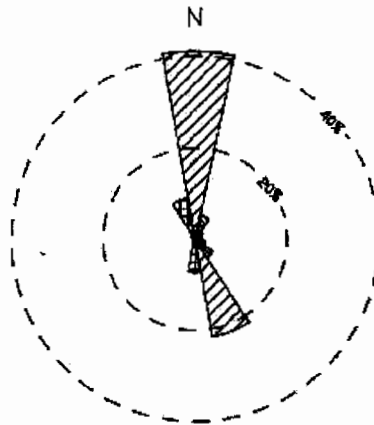
AVERAGE CURRENT SPEEDS (cm/s)

0 - 7    
  7 - 14    
  14 - 21    
  21 - 28    
  > 28

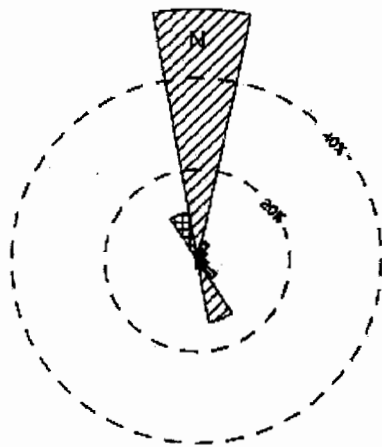
Figure 11. Average Current Speed and Direction Nov. 1992 to Feb. 1993.



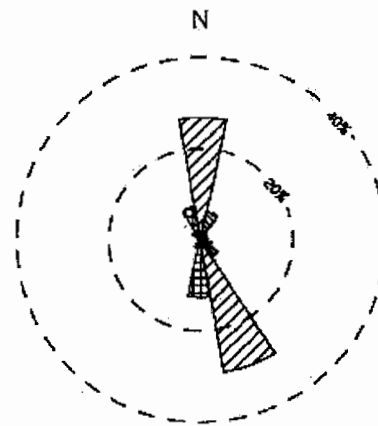
NORTH BEACH MAUKA (KAANAPALI)  
 5/20/93 - 9/30/93  
 Station: A  
 Meter/Water Depth: 60' / 105'



OVERALL  
 Net Transport: 6.64 cm/s 14 MN



EBB TIDE  
 Net Transport: 13.83 cm/s 2 MN



FLOOD TIDE  
 Net Transport: 2.98 cm/s 110 MN

AVERAGE CURRENT SPEEDS (cm/s)

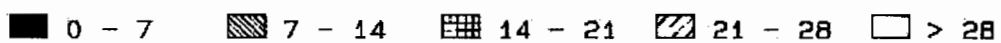


Figure 12. Average Current Speed and Direction, May to September 1993.

## 5.0 SHORELINE HAZARDS

The FIRM Rate Map designation for the project shoreline is V12. This designates areas of 100-year coastal flood with velocity (wave action). In Hawaii, tsunami inundation typically constitutes the 100-year flood. Recorded tsunami inundation elevations in the middle of North Kaanapali Beach were 9 and 10 feet (mean lower low water) for the 1957 and 1960 tsunamis, respectively. Immediately to the north of Kekaa Point, recorded tsunami elevations were 16 feet and 6 feet for the 1946 and 1957 tsunamis, respectively. Approximately 1000 feet to the north of Honokawai Point, the 1946 tsunami flooded the shoreline to an elevation of 14 feet (Loomis, 1976).

The site investigation conducted for this project, along with previous shoreline analyses of the North Kaanapali Beach area, indicate that the project shoreline is dynamic and periodically subject to significant wave energy and large variations in beach position. Field investigations conducted in March 2004 at the north end of the beach, towards Honokawai Point, revealed several locations where the dune had been overtopped and breached in several locations by large waves. Also, the sand beach fronting the Maui Eldorado beach is occasionally eroded away, leaving the beach cabana threatened with wave damage. As mentioned previously, during January 2004, large waves overtopped the naupaka hedge and flooded the backshore in the vicinity of the pools and the building at the south end of the property. Sandbags were temporarily emplaced to protect these facilities. During Iniki, there was some flooding of the 3-story building at the north end of the property, and of the pools and bungalows. Thus, large waves and wave induced flooding and erosion are possible hazards along the entire North Kaanapali beach shoreline.

## 6.0 SUMMARY

The Royal Lahaina Resort shoreline, located at the south end of North Kaanapali Beach, about 600 feet north of Kekaa Point, consists of a wide, healthy beach with a well established and maintained naupaka hedge forming the vegetation line. During the site visit, the beach was 80 to 115 feet wide from the vegetation line to the water line (0 feet MSL). The naupaka hedge vegetates the crest of the berm, at an elevation of 8 to 14 feet. The backshore landward of the naupaka is relatively flat and actively maintained by the resort. Within the 150-foot setback, grassy lawns and walkways, and resort facilities such as swimming pools, a restaurant and assorted buildings currently occupy the backshore. There is no longer evidence of a natural dune. The backshore elevations is 13 to 15 feet. The offshore bottom is sandy.

Previous studies of shoreline erosion indicate that the beach at the project site is stable, and has experienced little net erosion. The study area is well protected from the northeast tradewind waves by the island of Maui itself, but is exposed to wave attack from passing tropical storms and hurricanes, Kona storms and North Pacific swell. The beach is therefore dynamic and periodically subject to significant wave energy and large variations in beach position. Most recently, in January 2004, waves overtopped the beach and flooded the backshore. Dune overtopping and breaching also occurred recently at the northern end of the beach. The beach has since recovered, and during the site visit, was wide and showed no signs of erosion.

The well-vegetated berm crest along the shoreline, with a crest elevation of 8 to 13 feet, provides the project site with important protection from storm waves. The naupaka vegetation helps stabilize the berm crest, resist erosion and trap additional sand. Care should also be taken to maintain healthy vegetation along the dune.

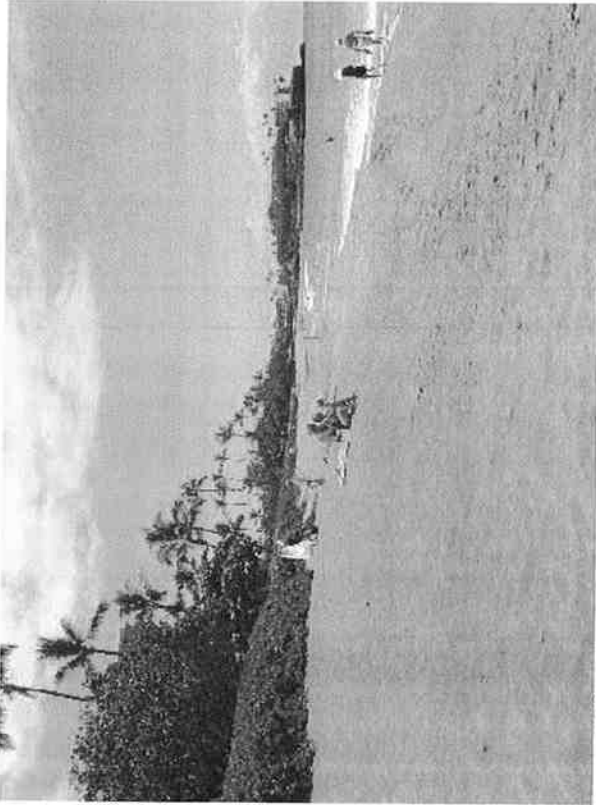
A shoreline setback has been established about 150 feet landward of the vegetation line. The proposed improvements to the Royal Lahaina Resort involve removing several structures that are currently located within the 150-foot setback area – the three-story building at the north end of the property, one restaurant, and six two-story cottages. The existing restaurant, two swimming pools, and the building at the south end of the property will remain within the setback area. The restaurant will be renovated and downsized, the pools will be renovated, and the building to the south is to be repaired.

Thus, the proposed project will result in a significant decrease in the number of structures located within the shoreline setback area. The structures that remain, however, particularly the pools and the building to the south, have been threatened with erosion and wave damage in the past, and remain susceptible to such damage in the future.

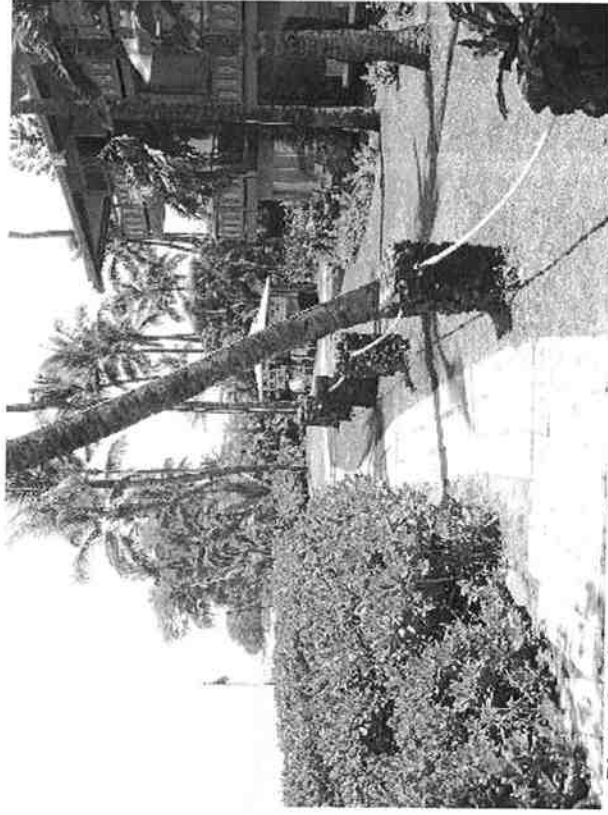
## 6.0 REFERENCES

- Makai Ocean Engineering, Inc. and Sea Engineering, Inc., 1991; *Aerial Photograph Analysis of Coastal Erosion on the Islands of Kauai, Molokai, Lanai, Maui and Hawaii*; prepared for the State of Hawaii, Office of State Planning, Coastal Zone Management Program.
- Marine Advisors, Inc., 1964; *Characteristics of Deep-Water Waves in the Oahu Area for a Typical Year*; prepared for the Board of Harbor Commissioners, State of Hawaii.
- Loomis, Harold, 1976; *Tsunami Wave Runup Heights in Hawaii*; Hawaii Institute of Geophysics, University of Hawaii.
- NB Lot 3, LLC, 2003; Design Manual and Master Plan for Kaanapali Beach Resort, North Beach, Maui, Hawaii.
- Sea Engineering, Inc., 1986; *Coastal Engineering Evaluation and Marine Biological Assessment for Kaanapali North Beach, Maui, Hawaii*; prepared for Dames & Moore, Honolulu, Hawaii.
- U. H. Coastal Geology Group, 2003; *Maui Shoreline Atlas*; prepared for County of Maui, Contract No. G0605.

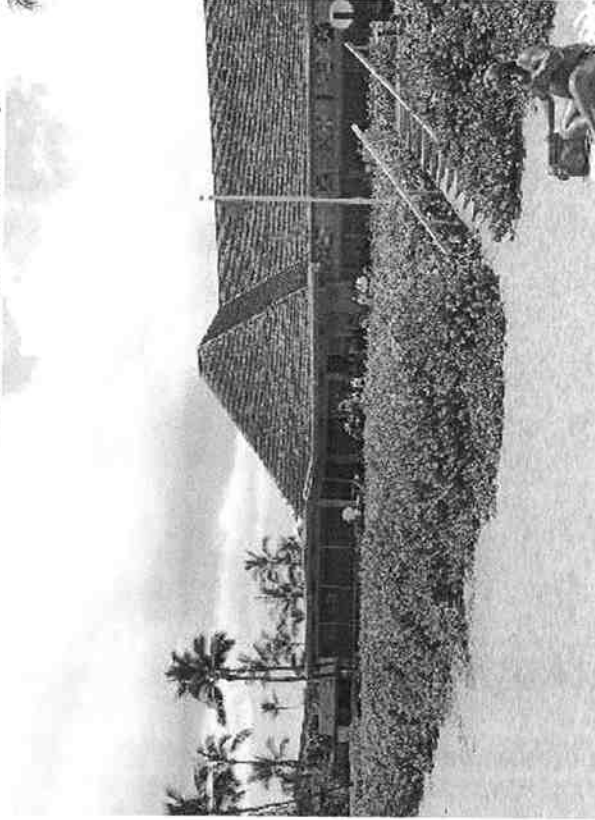
**7.0 PHOTOGRAPHS**



**Photo 1. View south from the north end of property.**



**Photo 2. View north of backshore at the north end of property.**



**Photo 3. Restaurant in backshore.**



**Photo 4. View south of the beach.**

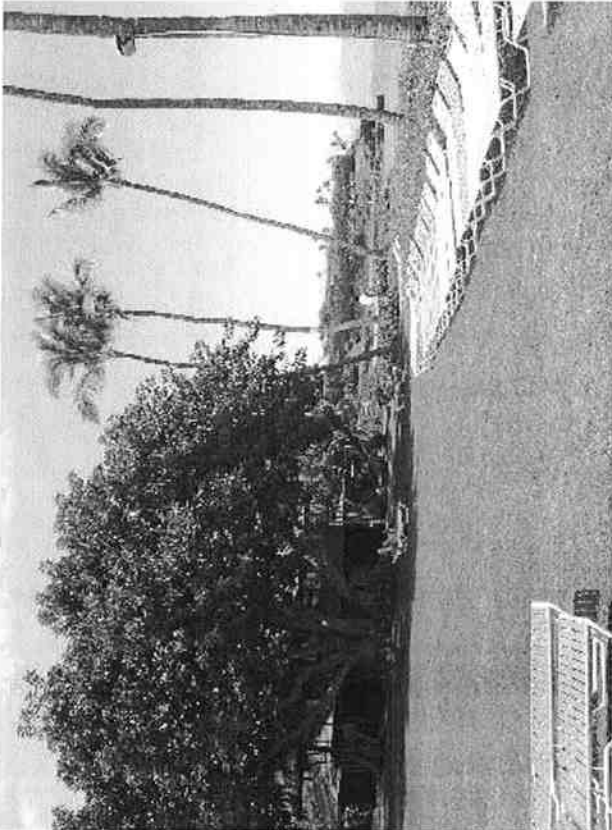


Photo 5. Grassy lawn in the backshore at Profile 3.



Photo 7. View north from south end of property.

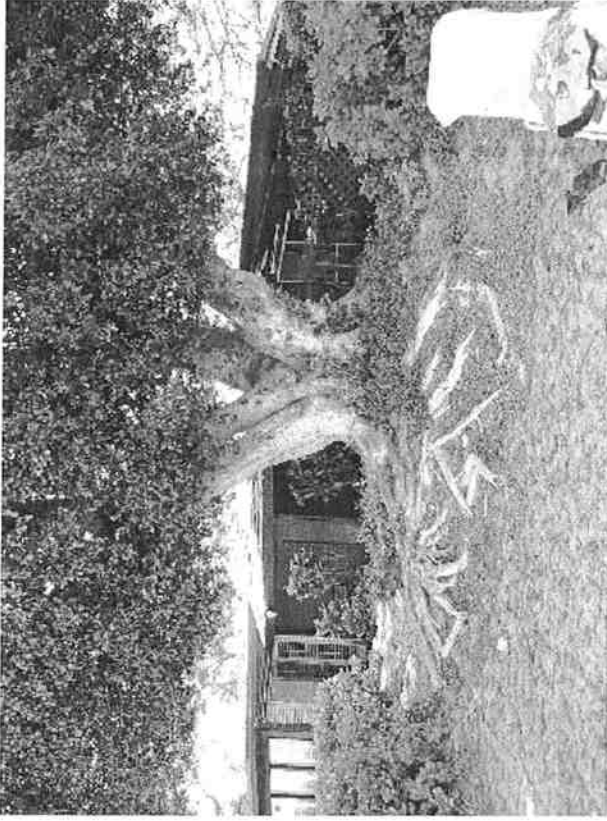


Photo 6. Tree and building close to the vegetation line.



Photo 8. View south from the south end of the property, showing Maui Eldorado beach cabana.

# ***Appendix G-1***

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***Letter from Sea Engineering,  
Dated May 1, 2006***



## Sea Engineering, Inc.

Makai Research Pier • 41-202 Kalaniana'ole Hwy. • Waimanalo, Hawaii 96795-1820  
Phone: (808) 259-7966 / FAX (808) 259-8143 • E-mail: sei@seaengineering.com

May 1, 2006

Mr. Matthew S. Delaney  
Royal Lahaina Development Group, LLC  
700 Bishop Street, Suite 2100  
Honolulu, HI 96821

RE: Planning Commission Response Letter dated February 16<sup>th</sup>, 2006 regarding Draft Environmental Assessment for the Proposed Royal Lahaina Resort Revitalization Project located at TMK: 4-4-008:007 and 013, Kaanapali, Lahaina, Maui

Dear Mr. Delaney:

We received the Planning Department's letter dated February 16, 2006 signed by Michael W. Foley, Planning Director. We are responding specifically to comment #10 b, which states the following: "Shoreline setbacks should be a buffer between the project and any potential high wave action. The Coastal Engineering Assessment in Appendix G (page 23) surmises that the structures to remain within the 150 shoreline setback area, particularly the pools and building to the south, have been threatened with erosion and wave damage in the past, and remain susceptible to such damage in the future."

In response to the Planning Department's Comment 10b, we note the following.

There have been two notable episodes of large, threatening waves at the Royal Lahaina in the past 40 years according to long-time grounds personnel. In 1992, during Hurricane Iniki, waves overtopped the berm, and water entered into the 3-story building at the north end of the property (to be removed), into some of the bungalows (to be removed), and sand washed into the southern-most pool. More recently, during the Kona storm of January 2004, waves overtopped the beach and flooded the backshore in the vicinity of the pools and the building at the south end of the property.

Thus, waves have overtopped the berm and flooded the backshore only infrequently, and significant damage was not reported during these episodes. Impacts have not been noted on shoreline processes such as sand transport, and the beach has quickly recovered. During the site visit of May 2005, for example, the beach was wide and healthy and there was no evidence of erosion from the Kona storm of January 2004.

If you should have any further questions, please contact me at 808-259-7966.

Sincerely,

Marc Ericksen  
Sea Engineering, Inc.



# ***A p p e n d i x H***

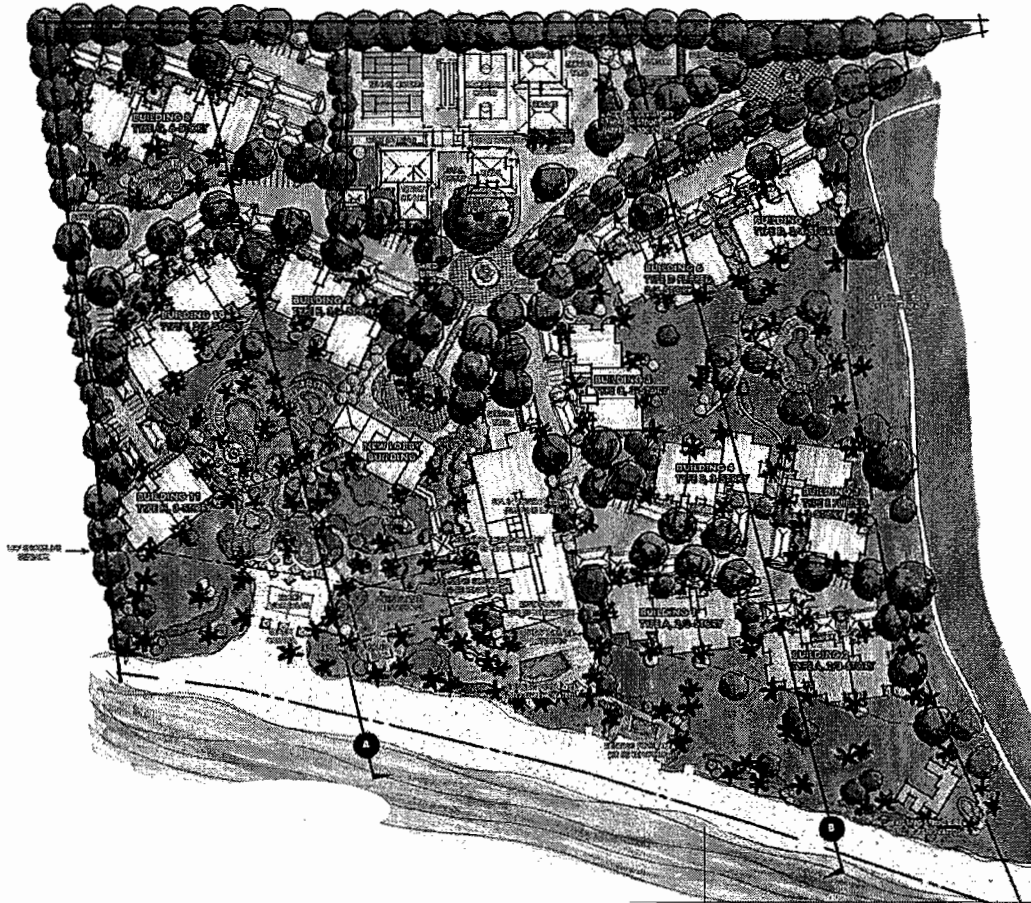
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## ***Traffic Assessment Report***

**Traffic Assessment Report**

*Royal Lahaina Resort*

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Submitted to:  
**Royal Lahaina  
Development Group, LLC**



Submitted by:  
**Wilson Okamoto Corporation**

August 2005

***TRAFFIC ASSESSMENT REPORT***  
***FOR THE***  
***ROYAL LAHAINA RESORT REVITALIZAION***

*Prepared for:*

Royal Lahaina Development Group, LLC

*Prepared by:*

Wilson Okamoto Corporation  
1907 South Beretania Street  
Honolulu, Hawaii 96826  
WOC Ref: 7411-01

August 2005

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## **I. INTRODUCTION**

### **A. Purpose of Study**

The purpose of this study is to assess anticipated traffic conditions resulting from the proposed revitalization of Royal Lahaina Resort located at Kaanapali on the island of Maui. The project includes approximately 330 hotel units in an existing 12-story tower and approximately 125 condominium/hotel units in 11 new buildings. The traffic assessment evaluates traffic impacts associated with the proposed development.

### **B. Scope of Study**

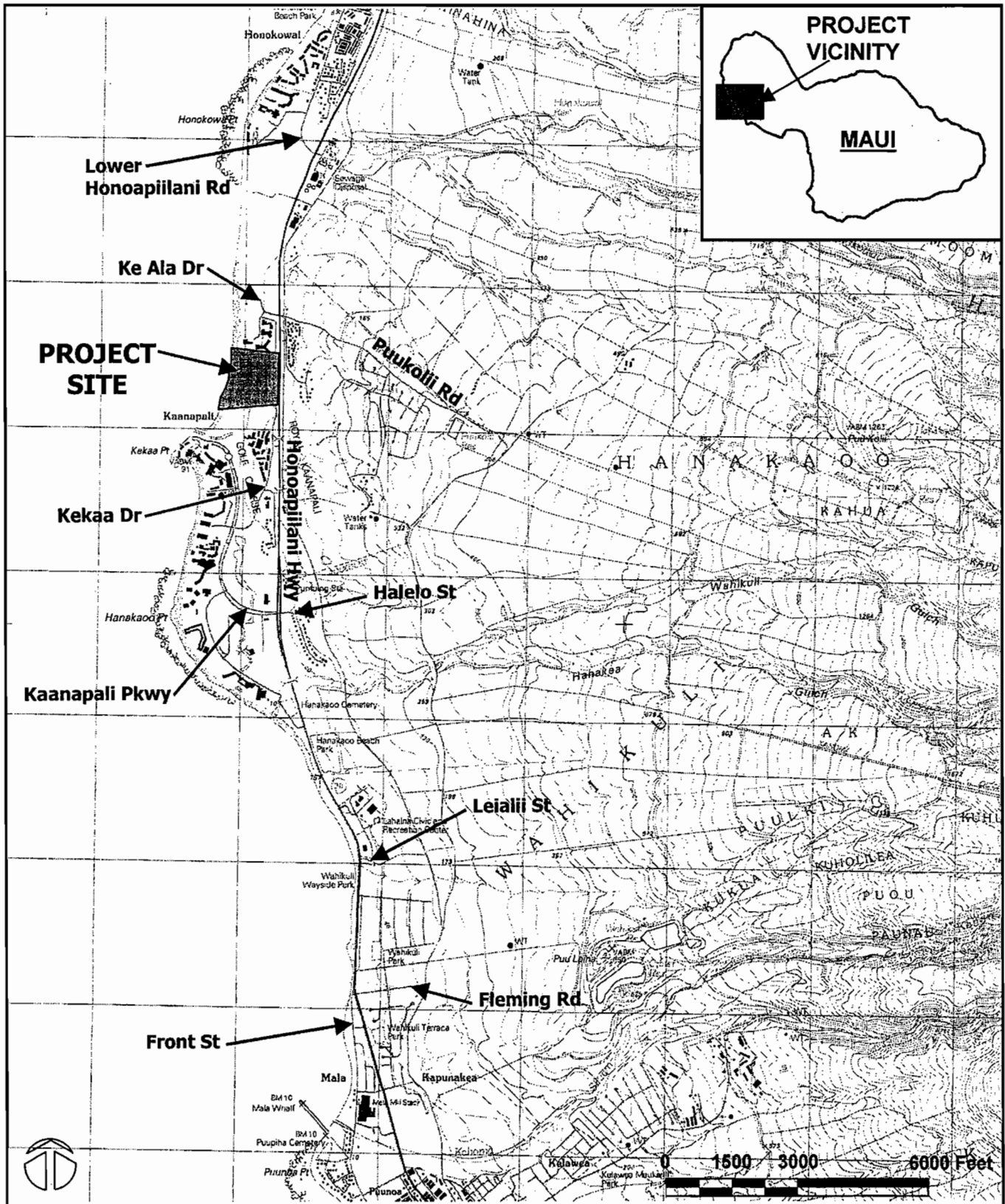
This report presents the findings and conclusions of the traffic study, the scope of which includes:

1. Description of the proposed project and proposed development plan.
2. Evaluation of existing roadway and traffic operations in the vicinity.
3. Analysis and development of trip generation characteristics for the proposed project.
4. Development of traffic projections and future traffic conditions.
5. Superimposition of site-generated traffic over future traffic conditions.
6. The identification and analysis of traffic impacts, if any, resulting from the proposed project.
7. Development of recommended roadway or intersection improvements, as appropriate, to alleviate anticipated future roadway and traffic conditions with the proposed project.

## **II. PROJECT DESCRIPTION**

### **A. Location**

The existing Royal Lahaina Resort is located in Kaanapali near the northern terminus of Kekaa Drive makai of Honoapiilani Highway (State Route 30) along the ocean coastline. The project site is further identified as Tax Map Keys: 4-4-08: 07 and 13. Access to the resort from Honoapiilani Highway is currently provided via Kekaa Drive. Figure 1 shows the Location Map.



  
**WILSON OKAMOTO**  
**CORPORATION**  
 ENGINEERS - PLANNERS

**ROYAL LAHAINA RESORT PROJECT**  
**LOCATION MAP AND VICINITY MAP**

**FIGURE**  
**1**

**B. Project Characteristics**

The existing Royal Lahaina Resort houses approximately 344 hotel units in a 12-story tower, approximately 65 units in a 3-story building, approximately 131 units in 22 guest cottages, and approximately 43 long-term rental units. The proposed project, which is assumed to be completed by the Year 2009, would entail the following:

- Renovation of the 12-story tower to provide 330 hotel units
- Replacement of the existing 3-story building, 22 guest cottages, and 43 long-term rental units with approximately 125 condominium/hotel units in 11 new buildings.
- Construction of a two-story sub terrain parking structure
- Provision of amenities such as a restaurant(s), bar, recreation center, general store, spa, owner services, activity center, tennis courts, basketball/sport court, golf driving cages, golf cart parking, trolley turnaround, and service and maintenance buildings.

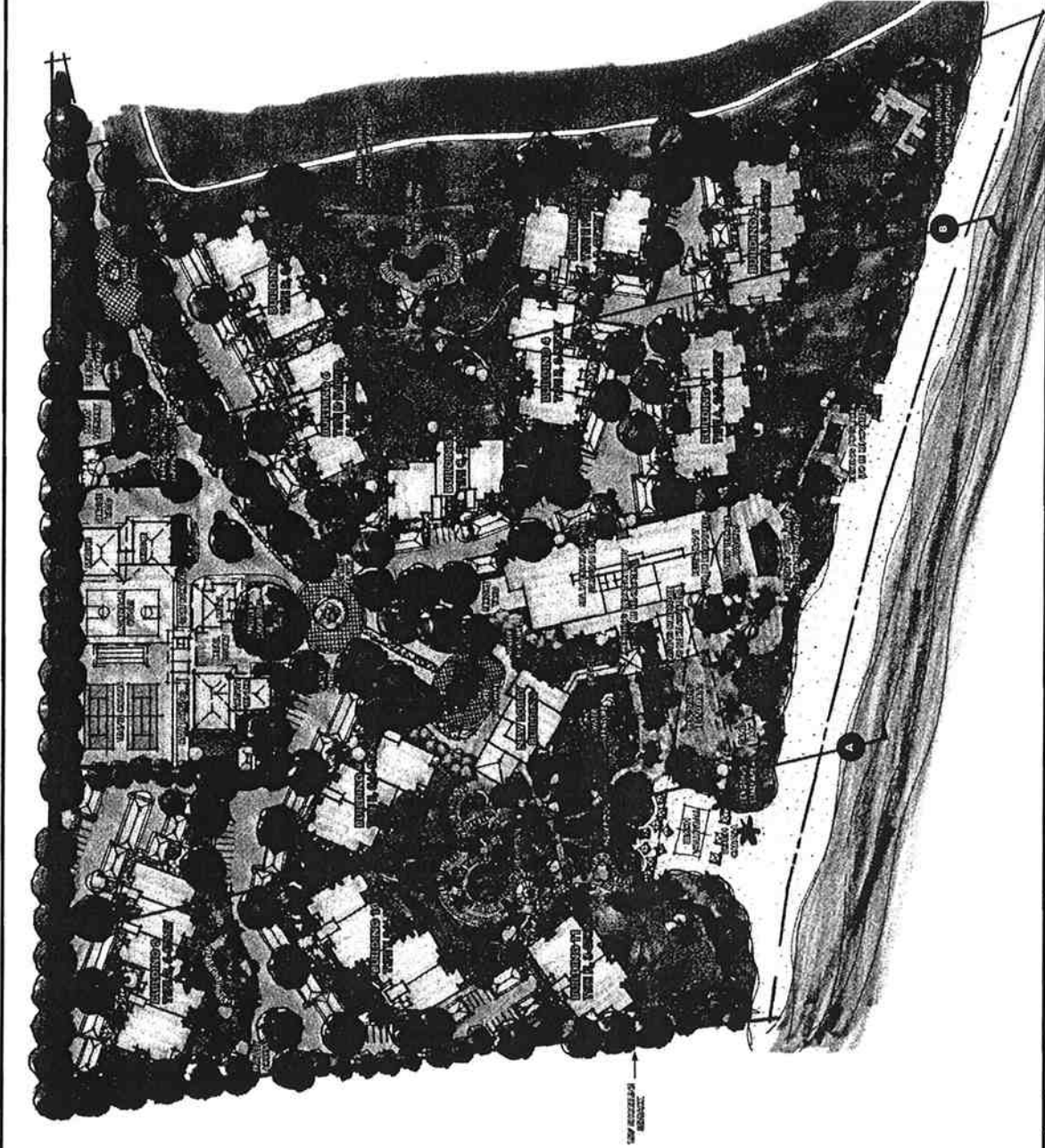
The proposed project is anticipated to reduce the total unit count at the resort, as well as, alter some of the existing resort uses and, as such, is expected to reduce traffic demands in the vicinity. Access to the resort from Honoapiilani Highway will still be provided via Kekaa Drive. Figure 2 shows the project site plan.

**III. EXISTING CONDITIONS**

**A. General**

Access to the existing Royal Lahaina Resort from Honoapiilani Highway is currently provided via Kekaa Drive. Honoapiilani Highway serves as the primary arterial roadway in the region oriented along the west Maui coast and connects to other regional highway systems serving other parts of the island. In the project vicinity, Honoapiilani Highway is generally linked to mauka-makai collector roads that serve the surrounding residences, resort areas, agricultural lands, and adjacent commercial areas. Figure 3 shows the lane assignments of the study intersections along Honoapiilani Highway.





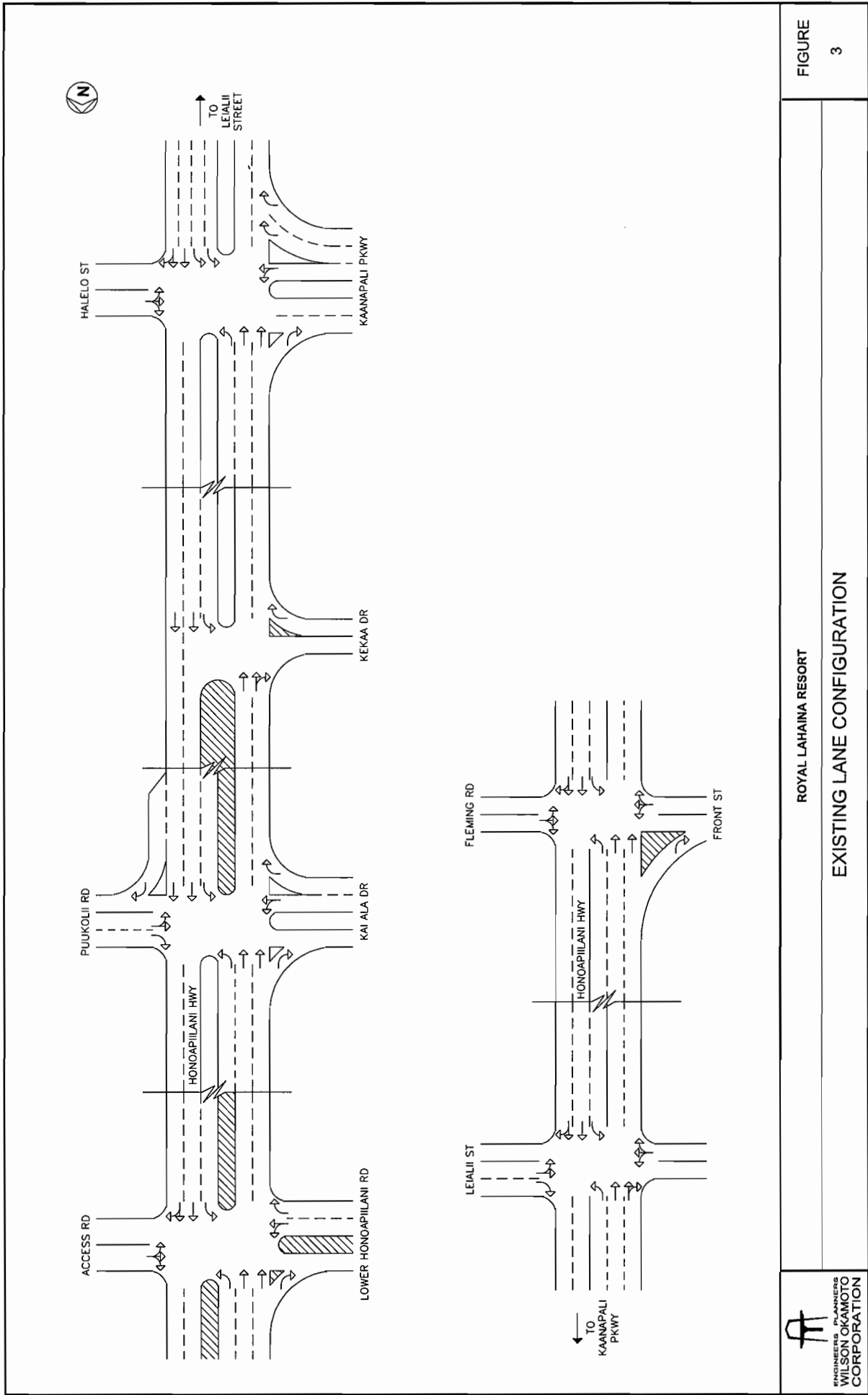
ROYAL LAHAINA RESORT

PROJECT SITE PLAN

FIGURE  
2



WILSON OKAMOTO  
CORPORATION  
ENGINEERS - PLANNERS



ROYAL LAHAINA RESORT  
 EXISTING LANE CONFIGURATION

**B. Area Roadway System**

In the vicinity of the proposed project, Honoapiilani Highway is primarily a two-way, four-lane, undivided State highway (Route 30) with a general posted speed limit of 45 miles per hour (mph) in the project vicinity. Honoapiilani Highway is the primary arterial in West Maui that is oriented in the north-south direction providing regional access along the coast with other areas of the island. Between Lower Honoapiilani Highway and Dickenson Street in Lahaina, Honoapiilani continues as a two-way, four-lane, undivided roadway. South of Dickenson Street, Honoapiilani Highway continues as a two-way, two-lane, undivided roadway.

Primary access to Honoapiilani Highway from the project site is provided via Kekaa Drive. Kekaa Drive is primarily a two-lane, two-way roadway generally oriented in the north-south direction. Approximately 730 feet (0.14 miles) south of the project site, a spur of Kekaa Drive heads mauka to connect with Honoapiilani Highway while the main roadway continues south to Kaanapali Parkway. At the intersection with Honoapiilani Highway, Kekaa Drive has one lane that serves right-turn traffic movements only. The northbound approach of the highway at this unsignalized t-intersection has two through lanes and one exclusive left-turn lane while the southbound approach has one through lane and a shared through and right-turn lane.

North of the intersection with Kekaa Drive, approximately 1,800 feet (0.34 miles), Honoapiilani Highway intersects with Puukolii Road and Kai Ala Drive. At this intersection, which is controlled by a three-phase traffic signal system, both approaches of the highway have exclusive left-turn and right-turn lanes and two through lanes. Puukolii Road is primarily a two-lane, two-way roadway generally oriented in the mauka-makai direction that provides access to the South Beach Mauka subdivisions located mauka of Honoapiilani Highway. At the intersection with the highway, the Puukolii Road approach has one westbound shared left-turn and through lane and an exclusive right-turn lane. The eastbound approach of the intersection is comprised of Kai Ala Drive a generally two-lane, two-way roadway that provides access to Kaanapali Ocean Resort, Maui Kaanapali Villas, Kai Ala Subdivision, and

Kahekili Park on the makai side of the highway. At the intersection with Honoapiilani Highway and Puukoolii Road, the Kai Ala Drive approach has one eastbound lane that serves left-turn and through traffic movements and one lane that serves right-turn traffic movements.

Further north, approximately 3,200 feet (0.61 miles) northeast of the intersection with Puukoolii Road and Kai Ala Drive, Honoapiilani Highway intersects with Lower Honoapiilani Road. At this intersection, which is controlled by a three-phase traffic signal system, the northbound approach of Honoapiilani Highway has an exclusive left-turn lane, one through lane, and a shared through and right-turn lane while the southbound approach has exclusive left-turn and right-turn lanes, and two through lanes. Lower Honoapiilani Road is generally a two-lane, two-way roadway that heads northward from its origin at Honoapiilani Highway, through resort and commercial areas, hotels, residences, and other areas of accommodations, and continues as a private road through the Kapalua resort area. The Lower Honoapiilani Road approach of the intersection with Honoapiilani Highway has a shared left-turn and through lane, and an exclusive right-turn lane. The westbound approach of the intersection is comprised of a two-lane, two-way roadway that provides access to the adjacent wastewater treatment plant. At the intersection with the highway, this access road has one lane servicing left-turn, through, and right-turn traffic movements.

South of the intersection with Kekaa Drive, approximately 3,200 feet (0.61 miles), Honoapiilani Highway intersects Kaanapali Parkway and Halelo Street. At this intersection, which is controlled by a three-phase traffic signal system, the northbound approach of the highway has two exclusive left-turn lanes, one through lane, and one shared through and right-turn lane while the southbound approach has an exclusive left-turn lane, one through lane, and a shared through and right-turn lane. Kaanapali Parkway is primarily a four-lane, two-way roadway generally oriented in the north-south direction that provides access to the resort and commercial areas, hotels, residences, and other areas of accommodations in Kaanapali makai of Honoapiilani Highway. At the intersection with the highway, the Kaanapali Parkway approach has two exclusive right-turn lanes and a shared left-turn and through lane.

The westbound approach of the intersection is comprised of Halelo Street, a two-lane, two-way roadway that provides access to the adjacent residential area mauka of the highway. At the intersection with Honoapiilani Highway and Kaanapali Parkway, the Halelo Street approach has one lane that serves all traffic movements.

Further south, approximately 5,100 feet (0.97 miles) southeast of the intersection with Kaanapali Parkway and Halelo Street, Honoapiilani Highway intersects Leialii Street. At this intersection, which is controlled by a three-phase traffic signal system, both approaches of the highway have an exclusive left-turn lane, one through lane, and a shared through and right-turn lane. Leialii Street is a generally two-lane, two-way roadway that provides access to a beach park makai of the highway and the post office and civic center mauka of the highway. At this intersection, the westbound approach of Leialii Street has a shared left-turn and through lane and an exclusive right-turn lane while the eastbound approach has one lane that serves all traffic movements.

