ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

September 13, 2005

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

Dear Ms. Salmonson:

RE: Final Environmental Assessment for a Self-Storage Facility located at TMK: 4-5-007:004, Lahaina, Island of Maui, Hawaii (EA 2005/0004)

The Maui Planning Commission at its regular meeting on September 13, 2005, 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 **October 8, 2005**, 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:bsv
Enclosures
c: Wayne A. Boteilho, Deputy Director
Kivette A. Caigoy, Environmental Planner
Paul F. Fasi, Staff Planner
Mark Roy, Munekiyo & Hiraga, Inc.
EA Project File
General File
K:\WP_DOCS\PLANNING\EA\2005\0004_SelfStorage\OEQCTransmitFEA.wpd

2005-10-08 MA FONSI WAINE'E SELF STORAGE FACILITY & RELATED IMPROVEMENTS

Final Environmental Assessment

prepared in support of the Special Management Area Use Permit Application for the

PROPOSED WAINEE SELF STORAGE FACILITY AND RELATED IMPROVEMENTS AT TMK (2) 4-5-07:04, LAHAINA, MAUI, HAWAII

Prepared for:

Finance Holdings, Ltd.
and
Accepting Authority,
Maui Planning Commission

September 2005

MUNEKIYO & HIRAGA, INC.

Final Environmental Assessment

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MUNEKIYO & HIRAGA, INC.

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Executive Summary

Applicant:	Finance Holdings, Ltd. 1164 Bishop Street, 10th Floor Honolulu, Hawaii 96813
Type of Document:	Final Environmental Assessment
Legal Authority:	Chapter 343, Hawaii Revised Statutes
Agency Determination:	Anticipated Finding of No Significant Impact
Applicable Environmental Assessment review "trigger":	Use of lands within the Lahaina National Historic Landmark District
Location:	Wainee Street Lahaina, Maui, Hawaii, 96761
Accepting Authority:	Maui Planning Commission 250 South High Street Wailuku, Hawaii 96793 Contact: Kivette Caigoy Phone: (808) 270-7735
Consultant:	Munekiyo & Hiraga, Inc. 305 High Street, Suite 104 Wailuku, Hawaii 96793 Contact: Mark A. Roy Phone: (808) 244-2015
Project Summary:	The applicant, Finance Holdings, Ltd., is proposing the development of a self storage facility at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii. The property is located on Wainee Street (between Kenui Street and Papalaua Street) within the Lahaina National Historic Landmark District. The 18,638 square feet parcel of land is situated within the "Urban" State Land Use district, designated as "Business-Commercial" by the West Maui Community Plan and zoned as "B-2, Community Business" district by the Maui County Zoning. The proposed action will provide a business use and architectural design that is compatible with both surrounding uses and the overall character of Lahaina Town.

Preface

The applicant, Finance Holdings, Ltd., is proposing the development of a 22,780 square foot self storage facility on a parcel identified by TMK (2)4-5-07:04, Lahaina, Maui, Hawaii. Since the parcel is located within the limits of the Lahaina National Historic Landmark District, this Environmental Assessment (EA) has been prepared pursuant to Chapter 343, Hawaii Revised Statutes to document the project's technical characteristics, environmental impacts and alternatives. The EA advances findings and conclusions relative to the significance of the project.

Chapter I

Project Overview

I. PROJECT OVERVIEW

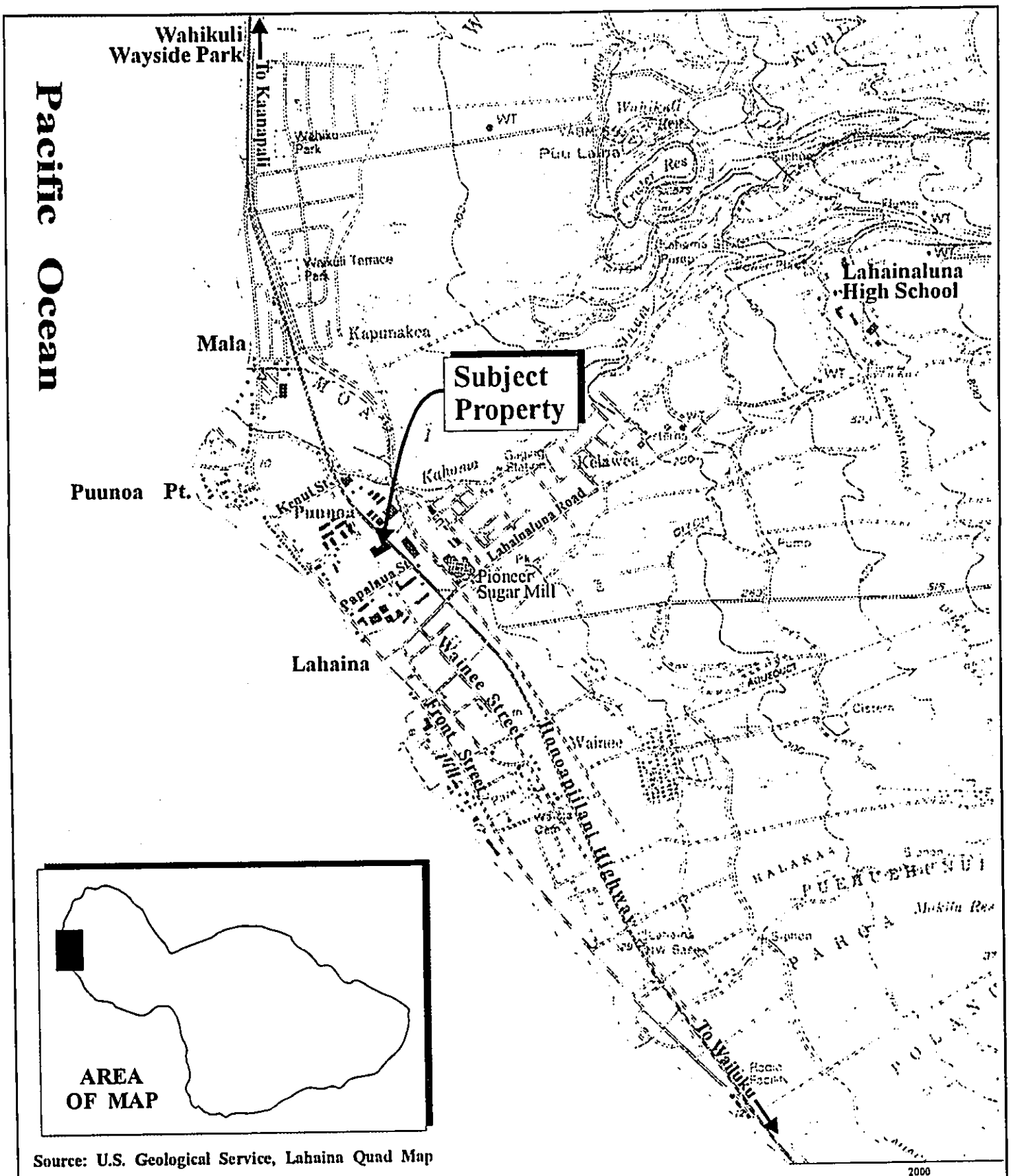
A. PROPERTY LOCATION, EXISTING USE AND LAND OWNERSHIP

The applicant, Finance Holdings, Ltd., is proposing the development of a self storage facility at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii. The subject property encompasses approximately 18,638 square feet and is located on Wainee Street (between Kenui and Papalaua Streets) within the Lahaina National Historic Landmark. See Figure 1. The property, identified as TMK (2)4-5-07:04, is bordered along its mauka (northeast) boundary by the Honoapiilani Highway. See Figure 2. The State of Hawaii's Piilani Elderly Housing Project is located to the northwest of the property, while the restaurant and shops associated with the Longhi Building are located to the immediate southeast of the property. Access to the property is via Wainee Street, a two-lane, improved County roadway which parallels Honoapiilani Highway.

With the exception of a few large mango trees and introduced weeds and grasses, the property is cleared and vacant. See Figure 3.

The subject property is located within the State Land Use "Urban" district. The West Maui Community Plan currently designates the property as "Business/Commercial". The parcel is designated "B-2, Community Business District" by Maui County zoning. In addition to the aforementioned land use designations, the parcel is within the County's Special Management Area (SMA).

The subject property is owned in fee by Finance Holdings, Ltd.



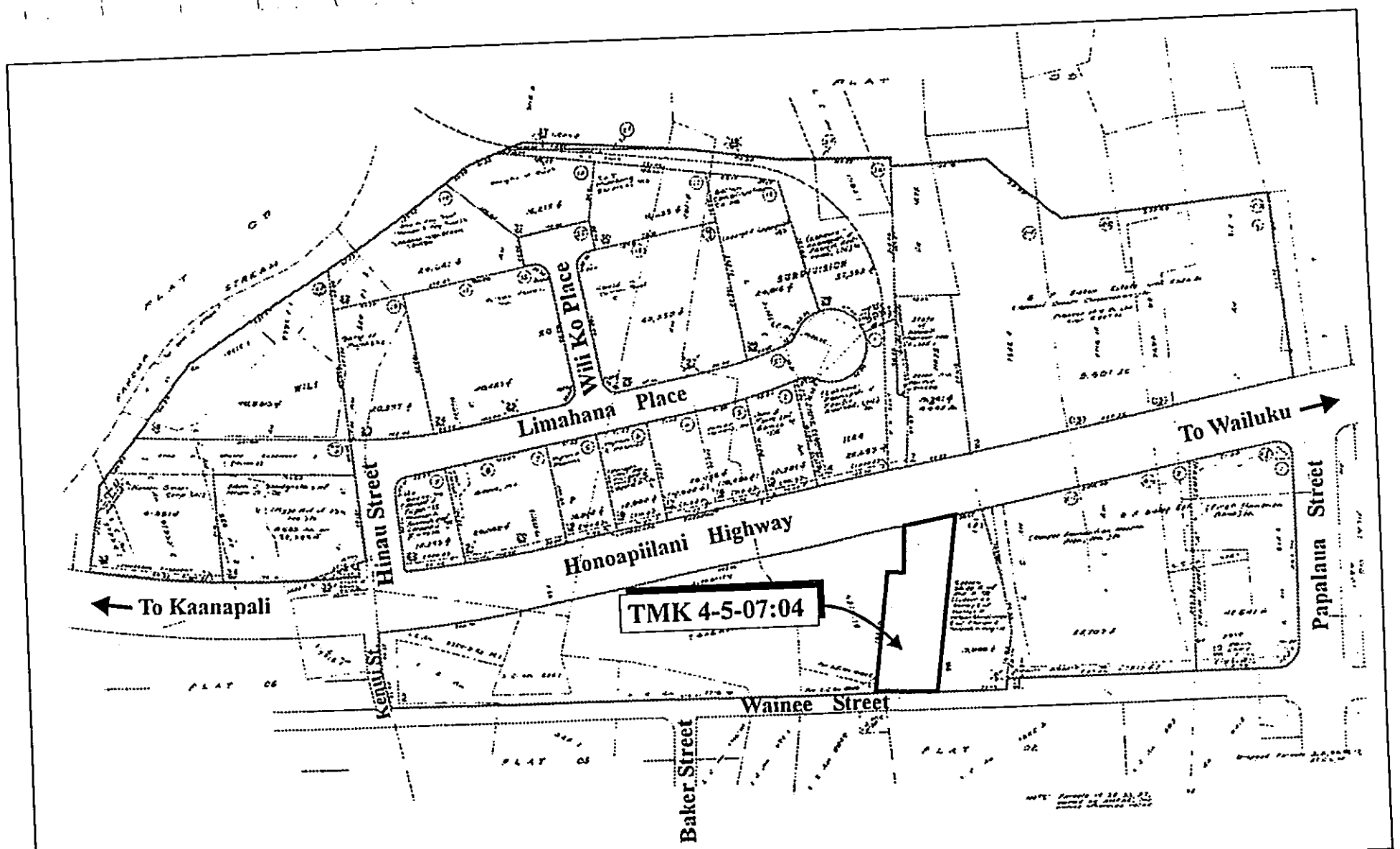
Source: U.S. Geological Service, Lahaina Quad Map

Figure 1 Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii

Regional Location Map

Prepared for: Finance Holdings, Ltd.

MUNEKIYO & HIRAGA, INC.



Source: TMK Plat Map

NOT TO SCALE

Figure 2

Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii

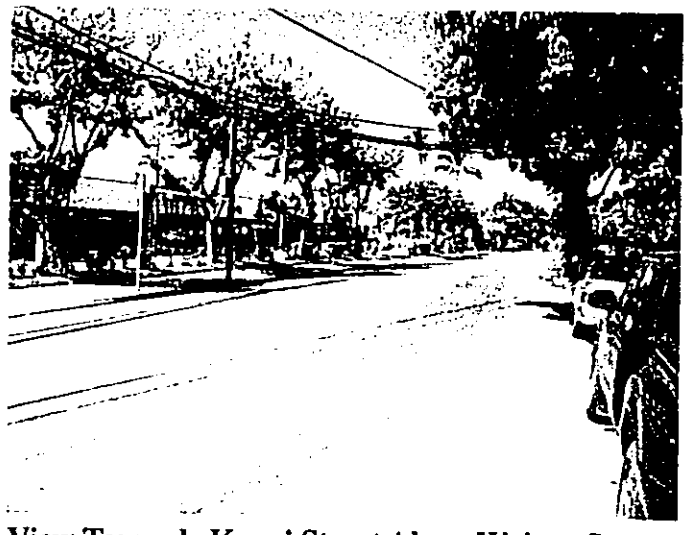
Site Location Map

Prepared for: Finance Holdings, Ltd.

MUNEKIYO & HIRAGA, INC.

View of Site From Across Wainee Street

View Towards Papalaua Street Along Wainee Street



View Towards Kenui Street Along Wainee Street

View of Site From Honoapiilani Highway

Figure 3 Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii
Site Photography

NOT TO SCALE

Prepared for: Finance Holdings, Ltd.

MUNEKIYO & HIRAGA, INC.

B. *PROJECT NEED*

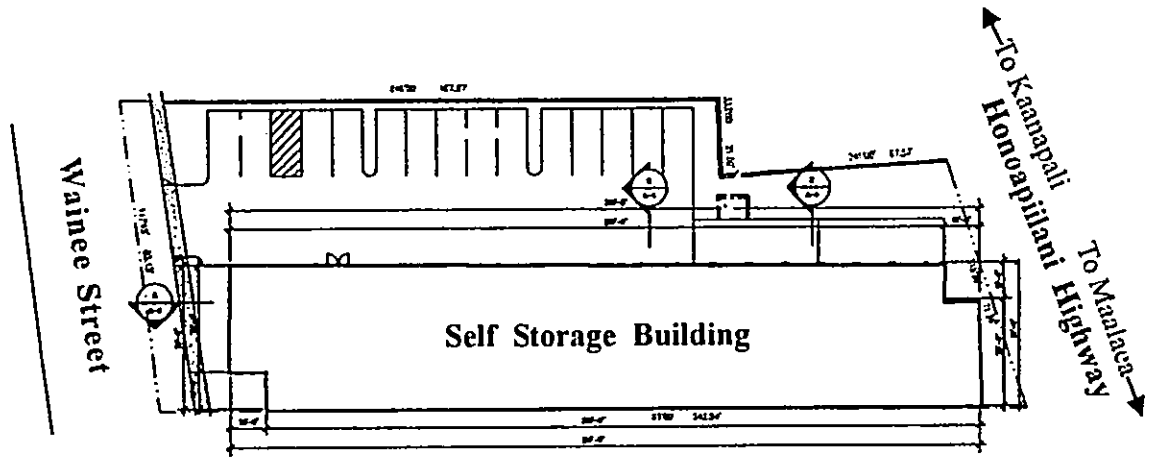
The project site is located within the town of Lahaina in an area of existing urban development. Business/commercial development within the vicinity of the project site is characterized by Anchor Square, West Maui Center, Lahaina Square, Lahaina Center, and the Lahaina Shopping Center. In this regard, the proposed self storage facility represents a land use in consonance with the existing urbanized lands near and around the project site. The proposed project is intended to support the Lahaina business, commercial and residential community by providing easily accessible self storage space.

C. *PROPOSED DEVELOPMENT*

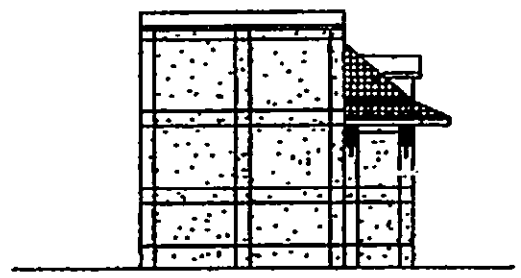
The proposed action will provide a business use and architectural design that is compatible not only with the surrounding land uses in the immediate vicinity of the site, but one that also conforms to the overall character of Lahaina Town.

The proposed self storage building will occupy a building footprint of approximately 7,990 square feet. The maximum building height is set at 35 feet. While the building's exterior architectural elevations will depict a two (2) story configuration, the interior space will be separated into three (3) levels of storage space. See Figure 4. Total floor area provided by the three (3) levels is approximately 22,780 square feet. Related site improvements include the installation of underground utilities (e.g., sewer, water, drainage and electrical systems), paved parking and landscaping.

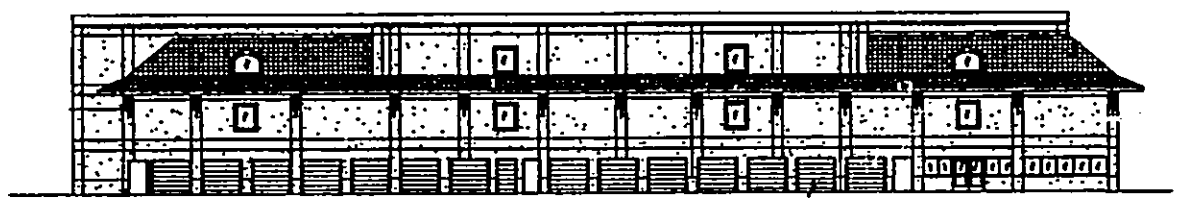
The proposed project use, design and operating hours have been specifically selected for compatibility with the neighboring Piilani Elderly Housing Project. Self storage is a low activity level and low impact use. Further, the posted hours of operation will be limited to daylight hours



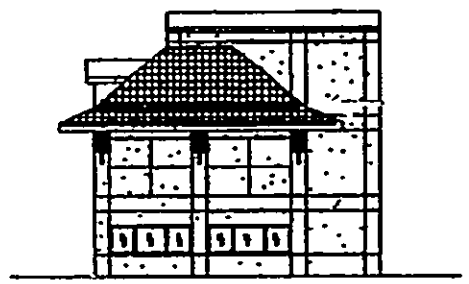
Site Plan



Building Elevation 2
(as viewed from
Honoapiilani Highway)



Building Elevation 1
(as viewed from North)



Building Elevation 3
(as viewed from Wainee Street)

Source: Eric S. Taniguchi, AIA (2005)

Figure 4

Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii
Conceptual Site Plan

NOT TO SCALE

Prepared for: Finance Holdings, Ltd.

MUNEKIYO & HIRAGA, INC.

only. An office has been incorporated within the self storage facility design in order to allow a manager to be present onsite during working hours. The manager will monitor onsite activity and ensure that customers adhere to the use and operational parameters of the facility. A lockable access gate will also be installed at the entrance point from Wainee Street in order to further guarantee the effective regulation of customer access to storage units. It is noted that individual storage units shall not be utilized for retail purposes.

The estimated cost of the project is $1,025,100.00. Construction is anticipated to begin in the fourth quarter of 2006. Construction duration is estimated to be eight (8) months.

D. PERMITTING REQUIREMENTS

Inasmuch as the subject property is located within the County of Maui, Special Management Area (SMA), a SMA Use Permit is required from the Maui Planning Commission. In addition, the subject property is located within the Lahaina National Historic Landmark, triggering the Environmental Assessment (EA) requirement. Accordingly, this EA has been prepared pursuant to Chapter 343, Hawaii Revised Statutes (HRS).

Chapter II

Description of the Existing Environment

II. DESCRIPTION OF EXISTING ENVIRONMENT

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Use

The project site is situated on the fringe of Lahaina's business/commercial district. Numerous retail and office commercial complexes are located in close proximity to the property. Land uses to the immediate south of the property, along Wainee Street, include the restaurant and shops associated with the Longhi (Commercial) Building, Kaiser Permanente's Lahaina Clinic, and First Hawaiian Bank's Lahaina Branch. The Lahaina Center is located across from the western boundary of the subject property, at the corner of Wainee Street and Papalaua Street. Honoapiilani Highway, the West Maui Center, and the Lahaina Kaanapali & Pacific Railroad Station lie to the east of the property, with numerous commercial outlets fronting the highway north of Pioneer Mill Company Ltd.'s former sugar mill. In addition, Anchor Square, Lahaina Square, and the Lahaina Shopping Center are located along Wainee Street, to the south of its intersection with Papalaua Street. The State of Hawaii's Piilani Elderly Housing Project complex borders the property to the north, with Hale Mahaolu's Lahaina Surf apartment complex located to the north of the Lahaina Center parking lot.

2. Climate

Like most areas of Hawaii, Lahaina's climate is relatively uniform year-round. Lahaina's tropical latitude, its position relative to storm tracts and the Pacific anticyclone, and the surrounding ocean combine to produce this stable climate. Variations in climate among different regions on Maui are, therefore, dictated by the inherent characteristics of local terrain.

Average daily temperatures in Lahaina typically range between 70 degrees and 88 degrees Fahrenheit. August is historically the warmest month, while January and February are the coolest.

Rainfall in West Maui is both low and highly seasonal in nature, with most precipitation occurring between the months of October and April when winter storms hit the area. Situated on the leeward side of the West Maui Mountains, this dry region receives most of its rainfall in late afternoon and early evening, after seabreezes take moisture upslope during the day.

The winds in the Lahaina area are also seasonal, although northeasterly tradewinds are predominant. Wind patterns also vary on a daily basis, with tradewinds generally being stronger in the afternoon. During the day, winds blow onshore toward the warmer land mass. This process reverses in the evening when breezes blow toward the relatively warm ocean.

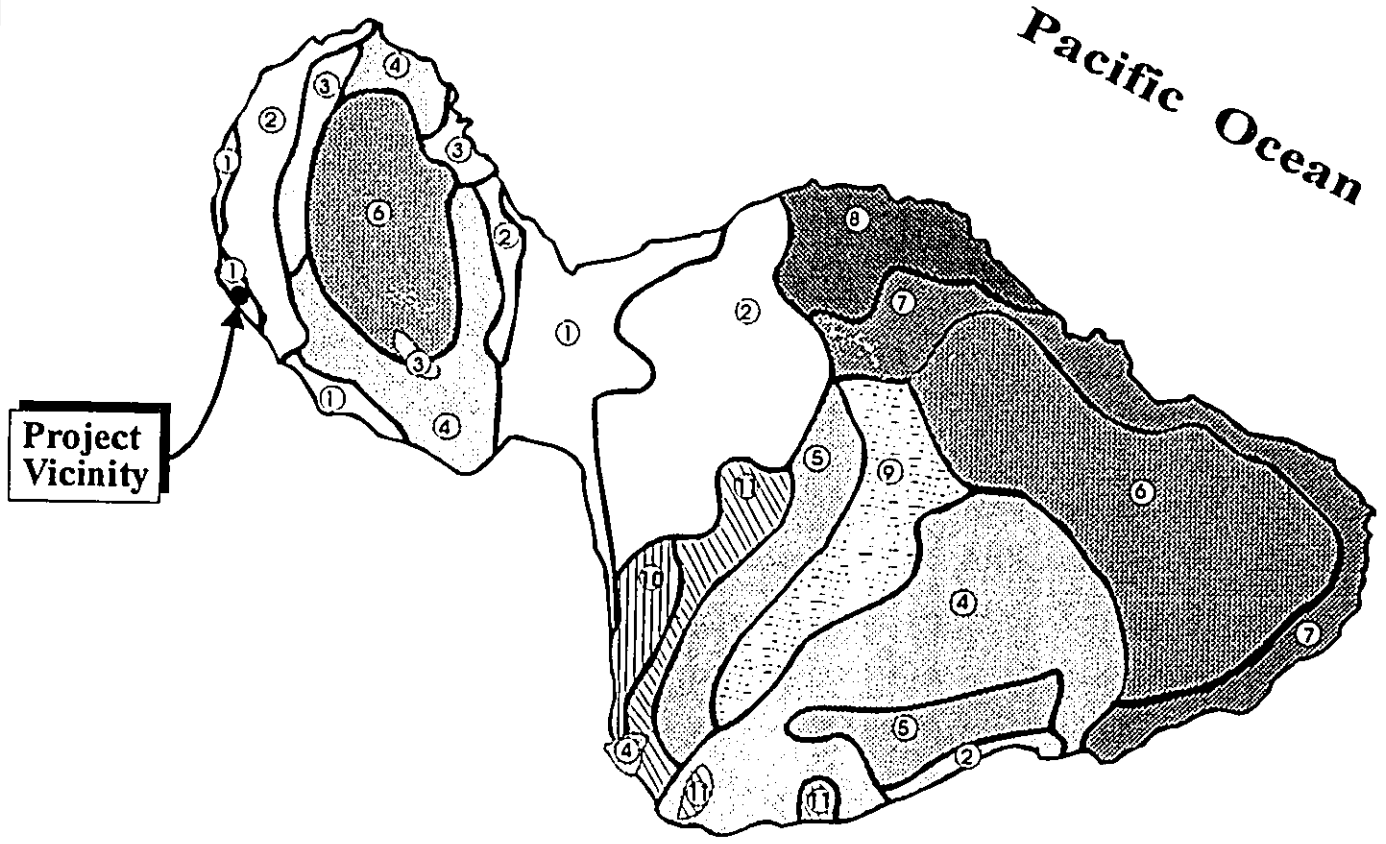
3. ***Topography and Soils***

The subject property is relatively flat, with a smooth and level terrain. The existing ground elevations range from approximately 24-feet at the mauka property line, to approximately 20-feet along Wainee Street. This elevation differential represents an average ground slope of approximately 1.8 percent from northeast to southeast.