Approximately 2,500 feet (0.47 miles) further south of the intersection with Leialii Street, Honoapiilani Highway intersects Fleming Road and Front Street. At this intersection, which is controlled by a three-phase traffic signal system, the northbound approach of the highway has an exclusive left-turn lane, one through lane, and a shared through and right-turn lane while the southbound approach has exclusive left-turn and right-turn lanes, and two through lanes. Front Street is primarily a two-lane, two-way roadway that heads southward from the intersection with Honoapiilani Highway and Fleming Road, through the commercial areas, residences, and other areas of accommodations in Lahaina, and intersects Honoapiilani Highway again south of Lahaina. At the intersection with the highway and Fleming Road, the Front Street approach has one lane that serves all traffic movements. The westbound approach of the intersection is comprised of Fleming Road, a two-lane, two-way roadway that provides access to adjacent residential areas mauka of the highway. At the intersection with the highway and Front Street, the Fleming Road approach has one lane that serves all traffic movements.

**C. Traffic Volumes and Conditions**

**1. General**

**a. Field Investigation**

The field investigations were conducted on October 27 & 28, 2004 and May 4 & 5, 2005, and consisted of manual intersection turning movement count surveys along Honoapiilani Highway in the vicinity of the project site. The manual turning movement count surveys were conducted between the morning peak hours of 6:00 AM and 8:30 AM, and between the afternoon peak hours of 3:00 PM and 6:00 PM at following intersections:

- Honoapiilani Highway and Lower Honoapiilani Road
- Honoapiilani Highway, Puukolii Road, and Kai Ala Drive
- Honoapiilani Highway and Kekaa Drive
- Honoapiilani Highway, Kaanapali Parkway, and Halelo Street
- Honoapiilani Highway and Leialii Street
- Honoapiilani Highway, Front Street, and Fleming Road

Traffic data from other reports for proposed developments in the region were also evaluated to ensure an appropriate existing or baseline condition was used in the traffic analysis. Although traffic demands at the study intersections were generally the same based on data collected for this study and recently collected data for other traffic studies in the region, the data set with the highest traffic demands at each of the study intersections were used in this study to represent a conservative approach to the traffic analysis. In addition, 24-hour traffic counts were collected along the roadway segment of Honoapiilani Highway within the study area to verify peak traffic periods on the highway.

**b. Capacity Analysis Methodology**

The highway capacity analysis performed in this study is based upon procedures presented in the “Highway Capacity Manual”,

Transportation Research Board, 2000, and the “Highway Capacity Software”, developed by the Federal Highway Administration. The analysis is based on the concept of Level of Service (LOS).

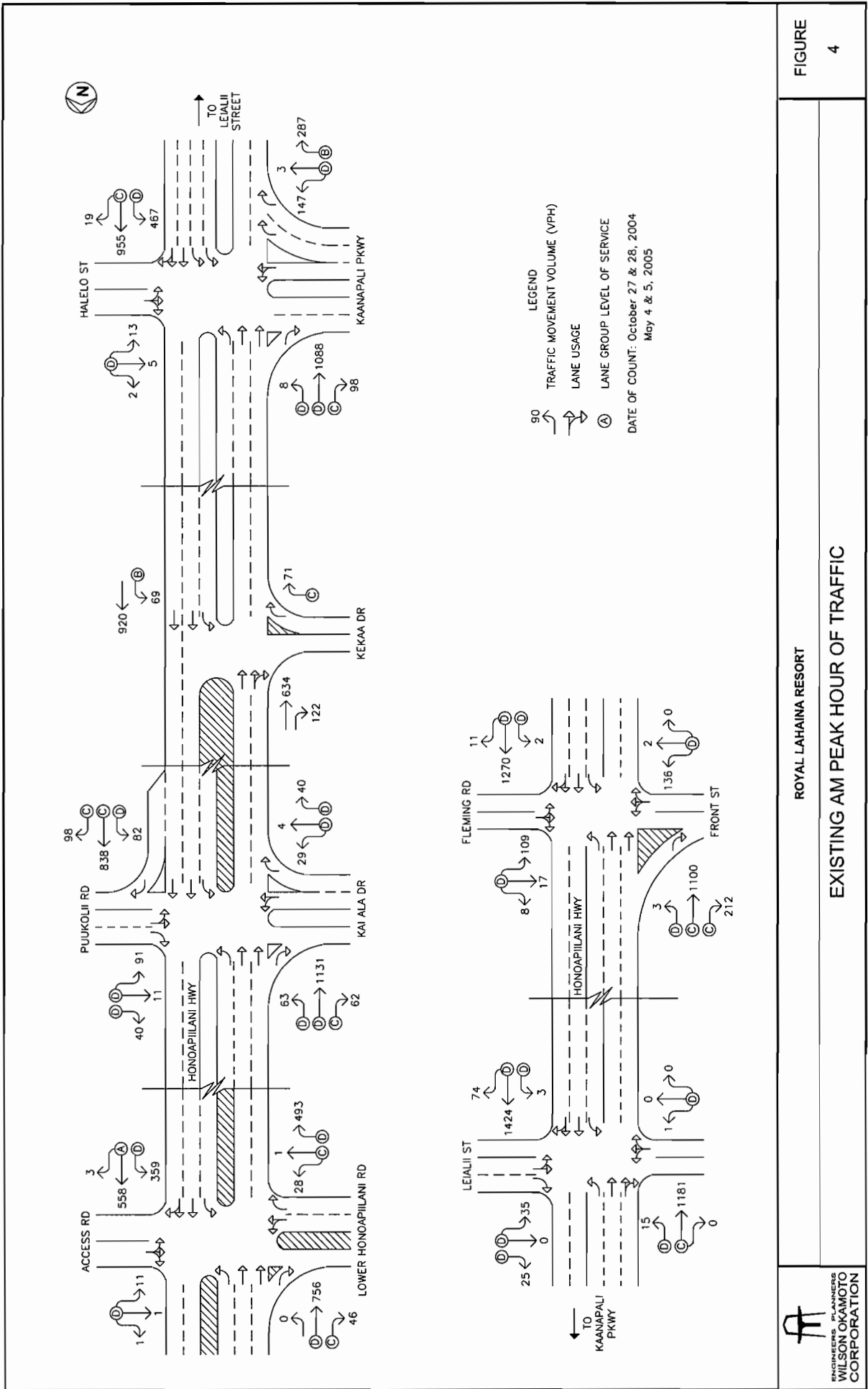
LOS is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS “A” through “F”. LOS “A” represents ideal or free-flow traffic operating conditions and LOS “F” represents unacceptable or potentially congested traffic operating conditions. LOS “B”, “C”, “D”, and “E” represent the intermediate traffic operational characteristics between the two extremes of LOS “A” and LOS “F”. The LOS definitions are included in Appendix B.

“Volume-to-Capacity” (v/c) ratio is another measure indicating the relative traffic demand to the roadway carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at or near capacity. A v/c ratio of greater than 1.00 generally indicates that the traffic demand exceeds the road’s carrying capacity.

## **2. Existing Peak Hour Traffic**

### **a. General**

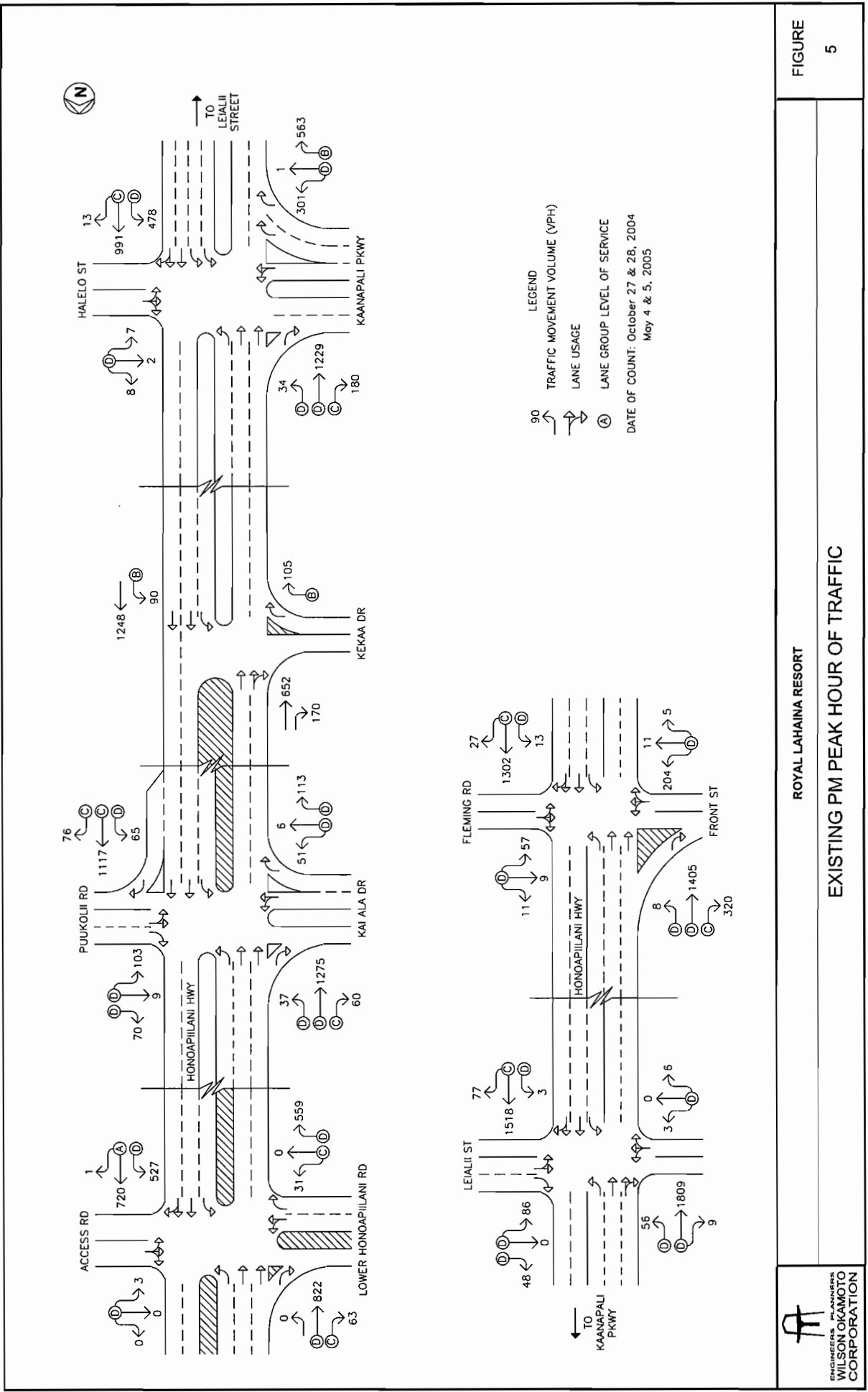
Figures 4 and 5 show the existing AM and PM peak hour traffic volumes and traffic operating conditions along Honoapiilani Highway in the project vicinity. The morning peak hour of traffic generally occurs between 7:15 AM and 8:15 AM at the study intersections and represent both school-related and commuter traffic since much of the available schools are located south of the study area. In the afternoon, the peak hour of traffic generally occurs between the hours of 4:00 PM and 5:00 PM in the project vicinity. Although the peak hours of traffic generally occur around the same time periods at each of the study intersections, the absolute commuter peak hour time periods for each intersection may differ slightly as shown in Table 1.



ROYAL LAHAINA RESORT

EXISTING AM PEAK HOUR OF TRAFFIC





ROYAL LAHAINA RESORT  
EXISTING PM PEAK HOUR OF TRAFFIC

**Table 1: Peak Hours of Traffic**

<b>Intersection</b>	<b>AM Peak</b>	<b>PM Peak</b>
Honoapiilani Hwy/ Lower Honoapiilani Road	7:15 AM-8:15 AM	3:45 PM-4:45 PM
Honoapiilani Hwy/ Puukolii Rd/ Kai Ala Dr	7:15 AM-8:15 AM	3:45 PM-4:45 PM
Honoapiilani Hwy/ Kekaa Dr	7:15 AM-8:15 AM	3:45 PM-4:45 PM
Honoapiilani Hwy/ Kaanapali Pkwy/ Halelo St	7:15 AM-8:15 AM	3:30 PM-4:30 PM
Honoapiilani Hwy/ Leialii St	7:00 AM-8:00 AM	3:45 PM-4:45 PM
Honoapiilani Hwy/ Front St/Fleming Rd	7:00 AM-8:00 AM	3:45 PM-4:45 PM

The analysis is based on the above absolute commuter peak hour time periods for each intersection to identify the traffic impacts resulting from the proposed project. LOS calculations are included in Appendix C.

**b. Honoapiilani Highway and Lower Honoapiilani Road**

At the intersection of Honoapiilani Highway with Lower Honoapiilani Road, Honoapiilani Highway carries 920 vehicles northbound and 802 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 1,248 vehicles traveling northbound and 885 vehicles traveling southbound. The critical movement of the highway approaches is the northbound left-turn traffic movement which operates at LOS “D” during both peak periods. The most significant queuing along the highway during the morning occurred on the southbound approach with maximum vehicular queue lengths of between 7 and 9 vehicles per lane observed. During the afternoon observations, the most significant queuing occurred on the northbound approach with maximum queue lengths of

between 12 and 15 vehicles per lane. However, the vehicular queues on the highway were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

The Lower Honoapiilani Road approach of the intersection carries 522 vehicles eastbound during the AM peak period. During the PM peak period, the traffic volume is slightly higher with 590 vehicles traveling eastbound. The critical movement of the Lower Honoapiilani Road approach is the right-turn traffic movement which operates at LOS “D” during both peak periods. Due to the high volume of right-turning vehicles on this approach, vehicular queues periodically formed in the right-turn lane during both peak periods of traffic. However, these queues would quickly dissipate since gaps in the through traffic stream on the highway are frequently available.

The westbound approach of the intersection is comprised of an access road for the adjacent wastewater treatment plant. The traffic volumes along this roadway are low during both peak periods with only 13 vehicles on the approach during the AM peak period and only 3 vehicles during the PM peak period.

**c. Honoapiilani Highway, Puukolii Road, and Kai Ala Drive**

At the intersection with Puukolii Road and Kai Ala Drive, Honoapiilani Highway carries 1,018 vehicles northbound and 1,256 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 1,258 vehicles traveling northbound and 1,372 vehicles traveling southbound. The critical movements of the highway approaches are the northbound and southbound through traffic movements which operate at LOS “C” and LOS “D,” respectively, during both peak periods. The most significant queuing along the highway occurred on the southbound approach during both peak periods with maximum vehicular queue lengths of

between 12 and 15 vehicles per lane observed. However, these vehicular queues were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

The Puukolii Road approach of the intersection carries 142 vehicles westbound during the AM peak period. During the PM peak period, the traffic volume is slightly higher with 182 vehicles traveling westbound. The critical movement of the Puukolii Road approach is the left-turn and through traffic movement which operates at LOS “D” during both peak periods. Vehicular queues periodically formed on this approach of the intersection, but these queues were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

The westbound approach of the intersection is comprised of Kai Ala Drive which carries 73 vehicles eastbound during the AM peak period. During the PM peak period, the traffic volume is higher with 170 vehicles traveling eastbound. Vehicular queues periodically formed on the Kai Ala Drive approach of the intersection, but these queues were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

**d. Honoapiilani Highway and Kekaa Drive**

At the intersection with Kekaa Drive, Honoapiilani Highway carries 989 vehicles northbound and 756 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 1,338 vehicles traveling northbound and 822 vehicles traveling southbound. The critical movement of the highway approaches is the northbound left-turn traffic movement which operates at LOS “B” during both peak periods of traffic.

The Kekaa Drive approach of the intersection carries 71 vehicles eastbound during the AM peak period. During the PM peak

period, the traffic volume is slightly higher with 105 vehicles traveling eastbound. The Kekaa Drive approach of this intersection operates at LOS “C” and LOS “B” during the AM and PM peak periods, respectively. Vehicular queues occasionally on this approach during both peak periods of traffic, these queues would quickly dissipate since gaps in the through traffic stream on the highway are frequently available.

e. **Honoapiilani Highway, Kaanapali Parkway, and Halelo Street**

At the intersection with Kaanapali Parkway and Halelo Street, Honoapiilani Highway carries 1,441 vehicles northbound and 1,194 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 1,482 vehicles traveling northbound and 1,443 vehicles traveling southbound. The critical movements of the highway approaches are the northbound left-turn and southbound through traffic movements which operate at LOS “D” during both peak periods. The most significant queuing along the highway occurred on the southbound approach with maximum vehicular queue lengths of between 12 and 15 vehicles per lane observed. However, the vehicular queues on the highway were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

The Kaanapali Parkway approach of the intersection carries 437 vehicles eastbound during the AM peak period. During the PM peak period, the traffic volume is higher with 865 vehicles traveling eastbound. The left-turn and through traffic movement on the Kaanapali Parkway approach operates at LOS “D” during both peak periods while the right-turn traffic movement operates at LOS “B” during both peak periods. Due to the high volume of turning vehicles on this approach, vehicular queues periodically formed during both

peak periods of traffic. However, these vehicular queues were observed to clear the intersection after each traffic signal cycle change during both peak periods.

The westbound approach of the intersection is comprised of Halelo Street. The traffic volumes along this roadway are low during both peak periods with only 20 vehicles on the approach during the AM peak period and only 17 vehicles during the PM peak period.

**f. Honoapiilani Highway and Leialii Street**

At the intersection with Leialii Street, Honoapiilani Highway carries 1,501 vehicles northbound and 1,196 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 1,598 vehicles traveling northbound and 1,874 vehicles traveling southbound. The critical movement of the highway approaches are the northbound through and right-turn traffic movement which operates at LOS “D” and LOS “C” during the AM and PM peak periods, respectively, and the southbound through and right-turn traffic movement which operates at LOS “C” and LOS “D” during the AM and PM peak periods, respectively. Vehicular queue lengths of between 12 and 15 vehicles per lane observed on the northbound and southbound approaches during both peak periods. However, the vehicular queues on the highway were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

The Leialii Street approaches of the intersection carry 1 vehicle eastbound and 60 vehicles westbound during the AM peak period. During the PM peak period, the traffic volume is higher with 9 vehicles traveling eastbound and 134 vehicles traveling westbound. Vehicular queues occasionally formed on the westbound approach during both peak periods of traffic. However, these queues were

observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

**g. Honoapiilani Highway, Front Street, and Fleming Road**

At the intersection with Front Street and Fleming Road, Honoapiilani Highway carries 1,283 vehicles northbound and 1,315 vehicles southbound during the AM peak period. During the PM peak period, the traffic volumes are higher with 1,342 vehicles traveling northbound and 1,733 vehicles traveling southbound. The critical movements of the highway approaches are the northbound through and right-turn traffic movement which operates at LOS “D” and LOS “C” during the AM and PM peak periods, respectively, and the southbound through traffic movement which operates at LOS “C” and LOS “D” during the AM and PM peak periods, respectively. Vehicular queue lengths of between 12 and 15 vehicles per lane observed on the northbound and southbound approaches during both peak periods. However, the vehicular queues on the highway were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

The Front Street approach of the intersection carries 138 vehicles eastbound during the AM peak period. During the PM peak period, the traffic volume is higher with 220 vehicles traveling eastbound. The Front Street approach of the intersection operates at LOS “D” during both peak periods. Vehicular queues occasionally formed on the westbound approach during both peak periods of traffic. However, these queues were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

The westbound approach of the intersection is comprised of Fleming Road which carries 134 vehicles westbound during the AM peak period. During the PM peak period, the traffic volume is less

with 77 vehicles traveling westbound. The Fleming Road approach operates at LOS “D” during both peak periods. Vehicular queues occasionally formed on this approach during both peak periods of traffic. However, these queues were observed to clear the intersection after each traffic signal cycle change during both the AM and PM peak hours of traffic.

**IV. PROJECTED TRAFFIC CONDITIONS**

**A. Site-Generated Traffic**

**1. Trip Generation Methodology**

The trip generation methodology used in this study is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in “Trip Generation, 7<sup>th</sup> Edition,” 2003. The projected vehicular trips generated by the proposed project were based on the proposed number of units within the project. In addition, traffic generated by the existing Royal Lahaina Resort was subtracted from the future traffic conditions to account for the project site’s new unit counts. Table 2 summarizes the project site trip generation characteristics applied to the AM and PM peak hours of traffic for the completion or build-out Year 2009.

**Table 2: Peak Hour Trip Generation**

<b>RESORT HOTEL</b>			
<b>INDEPENDENT VARIABLE:</b>		<b>Existing # of Units = 583</b>	
		<b>PROJECTED TRIP ENDS</b>	
		<b>Rate</b>	<b>Totals</b>
<b>AM PEAK</b>	<b>ENTER</b>	0.238	(139)
	<b>EXIT</b>	0.093	(54)
	<b>TOTAL</b>	0.331	(193)
<b>PM PEAK</b>	<b>ENTER</b>	0.048	(28)
	<b>EXIT</b>	0.065	(38)
	<b>TOTAL</b>	0.113	(66)



**Table 2: Peak Hour Trip Generation (Cont'd)**

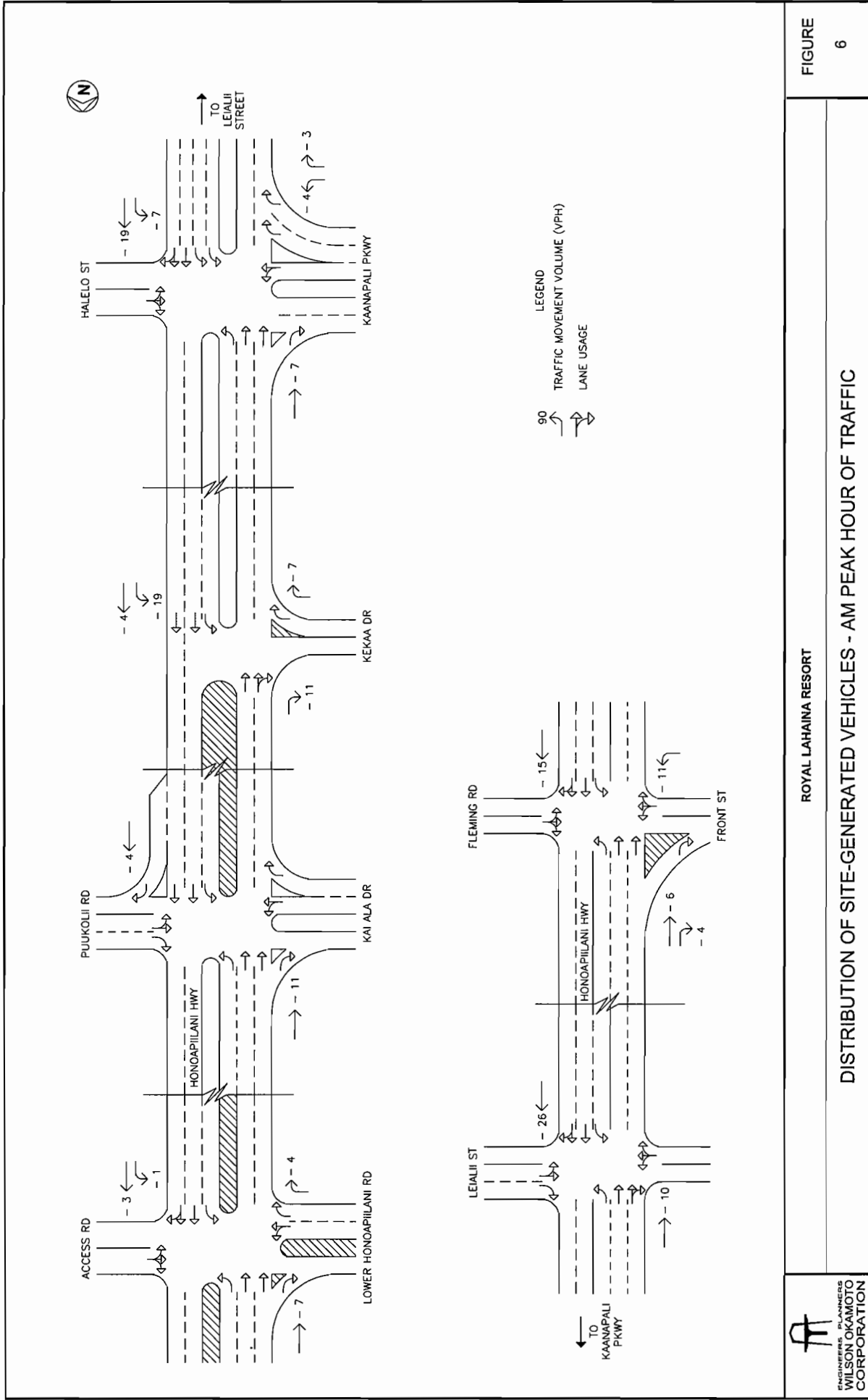
INDEPENDENT VARIABLE:		Proposed # of Units = 455	
		PROJECTED TRIP ENDS	
		Rate	Totals
AM PEAK	ENTER	0.224	102
	EXIT	0.088	40
	TOTAL	0.312	142
PM PEAK	ENTER	0.048	22
	EXIT	0.064	29
	TOTAL	0.112	51
<b>TOTALS</b>			
		PROJECTED TRIP ENDS	
AM PEAK	ENTER	(37)	
	EXIT	(14)	
	TOTAL	(51)	
PM PEAK	ENTER	(6)	
	EXIT	(9)	
	TOTAL	(15)	

**2. Trip Distribution**

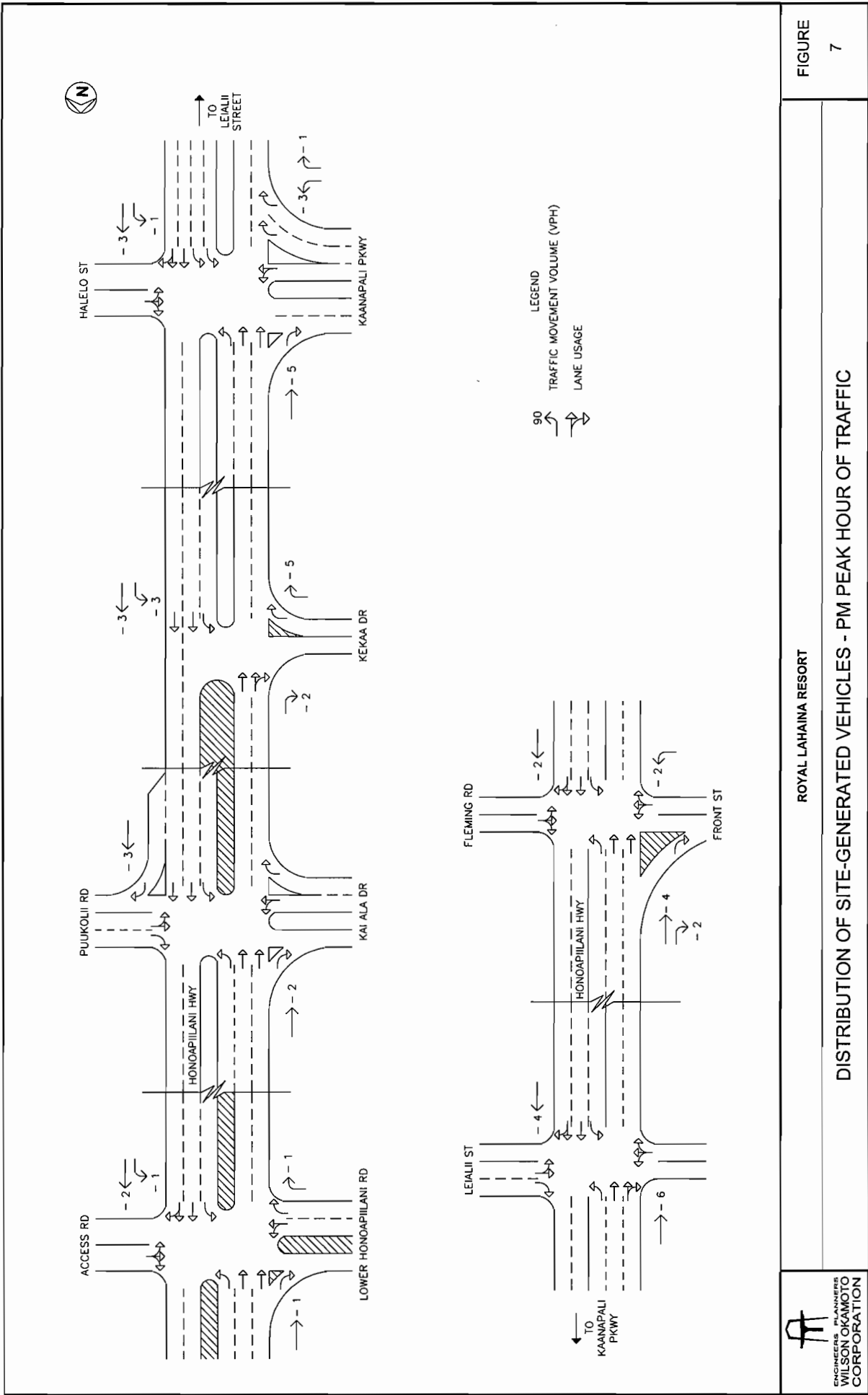
Figures 6 and 7 show the AM and PM peak hour traffic distribution of project site-generated traffic for each of the study intersections. Access to the Royal Lahaina Resort is provided via Kekaa Drive which connects to Honoapiilani Highway both directly and indirectly via Kaanapali Parkway. Site-generated traffic was split between these two routes to the highway based upon their assumed direction of travel, which was based upon the current commercial and employment distributions throughout the area, as well as, the convenience of the routes to and from the project site.

**B. Through Traffic Forecasting Methodology**

An analysis of both historical traffic data and traffic projections contained within Maui Long-Range Land Transportation Plan (MLRLTP) was made to determine the appropriate ambient growth of traffic demands in the project vicinity. The historical data, using linear regression analyses, indicate an average annual traffic growth rate in the vicinity of approximately 2.5%, while the MLRLTP



DISTRIBUTION OF SITE-GENERATED VEHICLES - AM PEAK HOUR OF TRAFFIC



indicates an average annual traffic growth rate of approximately 1.7%. Therefore, for conservative analysis purposes, the travel forecast used in this study is based upon the historical traffic count data obtained from the State Department of Transportation (DOT) resulting in the average annual traffic growth rate of 2.5%, using Year 2005 as the base year. The growth rate was therefore applied to the project expected build-out Year 2009. The respective growth factor of 1.10 was applied to the existing traffic demands on the highway to achieve the projected ambient traffic demands for Year 2009.

**C. Other Considerations**

The following are other developments expected to be completed by the Year 2009 when the proposed project is anticipated to be finished:

- Maui Breakers project in Mahinahina, which includes 90 multi-family affordable residential units, is expected to be completed in late 2005 or early 2006.
- Villas at Kahana Ridge development includes 117 multi-family residential units and is expected to be completed in Year 2005.
- Lokahi Pacific project in Lahaina with an expected completion in Year 2005. The Lokahi Pacific project includes 12 single-family residential units.
- North Beach Lot 1 project of the Kaanapali Ocean Resort subdivision, located mauka of Honoapiilani Highway in the vicinity of Puukolii Road which includes a total of 280 timeshare units. At the time of the study, North Beach Lot 1 included 103 units, with the balance of 177 units currently under construction and soon to be completed.
- North Beach Lot 2 of Kaanapali Ocean Resort subdivision, located adjacent to North Beach Lot 1, is currently in the planning stages at this writing, and includes approximately 258 multi-family units with potential lockouts for each unit.
- North Beach Lot 4 of the Kaanapali Ocean Resort subdivision (also known as Honua Kai) located makai of Honoapiilani Highway in the vicinity of Lower Honoapiilani Road which includes a total of 700 multi-family units to be constructed in five phases. Of these phases, only the first phase is expected to be completed by the Year 2009 and will include 318 units.

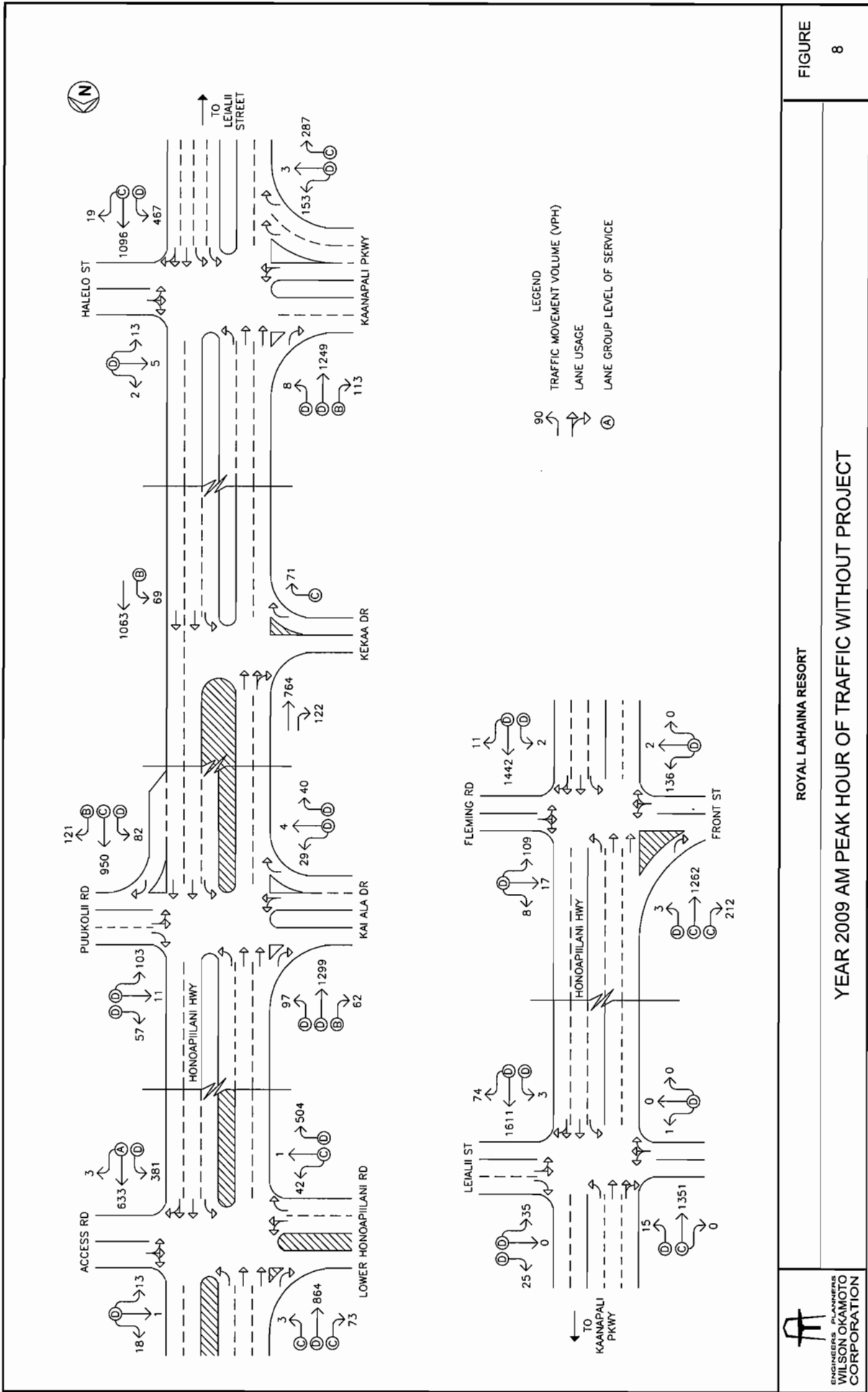
- Kaanapali Golf Estates Parcels 22 and 23 residential subdivision located mauka of Honoapiilani highway within the South Beach Mauka will include 132 single-family recreational homes. Construction is expected to start mid-2005 with completion anticipated by Year 2007.
- Pioneer Farms Phases I and II residential subdivision located in Kaanapali, mauka of Honoapiilani Highway. The proposed project will include 108 residential lots with expected completion by Year 2008.
- Maui Preparatory Academy located mauka of Honoapiilani Highway with access to and from the highway via the Napilihau Street intersection. The project is expected to include an enrollment of 540 students from pre-kindergarten to grade 12 with build-out in Year 2013.
- Pulelehua, a planned community located mauka of Honoapiilani Highway in the Mahinahina area. The project is expected to include 895 primary units with a potential of 318 additional Ohana-type units. Build-out for the Pulelehua project is expected to occur in Year 2011, beyond the expected completion of the proposed revitalization. This analysis therefore excludes trips generated by the Pulelehua project. It is assumed that the Pulelehua development would include the implementation of necessary traffic mitigating measures associated with that project.
- Residences at Kapalua Bay project located in Kapalua on the makai side of Honoapiilani Highway. The proposed project entails the redevelopment of the existing Kapalua Bay Hotel to include approximately 155, 2- and 3-bedroom units with expected completion by Year 2008.
- Villages at Lealii, a residential development that includes a total of 4,846 dwelling units, 2,006 single-family units and 2,840 multi-family units. Of these units, only 104 single-family units are anticipated to be completed by the Year 2009.

The traffic generated by the above projects, as applicable, were estimated based on the generation rates and procedures identified in the Institute of Transportation Engineers publication on trip generation for specific land use types, and other traffic studies associated with each proposed development. The determined

traffic generation was applied to the ambient traffic growth, thus incorporating these additional applicable projects in the baseline traffic conditions. The purpose of including traffic demands from these other developments is to obtain a more realistic traffic forecast model and to ensure that any adverse traffic operational impacts can be properly addressed. Thus, the traffic analysis would include the cumulative traffic demands on the roadways in the vicinity of the project at its build-out. Should there be additional developments not accounted for in the analysis, the average annual ambient traffic growth rate utilized in the traffic forecast is expected to encompass the increase traffic demands resulting from these unknown developments. Should there be no additional developments other than those stated above, the inclusive of the average annual ambient growth rate represents a conservative traffic analysis in terms of future traffic projections.

**D. Traffic Operations Without Proposed Project**

Figures 8 and 9 show AM and PM peak hour traffic volumes and operating conditions of the study intersections for Year 2009 without the proposed revitalization of the Royal Lahaina Resort. The through volumes along Honoapiilani Highway were projected to Year 2009 based on the aforementioned historical traffic volume data. Table 3 shows the comparison between existing and projected levels of service of traffic operations at each of the study intersections for projected Year 2009 without the project's traffic generation. The analysis results of projected traffic demands in Table 3 include traffic generation associated with other developments in the vicinity identified in previous sections of this document.