Soils at the project site belong to the Pulehu-Ewa-Jaucas association. See Figure 5. The specific soil type at the project site consists of the Ewa Series' Ewa Silty Clay Loam (EaA). See Figure 6. The Ewa Silty Clay Loam soil type is characterized by

LEGEND

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



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

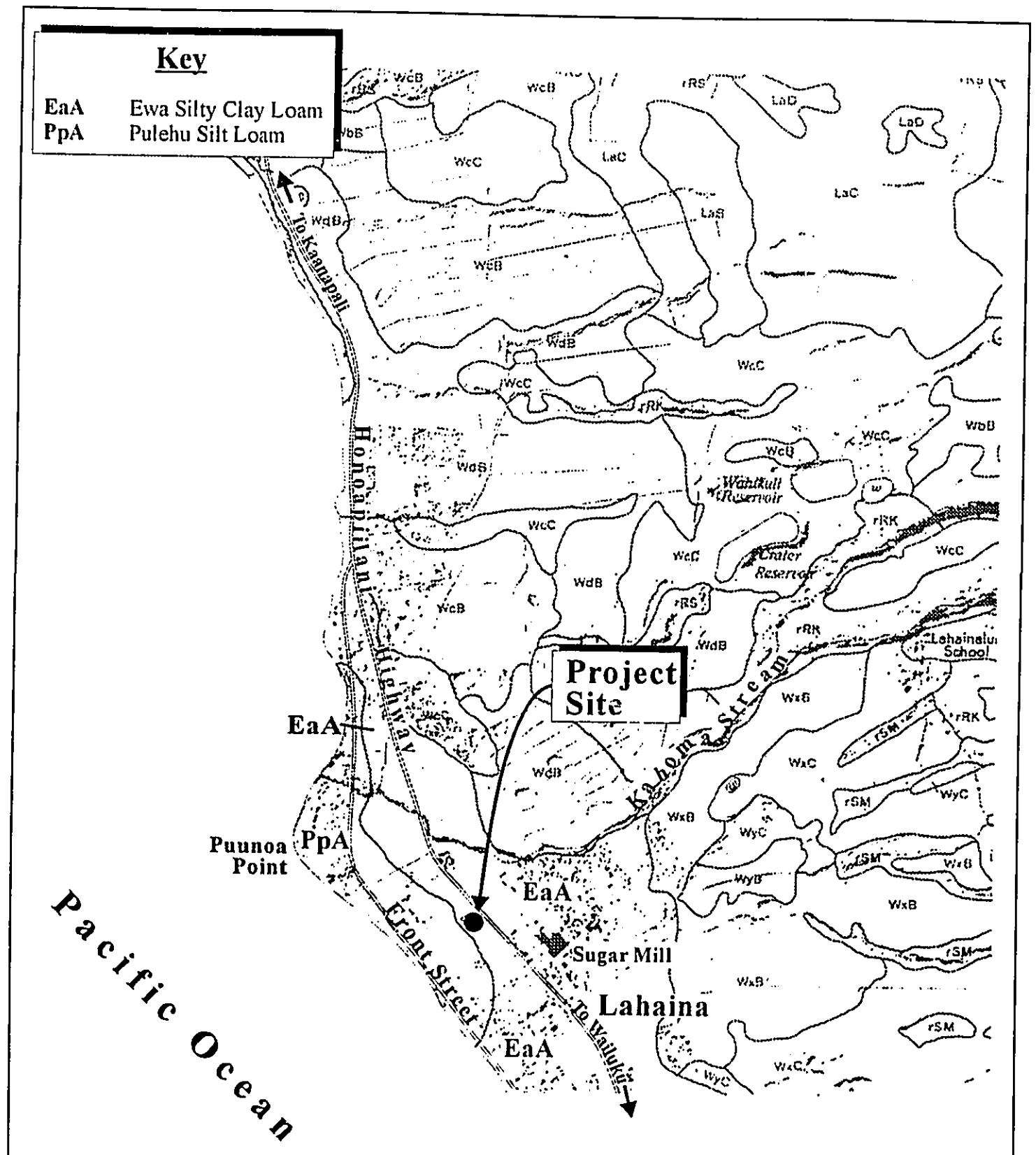
Figure 5 Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii

NOT TO SCALE

Soil Association Map

Prepared for: Finance Holdings, Ltd.

MUNEKIYO & HIRAGA, INC.



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

Figure 6 Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii

Soil Classification Map

Prepared for: Finance Holdings, Ltd.

MUNEKIYO & HIRAGA, INC.

slopes from 0 to 3 percent, as well as having very slow runoff and very slight erosion hazard. Vegetation normally associated with this series include Fingergrass, Kiawe, Koa Haole, Klu and Uhaloa.

4. ***Flood and Tsunami Zone***

The Flood Insurance Rate Map (FIRM) for this area of the island designates the project site as being within Zone "C". See Figure 7. Zone "C" indicates an area of minimal flooding. The entire site is located mauka (northeast) of coastal flood zones.

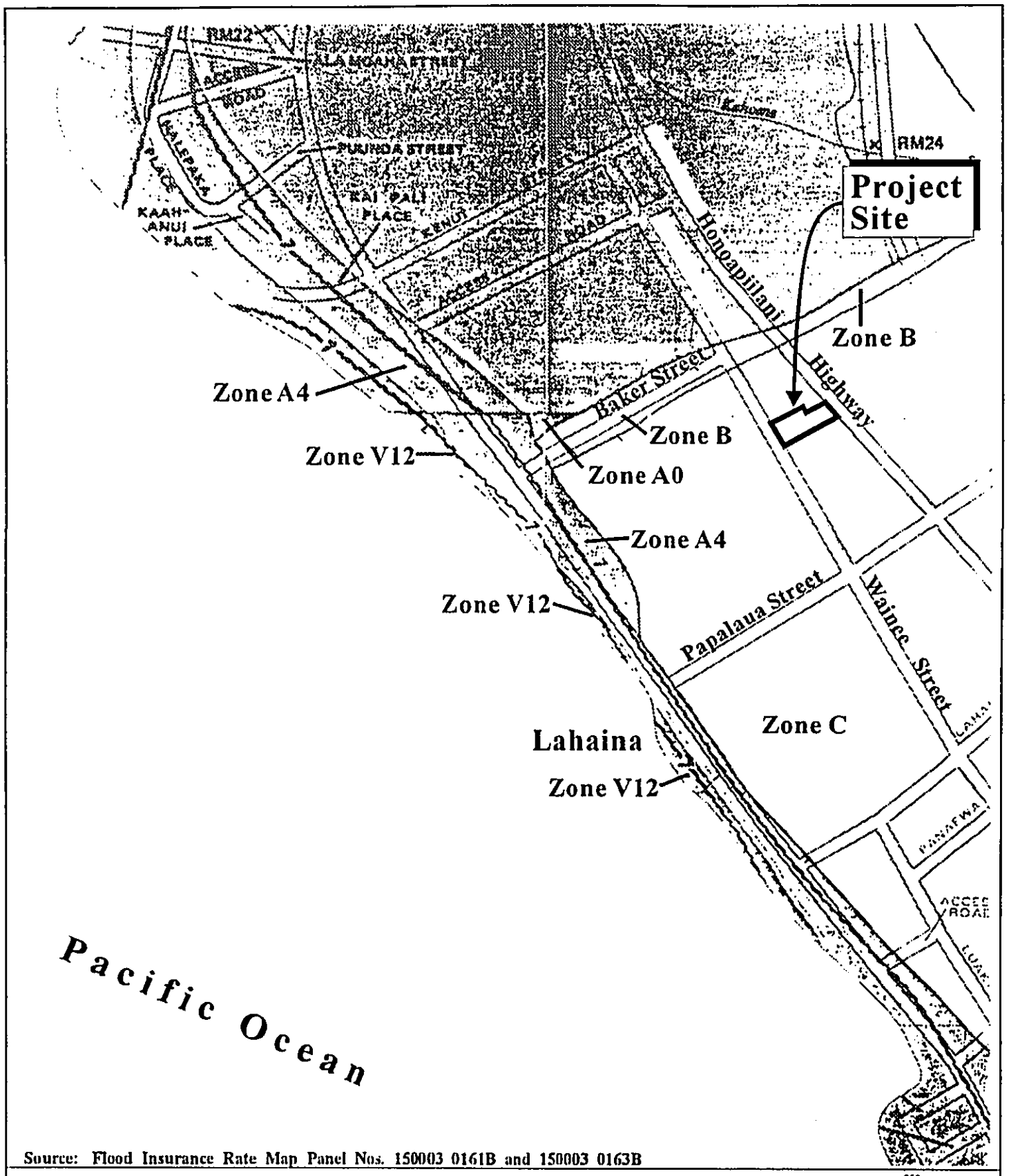
5. ***Flora and Fauna***

The site has been previously cleared and, with the exception of a few mature mango trees, is sparsely vegetated with exotic weeds and grasses. There are no rare, threatened or endangered species of plants found at or in the vicinity of the property.

Animal life which may be found in this area is typical of the urbanized regions of West Maui. Domestic mammals found in the area include dogs and cats. Avifauna commonly found in this area include the common mynah, Japanese white-eye, spotted dove, barred dove and house finch. There are no known endangered or rare species found in the vicinity of the project site.

6. ***Air Quality and Noise***

The subject property in general does not experience adverse air quality conditions. Airborne pollutants that do exist can largely be attributed to automobile exhaust from Honoapiilani Highway and other surrounding roadways. There are large scale agricultural activities located in the nearby vicinity which would contribute to adverse air quality conditions.



Source: Flood Insurance Rate Map Panel Nos. 150003 0161B and 150003 0163B

Figure 7 Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii

Flood Insurance Rate Map

0 125 250 500 Feet

Prepared for: Finance Holdings, Ltd.

MUNEKIYO & HIRAGA, INC.

Existing background noise in the vicinity of the site is principally attributed to traffic from the adjoining Honoapiilani Highway and the other surrounding local roadways.

7. ***Archaeological and Historical Resources***

The subject property formerly housed an old single-family dwelling unit of which has since been cleared from the site. Given the extensive surface disturbance in the past, the property is not considered significant in terms of historic or archaeological resource value. See Appendix "A". The project site is, however, located within the boundaries of the Lahaina National Historic Landmark District, an area listed on the National Register of Historic Places. Given the presence of a number of Land Commission Awards (LCAs) in the surrounding area and the potential existence of subsurface deposits, an Archaeological Inventory Survey was completed for the project site by Archaeological Services Hawaii on August 4, 2005. No significant surface or subsurface archaeological resources were identified during the completion of fieldwork for the Archaeological Inventory Survey. See Appendix "A-1".

8. ***Cultural Context***

The Lahaina District was considered to be a favorable place by high chiefs because of its natural resource qualities and its proximity to Lana'i and Moloka'i (Rosendahl, 1994). The majority of lands up to approximately the 700-foot elevation comprised a nearly continuous band of agricultural and related habitation features. Initial development of the field systems likely occurred between AD 1200 to 1400. Seasonal dryland agricultural practices

eventually evolved to year-round cultivation as water diversion and distribution improvements were implemented.

Historical accounts document Lahaina as an important population center. Such accounts note the continued presence of agriculture through the early 1800's. Crops included taro, potatoes, yams and sugarcane.

With the decline of the whaling industry, which brought a new populace to Lahaina, the sugar industry began to evolve. The sugar industry was developed in the mid-1800's and over the next few years, further developed with the eventual consolidation of multiple smaller mills into what is known today as Pioneer Mill Company, Ltd. As with other sugar plantation communities, the late 1800's and early 1900's saw the rapid expansion and growth of the Pioneer Mill Company. In the early part of the 20th century, Pioneer Mill controlled approximately 12,500 acres of land (Xamanek Researches, 2000). A 1919 map by W.E. Wall further reveals that approximately 15,000 acres were under sugarcane cultivation by Pioneer Mill (Rosendahl, 1989.) Sugar cultivation areas extended from Ukumehame to Honokowai.

In addition to sugar, pineapple was established as a viable commercial crop in West Maui. Baldwin Packers opened a cannery in Lahaina in 1919 to provide the product processing component of the pineapple industry. Pineapple cultivation lands are generally delineated from Honokowai, north to Honokohau.

The historic significance of Lahaina Town itself is well documented. Lahaina was the home of Kahekili until his death in 1794 (Spenser

Mason Architects/Austin Tsutsumi & Associates, Inc., 1988). It became the home of Kamehameha I and was designated the capital of the Hawaiian Kingdom until 1843. Evidence of this historic era is apparent today, and includes remnants of Kamehameha's Brick Palace which was built at Lahaina Harbor in 1803 (Belt Collins & Associates, 1992).

The restoration of Moku'ula, the royal residence of King Kamehameha III, is further evidence of the historic significance of Lahaina to the former Kingdom of Hawaii. According to legend, Moku'ula was built over a grotto of the highest protector mo'o goddess, Kihawahine, who swam in the surrounding Mokuhinia. The goddess, Kihawahine was frequently evoked by Kamehameha I during his conquest of the Hawaiian Islands (P. Christian Klieger, 1998).

9. ***Scenic and Open Space Resources***

The project site is located along the Honoapiilani Highway in Lahaina. This highway represents West Maui's sole access route to the central and southern areas of Wailuku, Kahului and Kihei. Despite the urbanized nature of the surrounding area, scenic resources in the vicinity of the site include the West Maui Mountains to the east, as well as the Pacific Ocean and the offshore island of Lanai, both of which can be seen off to the west beyond the Front Street coastal area. Other open space resources in the region include the vast expanse of agricultural lands that lie between the mountains and the existing urbanized areas. The project site itself is not a part of a scenic corridor.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Regional Setting

The majority of lands in West Maui are either designated by the State as "Conservation" or "Agricultural". Generally, "Conservation" lands occupy the higher elevations, while the "Agricultural" district spans the foothills of the West Maui Mountains.

"Urban" designated lands occupy the lower elevations along the coast and include the communities of Lahaina, Kahana-Napili-Kapalua and Kaanapali. The resort communities north of Lahaina include hotels and visitor-oriented condominiums. Lahaina, meanwhile, is more typical of a small town center. The town contains several shopping centers and retail business areas, and serves as a core for the region's residential housing.

Part of West Maui's attraction can be attributed to its year-round dry and warm climate, complemented by its many white-sand beaches and scenic landscape. Visitor accommodation can be found in Lahaina as well as the resort communities of Kaanapali, Honokowai, Kahana, Napili and Kapalua.

The Kapalua-West Maui Airport at Mahinahina, owned by the State of Hawaii, Department of Transportation, conveniently links West Maui to Oahu and other neighbor islands.

2. Population

The resident population of the West Maui Community Plan region has demonstrated a substantial increase over the last two decades. Population gains have been especially evident over the last 30 years as the rapidly developing visitor industry has attracted many

new residents. The population of the Lahaina region rose from 14,574 to 17,967 persons over the 10-year period from 1990 to 2000, an increase of 23.3 percent (SMS, 2002).

The resident population is further expected to increase by 41.5 percent over the next 20 years with projections for the years 2010 and 2020 set at 21,663 and 25,431 persons, respectively (SMS, 2002).

Population growth at the County level exhibits a similar pattern. The County's 1990 resident population of 91,361 increased 28.8 percent to 117,644 by 2000 (SMS, 2002). A 36.1 percent growth in the resident population of the County is expected over the next 20 years, with projections to the years 2010 and 2020 estimated at 138,665 and 160,090, respectively (SMS, 2002).

3. ***Economy***

The economy of Maui is heavily dependent upon the visitor industry. The dependency on the visitor industry is especially evident in West Maui, which is one of the State's major resort destination areas. Major hotels in this region include the Hyatt Regency Maui, Maui Marriott Resort and Ocean Club, Westin Maui, the Sheraton Maui, the Kapalua Bay Hotel & Villas, and the Ritz-Carlton.

West Maui's visitor orientation is reflected in the unique character and history of Lahaina Town, which serves as a center for retail outlets, as well as tourism activities.

In addition to the visitor industry, pineapple cultivation is established as a vital component of the West Maui economy. Lands owned by the Maui Land and Pineapple Company remain an important component of the region's agricultural base. The closure of the Pioneer Mill in 1999 marked the end of sugar cane cultivation in the West Maui region.

C. *PUBLIC SERVICES AND INFRASTRUCTURE*

1. *Solid Waste Disposal*

Single-family residential solid waste collection service is provided by the County of Maui on a once-a-week basis. Residential solid waste collected by County crews is disposed at the County's 55-acre Central Maui Landfill, located four (4) miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill also accepts commercial waste from private collection companies.

A refuse transfer station located about six (6) miles south of the project site at Olowalu serves West Maui residents and accommodates household refuse and green waste, as well as used oil; no commercial waste is accepted at this facility. A private waste disposal service has been contracted by the County to transport waste from this facility to the Central Maui Landfill.

2. *Medical Facilities*

The only major medical facility on the island is Maui Memorial Medical Center, located approximately twenty (20) miles from Lahaina, midway between Wailuku and Kahului. The 196-bed facility provides general, acute, and emergency care services.

In addition, medical services are offered by the Maui Medical Group, Lahaina Physicians, West Maui Healthcare Center, and Kaiser Permanente's Lahaina Clinic.

3. ***Police and Fire Protection***

The project site is within the Maui Police Department's service area, which services all of the Lahaina district. The Department's Lahaina Station is located in the Lahaina Civic Center complex at Wahikuli, approximately one (1) mile east of the project site. The Lahaina Patrol includes 54 full-time personnel, including one (1) captain, one (1) lieutenant and 39 police officers. The remaining six (6) personnel consist of public safety aides and administrative support staff.

Fire prevention, suppression and protection services for the Lahaina District are provided by the Department of Fire and Public Safety's Lahaina Fire Station, located in the Lahaina Civic Center and the Napili Fire Station, located in Napili. The Lahaina Fire Station includes an engine and a ladder company, and is staffed by 30 full-time personnel. The Napili Fire Station consists of an engine company including 15 full-time firefighting personnel.

4. ***Educational Facilities***

The West Maui area is served by four (4) public schools operated by the State Department of Education: Lahainaluna High School, Lahaina Intermediate School, King Kamehameha Elementary III School, and Princess Nahienaena Elementary School. The region is also served by privately operated pre-elementary and elementary schools, such as Sacred Hearts Elementary School on Dickenson Street.

5. *Recreational Facilities*

West Maui is served by numerous recreational facilities offering diverse opportunities for the region's residents. There are approximately 20 County parks in West Maui. About one-third of the County parks are situated along the shoreline and provide for excellent swimming, diving, and snorkeling, as well as fishing, surfing, picnicking, sunbathing and other shoreline-related activities.

In addition, Kaanapali and Kapalua Resorts operate world-class golf courses which are available for public use.

Recreational facilities in close proximity to the proposed site include the Lahaina Aquatic Center, Puamana Park, Malu Ulu Olele Park, and Lahaina Recreation Center.

D. *INFRASTRUCTURE*

1. *Transportation*

Honoapiilani Highway (State Highway 30) is the main roadway serving the West Maui region. This highway is the only link between West Maui and the rest of the island (although an unimproved segment of highway extends around the north coast of the island to Waihee, providing limited access). The highway has a typical two-lane configuration except for a segment between Kaanapali and Lahaina where four (4) travel lanes are provided. Papalaua Street and Kenui Street link Honoapiilani Highway with Front Street.

Wainee Street, a two-lane County roadway aligned on a north-south axis, parallels Honoapiilani Highway and intersects both Papalaua Street and Kenui Street. Access to the site is offered via

Wainee Street, which fronts the project site. The property, therefore, falls within the block defined by the Wainee Street/Papalaua Street intersection and the Wainee Street/Kenui Street intersection.

2. ***Water Systems***

The West Maui region is served by the County's Department of Water Supply water system. The West Maui water system services the coastal areas from Launiupoko to Kaanapali and from Honokowai to Napili. Two (2) surface sources and nine (9) wells are used to supply the County domestic system (County of Maui, May 2003). In addition to the County system, the West Maui region is served by private water systems, which service the Kaanapali and Kapalua Resorts. An existing 12-inch diameter waterline along Wainee Street fronting the project site is available to service the domestic water and fire flow requirements of the project site. See Appendix "B".

3. ***Wastewater Systems***

The County's wastewater collection and transmission system and the Lahaina Wastewater Reclamation Facility (LWRF) accommodate the region's wastewater needs. The LWRF is located in Honokowai along Honoapiilani Highway just north of Kaanapali Resort. The cumulative wastewater flow currently allocated to the LWRF is approximately 6.14 MGD or 92 percent of the 6.7 MGD design capacity (County of Maui, May 2003). There is approximately 5 MGD of wastewater being processed at the plant daily. Wastewater from the subject property will be conveyed to an existing 8-inch diameter gravity sewer lateral located along Wainee Street. A series of force mains and gravity lines convey

wastewater from Lahaina Town to the LWRF. Refer to Appendix "B".

4. ***Drainage***

The drainage infrastructure in Lahaina Town generally consists of short, small capacity culverts with grated inlets along roadways which outlet to the ocean (County of Maui, May 2003).

There are currently no drainage facilities onsite or immediately fronting the project site.

Surface runoff generated on the property sheetflows across the project site in an east to west direction towards Wainee Street. Runoff flows southeast along the existing roadway gutter on Wainee Street, until it is intercepted by the drainage system located at the corner of Wainee Street and Papalaua Street. Flows are then conveyed via existing drainlines to the ocean.

It is estimated that the existing 50-year storm runoff from the project site is 0.53 cubic feet per second (cfs). See Appendix "C".

5. ***Electrical and Telephone Services***

Electrical and telephone service to the West Maui region is provided by Maui Electric Company and Hawaiian Telcom, respectively. Existing overhead utility lines are located along Wainee Street across from the project site. Refer to Appendix "B".

Chapter III

Potential Impacts and Mitigation Measures

III. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Use

The subject property is located within the commercial district of Lahaina Town. Uses to the east (across Honoapiilani Highway), west, and south of the property include retail, dining, banking, medical and other business establishments. The Piilani Elderly Housing Project borders the property to the north. The proposed use of the property for self storage facility is low-impact in nature and offers a transitional use between the high-activity commercial uses (e.g., shopping centers and restaurant) to the south, and the Piilani Elderly Housing Project to the north. The proposed building will be designed to complement its surrounding environs and will be used for storage purposes only, during normal daytime business hours. An onsite manager, as well as a lockable access gate, will ensure customer compliance with requirements of operations. In this regard, the proposed use of the property for a self storage facility is considered to have no adverse impacts upon the surrounding environs.

2. Flora and Fauna

The property has been previously cleared and graded and is located within an urbanized area of Lahaina Town. The removal of the existing flora and the displacement of fauna from the site is not considered a significant adverse impact.

3. Air Quality

Air quality impacts attributed to the project will include dust generated by short-term, construction-related activities. Site work such as clearing, grubbing and grading, and utilities construction for

example, will generate airborne particulates. Best Management Practices (BMPs) incorporating various dust control measures, such as regular watering and sprinkling, will be implemented to minimize nuisance impacts on adjacent residents.

There are no long-term air quality impacts anticipated from the project.

4. ***Noise***

As with air quality, ambient noise conditions will be temporarily impacted by construction activities. Heavy construction equipment, such as front-end loaders, and materials-carrying trucks and trailers, would be the dominant source of noise during the site construction period. Proper equipment and vehicle maintenance are anticipated to minimize noise levels. In addition, equipment mufflers or other sound attenuating devices will be utilized as required in order to reduce nuisance impacts. Construction activities will be limited to normal, daylight working hours.

It is noted that special care will be exercised to reduce noise impacts across all project phases in consideration of the neighboring Piilani Elderly Housing Project.

From a long-term perspective, the proposed project is not anticipated to generate adverse noise impacts.

5. ***Archaeological Historic Resources***

The subject property, which previously contained a single-family residence, has been cleared and graded and is not considered significant in terms of historic or cultural resource value. The State

Historic Preservation Division (SHPD) was consulted in 1998/1999 during the preparation of a previous Change in Zoning (CIZ) request for the subject property. In letters dated November 23, 1998 and March 18, 1999, the SHPD indicated that the subject property may have once been the location of pre-contact agriculture and possibly scattered housing. However, 20th century residential development has since altered the landscape, making it unlikely that any historic sites remain intact. Refer to Appendix "A". An archaeological inventory survey was completed for the subject property on August 4, 2005 by Archaeological Services Hawaii due to the location of the site in the Lahaina National Historic Landmark District and the presence of a number of Land Commission Awards (LCAs) in the surrounding area. No significant surface or subsurface archaeological resources were identified during completion of fieldwork for the Archaeological Inventory Survey. Refer to Appendix "A-1".

6. ***Cultural Impact Considerations***

To obtain a broader range of cultural perspectives in the proposed project area, an interview with a knowledgeable informant was conducted during the preparation of the Draft Environmental Assessement. Information provided by interview held with Stuart Kahan follows.

Stuart Kahan

Stuart Kahan, president of the Piilani Elderly Housing Project Community Association was interviewed at 11:30 a.m. on Wednesday, March 16, 2005. The interview was carried out following a community meeting and project overview with members of the Piilani Elderly Housing Project.

Mr. Kahan first moved to Lahaina in 1978. He has been a long-term resident at the Piilani Elderly Housing Project for almost 15 years. Before becoming disabled and moving into the project, Mr. Kahan held a variety of jobs and residences in the West Maui area, including working and living on fishing boats. He recalled living adjacent to the old Lahaina Cannery site and that this area (located north of the Wainee Self Storage property) was frequently inundated by flood water from Kahoma Stream.

Mr. Kahan noted that the Piilani Elderly Housing Project was originally constructed in 1969. He also recalled that much of the surrounding area, especially from Baker Street to Papalua Street, was cultivated for sugar cane by Pioneer Mill. He mentioned that the Lahaina Sugar Cane Train was in operation at that time and that the Pioneer Mill facilities were located across the street along Honoapiilani Highway. Mr Kahan mentioned that the Honoapiilani Highway, which was a two-lane road at that time, was not widened until sometime between 1984 and 1989.

When asked about the subject property in 1978, he mentioned that a single-family residential house existed on the site. It was an old plantation house, set back approximately 30 to 50 feet from the road, and was owned and occupied by Arthur Horswell and his family. Arthur and his wife raised their family in the house. He also recalled the demolition of the Horswell house in the early 1980's.

Mr. Kahan could not recall any cultural practices taking place on the subject property. He did, however, note that the property had acted in the past as a buffer, between the commercial and residential areas along Wainee Street. He likes the greenery of the site but emphasized that the subject property has attracted homeless people and other problems (e.g., trashing, fighting, etc.) in recent years. While Mr. Kahan stated support for the proposed project, he also stressed the importance of reassuring elderly residents in the area that safety and security will continue to be a priority in both the development and operational phases of the self storage facility.

Cultural Assessment

Based on State archaeological reviews, land use history and information gained from the informant interview, the proposed project is not anticipated to have an adverse impact upon cultural resources. The site is in the midst of the urbanized Lahaina area and was previously used for single-family purposes. There are no cultural practices conducted on the property and the site's limited size and locational context does not indicate any adverse implications for cultural practices and resources.

7. ***Scenic and Open Space Resources***

The proposed improvements will integrate a low-rise structure (35 feet), landscaping, and parking to provide facilities which satisfy spatial requirements and are compatible with the overall character of both the surrounding environment and Lahaina Town. In addition, the building will be compatible in height and mass with surrounding structures and will be in keeping with the existing townscape.

It is noted that the self storage facility has been designed in accordance with the Lahaina Design Guidelines.

The subject property is not part of a scenic corridor and will not affect views from inland vantage points. Accordingly, the proposed project is not anticipated to have an adverse impact upon the visual character of the surrounding area.

B. ***IMPACTS TO THE SOCIO-ECONOMIC ENVIRONMENT***

The proposed development of a self storage facility on the subject property will support the construction industry in the short term. In the

long term, the proposed self storage facility will serve as a business use which will meet the needs of local residents and businesses seeking readily accessible storage space.

In itself, the project is not of a scale or magnitude which will affect the local population base. The project is intended to meet the increasing need for storage space by residents and businesses.

C. *IMPACTS TO PUBLIC SERVICES*

Inasmuch as the proposed use of the property is not expected to increase the resident or visitor population, impacts of the proposed action upon public services are not anticipated. Specifically, demands upon existing recreational and educational facilities will not be adversely impacted by the proposed development of a self storage facility. Similarly, the proposed project will not significantly affect the requirements or service areas for fire and police operations.

D. *IMPACTS TO INFRASTRUCTURE*

1. *Roadways*

A Traffic Assessment Report (TAR) was prepared in February 2005 by Wilson Okamoto Corporation in order to address any potential impacts along Wainee Street. See Appendix "D". A field investigation was conducted on January 18 and 19, 2005 and consisted of both manual-turning movement count surveys and 24-hour mechanical count surveys. The TAR includes an analysis of existing traffic flows along Wainee Street (from Papalaua Street to Kenui Street), as well as potential impacts to Wainee Street at its intersections with Kenui Street and Papalaua Street. Despite historical trends indicating a relatively steady net decrease in traffic demands in the project vicinity, an annual traffic growth rate of 2

percent was conservatively assumed and applied to existing traffic data to achieve projected Year 2007 traffic demands. The TAR concluded that traffic operations in the Year 2007 both with or without project conditions are expected to remain similar to existing conditions. Based on the analysis of the projected traffic impacts, the following recommendations were made for incorporation in the overall project design in order to maintain safe and efficient traffic operations.

1. Maintain sufficient sight distances for motorists to safely enter and exit the project access driveway.

2. Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project property. Avoid vehicle-reversing maneuvers onto County Streets.

3. Provide sufficient driveway width and storage to accommodate safe vehicle ingress and egress. If a gated entry is provided at the driveway, ensure a minimum of one vehicle-storage (25 feet) is provided from the road travelway in the driveway design.

4. Provide sufficient turning radii at driveway for vehicular ingress and egress clearances.

The proposed self storage facility is not expected to significantly impact traffic operations in the vicinity of the project site.

2. *Water*

Water will be provided by the Department of Water Supply's Lahaina-Alaeloa water system. The domestic water and irrigation demand for the proposed self storage facility is not anticipated to have an adverse effect on existing County water source and storage facilities, as well as water transmission and distribution systems. Total water consumption for the project will be minimal

due to the low use nature of the proposed self storage facility. As mentioned previously, the facility will be operated by a single onsite manager during designated hours of operation. Customer access to the facility will be restricted to daylight hours only. Water consumption for the project is estimated at 900 gallons per day (GPD), a figure based on projected requirements for the single onsite restroom facility, exterior hosebibs, as well as the proposed landscape irrigation system.

As part of the building permit process, domestic water and fire flow calculations will be provided to determine the adequacy of the existing water system in accordance with the rules of the Department of Water Supply. All water system improvements will be designed in accordance with applicable regulatory design standards.

3. ***Wastewater***

The proposed project is not anticipated to impact existing County wastewater collection and treatment facilities. Based on the estimated water use for the project, wastewater generation is estimated at 180 GPD. All wastewater system improvements will be designed in accordance with appropriate regulatory design criteria. The development schedule for the proposed self storage facility will be coordinated with the Department of Public Works and Environmental Management's Wastewater Reclamation Division to assure availability of treatment capacity at the Lahaina Wastewater Reclamation Facility.

4. ***Drainage and Erosion Control***

The existing 50-year storm runoff from the project site is estimated at 0.53 cubic feet per second (cfs). Under project conditions, it is estimated that the 50-year storm runoff will be 1.75 cfs, a net increase of approximately 1.22 cfs.

The proposed drainage plan for the project provides for the installation of an underground drainage system consisting of catch basins located within the paved parking area of the subject parcel. Refer to Appendix "C". Surface runoff from the project site will be intercepted by these grated catch basins and conveyed to the proposed onsite subsurface drainage system. The subsurface drainage system will be sized to accommodate the increase in runoff from the project site for a 50-year, 1-hour storm event.

No additional surface runoff sheet flowing from the subject property onto Wainee Street is anticipated under project conditions. The proposed grading and drainage design for the site will, therefore, not adversely impact adjacent and downstream properties. Refer to Appendix "C".

Soil loss will be minimized during the construction period through the implementation of appropriate BMPs and erosion control measures, including but not limited to:

1. Minimizing the time of construction.
2. Retaining existing ground cover until the latest possible date to complete construction.
3. Initiating the early construction of drainage features.

4. Using temporary area sprinklers in non-active construction areas when ground cover is removed.

5. Stationing water truck on site during construction period to provide for immediate sprinkling, as needed, in active construction zones (weekends and holidays included).

6. Using temporary berms, filter berms, and cut-off ditches, where needed, for control of erosion.

7. Ensuring graded areas are thoroughly watered after construction activity has ceased for the day and on weekends.

8. Ensuring all cut and fill slopes are sodded or planted *immediately after grading work has been completed.*

All drainage improvements will conform to County standards and will be coordinated with the Department of Public Works and Environmental Management.

Chapter IV

Relationship to Land Use Plans, Policies and Controls

IV. RELATIONSHIP TO LAND USE 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 (1) of four (4) land use districts by the State Land Use Commission. These land use districts have been designated "Urban", "Rural", "Agricultural", and "Conservation". The project site is located within the State "Urban" district. See Figure 8. The proposed action is compatible with, and deemed permissible within, the State "Urban" land use district.

B. 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,

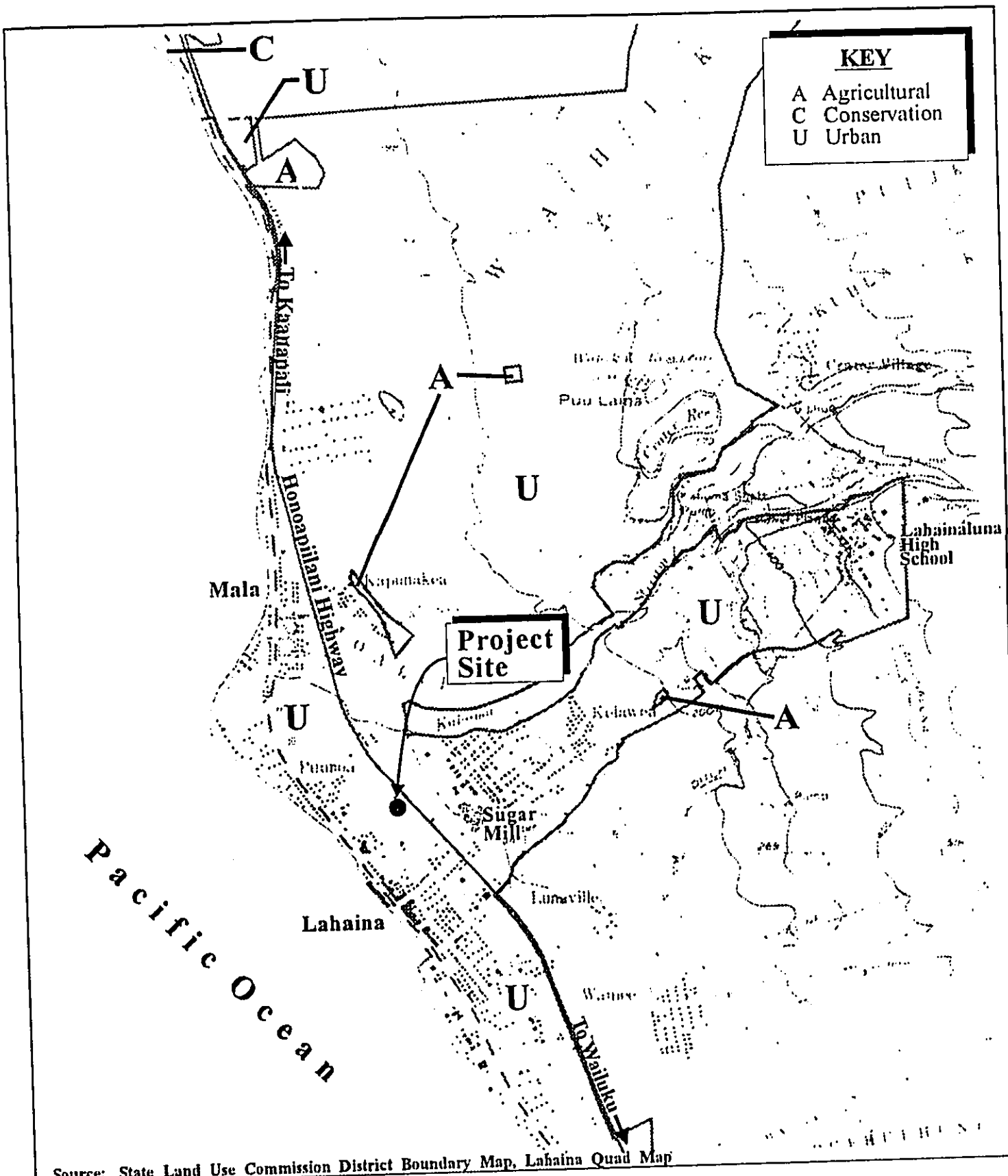
> *"The general plan shall indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain the opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns, and characteristics of future developments."*

The proposed action is in keeping with the following General Plan objectives relating to land use, economic activity and urban design:

LAND USE

Objectives:

- To use the land within the County for the social and economic betterment of the County's residents.
- To preserve for present and future generations existing geographic, cultural and traditional community lifestyles by



Source: State Land Use Commission District Boundary Map, Lahaina Quad Map

NOT TO SCALE

Figure 8 Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii
State Land Use Classifications

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limiting and managing growth through environmentally sensitive and effective use of land in accordance with the individual character of the various communities and regions of the County.

Policy:

- Formulate a directed land use growth strategy which will encourage the redevelopment and infill of existing communities allowing for mixed land uses where appropriate.

ECONOMIC ACTIVITY

Objective:

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

Policy:

- Maintain a diversified economic environment compatible with acceptable and consistent employment.

URBAN DESIGN

Objective:

- To see that all developments are well designed and are in harmony with their surroundings.

Policy:

- Require that appropriate principles of urban design be observed in the planning of all new developments.

C. *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 development in the region.

Land use guidelines are established by the West Maui Community Plan land use map. The subject property along Honoapiilani is designated "Business/Commercial" by the Community Plan land use map. A Sliver of "Open Space" along the Honoapiilani Highway right-of-way borders the property along its eastern extent. See Figure 9. The proposed self storage facility is in keeping with the uses designated by the West Maui Community Plan.

The West Maui Community Plan sets forth goals which are statements identifying preferred conditions. Goals, objectives, policies, and planning standards associated with the development of the proposed project include the following:

GOALS, OBJECTIVES AND POLICIES

Goal (Land Use):

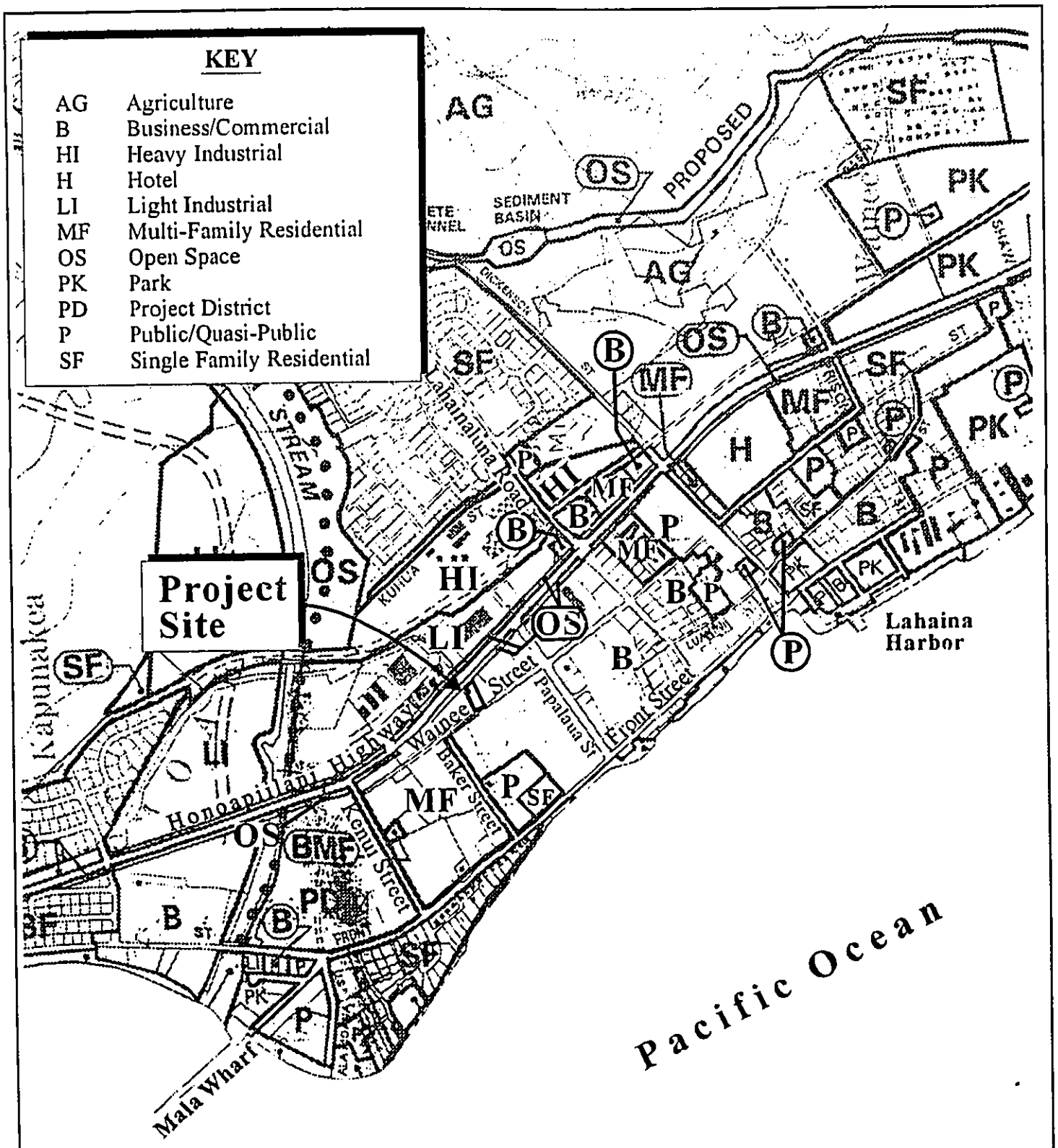
- An attractive, well-planned community with a mixture of compatible land uses in appropriate areas to accommodate the needs of residents and visitors in a manner that provides for the stable social and economic well-being of residents and the preservation and enhancement of the region's open space areas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

Objectives and Policies for Lahaina Town:

3. Provide resident-oriented commercial uses along Wainee Street from Baker to Dickenson Streets.

Goal (Environment):

- 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



Source: County of Maui, Planning Department

Figure 9 Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii
West Maui Community Plan Designations

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resources are preserved and protected for public use and enjoyment.

Objective:

- Promote drainage and storm water management practices that prevent flooding and protect coastal water quality.

Goal (Economic Activity):

- 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:

2. 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:

   d. Resident-related service/commercial services.

3. Expand light industrial and service commercial activities in appropriate locations to accommodate the region's needs.

   a. Enhance Lahaina town's role as the regional center for resident-related commercial and professional services.

   b. Encourage neighborhood commercial activities and professional services to serve existing and future residents.

PLANNING STANDARDS

Planning standards are specific guidelines or measures for development and design. These standards clarify the intent of the land use and town design objectives and policies, as well as the Community Plan's Land Use Map.

1. ***Land Use Standards***

g. Due to an adjacent senior citizen housing, business/commercial use of the parcel identified as TMK 4-5-07:04, Lahaina, Maui, Hawaii, shall be restricted to office type uses during daylight hours.

In accordance with the Community Plan, the business/commercial use of the property will be restricted to daylight hours due to the proximity of the Piilani Elderly Housing Project. The proposed self storage facility is deemed a low-impact use, meeting the intent of the aforementioned land use standard.

D. *COUNTY ZONING*

The subject property is designated "B-2, Community Business District" by Maui County zoning.

This zoning was established through Ordinance No. 2827, which was approved by the Maui County Council in February 28, 2000. See Appendix "E". Conditions of zoning were adopted and include the following:

- That the uses on the site shall be limited to business offices, financial offices, and professional offices, as well as uses permitted in the B-1 Neighborhood District, excluding churches, day care, laundromats, gas stations, and liquor stores.
- That the height limit shall be restricted to 35 feet.
- That the architectural design, signage, and landscaping shall be compatible with the Design Guidelines for the Lahaina Historic District.

E. *LAHAINA HISTORIC DISTRICT DESIGN GUIDELINES*

As mentioned previously, the subject property falls within the boundary of the Lahaina National Historic Landmark. Although, not located in either of the two (2) Lahaina Historic Districts, as defined in Title 19.50.010, Zoning of the Maui Country Code, the following principles of the Lahaina Design Guidelines (Nore V. Winter, 2003) have been incorporated into the overall design of the proposed self storage facility.

1. *Design Character*

New buildings should be distinguishable as more recent additions to the community, albeit in a subtle way that the overall historic character is conveyed. Regardless of stylistic treatment, a new building should appear simple in form and detail. Buildings should also be visually compatible with older structures, without being direct copies of them.

2. *Mass, Scale and Form*

The architecture of Lahaina has been built on simple straightforward geometric principles. A new building's overall form should be one of simplicity. The mass and scale of buildings in Lahaina are also key considerations that affect compatibility. The overall height, width and depth of the building should reflect those of traditional buildings in the district.

3. *Building Materials*

New buildings should reinforce the pedestrian-oriented character of Lahaina by conveying a sense of human scale. This can be achieved by using traditional building materials, such as doors, windows, and wood siding. The type of materials used should be selected from those used historically in the district. If a new

material is selected it should have a simple finish, similar to those seen traditionally.

4. ***Roof Forms and Materials***

Simple roof shapes were the predominant form found throughout Lahaina. Roof materials for new buildings should be used in a manner similar to that seen traditionally in the district.

It is noted that the project site is located on the fringe of Lahaina's business/commercial district between the Longhi Commercial Building and the Piilani Elderly Housing Project. The proposed self storage facility has, therefore, been architecturally designed to provide a transitional use between existing high-activity commercial uses to the south of the subject property and the elderly housing to the north along Wainee Street.

F. *COASTAL ZONE MANAGEMENT/SPECIAL MANAGEMENT AREA*

The subject 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 Hawaii Coastal Zone Management Program (HCZMP) and 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.

An application for an SMA Use Permit will be prepared and submitted to the Maui Planning Commission for review and approval.

1. ***Recreational Resources***

Objective: Provide coastal recreational opportunities 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;

vii. Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches and artificial reefs for surfing and fishing; and

viii. Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the Land Use Commission, Board of Land and Natural Resources, County Planning Commissions and crediting such dedication against the requirements of Section 46-6 of the Hawaii Revised Statutes.

Response: The proposed action is not anticipated to impact coastal recreational opportunities or affect existing public access to the shoreline. The project is designed to provide a self storage facility to Lahaina residents and businesses and accordingly, is not a direct generator of demand for regional recreational resources.

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.

Response: The project area is located within the Lahaina National Historic Landmark District. The subject property formerly contained

a single-family residence and has been previously cleared and graded. The property is currently vacant and undeveloped and is not considered significant in terms of historic or cultural resource value. The State Historic Preservation Division (SHPD) was consulted in 1998/1999 during the preparation of the Change in Zoning (CIZ) request. In letters dated November 23, 1998 and March 18, 1999, the SHPD indicated that the subject property may have once been the location of pre-contact agriculture and possibly scattered housing. However, 20th century residential development has since altered the landscape, making it unlikely that any historic sites remain intact. Refer to Appendix "A".

An Archaeological Inventory Survey was completed for the subject property on August 4, 2005 by Archaeological Services Hawaii due to the location of the site in the Lahaina National Historic Landmark District and the presence of a number of Land Commission Awards (LCAs) in the surrounding area. No significant surface or substantive archaeological resources were identified during completion of fieldwork for the Archaeological Inventory Survey. Refer to Appendix "A-1". Should human remains be inadvertently discovered during earth moving activities for the proposed project, work shall cease at once in the immediate area of the find, and the find shall be protected from further damage. The SHPD shall be immediately notified and procedures for the treatment of inadvertently discovered human remains shall be followed pursuant to Chapter 6E, HRS.

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 dependent to locate in inland areas.

Response: The site and proposed self storage facility will be designed and landscaped in accordance with applicable regulatory standards to ensure visual compatibility with the surrounding land uses. The proposed action is not anticipated to impact coastal scenic and open space resources, nor will it adversely affect public views to and along the coastline.

4. ***Coastal Ecosystem***

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

Policies:

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

b. Improve the technical basis for natural resource management;

c. Preserve valuable coastal ecosystems of significant biological or economic importance;

d. 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

e. Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and non-point source water pollution control measures.

Response: The proposed action is not expected to adversely impact coastal ecosystems. Drainage system improvements will be designed in accordance with applicable regulatory standards to ensure that there are no adverse effects to adjacent or downstream properties.

In addition, appropriate BMPs and erosion control measures will be implemented to minimize the effects of stormwater runoff during construction of the project.

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. Use of presently designated locations is not feasible;

   ii. Adverse environmental effects are minimized; and

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

Response: The proposed project is consistent with the goals of the West Maui Community Plan, which guides growth and development in the region. There are no anticipated adverse impacts to coastal zone resource parameters as a result of the proposed action.

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, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;

c. Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

d. Prevent coastal flooding from inland projects.

Response: The project site falls within Zone C, an area of minimal flooding. Drainage improvements will be designed in accordance with the Drainage Standards of the County of Maui to ensure that the project will not adversely affect downstream and adjoining properties.

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 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 the development will be conducted in accordance with applicable State and County requirements. Opportunity for review of the proposed action is offered through the Chapter 343, HRS and SMA permitting processes.

8. ***Public Participation***

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

Policies:

a. Promote public involvement in coastal zone management processes;

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

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

Response: The proposed project is subject to County of Maui Special Management Area (SMA) proceedings. Opportunities for public awareness, education, and participation in coastal management are provided through these entitlement processes, as well as through the Federal and State regulatory review processes.

Additionally a meeting with residents of the Piilani Elderly Housing Project was held on March 16, 2005. A summary of that meeting is presented in Appendix "F".

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, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

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

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

Response: The subject property is located approximately 1,200 feet from the shoreline and is not anticipated to impact shoreline activities.

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.

Resources: BMPs will be incorporated into the construction phase of the project to support the policies of effective management of marine resources.

Chapter V

Summary of Adverse Environmental Effects Which Cannot Be Avoided

V. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The proposed self storage facility will result in unavoidable construction-related impacts as described in Chapter III, Potential Impacts and Mitigation Measures.

Potential effects include noise-generated impacts occurring from site preparation and construction activities. In addition, there may be temporary air quality impacts associated with dust generated from construction activities, and exhaust discharged by construction equipment. These impacts are expected to be minimized through the implementation of the BMPs highlighted in Chapter III.

Once in operation, the self storage facility is not anticipated to adversely impact the surrounding uses, infrastructure systems and public services. The facility would service both local residents and businesses in Lahaina Town through the provision of storage space.

The proposed project is, therefore, not anticipated to create any significant, long-term adverse environmental effects.

Chapter VI

Alternatives to the Proposed Action

VI. ALTERNATIVES TO THE PROPOSED ACTION

A. NO ACTION ALTERNATIVE

The proposed project involves the development of a self storage facility with approximately 22,000 square feet of storage space on a parcel consisting of 18,638 square feet. The proposed facility will be located within the commercial district of Lahaina Town and is in consonance with existing surrounding business/commercial uses in the area.

The "no action" alternative would maintain the existing physical condition of the project site. When considering potential land uses for the project site, the "no action" alternative does not support the highest and best use of the project site as reflected by the West Maui Community Plan's "Business/Commercial" land use designation for the subject property. Accordingly, the "no action" alternative was not considered.

B. 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 changes to infrastructure or the existing physical or socio-economic environment (i.e., opportunity costs). Based on the preceding, the "deferred action" alternative was not considered.

C. OFFICE BUILDING ALTERNATIVE

In connection with the initial Change In Zoning (CIZ) request, as approved by Ordinance No. 2827, (refer to Appendix "E") a proposed office building alternative was proposed. The office building option was considered an

appropriate use in terms of establishing a land use context compatible with the adjoining Piilani Elderly Housing Project. From a market need and product feasibility standpoint, however, the proposed self storage facility is also considered to meet the needs of the community with minimal impact implications, consistent with the office use option initially proposed. Furthermore, the proposed self storage facility also offers a transitional use between existing high-activity commercial uses to the south and the Piilani Elderly Housing Project to the north along Wainee Street. The proposed self storage option was, therefore, deemed preferable over the higher-activity office use alternative from both a land use compatibility position as well as a market need position.

Chapter VII

Irreversible and Irretrievable Commitments of Resources

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The development of the proposed project is anticipated to result in the irreversible and irretrievable commitment of land and fiscal resources. Other resource commitments include energy, labor, 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.

In addition, the proposed project is not anticipated to require a substantial commitment of government services or facilities, nor is it anticipated to place significant additional requirements on police, fire, medical, and social services.

Chapter VIII

Findings and Conclusions

VIII. FINDINGS AND CONCLUSIONS

The "Significance Criteria", Section 12 of the Administrative Rules, Title 11, Chapter 200, "Environmental Impact Statement Rules", were reviewed and analyzed to determine whether the proposed project will have significant impacts to the environment. The following analysis is provided.

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

The proposed project will not result in any adverse environmental impacts. There are no known, rare, endangered or threatened species of flora, fauna or avifauna located within the project site.

An Archaeological Inventory Survey, completed on August 4, 2005, found no evidence of significant surface or subsurface resources on the subject property. Refer to Appendix "A-1". Furthermore, should any cultural artifacts or human remains be encountered during construction for the proposed project, work will stop in the immediate vicinity of the find and the SHPD will be immediately notified to establish an appropriate mitigation strategy.

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 of beneficial uses of the environment.

3. ***The Proposed Action Does Not Conflict with the State's Long-term Environmental Policies or Goals or Guidelines as Expressed in Chapter 334, Hawaii Revised Statutes (HRS)***

The State's Environmental Policy and Guidelines are set forth in Chapter 344, Hawaii Revised Statutes. The proposed action is in consonance with the policies and guidelines of Chapter 344, HRS.

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

The proposed project would have a direct beneficial effect on the local economy during construction. In the long term, the proposed project will support the local economy through the provision of salaries, wages and benefits and by meeting existing demand for storage space by both residents and businesses in the Lahaina area.

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

No impacts to public health and welfare are anticipated as a result of the proposed project.

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

No significant population changes are anticipated as a result of the proposed project.

From a land use standpoint, the proposed project is compatible with surrounding business/commercial uses in the vicinity of the property, as well as the neighboring Piilani Elderly Housing Project.

The proposed utility improvements will connect to existing water and wastewater systems. No adverse impacts to water and wastewater

capacities and facilities are anticipated. BMP's and appropriate erosion control measures will be utilized during the construction period. Drainage system improvements will be constructed in accordance with applicable regulatory design standards to ensure that surface runoff will not have an adverse effect on adjacent or downstream properties. The project is not expected to significantly impact public services such as police, fire, and medical services. Impacts upon educational, recreational, and solid waste collection and disposal facilities and resources are considered minimal.

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

During the construction phase of the project, there will be short-term air quality and noise impacts as a result of the project. In the long term, effects upon air quality and ambient noise levels will be minimal. The project is not anticipated to significantly affect the open space and scenic character of the area.

No substantial degradation of environmental quality resulting from the project is anticipated.

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

The proposed project does not involve a commitment to larger actions, nor will it have any significant cumulative impacts on the environment.

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

There are no known rare, threatened or endangered species of flora, fauna, avifauna or their habitats on the subject property and none are, therefore, anticipated to be impacted by the proposed action.

10. ***Air Quality, Water Quality or Ambient Noise Levels Would Not be Detrimentally Affected by the Proposed Project***

Construction activities will result in short-term air quality and noise impacts. BMPs incorporating various 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. Construction activities will be limited to daylight working hours. No significant impacts to the quality of water resources in the vicinity of the project are anticipated to result from the proposed project.

In the long term, the project is not expected to have a significant impact on air and water quality or ambient noise levels.

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 is not located within and would not affect any environmentally sensitive areas. The project site is not subject to flooding or tsunami inundation. Soils of the project site are not erosion-prone. There are no geologically hazardous lands, estuaries, or coastal waters within or adjacent to the project site.

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

The project site is not identified as a scenic vista or viewplane. The proposed project will not affect scenic corridors and coastal scenic and open space resources.

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 construction activities. However, this use is not anticipated to result in a substantial consumption of energy resources. In the long term, the project will create an additional demand for electricity. However, due to the limited size and scope of the proposed project this demand is deemed nominal within the context of the region's overall energy consumption.

Based on the foregoing findings, it is anticipated that the proposed action will result in a Finding of No Significant Impact (FONSI).

Chapter IX

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 project.