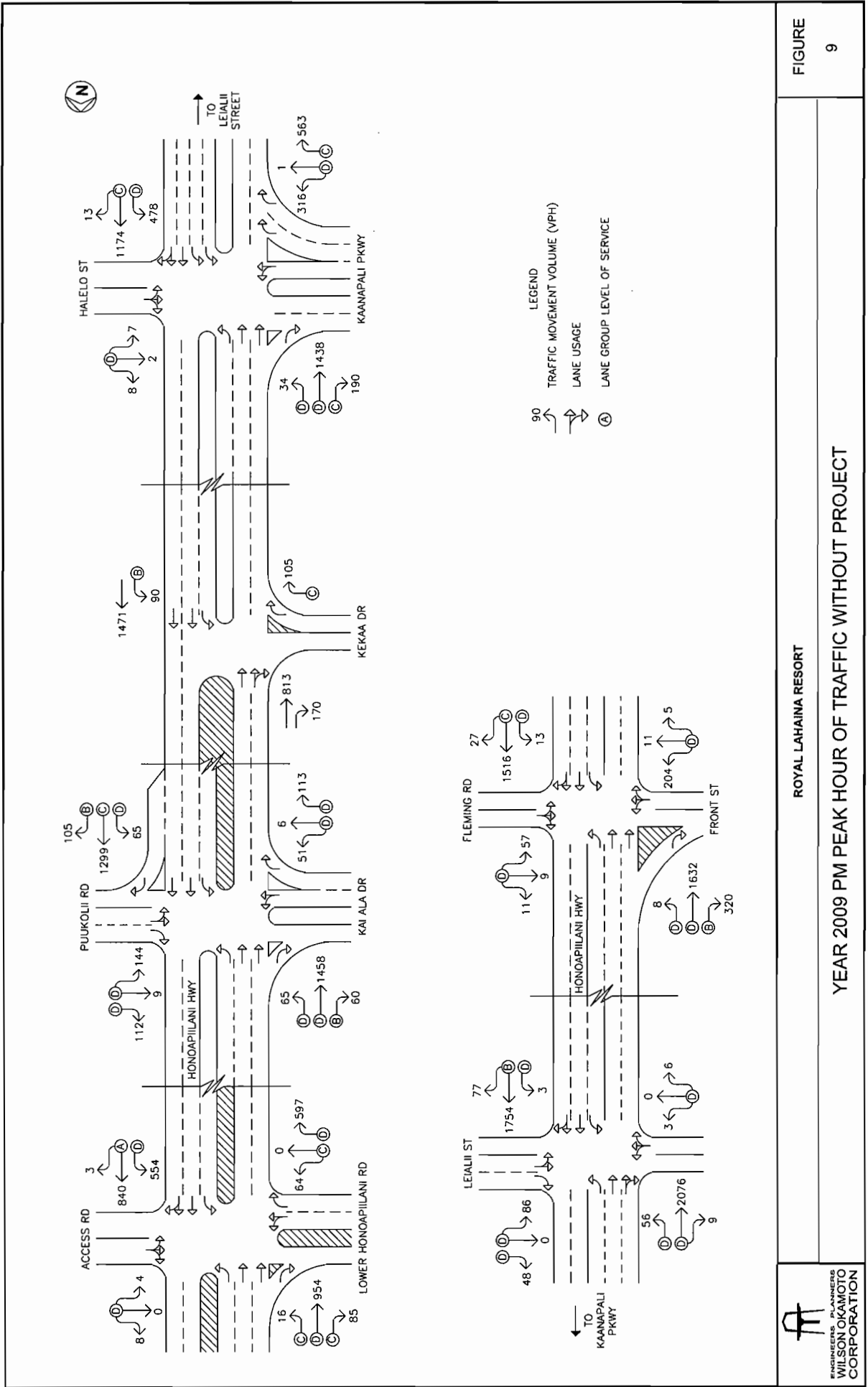


FIGURE 9



**Table 3: Comparison of Existing and Projected (Without Project) Levels of Service**

Intersection	Critical Movement		AM		PM	
			Exist	Year 2009 w/out Proj	Exist	Year 2009 w/out Proj
Honoapiilani Hwy/ Lower Honoapiilani Rd	Eastbound	RT	D	D	D	D
	Northbound	LT	D	D	D	D
Honoapiilani Hwy/ Puukolii Rd/ Kai Ala Dr	Westbound	LT-TH	D	D	D	D
	Northbound	TH	C	C	C	C
	Southbound	TH	D	D	D	D
Honoapiilani Hwy/ Kekaa Dr	Eastbound	RT	C	C	B	C
	Northbound	LT	B	B	B	B
Honoapiilani Hwy/ Kaanapali Pkwy/ Halelo Street	Eastbound	LT-TH	D	D	D	D
		RT	B	C	B	C
	Northbound	LT	D	D	D	D
	Southbound	TH	D	D	D	D
Honoapiilani Hwy/ Leialii St	Northbound	TH-RT	D	D	C	B
	Southbound	TH-RT	C	C	D	D
Honoapiilani Hwy/ Front St/Fleming Rd	Eastbound	LT-TH-RT	D	D	D	D
	Westbound	LT-TH-RT	D	D	D	D
	Northbound	TH-RT	D	D	C	C
	Southbound	TH	C	C	D	D

Under Year 2009 without project conditions, traffic operations in the project vicinity without the development of the project are expected to remain similar to existing conditions during both peak periods of traffic despite the increase in traffic on the surrounding roadways due to ambient traffic growth and the development of other projects in the vicinity. The eastbound right-turn movement at the intersection of Honoapiilani Highway with Kekaa Drive is anticipated to deteriorate from LOS “B” to LOS “C” during the PM peak period while the eastbound right-turn movement at the adjacent intersection with Kaanapali Parkway and Halelo Street is anticipated to

deteriorate from LOS “B” to LOS “C” during both peak periods. At the intersection of the highway with Leialii Street, the northbound through and right-turn traffic movement is expected to improve from LOS “C” to LOS “B,” but this is primarily the result of longer green times for the through movements along the highway to accommodate the expected increases in traffic. The remaining critical movements at these intersections, as well as, the other study intersections are anticipated to continue operating at levels of service similar to existing conditions.

**E. Traffic Operations With Proposed Project**

Figures 10 and 11 show the cumulative AM and PM peak hour traffic conditions resulting from the projected external traffic and the proposed revitalization of the Royal Lahaina Resort for Year 2009 traffic conditions. The cumulative volumes consist of site-generated traffic superimposed over baseline Year 2009 projected traffic demands. The traffic operations for the projected Year 2009 with the project for both the AM and PM peak hours of traffic are summarized in Table 4. The analysis incorporates the developments of other projects with expected build-outs at Year 2009 or earlier and is reflected in the results of the LOS designations as shown in the table. The LOS designations for existing conditions are presented for convenience and comparison purposes. LOS calculations are included in Appendix E.

**Table 4: Comparison of Existing and Projected Levels of Service**

Intersection	Critical Movement		AM			PM		
			Exist	Year 2009		Exist	Year 2009	
				w/out Proj	w/ Proj		w/out Proj	w/ Proj
Honoapiilani Hwy/Lower Honoapiilani Rd	Eastbound	RT	D	D	D	D	D	D
	Northbound	LT	D	D	D	D	D	D
Honoapiilani Hwy/Puukolii Rd/Kai Ala Dr	Westbound	LT-TH	D	D	D	D	D	D
	Northbound	TH	C	C	C	C	C	C
	Southbound	TH	D	D	D	D	D	D

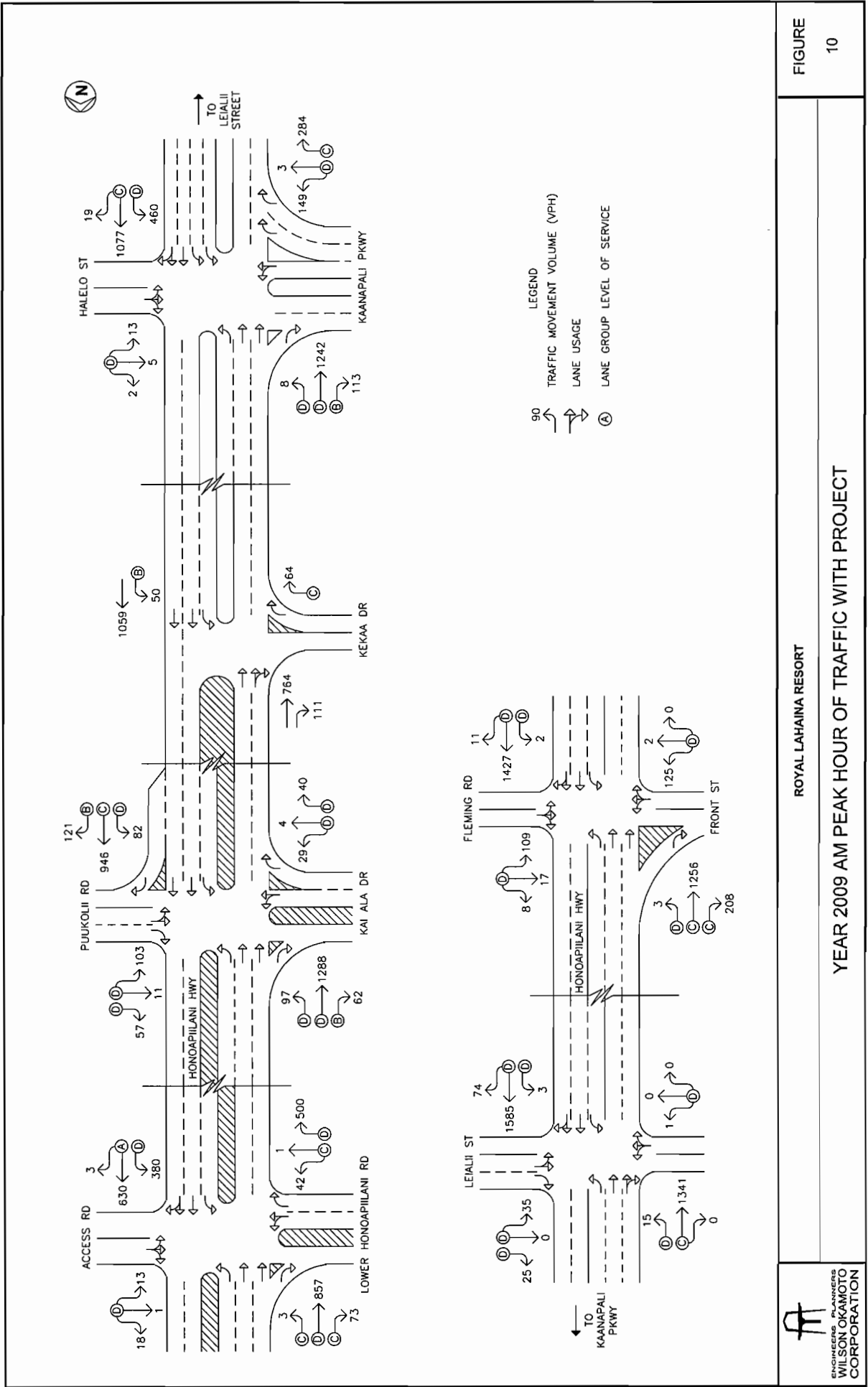
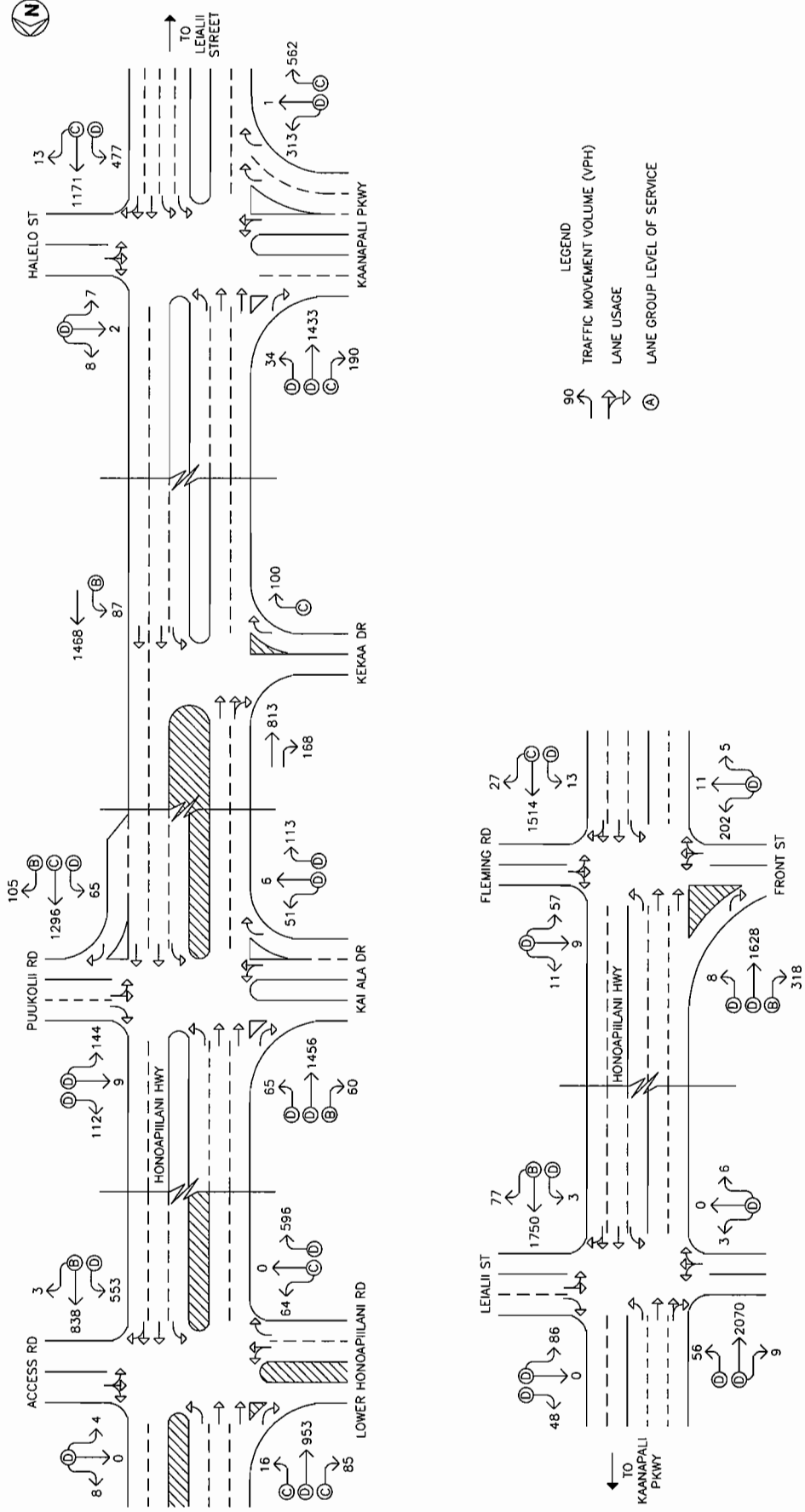


FIGURE 10



ROYAL LAHAINA RESORT  
 YEAR 2009 PM PEAK HOUR OF TRAFFIC WITH PROJECT  
 FIGURE 11

**Table 4: Comparison of Existing and Projected Levels of Service (Cont'd)**

Intersection	Critical Movement		AM			PM		
			Exist	Year 2009		Exist	Year 2009	
				w/out Proj	w/ Proj		w/out Proj	w/ Proj
Honoapiilani Hwy/Kekaa Dr	Eastbound	RT	C	C	C	B	C	C
	Northbound	LT	B	B	B	B	B	B
Honoapiilani Hwy/ Kaanapali Pkwy/Halelo Street	Eastbound	LT-TH	D	D	D	D	D	D
		RT	B	C	C	B	C	C
	Northbound	LT	D	D	D	D	D	D
	Southbound	TH	D	D	D	D	D	D
Honoapiilani Hwy/Leialii St	Northbound	TH-RT	D	D	D	C	B	B
	Southbound	TH-RT	C	C	C	D	D	D
Honoapiilani Hwy/Front St/Fleming Rd	Eastbound	LT-TH-RT	D	D	D	D	D	D
	Westbound	LT-TH-RT	D	D	D	D	D	D
	Northbound	TH-RT	D	D	D	C	C	C
	Southbound	TH	C	C	C	D	D	D

Traffic operations in the vicinity of the Royal Lahaina Resort are expected to remain similar to existing and Year 2009 without project conditions. Traffic generated by the Royal Lahaina Resort is anticipated to decrease slightly under with project conditions due to the planned reduction in units, from 583 units to 455 units, as well as the planned alteration of existing resort uses which is expected to decrease occupancy in some areas from approximately 88% to 50%. The projected traffic operations at the study intersections along Honoapiilani Highway are expected to be influenced primarily by ambient traffic growth, as well as, project-generated trips from other known developments expected to be completed and operational by Year 2009. As such, the critical traffic movements at all of the study intersections are expected to continue operating at levels of service similar to Year 2009 without project conditions.

## **V. RECOMMENDATIONS**

Based on the analysis of the traffic data, the following are the recommendations of this study associated with the proposed revitalization to be incorporated during the design phase:

1. Maintain adequate turning radii at all project roadways to avoid or minimize vehicle encroachments to oncoming traffic lanes.
2. Maintain adequate sight distances for motorists to safely enter and exit all project roadways.
3. Maintain adequate on-site loading and off-loading service areas and prohibit off-site loading operations.

## **VI. CONCLUSION**

Traffic operations with the proposed revitalization of the Royal Lahaina Resort are expected to remain similar to Year 2009 without project conditions. In comparison to existing conditions, traffic generated by the Royal Lahaina Resort is anticipated to decrease under with project conditions due to the planned reduction in units, from 583 units to 455 units, as well as the planned alteration of existing resort uses which is expected to decrease occupancy in some areas from approximately 88% to 50%. As such, the traffic movements at the intersections of Honoapiilani Highway with Lower Honoapiilani Road, Puukolii Road/Kai Ala Drive, Kekaa Drive, Kaanapali Parkway/Halelo Street, Leialii Street, and Front Street/Fleming Road are anticipated to continue operating at similar levels of service to without project conditions.

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**APPENDIX A**  
**EXISTING TRAFFIC COUNT DATA**

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Wilson Okamoto Corporation  
 1907 S. Beretania St., Suite 400  
 Honolulu, HI 96826

Counter: D1-0525/D1-0526  
 Counted By: TF/MF  
 Weather: Sunny

File Name : honlowa  
 Site Code : 00000003  
 Start Date : 10/28/2004  
 Page No : 1

Groups Printed - 1 - Unshifted

Start Time	Honopiihiani Highway Southbound			Lower Honoapiilani Highway Westbound			Honopiihiani Highway Northbound			Lower Honoapiilani Highway Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
06:00 AM	0	74	10	0	0	0	22	41	1	64	4	1	62	67	215
06:15 AM	0	57	4	0	0	0	36	84	2	122	3	0	67	70	253
06:30 AM	0	84	7	0	0	0	51	94	4	149	6	0	81	87	327
06:45 AM	0	146	8	1	0	1	45	101	11	157	9	1	94	104	417
Total	0	361	29	1	0	1	154	320	18	492	22	2	304	328	1212
07:00 AM	0	161	5	1	2	0	44	85	1	130	6	0	133	139	438
07:15 AM	0	277	8	1	0	0	72	135	0	207	7	1	148	156	649
07:30 AM	0	176	7	3	0	0	88	129	0	217	6	0	111	117	520
07:45 AM	0	168	18	4	0	0	98	163	2	263	10	0	116	126	579
Total	0	782	38	9	2	0	302	512	3	817	29	1	508	538	2186
08:00 AM	0	135	13	3	1	1	101	131	1	233	5	0	118	123	509
08:15 AM	1	126	7	2	0	0	72	147	1	220	6	0	86	92	448
Grand Total	1	1404	87	15	3	2	629	1110	23	1762	62	3	1016	1081	4355
Approch %	0.1	94.1	5.8	75.0	15.0	10.0	35.7	63.0	1.3	40.5	5.7	0.3	94.0	24.8	
Total %	0.0	32.2	2.0	0.3	0.1	0.0	14.4	25.5	0.5	40.5	1.4	0.1	23.3	24.8	

Start Time	Honopiihiani Highway Southbound			Lower Honoapiilani Highway Westbound			Honopiihiani Highway Northbound			Lower Honoapiilani Highway Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
07:15 Volume	0	756	46	11	1	1	359	558	3	920	28	1	493	522	2257
07:15 Volume Percent	0.0	94.3	5.7	84.6	7.7	7.7	39.0	60.7	0.3	207	5.4	0.2	94.4	156	649
07:15 Volume Peak Factor	0	277	8	1	0	0	72	135	0	207	7	1	148	156	649
High Int. Volume	0	277	8	08:00 AM	1	1	07:45 AM	163	2	263	07:15 AM	1	148	156	0.869
Peak Factor	0	277	8	3	1	1	98	163	2	0.875	7	1	148	156	0.837
Peak Factor	0	277	8	0.704			0.650								



Wilson Okamoto Corporation  
 1907 S. Beretania St., Suite 400  
 Honolulu, HI 96826

Counter: D1-0525/D1-0526  
 Counted By: TF/MF  
 Weather: Sunny

File Name : honlowp  
 Site Code : 00000003  
 Start Date : 10/27/2004  
 Page No : 1

Groups Printed: 1 - Unshifted

Start Time	Honoapiilani Highway Southbound				Lower Honoapiilani Highway Westbound				Honoapiilani Highway Northbound				Lower Honoapiilani Highway Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
03:00 PM	0	164	12	176	0	0	0	0	107	150	0	257	10	0	118	128
03:15 PM	0	176	14	190	7	0	2	9	114	181	0	295	6	0	110	116
03:30 PM	0	212	16	228	5	0	0	5	82	164	2	248	8	1	100	109
03:45 PM	0	191	15	206	2	0	0	2	161	196	1	358	10	0	103	113
Total	0	743	57	800	14	0	2	16	464	691	3	1158	34	1	431	466
04:00 PM	0	248	16	264	0	0	0	0	101	179	0	280	12	0	141	153
04:15 PM	0	199	16	215	1	0	0	1	132	182	0	314	2	0	133	665
04:30 PM	0	184	16	200	0	0	0	0	133	163	0	296	7	0	182	189
04:45 PM	0	154	20	174	0	0	0	0	130	191	0	321	13	0	122	135
Total	0	785	68	853	1	0	0	1	496	715	0	1211	34	0	578	612
05:00 PM	2	140	21	163	1	0	0	1	127	185	0	312	10	0	127	137
05:15 PM	0	176	11	187	2	0	0	2	98	158	2	258	14	0	100	114
05:30 PM	0	129	12	141	0	0	0	0	92	142	0	234	13	0	103	116
05:45 PM	0	164	19	183	0	0	0	0	106	157	0	263	15	0	152	167
Total	2	609	63	674	3	0	0	3	423	642	2	1067	52	0	482	534
Grand Total	2	2137	188	2327	18	0	2	20	1383	2048	5	3436	120	1	1491	1612
Approch %	0.1	91.8	8.1		90.0	0.0	10.0	0.3	40.3	59.6	0.1	46.5	7.4	0.1	92.5	21.8
Total %	0.0	28.9	2.5	31.5	0.2	0.0	0.0	0.3	18.7	27.7	0.1	46.5	1.6	0.0	20.2	21.8

Start Time	Honoapiilani Highway Southbound				Lower Honoapiilani Highway Westbound				Honoapiilani Highway Northbound				Lower Honoapiilani Highway Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour From 03:00 PM to 05:45 PM - Peak 1 of 1																
Intersection 03:45 PM																
Volume	0	822	63	885	3	0	0	3	527	720	1	1248	31	0	559	590
Percent	0.0	92.9	7.1		100.0	0.0	0.0		42.2	57.7	0.1		5.3	0.0	94.7	
04:00 Volume	0	248	16	264	0	0	0	0	101	179	0	280	12	0	141	153
Peak Factor																0.978
High Int. 04:00 PM									03:45 PM				04:30 PM			
Volume	0	248	16	264	2	0	0	2	161	196	1	358	7	0	182	189
Peak Factor				0.838				0.375				0.872				0.780



Wilson Okamoto Corporation  
 1907 S. Beretania St., Suite 400  
 Honolulu, HI 96826

Counter: D1-0528/D1-0769  
 Counted By: JG/JL  
 Weather: Sunny

File Name : honpuup  
 Site Code : 00000002  
 Start Date : 10/27/2004  
 Page No : 1

Start Time	Groups Printed - 1 - Unstifted															
	Honoapiilani Highway Southbound				Puukoli Road Westbound				Honoapiilani Highway Northbound				Puukoli Road Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
03:00 PM	8	248	11	267	17	2	13	32	14	260	17	291	9	0	32	41
03:15 PM	8	285	16	309	25	2	14	41	17	233	15	265	12	2	37	51
03:30 PM	10	299	10	319	71	3	12	86	13	243	11	267	12	2	48	62
03:45 PM	6	267	5	278	22	2	17	41	21	295	21	337	10	3	12	25
Total	32	1099	42	1173	135	9	56	200	65	1031	64	1160	43	7	129	179
04:00 PM	8	371	19	398	31	2	19	52	20	273	19	312	16	1	33	50
04:15 PM	15	304	16	335	29	2	16	47	11	295	19	325	7	0	33	40
04:30 PM	8	333	20	361	21	3	18	42	13	254	17	284	18	2	35	55
04:45 PM	20	250	13	283	16	1	9	26	13	277	14	304	18	2	40	60
Total	51	1258	68	1377	97	8	62	167	57	1099	69	1225	59	5	141	205
05:00 PM	10	253	9	272	18	3	18	39	12	269	17	298	10	1	25	36
05:15 PM	9	258	10	277	13	0	13	26	14	235	11	260	5	0	16	21
05:30 PM	6	212	10	228	24	7	9	40	10	189	14	213	15	2	27	44
05:45 PM	7	297	6	310	19	1	15	35	12	231	16	259	17	2	19	38
Total	32	1020	35	1087	74	11	55	140	48	924	58	1030	47	5	87	139
Grand Total	115	3377	145	3637	306	28	173	507	170	3054	191	3415	149	17	357	523
Approch %	3.2	92.9	4.0	95.0	60.4	5.5	34.1	63.3	5.0	89.4	5.6	94.3	28.5	3.3	68.3	80.2
Total %	1.4	41.8	1.8	45.0	3.8	0.3	2.1	6.3	2.1	37.8	2.4	42.3	1.8	0.2	4.4	6.5

Start Time	Groups Printed - 1 - Unstifted															
	Honoapiilani Highway Southbound				Puukoli Road Westbound				Honoapiilani Highway Northbound				Puukoli Road Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour From 03:00 PM to 05:45 PM - Peak 1 of 1	37	1275	60	1372	103	9	70	182	65	1117	76	1258	51	6	113	170
Intersection Volume	37	1275	60	1372	103	9	70	182	65	1117	76	1258	51	6	113	170
Percent	2.7	92.9	4.4	95.0	56.6	4.9	38.5	63.3	5.2	88.8	6.0	94.3	30.0	3.5	66.5	80.2
04:00 Volume	8	371	19	398	31	2	19	52	20	273	19	312	16	1	33	50
Peak Factor	0.04	0.29	0.32	0.36	0.03	0.02	0.27	0.37	0.03	0.24	0.27	0.24	0.05	0.03	0.24	0.36
High Int. Volume	8	371	19	398	31	2	19	52	21	295	21	337	18	2	35	55
Peak Factor	0.04	0.29	0.32	0.36	0.03	0.02	0.27	0.37	0.03	0.24	0.27	0.24	0.05	0.03	0.24	0.36

Wilson Okamoto Corporation  
 1907 S. Beretania Street, Suite 400  
 Honolulu, HI 96826

File Name : HonKeka  
 Site Code : 00000003  
 Start Date : 5/5/2005  
 Page No : 1

Counter: D1-0525  
 Counted By: PP  
 Weather: SUNNY

Groups Printed- Unshifted

Start Time	Honoapiilani Hwy Southbound				Honoapiilani Hwy Northbound				Kekaa Drive Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	0	68	6	74	1	64	0	65	0	0	10	10	149
06:15 AM	0	43	14	57	7	122	0	129	0	0	8	8	194
06:30 AM	0	67	17	84	6	149	0	155	0	0	15	15	254
06:45 AM	0	123	23	146	5	157	0	162	0	0	6	6	314
Total	0	301	60	361	19	492	0	511	0	0	39	39	911
07:00 AM	0	133	28	161	16	130	0	146	0	0	9	9	316
07:15 AM	0	234	43	277	19	207	0	226	0	0	9	9	512
07:30 AM	0	152	24	176	17	217	0	234	0	0	13	13	423
07:45 AM	0	139	29	168	15	263	0	278	0	0	20	20	466
Total	0	658	124	782	67	817	0	884	0	0	51	51	1717
08:00 AM	0	109	26	135	18	233	0	251	0	0	29	29	415
08:15 AM	0	101	25	126	16	220	0	236	0	0	26	26	388
Grand Total	0	1169	235	1404	120	1762	0	1882	0	0	145	145	3431
Approch %	0.0	83.3	16.7		6.4	93.6	0.0		0.0	0.0	100.0		
Total %	0.0	34.1	6.8	40.9	3.5	51.4	0.0	54.9	0.0	0.0	4.2	4.2	

Start Time	Honoapiilani Hwy Southbound				Honoapiilani Hwy Northbound				Kekaa Drive Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 06:00 AM to 08:15 AM - Peak 1 of 1	0	634	122	756	69	920	0	989	0	0	71	71	1816
Intersection 07:15 AM	0	83.9	16.1	277	7.0	93.0	0.0	226	0.0	0.0	100.0		
07:15 Volume	0	234	43	277	19	207	0	226	0	0	9	9	512
Peak Factor					07:45 AM				08:00 AM				0.887
High Int. 07:15 AM	0	234	43	277	15	263	0	278	0	0	29	29	
Volume	0	234	43	277	15	263	0	278	0	0	29	29	
Peak Factor				0.682				0.889					0.612

Wilson Okamoto Corporation  
 1907 S. Beretania Street, Suite 400  
 Honolulu, HI 96826

Counter: D1-0525  
 Counted By: PP  
 Weather: SUNNY

File Name : HonKekP  
 Site Code : 00000003  
 Start Date : 5/4/2005  
 Page No : 1

Groups Printed- Unshifted

Start Time	Honoapiilani Hwy Southbound				Honoapiilani Hwy Northbound				Kekaa Drive Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
03:00 PM	0	136	28	164	5	257	0	262	0	0	18	18	444
03:15 PM	0	142	34	176	9	295	0	304	0	0	20	20	500
03:30 PM	0	182	30	212	19	248	0	267	0	0	12	12	491
03:45 PM	0	141	50	191	28	358	0	386	0	0	18	18	595
Total	0	601	142	743	61	1158	0	1219	0	0	68	68	2030
04:00 PM	0	217	31	248	14	280	0	294	0	0	40	40	582
04:15 PM	0	158	41	199	25	314	0	339	0	0	28	28	566
04:30 PM	0	136	48	184	23	296	0	319	0	0	19	19	522
04:45 PM	0	109	45	154	30	321	0	351	0	0	12	12	517
Total	0	620	165	785	92	1211	0	1303	0	0	99	99	2187
05:00 PM	0	99	41	140	19	312	0	331	0	0	30	30	501
05:15 PM	0	139	37	176	12	258	0	270	0	0	21	21	467
05:30 PM	0	101	28	129	22	234	0	256	0	0	27	27	412
05:45 PM	0	133	31	164	23	263	0	286	0	0	22	22	472
Total	0	472	137	609	76	1067	0	1143	0	0	100	100	1852
Grand Total	0	1693	444	2137	229	3436	0	3665	0	0	267	267	6069
Approch %	0.0	79.2	20.8		6.2	93.8	0.0		0.0	0.0	100.0		
Total %	0.0	27.9	7.3	35.2	3.8	56.6	0.0	60.4	0.0	0.0	4.4	4.4	

Start Time	Honoapiilani Hwy Southbound				Honoapiilani Hwy Northbound				Kekaa Drive Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 05:45 PM - Peak 1 of 1													
Intersection 03:45 PM	0	652	170	822	90	1248	0	1338	0	0	105	105	2265
Volume	0	79.3	20.7		6.7	93.3	0.0		0.0	0.0	100.0		
Percent	0	141	50	191	28	358	0	386	0	0	18	18	595
03:45 Volume	0												
Peak Factor													0.952
High Int. 04:00 PM	0	217	31	248	28	358	0	386	04:00 PM	0	40	40	
Volume	0												
Peak Factor				0.829				0.867					0.656

Wilson Okamoto Corporation  
 1907 S. Beretania St., Suite 400  
 Honolulu, HI 96826

Counter:D1-0768/D1-0527  
 Counted By:KT/TO  
 Weather:Sunny

File Name : honkaa  
 Site Code : 00000001  
 Start Date : 10/28/2004  
 Page No : 1

Groups Printed- 1 - Unshifted

Start Time	Honoapiilani Highway Southbound					Halelo Street Westbound					Honoapiilani Highway Northbound					Kaanapali Parkway Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
06:00 AM	2	120	6	128	2	3	1	6	47	86	1	134	9	1	48	58	326			
06:15 AM	0	98	18	116	3	0	2	5	57	146	4	207	15	1	39	55	383			
06:30 AM	1	134	18	153	0	0	0	0	97	216	0	313	17	0	60	77	543			
06:45 AM	0	210	23	233	1	0	2	3	83	150	1	234	13	1	49	63	533			
Total	3	562	65	630	6	3	5	14	284	598	6	888	54	3	196	253	1785			
07:00 AM	5	253	34	292	3	1	3	7	107	175	3	285	22	1	55	78	662			
07:15 AM	1	394	20	415	9	1	1	11	100	207	3	310	41	1	75	117	853			
07:30 AM	2	247	28	277	3	2	1	6	131	231	2	364	43	0	64	107	754			
07:45 AM	2	231	24	257	1	2	0	3	129	261	10	400	24	1	65	90	750			
Total	10	1125	106	1241	16	6	5	27	467	874	18	1359	130	3	259	392	3019			
08:00 AM	3	216	26	245	0	0	0	0	107	256	4	367	39	1	83	123	735			
08:15 AM	5	198	32	235	1	2	0	3	79	206	1	286	41	1	73	115	639			
Grand Total	21	2101	229	2351	23	11	10	44	937	1934	29	2900	264	8	611	883	6178			
Approch %	0.9	89.4	9.7	32.3	52.3	25.0	22.7	32.3	32.3	66.7	1.0	29.9	29.9	0.9	69.2	14.3				
Total %	0.3	34.0	3.7	38.1	0.4	0.2	0.2	0.7	15.2	31.3	0.5	46.9	4.3	0.1	9.9	14.3				

Start Time	Honoapiilani Highway Southbound					Halelo Street Westbound					Honoapiilani Highway Northbound					Kaanapali Parkway Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
07:15 AM	8	1088	98	1194	13	5	2	20	467	955	19	1441	147	3	287	437	3092			
Peak Volume	8	1088	98	1194	13	5	2	20	467	955	19	1441	147	3	287	437	3092			
Percent	0.7	91.1	8.2	415	65.0	25.0	10.0	11	32.4	66.3	1.3	310	33.6	0.7	65.7	117	853			
07:15 Volume	1	394	20	415	9	1	1	11	100	207	3	310	41	1	75	117	853			
Peak Factor	1	394	20	415	9	1	1	11	100	207	3	310	41	1	75	117	853			
High Int.	07:15 AM			07:15 AM	07:15 AM			07:45 AM	07:45 AM			08:00 AM	08:00 AM			123	0.906			
Volume	1	394	20	415	9	1	1	11	129	261	10	400	39	1	83	123	0.888			
Peak Factor	1	394	20	415	9	1	1	11	129	261	10	400	39	1	83	123	0.888			
Volume	1	394	20	415	9	1	1	11	129	261	10	400	39	1	83	123	0.888			
Peak Factor	1	394	20	415	9	1	1	11	129	261	10	400	39	1	83	123	0.888			

**Wilson Okamoto Corporation**  
**1907 S. Beretania Street, Suite 400**  
**Honolulu, HI 96826**

File Name : honkaap  
 Site Code : 00000001  
 Start Date : 10/27/2004  
 Page No : 1

Counter: D1-0768/D1-0527  
 Counted By: KT/TO  
 Weather: Sunny

Groups Printed- 1 - Unshifted

Start Time	Honoapiilani Highway Southbound				Halelo Street Westbound				Honoapiilani Highway Northbound				Kaanapali Parkway Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0	
03:00 PM	3	264	32	299	4	1	1	6	124	239	3	366	66	0	173	239
03:15 PM	5	252	26	283	1	2	4	7	103	238	5	346	56	0	114	170
03:30 PM	6	357	49	412	1	0	2	3	107	251	1	359	53	0	148	201
03:45 PM	5	283	27	315	5	2	3	10	114	257	4	375	76	0	114	190
Total	19	1156	134	1309	11	5	10	26	448	985	13	1446	251	0	549	800
04:00 PM	15	365	48	428	0	0	1	1	141	236	5	382	82	1	179	262
04:15 PM	8	224	56	288	1	0	2	3	116	247	3	366	90	0	122	212
04:30 PM	2	270	47	319	4	1	3	8	123	261	2	386	45	2	116	163
04:45 PM	0	226	39	265	1	0	1	2	89	256	2	347	68	2	151	221
Total	25	1085	190	1300	6	1	7	14	469	1000	12	1481	285	5	568	858
05:00 PM	4	235	28	267	1	0	3	4	122	247	3	372	69	1	151	221
05:15 PM	9	248	36	293	2	3	2	7	74	194	2	270	59	4	111	174
05:30 PM	3	209	13	225	4	2	2	8	90	215	0	305	45	3	101	149
05:45 PM	9	260	25	294	1	0	1	2	63	162	1	226	63	2	136	201
Total	25	952	102	1079	8	5	8	21	349	818	6	1173	236	10	499	745
Grand Total	69	3193	426	3688	25	11	25	61	1266	2803	31	4100	772	15	1616	2403
Approch %	1.9	86.6	11.6	36.0	41.0	18.0	41.0	0.6	30.9	68.4	0.8	40.0	32.1	0.6	67.2	23.4
Total %	0.7	31.1	4.2	36.0	0.2	0.1	0.2	0.6	12.3	27.3	0.3	40.0	7.5	0.1	15.8	23.4

Start Time	Honoapiilani Highway Southbound				Halelo Street Westbound				Honoapiilani Highway Northbound				Kaanapali Parkway Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour From 03:00 PM to 05:45 PM - Peak 1 of 1																
Intersection 03:30 PM																
Volume	34	1229	180	1443	7	2	8	17	478	991	13	1482	301	1	563	865
Percent	2.4	85.2	12.5	428	41.2	11.8	47.1	1	32.3	66.9	0.9	382	34.8	0.1	65.1	262
04:00 Volume	15	365	48	428	0	0	1	1	141	236	5	382	82	1	179	262
Peak Factor																
High Int. 04:00 PM																
Volume	15	365	48	428	03:45 PM	2	3	10	04:00 PM	236	5	382	04:00 PM	1	179	262
Peak Factor				0.843	5	2	3	0.425	141	236	5	0.970	82	1	179	0.825

**Wilson Okamoto Corporation**  
**1907 S. Beretania Street, Suite 400**  
**Honolulu, HI 96826**

Counter: D1-0526/D1-0768  
 Counted By: KT/TF  
 Weather: SUNNY

File Name : HonLeIA  
 Site Code : 00000001  
 Start Date : 5/5/2005  
 Page No : 1

Groups Printed- Unshifted

Start Time	Honoapiilani Hwy Southbound				Leliali St Westbound				Honoapiilani Hwy Northbound				Leliali St Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
	Factor																
05:30 AM	2	91	0	93	2	0	2	4	1	127	5	133	0	0	0	0	230
05:45 AM	2	110	1	113	0	0	2	2	0	124	7	131	0	0	1	1	247
<b>Total</b>	<b>4</b>	<b>201</b>	<b>1</b>	<b>206</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>6</b>	<b>1</b>	<b>251</b>	<b>12</b>	<b>264</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>477</b>
06:00 AM	1	158	0	159	2	0	1	3	0	127	3	130	0	0	0	0	292
06:15 AM	1	138	0	139	16	0	4	20	0	199	10	209	0	0	0	0	368
06:30 AM	1	131	0	132	5	0	3	8	0	306	11	317	0	0	0	0	457
06:45 AM	6	218	1	225	9	0	7	16	0	314	15	329	1	0	0	1	571
<b>Total</b>	<b>9</b>	<b>645</b>	<b>1</b>	<b>655</b>	<b>32</b>	<b>0</b>	<b>15</b>	<b>47</b>	<b>0</b>	<b>946</b>	<b>39</b>	<b>985</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1688</b>
07:00 AM	2	296	0	298	5	0	6	11	1	303	11	315	0	0	0	0	624
07:15 AM	4	303	0	307	10	0	7	17	0	364	24	388	1	0	0	1	713
07:30 AM	2	337	0	339	9	0	3	12	1	365	13	379	0	0	0	0	730
07:45 AM	7	245	0	252	11	0	9	20	1	392	26	419	0	0	0	0	691
<b>Total</b>	<b>15</b>	<b>1181</b>	<b>0</b>	<b>1196</b>	<b>35</b>	<b>0</b>	<b>25</b>	<b>60</b>	<b>3</b>	<b>1424</b>	<b>74</b>	<b>1501</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2758</b>
08:00 AM	13	226	0	239	12	2	9	23	2	327	28	357	0	0	2	2	621
08:15 AM	11	261	1	273	18	1	10	29	3	300	20	323	1	0	0	1	626
<b>Grand Total</b>	<b>52</b>	<b>2514</b>	<b>3</b>	<b>2569</b>	<b>99</b>	<b>3</b>	<b>63</b>	<b>165</b>	<b>9</b>	<b>3248</b>	<b>173</b>	<b>3430</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>6170</b>
Approch %	2.0	97.9	0.1		60.0	1.8	38.2		0.3	94.7	5.0		50.0	0.0	50.0		
Total %	0.8	40.7	0.0	41.6	1.6	0.0	1.0	2.7	0.1	52.6	2.8	55.6	0.0	0.0	0.0	0.1	

Start Time	Honoapiilani Hwy Southbound				Leliali St Westbound				Honoapiilani Hwy Northbound				Leliali St Eastbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
	Volume																
07:30 Volume	2	337	0	339	9	0	3	12	1	365	13	379	0	0	0	0	730
Peak Factor																	0.945
High Int. Volume	2	337	0	339	11	0	9	20	1	392	26	419	1	0	0	1	
Peak Factor				0.882				0.750				0.896					0.250



Wilson Okamoto Corporation  
 1907 S. Beretania Street, Suite 400  
 Honolulu, HI 96826

Counter: D1-0526/D1-0768  
 Counted By: KT/TF  
 Weather: SUNNY

File Name : HonLeiP  
 Site Code : 00000001  
 Start Date : 5/4/2005  
 Page No : 1