County of Maui

1. Construction Permits (e.g., building, driveway, electrical, plumbing).
2. Special Management Area Use Permit.

Chapter X

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; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

The following agencies were consulted during the preparation of the Draft Environmental Assessment. Comments and responses provided during this early consultation process, and responses to substantive comments are 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
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. Denis Lau, Chief
Clean Water Branch
State of Hawaii
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawaii 96814

6. Herbert Matsubayashi
District Environmental Health Program Chief
State of Hawaii
Department of Health
54 High Street
Wailuku, Hawaii 96793

7. Peter Young
State of Hawaii
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809

8. Melanie Chinen, Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawaii 96707

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

10. Clyde Namu'o, Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

11. Carl Kaupalolo, Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawaii 96732

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

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

14. Glenn Correa, Director
County of Maui
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2
Wailuku, Hawaii 96793

15. Thomas Phillips, Chief
County of Maui
Police Department
55 Mahalani Street
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. George Tengan, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

18. Maui Electric Company, Ltd.
P. O. Box 398
Kahului, Hawaii 96732

19. Ezekiel Kalua, Executive Director
West Maui Taxpayers Association
P. O. Box 10338
Lahaina, Hawaii 96763

20. Cliff Libed
Housing & Community Development Corporation of Hawaii
2015 Holowai Place
Wailuku, Hawaii 96793

MAR 0 7 2005

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

March 2, 2005

REPLY TO
ATTENTION OF

Regulatory Branch

Mark Roy, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

This responds to your request for comments on your Environmental Assessment preparation notice for a proposed self-storage facility at Lahaina, Maui (TMK 4-5-07:04). We have reviewed the preliminary project information you provided in your letter with respect to the Corps' authority to issue DA permits under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

Based on the information you provided, it appears that the proposed activity will not involve the discharge of dredged or fill material into waters of the United States, including adjacent wetlands; therefore, a DA permit is not required.

Should you have questions concerning this determination, please contact Mr. Galloway via e-mail (peter.galloway@usace.army.mil), by telephone at (808) 438-8416, or by fax at (808) 438-4060). Written inquiries should cite File No. **POH-2005-122** and should be sent to: Regulatory Branch (CEPOH-EC-R/P. Galloway); U.S. Army Engineer District, Honolulu; Building 230; Fort Shafter, Hawaii 96858-5440.

Sincerely,

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

MUNEKIYO & HIRAGA, INC.

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

May 4, 2005

George P. Young, Chief
Regulatory Branch
Department of the Army
U.S. Army Engineer District
Building 230
Fort Shafter
Honolulu, Hawaii 96858-5440

SUBJECT: Proposed Self Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii (File No. POH-2005-122)

Dear Mr. Young:

Thank you for your letter dated March 2, 2005, in response to the early consultation request regarding the subject action.

We acknowledge the determination by your office that a Department of the Army (DA) permit will not be required, as the proposed project will not involve the discharge of dredged or fill material into waters subject to DA regulation.

A copy of the Draft Environmental Assessment will be provided to your office for review and comment.

Very truly yours,

Mark Alexander Roy, Planner

MAR:yp
cc: Howard Murai, Finance Holdings, Ltd.
finchldg\waineest\army.res

305 High Street, Suite 104 Wailuku, Hawaii 96793 ph. (808)244-2015 fax (808)244-8729 planning@mhinconline.com

planning environment

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
EMD / CWB

03031PKP.05

March 7, 2005

Mr. Mark A. Roy
Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

Subject: Early Consultation Request for Proposed Self-Storage Facility
Lanai, Maui, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), has reviewed the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 to identify whether a Federal license or permit (including a Department of Army permit) is required for this project. Pursuant to Section 401(a)(1) of the Federal Water Pollution Control Act (commonly known as the "Clean Water Act"), a Section 401 Water Quality Certification is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters..."

2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following activities:

   a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi).

   b. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.**

   c. Discharges of treated effluent from leaking underground storage tank remedial activities.

   d. Discharges of once through cooling water less than one (1) million gallons per day.

   e. Discharges of hydrotesting water.

f. Discharges of construction dewatering effluent.

g. Discharges of treated effluent from petroleum bulk stations and terminals.

h. Discharges of treated effluent from well drilling activities.

i. Discharges of treated effluent from recycled water distribution systems.

j. Discharges of storm water from a small municipal separate storm sewer system.

k. Discharges of circulation water from decorative ponds or tanks.

The CWB requires that a Notice of Intent (NOI) to be covered by an NPDES general permit for any of the above activities be submitted at least 30 days before the commencement of the respective activities. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/index.html

3. The applicant may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters and/or coverage of the discharge(s) under the NPDES general permit(s) is not permissible (i.e. NPDES general permits do not cover discharges into Class 1 or Class AA State waters). An application for the NPDES permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/index.html

4. Hawaii Administrative Rules, Section 11-55-38, also requires the applicant to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD.

If you have any questions, please contact Ms. Kris Poentis of the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

DENIS R. LAU, P.E., CHIEF
Clean Water Branch

KP:cu

MUNEKIYO & HIRAGA, INC.

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

May 4, 2005

Denis R. Lau, Chief
Clean Water Branch
State of Hawaii
Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801

SUBJECT: *Proposed Self Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii*

Dear Mr. Lau:

Thank you very much for your letter of March 7, 2005, commenting on the early consultation request for the subject action. On behalf of the applicant, we offer the following responses to the comments noted:

1. The Department of the Army (DA) has been contacted with regard to federal permitting requirements. In their letter of March 2, 2005, it was confirmed that a DA permit will not be required for the project.

2. It should be noted that the parcel of land (18,638 square feet or 0.43 acre), upon which the proposed action will take place is less than one (1) acre in size, and therefore, does not require a National Pollutant Discharge Elimination System (NPDES) general permit for applicable construction and discharge activities.

3. As applicable, an individual NPDES permit will be obtained prior to the commencement of construction activities.

4. The State Historic Preservation Division (SHPD) was consulted during the preparation of a previous Change In Zoning (CIZ) request for the subject property. In letters dated November 23, 1998 and March 18, 1999, the SHPD issued a determination of "no-effect" on significant historic sites.

planning environment

305 High Street, Suite 104 Wailuku, Hawaii 96793 ph (808)244-2015 fax (808)244-8729 planning@mhinconline.com

Thank you again for providing your input to the proposed action. A copy of the Draft Environmental Assessment will be provided to your office for review and comment. Please feel free to contact me should you require additional information or have any other questions related to the aforementioned subject action.

Very truly yours,

Mark Alexander Roy, Planner

MAR:yp
cc: Howard Murai, Finance Holdings, Ltd.
Stacy Otomo, Otomo Engineering, Inc.
Finchldg\wainees\ldohcwb.res

LINDA LINGLE
GOVERNOR OF HAWAII

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

March 8, 2005

Mr. Mark A. Roy, Planner
Munekiyo & Hiraga, Inc.
305 South High Street, Suite 104
Wailuku, Hawai`i 96793

Dear Mr. Roy:

Subject: **Self Storage Facility**
TMK: (2) 4-5-07: 04, Lahaina, Hawaii

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

1. 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.

2. 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.

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

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

MUNEKIYO & HIRAGA, INC.

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

May 4, 2005

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

SUBJECT: Proposed Self Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii

Dear Mr. Matsubayashi:

Thank you for your letter of March 8, 2005, providing comments on the early consultation request for the subject action. On behalf of the applicant, the following information is provided in response to your comments:

1. 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.

2. We also acknowledge that HAR, 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/installation phases of the proposed project.

environment
planning

305 High Street, Suite 104 Wailuku, Hawaii 96793 ph (808)244-2015 fax (808)244-8729 planning@mhinconline.com

Thank you again for providing your input to the proposed action. A copy of the Draft Environmental Assessment will be provided to your office for review and comment. Should you have any questions or require additional information related to the aforementioned subject action, please feel free to contact me at 244-2015.

Very truly yours,

Mark Alexander Roy, Planner

MAR:yp
cc: Howard Murai, Finance Holdings, Ltd.
finchldg\waineest\mauidoh.res

LINDA LINGLE
GOVERNOR

MAR 1 1 2005

RODNEY K. HARAGA
DIRECTOR

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

IN REPLY REFER TO:

STP 8.1619

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

March 4, 2005

Mr. Mark A. Roy
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

Subject: Finance Holdings, Ltd. (Applicant)
Early Consultation Request for Proposed Self-Storage Facility at
Wainee Street, Lahaina, Maui
TMK: 4-5-07: 04

In reply to your request for our review of the proposed storage facility, this is to advise you that we do not anticipate that it will have an impact on our State highway facilities. We did note, however, a statement in your letter indicating that an Environmental Assessment Report (EA) would have to be prepared for the facility.

We would like to defer further comment on the proposed storage facility until we have had an opportunity to review the EA.

We appreciate the opportunity to provide our comments.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

MUNEKIYO & HIRAGA, INC.

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

May 4, 2005

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

SUBJECT: Proposed Self Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii

Dear Mr. Haraga:

Thank you for your letter dated March 4, 2005, in response to the early consultation request regarding the subject action.

We acknowledge the Department's preliminary determination that no impact to State highway facilities is anticipated. A copy of the Draft Environmental Assessment will be provided to your office for further review and comment.

Please do not hesitate to call me should you require additional information or have any other questions related to the aforementioned subject action.

Very truly yours,

Mark Alexander Roy, Planner

MAR:yp
cc: Howard Murai, Finance Holdings, Ltd.
Pete Pascua, Wilson Okamoto Corporation
finchldg\waineest\sdot.res

environment
planning

305 High Street, Suite 104 Wailuku, Hawaii 96793 ph (808)244-2015 fax (808)244-8729 planning@mhinconline.com

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

February 22, 2005

Mr. Mark Alexander Roy, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

SUBJECT: EARLY CONSULTATION REQUEST FOR PROPOSED SELF-STORAGE FACILITY AT TMK 4-5-07:04, LAHAINA, MAUI, HAWAII

We have reviewed the information in your February 17, 2005 letter and enclosures and wish to inform you that we have no comment to offer.

Thank you for the opportunity to comment.

Very truly yours,

ALICE L. LEE
Director

ETO:hs

c: Housing Administrator

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

March 15, 2005

Mr. Mark Roy
Munekiyo & Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy;

RE: Preconsultation Comments in preparation of a Draft Environmental Assessment (DEA) for a Self-Storage Facility located at TMK: 4-5-007: 004, Lahaina, Island of Maui, Hawaii (EA 2005/0004)

The Maui Planning Department (Department) provides the following comments for the above referenced document:

1. Include a summary of the meetings held with the adjacent elderly housing projects.

2. Include a proposed landscape planting plan. The Department recommends incorporating landscape elements to further shield the massing of the building.

3. Discuss how the proposed building complies with the design guidelines for Lahaina Town.

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
Kivette Caigoy, Environmental Planner
EA Project File
General File
K:\WP_DOCS\PLANNING\EA\2005\0004_SelfStorage\preconsultation.wpd

MUNEKIYO & HIRAGA, INC.

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

May 4, 2005

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

SUBJECT: Proposed Self Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii

Dear Mr. Foley:

Thank you for your letter of March 15, 2005, outlining the Department's early consultation comments in regards to the subject action. We have prepared the following responses to your comments:

1. A summary of all meetings held with residents of the adjacent Piilani Elderly Housing Project will be included in the Draft Environmental Assessment (EA).

2. The applicant acknowledges the Department's recommendation relating to the need to incorporate landscaping that effectively shields the massing of the proposed building. A proposed landscaping plan will be included in the Draft EA.

3. Compliance of the proposed building with the design guidelines for Lahaina Town will also be discussed in the Draft EA.

A copy of the Draft EA will be provided to your office for review and comment.

environment
planning

305 High Street, Suite 104 Wailuku, Hawaii 96793 ph: (808)244-2015 fax (808)244-8729 planning@mhinconline.com

Thank you again for providing your input to the proposed action. Should you have any questions or require additional information related to the aforementioned subject action, please feel free to contact me at 244-2015.

Very truly yours,

Mark Alexander Roy, Planner

MAR:yp
cc: Howard Murai, Finance Holdings, Ltd.
Eric Taniguchi, Eric S. Taniguchi, AIA
finchldg\waineest\planning.res

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

March 8, 2005

Mr. Mark A. Roy, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

SUBJECT: EARLY CONSULTATION REQUEST FOR PROPOSED SELF-STORAGE FACILITY AT TMK 4-5-07:04, LAHAINA, MAUI, HAWAII

Thank you for the opportunity to review and comment on the subject project. We have no comments to submit at this time.

Should there be any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

GLENN T. CORREA
Director

c: Patrick Matsui, Chief of Parks Planning and Development

MAR 0 9 2005

ALAN M. ARAKAWA
MAYOR

OUR REFERENCE
YOUR REFERENCE ti

POLICE DEPARTMENT
COUNTY OF MAUI

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

THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLICE

March 3, 2005

Mr. Mark A. Roy, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Mr. Roy:

SUBJECT: Early Consultation Request for Proposed Self-Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii

Thank you for your letter of February 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. As always, thank you for giving us the opportunity to comment on this project.

Very truly yours,

Assistant Chief Sydney Kikuchi
for: Thomas M. Phillips
Chief of Police

c: Michael Foley, Planning Department

Enclosure

COPY

TO : **THOMAS PHILLIPS, CHIEF OF POLICE, COUNTY OF MAUI**

VIA : **CHANNELS**

FROM : **SCOTT Y. MIGITA, P.O. III, LAHAINA BIKE PATROL**

SUBJECT : **EARLY CONSULTATION REQUEST FOR PROPOSED SELF-STORAGE FACILITY AT TMK 4-5-07:04, LAHAINA, MAUI, HAWAII**

Sir, this transmittal is being submitted by Munekiyo & Hiraga, Inc. on behalf of Finance Holdings, Ltd. regarding a proposal for the development of a self storage facility located on Wainee Street, between Kenui Street and Papalaua Street. This facility is bordered along the mauka boundary by Honoapiilani Highway with access to the property via Wainee Street parallel to Honoapiilani Highway. It is characterized as a predominantly retail and commercial area within the State Land Use "Urban" district and is designated for business/ commercial ("B") use by the West Maui Community Plan and is County zoned "B-2, Community Business District". The proposed self-storage facility will provide approximately 20,000 square feet of storage space with approximately fourteen parking stalls. Customer access to this facility will be limited to daylight hours.

Munekiyo & Hiraga, Inc. is requesting early review and comment on this proposed project. In reference to traffic issues in this area, this proposed facility is located on the outskirts of Lahaina town and in an area with a minimum amount of vehicular traffic. Wainee Street is a two lane roadway running north and southbound. The intersection of Wainee Street and Papalaua Street has an operational traffic signal in existence. There are additional roadway outlets via Baker and Kenui Streets. An additional self-storage business in this vacant property along with adjacent residential Piilani elderly housing and restaurant and offices in the Longhi building would create a minimum increase in vehicular traffic as well as on-street parking limited to the mauka side of Wainee Street.

Regarding the issue of public safety from a police perspective, whenever a new project is developed, there is a question on the impact on police services and manpower. As the development of businesses continues in the Lahaina district, increased police services are needed to effectively respond to the needs of these businesses. The potential for an increase in police patrol officers would need to be addressed with the implementation of this new commercial development. Submitted for your information and perusal.

Respectfully Submitted,

Scott Y. MIGITA, E-1122
P.O. III, Lahaina Bike Patrol
02/25/2005 at 1130 hours

MUNEKIYO & HIRAGA, INC.

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

May 4, 2005

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

SUBJECT: Early Consultation Comments on Proposed Self-Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii

Dear Chief Phillips:

Thank you for your letter dated March 3 2005, in response to the early consultation request regarding the subject action.

The applicant, Finance Holdings, Ltd., concurs with your assessment that increased police presence is needed with continued growth in the West Maui region. With respect to the proposed self-storage facility, it is anticipated that the project will not place significant demands upon police services. Operating hours will be limited to the daytime only, with low-levels of traffic egress and ingress to the property.

New real property taxes generated by the project will contribute to the County's revenue stream. It is hoped that this additional revenue will contribute to a more supportive environment for resources allocation to the Police Department.

A copy of the Draft Environmental Assessment will be provided to your office for review and comment. Please do not hesitate to call me should you require additional information or have any other questions related to the aforementioned subject action.

Very truly yours,

Mark Alexander Roy, Planner

MAR:lfm
cc: Howard Murai, Finance Holdings
FincHldg\WaineeSt\MJPolice res

planning environment

305 High Street, Suite 104 Wailuku, Hawaii 96793 ph (808)244-2015 fax (808)244-8729 planning@mhmconline.com

ALAN M. ARAKAWA
MAYOR

GEORGE Y. TENGAN
Director
JEFFREY T. PEARSON, PE
Deputy Director

MAR 18 [illegible]

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI

200 South High Street
WAILUKU, MAUI, HAWAII 96793
Telephone (808) 270-7816 • Fax (808) 270-7833

March 14, 2005

Munekiyo & Hiraga, Inc.
Attn: Mr Mark A. Roy, Planner
305 High Street, Suite 104
Wailuku HI 96793

SUBJECT: Proposed Self Storage Facility at TMK (2) 4-5-007:004, Lahaina

Dear Mr. Roy:

Thank you for the opportunity to participate in the early consultation process for this project.

Source Availability and Consumption

The project site is served by our Lahaina system with Launiupoko aquifer as major source of water. As of December 2004, pending projects in West Maui at some stage of discretionary review total roughly 15.8 MGD, of which about 7.1 MGD plan to connect to the county system. DWS does NOT grant or imply any guarantee of water until an application for water meter has been received and reviewed. Water availability will be determined at time of meter application or meter reservation.

The EA should address sources and anticipated potable and non-potable water use for the proposed development. By standards, project this size would use about 2,600 gpd. Commercial use in the Lahaina area tends to be higher than the standard guidelines.

System Infrastructure

Twelve inch and eight inch waterlines run along the West and East sides of the project site. The applicant will be required to provide domestic and irrigation services as well as fire protection in accordance with standards. Domestic, irrigation and fire flow calculations will be required in the building permit process. Actual fire demand for structures is determined by using fire flow calculations prepared, signed and stamped by a certified architect or engineer. The approved fire flow calculation methods for use include Guidance for Determination of Fire Flow - Insurance Service Office, 1974 and Fire Flow- Hawaii Insurance Bureau, 1991. Required fire flow for business districts is 2000 gallons per minute (gpm) at 250 feet spacing for a 2 hour duration. Installation of reduced pressure back-flow prevention approved by the Department is also required.

Conservation

We recommend that the following water conservation measures be considered to alleviate the demand from the Lahaina system:

Use brackish or reclaimed water sources for all non-potable water uses, including dust control during construction. Reclaimed water is readily available at the Lahaina Wastewater 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".

Use Climate -adapted Plants: The project is located in the Maui County Planting Plan - Plant Zones 3 and 5. We encourage the applicant to utilize appropriate native and non invasive species and avoid the use of potentially invasive plants. Native plants adapted to the area, conserve water and protect the watershed from degradation due to invasive alien species. Attached is a list of appropriate plants for the zones as well as potentially invasive plants to avoid.

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 site overlies the Launiupoko aquifer which has a sustainable yield of 8 MGD 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 construction, vehicle operations as well as from daily activities. We have attached sample BMPs for reference. Additional BMPs can be obtained from the State Department of Health.

Should you have any questions regarding system infrastructure and requirements, please call our Engineering Division at 270-7835 and any questions on source availability or conservation and resource matters, please contact our Water Resources and Planning Division at 270-7199.

Sincerely,

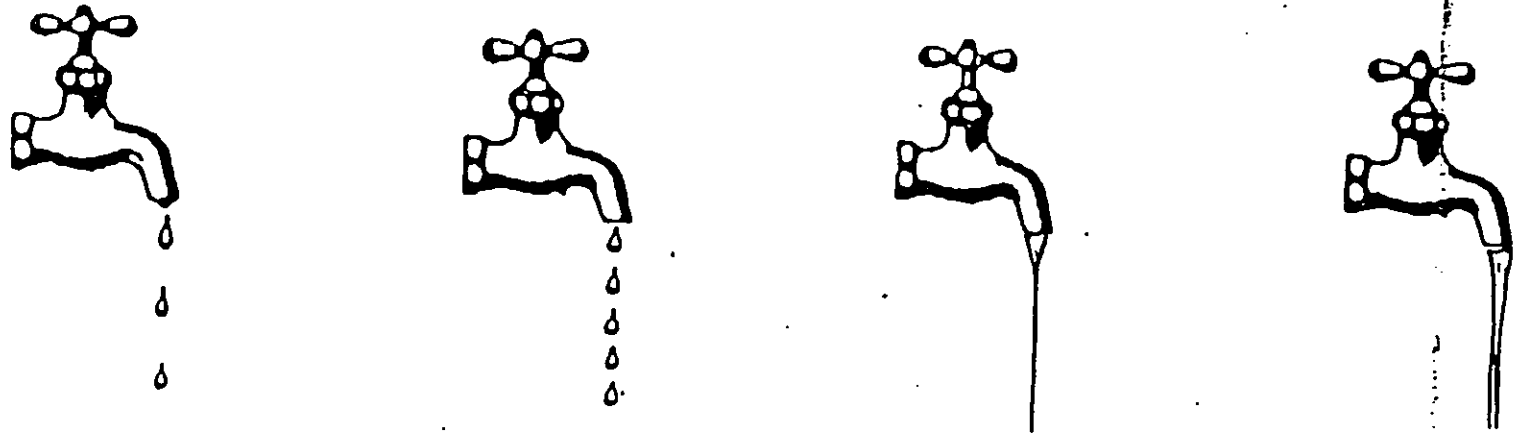
George Y. Tengan
Director

eam
c: Engineering Division

attachments:
The Costly Drip
Maui County Planting Plan - Plant Zones 3 & 5 - Saving Water in your Yard - What and How to Plant in Your Area
Selected BMP's from "Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters"-EPA

C:\WP\Proj Rev\Lahaina Proj\Self-Storage Facility - Early Cons EA.wpd

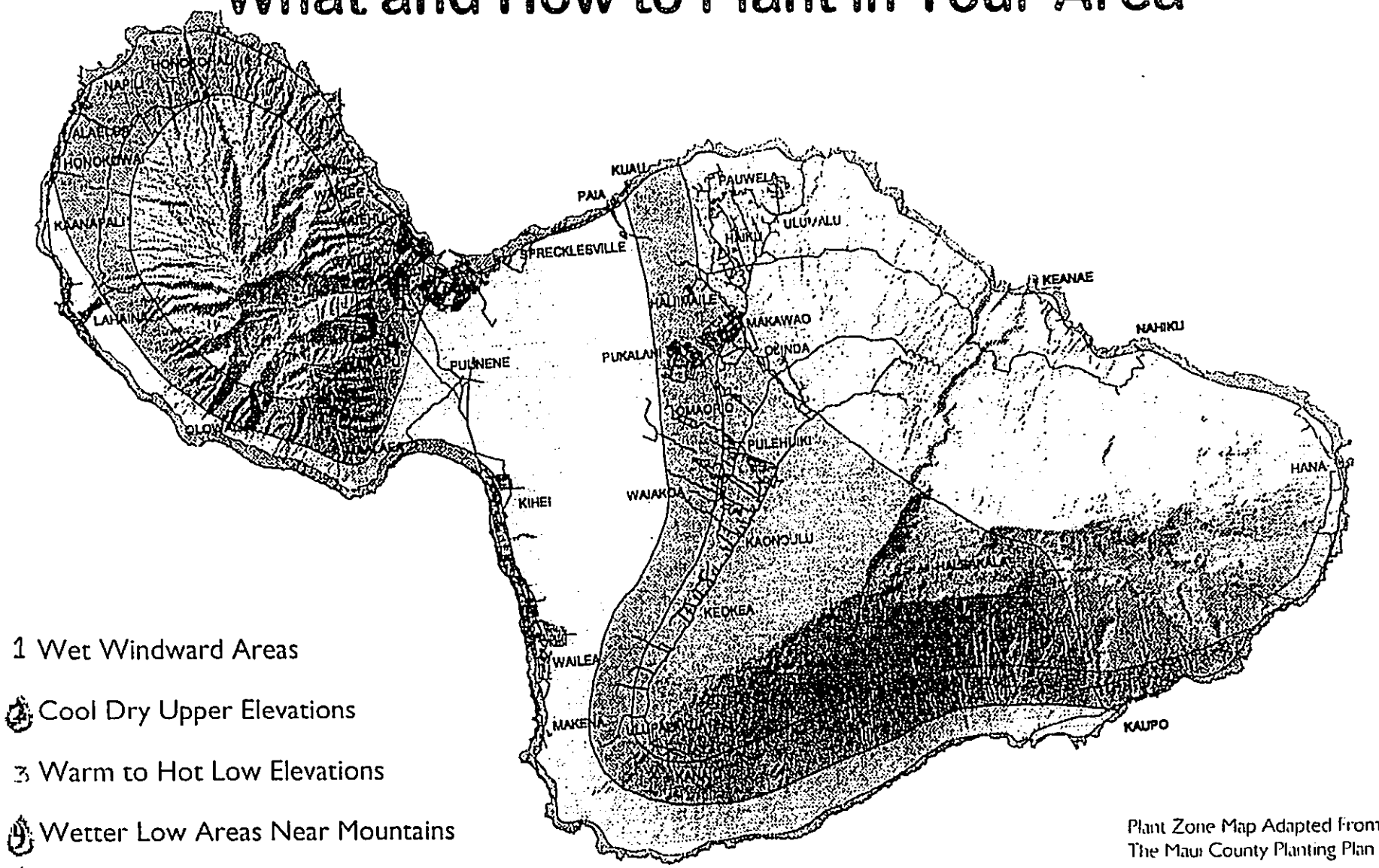
"THE COSTLY DRIP"



Slowly Dripping Spigot Wastes 15 Gallons a day.	1/32" Leak Wastes 25 Gallons a day.	1/16" Stream Wastes 100 Gallons a Day.	1/8" Stream Wastes 400 Gallons a day.

Saving Water in The Yard

What and How to Plant in Your Area



1 Wet Windward Areas

2 Cool Dry Upper Elevations

3 Warm to Hot Low Elevations

4 Wetter Low Areas Near Mountains

5 Windward Coastal Salt Spray Zones

Plant Zone Map Adapted From
The Maui County Planting Plan

Tips From The Maui County Department of Water Supply

By Water All Things Find Life

Zone-specific Native and Polynesian plants for Maui County

Zone 3

TYPE: F Fern G Grass Gr Ground Cover Sh Shrub P Palm S Sedge Tr Tree V Vine

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
F	Psilotum nudum	moa, moa kula	1'	1'	sea to 3,000'	Dry to Wet
G	Colubrina asiatica	'anapanapa	3'	10'	sea to 1,000'	Dry to Wet
G	Eragrostis monticola	kalamalo	1'	2'	sea to 3,000'	Dry to Medium
G	Eragrostis variabilis	'emo-loa	1'	2'	sea to 3,000'	Dry to Medium
G	Fimbristylis cymosa ssp. spathacea	mau'u'aki'aki fimbristylis	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	Boerhavia repens	alena	0.5'	4'	sea to 1,000'	Dry to Medium
Gr	Chamaesyce celastroides var. laehlensis	'akoko	2'	3'	sea to 1,000'	Dry to Medium
Gr	Cressa truxillensis	cressa	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	Heliotropium anomalum var. argenteum	hinahina ku kahakai	1'	2'	sea to 1,000'	Dry to Medium
Gr	Ipomoea tuboides	Hawaiian moon flower, 'uala	1'	10'	sea to 3,000'	Dry to Medium
Gr	Jacquemontia ovalifolia ssp. sandwicensis	pa'u o hi'iaka	0.5'	6'	sea to 1,000'	Dry to Medium
Gr	Lipochaeta integrifolia	nehe	1'	5'	sea to 1,00'	Dry to Medium
Gr	Peperomia leptostachya	'ala'ala-wai-nui	1'	1'	sea to 3,000'	Dry to Medium
Gr	Plumbago zeylanica	'ilie'e	1'			
Gr	Sesuvium portulacastrum	'akulikuli, sea-purslane	0.5'	2'	sea to 1,000'	Dry to Wet
Gr	Sida fallax	'ilima	0.5'	3'	sea to 1,000'	Dry to Medium
Gr	Tephrosia purpurea var. purpurea	'auhuhu	2'	2'	sea to 1,000'	Dry to Medium
Gr - Sh	Hibiscus calyphyllus	ma'o hau hele, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	Lipochaeta rockii	nehe	2'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	Lipochaeta succulenta	nehe	2'	5'	sea to 1,000'	Dry to Wet
Gr - Sh	Lycium sandwicense	'ohelo-kai, 'ae'ae	2'	2'	sea to 1,000'	Dry to Medium
P	Cocos nucifera	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet
P	Pritchardia hillebrandii	lo'ulu, fan palm	25'	15'	sea to 1,000'	Dry to Wet
S	Mariscus javanicus	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium

Zone-specific Native and Polynesian plants for Maui County

Zone 3

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	Argemone glauca var. deciplens	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	Bidens maulensis	ko'oko'olau	1'	3'	sea to 1,000'	Dry to Medium
Sh	Bidens menziesii ssp. menziesii	ko'oko'olau	1'	3'		
Sh	Bidens micrantha ssp. micrantha	ko'oko'olau	1'	3'		
Sh	Chenopodium oahuense	'aheahea, 'aweoweo	6'		sea to higher	Dry to Medium
Sh	Dianella sandwicensis	'uki	2'	2'	1,000' to higher	Dry to Medium
Sh	Gossypium tomentosum	mao, Hawaiian cotton	5'	8'	sea to 1,000'	Dry to Medium
Sh	Hedyotis spp.	au, pilo	3'	2'	1,000' to 3,000'	Dry to Wet
Sh	Lipochaeta lavarum	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	Osteomeles anthyllidifolia	'ulei, eluehe	4'	6'	sea to 3,000'	Dry to Medium
Sh	Scaevola sericea	naupaka, naupaka-kahakai	6'	8'	sea to 1,000'	Dry to Medium
Sh	Senna gaudichaudii	kolomana	5'	5'	sea to 3,000'	Dry to Medium
Sh	Solanum nelsonii	'akia, beach solanum	3'	3'	sea to 1,00'	Dry to Medium
Sh	Styphelia tameiameiae	pukiawe	6'	6'	1,000' to higher	Dry to Medium
Sh	Vitex rotundifolia	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	Wikstroemia uva-ursi kauaiensis kauaiensis	'akia, Molokai osmanthus				
Sh - Tr	Broussonetia papyrifera	wauke, paper mulberry	8'	6'	sea to 1,000'	Dry to Medium
Sh - Tr	Myoporum sandwicense	naio, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh - Tr	Nototrichium sandwicense	kulu'i	8'	8'	sea to 3,000'	Dry to Medium
Sh-Tr	Dodonaea viscosa	'a'ali'i	6'	8'	sea to higher	Dry to Medium
Tr	Aleurites moluccana	candlenut, kukui	50'	50'	sea to 3,000'	Medium to Wet
Tr	Calophyllum inophyllum	kamani, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet
Tr	Canthium odoratum	Alahe'e, 'ohe'e, walahe'e	12'	8'	sea to 3,000'	Dry to Medium
Tr	Cordia subcordata	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	Diospyros sandwicensis	lama	12'	15'	sea to 3,000'	Dry to Medium
Tr	Erythrina sandwicensis	wiliwili	20'	20'	sea to 1,000'	Dry
Tr	Metrosideros polymorpha var. macrophylla	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet

Zone-specific Native and Polynesian plants for Maui County

Zone 3

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Tr	Morinda citrifolia	Indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
Tr	Nesoluma polynesicum	keahi	15'	15'	sea to 3,00'	Dry
Tr	Nestegis sandwicensis	olopua	15'	15'	1,000' to 3,000'	Dry to Medium
Tr	Pandanus tectorius	hala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet
Tr	Pleomele auwahiensis	halapepe	20'			
Tr	Rauvolfia sandwicensis	hao	20'	15'	sea to 3,000'	Dry to Medium
Tr	Reynoldsia sandwicensis	'ohe makai	20'	20'	1,000' to 3,000'	Dry
Tr	Santalum ellipticum	coastal sandalwood, 'ili-ahi	8'	8'	sea to 3,000'	Dry to Medium
Tr	Thespesia populnea	milo	30'	30'	sea to 3,000'	Dry to Wet

Zone-specific Native and Polynesian plants for Maui County

Zone 5

TYPE: **F** Fern **G** Grass **Gr** Ground Cover **Sh** Shrub **P** Palm **S** Sedge **Tr** Tree **V** Vine

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
G	Colubrina asiatica	'anapanapa	3'	10'	sea to 1,000'	Dry to Wet
G	Eragrostis variabilis	'emo-loa	1'	2'	sea to 3,000'	Dry to Medium
G	Fimbristylis cymosa ssp. spathacea	mau'u'aki'aki fimbristylis	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	Boerhavia repens	alena	0.5'	4'	sea to 1,000'	Dry to Medium
Gr	Chamaesyce celastroides var. laehlensis	'akoko	2'	3'	sea to 1,000'	Dry to Medium
Gr	Cressa truxillensis	cressa	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	Heliotropium anomalum var. argenteum	hinahina ku kahakai	1'	2'	sea to 1,000'	Dry to Medium
Gr	Jacquemontia ovalifolia ssp. sandwicensis	pa'u o hi'iaka	0.5'	6'	sea to 1,000'	Dry to Medium
Gr	Lipochaeta integrifolia	nehe	1'	5'	sea to 1,00'	Dry to Medium
Gr	Sesuvium portulacastrum	'akulikuli, sea-purslane	0.5'	2'	sea to 1,000'	Dry to Wet
Gr	Sida fallax	'ilima	0.5'	3'	sea to 1,000'	Dry to Medium
Gr	Tephrosia purpurea var. purpurea	'auhuhu	2'	2'	sea to 1,000'	Dry to Medium
Gr - Sh	Hibiscus calyphyllus	ma'o hau hele, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	Lycium sandwicense	'ohelo-kai, 'ae'ae	2'	2'	sea to 1,000'	Dry to Medium
P	Cocos nucifera	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet
P	Pritchardia hillebrandii	lo'ulu, fan palm	25'	15'	sea to 1,000'	Dry to Wet
S	Mariscus javanicus	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium
Sh	Argemone glauca var. decipiens	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	Artemisia australis	'ahinahina	2'	3'	sea to 3,000'	Dry to Medium
Sh	Bidens hillebrandiana ssp. hillebrandiana	ko'oko'olau	1'	2'	sea to 1,000'	Dry to Wet
Sh	Bidens mauiensis	ko'oko'olau	1'	3'	sea to 1,000'	Dry to Medium
Sh	Chenopodium oahuense	aheahea, 'aweoweo	6'		sea to higher	Dry to Medium
Sh	Dianella sandwicensis	'uki	2'	2'	1;000' to higher	Dry to Medium
Sh	Gossypium tomentosum	mao, Hawaiian cotton	5'	8'	sea to 1,000'	Dry to Medium

Zone-specific Native and Polynesian plants for Maui County

Zone 5

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	Hedyotis spp.	au, pilo	3'	2'	1,000' to 3,000'	Dry to Wet
Sh	Lipochaeta lavarum	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	Osteomeles anthyllidifolia	'ulei, eluehe	4'	6'	sea to 3,000'	Dry to Medium
Sh	Scaevola sericea	naupaka, naupaka-kahakai	6'	8'	sea to 1,000'	Dry to Medium
Sh	Senna gaudichaudii	kolomana	5'	5'	sea to 3,000'	Dry to Medium
Sh	Solanum nelsonii	'akia, beach solanum	3'	3'	sea to 1,00'	Dry to Medium
Sh	Vitex rotundifolia	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	Wikstroemia uva-ursi kauaiensis kauaiensis	'akia, Molokai osmanthus				
Sh - Tr	Myoporum sandwicense	naio, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh-Tr	Dodonaea viscosa	'a'ali'i	6'	8'	sea to higher	Dry to Medium
Tr	Aleurites moluccana	candlenut, kukui	50'	50'	sea to 3,000'	Medium to Wet
Tr	Calophyllum inophyllum	kamani, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet
Tr	Cordia subcordata	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	Hibiscus furcellatus	'aklohala, hau-hele	8'			
Tr	Morinda citrifolia	indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
Tr	Pandanus tectorius	hala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet
Tr	Thespesia populnea	milo	30'	30'	sea to 3,000'	Dry to Wet
V	Ipomoea pes-caprae	beach morning glory, pohuehue	1			

DO NOT PLANT THESE PLANTS !!!

Common name	Scientific name	Plant family
black wattle	Acacia mearnsii	Mimosaceae
blackberry	Rubus argutus	Rosaceae
blue gum	Eucalyptus globulus	Myrtaceae
bocconia	Bocconia frutescens	Papaveraceae
broad-leaved cordia	Cordia glabra	Boraginaceae
broomsedge, yellow bluestem	Andropogon virginicus	Poaceae
buffelgrass	Cenchrus ciliaris	Poaceae
butterfly bush, smoke bush	Buddleja madagascariensis	Buddlejaceae
cats claw, Mysore thorn, wait-a-bit	Caesalpinia decapetala	Caesalpiniaceae
common ironwood	Casuarina equisetifolia	Casuarinaceae
common velvet grass, Yorkshire fog	Holcus lanatus	Poaceae
fiddlewood	Citharexylum spinosum	Verbenaceae
fire tree, faya tree	Myrica faya	Myricaceae
glorybower	Clerodendrum laponicum	Verbenaceae
hairy cat's ear, gosmore	Hypochoeris radicata	Asteraceae
haole koa	Leucaena leucocephala	Fabaceae
ivy gourd, scarlet-fruited gourd	Coccinia grandis	Cucurbitaceae
juniper berry	Citharexylum caudatum	Verbenaceae
kahili flower	Grevillea banksii	Proteaceae
klu, popinac	Acacia farnesiana	Mimosaceae
logwood, bloodwood tree	Haematoxylon campechianum	Caesalpiniaceae
loquat	Eriobotrya japonica	Rosaceae
meadow ricegrass	Ehrharta stipoides	Poaceae
melaleuca	Melaleuca quinquenervia	Myrtaceae
miconia, velvet leaf	Miconia calvescens	Melastomataceae
narrow-leaved carpetgrass	Axonopus fissifolius	Poaceae
oleaster	Elaeagnus umbellata	Elaeagnaceae
oriental mangrove	Bruguiera gymnorrhiza	Rhizophoraceae
padang cassia	Cinnamomum burmanii	Lauraceae
palmgrass	Setaria palmifolia	Poaceae
pearl flower	Heterocentron subtriplinervium	Melastomataceae
quinine tree	Cinchona pubesens	Rubiaceae
satin leaf, caimitillo	Chrysophyllum oliviforme	Sapotaceae
silkwood, Queensland maple	Flindersia brayleyana	Rutaceae
silky oak, silver oak	Grevillea robusta	Proteaceae
strawberry guava	Psidium cattleianum	Myrtaceae
swamp oak, saltmarsh, longleaf ironwood	Casuarina glauca	Casuarinaceae
sweet vernalgrass	Anthoxanthum odoratum	Poaceae
tree of heaven	Allanthus altissima	Simaroubaceae
trumpet tree, guarumo	Cecropia oblusifolia	Cecropiaceae
white ginger	Hedychium coronarium	Zingiberaceae
white moho	Heliocarpus popayanensis	Tiliaceae
yellow ginger	Hedychium flavescens	Zingiberaceae

DO NOT PLANT THESE PLANTS !!!

Common name	Scientific name	Plant family
	Jasminum fluminense	Oleaceae
	Arthrostema ciliatum	Melastomataceae
	Dissotis rotundifolia	Melastomataceae
	Erigeron karvinskianus	Asteraceae
	Eucalyptus robusta	Myrtaceae
	Hedychium gardnerianum	Zingiberaceae
	Juncus planifolius	Juncaceae
	Lophostemon confertus	Myrtaceae
	Medinilla cumingii	Melastomataceae
	Medinilla magnifica	Melastomataceae
	Medinilla venosa	Melastomataceae
	Melastoma candidum	Melastomataceae
	Melinis minutiflora	Poaceae
	Olea europaea	
	Oxyspora paniculata	Melastomataceae
	Panicum maximum	Poaceae
	Paspalum urvillei	Poaceae
	Passiflora edulis	Passifloraceae
	Phormium tenax	Agavaceae
	Pinus taeda	Pinaceae
	Prosopis pallida	Fabaceae
	Pterolepis glomerata	Melastomataceae
	Rhodomyrtus tomentosa	Myrtaceae
	Schefflera actinophylla	Araliaceae
	Syzygium jambos	Myrtaceae
Australian blackwood	Acacia melanoxylon	Mimosaceae
Australian tree fern	Cyathea cooperi	Cyatheaceae
Australian tree fern	Sphaeropteris cooperi	Cyatheaceae
Beggar's tick, Spanish needle	Bidens pilosa	Asteraceae
California grass	Brachiaria mutica	Poaceae
Chinese banyon, Maylayan banyon	Ficus mirocarpa	Moraceae
Chinese violet	Asystasia gangetica	Acanthaceae
Christmasberry, Brazilian pepper	Schinus terebinthifolius	Anacardiaceae
Formosan koa	Acacia confusa	Mimosaceae
German ivy	Senecio mikanioides	Asteraceae
Japanese honeysuckle	Lonicera japonica	Caprifoliaceae
Koster's curse	Clidemia hirta	Melastomataceae
Lantana	Lantana camara	Verbenaceae
Mauritius hemp	Furcraea foetida	Agavaceae
Mexican ash, tropical ash	Fraxinus uhdei	Oleaceae
Mexican tulip poppy	Hunnemannia fumariifolia	Papaveraceae
Mules foot, Madagascar tree fern	Angiopteris evecta	Marattiaceae
New Zealand laurel, karakaranut	Corynocarpus laevigatus	Corynocarpaceae
New Zealand tea	Leptospermum scoparium	Myrtaceae
Pampas grass	Cortaderia jubata	Poaceae
Panama rubber tree, Mexican rubber tree	Castilloa elastica	Moraceae
Shoebutton ardisia	Ardisia elliptica	Myrsinaceae
banana poka	Passiflora mollissima	Passifloraceae

ZONES

The Maui County Planting Plan has compiled a system of 5 zones of plant growth for Maui County. The descriptions of zones and maps for these zones are as follows:

Zone 1:

Wet areas on the windward side of the island. More than 40 inches of rain per year. Higher than 3,000 feet.

Zone 2:

Cool, dry areas in higher elevations (above 1,000 feet). 20 to 40 inches of rain per year.

Zone 3:

Low, drier areas, warm to hot. Less than 20 inches of rain per year. Sea level to 1,000 feet.

Zone 4:

Lower elevations which are wetter due to proximity of mountains. 1,000 to 3,000 feet.

Zone 5:

Salt spray zones in coastal areas on the windward side.

These zones are to be used as a general guide to planting for Maui County. In addition to looking at the maps, read the descriptions of the zones and decide which zone best fits your area. Plants can be listed in more than one zone and can be planted in a variety of conditions. For best results, take notes on the rainfall, wind, sun and salt conditions of your site. Use the zones as a general guide for selection and read about the plants to decide which best fits your needs as far as care and or function.

coarse compost. Place some slow-release fertilizer at the bottom of the hole.

3. Carefully remove the plant from the container and place it in the hole.

The top of the soil should be at the same level as the top of the hole, if it is too high or too low, adjust the soil level so that the plant is at the right depth.

4. Water thoroughly after you transplant.

Mulch

Most natives cannot compete with weeds, and therefore must be weeded around constantly in order to thrive. Mulch is a practical alternative, which discourages and prevents weeds from growing.

Hawaii's hot, humid climate leads to the breaking down of organic mulches. Thick organic mulches such as wood chips and leaves, may also be hiding places for pests.

Stone mulches are attractive, permanent and can help to improve soil quality. Red or black cinder, blue rock chips, smooth river rocks and coral chips are some natural choices.[10] Macadamia nut hulls are also easy to find and can make a nice mulch.[11]

Never pile up mulch right next to the stem or trunk of a plant, keep it a few inches away.

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[10] Bornhorst, p. 24

[11] Nagata, p. 7

Propagation

There are many ways to propagate and plant-out native Hawaiian species. One of the most thourough and helpful book is Heidi Bornhorst's book, *Growing Native Hawaiian Plants.* The easiest, and best way to obtain natives for the novice gardener is to get them from a reputable nursery (see appendix c). That way all you will have to do is know how to transplant (if necessary) and plant-out when you are ready. These are the two methods I have listed here.

Transplanting

1. Use pots that are one size bigger than the potted plant is in
2. Get your potting medium ready

Good potting medium is a ½, ½ mixture of peat moss and perlite. If the plant is from a dry or coastal area, add chunks of cinder or extra perlite. If it is a wet forest species, add more peat moss or compost. Be aware that peat moss is very acidic and certain plants react severely to acidity.

If the plant is to eventually be planted into the ground, make a mix of equal parts peat moss, perlite, and soil from the area in which the plant is to be planted. Slow-release fertilizer can be mixed into the potting medium.

3. Once pots, potting medium, fertilizer and water are ready, you can begin re-potting. Keep the plant stem at the same depth it was in the original pot. Avoid putting the plant in too large a pot, as the plant may not be able to soak up all the water in the soil and the roots may drown and rot.

Mix potting medium and add slow-release fertilizer at this time. Pre-wet the medium to keep dust down and lessen shock to the plant. Put medium in bottom of pot. Measure for the correct depth in the new pot. Make sure there is from ½ to 2 inches from the top of the pot so the plant can get adequate water. Try to stand the plant upright and center the stem in the middle of the pot.

Water the plant thoroughly after transplanting. A vitamin B-1 transplanting solution can help to lessen the transplant shock. Keep the plant in the same type of environment as it was before, sun or shade. If roots were broken, trimm off some of the leaves to compensate for the loss.[9]

Planting out

1. Plant most native Hawaiian plants in a sunny location in soil that is well-drained.
2. Make the planting hole twice as wide as the root ball or present pot, and just as deep.

If the soil is clay-like, and drains slowly, mix in some coarse red or bland cinder, coarse perlite or

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[9] Bornhorst, p.20-21

Automatic sprinkler systems are expensive to install and must be checked and adjusted regularly. Above-ground systems allow you to monitor how much water is being put out, but you lose a lot due to malfunctioning of sprinkler heads and wind. The most efficient way to save water and make sure your plants get enough water, is to hand-water. This way you are getting our precious water to the right places in the right amounts.[7]

Fertilizer

An all-purpose fertilizer 10-10-10 is adequate for most species. They should be applied at planting time, 3 months later, and 6 months thereafter. Use half the dosage recommended for ornamentals and pay special attention to native ferns which are sensitive to strong fertilizers. Use of organic composts and aged animal manures is suggested instead of chemical fertilizers. In addition, use of cinders for providing trace minerals is strongly recommended.[8]

Natives are plants which were here hundreds of years before the polynesians inhabited the Hawaiian Islands. They were brought here by birds, or survived the harsh ocean conditions to float here. They are well-adapted to Hawaii's varying soil and environmental conditions. This is why they make prime specimens for a xeriscape garden. However, natives will not thrive on their own, especially under harsh conditions. On the other hand, like any other plant, if you over-water and over-fertilize them, they will die. Follow the instructions given to you by the nursery you buy the plant from, or from this booklet. Better yet, buy a book (suggested readings can be found in the bibliography in the back of this pamphlet), read it, and learn more about native plants. I guarantee that you will be pleased with the results.

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[7] Bornhorst, p. 19-20

[8] Nagata, p. 6

Soil

Once you have selected your site and the plants you wish to establish there, you must look at the soil conditions on the site. Proper soil is necessary for the successful growth of most native plants, which preform poorly in hard pan, clay or adobe soils. If natives are to be planted in these types of soil, it would be wise to dig planting holes several times the size of the rootball and backfill with 50-75% compost.[4] A large planting hole ensures the development of a strong root system. The plant will have a headstart before the roots penetrate the surrounding poor soil.[5]

It is recommended that native plants not be planted in ground that is more dense than potting soil. If there is no alternative, dig a hole in a mound of soil mixed with volcanic cinder which encourages maximum root development. Fill the hole with water, if the water tends to puddle or drain too slowly, dig a deeper hole until the water does not puddle longer than 1 or 2 minutes.[6] Well-drained soil is one of the most important things when planting natives as you will see in the next section.

Irrigation

Most natives do very poorly in waterlogged conditions. Do not water if the soil is damp. Water when the soil is dry and the plants are wilting. Once established, a good soaking twice a week should suffice. Deep soaking encourages the development of stronger, and deeper root systems. This is better than frequent and shallow watering which encourage weaker, more shallow root systems.

The following is a watering schedule from Kenneth Nagata's Booklet, *How To Plant A Native Hawaiian Garden*:

WATER REQUIREMENT	WATERING FREQUENCY
Heavy	3x / week
Moderate	2x / week
Light	1x / week

Red clay soils hold more water for a longer period of time than sandy soils do. If your area is very sunny or near a beach, things will dry out faster. Even in the area of one garden, there are parts that will need more or less water. Soils can vary and amount of shade and wind differ. After plants are established (a month or two for most plants, up to a year for some trees), you can back off watering.

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[4] Nagata, p. 6.

[5] Nagata, p. 8

[6] Nagata, p. 8

Selection

As a general rule, it is best to select the largest and healthiest specimens. However, be sure to note that they are not pot-bound. Smaller, younger plants may result in a low rate of plant survival.[1] When selecting native species, consider the site they are to be planted in, and the space that you have to plant. For example: Mountain species such as koa and maile will not grow well in hot coastal areas exposed to strong ocean breezes. Lowland and coastal species such as wiliwili and Kou require abundant sunshine and porus soil. They will not grow well with frequent cloud cover, high rainfall and heavy soil.

Consider too, the size that the species will grow to be. It is not wise to plant trees that will grow too large.[2] Overplanting tends to be a big problem in the landscape due to the underestimation of a species' height, width or spread.

A large, dense canopied tree such as the kukui is a good shade tree for a lawn. However, it's canopy size and density of shade will limit what can be planted in the surrounding area. Shade cast by a koa and ohia lehua is relatively light and will not inhibit growth beneath it.

Keep seasons in mind when you are selecting your plants. Not all plants look good year round, some plants such as ilima will look scraggly after they have flowered and formed seeds. Avoid planting large areas with only one native plant. Mixing plants which naturally grow together will ensure the garden will look good all year round.[3] Looking at natural habitats helps to show how plants grow naturally in the landscape.

When planting an area with a mixed-ecosystem, keep in mind the size and ecological requirements of each plant. Start with the hardiest and most easily grown species, but allow space for fragile ones in subsequent plantings.

Acquiring natives

Plants in their wild habitat must be protected and maintained. It is best and easiest to get your plants from nurseries (see list), or friend's gardens. Obtain proper permits from landowners and make sure you follow a few common sense rules:

- collect sparingly from each plant or area.
- some plants are on the state or Federal Endangered Species list. Make sure you get permits (see app. A,B)

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[1] K. Nagata, P.6

[2] K. Nagata, P.9

[3] Nagata, P.9

PLACES TO BUY NATIVE PLANTS ON MAUI

1. Ho'olawa Farms
   Anna Palomino
   P O Box 731
   Haiku HI 96708
   575-5099

   * The largest and best collection of natives in the state. They will deliver, but worth the drive to go and see! Will propagate upon request

2. Kahanu Gardens
   National Tropical Botanical Garden
   Alau Place, Hana
   248-8912

3. Kihana Nursery
   1708 South Kihei Road
   Kihei HI 96753
   879-1165

4. Kihei Garden and Landscape
   Waiko Road, Wailuku
   P O Box 1058
   Puunene HI 96784
   244-3804

5. Kula Ace Hardware and Nursery
   3600 Lower Kula Road
   Kula HI 96790
   876-0734
   * many natives in stock
   * get most of their plants from Ho'olawa Farms
   * they take special requests

6. Kulamanu Farms - Ann Carter
   Kula HI 96790
   878-1801

7. Maui Nui Botanical Gardens
   Kanaloa Avenue
   (Across from stadium)
   Kahului HI 96732
   249-2798

8. Native Gardenscapes
   Robin McMillan
   1330 Lower Kimo Drive
   Kula HI 96790
   870-1421

   * grows native plants and installs landscapes including irrigation.

9. Native Hawaiian Tree Source
   1630 Piiholo Road
   Makawao HI 96768
   572-6180

10. Native Nursery, LLC
    Jonathan Keyser
    250-3341

11. New Moon Enterprises - Pat Bily
    47 Kahoea Place
    Kula HI 96790
    878-2441

12. Waiakoa Tree Farm - Kua Rogoff
    Pukalani HI 96768
    Cell - 264-4166

PLACES TO SEE NATIVES ON MAUI:

The following places propagate native Hawaiian plants from seeds and/or cuttings. Their purpose is to protect and preserve these native plants. Please contact them before going to view the sites, they can provide valuable information and referral to other sources.

1. Hoolawa Farms — 575-5099
   P O Box 731
   Haiku HI 96708

2. The Hawaiian Collection — 878-1701
   1127 Manu Street
   Kula HI 96790

3. Kula Botanical Gardens — 878-1715
   RR4, Box 228
   Kula HI 96790

4. Maui Botanical Gardens — 249-2798
   Kanaloa Avenue, Kahului
   across from stadium

5. Kula Forest Reserve
   access road at the end of Waipoli Rd
   Call the Maui District Office — 984-8100

6. Wailea Point, Private Condominium residence — 875-9557
   4000 Wailea Alanui, Kihei
   public access points at Four Seasons Resort or
   Polo Beach

7. Kahanu Gardens, National Tropical Botanical Garden — 248-8912
   Alau Place, Hana HI 96713

8. Kahului Library Courtyard — 873-3097
   20 School Street
   Kahului HI 96732

United States
Environmental Protection
Agency

Office of Water
Washington, DC 20460

840-B-92-002
January 1993

EPA

Guidance Specifying Management Measures For Sources Of Nonpoint Pollution In Coastal Waters

Issued Under the Authority of
Section 6217(g) of the Coastal Zone Act
Reauthorization Amendments of 1990

III. CONSTRUCTION ACTIVITIES

A. Construction Site Erosion and Sediment Control Management Measure

(1) Reduce erosion and, to the extent practicable, retain sediment onsite during and after construction, and

(2) Prior to land disturbance, prepare and implement an approved erosion and sediment control plan or similar administrative document that contains erosion and sediment control provisions.

1. Applicability

This management measure is intended to be applied by States to all construction activities on sites less than 5 acres in areas that do not have an NPDES permit[3] in order to control erosion and sediment loss from those sites. This management measure does not apply to: (1) construction of a detached single family home on a site of 1/2 acre or more or (2) construction that does not disturb over 5,000 square feet of land on a site. (NOTE: All construction activities, including clearing, grading, and excavation, that result in the disturbance of areas greater than or equal to 5 acres or are a part of a larger development plan are covered by the NPDES regulations and are thus excluded from these requirements.) Under the Coastal Zone Act Reauthorization Amendments of 1990, States are subject to a number of requirements as they develop coastal NPS programs in conformity with this management measure and will have flexibility in doing so. The application of management measures by States is described more fully in *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*, published jointly by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce.

2. Description

The goal of this management measure is to reduce the sediment loadings from construction sites in coastal areas that enter surface waterbodies. This measure requires that coastal States establish new or enhance existing State erosion and sediment control (ESC) programs and/or require ESC programs at the local level. It is intended to be part of a comprehensive land use or watershed management program, as previously detailed in the Watershed and Site Development Management Measures. It is expected that State and local programs will establish criteria determined by local conditions (e.g., soil types, climate, meteorology) that reduce erosion and sediment transport from construction sites.