Groups Printed- Unshifted

Start Time	Honoapiilani Hwy Southbound			Leliali St Westbound			Honoapiilani Hwy Northbound			Leliali St Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
03:00 PM	20	392	0	23	0	11	1	382	17	2	0	1
03:15 PM	23	401	0	31	1	14	1	373	35	0	0	0
03:30 PM	19	365	1	37	0	17	0	367	20	2	0	0
03:45 PM	19	415	2	15	0	16	4	382	22	1	0	0
Total	81	1573	3	106	1	58	6	1504	94	5	0	1
04:00 PM	8	549	1	27	0	13	1	389	21	0	0	0
04:15 PM	16	443	3	19	0	8	2	361	18	1	0	1
04:30 PM	13	402	3	25	0	11	1	386	16	1	0	5
04:45 PM	10	360	1	18	0	11	1	365	15	0	0	2
Total	47	1754	8	89	0	43	5	1501	70	2	0	8
05:00 PM	12	397	1	7	0	7	3	354	7	1	0	1
05:15 PM	9	387	1	9	0	6	1	295	17	1	0	1
05:30 PM	4	336	0	13	0	7	2	267	15	1	0	1
05:45 PM	9	303	2	15	0	6	2	255	16	0	0	2
Total	34	1423	4	44	0	26	8	1171	55	3	0	5
Grand Total	162	4750	15	239	1	127	19	4176	219	10	0	14
Apprch %	3.3	96.4	0.3	65.1	0.3	34.6	0.4	94.6	5.0	41.7	0.0	58.3
Total %	1.7	48.8	0.2	2.5	0.0	1.3	0.2	42.9	2.3	0.1	0.0	0.1
App. Total				367			4414			45.4		0.2
Int. Total												

Start Time	Honoapiilani Hwy Southbound			Leliali St Westbound			Honoapiilani Hwy Northbound			Leliali St Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour From 03:00 PM to 05:45 PM - Peak 1 of 1 Intersection 03:45 PM	56	1809	9	86	0	48	8	1518	77	3	0	6
Volume	56	1809	9	86	0	48	8	1518	77	3	0	6
Percent	3.0	96.5	0.5	64.2	0.0	35.8	0.5	94.7	4.8	33.3	0.0	66.7
04:00 Volume	8	549	1	27	0	13	1	389	21	0	0	0
Peak Factor												
High Int. 04:00 PM	8	549	1	27	0	13	1	389	21	04:30 PM	1	5
Volume	8	549	1	27	0	13	1	389	21	1	0	5
Peak Factor										0.975		0.375
App. Total				1874			134			1603		9
Int. Total												

Wilson Okamoto Corporation  
1907 S. Beretania Street, Suite 400  
Honolulu, HI 96826

File Name : HonFroA  
Site Code : 00000002  
Start Date : 5/5/2005  
Page No : 1

Counter: D1-0769/ D1-0527  
Counted By: TO/IQ  
Weather: SUNNY

Groups Printed- Unshifted

Start Time	Honoapiilani Hwy Southbound				Front Street Westbound				Honoapiilani Hwy Northbound				Front Street Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
05:30 AM	1	87	16	104	4	0	2	6	0	125	1	126	5	0	0	5
05:45 AM	1	99	12	112	4	1	4	9	0	109	1	110	10	0	0	10
<b>Total</b>	<b>2</b>	<b>186</b>	<b>28</b>	<b>216</b>	<b>8</b>	<b>1</b>	<b>6</b>	<b>15</b>	<b>0</b>	<b>234</b>	<b>2</b>	<b>236</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>15</b>
06:00 AM	0	143	13	156	6	0	0	6	0	139	0	139	9	0	0	9
06:15 AM	2	170	24	196	15	0	2	17	2	228	3	233	12	0	0	12
06:30 AM	1	141	23	165	25	5	2	32	1	274	2	277	13	0	1	14
06:45 AM	1	242	35	278	22	3	2	27	0	266	0	266	24	0	0	24
<b>Total</b>	<b>4</b>	<b>696</b>	<b>95</b>	<b>795</b>	<b>68</b>	<b>8</b>	<b>6</b>	<b>82</b>	<b>3</b>	<b>907</b>	<b>5</b>	<b>915</b>	<b>58</b>	<b>0</b>	<b>1</b>	<b>59</b>
07:00 AM	1	261	50	312	32	3	1	36	0	298	2	300	21	2	0	23
07:15 AM	1	329	69	399	36	8	0	44	1	304	1	306	34	0	0	34
07:30 AM	1	291	53	345	22	4	1	27	0	312	0	312	38	0	0	38
07:45 AM	0	219	40	259	19	2	6	27	1	356	8	365	43	0	0	43
<b>Total</b>	<b>3</b>	<b>1100</b>	<b>212</b>	<b>1315</b>	<b>109</b>	<b>17</b>	<b>8</b>	<b>134</b>	<b>2</b>	<b>1270</b>	<b>11</b>	<b>1283</b>	<b>136</b>	<b>2</b>	<b>0</b>	<b>138</b>
08:00 AM	1	227	43	271	14	1	0	15	2	293	3	298	35	1	1	37
08:15 AM	2	263	53	318	14	0	4	18	1	263	2	266	29	1	3	33
<b>Grand Total</b>	<b>12</b>	<b>2472</b>	<b>431</b>	<b>2915</b>	<b>213</b>	<b>27</b>	<b>24</b>	<b>264</b>	<b>8</b>	<b>2967</b>	<b>23</b>	<b>2998</b>	<b>273</b>	<b>4</b>	<b>5</b>	<b>282</b>
Approch %	0.4	84.8	14.8		80.7	10.2	9.1		0.3	99.0	0.8		96.8	1.4	1.8	
Total %	0.2	38.3	6.7	45.1	3.3	0.4	0.4	4.1	0.1	45.9	0.4	46.4	4.2	0.1	0.1	4.4

Start Time	Honoapiilani Hwy Southbound				Front Street Westbound				Honoapiilani Hwy Northbound				Front Street Eastbound			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour From 05:30 AM to 08:15 AM - Peak 1 of 1	3	1100	212	1315	109	17	8	134	2	1270	11	1283	136	2	0	138
Intersection 07:00 AM	3	1100	212	1315	109	17	8	134	2	1270	11	1283	136	2	0	138
Volume	0.2	83.7	16.1		81.3	12.7	6.0		0.2	99.0	0.9		98.6	1.4	0.0	
Percent	1	329	69	399	36	8	0	44	1	304	1	306	34	0	0	34
07:15 Volume	1	329	69	399	36	8	0	44	1	304	1	306	34	0	0	34
Peak Factor	0.7:15 AM				0.7:15 AM				0.7:45 AM				0.7:45 AM			
High Int. Volume	1	329	69	399	36	8	0	44	1	356	8	365	43	0	0	43
Peak Factor				0.824				0.761				0.879				0.802
07:15 High Int. Volume	1	329	69	399	36	8	0	44	1	356	8	365	43	0	0	43
Peak Factor				0.824				0.761				0.879				0.802

Wilson Okamoto Corporation  
1907 S. Beretania Street, Suite 400  
Honolulu, HI 96826

Counter: D1-0769/D1-0527

Counted By: TO/IQ

Weather: SUNNY

File Name : HonFroP  
Site Code : 00000002  
Start Date : 5/4/2005  
Page No : 1

Groups Printed- Unshifted

Start Time	Honoapiilani Hwy Southbound				Front Street Westbound				Honoapiilani Hwy Northbound				Front Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
03:00 PM	1	338	57	396	9	1	3	13	0	354	10	364	50	1	2	53	826
03:15 PM	3	336	60	399	26	0	1	27	3	309	1	313	57	0	3	60	799
03:30 PM	3	344	62	409	13	1	6	20	2	314	9	325	60	3	0	63	817
03:45 PM	2	330	68	400	27	3	2	32	1	336	5	342	51	0	0	51	825
Total	9	1348	247	1604	75	5	12	92	6	1313	25	1344	218	4	5	227	3267
04:00 PM	2	454	93	549	9	3	0	12	7	315	7	329	54	2	1	57	947
04:15 PM	2	314	78	394	12	1	5	18	1	316	4	321	59	3	3	65	798
04:30 PM	2	352	81	435	9	2	4	15	4	335	11	350	40	6	1	47	847
04:45 PM	0	292	76	368	13	1	1	15	7	347	8	362	40	1	0	41	786
Total	6	1412	328	1746	43	7	10	60	19	1313	30	1362	193	12	5	210	3378
05:00 PM	0	307	92	399	9	1	2	12	2	280	5	287	50	6	2	58	756
05:15 PM	0	295	133	428	14	3	1	18	1	264	9	274	37	2	1	40	760
05:30 PM	2	277	93	372	13	2	2	17	6	290	1	297	38	4	3	45	731
05:45 PM	0	231	86	317	18	1	1	20	1	215	10	226	36	4	3	43	606
Total	2	1110	404	1516	54	7	6	67	10	1049	25	1084	161	16	9	186	2853
Grand Total	17	3870	979	4866	172	19	28	219	35	3675	80	3790	572	32	19	623	9498
Approach %	0.3	79.5	20.1		78.5	8.7	12.8		0.9	97.0	2.1		91.8	5.1	3.0		
Total %	0.2	40.7	10.3	51.2	1.8	0.2	0.3	2.3	0.4	38.7	0.8	39.9	6.0	0.3	0.2	6.6	

Start Time	Honoapiilani Hwy Southbound				Front Street Westbound				Honoapiilani Hwy Northbound				Front Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 03:45 PM	8	1450	320	1778	57	9	11	77	13	1302	27	1342	204	11	5	220	3417
Volume	8	1450	320	1778	57	9	11	77	13	1302	27	1342	204	11	5	220	3417
Percent	0.4	81.6	18.0		74.0	11.7	14.3		1.0	97.0	2.0		92.7	5.0	2.3		
04:00 Volume	2	454	93	549	9	3	0	12	7	315	7	329	54	2	1	57	947
Peak Factor																	0.902
High Int. 04:00 PM	2	454	93	549	03:45 PM	3	2	32	04:30 PM	4	11	350	04:15 PM	3	3	65	
Volume	2	454	93	549	27	3	2	0.602	4	335	11	0.959	59	3	3	0.846	
Peak Factor				0.810													

**Wilson Okamoto Corporation**

1907 S. Beretania St., #400  
Honolulu, HI 96826

Title1 : Kekaa Drive  
Title2 :  
Title3 :

Site: 01  
Date: 05/04/05

Interval begin	EB		WB		Combined		Day: Wednesday
	AM	PM	AM	PM	AM	PM	
12:00	*	*	*	*	*	*	
12:15	*	0	*	8	*	8	
12:30	*	30	*	74	*	104	
12:45	*	29	*	84	*	113	
01:00	*	46 102	*	71 249	*	117 351	
01:15	*	18	*	70	*	88	
01:30	*	22	*	54	*	76	
01:45	*	16	*	54	*	70	
02:00	*	32 105	*	87 355	*	119 460	
02:15	*	26	*	78	*	104	
02:30	*	25	*	84	*	109	
02:45	*	22	*	106	*	128	
03:00	*	36 108	*	80 342	*	116 450	
03:15	*	26	*	60	*	86	
03:30	*	20	*	90	*	110	
03:45	*	26	*	112	*	138	
04:00	*	58 131	*	84 411	*	142 542	
04:15	*	32	*	104	*	136	
04:30	*	28	*	96	*	124	
04:45	*	13	*	127	*	140	
05:00	*	35 126	*	102 316	*	137 442	
05:15	*	32	*	72	*	104	
05:30	*	34	*	76	*	110	
05:45	*	25	*	66	*	91	
06:00	*	22 70	*	56 229	*	78 299	
06:15	*	14	*	62	*	76	
06:30	*	18	*	64	*	82	
06:45	*	16	*	47	*	63	
07:00	*	22 73	*	54 177	*	76 250	
07:15	*	34	*	39	*	73	
07:30	*	7	*	34	*	41	
07:45	*	10	*	50	*	60	
08:00	*	39 185	*	64 204	*	103 389	
08:15	*	50	*	56	*	106	
08:30	*	58	*	42	*	100	
08:45	*	38	*	42	*	80	
09:00	*	20 75	*	42 179	*	62 254	
09:15	*	19	*	49	*	68	
09:30	*	22	*	56	*	78	
09:45	*	14	*	32	*	46	
10:00	*	16 56	*	28 98	*	44 154	
10:15	*	0	*	18	*	18	
10:30	*	20	*	28	*	48	
10:45	*	20	*	24	*	44	
11:00	*	10 30	*	20 57	*	30 87	
11:15	*	8	*	4	*	12	
11:30	*	6	*	24	*	30	
11:45	*	6	*	9	*	15	
Totals	0	1,120	0	2,783	0	3,903	
Split%	*	28.7	*	71.3			
Day Totals		1,120		2,783		3,903	
Day Splits		28.7		71.3			
Peak Hour	*	08:00	*	04:15	*	04:00	
Volume	*	185	*	429	*	542	
Factor	*	0.80	*	0.84	*	0.95	

**Wilson Okamoto Corporation**

1907 S. Beretania St., #400  
Honolulu, HI 96826

Title1 : Kekaa Drive  
Title2 :  
Title3 :

Site: 01  
Date: 05/05/05

Interval	EB			WB			Combined		Day:	Thursday
	AM	PM	*	AM	PM	*	AM	PM		
12:00	3	13	*	5	16	*	8	29	*	
12:15	8		*	3		*	11		*	
12:30	0		*	2		*	2		*	
12:45	2		*	6		*	8		*	
01:00	2	4	*	6	14	*	8	18	*	
01:15	0		*	4		*	4		*	
01:30	2		*	2		*	4		*	
01:45	0		*	2		*	2		*	
02:00	2	8	*	2	18	*	4	26	*	
02:15	2		*	9		*	11		*	
02:30	3		*	6		*	9		*	
02:45	1		*	1		*	2		*	
03:00	8	12	*	4	16	*	12	28	*	
03:15	1		*	4		*	5		*	
03:30	3		*	2		*	5		*	
03:45	0		*	6		*	6		*	
04:00	2	6	*	6	56	*	8	62	*	
04:15	0		*	16		*	16		*	
04:30	4		*	20		*	24		*	
04:45	0		*	14		*	14		*	
05:00	0	18	*	12	80	*	12	98	*	
05:15	2		*	12		*	14		*	
05:30	8		*	22		*	30		*	
05:45	8		*	34		*	42		*	
06:00	18	54	*	26	152	*	44	206	*	
06:15	8		*	31		*	39		*	
06:30	16		*	34		*	50		*	
06:45	12		*	61		*	73		*	
07:00	17	74	*	65	308	*	82	382	*	
07:15	12		*	102		*	114		*	
07:30	19		*	60		*	79		*	
07:45	26		*	81		*	107		*	
08:00	29	76	*	68	207	*	97	283	*	
08:15	26		*	70		*	96		*	
08:30	21		*	69		*	90		*	
08:45	0		*	0		*	0		*	
09:00	*	*	*	*	*	*	*	*	*	
09:15	*	*	*	*	*	*	*	*	*	
09:30	*	*	*	*	*	*	*	*	*	
09:45	*	*	*	*	*	*	*	*	*	
10:00	*	*	*	*	*	*	*	*	*	
10:15	*	*	*	*	*	*	*	*	*	
10:30	*	*	*	*	*	*	*	*	*	
10:45	*	*	*	*	*	*	*	*	*	
11:00	*	*	*	*	*	*	*	*	*	
11:15	*	*	*	*	*	*	*	*	*	
11:30	*	*	*	*	*	*	*	*	*	
11:45	*	*	*	*	*	*	*	*	*	
<b>Totals</b>	265		0	867		0	1,132		0	
<b>Split%</b>	23.4		*	76.6		*				
<b>Day Totals</b>		265			867		1,132			
<b>Day Splits</b>		23.4			76.6					
<b>Peak Hour</b>	07:45		*	07:15		*	07:15		*	
<b>Volume</b>	102		*	311		*	397		*	
<b>Factor</b>	0.88		*	0.76		*	0.87		*	

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**APPENDIX B**

**LEVEL OF SERVICE DEFINITIONS**

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## LEVEL OF SERVICE DEFINITIONS

### LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

**Level of Service (LOS)** for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average control delay per vehicle, typically a 15-min analysis period. The criteria are given in the following table.

**Table 1: Level-of-Service Criteria for Signalized Intersections**

Level of Service	Control Delay per Vehicle (sec/veh)
A	$\leq 10.0$
B	$>10.0$ and $\leq 20.0$
C	$>20.0$ and $\leq 35.0$
D	$>35.0$ and $\leq 55.0$
E	$>55.0$ and $\leq 80.0$
F	$>80.0$

Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group.

**Level of Service A** describes operations with low control delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

**Level of Service B** describes operations with control delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

**Level of Service C** describes operations with control delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

**Level of Service D** describes operations with control delay greater than 35 and up to 55 sec per vehicle. At level of service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

**Level of Service E** describes operation with control delay greater than 55 and up to 80 sec per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

**Level of Service F** describes operations with control delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.



## LEVEL OF SERVICE DEFINITIONS

### LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

**Level of Service (LOS)** criteria are given in Table 1. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue to the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. If the degree of saturation is greater than about 0.9, average control delay is significantly affected by the length of the analysis period.

**Table 1: Level-of-Service Criteria for  
Unsignalized Intersections**

<b>Level of Service</b>	<b>Average Control Delay (Sec/Veh)</b>
A	$\leq 10.0$
B	$>10.0$ and $\leq 15.0$
C	$>15.0$ and $\leq 25.0$
D	$>25.0$ and $\leq 35.0$
E	$>35.0$ and $\leq 50.0$
F	$>50.0$

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**APPENDIX C**

**CAPACITY ANALYSIS CALCULATIONS  
EXISTING PEAK HOUR TRAFFIC ANALYSIS**

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HCS2000: Signalized Intersections Release 4.1e

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Lower Honoapiilani Hwy

Inter.: Honopiilani/ Lower Honopiilani  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Existing Conditions  
 N/S St: Honopiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R			LTR	L		TR		T	R
Volume	28	1	493	11	1	1	359	558	3		756	46
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			271			0			0			5

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A	A	
Right		A	A		Right	A	A	
Peds					Peds			
WB Left		A			SB Left			
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		22.0	11.0			36.0	41.0	
Yellow		0.0	4.0			0.0	4.0	
All Red		0.0	1.0			0.0	1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	425	1777	0.08	0.28	32.3	C	39.4	D
R	435	1583	0.61	0.28	40.3	D		
Westbound								
LTR	299	1629	0.07	0.18	40.6	D	40.6	D
Northbound								
L	587	1956	0.70	0.30	40.8	D		
TR	2513	3917	0.25	0.64	9.3	A	21.6	C
Southbound								
T	1339	3920	0.81	0.34	39.8	D	39.1	D
R	598	1750	0.10	0.34	27.0	C		
Intersection Delay = 31.8 (sec/veh)					Intersection LOS = C			

HCS2000: Signalized Intersections Release 4.1e

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Lower Honoapiilani Hwy

Inter.: Honopiilani/ Lower Honopiilani  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Existing Conditions  
 N/S St: Honopiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	0	2	1
LGConfig		LT	R		LTR		L	TR			T	R
Volume	31	0	559	3	0	1	527	720	1		822	63
Lane Width		12.0	12.0		12.0		12.0	12.0			12.0	12.0
RTOR Vol			307			0			0			6

Duration	1.00	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru	A	A	
Right		A	A		Right	A	A	
Peds					Peds			
WB Left		A			SB Left			
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		12.0	20.0			43.0	35.0	
Yellow		0.0	4.0			0.0	4.0	
All Red		0.0	1.0			0.0	1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	430	1774	0.09	0.27	33.2	C	47.4	D
R	422	1583	0.77	0.27	49.2	D		
Westbound								
LTR	173	1729	0.06	0.10	49.1	D	49.1	D
Northbound								
L	701	1956	0.86	0.36	48.1	D		
TR	2547	3919	0.33	0.65	9.4	A	25.7	C
Southbound								
T	1143	3920	0.86	0.29	47.2	D	46.2	D
R	510	1750	0.13	0.29	31.4	C		

Intersection Delay = 36.1 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1e

Analyst: Inter.: Honoapiilani Hwy/Puukolii  
 Agency: Wilson Okamoto Corp Area Type: All other areas  
 Date: 5/25/05 Jurisd: Island of Maui  
 Period: AM Peak Period Year : Existing  
 Project ID: Royal Lahaina Resort  
 E/W St: Puukolii Rd N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	1	1	2	1	1	2	1
LGConfig		LT	R		LT	R	L	T	R	L	T	R
Volume	29	4	40	91	11	40	82	838	98	63	1131	62
Lane Width		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			4			4			10			6

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	28.5				25.0	51.5		
Yellow	4.0				4.0	4.0		
All Red	1.0				1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	317	1333	0.15	0.24	36.4	D	36.3	D
R	376	1583	0.14	0.24	36.2	D		
Westbound								
LT	316	1332	0.42	0.24	39.6	D	38.7	D
R	376	1583	0.13	0.24	36.1	D		
Northbound								
L	407	1956	0.23	0.21	39.8	D		
T	1682	3920	0.57	0.43	26.3	C	26.9	C
R	751	1750	0.13	0.43	20.8	C		
Southbound								
L	407	1956	0.21	0.21	39.5	D		
T	1682	3920	0.90	0.43	39.3	D	38.4	D
R	751	1750	0.10	0.43	20.5	C		
Intersection Delay = 34.1 (sec/veh)					Intersection LOS = C			

HCS2000: Signalized Intersections Release 4.1e

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Puukolii Rd

Inter.: Honoapiilani Hwy/Puukolii  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Existing  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	1	1	2	1	1	2	1
LGConfig		LT	R		LT	R	L	T	R	L	T	R
Volume	51	6	113	103	9	70	65	1117	76	37	1275	60
Lane Width		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			11			7			8			6

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		29.0				25.0	51.0	
Yellow		4.0				4.0	4.0	
All Red		1.0				1.0	1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C	Delay LOS	Delay LOS	
<b>Eastbound</b>							
LT	296	1224	0.25	0.24	37.2	D	37.8 D
R	383	1583	0.34	0.24	38.2	D	
<b>Westbound</b>							
LT	311	1285	0.41	0.24	39.2	D	38.2 D
R	383	1583	0.19	0.24	36.4	D	
<b>Northbound</b>							
L	407	1956	0.17	0.21	39.2	D	
T	1666	3920	0.72	0.43	30.2	C	30.1 C
R	744	1750	0.10	0.43	20.8	C	
<b>Southbound</b>							
L	407	1956	0.11	0.21	38.6	D	
T	1666	3920	0.89	0.43	38.9	D	38.2 D
R	744	1750	0.08	0.43	20.6	C	

Intersection Delay = 34.9 (sec/veh) Intersection LOS = C

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: K. Tandoc  
 Agency/Co.: Wilson Okamoto Corp  
 Date Performed: 5/27/2005  
 Analysis Time Period: AM Peak Period  
 Intersection: Honoapiilani Hwy/Kekaa Dr  
 Jurisdiction: Maui  
 Units: U. S. Customary  
 Analysis Year: Existing Condition  
 Project ID: Royal Lahaina Resort  
 East/West Street: Kekaa Drive  
 North/South Street: Honoapiilani Hwy  
 Intersection Orientation: NS  
 Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1 L	2 T	3 R	4   L	5 T	6 R	
Volume	69	920			634	122	
Peak-Hour Factor, PHF	0.89	0.89			0.68	0.68	
Hourly Flow Rate, HFR	77	1033			932	179	
Percent Heavy Vehicles	2	--	--		--	--	
Median Type/Storage RT Channelized?	Undivided				/		
Lanes	1	2			2	0	
Configuration	L	T			T	TR	
Upstream Signal?		No			No		

Minor Street: Approach Movement	Westbound				Eastbound		
	7 L	8 T	9 R	10   L	11 T	12 R	
Volume							71
Peak Hour Factor, PHF							0.61
Hourly Flow Rate, HFR							116
Percent Heavy Vehicles							2
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage				/			/
Lanes							1
Configuration							R

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
v (vph)	77							116
C(m) (vph)	624							475
v/c	0.12							0.24
95% queue length	0.42							0.96
Control Delay	11.6							15.0+
LOS	B							C
Approach Delay							15.0+	
Approach LOS							C	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: K. Tandoc  
 Agency/Co.: Wilson Okamoto Corp  
 Date Performed: 5/27/2005  
 Analysis Time Period: PM Peak Period  
 Intersection: Honoapiilani Hwy/Kekaa Dr  
 Jurisdiction: Maui  
 Units: U. S. Customary  
 Analysis Year: Existing Condition  
 Project ID: Royal Lahaina Resort  
 East/West Street: Kekaa Drive  
 North/South Street: Honoapiilani Hwy  
 Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments							
Major Street:	Approach Movement	Northbound				Southbound	
		1 L	2 T	3 R	4   L	5 T	6 R
Volume		90	1248			652	170
Peak-Hour Factor, PHF		0.87	0.87			0.83	0.83
Hourly Flow Rate, HFR		103	1434			785	204
Percent Heavy Vehicles		2	--	--		--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	2			2	0
Configuration		L	T			T	TR
Upstream Signal?			No			No	

Minor Street:	Approach Movement	Westbound				Eastbound	
		7 L	8 T	9 R	10   L	11 T	12 R
Volume							105
Peak Hour Factor, PHF							0.66
Hourly Flow Rate, HFR							159
Percent Heavy Vehicles							2
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		/
Lanes							1
Configuration							R

Delay, Queue Length, and Level of Service								
Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L							R
v (vph)	103							159
C(m) (vph)	695							521
v/c	0.15							0.31
95% queue length	0.52							1.31
Control Delay	11.1							14.9
LOS	B							B
Approach Delay							14.9	
Approach LOS							B	



HCS2000: Signalized Intersections Release 4.1e

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Kannanpali Prkwy

Inter.: Honoapiilani Hwy/ Kaanapali  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Existing Conditions  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	2	0	1	0	2	2	0	1	2	1
LGConfig		LT	R			LTR	L		TR	L	T	R
Volume	147	3	287	13	5	2	467	955	19	8	1088	98
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			29			0			2			10

Duration	1.00	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green	27.5				27.0	50.5		
Yellow	4.0				4.0	4.0		
All Red	1.0				1.0	1.0		
				Cycle Length: 120.0 secs				

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	298	1301	0.57	0.23	43.7	D	26.9	C
R	1390	2803	0.21	0.50	17.1	B		
Westbound								
LTR	304	1328	0.14	0.23	37.1	D	37.1	D
Northbound								
L	855	3798	0.61	0.22	43.0	D		
TR	1645	3910	0.66	0.42	28.8	C	33.4	C
Southbound								
L	440	1956	0.03	0.22	36.3	D		
T	1650	3920	0.92	0.42	42.4	D	40.9	D
R	736	1750	0.17	0.42	21.7	C		
Intersection Delay = 35.9 (sec/veh)					Intersection LOS = D			

HCS2000: Signalized Intersections Release 4.1e

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Kaanapali Prkwy

Inter.: Honoapiilani Hwy/ Kaanapali  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Existing Conditions  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	2	0	1	0	2	2	0	1	2	1
LGConfig		LT	R			LTR	L		TR	L	T	R
Volume	301	1	563	7	2	8	478	991	13	34	1229	180
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			56			1			1			18

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru		A	
Right		A	A		Right		A	
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green		14.0	21.0			22.0	48.0	
Yellow		0.0	4.0			4.0	4.0	
All Red		0.0	1.0			1.0	1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	462	1774	0.79	0.29	48.5	D	29.5	C
R	1448	2803	0.42	0.52	18.1	B		
Westbound								
LTR	157	1349	0.24	0.12	48.9	D	48.9	D
Northbound								
L	696	3798	0.71	0.18	49.4	D		
TR	1565	3913	0.66	0.40	30.4	C	36.5	D
Southbound								
L	359	1956	0.11	0.18	41.0	D		
T	1568	3920	0.93	0.40	47.4	D	44.6	D
R	700	1750	0.28	0.40	24.5	C		
Intersection Delay = 38.3 (sec/veh)					Intersection LOS = D			

HCS2000: Signalized Intersections Release 4.1e

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Leialii St

Inter.: Honoapiilani Hwy/Leialii St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Existing Condition  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	1	2	0	1	2	0
LGConfig	LTR			LT R			L	TR		L TR		
Volume	1	0	1	35	0	25	3	1424	74	15	1181	0
Lane Width	12.0			12.0			12.0	12.0		12.0		
RTOR Vol	0			3			7			0		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	25.5				24.0		55.5	
Yellow	4.0				4.0		4.0	
All Red	1.0				1.0		1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
<b>Eastbound</b>								
LTR	343	1615	0.02	0.21	37.4	D	37.4	D
<b>Westbound</b>								
LT	299	1407	0.16	0.21	38.7	D	38.5	D
R	336	1583	0.09	0.21	38.0	D		
<b>Northbound</b>								
L	391	1956	0.01	0.20	38.5	D		
TR	1801	3894	0.92	0.46	39.5	D	39.5	D
<b>Southbound</b>								
L	391	1956	0.04	0.20	38.8	D		
TR	1813	3920	0.74	0.46	28.0	C	28.2	C

Intersection Delay = 34.5 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Leialii St

Inter.: Honoapiilani Hwy/Leialii St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Existing Condition  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	1	2	0	1	2	0
LGConfig	LTR			LT R			L	TR		L	TR	
Volume	3	0	6	86	0	48	3	1518	77	56	1809	9
Lane Width	12.0			12.0			12.0	12.0		12.0	12.0	
RTOR Vol	1			5			8			1		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	20.0				17.0 68.0			
Yellow	4.0				4.0 4.0			
All Red	1.0				1.0 1.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
<b>Eastbound</b>								
LTR	259	1552	0.08	0.17	42.4	D	42.4	D
<b>Westbound</b>								
LT	221	1324	0.46	0.17	46.7	D	45.6	D
R	264	1583	0.19	0.17	43.4	D		
<b>Northbound</b>								
L	277	1956	0.01	0.14	44.3	D		
TR	2207	3895	0.73	0.57	20.6	C	20.6	C
<b>Southbound</b>								
L	277	1956	0.24	0.14	46.2	D		
TR	2220	3917	0.97	0.57	45.8	D	45.9	D

Intersection Delay = 35.7 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1e

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Front St - Fleming Rd

Inter.: Honoapiilani Hwy/Front St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Existing Conditions  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	1
LGConfig	LTR			LTR			L	TR		L	T	R
Volume	136	2	0	109	17	8	2	1270	11	3	1100	212
Lane Width	12.0			12.0			12.0	12.0		12.0	12.0	12.0
RTOR Vol	0			1			1			21		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	31.0				24.0	50.0		
Yellow	4.0				4.0	4.0		
All Red	1.0				1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	322	1246	0.53	0.26	40.0	D	40.0	D
Westbound								
LTR	356	1380	0.49	0.26	38.8	D	38.8	D
Northbound								
L	391	1956	0.01	0.20	38.4	D		
TR	1632	3916	0.89	0.42	39.7	D	39.7	D
Southbound								
L	391	1956	0.01	0.20	38.5	D		
T	1633	3920	0.82	0.42	34.6	C	33.1	C
R	729	1750	0.32	0.42	23.8	C		
Intersection Delay = 36.6 (sec/veh)					Intersection LOS = D			

HCS2000: Signalized Intersections Release 4.1e

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Front St - Fleming Rd  
 Inter.: Honoapiilani Hwy/Front St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Existing Conditions  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	1
LGConfig	LTR			LTR			L	TR		L	TR	
Volume	204	11	5	57	9	11	13	1302	27	8	1450	320
Lane Width	12.0			12.0			12.0	12.0		12.0	12.0	12.0
RTOR Vol	1			1			3			32		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A		
Thru	A	A			Thru		A	
Right	A	A			Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0	9.5			16.0	57.5		
Yellow	0.0	4.0			4.0	4.0		
All Red	0.0	1.0			1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	375	1775	0.69	0.26	45.2	D	45.2	D
Westbound								
LTR	301	1641	0.42	0.18	44.3	D	44.3	D
Northbound								
L	261	1956	0.05	0.13	45.5	D		
TR	1873	3909	0.74	0.48	26.8	C	26.9	C
Southbound								
L	261	1956	0.04	0.13	45.4	D		
T	1878	3920	0.95	0.48	45.3	D	41.2	D
R	839	1750	0.42	0.48	20.8	C		
Intersection Delay = 36.5 (sec/veh)					Intersection LOS = D			

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**APPENDIX D**

**CAPACITY ANALYSIS CALCULATIONS**  
**PROJECTED YEAR 2009 PEAK HOUR TRAFFIC**  
**ANALYSIS WITHOUT PROJECT**

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HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Lower Honoapiilani Hwy

Inter.: Honopiilani/ Lower Honopiilani  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/out project  
 N/S St: Honopiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	1
LGConfig	LT R			LTR			L TR			L T R		
Volume	42	1	504	13	1	18	381	633	3	3	864	73
Lane Width	12.0 12.0			12.0			12.0 12.0			12.0 12.0 12.0		
RTOR Vol	288			0			0			7		

Duration	1.00	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A	A	
Thru	A	A			Thru	A	A	
Right	A	A			Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	18.0	16.0			30.5	45.5		
Yellow	0.0	4.0			0.0	4.0		
All Red	0.0	1.0			0.0	1.0		
Cycle Length: 120.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C	Delay	LOS	Delay LOS
Eastbound							
LT	436	1776	0.12	0.28	32.0	C	37.5 D
R	449	1583	0.57	0.28	38.6	D	
Westbound							
LTR	239	1594	0.21	0.15	45.2	D	45.2 D
Northbound							
L	566	1956	0.77	0.63	38.4	D	
TR	2476	3909	0.29	0.63	10.0-	A	20.6 C
Southbound							
L	267	703	0.01	0.38	23.3	C	
T	1483	3912	0.83	0.38	38.2	D	37.2 D
R	664	1750	0.14	0.38	24.5	C	
Intersection Delay = 30.6 (sec/veh)    Intersection LOS = C							



HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Lower Honoapiilani Hwy

Inter.: Honopiilani/ Lower Honopiilani  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/out project  
 N/S St: Honopiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	1
LGConfig	LT R			LTR			L	TR		L	T R	
Volume	64	0	597	4	0	8	554	840	3	16	954	85
Lane Width	12.0			12.0			12.0		12.0	12.0		
RTOR Vol	328			0			0			9		

Duration	1.00	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A	A	
Thru	A	A			Thru	A	A	
Right	A	A			Right	A	A	
Peds					Peds			
WB Left	A				SB Left		A	
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	11.0	22.0			39.0	38.0		
Yellow	0.0	4.0			0.0	4.0		
All Red	0.0	1.0			0.0	1.0		
Cycle Length: 120.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c g/C		Lane Group Delay	Approach LOS		
Eastbound								
LT	445	1774	0.17	0.28	33.3	C	43.3	D
R	435	1583	0.73	0.28	45.6	D		
Westbound								
LTR	147	1603	0.22	0.09	51.3	D	51.3	D
Northbound								
L	705	1956	0.87	0.64	44.5	D		
TR	2509	3910	0.37	0.64	10.2	B	23.8	C
Southbound								
L	180	569	0.11	0.32	29.2	C		
T	1239	3912	0.86	0.32	44.9	D	43.6	D
R	554	1750	0.15	0.32	29.6	C		
Intersection Delay = 33.8 (sec/veh)      Intersection LOS = C								

HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Puukolii Rd

Inter.: Honoapiilani Hwy/Puukolii  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/out project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	1	1	2	1	1	2	1
LGConfig	LT R			LT R			L	T	R	L	T	R
Volume	29	4	40	103	11	57	82	950	121	97	1299	62
Lane Width	12.0 12.0			12.0 12.0			12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol	4			6			12			6		

Duration	1.00	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	26.0				22.5		56.5	
Yellow	4.0				4.0		4.0	
All Red	1.0				1.0		1.0	
Cycle Length: 120.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C		Delay	LOS
Eastbound							
LT	248	1144	0.19	0.22	38.8	D	38.5 D
R	343	1583	0.15	0.22	38.2	D	
Westbound							
LT	283	1308	0.52	0.22	43.3	D	41.9 D
R	343	1583	0.19	0.22	38.7	D	
Northbound							
L	367	1956	0.25	0.19	42.0	D	
T	1842	3912	0.59	0.47	23.7	C	24.5 C
R	824	1750	0.15	0.47	18.2	B	
Southbound							
L	367	1956	0.35	0.19	43.0	D	
T	1842	3912	0.94	0.47	42.6	D	41.7 D
R	824	1750	0.09	0.47	17.6	B	
Intersection Delay = 35.3 (sec/veh)    Intersection LOS = D							

HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Puukolii Rd

Inter.: Honoapiilani Hwy/Puukolii  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/out project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	1	1	2	1	1	2	1
LGConfig	LT R			LT R			L	T	R	L	T	R
Volume	51	6	113	144	9	112	65	1299	105	65	1458	60
Lane Width	12.0			12.0			12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol	11			11			11			6		

Duration	1.00	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	29.5				20.5		55.0	
Yellow	4.0				4.0		4.0	
All Red	1.0				1.0		1.0	
Cycle Length: 120.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	235	957	0.31	0.25	37.8	D	37.8	D
R	389	1583	0.34	0.25	37.8	D		
Westbound								
LT	289	1177	0.60	0.25	43.6	D	41.1	D
R	389	1583	0.30	0.25	37.2	D		
Northbound								
L	334	1956	0.21	0.17	43.1	D		
T	1793	3912	0.78	0.46	29.7	C	29.6	C
R	802	1750	0.13	0.46	18.8	B		
Southbound								
L	334	1956	0.23	0.17	43.3	D		
T	1793	3912	0.95	0.46	45.0	D	44.0	D
R	802	1750	0.08	0.46	18.3	B		
Intersection Delay = 37.6 (sec/veh)					Intersection LOS = D			

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst:  
 Agency/Co.: Wilson Okamoto Corp  
 Date Performed: 5/27/2005  
 Analysis Time Period: AM Peak Period  
 Intersection: Honoapiilani Hwy/Kekaa Dr  
 Jurisdiction: Maui  
 Units: U. S. Customary  
 Analysis Year: Year 2009 w/out project  
 Project ID: Royal Lahaina Resort  
 East/West Street: Kekaa Drive  
 North/South Street: Honoapiilani Hwy  
 Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound	
		1 L	2 T	3 R	4   L	5 T	6 R
Volume		69	1063			764	122
Peak-Hour Factor, PHF		0.89	0.89			0.68	0.68
Hourly Flow Rate, HFR		77	1194			1123	179
Percent Heavy Vehicles		2	--	--		--	--
Median Type/Storage		Undivided				/	
RT Channelized?							
Lanes		1	2			2	0
Configuration		L	T			T	TR
Upstream Signal?			No			No	

Minor Street:	Approach Movement	Westbound				Eastbound	
		7 L	8 T	9 R	10   L	11 T	12 R
Volume							71
Peak Hour Factor, PHF							0.61
Hourly Flow Rate, HFR							116
Percent Heavy Vehicles							2
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		/
Lanes							1
Configuration							R

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound			
			4	7	8	9	10	11	12
Lane Config	L								R
v (vph)	77								116
C(m) (vph)	528								411
v/c	0.15								0.28
95% queue length	0.51								1.17
Control Delay	13.0								17.2
LOS	B								C
Approach Delay								17.2	
Approach LOS								C	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst:  
 Agency/Co.: Wilson Okamoto Corp  
 Date Performed: 5/27/2005  
 Analysis Time Period: PM Peak Period  
 Intersection: Honoapiilani Hwy/Kekaa Dr  
 Jurisdiction: Maui  
 Units: U. S. Customary  
 Analysis Year: Year 2009 w/out project  
 Project ID: Royal Lahaina Resort  
 East/West Street: Kekaa Drive  
 North/South Street: Honoapiilani Hwy  
 Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1 L	2 T	3 R	4 L	5 T	6 R	
Volume	90	1471			813	170	
Peak-Hour Factor, PHF	0.87	0.87			0.83	0.83	
Hourly Flow Rate, HFR	103	1690			979	204	
Percent Heavy Vehicles	2	--	--		--	--	
Median Type/Storage	Undivided				/		
RT Channelized?							
Lanes	1	2			2	0	
Configuration	L	T			T	TR	
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound				Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume							105
Peak Hour Factor, PHF							0.66
Hourly Flow Rate, HFR							159
Percent Heavy Vehicles							2
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage					/		
Lanes						1	
Configuration						R	

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
v (vph)	103							159
C(m) (vph)	586							449
v/c	0.18							0.35
95% queue length	0.64							1.63
Control Delay	12.5							17.4
LOS	B							C
Approach Delay							17.4	
Approach LOS							C	

HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Kannanpali Prkwy

Inter.: Honoapiilani Hwy/ Kaanapali  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/out project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	2	0	1	0	2	2	0	1	2	1
LGConfig	LT R			LTR			L TR			L T R		
Volume	153	3	287	13	5	2	467	1096	19	8	1249	113
Lane Width	12.0 12.0			12.0			12.0 12.0			12.0 12.0 12.0		
RTOR Vol	29			0			2			12		