Runoff from construction sites is by far the largest source of sediment in urban areas under development (York County Soil and Water Conservation District, 1990). Soil erosion removes over 90 percent of sediment by tonnage in urbanizing areas where most construction activities occur (Canning, 1988). Table 4-14 illustrates some of the

[3] On May 27, 1992, the United States Court of Appeals for the Ninth Circuit invalidated EPA's exemption of construction sites smaller than 5 acres from the storm water permit program in *Natural Resources Defense Council v. EPA*, 965 F.2d 759 (9th Cir. 1992). EPA is conducting further rulemaking proceedings on this issue and will not require permit applications for construction activities under 5 acres until further rulemaking has been completed.

measured sediment loading rates associated with construction activities found across the United States. As seen in Table 4-14, erosion rates from natural areas such as undisturbed forested lands are typically less than one ton/acre/year, while erosion from construction sites ranges from 7.2 to over 1,000 tons/acre/year.

Table 4-14. Erosion and Sediment Problems Associated With Construction

Location	Problem	Reference
United States	Sediment loading rates vary from 36.5 to 1,000 ton/ac/yr. These are 5 to 500 times greater than those from undeveloped land. Approximately 600 million tons of soil erodes from developed sites each year. Construction site sediment in runoff can be 10 to 20 times greater than that from agricultural lands.	York County Soil and Water Conservation District, 1990
Franklin County, FL	*Sediment yield (ton/ac/yr):* forest < 0.5 rangeland < 0.5 tilled 1.4 construction site 30 established urban < 0.5	Franklin County, FL
Wisconsin	Erosion rates range from 30 to 200 ton/ac/yr (10 to 20 times those of cropland).	Wisconsin Legislative Council, 1991
Washington, DC	Erosion rates range from 35 to 45 ton/ac/yr (10 to 100 times greater than agriculture and stabilized urban land uses).	MWCOG, 1987
Anacostia River Basin, VA, MD, DC	Sediment yields from portions of the Anacostia Basin have been estimated at 75,000 to 132,000 ton/yr.	U.S. Army Corps of Engineers, 1990
Washington	Erosion rates range from 50 to 500 ton/ac/yr. Natural erosion rates from forests or well-sodded prairies are 0.01 to 1.0 ton/ac/yr.	Washington Department of Ecology, 1989
Anacostia River Basin, VA, MD, DC	Erosion rates range from 7.2 to 100.8 ton/ac/yr.	USGS, 1978
Alabama	1.4 million tons eroded per year.	Woodward-Clyde, 1991
North Carolina	6.7 million tons eroded per year.	
Louisiana	5.1 million tons eroded per year.	
Oklahoma	4.2 million tons eroded per year.	
Georgia	3.8 million tons eroded per year.	
Texas	3.5 million tons eroded per year.	
Tennessee	3.3 million tons eroded per year.	
Pennsylvania	3.1 million tons eroded per year.	
Ohio	3.0 million tons eroded per year.	
Kentucky	3.0 million tons eroded per year.	

roded sediment from construction sites creates many problems in coastal areas including adverse impacts on water uality, critical habitats, submerged aquatic vegetation (SAV) beds, recreational activities, and navigation (APWA, 991). For example, the Miami River in Florida has been severely affected by pollution associated with upland rosion. This watershed has undergone extensive urbanization, which has included the construction of many ommercial and residential buildings over the past 50 years. Sediment deposited in the Miami River channel ontributes to the severe water quality and navigation problems of this once-thriving waterway, as well as Biscayne Bay (SFWMD, 1988).

ESC plans are important for controlling the adverse impacts of construction and land development and have been required by many State and local governments, as shown in Table 4-13 (in the Site Development section of this chapter). An ESC plan is a document that explains and illustrates the measures to be taken to control erosion and sediment problems on construction sites (Connecticut Council on Soil and Water Conservation, 1988). It is intended that existing State and local erosion and sediment control plans may be used to fulfill the requirements of this management measure. Where existing ESC plans do not meet the management measure criteria, inadequate plans may be enhanced to meet the management measure guidelines.

Typically, an ESC plan is part of a larger site plan and includes the following elements:

- Description of predominant soil types;
- Details of site grading including existing and proposed contours;
- Design details and locations for structural controls;
- Provisions to preserve topsoil and limit disturbance;
- Details of temporary and permanent stabilization measures; and
- Description of the sequence of construction.

ESC plans ensure that provisions for control measures are incorporated into the site planning stage of development and provide for the reduction of erosion and sediment problems and accountability if a problem occurs (York County Soil and Water Conservation District, 1990). An effective plan for urban runoff management on construction sites will control erosion, retain sediments on site, to the extent practicable, and reduce the adverse effects of runoff. Climate, topography, soils, drainage patterns, and vegetation will affect how erosion and sediment should be controlled on a site (Washington State Department of Ecology, 1989). An effective ESC plan includes both structural and nonstructural controls. Nonstructural controls address erosion control by decreasing erosion potential, whereas structural controls are both preventive and mitigative because they control both erosion and sediment movement.

Typical nonstructural erosion controls include (APWA, 1991; York County Soil and Water Conservation District, 1990):

- Planning and designing the development within the natural constraints of the site;
- Minimizing the area of bare soil exposed at one time (phased grading);
- Providing for stream crossing areas for natural and man-made areas; and
- Stabilizing cut-and-fill slopes caused by construction activities.

Structural controls include:

- Perimeter controls;
- Mulching and seeding exposed areas;
- Sediment basins and traps; and
- Filter fabric, or silt fences.

Some erosion and soil loss are unavoidable during land-disturbing activities. While proper siting and design will help prevent areas prone to erosion from being developed, construction activities will invariably produce conditions where erosion may occur. To reduce the adverse impacts associated with construction, the construction management measure suggests a system of nonstructural and structural erosion and sediment controls for incorporation into an

ESC plan. Erosion controls have distinct advantages over sediment controls. Erosion controls reduce the amount of sediment transported off-site, thereby reducing the need for sediment controls. When erosion controls are used in conjunction with sediment controls, the size of the sediment control structures and associated maintenance may be reduced, decreasing the overall treatment costs (SWRPC, 1991).

3. Management Measure Selection

This management measure was selected to minimize sediment being transported outside the perimeter of a construction site through two broad performance goals: (1) reduce erosion and (2) retain sediment onsite, to the extent practicable. These performance goals were chosen to allow States and local governments flexibility in specifying practices appropriate for local conditions.

While several commentors responding to the draft (May 1991) guidance expressed the need to define "more measurable, enforceable ways" to control sediment loadings, other commentors stressed the need to draft management measures that do not conflict with existing State programs and allow States and local governments to determine appropriate practices and design standards for their communities. These management measures were selected because virtually all coastal States control construction activities to prevent erosion and sediment loss.

The measures were specifically written for the following reasons:

(1) Predevelopment loadings may vary greatly, and some sediment loss is usually inevitable;

(2) Current practice is built on the use of systems of practices selected based on site-specific conditions; and

(3) The combined effectiveness of erosion and sediment controls in systems is not easily quantified.

4. Erosion Control Practices

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

Erosion controls are used to reduce the amount of sediment that is detached during construction and to prevent sediment from entering runoff. Erosion control is based on two main concepts: (1) disturb the smallest area of land possible for the shortest period of time, and (2) stabilize disturbed soils to prevent erosion from occurring.

a. *Schedule projects so clearing and grading are done during the time of minimum erosion potential.*

Often a project can be scheduled during the time of year that the erosion potential of the site is relatively low. In many parts of the country, there is a certain period of the year when erosion potential is relatively low and construction scheduling could be very effective. For example, in the Pacific region if construction can be completed during the 6-month dry season (May 1 - October 31), temporary erosion and sediment controls may not be needed. In addition, in some parts of the country erosion potential is very high during certain parts of the year such as the spring thaw in northern areas. During this time of year, melting snowfall generates a constant runoff that can erode soil. In addition, construction vehicles can easily turn the soft, wet ground into mud, which is more easily washed offsite. Therefore, in the north, limitations should be placed on grading during the spring thaw (Goldman et al., 1986).

wale or channel. Check dams should be used when a swale or channel will be used for a short time and therefore s not feasible or practical to line the channel or implement flow control BMPs (Delaware DNREC, 1989).

o. *Seed and fertilize.*

eding establishes a vegetative cover on disturbed areas. Seeding is very effective in controlling soil erosion once dense vegetative cover has been established. However, often seeding and fertilizing do not produce as thick a :getative cover as do seed and mulch or netting. Newly established vegetation does not have as extensive a root stem as existing vegetation and therefore is more prone to erosion, especially on steep slopes. Care should be ken when fertilizing to avoid untimely or excessive application. Since the practice of seeding and fertilizing does t provide any protection during the time of vegetative establishment, it should be used only on favorable soils in ry flat areas and not in sensitive areas.

p. *Use seeding and mulch/mats.*

eding establishes a vegetative cover on disturbed areas. Seeding is very effective in controlling soil erosion once e vegetative cover has been established. The mulching/mats protect the disturbed area while the vegetation comes established.

e management of land by using ground cover reduces erosion by reducing the flow rate of runoff and the raindrop pact. Bare soils should be seeded or otherwise stabilized within 15 calendar days after final grading. Denuded eas that are inactive and will be exposed to rain for 30 days or more should also be temporarily stabilized, usually / planting seeds and establishing vegetation during favorable seasons in areas where vegetation can be established. very flat, non-sensitive areas with favorable soils, stabilization may involve simply seeding and fertilizing. ulching and/or sodding may be necessary as slopes become moderate to steep, as soils become more erosive, and areas become more sensitive.

q. *Use mulch/mats.*

Mulching involves applying plant residues or other suitable materials on disturbed soil surfaces. Mulchs/mats used include tacked straw, wood chips, and jute netting and are often covered by blankets or netting. Mulching alone should be used only for temporary protection of the soil surface or when permanent seeding is not feasible. The seful life of mulch varies with the material used and the amount of precipitation, but is approximately 2 to 6 months. Figure 4-5 shows water velocity reductions that could be expected using various mulching techniques. Similarly, Figure 4-6 shows reductions in soil loss achievable using various mulching techniques. During times of ear when vegetation cannot be established, soil mulching should be applied to moderate slopes and soils that are ot highly erodible. On steep slopes or highly erodible soils, multiple mulching treatments should be used. On a igh-elevation or desert site where grasses cannot survive the harsh environment, native shrubs may be planted. nterlocking ceramic materials, filter fabric, and netting are available for this purpose. Before stabilizing an area, . is important to have installed all sediment controls and diverted runoff away from the area to be planted. Runoff ay be diverted away from denuded areas or newly planted areas using dikes, swales, or pipe slope drains to ntercept runoff and convey it to a permanent channel or storm drain. Reserved topsoil may be used to revegetate site if the stockpile has been covered and stabilized.

Consideration should be given to maintenance when designing mulching and matting schemes. Plastic nets are often used to cover the mulch or mats; however, they can foul lawn mower blades if the area requires mowing.

h. Cover or stabilize topsoil stockpiles.

Unprotected stockpiles are very prone to erosion and therefore stockpiles must be protected. Small stockpiles can be covered with a tarp to prevent erosion. Large stockpiles should be stabilized by erosion blankets, seeding, and/or mulching.

i. Use wind erosion controls.

Wind erosion controls limit the movement of dust from disturbed soil surfaces and include many different practices. Wind barriers block air currents and are effective in controlling soil blowing. Many different materials can be used as wind barriers, including solid board fence, snow fences, and bales of hay. Sprinkling moistens the soil surface with water and must be repeated as needed to be effective for preventing wind erosion (Delaware DNREC, 1989); however, applications must be monitored to prevent excessive runoff and erosion.

j. Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drain.

Earth dikes, perimeter dikes or swales, or diversions can be used to intercept and convey runoff above disturbed areas. An earth dike is a temporary berm or ridge of compacted soil that channels water to a desired location. A perimeter dike/swale or diversion is a swale with a supporting ridge on the lower side that is constructed from the soil excavated from the adjoining swale (Delaware DNREC, 1989). These practices should be used to intercept flow from denuded areas or newly seeded areas to keep the disturbed areas from being eroded from the uphill runoff. The structures should be stabilized within 14 days of installation. A pipe slope drain, also known as a pipe drop structure, is a temporary pipe placed from the top of a slope to the bottom of the slope to convey concentrated runoff down the slope without causing erosion (Delaware DNREC, 1989).

k. On long or steep, disturbed, or man-made slopes, construct benches, terraces, or ditches at regular intervals to intercept runoff.

Benches, terraces, or ditches break up a slope by providing areas of low slope in the reverse direction. This keeps water from proceeding down the slope at increasing volume and velocity. Instead, the flow is directed to a suitable outlet, such as a sediment basin or trap. The frequency of benches, terraces, or ditches will depend on the erodibility of the soils, steepness and length of the slope, and rock outcrops. This practice should be used if there is a potential for erosion along the slope.

l. Use retaining walls.

Often retaining walls can be used to decrease the steepness of a slope. If the steepness of a slope is reduced, the runoff velocity is decreased and, therefore, the erosion potential is decreased.

m. Provide linings for urban runoff conveyance channels.

Often construction increases the velocity and volume of runoff, which causes erosion in newly constructed or existing urban runoff conveyance channels. If the runoff during or after construction will cause erosion in a channel, the channel should be lined or flow control BMPs installed. The first choice of lining should be grass or sod since this reduces runoff velocities and provides water quality benefits through filtration and infiltration. If the velocity in the channel would erode the grass or sod, then riprap, concrete, or gabions can be used.

n. Use check dams.

Check dams are small, temporary dams constructed across a swale or channel. They can be constructed using gravel or straw bales. They are used to reduce the velocity of concentrated flow and, therefore, to reduce the erosion in

wale or channel. Check dams should be used when a swale or channel will be used for a short time and therefore s not feasible or practical to line the channel or implement flow control BMPs (Delaware DNREC, 1989).

o. *Seed and fertilize.*

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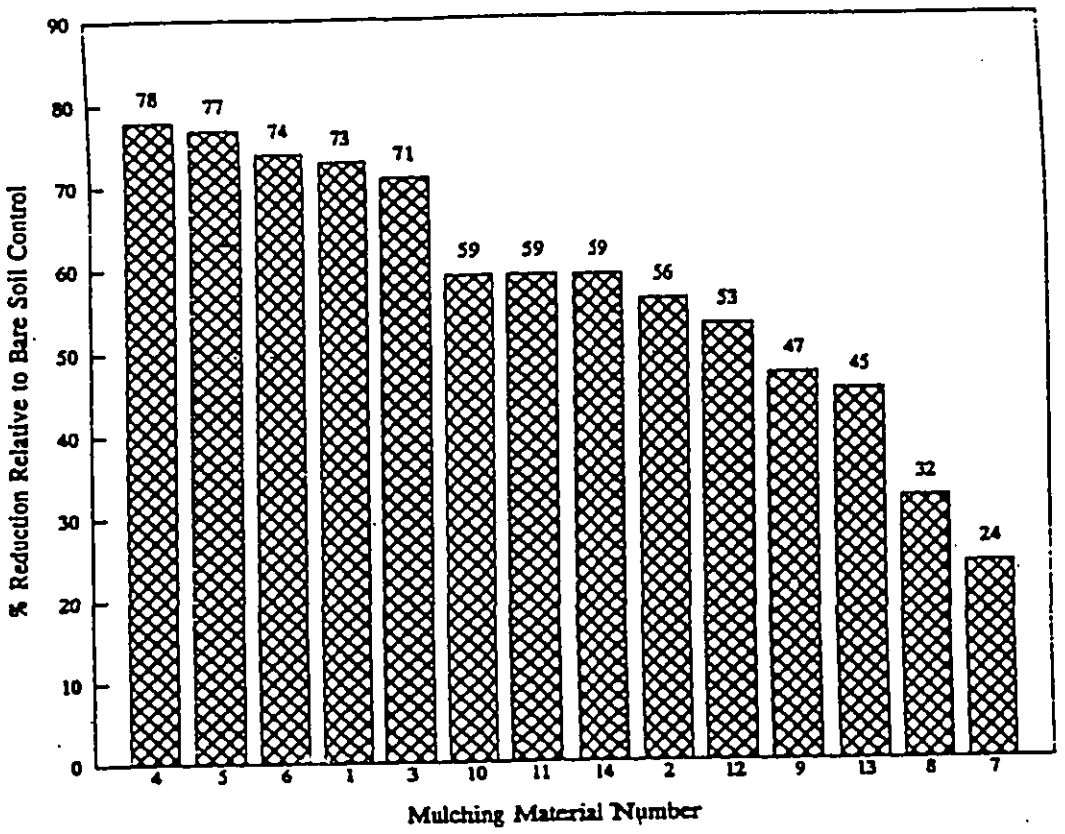
q. *Use mulch/mats.*

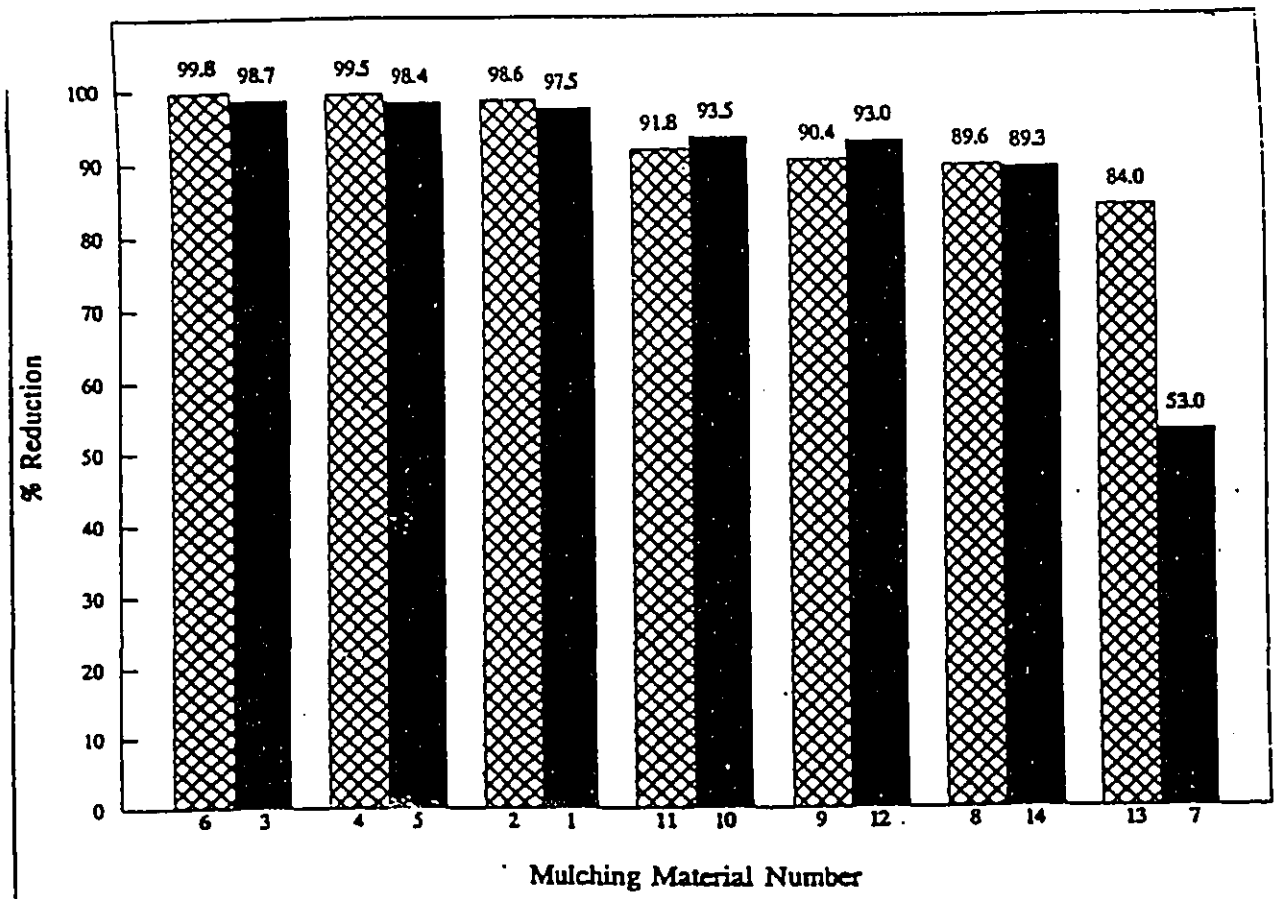
Mulching involves applying plant residues or other suitable materials on disturbed soil surfaces. Mulchs/mats used include tacked straw, wood chips, and jute netting and are often covered by blankets or netting. Mulching alone should be used only for temporary protection of the soil surface or when permanent seeding is not feasible. The seful life of mulch varies with the material used and the amount of precipitation, but is approximately 2 to 6 months. Figure 4-5 shows water velocity reductions that could be expected using various mulching techniques. Similarly, Figure 4-6 shows reductions in soil loss achievable using various mulching techniques. During times of ear when vegetation cannot be established, soil mulching should be applied to moderate slopes and soils that are ot highly erodible. On steep slopes or highly erodible soils, multiple mulching treatments should be used. On a igh-elevation or desert site where grasses cannot survive the harsh environment, native shrubs may be planted. nterlocking ceramic materials, filter fabric, and netting are available for this purpose. Before stabilizing an area, . is important to have installed all sediment controls and diverted runoff away from the area to be planted. Runoff ay be diverted away from denuded areas or newly planted areas using dikes, swales, or pipe slope drains to ntercept runoff and convey it to a permanent channel or storm drain. Reserved topsoil may be used to revegetate site if the stockpile has been covered and stabilized.

Consideration should be given to maintenance when designing mulching and matting schemes. Plastic nets are often sed to cover the mulch or mats; however, they can foul lawn mower blades if the area requires mowing.



Mulch Material	Characteristics
1	100% wheat straw/top net
2	100% wheat straw/two nets
3	70% wheat straw/30% coconut fiber
4	70% wheat straw/30% coconut fiber
5	100% coconut fiber
6	Nylon monofilament/two nets
7	Nylon monofilament/rigid/bonded
8	Vinyl monofilament/flexible/bonded
9	Curled wood fibers/top net
10	Curled wood fibers/two nets
11	Antiwash netting (jute)
12	Interwoven paper and thread
13	Uncrimped wheat straw – 2,242 kg/ha
14	Uncrimped wheat straw – 4,484 kg/ha

Figure 4-5. Water velocity reductions for different mulch treatments (adapted from Harding, 1990).



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1	100% wheat straw/top net
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3	70% wheat straw/30% coconut fiber
4	70% wheat straw/30% coconut fiber
5	100% coconut fiber
6	Nylon monofilament/two nets
7	Nylon monofilament/rigid/bonded
8	Vinyl monofilament/flexible/bonded
9	Curled wood fibers/top net
10	Curled wood fibers/two nets
11	Antiwash netting (jute)
12	Interwoven paper and thread
13	Uncrimped wheat straw – 2,242 kg/ha
14	Uncrimped wheat straw – 4,484 kg/ha

Figure 4-6. Actual soil loss reductions for different mulch treatments (adapted from Harding, 1990).

r. Use sodding.

Sodding permanently stabilizes an area. Sodding provides immediate stabilization of an area and should be used in critical areas or where establishment of permanent vegetation by seeding and mulching would be difficult. Sodding is also a preferred option when there is a high erosion potential during the period of vegetative establishment from seeding.

s. Use wildflower cover.

Because of the hardy drought-resistant nature of wildflowers, they may be more beneficial as an erosion control practice than turf grass. While not as dense as turfgrass, wildflower thatches and associated grasses are expected to be as effective in erosion control and contaminant absorption. Because thatches of wildflowers do not need fertilizers, pesticides, or herbicides, and watering is minimal, implementation of this practice may result in a cost savings (Brash et al., undated). In 1987, Howard County, Maryland, spent $690.00 per acre to maintain turfgrass areas, compared to only $31.00 per acre for wildflower meadows (Wilson, 1990).

A wildflower stand requires several years to become established; maintenance requirements are minimal once the area is established (Brash et al., undated).

5. Sediment Control Practices[4]

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

Sediment controls capture sediment that is transported in runoff. Filtration and detention (gravitational settling) are the main processes used to remove sediment from urban runoff.

a. Sediment Basins

Sediment basins, also known as silt basins, are engineered impoundment structures that allow sediment to settle out of the urban runoff. They are installed prior to full-scale grading and remain in place until the disturbed portions of the drainage area are fully stabilized. They are generally located at the low point of sites, away from construction traffic, where they will be able to trap sediment-laden runoff.

Sediment basins are typically used for drainage areas between 5 and 100 acres. They can be classified as either temporary or permanent structures, depending on the length of service of the structure. If they are designed to function for less than 36 months, they are classified as "temporary"; otherwise, they are considered permanent structures. Temporary sediment basins can also be converted into permanent urban runoff management ponds. When sediment basins are designed as permanent structures, they must meet all standards for wet ponds.

b. Sediment Trap

Sediment traps are small impoundments that allow sediment to settle out of runoff water. Sediment traps are typically installed in a drainageway or other point of discharge from a disturbed area. Temporary diversions can be

[4]Adapted from Goldman (1986).

used to direct runoff to the sediment trap. Sediment traps should not be used for drainage areas greater than 5 acres and typically have a useful life of approximately 18 to 24 months.

c. Filter Fabric Fence

Filter fabric fence is available from many manufacturers and in several mesh sizes. Sediment is filtered out as urban runoff flows through the fabric. Such fences should be used only where there is sheet flow (i.e., no concentrated flow), and the maximum drainage area to the fence should be 0.5 acre or less per 100 feet of fence. Filter fabric fences have a useful life of approximately 6 to 12 months.

d. Straw Bale Barrier

A straw bale barrier is a row of anchored straw bales that detain and filter urban runoff. Straw bales are less effective than filter fabric, which can usually be used in place of straw bales. However, straw bales have been effectively used as temporary check dams in channels. As with filter fabric fences, straw bale barriers should be used only where there is sheet flow. The maximum drainage area to the barrier should be 0.25 acre or less per 100 feet of barrier. The useful life of straw bales is approximately 3 months.

e. Inlet Protection

Inlet protection consists of a barrier placed around a storm drain drop inlet, which traps sediment before it enters the storm sewer system. Filter fabric, straw bales, gravel, or sand bags are often used for inlet protection.

f. Construction Entrance

A construction entrance is a pad of gravel over filter cloth located where traffic leaves a construction site. As vehicles drive over the gravel, mud, and sediment are collected from the vehicles' wheels and offsite transport of sediment is reduced.

g. Vegetated Filter Strips

Vegetated filter strips are low-gradient vegetated areas that filter overland sheet flow. Runoff must be evenly distributed across the filter strip. Channelized flows decrease the effectiveness of filter strips. Level spreading devices are often used to distribute the runoff evenly across the strip (Dillaha et al., 1989).

Vegetated filter strips should have relatively low slopes and adequate length and should be planted with erosion-resistant plant species. The main factors that influence the removal efficiency are the vegetation type, soil infiltration rate, and flow depth and travel time. These factors are dependent on the contributing drainage area, slope of strip, degree and type of vegetative cover, and strip length. Maintenance requirements for vegetated filter strips include sediment removal and inspections to ensure that dense, vigorous vegetation is established and concentrated flows do not occur. Maintenance of these structures is discussed in Section II.A of this chapter.

6. Effectiveness and Cost Information

a. Erosion Control Practices

The effectiveness of erosion control practices can vary based on land slope, the size of the disturbed area, rainfall frequency and intensity, wind conditions, soil type, use of heavy machinery, length of time soils are exposed and unprotected, and other factors. In general, a system of erosion and sediment control practices can more effectively reduce offsite sediment transport than can a single system. Numerous nonstructural measures such as protecting natural or newly planted vegetation, minimizing the disturbance of vegetation on steep slopes and other highly

erodible areas, maximizing the distance eroded material must travel before reaching the drainage system, and locating roads away from sensitive areas may be used to reduce erosion.

Table 4-15 contains the available cost and effectiveness data for some of the erosion controls listed above. Information on the effectiveness of individual nonstructural controls was not available. All reported effectiveness data assume that controls are properly designed, constructed, and maintained. Costs have been broken down into annual capital costs, annual maintenance costs, and total annual costs (including annualization of the capital costs).

b. Sediment Control Practices

Regular inspection and maintenance are needed for most erosion control practices to remain effective. The effectiveness of sediment controls will depend on the size of the construction site and the nature of the runoff flows. Sediment basins are most appropriate for drainage areas of 5 acres or greater. In smaller areas with concentrated flows, silt traps may suffice. Where concentrated flow leaves the site and the drainage area is less than 0.5 ac/100 ft of flow, filter fabric fences may be effective. In areas where sheet flow leaves the site and the drainage area is greater than 0.5 acre/100 ft of flow, perimeter dikes may be used to divert the flow to a sediment trap or sediment basin. Urban runoff inlets may be protected using straw bales or diversions to filter or route runoff away from the inlets.

Table 4-16 describes the general cost and effectiveness of some common sediment control practices.

c. Comparisons

Figure 4-7 illustrates the estimated TSS loading reductions from Maryland construction sites possible using a combination of erosion and sediment controls in contrast to using only sediment controls. Figure 4-8 shows a comparison of the cost and effectiveness of various erosion control practices. As can be seen in Figure 4-8, seeding or seeding and mulching provide the highest levels of control at the lowest cost.

Table 4-15. ESC Quantitative Effectiveness and Cost Summary

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years)[a]	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Sod	Immediate erosion protection where there is high erosion potential during vegetative establishment.	Average: 99% Observed range: 98% - 99% References: Minnesota Pollution Control Agency, 1989; Pennsylvania, 1983 cited in USEPA, 1991	2	Average: $0.2 per ft^2 [$11,300 per acre] Range: $0.1 - $1.1 References: SWRPC, 1991; Schueler, 1987; Virginia, 1980	Average: 5% Range: 5% Reference: SWRPC, 1991	$0.20 per ft^2 $7,500 per acre
Seed	Establish vegetation on disturbed area.	After vegetation established- Average: 90% Observed range: 50% - 100% References: SCS, 1985 cited in EPA, 1991; Minnesota Pollution Control Agency, 1989; Oberts, 1984 cited in City of Austin, 1988; Delaware Department of Natural Resources, 1989	2	Average: $400 per acre Range: $200 - $1000 per acre References: Wisconsin DOT cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1986; Virginia, 1980	Average: 20% Range: 15% - 25% References: Wisconsin DOT cited in SWRPC, 1991; SWRPC, 1991	$300 per acre
Seed and Mulch	Establish vegetation on disturbed area.	After vegetation established- Average: 90% Observed range: 50% - 100% References: SCS, 1985 cited in EPA, 1991; Minnesota Pollution Control Agency, 1989; Oberts, 1984 cited in City of Austin, 1988; Delaware Department of Natural Resources, 1989	2	Average: $1,500 per acre Range: $800 - $3,500 per acre References: Goldman, 1986; Washington DOT, 1990; NC State, 1990; Schueler, 1987; Virginia, 1980; SWRPC, 1991	Average: NA[b] Range: NA References: None	$1,100 per acre

Table 4-15. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years)[a]	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Mulch	Temporary stabilization of disturbed area.	Observed range: sand: 20% slope / 50% slope wood fiber @ 1500 lb/ac: 50-60% / 0-20% wood fiber @ 3000 lb/ac: 50-85% / 50-70% straw @ 3000 lb/ac: 90-100% / 95% Silt-loam: 20% slope / 50% slope wood fiber @ 1500 lb/ac: 20-60% / 40-60% wood fiber @ 3000 lb/ac: 60-90% / 60-70% straw @ 3000 lb/ac: 80-95% / 70-90% Silt-clay-loam: 10-30% slope / 30-50% slope wood fiber @ 1500 lb/ac: 5% / -- wood fiber @ 3000 lb/ac: 40% / -- jute netting: 30-60% / 30% straw @ 3000 lb/ac: 40-70% / 20-40% wood chips @ 10,000 lb/ac: 60-80% / 50-60% mulch blanket: 60-80% / 50-60% excelsior blanket: 60-80% / 50-60% multiple treatment (straw and jute): 90% / 90% References: Minnesota Pollution Control Agency, 1989; Kay, 1983 cited in Goldman, 1986	Straw mulch: 0.25 Wood fiber mulch: 0.33 Jute netting: 0.33 Straw and jute: 0.33	Straw mulch: Average: $1,700 per acre Range: $500 - $5,000 per acre References: Wisconsin DOT cited in SWRPC, 1991; Washington DOT, 1990; Virginia, 1980 Wood fiber mulch: Average: $1,000 per acre Range: $100 - $2,300 per acre References: Washington DOT, 1990; Virginia, 1980 Jute netting: Average: $3,700 per acre Range: $3,500-$4,100 per acre References: Washington DOT, 1990; Virginia, 1980 Straw and jute: Average: $5,400 per acre Range: $4,000-$9,100 per acre References: Washington DOT, 1990; Virginia, 1980	Average: NA[b] Range: NA References: None	Straw mulch: $7,500 per acre Wood fiber mulch: $3,500 per acre Jute netting: $12,500 per acre Straw and jute: $18,000 per acre

Table 4-15. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years)[a]	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Terraces	Break up long or steep slopes.	Observed range: Land Slope / Reduction in Erosion 1-12% / 70% 12-18% / 60% 18-24% / 55% Additionally, if the slope steepness is halved, while other factors are held constant, the soil loss potential decreases 2-1/2 times. If both the slope and length are halved, the soil loss potential is decreased 4 times. References: Goldman, 1986; Beasley, 1972	2	Average: $5 per lin ft Range: $1 - $12 References: SWRPC, 1991; Goldman, 1986; Virginia, 1991	Average: 20% Range: 20% Reference: SWRPC, 1991	$4 per lin ft
All Erosion Controls	Reduce amount of sediment entering runoff.	Average: 85% Observed range: 85% Reference: Schueler, 1990	--	Varies but typically low	Varies but typically low	Varies but typically low

NA - Not available.
[a] Useful life estimated as length of construction project (assumed to be 2 years).
[b] For Total Annual Cost, assume Annual Maintenance Cost = 2% of construction cost.

Table 4-16. ESC Quantitative Effectiveness and Cost Summary for Sediment Control Practices

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years)[a]	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Sediment basin	Minimum drainage area = 5 acres, maximum drainage area = 100 acres	Average: 70% Observed range: 55% - 100% References: Schueler, 1990; Engle, BW and Jarrett, AR, 1990; Baumann, 1990	2	Less than 50,000 ft^3 storage Average: \$0.60 per ft^3 storage (\$1,100 per drainage acre[c]) Range: \$0.20 - \$1.30 per ft^3 Greater than 50,000 ft^3 storage Average: \$0.3 per ft^3 storage (\$550 per drainage acre[c]) Range: \$0.10 - \$0.40 per ft^3 References: SWRPC, 1991	Average: 25% Range: 25% References: Denver COG cited in SWRPC, 1991; SWRPC, 1991	Less than 50,000 ft^3 storage \$0.40 per ft^3 storage \$700 per drainage acre[b] Greater than 50,000 ft^3 storage \$0.20 per ft^3 storage \$900 per drainage acre[c]
Sediment trap	Maximum drainage area = 5 acres	Average: 60% Observed range: (-7%) - 100% References: Schueler, et al., 1990; Tahoe Regional Planning Agency, 1989; Baumann, 1990	1.5	Average: \$0.60 per ft^3 storage (\$1,100 per drainage acre[c]) Range: \$0.20 - \$2.00 per ft^3 References: Denver COG cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1986	Average: 20% Range: 20% References: Denver COG cited in SWRPC, 1991; SWRPC, 1991	\$0.70 per ft^3 storage \$1,300 per drainage acre[c]
Filter Fabric Fence	Maximum drainage area = 0.5 acre per 100 feet of fence. Not to be used in concentrated flow areas.	Average: 70% Observed range: 0% - 100% sand: 80% - 99% silt-loam: 50% - 80% silt-clay-loam: 0% - 20% References: Munson, 1991; Fisher et al., 1984; Minnesota Pollution Control Agency, 1989	0.5	Average: \$3 per lin ft (\$700 per drainage acre[c] Range: \$1 - \$8 per lin ft References: Wisconsin DOT cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1986; Virginia, 1991; NC State, 1990	Average: 100% Range: 100% References: SWRPC, 1991	\$7 per lin ft \$850 per drainage acre[c]

Table 4-16. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years)[a]	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Straw Bale Barrier	Maximum drainage area = 0.25 acre per 100 feet of barrier. Not to be used in concentrated flow areas.	Average: 70% Observed Range: 70% References: Virginia, 1980 cited in EPA, 1991	0.25	Average: $4 per lin ft ($1,600 per drainage acre[d] Range: $2 - $6 per lin ft References: Goldman, 1986; Virginia, 1991	Average: 100% Range: 100% References: SWRPC, 1991	$17 per lin ft $6,800 per drainage acre[d]
Inlet Protection	Protect storm drain inlet.	Average: NA Observed Range: NA References: None	1	Average: $100 per inlet Range: $50 - $150 References: SWRPC, 1991; Denver COG cited in SWRPC, 1991; Virginia, 1991; EPA cited in SWRPC, 1991	Average: 60% Range: 20% - 100% References: SWRPC, 1991; Denver COG cited in SWRPC, 1991	$150 per inlet
Construction Entrance	Removes sediment from vehicles wheels.	Average: NA Observed Range: NA References: None	2	Average: $2,000 each Range: $1,000 - $4,000 References: Goldman, 1986; NC State, 1990	Average: NA[e] Range: NA References: None	$1,500 each
				With washrack: Average: $3,000 each Range: $1,000 - $5,000 References: Virginia, 1991		$2,200 each

Table 4-16. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years)[a]	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Vegetative Filter Strip	Must have sheet flow.	Average: 70% Observed Range: 20% - 80% References: Hayes and Hairston, 1983 cited in Casman, 1990; Dillaha et al., 1989, cited in Glick et al., 1991; Virginia Department of Conservation, 1987; Nonpoint Source Control Task Force, 1983 cited in Minnesota PCA, 1989; Schueler, 1987	2	Established from existing vegetation- Average: $0 Range: $0 References: Schueler, 1987 Established from sod- Average: $11,300 per acre Range: $4,500 - $48,000 per acre References: Schueler, 1987; SWRPC, 1991	Average: NA Range: NA References: None	NA

NA - Not available.

[a] Useful life estimated as length of construction project (assumed to be 2 years)

[e] For Total Annual Cost, assume Annual Maintenance Cost=20% of construction cost.

[b] Assumes trap volume = 1800 cf/ac (0.5 inches runoff per acre).

[c] Assumes drainage area of 0.5 acre per 100 feet of fence (maximum allowed).

[d] Assumes drainage area of 0.25 acre per 100 feet of barrier (maximum allowed).

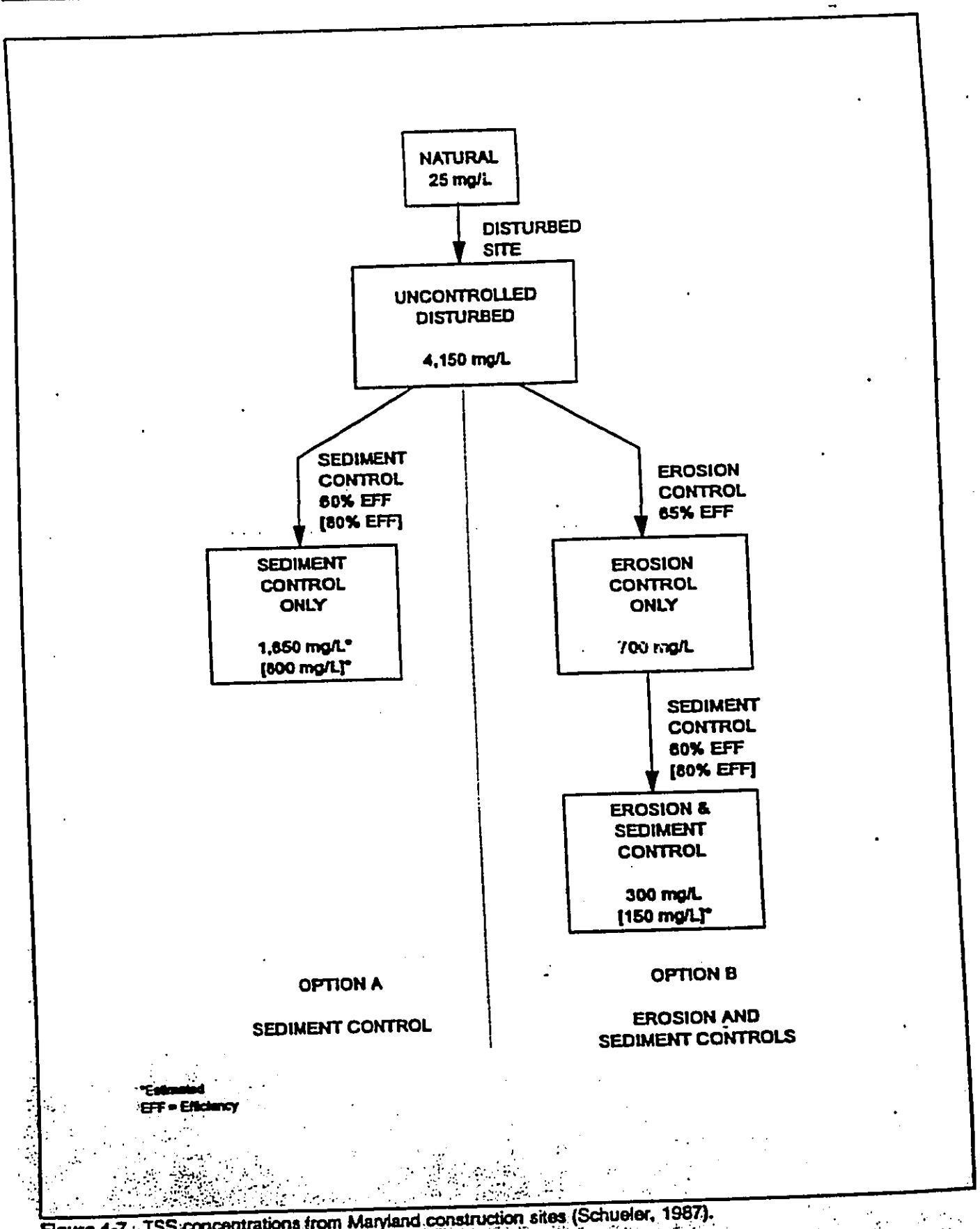
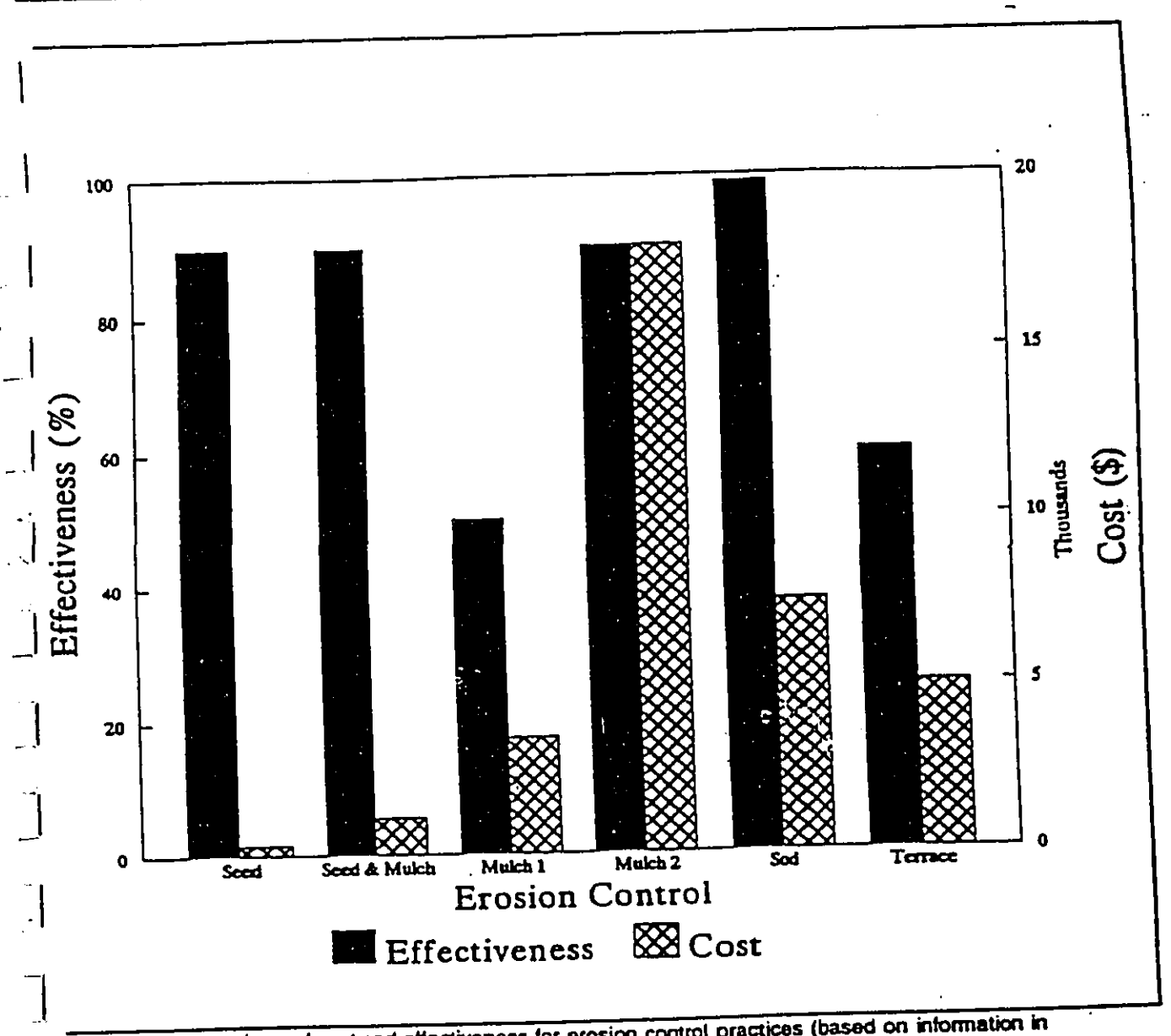


Figure 4-7. TSS concentrations from Maryland construction sites (Schueler, 1987).



gure 4-8. Comparison of cost and effectiveness for erosion control practices (based on information in ables 4-15 and 4-16).

B. Construction Site Chemical Control Management Measure

(1) Limit application, generation, and migration of toxic substances;

(2) Ensure the proper storage and disposal of toxic materials; and

(3) Apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters.

1. Applicability

This management measure is intended to be applied by States to all construction sites less than 5 acres in area and to new, *resurfaced, restored,* and *reconstructed road, highway,* and bridge construction projects. This management measure does not apply to: (1) construction of a detached single family home on a site of 1/2 acre or more or (2) construction that does not disturb over 5,000 square feet of land on a site. (NOTE: All construction activities, including clearing, grading, and excavation, that result in the disturbance of areas greater than or equal to 5 acres or are a part of a larger development plan are covered by the NPDES regulations and are thus excluded from these requirements.) Under the Coastal Zone Act Reauthorization Amendments of 1990, States are subject to a number of requirements as they develop coastal NPS programs in conformance with this management measure and will have flexibility in doing so. The application of management measures by States is described more fully in *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*, published jointly by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce.

2. Description

The purpose of this management measure is to prevent the generation of nonpoint source pollution from construction sites due to improper handling and usage of nutrients and toxic substances, and to prevent the movement of toxic substances from the construction site.

Many potential pollutants other than sediment are associated with construction activities. These pollutants include pesticides (insecticides, fungicides, herbicides, and rodenticides); fertilizers used for vegetative stabilization; petrochemicals (oils, gasoline, and asphalt degreasers); construction chemicals such as concrete products, sealers, and paints; wash water associated with these products; paper; wood; garbage; and sanitary wastes (Washington State Department of Ecology, 1991).

The variety of pollutants present and the severity of their effects are dependent on a number of factors:

(1) **The nature of the construction activity.** For example, potential pollution associated with fertilizer usage may be greater along a highway or at a housing development than it would be at a shopping center development because highways and housing developments usually have greater landscaping requirements.

(2) **The physical characteristics of the construction site.** The majority of all pollutants generated at construction sites are carried to surface waters via runoff. Therefore, the factors affecting runoff volume,

such as the amount, intensity, and frequency of rainfall; soil infiltration rates; surface roughness; slope length and steepness; and area denuded, all contribute to pollutant loadings.

(3) **The proximity of surface waters to the nonpoint pollutant source.** As the distance separating pollutant-generating activities from surface waters decreases, the likelihood of water quality impacts increases.

a. Pesticides

Insecticides, rodenticides, and herbicides are used on construction sites to provide safe and healthy conditions, reduce maintenance and fire hazards, and curb weeds and woody plants. Rodenticides are also used to control rodents attracted to construction sites. Common insecticides employed include synthetic, relatively water-insoluble chlorinated hydrocarbons, organophosphates, carbamates, and pyrethrins.

b. Petroleum Products

Petroleum products used during construction include fuels and lubricants for vehicles, for power tools, and for general equipment maintenance. Specific petroleum pollutants include gasoline, diesel oil, kerosene, lubricating oils, and grease. Asphalt paving also can be particularly harmful since it releases various oils for a considerable time period after application. Asphalt overloads might be dumped and covered without inspection. However, many of these pollutants adhere to soil particles and other surfaces and can therefore be more easily controlled.

Nutrients

Fertilizers are used on construction sites when revegetating graded or disturbed areas. Fertilizers contain nitrogen and phosphorus, which in large doses can adversely affect surface waters, causing eutrophication.

d. Solid Wastes

Solid wastes on construction sites are generated from trees and shrubs removed during land clearing and structure installation. Other wastes include wood and paper from packaging and building materials, scrap metals, sanitary wastes, rubber, plastic and glass, and masonry and asphalt products. Food containers, cigarette packages, leftover food, and aluminum foil also contribute solid wastes to the construction site.

e. Construction Chemicals

Chemical pollutants, such as paints, acids for cleaning masonry surfaces, cleaning solvents, asphalt products, soil additives used for stabilization, and concrete-curing compounds, may also be used on construction sites and carried in runoff.

f. Other Pollutants

Other pollutants, such as wash water from concrete mixers, acid and alkaline solutions from exposed soil or rock, and alkaline-forming natural elements, may also be present and contribute to nonpoint source pollution.

Revegetation of disturbed areas may require the use of fertilizers and pesticides, which, if not applied properly, may become nonpoint source pollutants. Many pesticides are restricted by Federal and/or State regulations.

Hydroseeding operations, in which seed, fertilizers, and lime are applied to the ground surface in a one-step operation, are more conducive to nutrient pollution than are the conventional seedbed-preparation operations, in which fertilizers and lime are tilled into the soil. Use of fertilizers containing little or no phosphorus may be required by

local authorities if the development is near sensitive waterbodies. The addition of lime can also affect the pH of sensitive waters, making them more alkaline.

Improper fueling and servicing of vehicles can lead to significant quantities of petroleum products being dumped onto the ground. These pollutants can then be washed off site in urban runoff, even when proper erosion and sediment controls are in place. Pollutants carried in solution in runoff water, or fixed with sediment crystalline structures, may not be adequately controlled by erosion and sediment control practices (Washington Department of Ecology, 1991). Oils, waxes, and water-insoluble pesticides can form surface films on water and solid particles. Oil films can also concentrate water-soluble insecticides. These pollutants can be nearly impossible to control once present in runoff other than by the use of very costly water-treatment facilities (Washington Department of Ecology, 1991).

After spill prevention, one of the best methods to control petroleum pollutants is to retain sediments containing oil on the construction site through use of erosion and sediment control practices. Improved maintenance and safe storage facilities will reduce the chance of contaminating a construction site. One of the greatest concerns related to use of petroleum products is the method for waste disposal. The dumping of petroleum product wastes into sewers and other drainage channels is illegal and could result in fines or job shutdown.

The primary control method for solid wastes is to provide adequate disposal facilities. Erosion and sediment control structures usually capture much of the solid waste from construction sites. Periodic removal of litter from these structures will reduce solid waste accumulations. Collected solid waste should be removed and disposed of at authorized disposal areas.

Improperly stored construction materials, such as pressure-treated lumber or solvents, may lead to leaching of toxics to surface water and ground water. Disposal of construction chemicals should follow all applicable State and local laws that may require disposal by a licensed waste management firm.

3. Management Measure Selection

This management measure was selected based on the potential for many construction activities to contribute to nutrient and toxic NPS pollution.

This management measure was selected because (1) construction activities have the potential to contribute to increased loadings of toxic substances and nutrients to waterbodies; (2) various States and local governments regulate the control of chemicals on construction sites through spill prevention plans, erosion and sediment control plans, or other administrative devices; (3) the practices described are commonly used and presented in a number of best management practice handbooks and guidance manuals for construction sites; and (4) the practices selected are the most economical and effective.

4. Practices

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

a. Properly store, handle, apply, and dispose of pesticides.

Pesticide storage areas on construction sites should be protected from the elements. Warning signs should be placed in areas recently sprayed or treated. Persons mixing and applying these chemicals should wear suitable protective clothing, in accordance with the law.

Application rates should conform to registered label directions. Disposal of excess pesticides and pesticide-related wastes should conform to registered label directions for the disposal and storage of pesticides and pesticide containers et forth in applicable Federal, State, and local regulations that govern their usage, handling, storage, and disposal. Pesticides and herbicides should be used only in conjunction with Integrated Pest Management (IPM) (see Chapter 2). Pesticides should be the tool of last resort; methods that are the least disruptive to the environment and human health should be used first.

Pesticides should be disposed of through either a licensed waste management firm or a treatment, storage, and disposal (TSD) facility. Containers should be triple-rinsed before disposal, and rinse waters should be reused as product.

Other practices include setting aside a locked storage area, tightly closing lids, storing in a cool, dry place, checking containers periodically for leaks or deterioration, maintaining a list of products in storage, using plastic sheeting to line the storage area, and notifying neighboring property owners prior to spraying.

b. Properly store, handle, use, and dispose of petroleum products.

When storing petroleum products, follow these guidelines:

- Create a shelter around the area with cover and wind protection;
- Line the storage area with a double layer of plastic sheeting or similar material;
- Create an impervious berm around the perimeter with a capacity 110 percent greater than that of the largest container;
- Clearly label all products;
- Keep tanks off the ground; and
- Keep lids securely fastened.

Oil and oily wastes such as crankcase oil, cans, rags, and paper dropped into oils and lubricants should be disposed of in proper receptacles or recycled. Waste oil for recycling should not be mixed with degreasers, solvents, antifreeze, or brake fluid.

c. Establish fuel and vehicle maintenance staging areas located away from all drainage courses, and design these areas to control runoff.

Proper maintenance of equipment and installation of proper stream crossings will further reduce pollution of water by these sources. Stream crossings should be minimized through proper planning of access roads. Refer to Chapter 3 for additional information on stream crossings.

d. Provide sanitary facilities for constructions workers.

e. Store, cover, and isolate construction materials, including topsoil and chemicals, to prevent runoff of pollutants and contamination of ground water.

f. Develop and implement a spill prevention and control plan. Agencies, contractors, and other commercial entities that store, handle, or transport fuel, oil, or hazardous materials should develop a spill response plan.

Post spill procedure information and have persons trained in spill handling on site or on call at all times. Materials for cleaning up spills should be kept on site and easily available. Spills should be cleaned up immediately and the contaminated material properly disposed of. Spill control plan components should include:

- Stop the source of the spill.
- Contain any liquid.
- Cover the spill with absorbent material such as kitty litter or sawdust, but do not use straw. Dispose of the used absorbent properly.

g. Maintain and wash equipment and machinery in confined areas specifically designed to control runoff.