Duration	1.00	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green	26.0				23.5		55.5	
Yellow	4.0				4.0		4.0	
All Red	1.0				1.0		1.0	
				Cycle Length: 120.0				secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	282	1301	0.63	0.22	47.1	D	30.2	C
R	1266	2787	0.23	0.45	20.1	C		
Westbound								
LTR	273	1258	0.16	0.22	38.4	D	38.4	D
Northbound								
L	743	3794	0.70	0.20	47.9	D		
TR	1805	3903	0.69	0.46	26.5	C	32.8	C
Southbound								
L	383	1956	0.03	0.20	39.1	D		
T	1809	3912	0.96	0.46	48.8	D	46.5	D
R	809	1750	0.17	0.46	18.9	B		
Intersection Delay = 38.8 (sec/veh)					Intersection LOS = D			

HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Kaananpali Prkwy

Inter.: Honoapiilani Hwy/ Kaanapali  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/out project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	2	0	1	0	2	2	0	1	2	1
LGConfig		LT	R		LTR		L	TR		L	T	R
Volume	316	1	563	7	2	8	478	1174	13	34	1438	190
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			56			1			1			19

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A	A		NB Left	A		
Thru		A	A		Thru		A	
Right		A	A		Right		A	
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green		10.5	23.5			20.0	51.0	
Yellow		0.0	4.0			4.0	4.0	
All Red		0.0	1.0			1.0	1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	462	1774	0.83	0.28	53.3	D	32.9	C
R	1370	2787	0.45	0.49	20.1	C		
Westbound								
LTR	126	1443	0.29	0.09	52.6	D	52.6	D
Northbound								
L	632	3794	0.78	0.17	54.4	D		
TR	1660	3906	0.74	0.43	30.6	C	37.5	D
Southbound								
L	326	1956	0.12	0.17	42.7	D		
T	1663	3912	0.96	0.43	53.1	D	49.7	D
R	744	1750	0.26	0.43	22.4	C		
Intersection Delay = 41.5 (sec/veh)					Intersection LOS = D			

HCS2000: Signalized Intersections Release 4.1d

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Leialii St

Inter.: Honoapiilani Hwy/Leialii St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Year 2009 w/out project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	1	2	0	1	2	0
LGConfig	LTR			LT R			L	TR		L TR		
Volume	1	0	0	35	0	25	3	1611	74	15	1351	0
Lane Width	12.0			12.0			12.0	12.0		12.0		
RTOR Vol	0			3			7			0		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				21.0		62.0	
Yellow	4.0				4.0		4.0	
All Red	1.0				1.0		1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C	Delay	LOS	Delay
							LOS
Eastbound							
LTR	295	1609	0.01	0.18	40.1	D	40.1 D
Westbound							
LT				0.18			
R	290	1583	0.10	0.18	40.9	D	
Northbound							
L	342	1956	0.01	0.17	40.9	D	
TR	2009	3888	0.93	0.52	36.4	D	36.5 D
Southbound							
L	342	1956	0.05	0.17	41.3	D	
TR	2021	3912	0.76	0.52	24.8	C	25.0 C

Intersection Delay = (sec/veh) Intersection LOS =



HCS2000: Signalized Intersections Release 4.1d

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Leialii St

Inter.: Honoapiilani Hwy/Leialii St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Year 2009 w/out project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	1	2	0	1	2	0
LGConfig	LTR			LT R			L	TR		L TR		
Volume	3	0	6	86	0	48	3	1754	77	56	2076	9
Lane Width	12.0			12.0			12.0	12.0		12.0	12.0	
RTOR Vol	0			5			8			1		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.0				11.5 76.5			
Yellow	4.0				4.0 4.0			
All Red	1.0				1.0 1.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	218	1540	0.11	0.14	45.1	D	45.1	D
Westbound								
LT	187	1320	0.55	0.14	51.3	D	49.6	D
R	224	1583	0.23	0.14	46.2	D		
Northbound								
L	187	1956	0.02	0.10	49.2	D		
TR	2480	3890	0.75	0.64	16.4	B	16.5	B
Southbound								
L	187	1956	0.36	0.10	52.0	D		
TR	2492	3909	1.00	0.64	53.7	D	53.6	D

Intersection Delay = 38.4 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1d

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Front St - Fleming Rd

Inter.: Honoapiilani Hwy/Front St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Year 2009 w/out project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	1
LGConfig	LTR			LTR			L	TR		L	TR	
Volume	136	2	0	109	17	8	2	1442	11	3	1262	212
Lane Width	12.0			12.0			12.0	12.0		12.0	12.0	
RTOR Vol	0			1			1			21		

Duration	1.00	Area Type:	All other areas					
Signal Operations								
Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	32.0				18.5	54.5		
Yellow	4.0				4.0	4.0		
All Red	1.0				1.0	1.0		
Cycle Length: 120.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C	Delay	LOS	Delay LOS
<b>Eastbound</b>							
LTR	331	1240	0.52	0.27	38.9	D	38.9 D
<b>Westbound</b>							
LTR	366	1371	0.48	0.27	37.9	D	37.9 D
<b>Northbound</b>							
L	302	1956	0.01	0.15	43.0	D	
TR	1775	3908	0.93	0.45	41.9	D	41.9 D
<b>Southbound</b>							
L	302	1956	0.01	0.15	43.0	D	
T	1777	3912	0.87	0.45	34.5	C	32.8 C
R	795	1750	0.29	0.45	20.8	C	
Intersection Delay = 37.3 (sec/veh)					Intersection LOS = D		

HCS2000: Signalized Intersections Release 4.1d

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Front St - Fleming Rd

Inter.: Honoapiilani Hwy/Front St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Year 2009 w/out project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	1
LGConfig	LTR			LTR			L	TR		L	TR	
Volume	204	11	5	57	9	11	13	1516	27	8	1632	320
Lane Width	12.0			12.0			12.0	12.0		12.0	12.0	
RTOR Vol	1			1			3			32		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A		
Thru	A	A			Thru		A	
Right	A	A			Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	16.5	12.0			13.0	63.5		
Yellow	0.0	4.0			4.0	4.0		
All Red	0.0	1.0			1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C	Delay	LOS	Delay LOS
<b>Eastbound</b>							
LTR	358	1775	0.72	0.24	49.3	D	49.3 D
<b>Westbound</b>							
LTR	221	1606	0.57	0.14	52.1	D	52.1 D
<b>Northbound</b>							
L	212	1956	0.07	0.11	48.2	D	
TR	2065	3903	0.78	0.53	24.6	C	24.8 C
<b>Southbound</b>							
L	212	1956	0.05	0.11	48.0	D	
T	2070	3912	0.97	0.53	48.6	D	43.9 D
R	926	1750	0.38	0.53	17.0	B	
Intersection Delay = 37.4 (sec/veh)					Intersection LOS = D		

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**APPENDIX E**

**CAPACITY ANALYSIS CALCULATIONS  
PROJECTED YEAR 2009 PEAK HOUR TRAFFIC  
ANALYSIS WITH PROJECT**

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HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Lower Honoapiilani Hwy

Inter.: Honopiilani/ Lower Honopiilani  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/ project  
 N/S St: Honopiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	1
LGConfig	LT R			LTR			L TR			L T R		
Volume	42	1	500	13	1	18	380	630	3	3	857	73
Lane Width	12.0		12.0	12.0			12.0	12.0		12.0	12.0	12.0
RTOR Vol	290			0			0			7		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A	A	
Thru	A	A			Thru	A	A	
Right	A	A			Right	A	A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	18.0	16.0			30.5	45.5		
Yellow	0.0	4.0			0.0	4.0		
All Red	0.0	1.0			0.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C	Delay	LOS	Delay
							LOS
Eastbound							
LT	436	1776	0.12	0.28	32.0	C	37.1 D
R	449	1583	0.56	0.28	38.1	D	
Westbound							
LTR	239	1594	0.21	0.15	45.2	D	45.2 D
Northbound							
L	566	1956	0.76	0.63	38.3	D	
TR	2476	3909	0.29	0.63	10.0-	A	20.6 C
Southbound							
L	267	705	0.01	0.38	23.3	C	
T	1483	3912	0.83	0.38	37.8	D	36.8 D
R	664	1750	0.14	0.38	24.5	C	
Intersection Delay = 30.4 (sec/veh) Intersection LOS = C							

HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Lower Honoapiilani Hwy

Inter.: Honopiilani/ Lower Honopiilani  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/ project  
 N/S St: Honopiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	1
LGConfig	LT		R	LTR			L	TR		L	T	R
Volume	64	0	596	4	0	8	553	838	3	16	953	85
Lane Width	12.0		12.0	12.0			12.0	12.0		12.0	12.0	12.0
RTOR Vol	328			0			0			9		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A	A	
Thru	A	A			Thru	A	A	
Right	A	A			Right	A	A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru	A		
Right	A				Right	A		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	11.0	22.0			39.0	38.0		
Yellow	0.0	4.0			0.0	4.0		
All Red	0.0	1.0			0.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Gp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	445	1774	0.17	0.28	33.3	C	43.1	D
R	435	1583	0.72	0.28	45.5	D		
Westbound								
LTR	147	1603	0.22	0.09	51.3	D	51.3	D
Northbound								
L	705	1956	0.87	0.64	44.0	D		
TR	2509	3910	0.37	0.64	10.2	B	23.6	C
Southbound								
L	180	570	0.11	0.32	29.2	C		
T	1239	3912	0.85	0.32	44.9	D	43.5	D
R	554	1750	0.15	0.32	29.6	C		
Intersection Delay = 33.7 (sec/veh) Intersection LOS = C								

HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Puukolii Rd

Inter.: Honoapiilani Hwy/Puukolii  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/ project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	1	1	2	1	1	2	1
LGConfig		LT	R		LT	R	L	T	R	L	T	R
Volume	29	4	40	103	11	57	82	946	121	97	1288	62
Lane Width		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			4			6			12			6

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		26.5				22.5	56.0	
Yellow		4.0				4.0	4.0	
All Red		1.0				1.0	1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	256	1161	0.18	0.22	38.3	D	38.1	D
R	350	1583	0.15	0.22	37.8	D		
Westbound								
LT	289	1310	0.51	0.22	42.6	D	41.3	D
R	350	1583	0.19	0.22	38.3	D		
Northbound								
L	367	1956	0.25	0.19	42.0	D		
T	1826	3912	0.59	0.47	24.0	C	24.8	C
R	817	1750	0.15	0.47	18.5	B		
Southbound								
L	367	1956	0.35	0.19	43.0	D		
T	1826	3912	0.94	0.47	43.0	D	42.0	D
R	817	1750	0.09	0.47	17.9	B		
Intersection Delay = 35.6 (sec/veh)					Intersection LOS = D			

HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Puukolii Rd

Inter.: Honoapiilani Hwy/Puukolii  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/ project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	1	1	2	1	1	2	1
LGConfig		LT	R		LT	R	L	T	R	L	T	R
Volume	51	6	113	144	9	112	65	1296	105	65	1456	60
Lane Width		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vol			11			11			11			6

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green		29.5				20.0	55.0	
Yellow		4.0				4.0	4.0	
All Red		1.0				1.0	1.0	

Cycle Length: 119.6 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	237	960	0.31	0.25	37.5	D	37.5	D
R	391	1583	0.34	0.25	37.5	D		
Westbound								
LT	291	1178	0.60	0.25	43.2	D	40.7	D
R	391	1583	0.29	0.25	37.0	D		
Northbound								
L	327	1956	0.21	0.17	43.3	D		
T	1801	3912	0.77	0.46	29.2	C	29.2	C
R	806	1750	0.13	0.46	18.5	B		
Southbound								
L	327	1956	0.23	0.17	43.5	D		
T	1801	3912	0.94	0.46	43.4	D	42.5	D
R	806	1750	0.08	0.46	18.1	B		

Intersection Delay = 36.8 (sec/veh) Intersection LOS = D



HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: K. Tandoc  
 Agency/Co.: Wilson Okamoto Corp  
 Date Performed: 5/27/2005  
 Analysis Time Period: AM Peak Period  
 Intersection: Honoapiilani Hwy/Kekaa Dr  
 Jurisdiction: Maui  
 Units: U. S. Customary  
 Analysis Year: Year 2009 w/ project  
 Project ID: Royal Lahaina Resort  
 East/West Street: Kekaa Drive  
 North/South Street: Honoapiilani Hwy  
 Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		50	1059			764	111
Peak-Hour Factor, PHF		0.89	0.89			0.68	0.68
Hourly Flow Rate, HFR		56	1189			1123	163
Percent Heavy Vehicles		2	--	--		--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	2			2	0
Configuration		L	T			T	TR
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume							64
Peak Hour Factor, PHF							0.61
Hourly Flow Rate, HFR							104
Percent Heavy Vehicles							2
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage					/		
Lanes							1
Configuration							R

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Lane Config	L							R
v (vph)	56							104
C(m) (vph)	535							416
v/c	0.10							0.25
95% queue length	0.35							0.99
Control Delay	12.5							16.5
LOS	B							C
Approach Delay							16.5	
Approach LOS							C	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: K. Tandoc  
 Agency/Co.: Wilson Okamoto Corp  
 Date Performed: 5/27/2005  
 Analysis Time Period: PM Peak Period  
 Intersection: Honoapiilani Hwy/Kekaa Dr  
 Jurisdiction: Maui  
 Units: U. S. Customary  
 Analysis Year: Year 2009 w/ project  
 Project ID: Royal Lahaina Resort  
 East/West Street: Kekaa Drive  
 North/South Street: Honoapiilani Hwy  
 Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound			Southbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		87	1468			813	168
Peak-Hour Factor, PHF		0.87	0.87			0.83	0.83
Hourly Flow Rate, HFR		99	1687			979	202
Percent Heavy Vehicles		2	--	--		--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		1	2			2	0
Configuration		L	T			T	TR
Upstream Signal?			No			No	

Minor Street:	Approach Movement	Westbound			Eastbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume							100
Peak Hour Factor, PHF							0.66
Hourly Flow Rate, HFR							151
Percent Heavy Vehicles							2
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage					/		/
Lanes							1
Configuration							R

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Config	L							R
v (vph)	99							151
C(m) (vph)	587							451
v/c	0.17							0.33
95% queue length	0.61							1.50
Control Delay	12.4							17.0
LOS	B							C
Approach Delay							17.0	
Approach LOS							C	

HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Kannanpali Prkwy

Inter.: Honoapiilani Hwy/ Kaanapali  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/ project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	2	0	1	0	2	2	0	1	2	1
LGConfig	LT R			LTR			L TR		L T R			
Volume	149	3	284	13	5	2	460	1077	19	8	1242	113
Lane Width	12.0		12.0	12.0			12.0	12.0	12.0 12.0 12.0			
RTOR Vol	29			0			2			12		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right	A		
SB Right					WB Right			
Green	25.5				24.0	55.5		
Yellow	4.0				4.0	4.0		
All Red	1.0				1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	277	1302	0.62	0.21	47.2	D	30.2	C
R	1266	2787	0.23	0.45	20.0+	C		
Westbound								
LTR	267	1257	0.16	0.21	38.8	D	38.8	D
Northbound								
L	759	3794	0.67	0.20	46.8	D		
TR	1805	3903	0.67	0.46	26.2	C	32.3	C
Southbound								
L	391	1956	0.03	0.20	38.6	D		
T	1809	3912	0.95	0.46	46.9	D	44.8	D
R	809	1750	0.17	0.46	18.9	B		
Intersection Delay = 37.8			(sec/veh)		Intersection LOS = D			

HCS2000: Signalized Intersections Release 4.1d

Analyst: Ktandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/25/05  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Kaanapali Prkwy

Inter.: Honoapiilani Hwy/ Kaanapali  
 Area Type: All other areas  
 Jurisd: Island of Maui  
 Year : Year 2009 w/ project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	2	0	1	0	2	2	0	1	2	1
LGConfig		LT	R		LTR		L	TR		L	T	R
Volume	313	1	562	7	2	8	477	1171	13	34	1433	190
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	12.0
RTOR Vol			56			1			1			19

Duration	1.00	Area Type:	All other areas				
Signal Operations							
Phase Combination	1	2	3 4	5	6	7	8
EB Left	A	A		NB Left	A		
Thru	A	A		Thru		A	
Right	A	A		Right		A	
Peds				Peds			
WB Left		A		SB Left	A		
Thru		A		Thru		A	
Right		A		Right		A	
Peds				Peds			
NB Right				EB Right	A		
SB Right				WB Right			
Green		10.5	23.5		20.0	51.0	
Yellow		0.0	4.0		4.0	4.0	
All Red		0.0	1.0		1.0	1.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	462	1774	0.82	0.28	52.2	D	32.4	C
R	1370	2787	0.45	0.49	20.1	C		
Westbound								
LTR	126	1444	0.29	0.09	52.6	D	52.6	D
Northbound								
L	632	3794	0.78	0.17	54.3	D		
TR	1660	3906	0.73	0.43	30.6	C	37.4	D
Southbound								
L	326	1956	0.12	0.17	42.7	D		
T	1663	3912	0.96	0.43	51.7	D	48.5	D
R	744	1750	0.26	0.43	22.4	C		
Intersection Delay = 40.9 (sec/veh)					Intersection LOS = D			

HCS2000: Signalized Intersections Release 4.1e

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Leialii St

Inter.: Honoapiilani Hwy/Leialii St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Year 2009 w/ project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	1	2	0	1	2	0
LGConfig	LTR			LT R			L	TR		L TR		
Volume	1	0	0	35	0	25	3	1585	74	15	1341	0
Lane Width	12.0			12.0			12.0	12.0		12.0		
RTOR Vol	0			3			7			0		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0				22.0			61.0
Yellow	4.0				4.0			4.0
All Red	1.0				1.0			1.0

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	298	1624	0.01	0.18	40.1	D	40.1	D
Westbound								
LT				0.18				
R	290	1583	0.10	0.18	40.9	D		
Northbound								
L	359	1956	0.01	0.18	40.1	D		
TR	1980	3896	0.93	0.51	36.9	D	36.9	D
Southbound								
L	359	1956	0.05	0.18	40.4	D		
TR	1993	3920	0.76	0.51	25.6	C	25.7	C

Intersection Delay = (sec/veh) Intersection LOS =

HCS2000: Signalized Intersections Release 4.1d

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Leialii St

Inter.: Honoapiilani Hwy/Leialii St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Year 2009 w/ project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	1	2	0	1	2	0
LGConfig	LTR			LT R			L	TR		L TR		
Volume	3	0	6	86	0	48	3	1750	77	56	2070	9
Lane Width	12.0			12.0			12.0	12.0		12.0	12.0	
RTOR Vol	0			5			8			1		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A				NB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
WB Left	A				SB Left	A		
Thru	A				Thru		A	
Right	A				Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	17.0				11.5 76.5			
Yellow	4.0				4.0 4.0			
All Red	1.0				1.0 1.0			

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c g/C		Lane Group Delay LOS		Approach Delay LOS	
Eastbound								
LTR	218	1540	0.11	0.14	45.1	D	45.1	D
Westbound								
LT	187	1320	0.55	0.14	51.3	D	49.6	D
R	224	1583	0.23	0.14	46.2	D		
Northbound								
L	187	1956	0.02	0.10	49.2	D		
TR	2480	3890	0.75	0.64	16.4	B	16.4	B
Southbound								
L	187	1956	0.36	0.10	52.0	D		
TR	2492	3909	0.99	0.64	51.3	D	51.3	D

Intersection Delay = 37.1 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1d

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: AM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Front St - Fleming Rd

Inter.: Honoapiilani Hwy/Front St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Year 2009 w/ project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	1
LGConfig	LTR			LTR			L	TR		L	T	R
Volume	125	2	0	109	17	8	2	1427	11	3	1256	208
Lane Width	12.0			12.0			12.0	12.0		12.0	12.0	12.0
RTOR Vol	0			1			1			21		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		A			NB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	30.0				20.5	54.5		
Yellow	4.0				4.0	4.0		
All Red	1.0				1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	313	1252	0.50	0.25	40.0	D	40.0	D
Westbound								
LTR	346	1382	0.50	0.25	39.8	D	39.8	D
Northbound								
L	334	1956	0.01	0.17	41.3	D		
TR	1775	3908	0.92	0.45	40.3	D	40.3	D
Southbound								
L	334	1956	0.01	0.17	41.3	D		
T	1777	3912	0.86	0.45	34.3	C	32.5	C
R	795	1750	0.29	0.45	20.8	C		
Intersection Delay = 36.6 (sec/veh)					Intersection LOS = D			

HCS2000: Signalized Intersections Release 4.1d

Analyst: K. Tandoc  
 Agency: Wilson Okamoto Corp  
 Date: 5/27/2005  
 Period: PM Peak Period  
 Project ID: Royal Lahaina Resort  
 E/W St: Front St - Fleming Rd

Inter.: Honoapiilani Hwy/Front St  
 Area Type: All other areas  
 Jurisd: Maui  
 Year : Year 2009 w/ project  
 N/S St: Honoapiilani Hwy

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	0	1	2	1
LGConfig	LTR			LTR			L	TR		L	T	R
Volume	202	11	5	57	9	11	13	1514	27	8	1628	318
Lane Width	12.0			12.0			12.0	12.0		12.0	12.0	12.0
RTOR Vol	1			1			3			32		

Duration 1.00 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	A		
Thru	A	A			Thru		A	
Right	A	A			Right		A	
Peds					Peds			
WB Left		A			SB Left	A		
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	16.0	12.5			13.0	63.5		
Yellow	0.0	4.0			4.0	4.0		
All Red	0.0	1.0			1.0	1.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/C	Delay	LOS	Delay LOS
Eastbound							
LTR	360	1775	0.71	0.24	48.6	D	48.6 D
Westbound							
LTR	213	1601	0.60	0.13	53.5	D	53.5 D
Northbound							
L	212	1956	0.07	0.11	48.2	D	
TR	2065	3903	0.78	0.53	24.5	C	24.7 C
Southbound							
L	212	1956	0.05	0.11	48.0	D	
T	2070	3912	0.97	0.53	47.4	D	42.9 D
R	926	1750	0.38	0.53	16.9	B	
Intersection Delay = 36.8 (sec/veh)					Intersection LOS = D		



# ***Appendix H-1***

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## ***Supplemental Traffic Assessment Report***

# Construction Traffic Management Plan

## Royal Lahaina Resort Revitalization

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Submitted to:  
**Royal Lahaina  
Development Group, LLC**



Submitted by:  
**Wilson Okamoto Corporation**

May 2006

**CONSTRUCTION TRAFFIC MANAGEMENT PLAN**

**ROYAL LAHAINA RESORT  
REVITALIZATION**

*Prepared for:*

Royal Lahaina Development Group, LLC

*Prepared by:*

Wilson Okamoto Corporation  
1907 South Beretania Street  
Honolulu, Hawaii 96826  
WOC Ref: 7411-01

May 2006

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**LIST OF EXHIBITS**

<b>EXHIBIT 1</b>	<b>Location and Vicinity Map</b>
<b>EXHIBIT 2</b>	<b>Proposed Site Plan</b>
<b>EXHIBIT 3</b>	<b>Proposed Demolition Plan</b>
<b>EXHIBIT 4</b>	<b>Construction Phasing Plan</b>

## **I. INTRODUCTION**

### **A. Purpose of Plan**

The purpose of this plan is to outline the proposed construction process for the Royal Lahaina Resort Revitalization Project and to identify the construction operations and activities as it relate to construction-related traffic. The primary components of the project include approximately 330 hotel units in an existing 12-story tower, and approximately 126 condominium/hotel units in 8 new buildings. The other proposed project components include new and renovated dining facilities, spa and activity center, a Keiki Center, services building, retail spaces, and other miscellaneous support facilities.

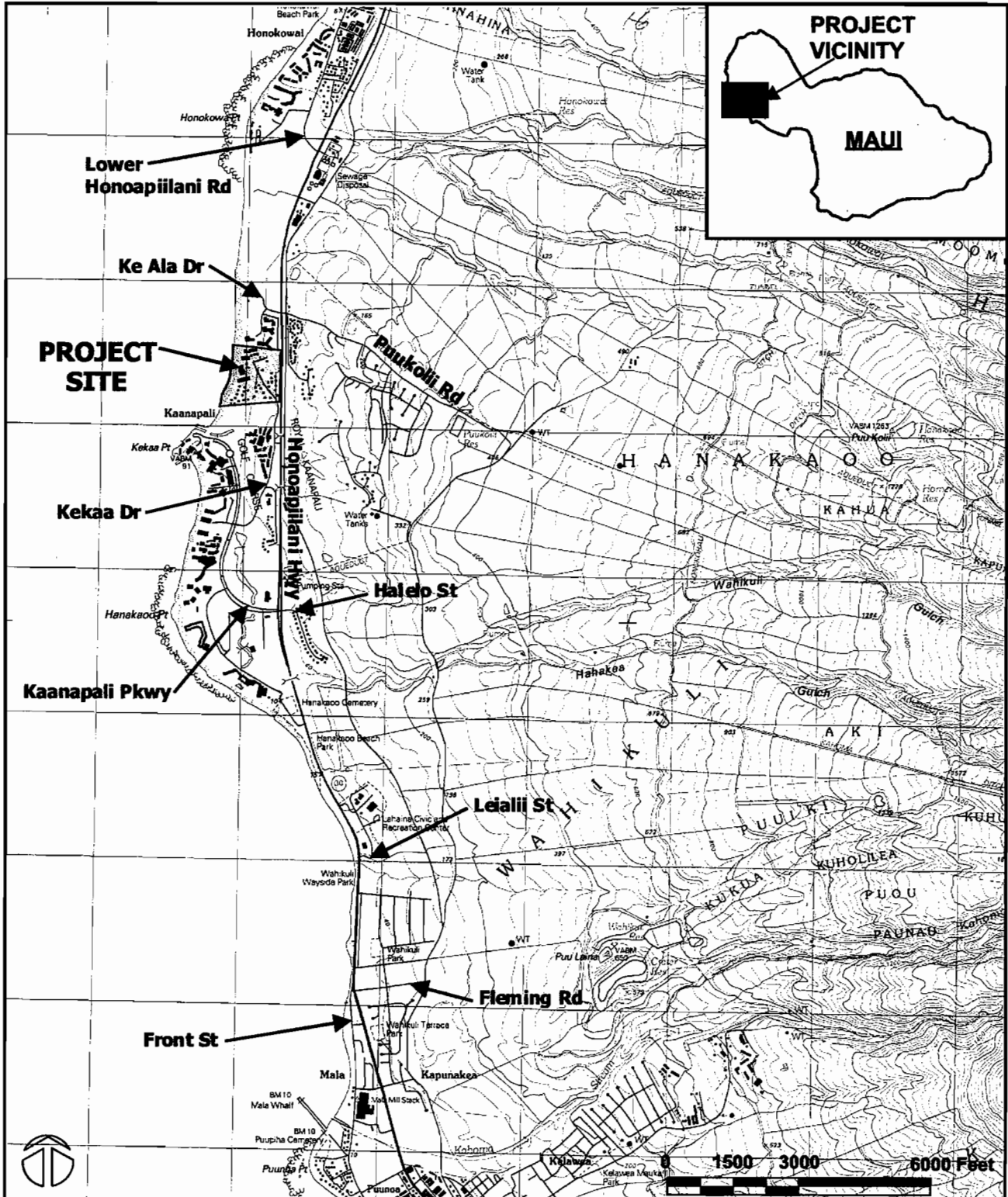
### **B. Construction Activities**

The Royal Lahaina Resort Revitalization Project (the Project) will consist of demolition, construction, and renovation work at the existing Royal Lahaina Resort site. The work is planned to begin in early 2007 and continue for three years until its anticipated completion in late 2009 or early 2010. The existing hotel is expected to continue operating during the construction period. Special provisions to accommodate guests for items such as access, parking, and other services will be initiated to minimize disruptions to hotel operations during the construction period. Road or lane closures on public streets are not anticipated and therefore should not affect traffic flow in the vicinity as a result of construction-related activities. Silt fences and dust screens will be provided to prevent debris from affecting the surrounding properties or its residents.

## **II. PROJECT DESCRIPTION**

### **A. Location**

The existing Royal Lahaina Resort is located in Kaanapali near the northern terminus of Kekaa Drive makai of Honoapiilani Highway (State Route 30) along the ocean coastline. The project site is further identified as Tax Map Keys: 4-4-08: 07 and 13. Existing vehicular access to the resort from Honoapiilani Highway is currently provided via Kekaa Drive. Figure 1 shows the Location and Vicinity Map.



  
**WILSON OKAMOTO  
 CORPORATION**  
 ENGINEERS - PLANNERS

**ROYAL LAHAINA RESORT REVITALIZATION**

**Location Map and Vicinity Map**

**FIGURE**  
1

**B. Project Characteristics**

The existing Royal Lahaina Resort houses approximately 344 hotel units in a 12-story tower, approximately 65 units in a 3-story building, approximately 131 units in 22 guest cottages, and approximately 43 long-term rental units. The proposed project, which is assumed to be completed by the Year 2009, would entail the following:

- Renovation of the 12-story tower to provide 330 hotel units
- Replacement of the existing 3-story building, 22 guest cottages, and 43 long-term rental units with approximately 126 condominium/hotel units in 8 new buildings.
- Construction of a two-story sub terrain parking structure
- Provision of amenities such as a restaurant(s), bar, recreation center, general store, spa, owner services, activity center, tennis courts, basketball/sport court, golf driving cages, golf cart parking, trolley turnaround, and service and maintenance buildings.

The proposed project is anticipated to reduce the total unit count at the resort, as well as, alter some of the existing resort uses and, as such, is expected to reduce traffic demands in the vicinity. Access to the resort from Honoapiilani Highway will still be provided via Kekaa Drive. Figure 2 shows the Proposed Site Plan as depicted in the Royal Lahaina Resort Revitalization, Draft Environmental Assessment, Special Management Area Use Permit and Shoreline Setback Variance Applications.

**III. CONSTRUCTION PROVISIONS**

**A. General**

A Construction Manager or a designated representative will be identified and will be located on-site working out of the Construction Management Office (CMO) during the entire construction duration. The CMO will monitor the construction work and direct use of special traffic control actions as appropriate to maintain access to adjacent properties in as safe and efficient manner as possible. Since the access road to the project site terminates at the project site, adverse traffic conditions as a result of construction-related traffic, is not expected to be significant.





**B. Coordination With Other Construction Projects**

The Project CMO will coordinate and revise traffic control plans and schedules as appropriate in response to other construction activities and repair work that may affect traffic and pedestrian access in the area should the need arises. At this writing, there are no known construction projects in the immediate vicinity that would affect construction-related activities for the Royal Lahaina Resort Revitalization Project.

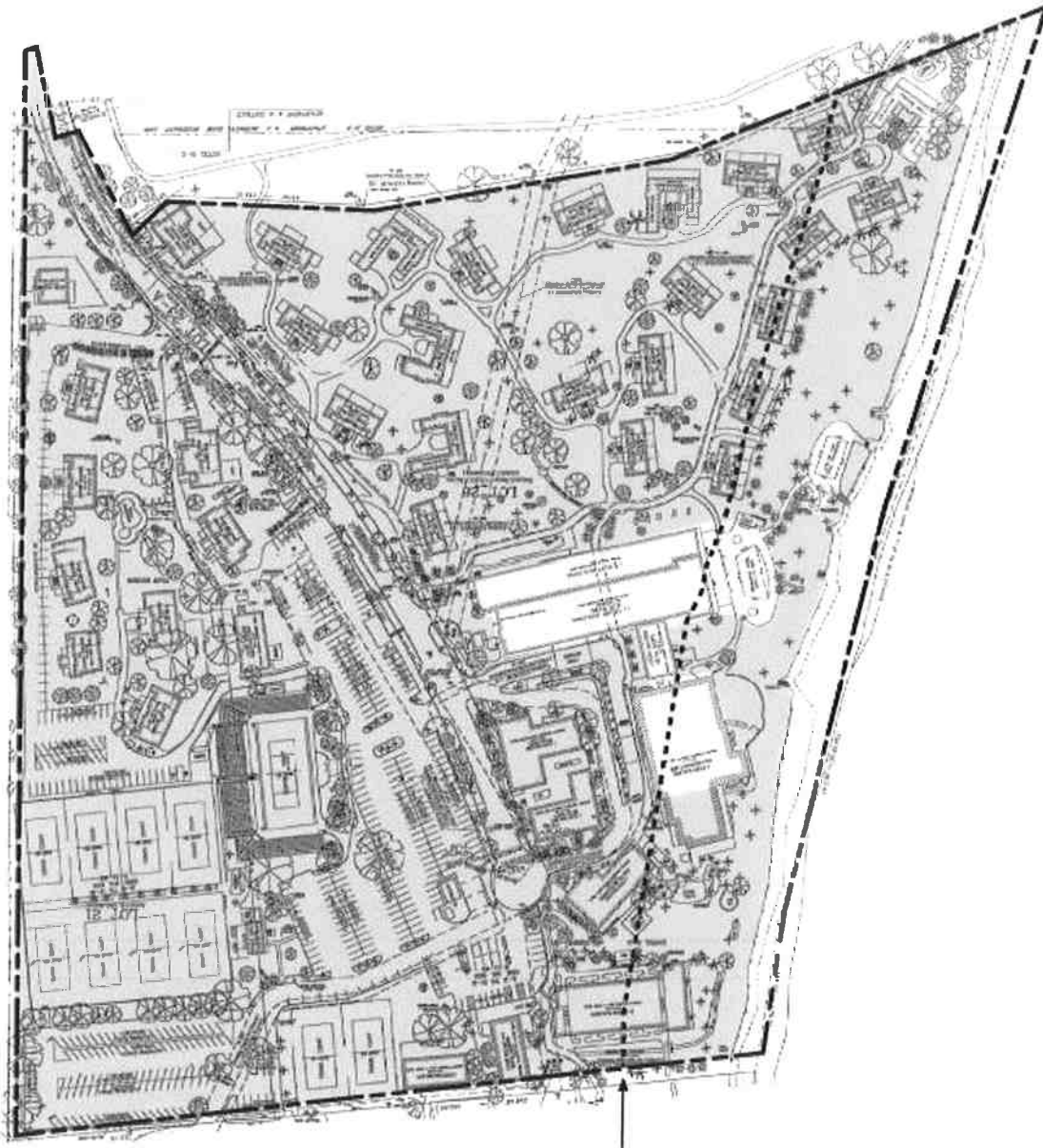
**C. Construction Phasing**

The construction of the Project will be planned in four primary phases. Included in these phases are the appropriate infrastructure facilities, building structures, and landscaping. The construction phasing is anticipated to minimize disruption for hotel guests and minimize impacts to the surrounding areas. Figure 3 shows the Proposed Demolition Plan, and Figure 4 shows the proposed Construction Phasing Plan as depicted in the Royal Lahaina Resort Revitalization, Draft Environmental Assessment, Special Management Area Use Permit and Shoreline Setback Variance Applications.

The first phase includes the construction of the entrance and commercial areas which includes the entrance roadway, entrance guard house, 16 public access parking stalls, parking structure, general store, building lobby, and other general activities and service facilities. During construction, 16 public beach access parking stalls will be maintained or relocated at the most convenient location as necessary throughout the construction period. Signs will be posted to clearly mark the designated beach access parking stalls, with provisions to also continuously maintain a safe and convenient beach access.

The second phase includes the construction of a new condominium/hotel building located on the southwest portion of the site. The condominium/hotel will consist of approximately 62 units and associated amenities.

The third phase also includes the construction of new condominium/hotel building consisting of approximately 28 units located on the northwest side of the



TO BE DEMOLISHED  
 TO REMAIN

NOTE:

- SOME TREES TO BE RELOCATED
- LANDSCAPING WITHIN SETBACK AND SOUTH/GOLF COURSE AREA TO BE REVITALIZED



Not to Scale

Source: WCIT Architecture



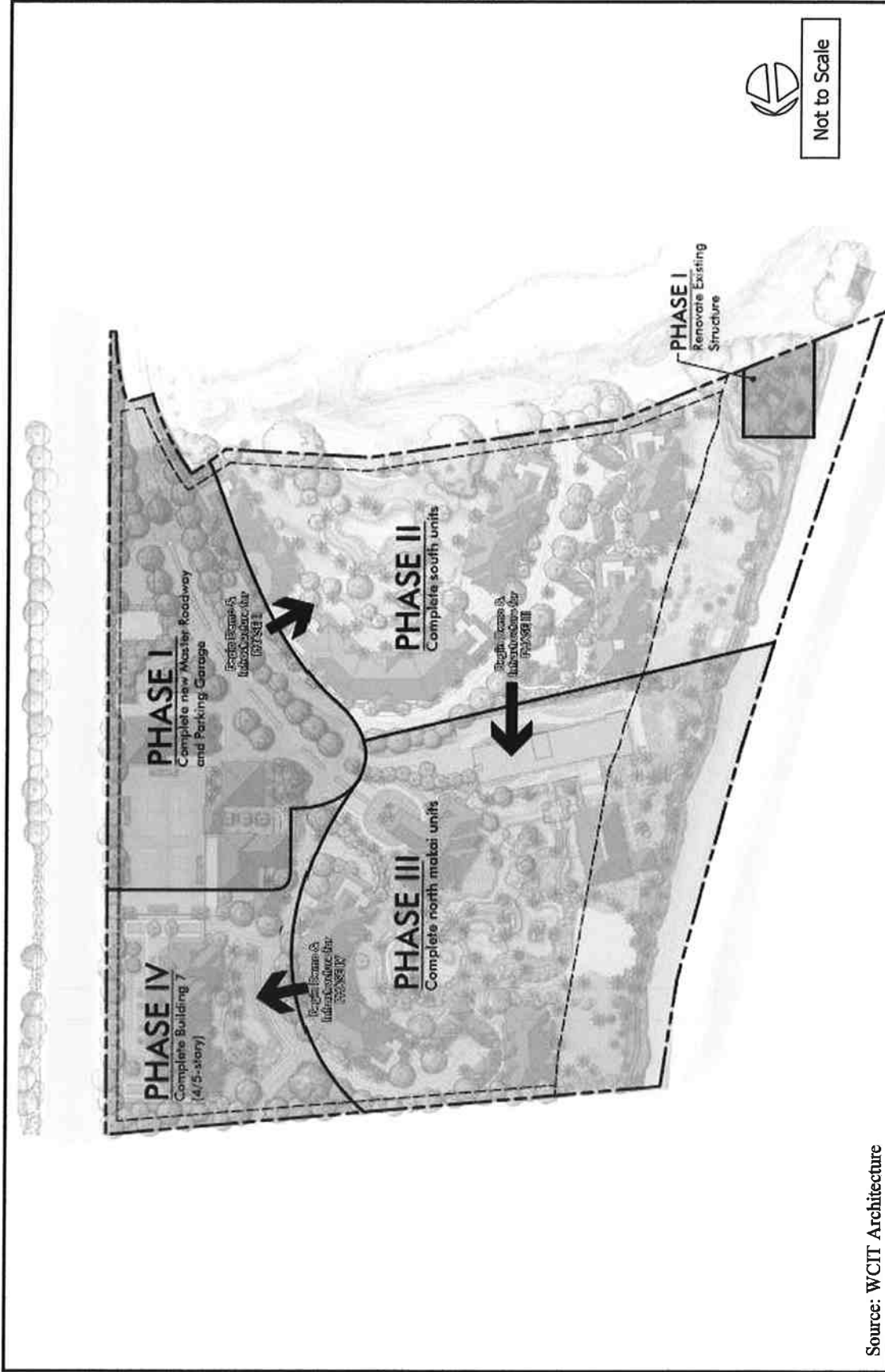
**WILSON OKAMOTO CORPORATION**  
 ENGINEERS - PLANNERS

**ROYAL LAHAINA RESORT REVITALIZATION**

**Demolition Plan**

FIGURE

3



Source: WCIT Architecture

**WILSON OKAMOTO CORPORATION**  
ENGINEERS - PLANNERS

**ROYAL LAHAINA RESORT REVITALIZATION**

**Phasing Plan**

**FIGURE**

**4**

project site. Along with the condominium/hotel units, associated amenities such as a swimming pool and water feature will be constructed in this phase.

The fourth and final phase includes the construction of approximately 36 condominium/hotel units located on the northeast side of the project site. Included in this phase is the construction of a new pool and water feature, and additional underground parking areas.

#### **IV. CONSTRUCTION TRAFFIC**

##### **A. Operations**

##### **1. Phase 1**

Construction parking will be provided on the project site within the designated construction area. Approximately 10 to 15 construction-related vehicles will be parked on-site at any one time during the construction of Phase 1, and will be clearly marked with identification. Information on construction access and designated construction parking areas will be provided to the construction personnel by the CMO. Construction signs will clearly identify the construction areas and will be located at the entrance to avoid potential confusion by hotel guests or employees. Throughout this phase of construction, 16 public beach-access parking stalls will be maintained and clearly marked with applicable signage. When the existing public beach access parking stalls are reconstructed, alternate parking areas will be designated and clearly marked for public use. Approximately six to ten truckloads per day is anticipated for two weeks during the demolition period, reducing to two to three truckloads per day for an additional two weeks. During the physical construction, approximately two to four concrete or material delivery trucks per day for two weeks is anticipated for Phase 1. Notification of definite dates for demolition hauling, or concrete and material delivery will be provided to neighboring properties by the CMO as information becomes available throughout the construction process. Designated walkways with appropriate signage to inform guests of safe pedestrian routes in and around the construction area will be provided.

Likewise, the public beach access route will be maintained with appropriate shielding from the construction area as necessary.

## **2. Phase 2**

Phase 2 will be located on the southwest side of the project side, adjacent to the public beach access and golf course. Similar to the previous phase, hotel guests and the public beach access parking will be utilized to accommodate all parking demands. Construction traffic will access the property via the existing access road with definitive signage clearly indicating the respective parking uses. Approximately 10 to 15 construction-related vehicles will be parked on the construction site during any one time throughout the Phase 2 construction period. Approximately six to eight truckloads per day is anticipated for two weeks during the demolition period, reducing to two to four truckloads per day for an additional two weeks. During the physical construction, approximately two to four concrete or material delivery trucks per day for four weeks is anticipated for the Phase 2 construction. As with all phases of the project, the CMO will notify neighboring properties when definite dates for demolition hauling, or concrete or material delivery become available. Designated walkways with appropriate signage to inform guests of safe pedestrian routes around the construction area will be provided. Similar to the previous phase, the public beach access route will be maintained with appropriate shielding from the construction area as necessary.

## **3. Phase 3**

Phase 3 includes demolition and construction work on the northwest side of the site. Phases 1 and 2 are planned to be open or nearly open when construction begins on Phase 3. This will allow the use of expanded parking areas on the project site and minimize vehicular conflicts between construction vehicles, hotel guests, and the public. Construction vehicles will continue to traverse through the completed Phase 1 and 2 portions of the project and will enter the Phase 3 construction area at designated entrances.

Approximately ten to fifteen construction-related vehicles will be present on the construction site at any one time throughout the construction of the Phase 3 portion. During demolition, approximately three to five truckloads per day is anticipated for three weeks during the demolition period, reducing to a maximum of two truckloads per day for an additional three weeks. During the physical construction, approximately two to four concrete or material delivery trucks per day for four weeks is anticipated for Phase 3. The CMO will notify neighboring properties of the definite dates for demolition hauling, or concrete and material delivery become available. Designated walkways with appropriate signage to inform guests of safe pedestrian routes in and around the construction area will be provided. Likewise, the public beach access route will be maintained with appropriate shielding from the construction area as necessary.

#### **4. Phase 4**

Phase 4 is the final primary phase of construction and is located at the northeast corner of the site, and farthest-most location from hotel guest activity or the public beach access. Nevertheless, construction vehicles may need to traverse through the newly completed previous phases. As a result, and similar to other phases of the project, special attention will be given to the presence of construction-related vehicles, hotel guests, and public beach goers co-mingling in the same vicinity with appropriate signage and clear direction for all users. Approximately 10 to 15 construction-related vehicles will be parked on the construction site during any one time throughout the Phase 4 construction period. Approximately four to six truckloads per day is anticipated for two weeks during the demolition period, reducing to one to two truckloads per day for an additional two weeks. During the physical construction, approximately two to four concrete or material delivery trucks per day for three weeks is anticipated for Phase 4. The CMO will notify neighboring properties when definite dates for demolition hauling, or concrete and material delivery become available. Designated walkways with

appropriate signage to inform guests of safe pedestrian routes in and around the construction area will be provided. Likewise, the public beach access route will be maintained with appropriate shielding from the construction area as necessary.

**B. Maintenance of Access and Circulation**

If necessary, due to construction methods and requirements, the CMO will determine the need for Special Duty Police Officers (SDPO). Consideration for SDPOs should be given when construction activities impact the public streets or when safety for the motoring public is of concern. However, given the physical layout and access provided to the project site, SDPOs are not necessary since the access road to the site terminates at the property with no bypass traffic occurring on the roadway. Traffic on the access road leading to the site would primarily comprise of several types including hotel guest and employees, public beach goers, or construction-related traffic. Each trip type is associated with a particular destination. With each of the trip type distinction, directional signs and designated parking areas should be sufficient to be accommodated on the project site.

**C. Public Beach Access**

The existing public beach access is located along the southern boundary of the project site and provides access to the beach from the parking area. Designated beach parking will be provided and maintained throughout the duration of the construction phases. The beach access route from the parking area will also be maintained throughout the construction duration with the necessary shielding provided to ensure a safe environment from construction activities. When the beach access parking stalls are reconstructed, alternate parking areas with the same amount or more parking stalls will be provided, and be located at the most convenient and feasible area for its users.

**D. Work Hours**

The work hours should conform to County of Maui provisions for the area, with construction work occurring between 8:00 AM and 4:00 PM on weekdays, with activities involving high noise levels starting after 9:00 AM. The CMO will ensure that construction work follow the restricted time periods.



## **V. ACTIONS TO MINIMIZE IMPACTS**

### **C. Information and Communications**

The following are actions to ensure that information and the communication of information are provided to all involved during the project construction:

1. Establish a Construction Management Office and appoint a Construction Manager to disseminate information to construction personnel, hotel employee and guests, and neighboring properties. The Construction Manager (CM) shall serve as the primary contact person during construction and shall resolve construction-related disputes, take action of neighboring or public complaints, notify emergency service personnel, and adjust site access provisions as necessary.
2. The CMO shall monitor the number of inquiries or complaints regarding construction and consider establishing a “hotline” for complaints or informational updates if such inquiries become excessive.
3. Develop an “Emergency Contact List” and distribute to all interested parties should an issue, complaint, or any other situation require immediate attention.
4. Ensure appropriate signage and directional markings are provided to direct the various trip types entering the area.
5. Maintain appropriate number of public beach access parking stalls with clearly marked signage or markings. The CMO will be responsible for ensuring hotel guests and employees, and construction workers do not park in these designated stalls.
6. Establish a communication program and conduct regular informational meetings with the neighboring residents or any other applicable entity to provide construction updates.

### **D. Construction Activities**

1. Ensure that only appropriate construction vehicles enter the designated construction area. The CMO shall also ensure that adequate barriers

are provided that will restrict unauthorized vehicles and persons from entering construction area.

2. The CMO shall coordinate with the construction contractors in establishing potential off-site parking locations of which construction workers can be transported to and from the construction site, reducing and minimizing the number of vehicles in the area.
3. The CMO, in conjunction with construction personnel, shall establish a timeline and definitive plan with specific dates identifying debris hauling, material delivery, and other construction-related traffic generation to minimize the number of trucks entering the project site at the same time. If possible and feasible, the arrival and departure times of large trucks should be spaced apart as practical as possible and not occur during peak periods of traffic to minimize potential traffic impacts in the area.
4. Daily construction activities shall be confined to periods determined by the County of Maui or other applicable regulatory agency. The CMO shall ensure that these restrictions are followed.

# ***Appendix I***

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## ***Demolition and Recycling Plan***

# Royal Lahaina Resort Revitalization Project Demolition and Recycling Management Plan

Preliminary

March 17, 2006

Prepared by:

**Island Demo, Inc.**



**DEMOLITION SPECIALISTS**

**Island Demo, Inc.**

**2769 Kilihau St.**

**Honolulu, HI 96819**

**(808) 839-5522**

**LIC NO. C-17981 C-19/C-24 ASE Certified**



Prepared for

**PROJECT MANAGER:**

**Michael Wright & Associates, Inc.**

**Project & Construction Management**

**Michael Wright & Associates, Inc..**

**2145 Wells Street, Suite #305**

**Wailuku, HI 96793**

**(808) 244-1600**

## **1.0 INTRODUCTION**

Per the request of Michael Wright & Associates (“MWA”)’ the project manager/construction manager for the Royal Lahaina Revitalization Project, Island Demo is pleased to provide a proposal for Demolition and Recycling services. In addition, Island Demo has prepared a Safety Work Plan for the Royal Lahaina Resort Revitalization Project. The Plan attempts to detail the means and methods planned for the total demolition of multiple existing structures associated with the Royal Lahaina Resort, Maui, Hawaii. This plan encompasses general site procedures and specific operations based upon probable demolition techniques. The plans and procedures are subject to change during the removal process due to safety and efficiency concerns, as well as requirements and recommendations from the Building Department.

MWA and Island Demo, Inc.’s goal is to implement procedures and site-specific work measures to ensure a safe working environment at all times. Every member of the team understands and is committed to safety as a core value held by both companies, and supports the goal of zero accidents. Island Demo is committed to no injuries in the workplace throughout the duration of the project.

Accountability for safety is the responsibility of every employee, contractor and sub-contractors. A specific process used to measure performance is event reporting and accident investigations, which is monitored by the risk management departments of Island Demo, Inc., Royal Lahaina Development Group, LLC, MWA and the general contractor that will be selected in the future. Results are communicated to every employee, contractor and subcontractor and feedback is sought to continuously improve performance and safety measures. Safety performance is specifically factored into all administrative actions relating to total compensation, including but not limited to raises, bonuses, and promotions of each employee. Tracking occurs at the corporate level and the resulting information passed through to the Corporate Officers in real time.

Personal involvement of every employee, contractor and subcontractor is critical for the success of the process, the employee and the outcomes. The individual employee must understand what is expected of them and the consequences if performance standards are not met. Each employee, contractor and subcontractor is provided with an orientation at hire and performance expectations are clearly communicated. The process is continued at the jobsites through site specific performance briefings, safety committees, and work review processes involving employee review and input. Safety is a core value factored into every action taken by Island Demo, Inc.

## **2.0 SITE INFORMATION**

The site is accessed by Kekaa Drive and consists of a 12-story hotel structure with a central lobby, dining facility and retail shops, a 3-story hotel structure, 1 and 2 story cottages, various 1 story structures of retail, restaurants, and salon, tennis courts and stadium, Luau grounds and Ballroom facility.

### **3.0 EXISTING HAZARDS**

In general, abatement of universal wastes (PCBs, Fluorescent tubes, etc.), asbestos containing materials, lead based paint, reclamation of refrigerants (Freon) and the removal of all other hazardous materials will be completed prior to demolition.

Work performed overhead is generally the most hazardous in demolishing large-scale structure is from performing work overhead. All potential hazards will be mitigated by site control measures and demolition techniques designed specifically for this project and the minimization of risk to the community.

Control of dust and other fugitive emissions is critical to protect personnel, the general public, and the environment. Potential lead contamination is of paramount concern relative to this project. Initial tests of lead containing material will be performed and analyzed. TCLP's will be performed and the results thoroughly reviewed. Air monitoring will take place during the performance of demolition activities to establish a Negative Exposure Assessment (NEA) for both workers and the public. Proactive water engineering controls will be in place during all demolition activities.

### **4.0 ACTIVITY HAZARD ANALYSIS**

The engineer on site will conduct an environmental survey to determine which hazardous materials exist on the property, which will in turn become the prevailing document relied upon by Island Demo. The activity hazard analysis (AHA) is supplemental to the engineering survey, detailing the activities, hazards and controls planned to execute specific tasks relative to the current scope of work. The site supervisor has the duty and the authority to execute field modifications as necessary based on laboratory results, work practices and controls to comply with this work plan and regulatory agencies. The site supervisor may reduce PPE based on results

from negative exposure assessments. The site supervisor is responsible for means and methods used to raze the structures, access control of the structure subject to demolition activities and load out activities.

The Owner Representative, Construction Manager and Site Supervisor all have the authority to stop work at any time.

### **5.0 PRE-DEMOLITION ACTIVITIES**

Prior to demolition a series of activities must be completed and verified by the site supervisor.

#### Site Supervisor Verification Checks, inspections and training

The site supervisor will have the responsibility to verify and inspect the following:

**Personal Protective Equipment** - The Site Supervisor will verify workers are properly using full body coveralls, respirators and general safety gear that the PPE is in functional condition (ie. hard hats, eye wear, protective boots, etc.). The CAS will modify the PPE requirements based on the results of air monitoring.

**Equipment** - All equipment will be inspected upon mobilization. A general pre-start inspection per the manufactures operator's manual, safety equipment inspection and operator qualifications will be checked prior to starting the equipment. A total functions test will be completed prior to initiating demolition activities. Operator competency will complete the pre-demolition equipment inspection. Ongoing maintenance and service records will be kept for each piece of equipment.

**Crew training and experience** - The Site Supervisor will review the crew matrix to determine additional training needs per member, tailor assignments based on skill level and experience and assign task leader as necessary. The crew will attend and participate in a pre-demolition task safety meeting to discuss roles and responsibilities, site orientation, project orientation, existing known hazardous conditions and planned mitigation activities.

The Site Supervisor will conduct additional training as necessary and hold daily meetings with the entire crew prior to the start of each work day. The applicable AHA will be reviewed with all personnel prior to the start of each activity.

**Abatement of universal wastes (UW) and hazardous material (HM)** - During the walk through the Site Supervisor will visually verify that universal wastes and hazardous materials have been removed. Clearance letters from the abatement contractor will be reviewed to confirm that identified asbestos-containing material has been removed from the planned demolition area.

When suspect materials, UW or HM are discovered, the Site Supervisor will halt demolition activities until such materials are removed or proven to be non-hazardous containing by the asbestos survey, subsequent lab results from sampling efforts or otherwise non-hazardous by documentation.

**Site Security** - The project site must be completely fenced and secured against unauthorized access of the general public. The perimeter fencing will be located inside the property line. All internal work areas will be demarcated with danger tape to restrict unauthorized personnel from entering an active demolition zone. Access to an active work area can only be granted by the area foreman or equipment tender. Structure scheduled for demolition activities will be walked at the start of each work day to verify indigents or tourists have not taken up residence. All required site signage will be posted prior to demolition activities.

## **6.0 DEMOLITION ACTIVITIES**

**Sequencing** - It is currently anticipated that Abatement, Universal Waste Removal and Demolition activities will be performed in each structure sequentially according to the following pattern; the tennis courts, maintenance buildings, south bungalows, the mauka bungalows, the retail area, the three-story hotel tower, and other related buildings.

Demolition of each structure will be approached in the following manor;

- Abatement and hazmat clearance.
- Removal of elements for reuse.
- Removal of Universal Waste.
- Strip and gut of all soft building materials including remaining FF&E.
- Controlled demolition of structure from top down.
- Final processing of materials for recycling and disposal.
- Trucking of demolition debris from site.

An overall duration for the entire demolition process would be in the four to six month range.

**Structural Demolition** - Structural demolition will be performed primarily by track mounted hydraulic excavators equipped with; a DemoPro hydraulic grapple / shear, hydraulic bucket and thumb, hydraulic breaker, and secret special laser guided stuff that is too technical for the layman to comprehend. Bobcats equipped with hydraulic grapple buckets will assist in the separation and handling of material and are clean up / maintenance.

The lobbies, public areas, and retail spaces will have structural demolition performed by a combination of track hoes based upon scale and resource availability.

Wet methods, utilizing fire hose water application from an appropriate sized man lift, will be employed to control dust emissions during the structural demolition phase. Structures will be doused prior to starting removal as well as actively wetted during the demolition process. Line pumps will be utilized as necessary to increase water pressure to acceptable dust control levels.

The employment of the DemoPro shear will minimize noise impacts from the demolition process to the greatest degree possible. The proposed water engineering techniques have proven to be highly effective in controlling dust generation and migration.

## **7.0 MATERIAL HANDELING**

Initially, all construction systems suitable for ReUse will be salvaged in such a manor as to protect their viability for reinstallation on this of future projects. ReUse if the highest and most efficient level of the recycling effort that is so essential to the protection of our environment.

All reasonable efforts will be made to recycle as much material as possible. Segregation of demolition debris and recyclables (concrete, rebar and metals) will be an on-going



process throughout the demolition and debris handling process. At present there is no metal recycling facility in operation on Maui. As a consequence, all metals would have to be barged to Honolulu. The metal load would be consolidated to minimize the overall duration to trucking and maximize the use of barge space in shipping.

General construction debris will be segregated on site and trucked by a pre-approved route to Maui Maalaea Landfill, the island's only approved construction debris disposal site at present. Depending on scheduling, production and trucking availability, typically around ten loads of construction debris would be loaded out each day for an overall duration of four to six weeks.

Placing a mobile crushing plant on site to process concrete / masonry for fill material is under consideration. It is estimated that the project could achieve a near balance in fill usage. This process would eliminate approximately twenty-two hundred truck trips from the site in removal efforts alone. If the concrete material is not recycled on site, at present there is no recycling plant on Maui and the material would be sent to Maalaea Landfill for disposal.

## **8.0 AIR MONITORING**

Both personal air monitoring of Island Demo employees and perimeter monitoring of the work area will be conducted to ensure compliance with all applicable OSHA, EPA State and local regulations. These air monitoring procedures will be conducted by certified 3<sup>rd</sup> parties.

Perimeter air monitoring will be conducted in order to substantiate a negative exposure assessment during demolition activities. Air monitoring procedures will follow 29 CFR 1926.1101 (f). Due to the close proximity of other populated structures and pedestrian traffic, baseline samples and perimeter samples will be collected, analyzed and archived in order to demonstrate migratory dust levels, if any, and to limit liability.

Silica air monitoring will be conducted per 29 CFR 1926.55(d) and State and local regulations.

## **9.0 TRAFFIC / PEDESTRIAN CONTROL AND STREET CLOSURES**

General traffic and pedestrian control will be accomplished via fencing around the perimeter of the entire site. Flaggers and traffic control personnel will be utilized as appropriate as guests, construction workers, employees, and the public access the property through the Aloha greeter station. It is not anticipated that any street closures will be required during the demolition process, since we have limited access to our property via Kekaa Drive.

# ***Appendix J***

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***Preliminary Development  
and Landscaping Plans***



# *Royal Lahaina Resort*

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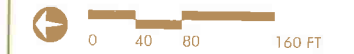
**Final Environmental Assessment**

May 2006





Site Master Plan



SITE SUMMARY

ZONING	LOT AREA	FAR	ALLOWABLE		PROPOSED	
			F.A.R.		F.A.R.	
H-M	289,462 SF	1.0	289,462 SF	81,353 SF (30%)		
H-2	883,392 SF	1.5	1,325,088 SF	580,839 SF (45%)		
A-2	19,800 SF	0.8	17,820 SF	2,908 SF (15%)		
TOTAL			1,612,370 SF	674,601 SF (42%)		

LOT COVERAGE

ZONING	LOT AREA	ALLOWABLE		PROPOSED	
		COVERAGE		COVERAGE	
HM	289,462 SF	80,838 SF (30%)	67,900 SF (25%)		
H2	883,392 SF	309,187 SF (35%)	178,418 SF (20%)		
A-2	19,800 SF	6,930 SF (35%)	2,609 SF (13%)		

LOT HEIGHT

ZONING	ALLOWABLE	PROPOSED
HM	6 STORY	1, 4, & 5 STORY
H2	12 STORY	2, 3, & 4 STORY NEW CONSTRUCTION, & 12 STORY EXISTING

PARKING SUMMARY

STALLS REQUIRED

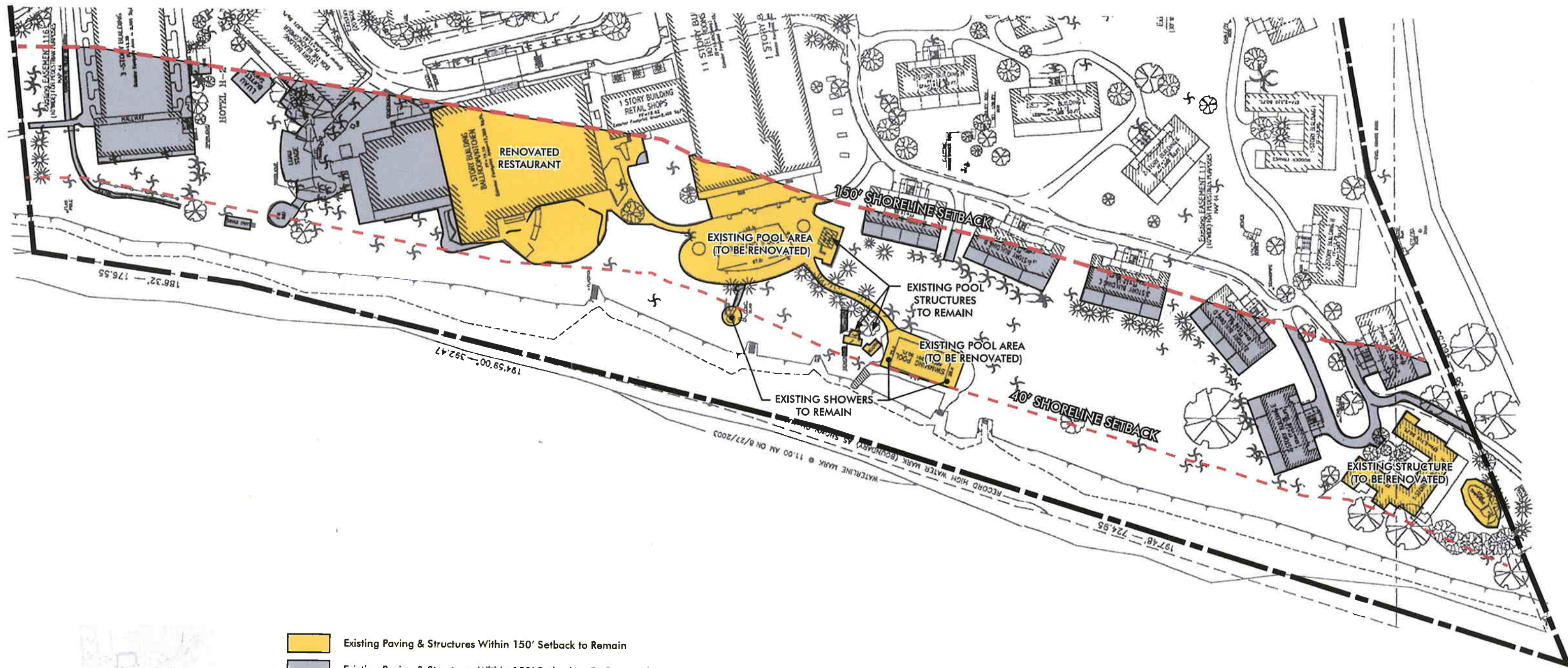
HOTEL: (330 UNITS x 0.5 STALLS/UNIT)	165 STALLS
CONDO: (125 UNITS x 2 STALLS/UNIT)	250 STALLS
RESTAURANTS: (11,500 SF / 500 SF/STALL)	23 STALLS
SPA: (17,450 SF / 500 SF/STALL)	35 STALLS
GENERAL STORE: (1,980 SF / 500 SF/STALL)	4 STALLS
PUBLIC ACCESS PARKING:	16 STALLS
ADMIN/SUPPORT PARKING:	45 STALLS
<b>TOTAL STALLS REQUIRED:</b>	<b>538 STALLS</b>

STALLS PROVIDED

PARKING STRUCTURE:	318 STALLS
COVERED CONDO PARKING:	254 STALLS
OPEN CONDO PARKING:	20 STALLS
OPEN PUBLIC ACCESS PARKING:	16 STALLS
<b>TOTAL STALLS PROVIDED:</b>	<b>608 STALLS</b>

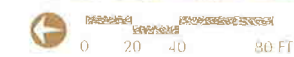






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

### Existing 150' Shoreline Area Plan



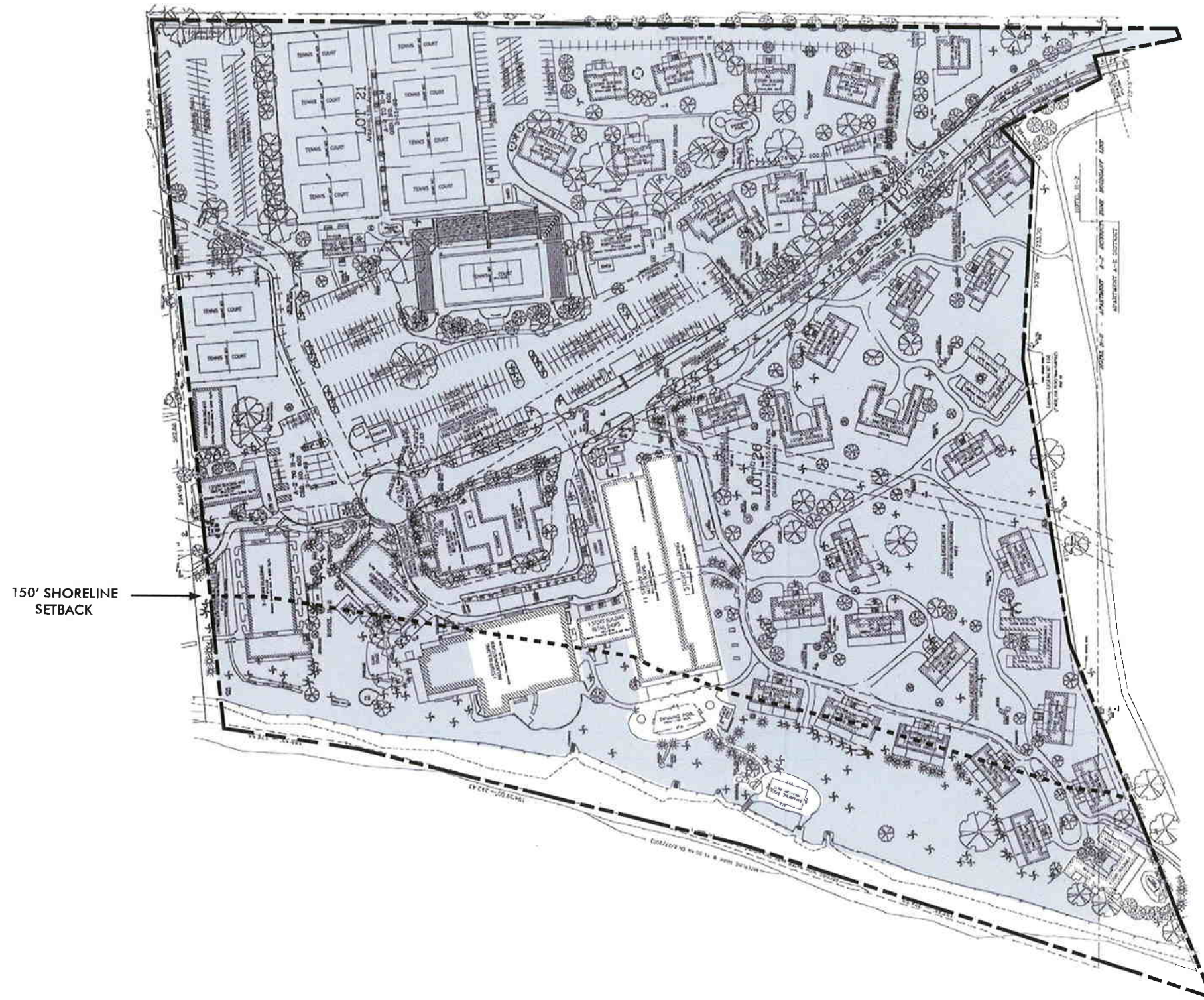


Demolition Plan



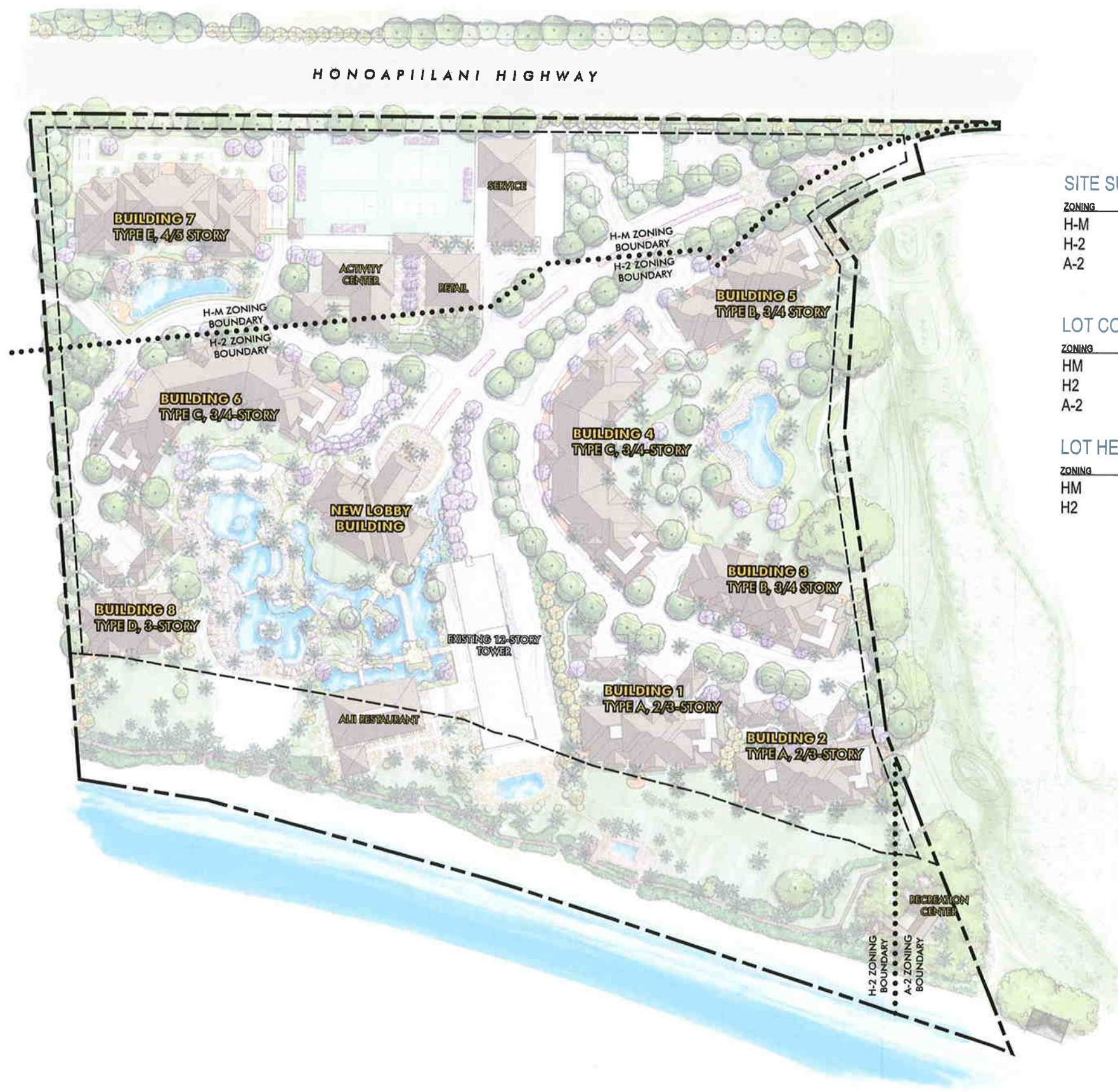
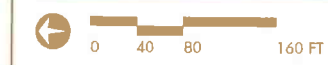
-  TO BE DEMOLISHED
-  TO REMAIN

NOTE:  
 • SOME TREES TO BE RELOCATED  
 • LANDSCAPING WITHIN SETBACK AND SOUTH/GOLF COURSE AREA TO BE REVITALIZED





Zoning & Site Summary



SITE SUMMARY

ZONING	LOT AREA	FAR	ALLOWABLE AREA	PROPOSED AREA
H-M	269,462 SF	1.0	269,462 SF	81,353 SF (30%)
H-2	883,392 SF	1.5	1,325,088 SF	590,639 SF (45%)
A-2	19,800 SF	0.9	17,820 SF	2,609 SF (15%)
<b>TOTAL</b>			<b>1,612,370 SF</b>	<b>674,601 SF</b>

LOT COVERAGE

ZONING	LOT AREA	ALLOWABLE COVERAGE	PROPOSED
HM	269,462 SF	80,838 SF (30%)	67,900 SF (25%)
H2	883,392 SF	309,187 SF (35%)	179,418 SF (20%)
A-2	19,800 SF	6,930 SF (35%)	2,609 SF (13%)

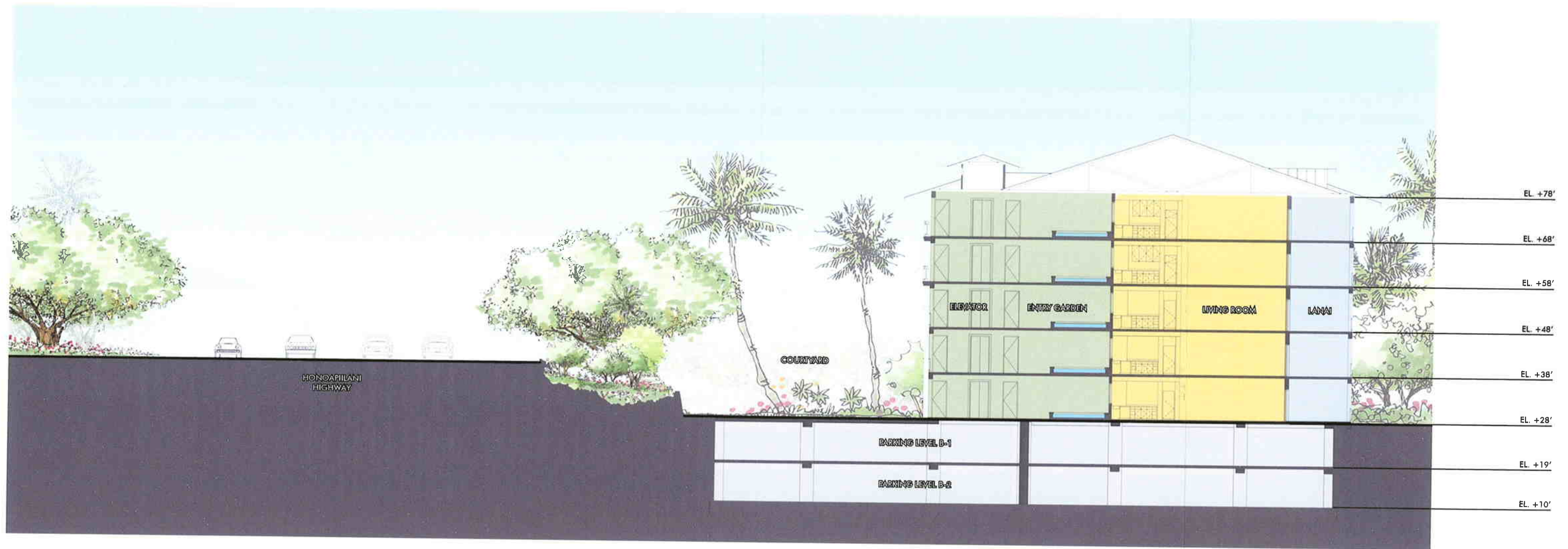
LOT HEIGHT

ZONING	ALLOWABLE	PROPOSED
HM	6 STORY	1, 4, & 5 STORY
H2	12 STORY	2, 3, & 4 STORY NEW CONSTRUCTION, & 12 STORY EXISTING :









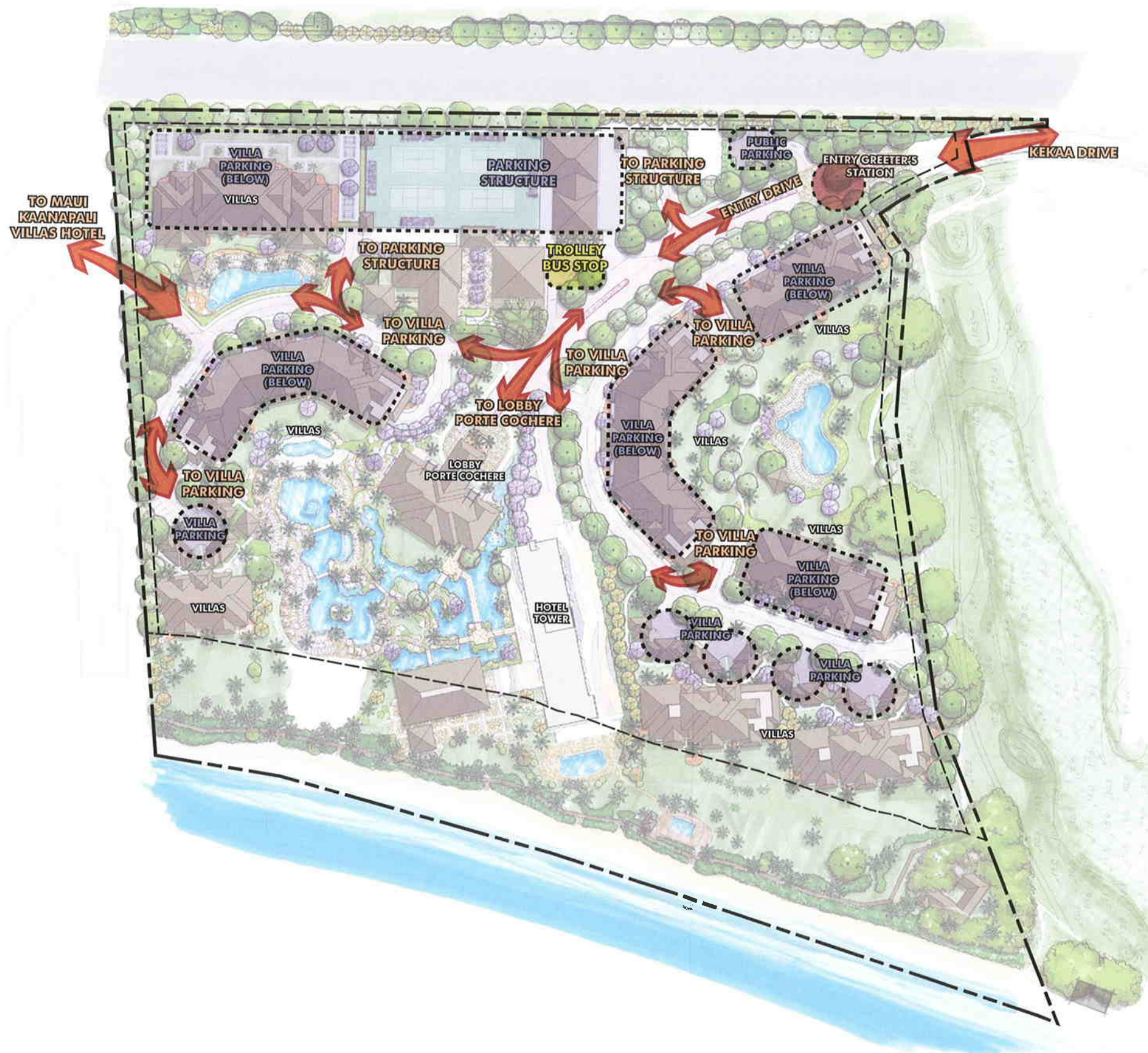
Final Environmental Assessment  
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Partial Site Section B





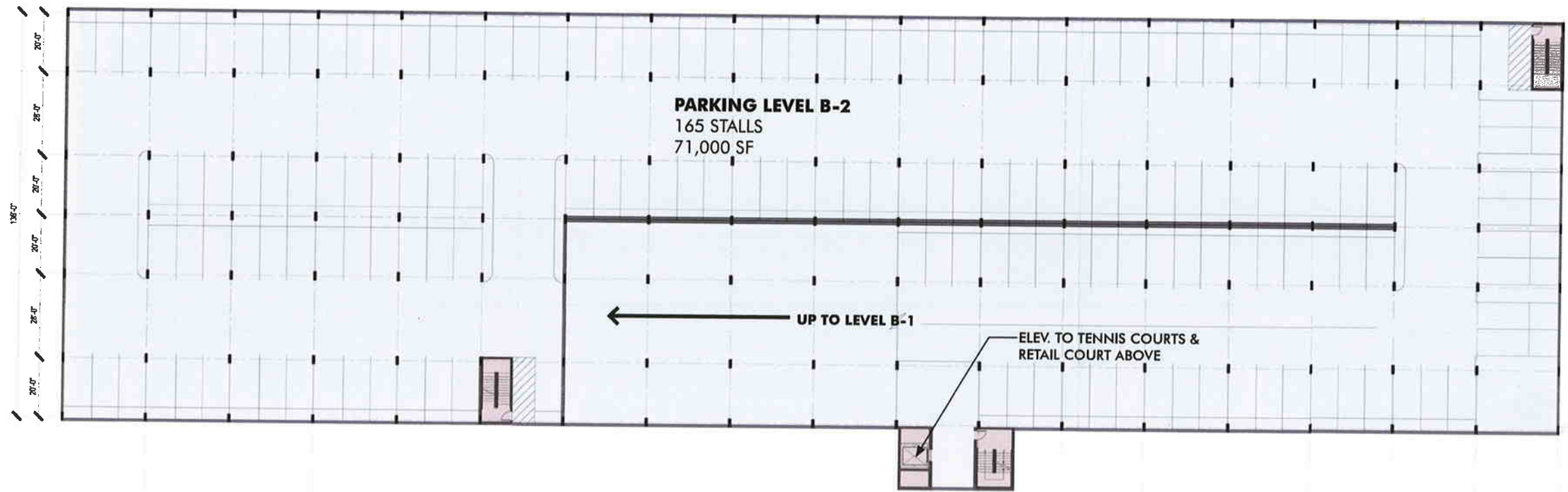
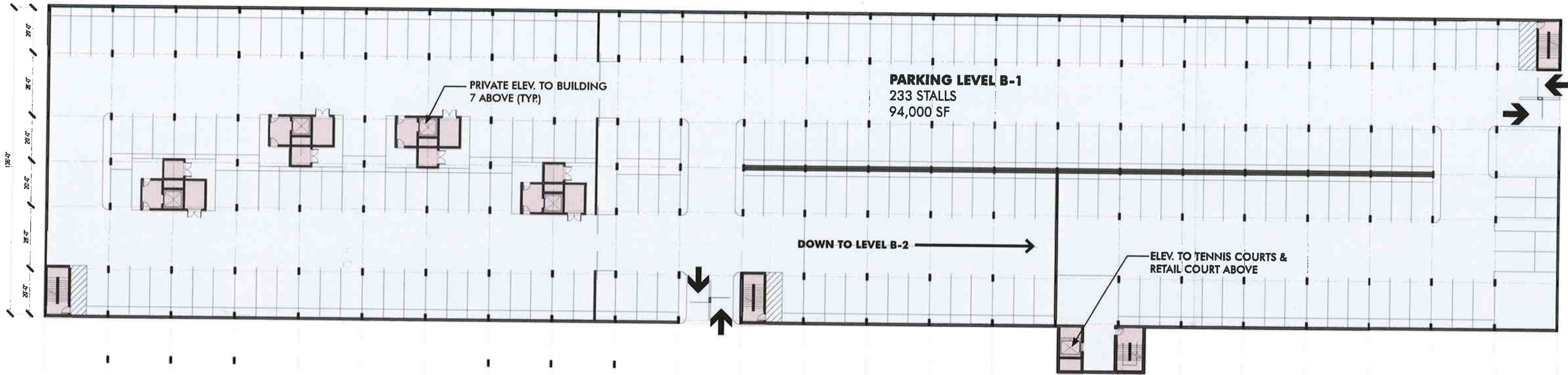
Traffic Flow & Impact





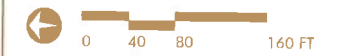






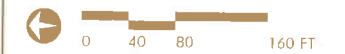


View Corridors





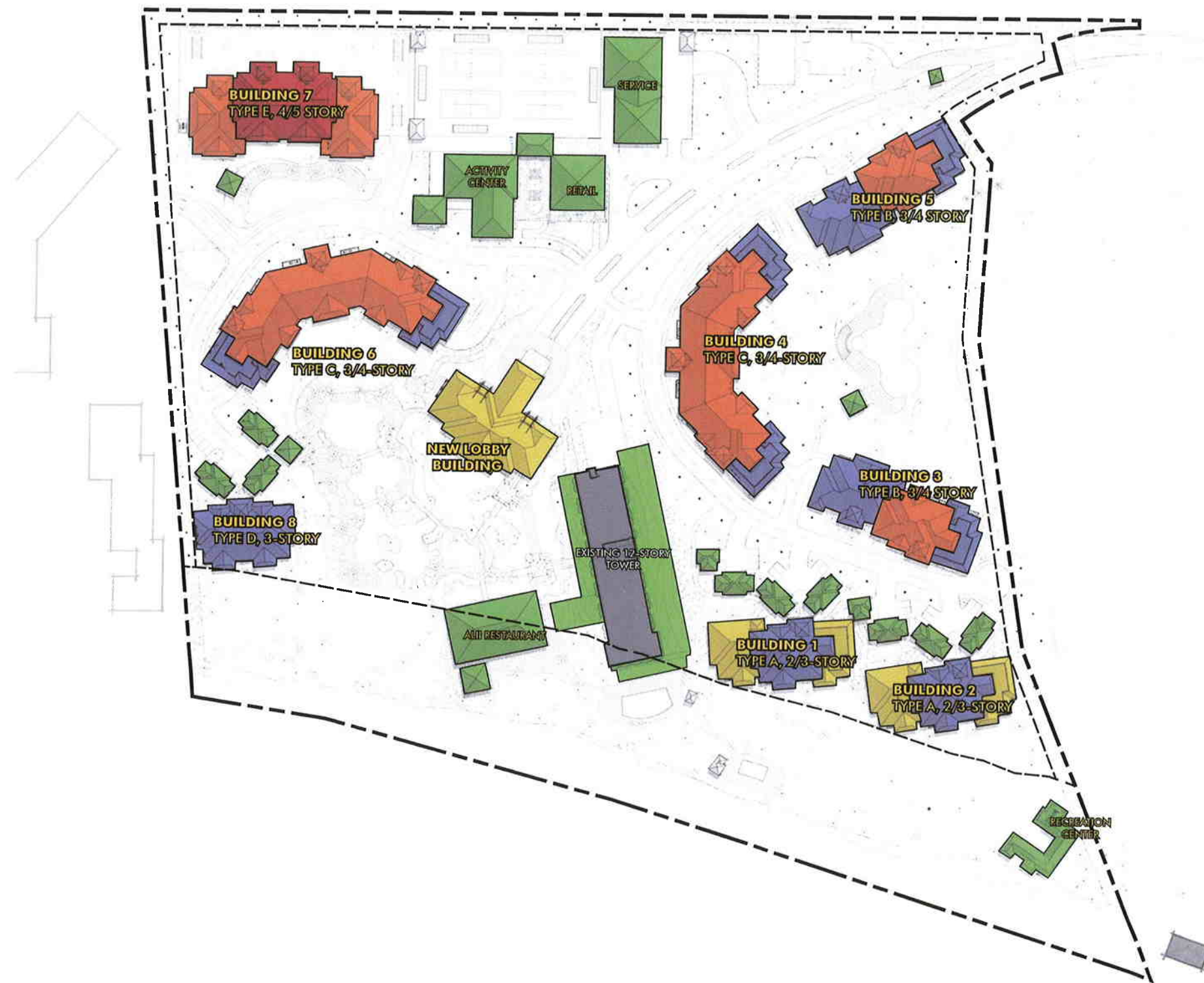
Site Density & Building Height Plan



- 1 STORY BUILDING
- 2 STORY BUILDING
- 3 STORY BUILDING
- 4 STORY BUILDING
- 5 STORY BUILDING

UNIT TOTALS

BLDG	TYPE	STORIES	UNIT TYPES		
			2 BR	3 BR	4 BR
BLDG 1	A	2/3	--	6	1
BLDG 2	A	2/3	--	6	1
BLDG 3	B	3/4	6	6	1
BLDG 4	C	3/4	8	12	2
BLDG 5	B	3/4	6	6	1
BLDG 6	C	3/4	8	12	2
BLDG 7	E	4/5	36	--	--
BLDG 8	D	4	--	6	--
<b>TOTALS</b>			<b>64</b> (51%)	<b>54</b> (43%)	<b>8</b> (6%)
<b>TOTAL UNITS</b>			<b>126</b>		





Functional Relationships  
and Flow Diagram



- RESORT PEDESTRIAN TRAFFIC
- PUBLIC PEDESTRIAN TRAFFIC
- TROLLEY





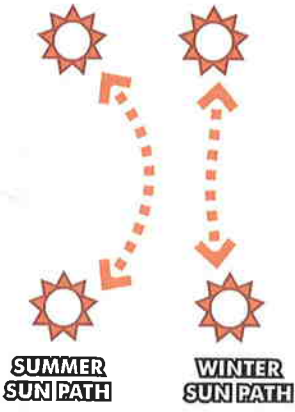
TRADEWIND  
BREEZES



LANSCAPE  
BUFFER



EVENING  
BREEZES



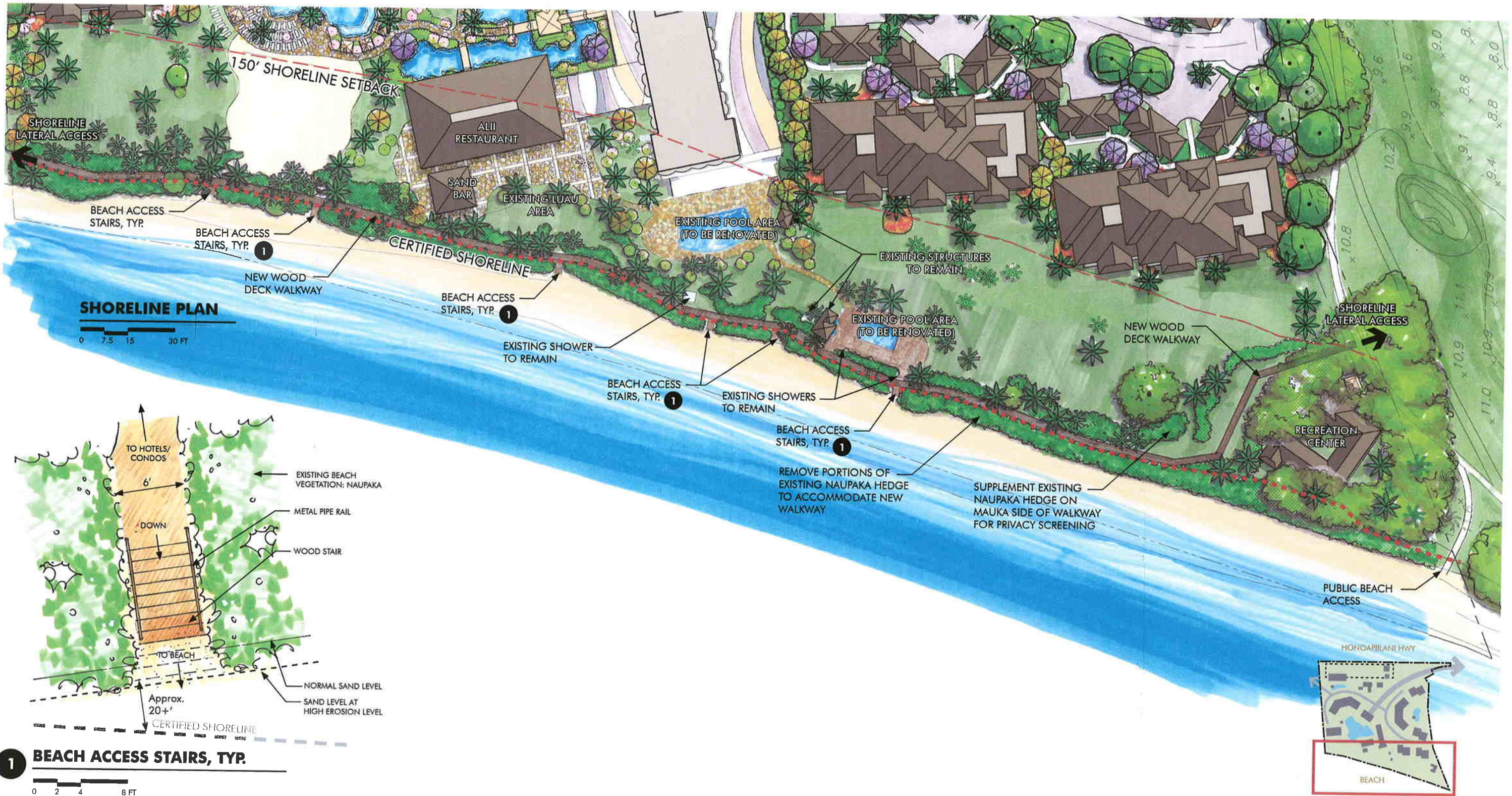
SUMMER  
SUN PATH

WINTER  
SUN PATH

**Environmental Conditions  
& Considerations**









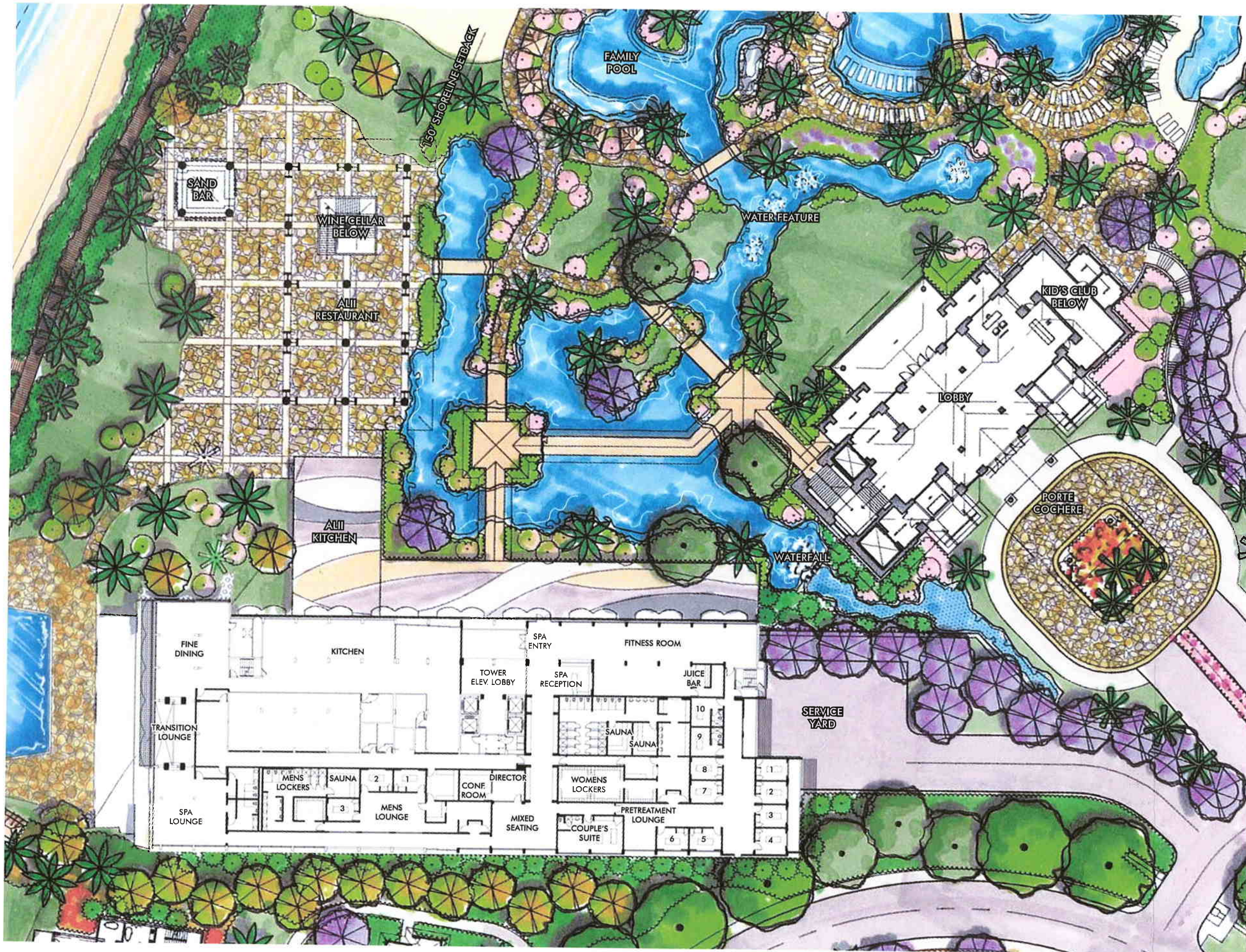
Public Beach Access



- PUBLIC BEACH ACCESS
- ACCESSIBLE BEACH ACCESS







**Enlarged Plan -  
Makai Public Spaces**





Lobby Building Elevation -  
Entry



Lobby Building Elevation - Side





Lobby Building Elevation -  
Makai

0 4 8 16 FT



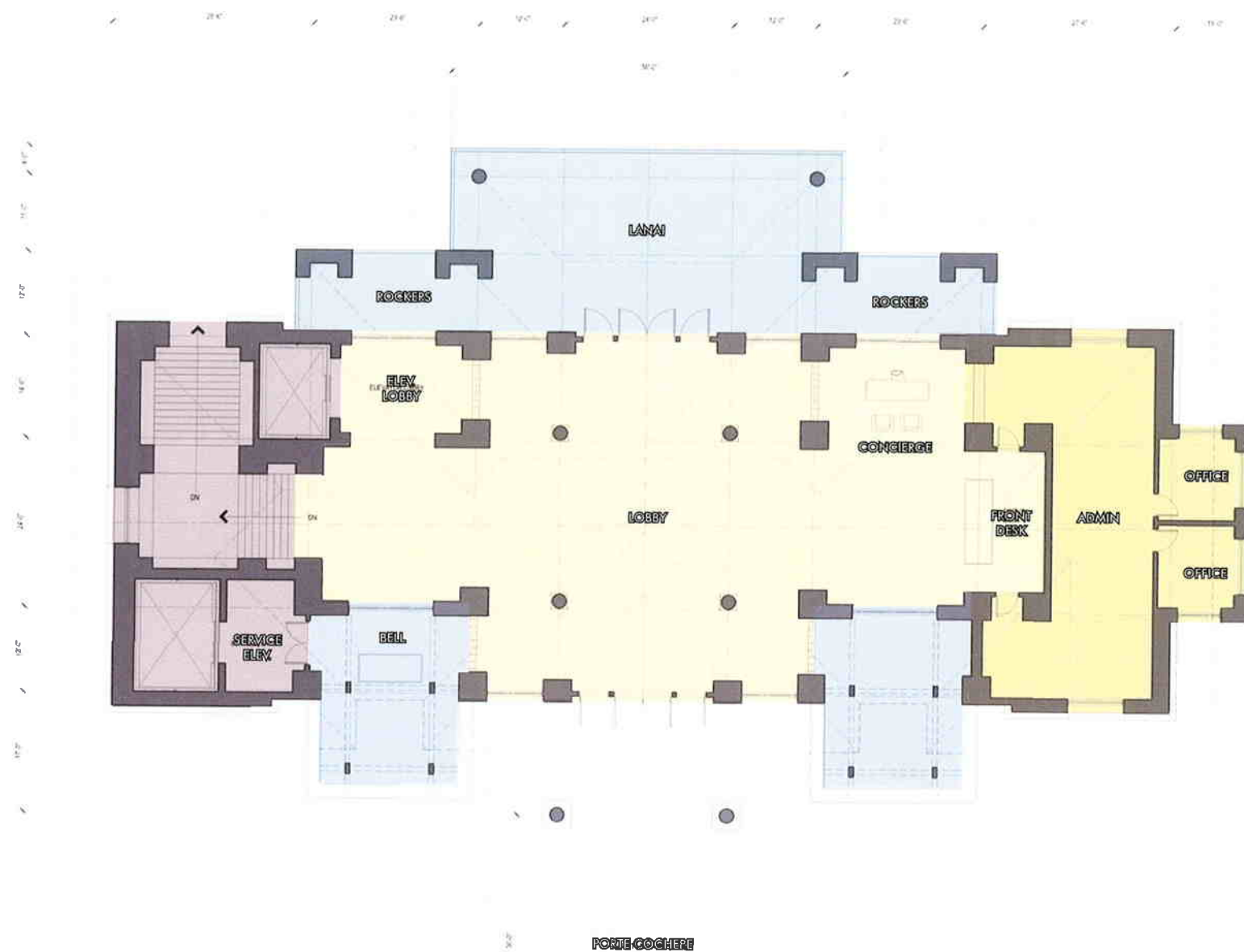


Condo Building 8  
Elevation - Rear

0 6 12 24 FT

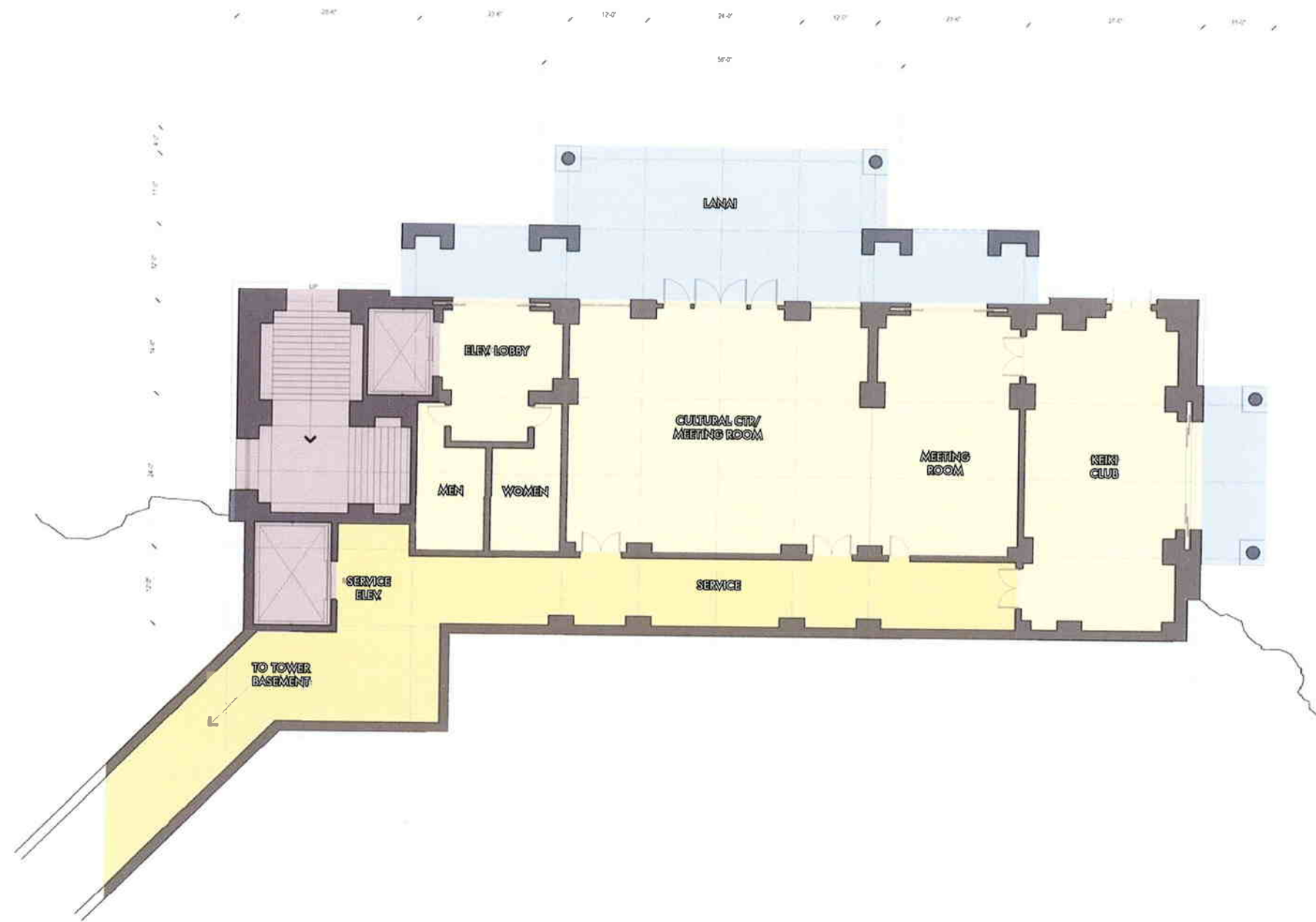


**Lobby Building Plan -  
Entry Level**



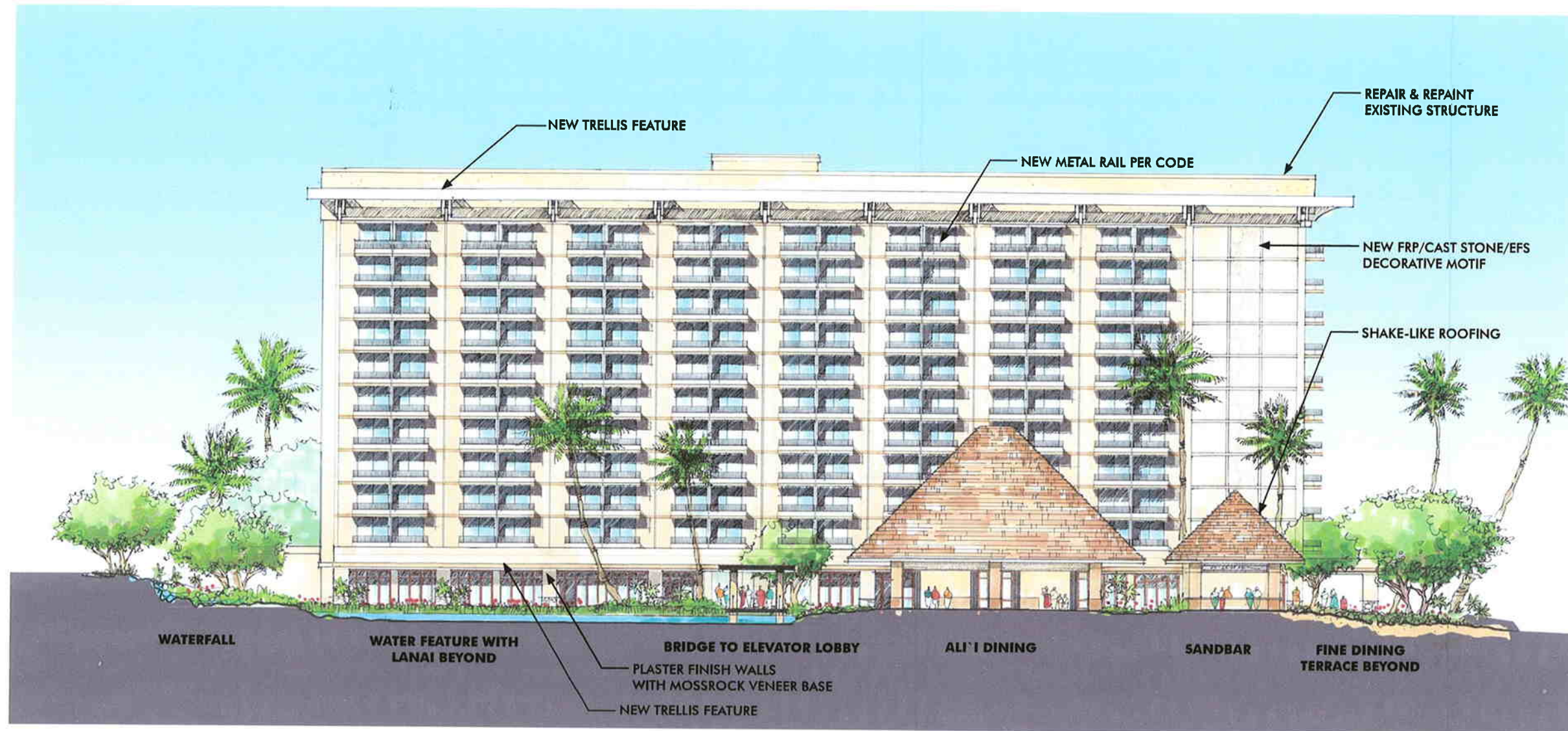


Lobby Building Plan -  
Lower Level



Hotel Tower & Alii  
Restaurant -  
North Elevation

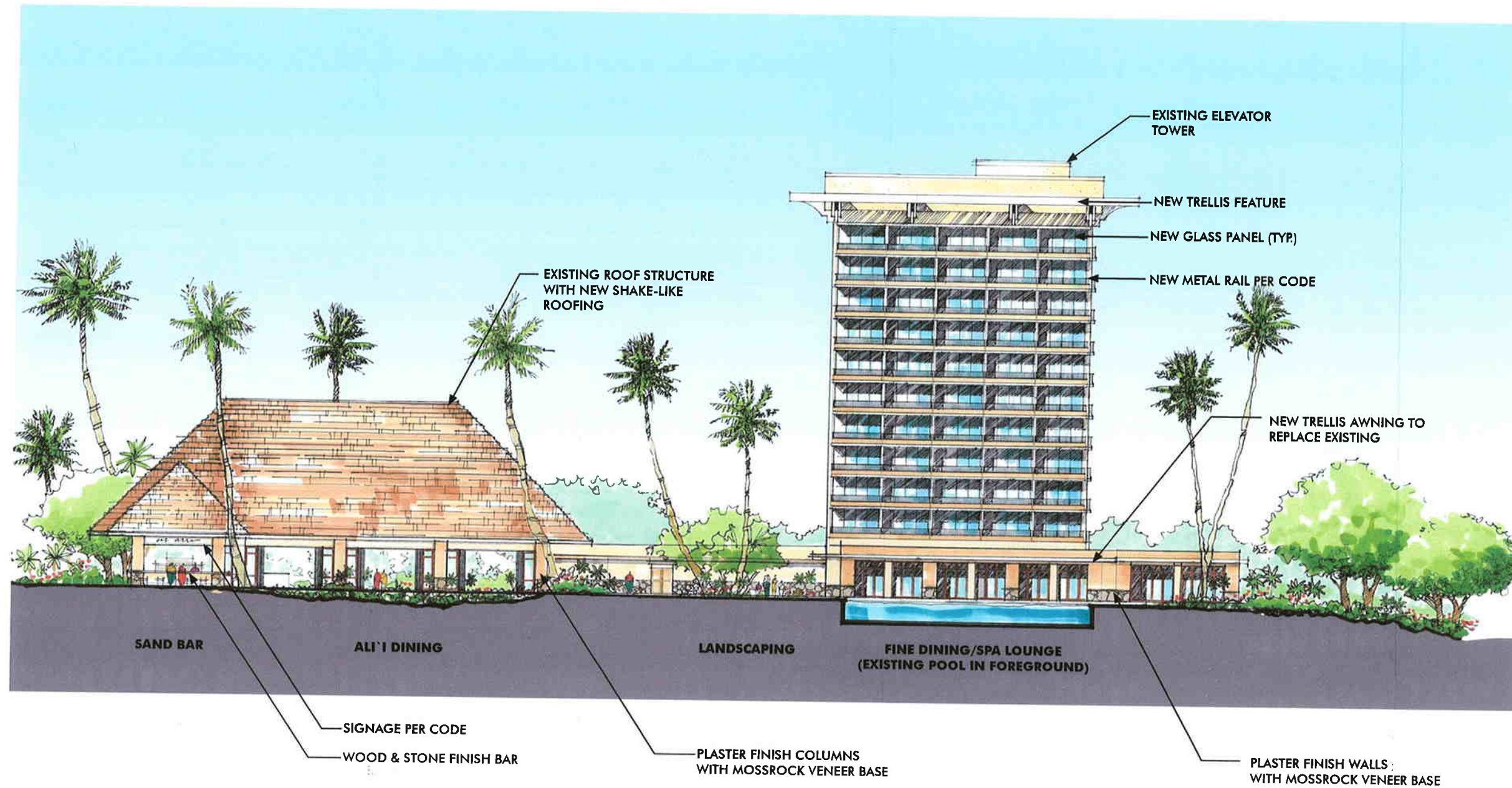
0 4 8 16 FT





Hotel Tower & Alii  
Restaurant -  
Makai Elevation

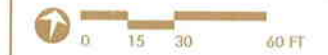
0 4 8 16 FT







Enlarged Plan -  
Mauka Public Spaces







**ELEVATION 1**



**ELEVATION 2**



**ELEVATION 3**

- MOSSROCK VENEER GARDEN WALLS
- WOOD/METAL FRAMED WINDOWS
- WOOD BOARD & BATTEN SIDING
- METAL & PLASTER DECORATIVE GRILLE WORK
- METAL GATE



**ELEVATION 4**

**General Store, Activity, & Sports Entry Elevation**



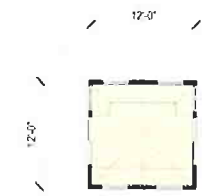


Recreation Center  
Plan & Elevations





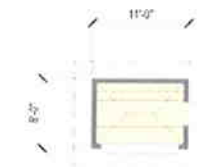
**GREETER'S STATION ELEVATIONS**



**GREETER'S STATION PLAN**



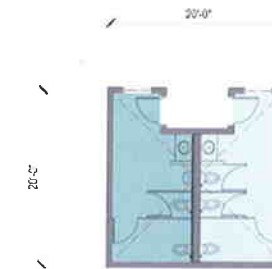
**TOWEL CABANA ELEVATIONS**



**TOWEL CABANA PLAN**



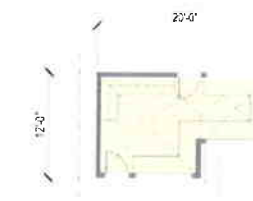
**RESTROOM ELEVATIONS**



**RESTROOM PLAN**



**ACTIVITY KIOSK ELEVATIONS**



**ACTIVITY KIOSK PLAN**

**Greeter's Station,  
Typical Restroom,  
Activity Kiosk (Exist.),  
& Pool Cabana (Exist.)  
Plans & Elevations**





Condo Building 1 & 2  
Plan



**UNIT TYPE 3A**  
INTERIOR AREA 3,000 SF  
LANAI AREA 1,070 SF

**UNIT TYPE 3B**  
INTERIOR AREA 2,800 SF  
LANAI AREA 1,070 SF

**UNIT TYPE 3C**  
INTERIOR AREA 3,100 SF  
LANAI AREA 1,120 SF



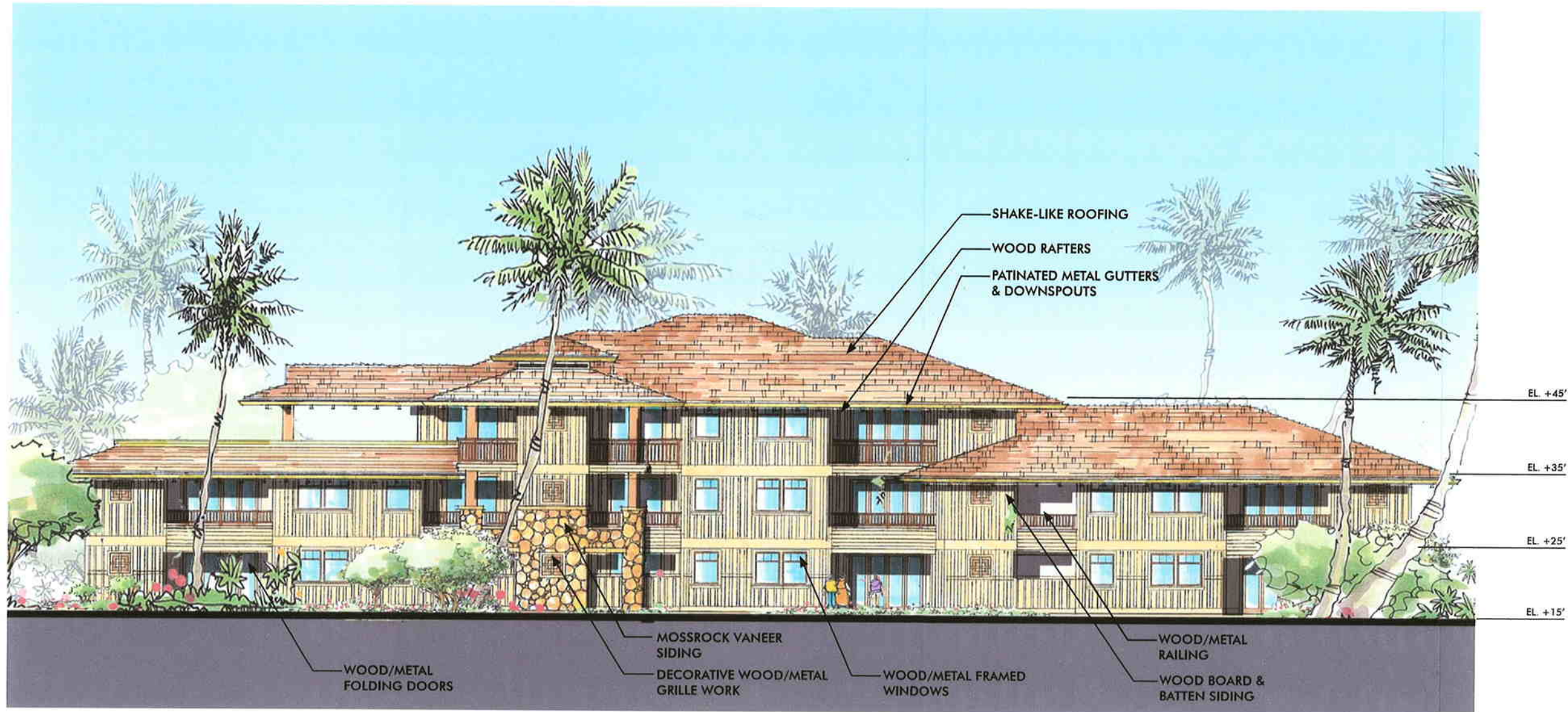
Condo Building 1 & 2  
Elevation - Front

0 6 12 24 FT

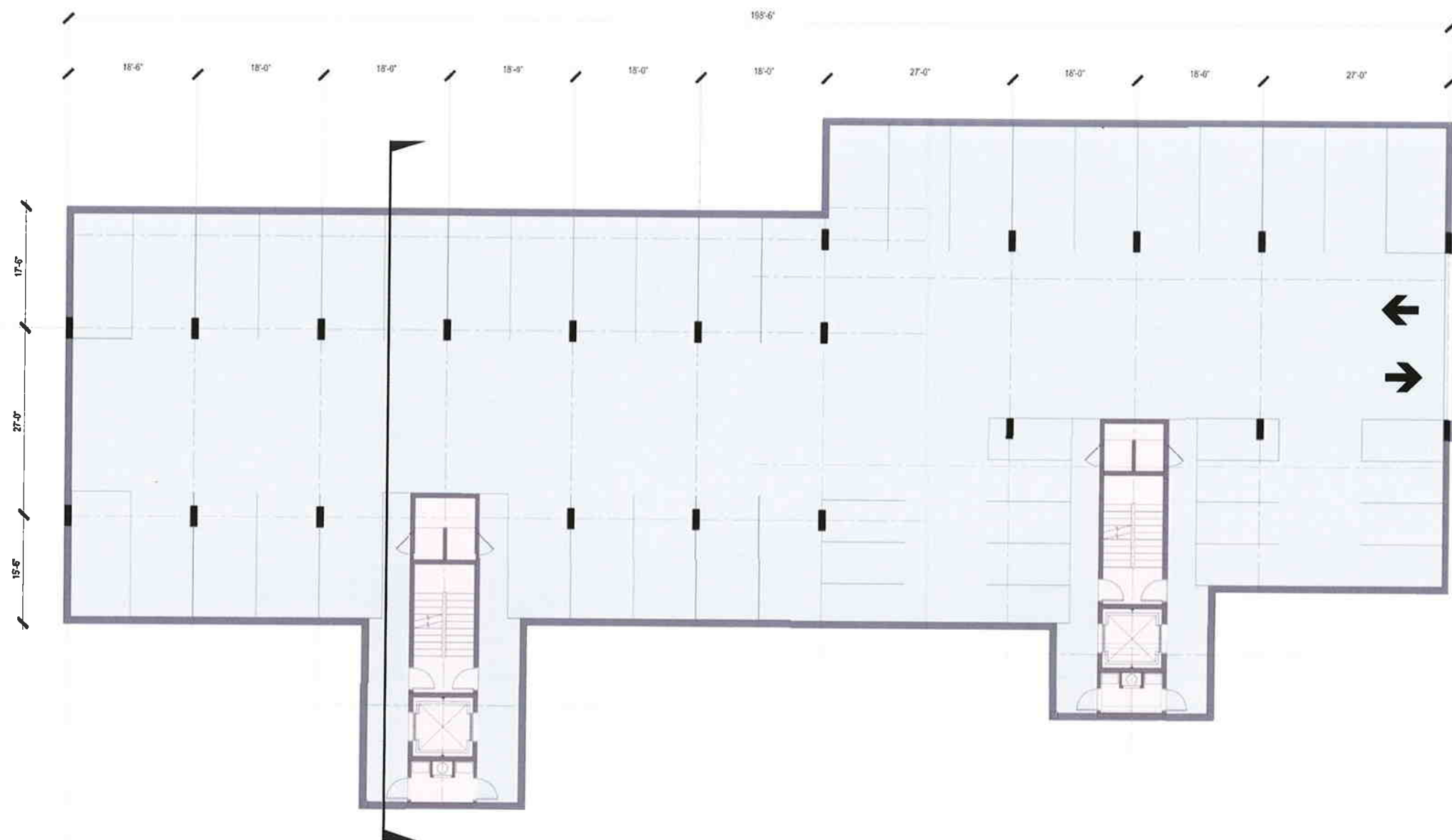




Condo Building 1 & 2  
Elevation - Rear



Condo Building 3 & 5  
Plan - Basement Level



29 TOTAL STALLS  
13 CART STALLS  
INTERIOR AREA 3,800 SF



Condo Building 3 & 5  
Plan



**UNIT TYPE 3A**  
INTERIOR AREA 3,000 SF  
LANAI AREA 1,070 SF

**UNIT TYPE 3B**  
INTERIOR AREA 2,800 SF  
LANAI AREA 1,070 SF

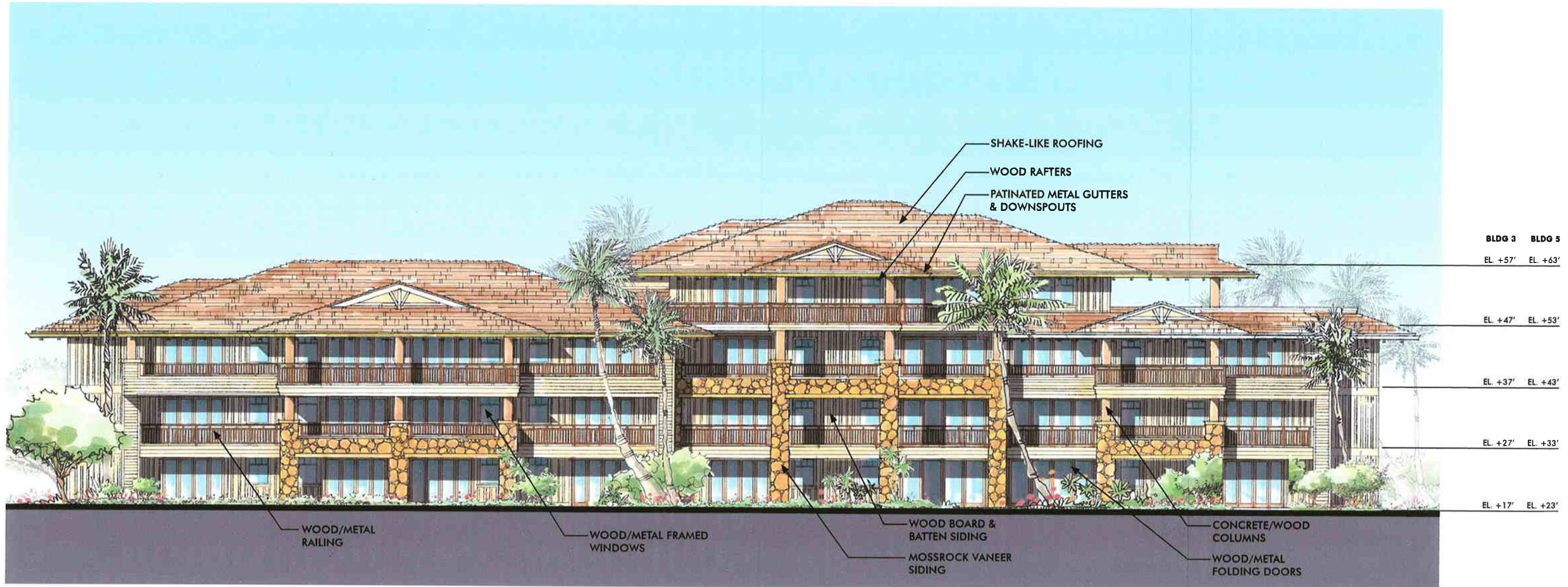
**UNIT TYPE 2B**  
INTERIOR AREA 2,150 SF  
LANAI AREA 960 SF

**UNIT TYPE 2A**  
INTERIOR AREA 2,360 SF  
LANAI AREA 960 SF

Condo Building 3 & 5  
Section





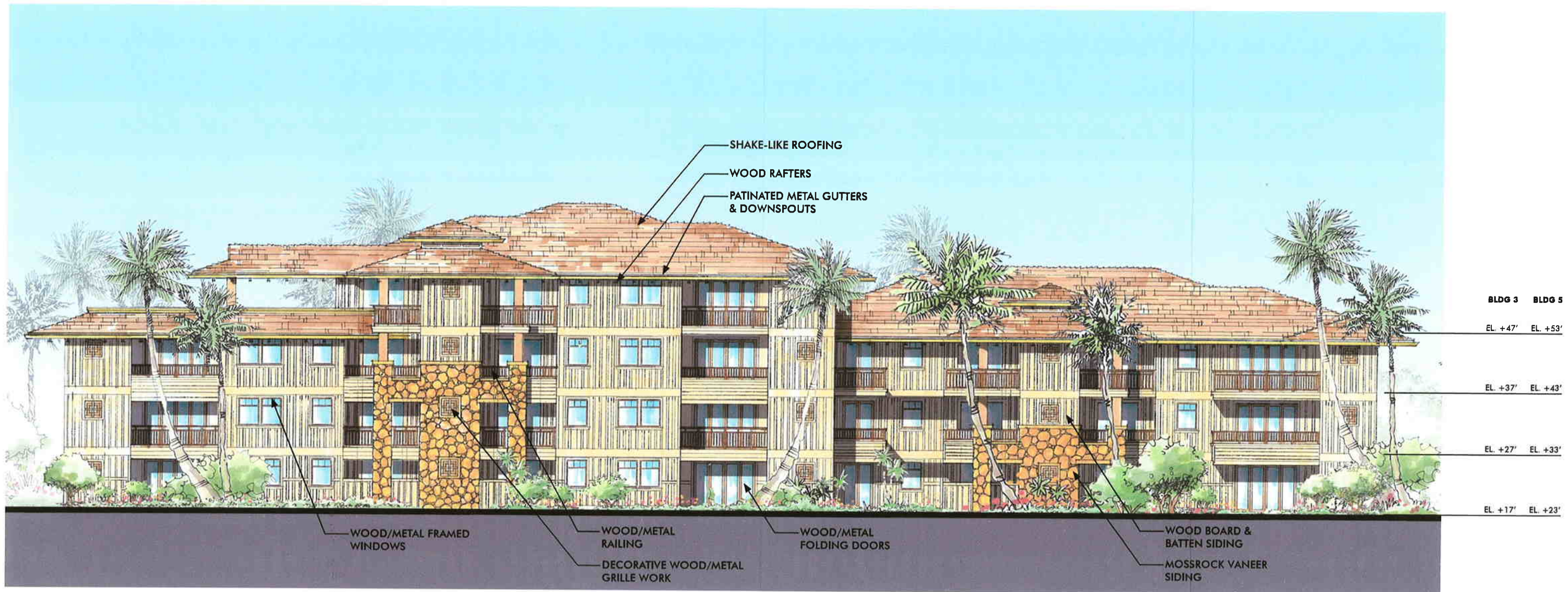


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**Condo Building 3 & 5  
Elevation - Front**







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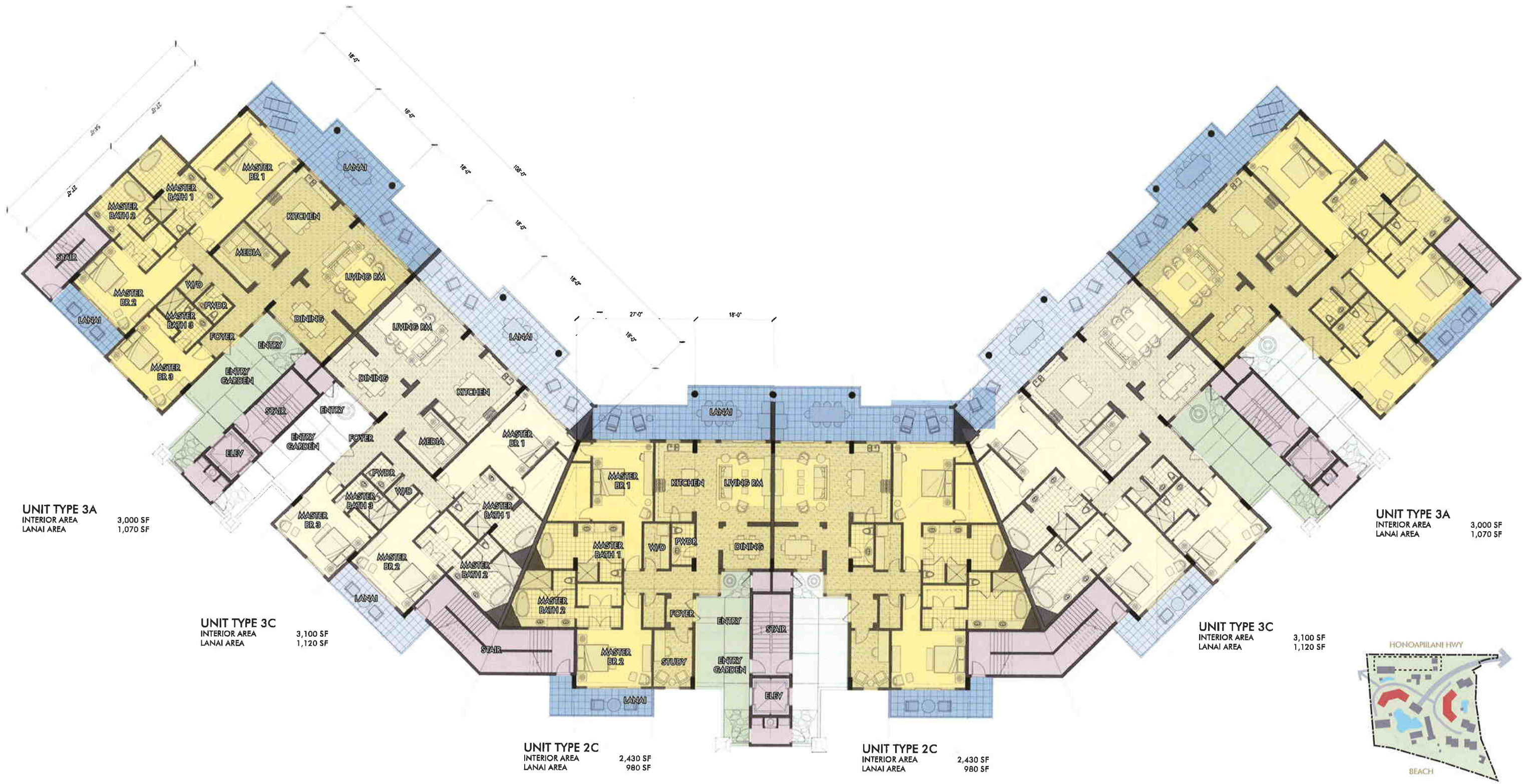
Condo Building 3 & 5  
Elevation - Rear











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**Condo Building 4 & 6  
 Plan**





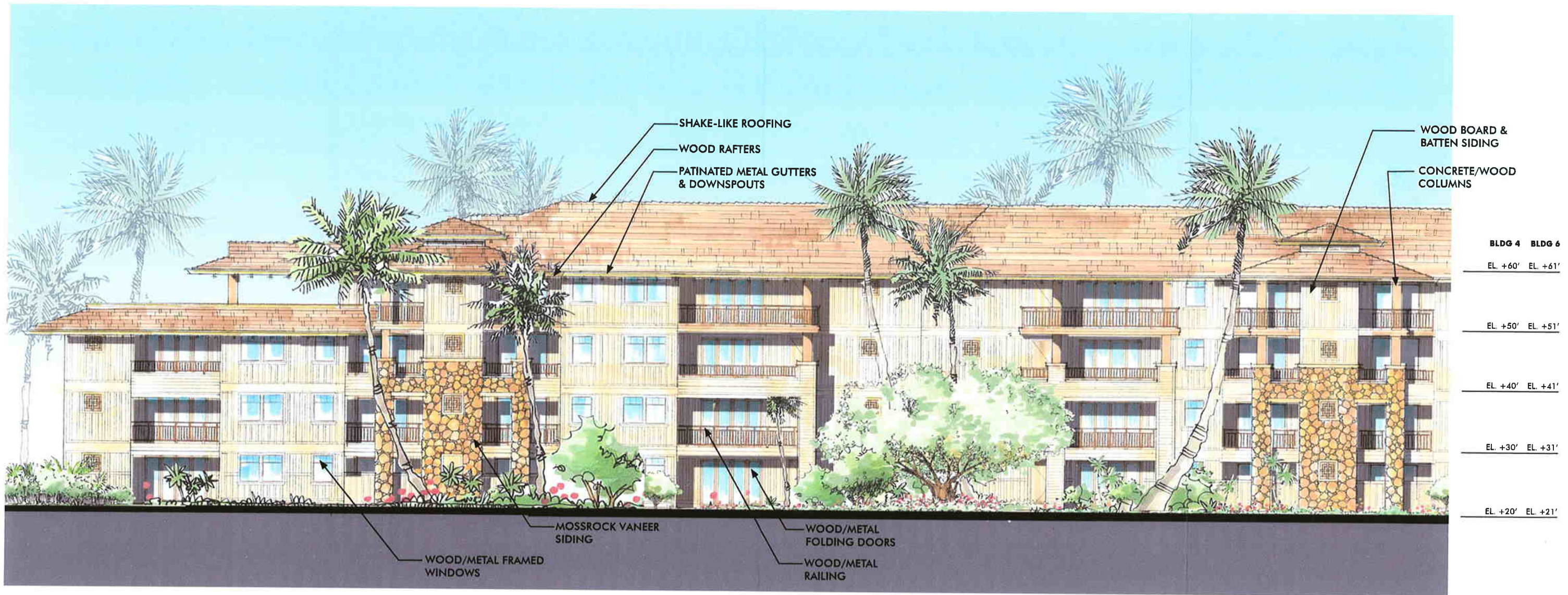


**Royal Lahaina Resort**  
 Final Environmental Assessment  
 May 2006

**Condo Building 4 & 6  
 Elevation - Front**







**Royal Lahaina Resort**  
 Final Environmental Assessment  
 May 2006

**Condo Building 4 & 6  
 Elevation - Rear**





Condo Building 4 & 6  
Section



Condo Building 7  
Plan



**UNIT TYPE 2D**  
INTERIOR AREA 1,550 SF  
LANAI AREA 650 SF

**UNIT TYPE 2E**  
INTERIOR AREA 1,800 SF  
LANAI AREA 650 SF

**UNIT TYPE 2E**  
INTERIOR AREA 1,800 SF  
LANAI AREA 650 SF

**UNIT TYPE 2D**  
INTERIOR AREA 1,550 SF  
LANAI AREA 650 SF

**UNIT TYPE 2E**  
INTERIOR AREA 1,800 SF  
LANAI AREA 650 SF

**UNIT TYPE 2E**  
INTERIOR AREA 1,800 SF  
LANAI AREA 650 SF

**UNIT TYPE 2E**  
INTERIOR AREA 1,800 SF  
LANAI AREA 650 SF

**UNIT TYPE 2E**  
INTERIOR AREA 1,800 SF  
LANAI AREA 650 SF





Final Environmental Assessment  
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Condo Building 7  
Elevation - Front



0 6 12 24 FT







Condo Building 8  
Plan

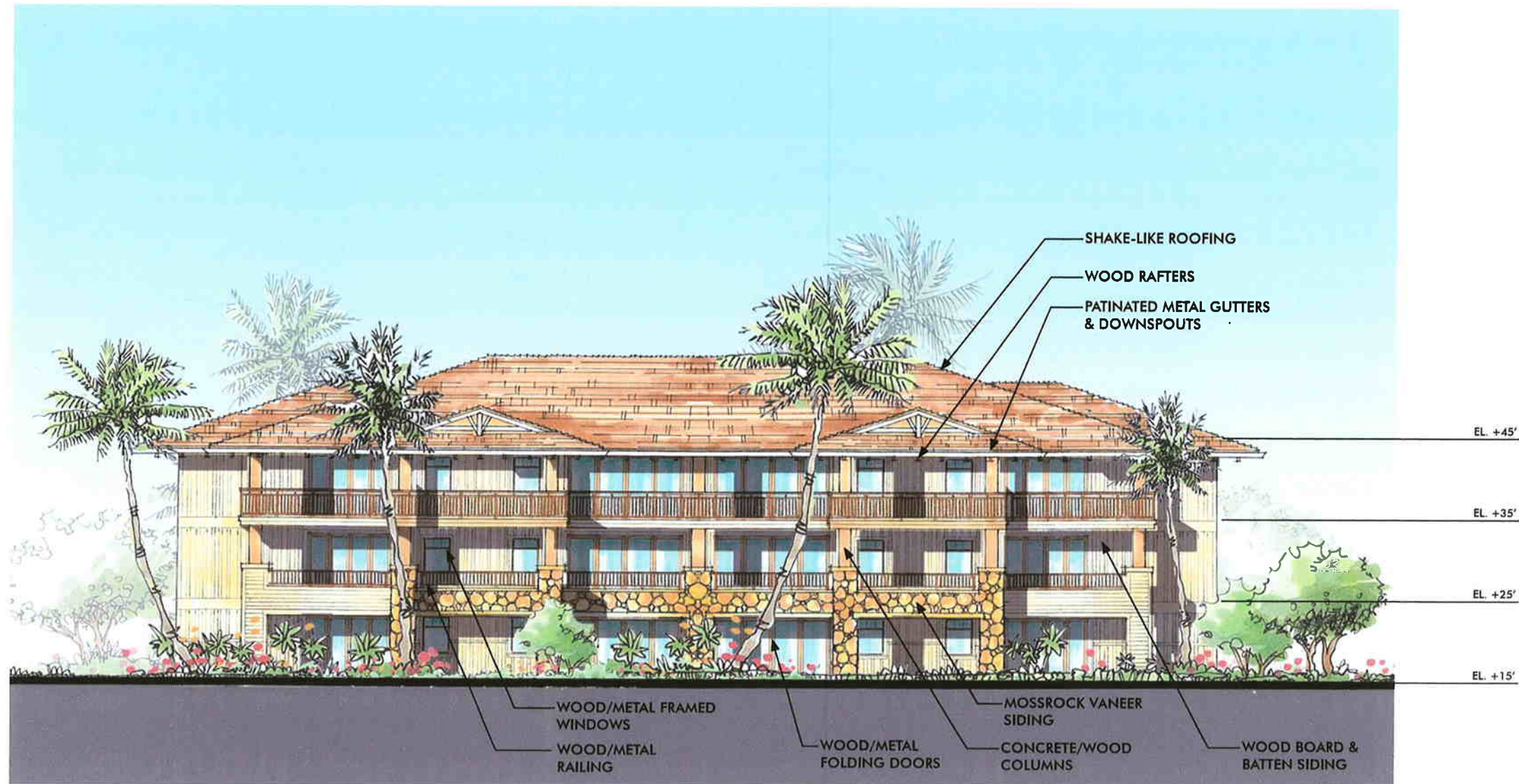


**UNIT TYPE 3A**  
INTERIOR AREA 3,200 SF  
LANAI AREA 1,050 SF

**UNIT TYPE 3A**  
INTERIOR AREA 3,200 SF  
LANAI AREA 1,050 SF



Condo Building 8  
Elevation - Front



Enlarged Unit Plan -  
Unit Type 2B & 2D



Unit Type 2B



Unit Type 2D

Enlarged Unit Plan -  
Unit Type 3A & 3B



Unit Type 3A



Unit Type 3B

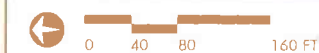








**Enlarged Unit Plan -  
Unit Type 4B**





Overall Landscape Plan

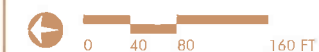


- 
 LARGE CANOPY SHADE TREES  
 - MONKEYPOD  
 - BANYAN
- 
 MEDIUM CANOPY TREES  
 - SHOWER TREE  
 - NARRA  
 - HONG KONG ORCHID
- 
 SMALL ACCENT TREE  
 - PLUMERIA  
 - BEACH HELIOTROPE  
 - KALAMONA  
 - KUKUI  
 - HALA
- 
 PALM  
 - COCONUT  
 - LOULU  
 - MANILA  
 - JOANNIS
- 
 SHRUB/GROUNDCOVER  
 - NAUPAKA  
 - CROTON  
 - TI  
 - GINGER  
 - ILIMA  
 - ICE PLANT  
 - POTHOS
- 
 GRASS  
 - ZOYSIA  
 - HYBRID BERMUDA

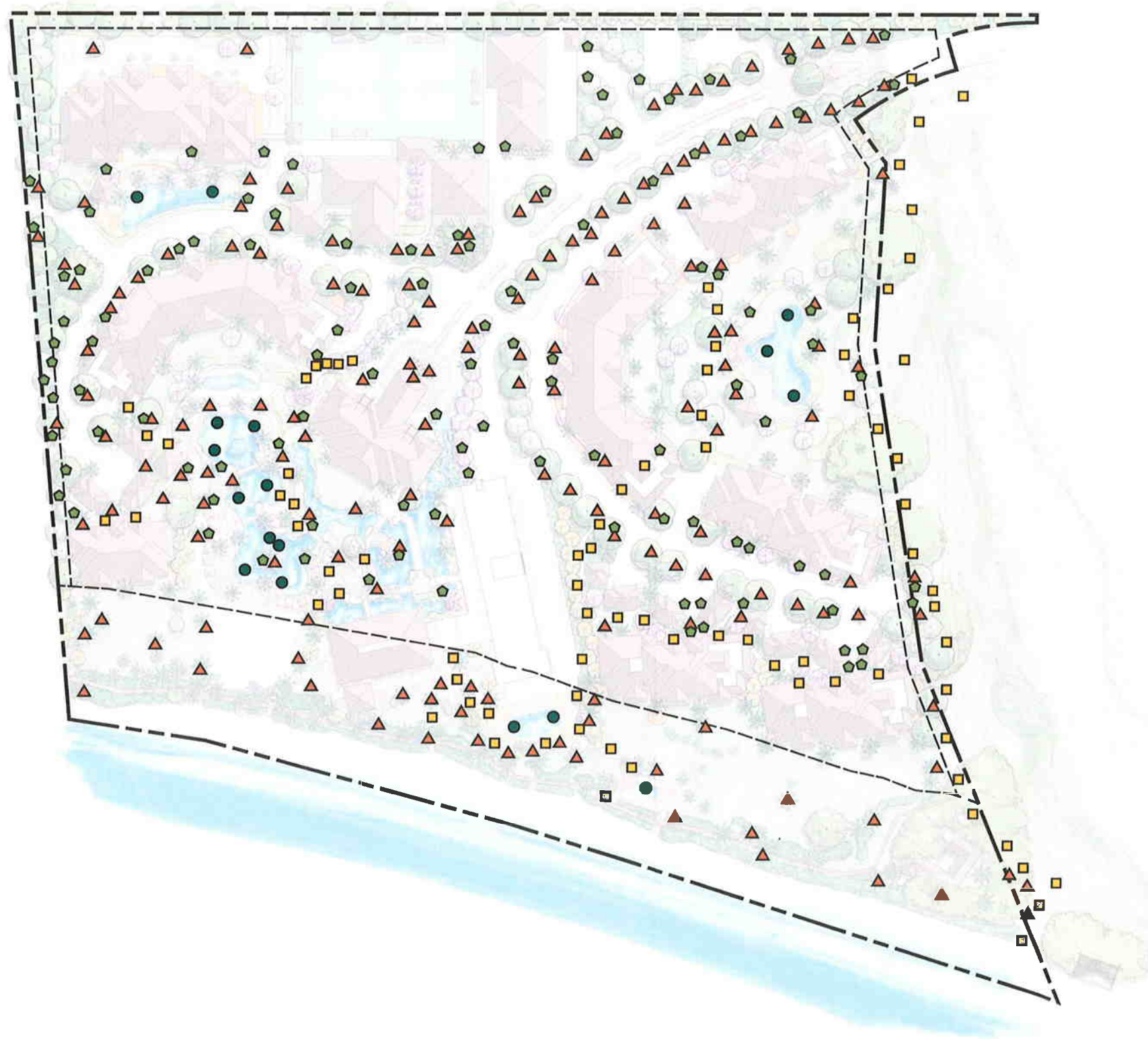




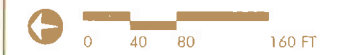
Landscape Lighting Plan








- ▲ UPLIGHT
- PATH LIGHT
- ◆ DOWN LIGHT
- WATER FEATURE / POOL LIGHT



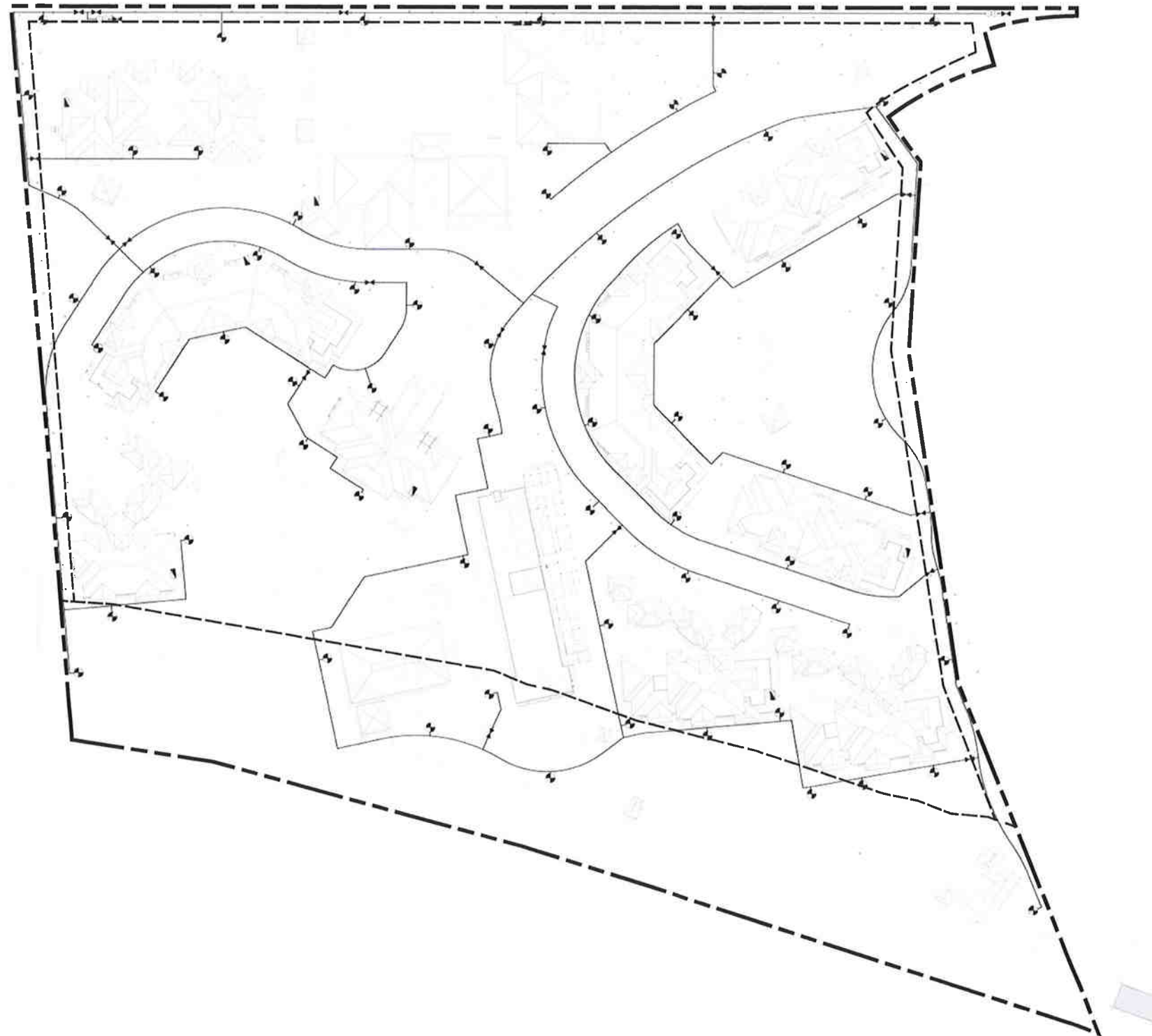
**Irrigation Plan**



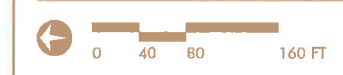
-  PVC SCH. 40 3" IRRIGATION MAINLINE
-  REMOTE CONTROL VALVE CLUSTERS
-  ISOLATION GATE VALVE
-  BACKFLOW PREVENTION DEVICE
-  IRRIGATION CONTROLLER/FIELD SATELLITE

**NOTE:**

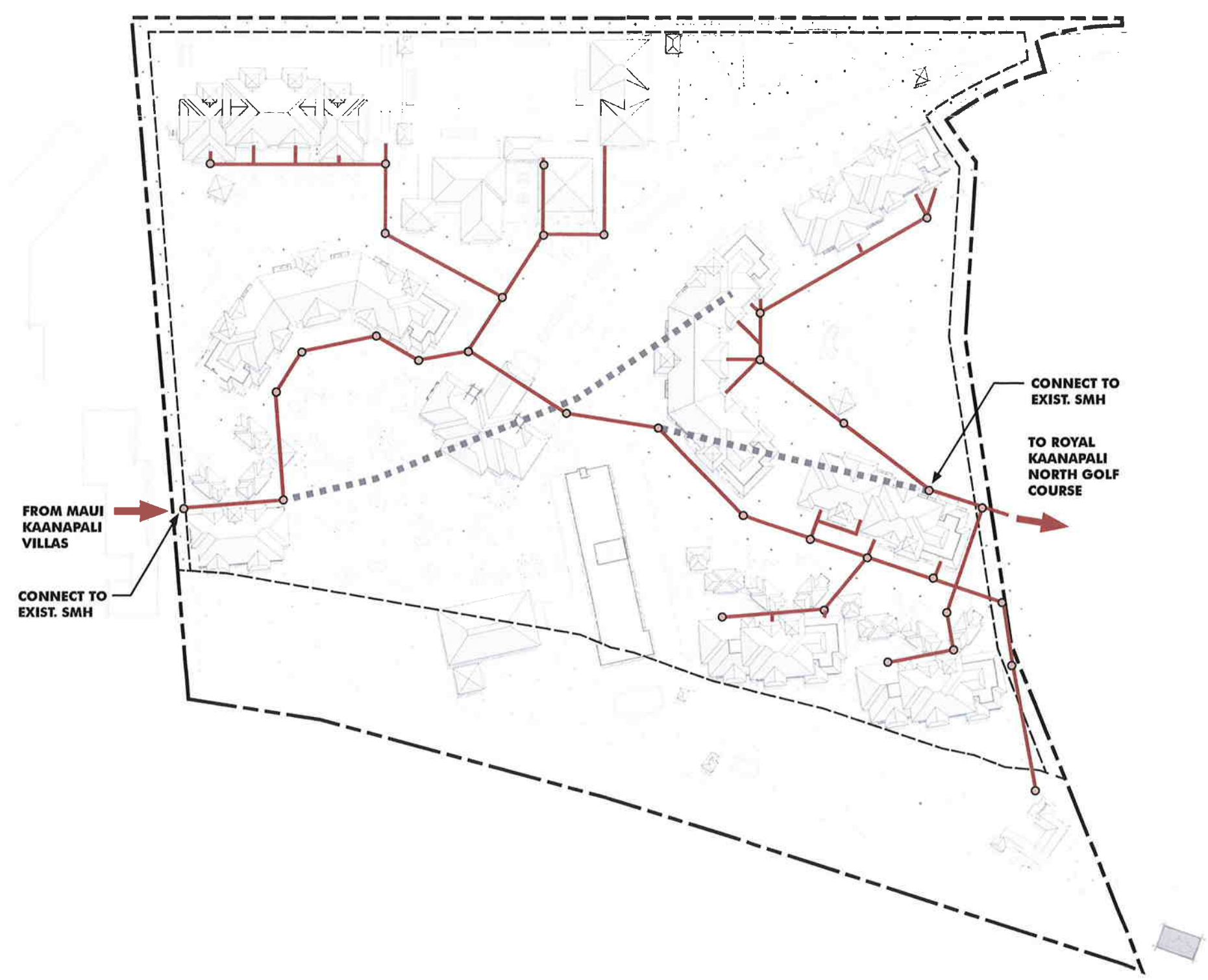
1. TOTAL IRRIGATION WATER DEMAND: 76,608 GPD
2. TWO - 2" IRRIGATION POINTS OF CONNECTION WITH A MAXIMUM FLOW OF 120 GPM EACH.
3. IRRIGATION DESIGN WILL ACCOMMODATE FUTURE CONNECTION TO NON-POTABLE SYSTEM



Utility Service: Proposed Sewer System

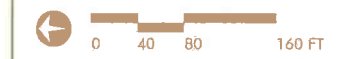






- EXISTING SEWER LINE TO BE REMOVED
- PROPOSED SEWER LINE
- PROPOSED SEWER MANHOLE





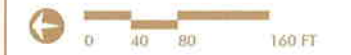
**Utility Service: Proposed  
Water System**



-  EXISTING WATER LINE TO BE REMOVED
-  PROPOSED WATER LINE
-  PROPOSED WATER METER
-  PROPOSED FIRE HYDRANT



**Utility Service: Proposed  
Drainage System**



- ■ ■ ■ ■ EXISTING DRAINAGE LINE TO BE REMOVED
- PROPOSED DRAINAGE LINE
- PROPOSED DRAIN INLET

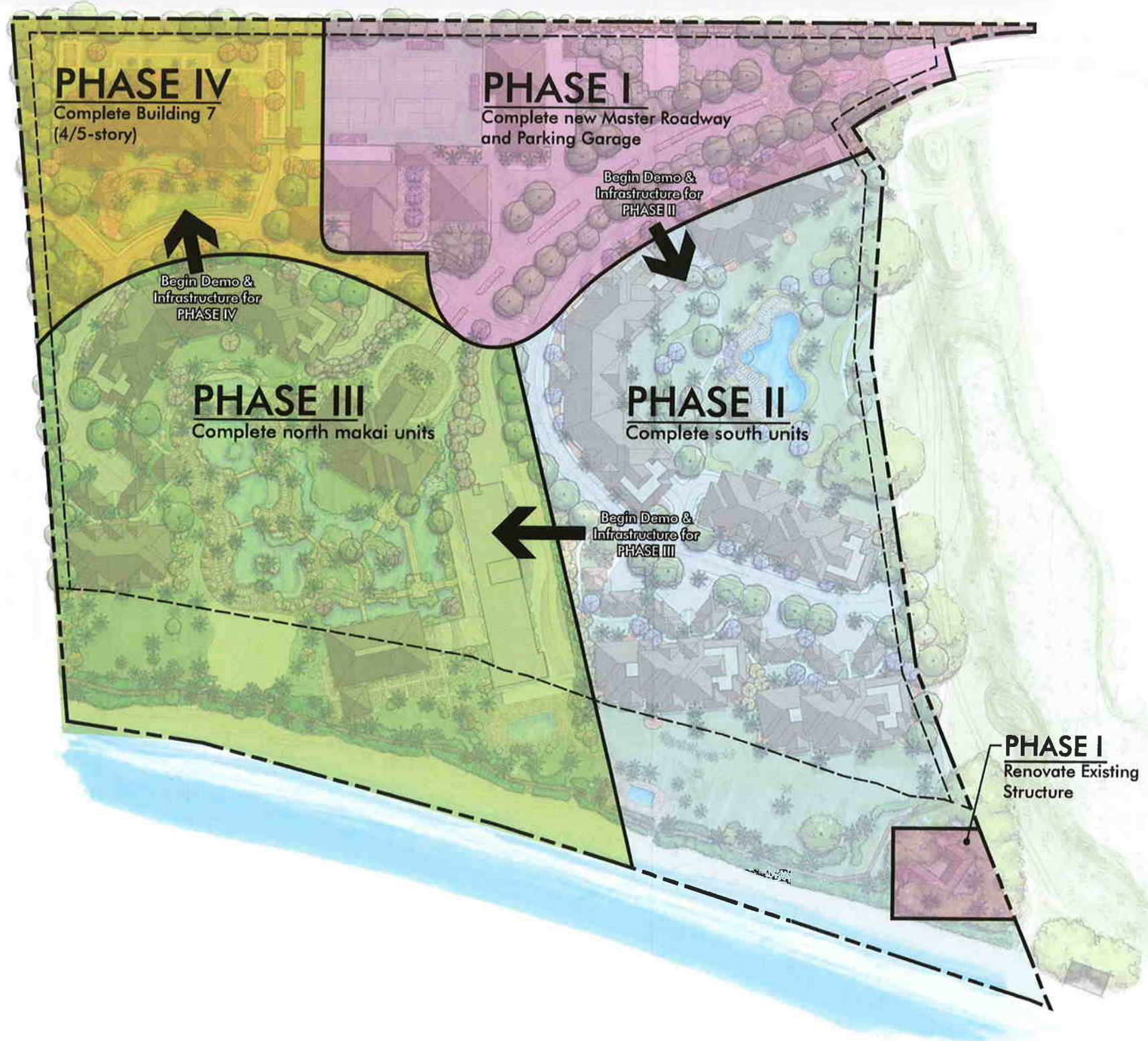


**Grading Plan**





Phasing Plan

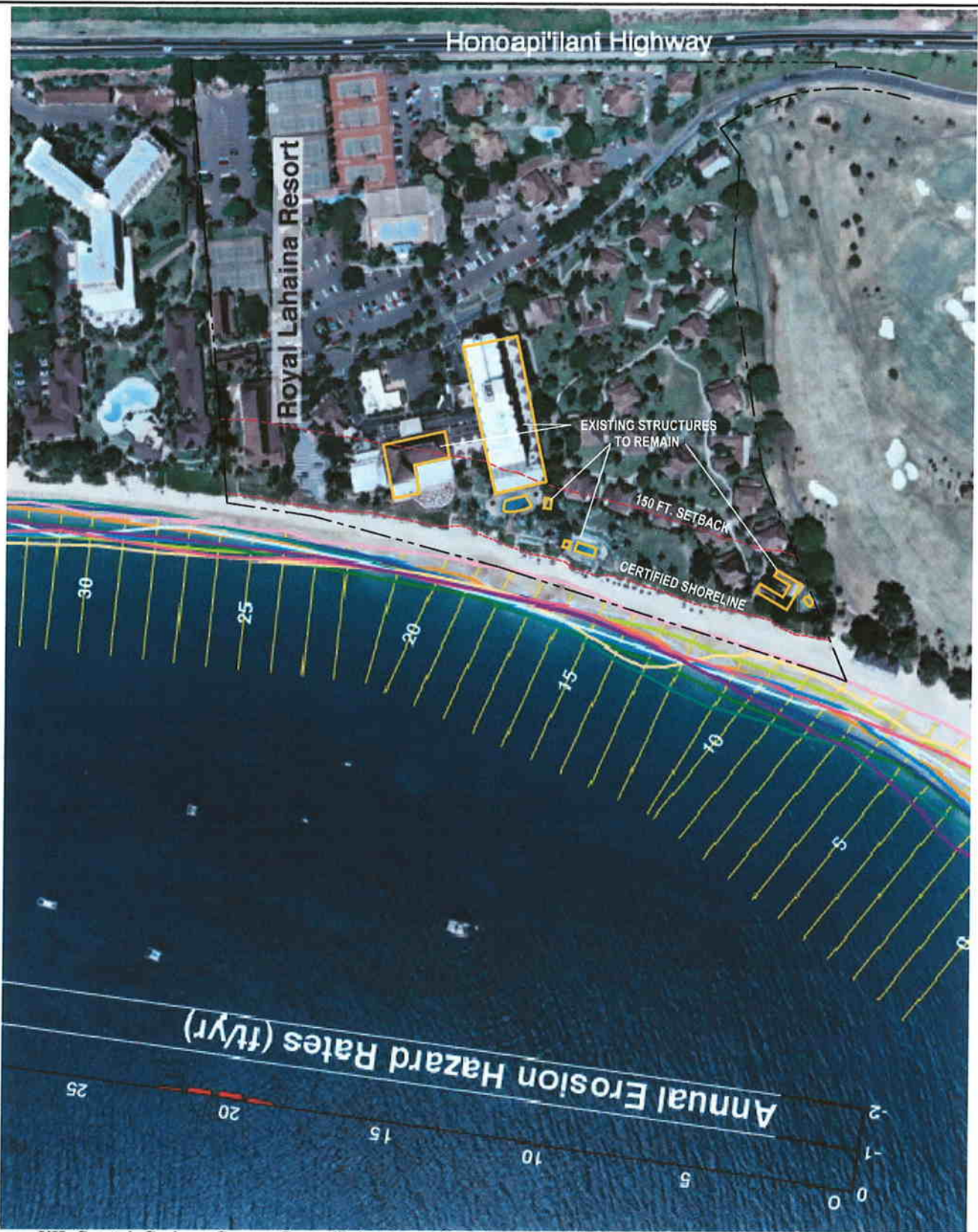


# ***A p p e n d i x K***

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***Shoreline Erosion Hazard  
Rate, Shoreline Certification  
Map and Remaining Structures  
for the Royal Lahaina Resort***





Source: UH Coastal Geology Group, ControlPoint Surveying, Inc. and WCIT Architecture

**Exhibit "K" Royal Lahaina Resort Revitalization** NOT TO SCALE  
**Shoreline Erosion Hazard Rate, Shoreline Certification Map and Remaining Structures**  
**for the Royal Lahaina Resort**