Thinners or solvents should not be discharged into sanitary or storm sewer systems when cleaning machinery. Use alternative methods for cleaning larger equipment parts, such as high-pressure, high-temperature water washes, or steam cleaning. Equipment-washing detergents can be used, and wash water may be discharged into sanitary sewers if solids are removed from the solution first. (This practice should be verified with the local sewer authority.) Small parts can be cleaned with degreasing solvents, which can then be reused or recycled. Do not discharge any solvents into sewers.

Washout from concrete trucks should be disposed of into:

- A designated area that will later be backfilled;
- An area where the concrete wash can harden, can be broken up, and then can be placed in a dumpster; or
- A location not subject to urban runoff and more than 50 feet away from a storm drain, open ditch, or surface water.

Never dump washout into a sanitary sewer or storm drain, or onto soil or pavement that carries urban runoff.

h. Develop and implement nutrient management plans.

Properly time applications, and work fertilizers and liming materials into the soil to depths of 4 to 6 inches. Using soil tests to determine specific nutrient needs at the site can greatly decrease the amount of nutrients applied.

i. Provide adequate disposal facilities for solid waste, including excess asphalt, produced during construction.

j. Educate construction workers about proper materials handling and spill response procedures. Distribute or post informational material regarding chemical control.

ORDINANCE NO. 2108

BILL NO. 6 (1992)

Draft 1

A BILL FOR AN ORDINANCE AMENDING CHAPTER 16.20 OF THE MAUI COUNTY CODE, PERTAINING TO THE PLUMBING CODE

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Title 16 of the Maui County Code is amended by adding a new section to Chapter 10 of the Uniform Plumbing Code to be designated and to read as follows:

"16.20.675 Section 1050 added. Chapter 10 of the Uniform Plumbing Code is amended by adding a new section, pertaining to low-flow water fixtures and devices, to be designated and to read as follows:

Sec. 1050 Low-flow water fixtures and devices. (a) This section establishes maximum rates of water flow or discharge for plumbing fixtures and devices in order to promote water conservation.

(b) For the plumbing fixtures and devices covered in this section, manufacturers or their local distributors shall provide proof of compliance with the performance requirements established by the American National Standards Institute (ANSI) and such other proof as may be required by the director of public works. There shall be no charge for this registration process.

(c) Effective December 31, 1992, only plumbing fixtures and devices specified in this section shall be offered for sale or installed in the County of Maui, unless otherwise indicated in this section. All plumbing fixtures and devices which were installed before December 31, 1992, shall be allowed to be used, repaired or replaced after December 31, 1992.

(1) Faucets (kitchen): All kitchen and bar sink faucets shall be designed, manufactured, installed or equipped with a flow control device or aerator which will prevent a water flow rate in excess of two and two-tenths gallons per minute at sixty pounds per square inch of water pressure.

(2) Faucets (lavatory): All lavatory faucets shall be designed, manufactured, installed or equipped with a flow control device or aerator which will prevent a water flow rate in excess of two and two tenths gallons per minute at sixty pounds per square inch of water

pressure.

(3) Faucets (public rest rooms): In addition to the lavatory requirements set forth in paragraph (2), lavatory faucets located in rest rooms intended for use by the general public shall be of the metering or self-closing types.

(4) Hose bibbs: Water supply faucets or valves shall be provided with approved flow control devices which limit flow to a maximum three gallons per minute.

EXCEPTIONS: (A) Hose bibbs or valves not used for fixtures or equipment designated by the director of public works.

(B) Hose bibbs, faucets, or valves serving fixed demand, timing, or water level control appliances, and equipment or holding structures such as water closets, pools, automatic washers, and other similar equipment.

(5) Showerheads: Showerheads, except where provided for safety or emergency reasons, shall be designed, manufactured, or installed with a flow limitation device which will prevent a water flow rate in excess of two and one-half gallons per minute at eighty pounds per square inch of water pressure. The flow limitation device must be a permanent and integral part of the showerhead and must not be removable to allow flow rates in excess of two and one-half gallons per minute or must be mechanically retained requiring force in excess of eight pounds to remove.

(6) Urinals: Urinals shall be designed, manufactured, or installed so that the maximum flush will not exceed one gallon of water. Adjustable type flushometer valves may be used provided they are adjusted so the maximum flush will not exceed one and six tenths gallons of water.

(7) Water closets (toilets): Water closets shall be designed, manufactured, or installed so that the maximum flush will not exceed one and six tenths gallons of water.

(d) Beginning December 31, 1992, it is unlawful to sell or install any plumbing fixtures or devices not specified in this section, except as permitted under this section.

(e) The director of public works may exempt the use of low-flow water fixtures and devices if there is a finding that the use of such fixtures and devices would not be consistent with accepted engineering practices and would be detrimental to the public health, safety and welfare.

(f) Any person violating this section shall be fined $250 for each violation and shall correct all instances of non-compliance for which a citation is issued. Violation of this section shall constitute a violation as defined in section 701-107 Hawaii Revised Statutes and shall be enforceable by employees of the department of public works. The foregoing fine may also be imposed in a civil, administrative proceeding pursuant to Rules and Regulations adopted by the department of public works in accordance with chapter 91 Hawaii Revised Statutes."

SECTION 2. New material is underscored. In printing this bill, the County Clerk need not include the underscoring.

SECTION 3. This ordinance shall take effect upon its approval.

APPROVED AS TO FORM
AND LEGALITY:

HOWARD M. FUKUSHIMA
Deputy Corporation Counsel
County of Maui
c:\wp51\ords\flows4\pk

'E HEREBY CERTIFY that the foregoing BILL NO. 6 (19 92), Draft 1

1. Passed FINAL READING at the meeting of the Council of the County of Maui, State of lawaii, held on the 1st day of May , 1992 , by the following votes:

Howard S. KIHUNE Chair	Patrick S. KAWANO Vice-Chair	Vince G. BAGOYO, Jr.	Goro HOKAMA	Alice L. LEE	Ricardo MEDINA	Wayne K. NISHIKI	Joe S. TANAKA	Leinaala TERUYA DRUMMOND
Aye	Aye	Excused	Excused	Aye	Aye	Aye	Aye	Aye

2. Was transmitted to the Mayor of the County of Maui, State of Hawaii, on the 1st day of May , 1992 .

DATED AT WAILUKU, MAUI, HAWAII, this 1st day of May , 1992 .

HOWARD S. KIHUNE, CHAIR
Council of the County of Maui

DARYL T. YAMAMOTO, COUNTY CLERK
County of Maui

THE FOREGOING BILL IS HEREBY APPROVED THIS 5th DAY OF MAY , 1992 .

LINDA CROCKETT LINGLE, MAYOR
County of Maui

I HEREBY CERTIFY that upon approval of the foregoing BILL by the Mayor of the County of Maui, the said BILL was designated as ORDINANCE NO. 2108 of the County of Maui, State of Hawaii.

DARYL T. YAMAMOTO, COUNTY CLERK
County of Maui

Passed First Reading on January 17, 1992.
Effective date of Ordinance May 5, 1992.

I HEREBY CERTIFY that the foregoing is a true and correct copy of Ordinance No. 2108 , the original of which is on file in the Office of the County Clerk, County of Maui, State of Hawaii.

Dated at Wailuku, Hawaii, on

County Clerk, County of Maui

MUNEKIYO & HIRAGA, INC.

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

May 4, 2005

George Y. Tengan, Director
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

SUBJECT: Proposed Self Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii

Dear Mr. Tengan:

Thank you for your letter dated March 14, 2005, regarding the early consultation request for the subject action. In response to your comments we note the following:

1. The applicant acknowledges that water availability is not granted or guaranteed until an application for a water meter has been received and reviewed. Discussions relating to both source availability and water resource requirements (both potable and non-potable) will be included in the Draft Environmental Assessment (EA).

2. Domestic and irrigation water calculations, along with fire flow calculations, will be submitted to your department in order to determine adequacy during the building permit application process. The applicant acknowledges that reduced pressure back-flow prevention may be required for the proposed facility if one does not already exist. Construction plans will be submitted to your Engineering Division during the building permit application process.

3. The applicant acknowledges your recommendations regarding water conservation measures and will consider the feasibility and applicability of those suggestions.

4. Best Management Practices will be utilized to minimize runoff and protect area water resources.

planning environment

305 High Street, Suite 104 Wailuku, Hawaii 96793 ph. (808)244-2015 fax (808)244-8729 planning@mhmconline.com

MUNEKIYO & HIRAGA, INC.

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

May 4, 2005

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Department of Water Supply
200 South High Street
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4. Best Management Practices will be utilized to minimize runoff and protect area water resources.

planning environment

305 High Street, Suite 104 Wailuku, Hawaii 96793 ph (808)244-2015 fax (808)244-8729 planning@mhinconline.com

Thank you again for your input regarding the proposed action. A copy of the Draft EA will be provided to your office for review and comment. Please do not hesitate to call me should you require additional information or have any other questions related to the aforementioned subject action.

Very truly yours,

Mark Alexander Roy, Planner

MAR:yp
cc: Stacy Otomo, Otomo Engineering, Inc.
Howard Murai, Finance Holdings, Ltd.
Finchldg\waineest\dws.res

Thank you again for your input regarding the proposed action. A copy of the Draft EA will be provided to your office for review and comment. Please do not hesitate to call me should you require additional information or have any other questions related to the aforementioned subject action.

Very truly yours,

Mark Alexander Roy, Planner

MAR:yp
cc: Stacy Otomo, Otomo Engineering, Inc.
Howard Murai, Finance Holdings, Ltd.
Finchldg\waineest\dws.res

Maui Electric Company, Ltd. • 210 West Kamehameha Avenue • PO Box 398 • Kahului, Maui, HI 96733-6898 • (808) 871-8461

APR 07 2005

April 6, 2005

Mr. Mark A. Roy, Planner
Munekiyo & Hiraga, Inc.
305 S. High Street, Suite 104
Wailuku, HI 96793

Dear Mr. Roy:

Subject: Early Consultation Request for Proposed Self-Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii

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. We encourage the developer's electrical consultant to meet with us as soon as practical to verify the project's electrical requirements 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:lkh

MUNEKIYO & HIRAGA, INC.

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

May 4, 2005

Neal Shinyama
Maui Electric Company, Ltd.
210 West Kamehameha Avenue
P.O. Box 398
Kahului, Hawaii 96733-6898

SUBJECT: Early Consultation Comments on Proposed Self Storage Facility at TMK 4-5-07:04, Lahaina, Maui, Hawaii

Dear Mr. Shinyama:

Thank you for your letter dated April 6, 2005, in response to the early consultation request regarding the subject action. We acknowledge the determination made by your office that there is no objection to the proposed project.

All necessary coordination with Maui Electric Company, Ltd, will be undertaken by the applicant's electrical consultant early in the plans preparation phase of work in order to address the electrical demand requirements of the proposed self-storage facility.

Thank you again for the input provided. A copy of the Draft Environmental Assessment will be provided to your office for review and comment. Please do not hesitate to call me in the event that you require additional information or have any other questions related to the aforementioned subject action.

Very truly yours,

Mark Alexander Roy, Planner

MAR:yp
cc: Howard Murai, Finance Holdings, Ltd.
FincHldg\WaineeSt\meco.res

planning environment

305 High Street, Suite 104 Wailuku, Hawaii 96793 ph (808)244-2015 fax (808)244-8729 planning@mhinconline.com

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

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

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

JUL 13 2005

July 11, 2005

Mr. Mark A. Roy
Munekiyo & Hiraga, Inc.
305 South High Street, Suite 104
Wailuku, Hawaii 96793

LOG NO: 2005.1326
DOC NO: 0506CD53

Dear Mr. Roy:

SUBJECT: **Chapter 6E-42 Historic Preservation Review – Early Consultation Request for the Proposed Self-Storage Facility at TMK: 4-5-07:04**
Lahaina, Lahaina District, Island of Maui
TMK: (2) 4-5-007:004

Thank you for the opportunity to review and comment on the Early Consultation Request for the Proposed Self-Storage Facility at TMK: 4-5-07:04, which was received by our staff on February 24, 2005. Our review is based on reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was conducted of the subject property.

Based on the submitted document, we understand the proposed undertaking consists of the construction of a self-storage facility on a cleared and currently vacant lot.

A search of our records indicates an archaeological inventory survey has not been conducted of the subject property. The proposed project area is located within the boundaries of the Historic Lahaina District (State Site 50-50-03-3001). This area comprises the port town of the 1800s and is likely to have once been the location of pre-contact farming, perhaps with scattered houses, during the pre-contact period. Near-by known historic sites include the Kainehi Burial Complex (SIHP 50-50-03-3550). Given the above information, we believe it is likely historic sites and/or remnants of previously disturbed sites may be present in the subsurface deposits of the subject property.

Therefore, in order to determine the effect of the proposed undertaking on historic sites, we recommend that no action be taken on the proposed undertaking until an archaeological inventory survey has been conducted of the proposed project area to determine whether significant historic sites are present. An acceptable report documenting the findings of the survey will need to be submitted to this office for review. If significant historic sites are identified, a mitigation plan may need to be developed, in consultation with this office, and executed.

If you have any questions, please call Cathleen A. Dagher at 692-8023.

Aloha,

Melanie Chinen, Administrator
State Historic Preservation Division

CD:jen

MUNEKIYO & HIRAGA, INC.

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

August 16, 2005

Melanie Chinen, Administrator
State Historic Preservation Division
State of Hawaii
Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

SUBJECT: Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for Proposed Wainee Self Storage Facility and Related Improvements at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii

Dear Ms. Chinen:

Thank you for your letter of July 11, 2005, providing comments on the early consultation request for the subject action.

We acknowledge the determination made by your office that an archaeological inventory survey has yet to be conducted for the subject property and that, given the historic importance of the surrounding area, historic sites and/or remnants of previously disturbed sites may be present in the subsurface deposits. As such, the applicant is currently in the process of completing an archaeological inventory survey for the proposed project area to determine whether significant historic sites are present on-site. Upon completion, a copy of the report documenting findings of the archaeological inventory survey will be forwarded to your office to allow resumption of the historic preservation review process.

planning environment

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

We appreciate the input provided by your office and look forward to receiving your comments on the archaeological inventory survey. Should you have any questions or require further information on the subject action, please feel free contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy
Planner

MAR:lfm
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cc: Lisa Rotunno-Hazuka, Archaeological Services Hawaii
Kivette Caigoy, Department of Planning
Paul Fasi, Department of Planning
Howard Murai, Finance Holdings
Stacy A. Otomo, P.E., Otomo Engineering, Inc.
Eric Taniguchi, A.I.A.

Chapter XI

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 (EA) for the subject project was filed and published in the Office of Environmental Quality Control's The Environmental Notice on June 8, 2005. Copies of the Draft EA were provided to agencies and organizations for review and comment. A copy of the Draft EA was also made available for public review at the Lahaina Public Library prior to the publication of the Draft EA in the Environmental Notice.

Comments on the Draft EA were received during the 30-day public comment period. All letters received during the Draft EA public comment period, as well as responses to substantive comments, are included in this chapter. The Draft EA was reviewed and discussed by the approving agency, Maui Planning Commission, at its meeting of June 14, 2005. In addition to the review by the Maui Planning Commission, advisory input was also received on the project during a Cultural Resources Commission (CRC) review meeting held on July 7, 2005. The Planning Commission's and the Cultural Resources Commission's comments, as well as the applicant's responses to those comments are also incorporated in this chapter.

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

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

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

June 30, 2005

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

LOG NO: 2005.1330
DOC NO: 0506CD57

Dear Mr. Foley:

SUBJECT: **Chapter 6E-42 Historic Preservation Review – Draft Environmental Assessment Prepared in Support of the Special Management Area Use Permit Application For the Proposed Wainee Self-Storage Facility and Related Improvements at TMK: 4-5-07:04 (Subject I.D.: EA 2005/0007 & SM1 2005/0007) [County/Planning] Lahaina, Lahaina District, Island of Maui**
TMK: (2) 4-5-007:004

Thank you for the opportunity to review and comment on the Draft Environmental Assessment Prepared in Support of the Special Management Area Use Permit Application for the Proposed Wainee Self-Storage Facility and Related Improvements at TMK: 4-5-07:04, which was received by our staff on May 27, 2005. Our review is based on reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was conducted of the subject property.

Based on the submitted document, we understand the proposed undertaking consists of the construction of a self-storage facility on a cleared and currently vacant lot.

A search of our records indicates an archaeological inventory survey has not been conducted of the subject property. The proposed project area is located within the boundaries of the Historic Lahaina District (State Site 50-50-03-3001). This area comprises the port town of the 1800s and is likely to have once been the location of pre-contact farming, perhaps with scattered houses, during the pre-contact period. Near-by known historic sites include the Kainehi Burial Complex (SIHP 50-50-03-3550). Given the above information, we believe it is likely historic sites and/or remnants of previously disturbed sites may be present in the subsurface deposits of the subject property.

Therefore, in order to determine the effect of the proposed undertaking on historic sites, we recommend that no action be taken on the proposed undertaking until an archaeological inventory survey has been conducted of the proposed project area to determine whether significant historic sites are present. An acceptable report documenting the findings of the survey will need to be submitted to this office for review. If significant historic sites are identified, a mitigation plan may need to be developed, in consultation with this office, and executed.

If you have any questions, please call Cathleen A. Dagher at 692-8023.

Aloha,

Melanie Chinen, Administrator
State Historic Preservation Division

CD:jen

MUNEKIYO & HIRAGA, INC.

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

August 16, 2005

Melanie Chinen, Administrator
State Historic Preservation Division
State of Hawaii
Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

SUBJECT: Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for Proposed Wainee Self Storage Facility and Related Improvements at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii (EA 2005/0007, SM1 2005/0007)

Dear Ms. Chinen:

Thank you for your letter of June 30, 2005, providing comments on the Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for the subject action.

We acknowledge the determination made by your office that an archaeological inventory survey has yet to be conducted for the subject property and that, given the historic importance of the surrounding area, historic sites and/or remnants of previously disturbed sites may be present in the subsurface deposits. As such, the applicant is currently in the process of completing an archaeological inventory survey for the proposed project area to determine whether significant historic sites are present on-site. Upon completion, a copy of the report documenting findings of the archaeological inventory survey will be forwarded to your office to allow resumption of the historic preservation review process.

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We appreciate the input provided by your office and look forward to receiving your comments on the archaeological inventory survey. Should you have any questions or require further information on the subject action, please feel free contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy
Planner

MAR:lfm
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cc: Lisa Rotunno-Hazuka, Archaeological Services Hawaii
Kivette Caigoy, Department of Planning
Paul Fasi, Department of Planning
Howard Murai, Finance Holdings
Stacy A. Otomo, P.E., Otomo Engineering, Inc.
Eric Taniguchi, A.I.A.

LINDA LINGLE
GOVERNOR OF HAWAII

GENEVIEVE K. Y. SALMONSON
DIRECTOR OF OEQC

JUL 0 8 2005

STATE OF HAWAI'I
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH
LEIOPAPA A KAMEHAMEHA
235 SOUTH BERETANIA STREET, SUITE 702
HONOLULU, HAWAI'I 96813
TELEPHONE (808) 586-4185

In reply, please refer to:
File:

June 30, 2005

Mr. Howard Murai
Finance Holdings, Ltd.
1164 Bishop Street, 10th Floor
Honolulu, Hawai'i 96813

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

Mr. Mark A. Roy
Munekiyo & Hiraga, Inc.
205 High Street, Suite 104
Wailuku, Hawai'i 96793

Dear Messrs. Murai, Foley, and Roy:

The Office of Environmental Quality Control has received the draft environmental assessment for the Waine'e Self Storage project, Tax Map Key (2) 4-5-07:04, in the judicial district of Lahaina and offers the following comments for your consideration and response.

SUSTAINABLE BUILDING GUIDELINES: Please refer to, and incorporate as appropriate into the design plan, guidance concerning sustainable building found on our internet website at http://www.state.hi.us./health/oeqc/guidance/index.html.

Thank you for the opportunity to comment. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist, at (808) 586-4185.

Sincerely,

Genevieve Salmonson

GENEVIEVE SALMONSON
Director

MUNEKIYO & HIRAGA, INC.

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

August 16, 2005

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

SUBJECT: Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for Proposed Wainee Self Storage Facility and Related Improvements at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii (EA 2005/0007, SM1 2005/0007)

Dear Ms. Salmonson:

Thank you for your letter of June 30, 2005, providing comments on the Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for the subject action.

We acknowledge the request made by your office to refer to, and incorporate as appropriate into the design plan, guidance concerning sustainable building design in Hawaii, which was adopted by the Environmental Council on October 13, 1999.

The development of the proposed self storage facility on the project site has been specifically selected by the applicant as it meets the overall objective of satisfying local community needs with minimal impact implications. While catering to existing residual demand for storage space in Lahaina Town, the overall design and use characteristics associated with the daily operation of the proposed project will also involve minimal resource consumption and waste generation rates. To further ensure the minimization of environmental impacts, the following sustainable principles have been incorporated into the design plan for the proposed self storage facility:

1. Best Management Practices (BMPs) will be implemented during the development of the proposed project to minimize short-term construction impacts on the surrounding environment.

2. Energy-efficient fixtures will be installed within the proposed building.

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3. Water conserving, low flow fixtures will be installed in restroom facilities within the proposed building.

4. Drought tolerant species of plants will be integrated into the landscaping design, as appropriate.

5. The landscaping for the proposed project will seek to incorporate Native Hawaiian flora, based on availability of appropriate species.

6. The applicant will seek to purchase EPA rated, Energy Star, energy-efficient office equipment, appliances, computers and copiers during occupancy and operation of the self storage facility.

7. The applicant will seek to purchase business products with recycled content, such as paper, toners, etc. during occupancy and operation of the self storage facility.

8. The applicant will seek to purchase furniture made with sustainably harvested wood, or with recycled content materials during occupancy and operation of the self storage facility.

We appreciate the input provided by your office. Should you have any questions or require further information on the subject action, please feel free contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy
Planner

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cc: Kivette Caigoy, Department of Planning
Paul Fasi, Department of Planning
Howard Murai, Finance Holdings
Eric S. Taniguchi, A.I.A.
Russel Gushi, ASLA

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

MEMO TO: MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM: MILTON M. ARAKAWA, A.I.C.P., DIRECTOR OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT

SUBJECT: APPLICATIONS FOR DRAFT ENVIRONMENTAL ASSESSMENT AND SPECIAL MANAGEMENT AREA USE PERMITS
WAINEE SELF STORAGE
TMK: (2) 4-5-007:004
EA 2005/0007, SM1 2005/0007

We reviewed the subject application and have the following comments:

1. Submit plan for construction waste disposal/recycling. Include facility recycling such as bins for clothes collection by non-profits.

2. Although wastewater system capacity is currently available as of June 21, 2005, the developer should be informed that wastewater system capacity cannot be ensured until the issuance of the building permit.

3. Wastewater contribution calculations are required before building permit is issued.

4. Developer is not required to pay assessment fees for this area at the current time.

5. Developer is required to fund any necessary off-site improvements to collection system and wastewater pump stations.

6. Plans should show the installation of a single service lateral and an advance riser for each lot.

7. Non-contact cooling water, condensate, etc. should not drain to the wastewater system.

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

9. Existing trees in the new Wainee Street right-of-way shall either be removed or be located within a landscape planter area and outfitted with root barriers. Trees shall not obstruct sight distance of vehicles entering or exiting the project driveway.

10. A road-widening lot shall be provided for the adjoining half of Wainee Street to provide for future 56 foot wide right-of-way and improved to County standards to include, but not be limited to pavement widening, construction of curb, gutter and sidewalk, street lights and relocation of utilities underground. Said lot shall be dedicated to the County upon completion of the improvements.

11. All structures such as walls, trees, etc., shall be removed or relocated from the road-widening strip. The rear boundaries of the road-widening strip shall be clearly marked to determine if said structures have been properly removed and relocated.

12. 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.

13. 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 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.

14. All existing features such as structures, driveways, drainage ways, edge of the pavement, etc. shall be shown on the project plat plan.

15. A site plan and a sight distance report to determine required sight distance and available sight distance at existing and proposed street intersections shall be provided for our review and approval.

16. For all infrastructure to 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.

17. The plans submitted for the project do not adequately show sufficient detail to determine whether the project is compliant with building codes. We will review the project for building code requirements during the building permit application process.

18. All grading/grubbing work shall comply with Chapter 20.08 (Soil Erosion and Sedimentation control) of the Maui County Code.

19. The project shall comply with Section 16.26.3304 (Improvements to Public Streets) of the Maui County Code.

20. The project may be subject to Section 16.08 (Driveways) of the Maui County Code.

If you have any questions regarding this memorandum, please call Michael Miyamoto at 270-7845.

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MUNEKIYO & HIRAGA, INC.

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

August 16, 2005

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

SUBJECT: Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for Proposed Wainee Self Storage Facility and Related Improvements at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii (EA 2005/0007, SM1 2005/0007)

Dear Mr. Arakawa:

Thank you for your letter of July 12, 2005, providing comments on the Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for the subject action.

We have prepared the following responses to your comments, which are arranged below in the same order as they appear in your letter.

1. Solid waste generated from site construction will be recycled to the extent practicable. Where recycling is not feasible, construction waste will be conveyed to an approved construction waste disposal site. Though the applicant does not intend to provide bins for recycling of clothes at the facility, it should be noted that every effort will be made to donate recyclable items in cases where self storage users abandon stored items.

2. We acknowledge that wastewater capacity cannot be ensured until the issuance of building permits.

3. Detailed wastewater contribution calculations will be submitted during the construction plans preparation phase of work.

4. We acknowledge the determination made by your office that the applicant is not required to pay assessment fees at the current time.

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5. We acknowledge that the applicant is required to fund any necessary off-site improvements to collection systems and wastewater pump stations.

6. The plans to be submitted during the construction permitting phase of work will show the installation of a single service lateral and an advance riser for the proposed structure.

7. Non-contact cooling water and condensation from the proposed project will not be allowed to drain to the wastewater system.

8. The proposed self storage facility will not contain a kitchen area.

9. Existing structures and trees in the Wainee Street right-of-way will be removed, as required, to ensure unobstructed sight distance for vehicles entering or exiting the project driveway.

10. A road widening lot, allowing a future 56-foot right-of-way for the adjoining half of Wainee Street will be dedicated to the County. The road widening lot will be improved as necessary to County standards to include pavement widening, construction of curb, gutter and sidewalk, streetlights and relocation of utilities underground prior to dedication to the County.

11. All existing structures will be removed from the road-widening strip and the rear boundaries of the area will be clearly marked to show that all said structures have been removed.

12. The Preliminary Drainage Report (PDR), prepared by Otomo Engineering, Inc., verifies that runoff from the proposed project will not have an adverse impact on adjacent or downstream properties.

13. Grading plans will be submitted along with a Final Drainage Report (FRD) and a Best Management Practices (BMP) Plan for review and approval prior to the issuance of grading permits. All necessary hydrologic and hydraulic calculations, as well as schemes for the disposal of run-off waters, will be included within the FDR, which will comply with the provisions of the "Rules and Design of Storm Drainage Facilities in the County of Maui". As with the PDR, the FDR will also provide verification that grading and run-off water generated by the project will not have an adverse effect on adjacent and downstream properties. The BMP plan will show the location and details of structural measures to control erosion and sedimentation to the maximum extent practicable.

14. All existing structures will be shown on the project plat plan.

15. A site plan and a sight distance report to determine required and available sight distances at the proposed driveway of the project site, as well as at existing intersections along Wainee Street will be provided to the Department for review and approval during the building permit application phase of work. It is noted that the proposed project will not involve the installation of any additional intersections in the area.

16. The plans to be submitted during the construction permitting process will address compliance issues with the Americans with Disabilities Act (ADA) for all infrastructure to be dedicated to the County. *Structural infeasibility assessments* which may be required will be the responsibility of the applicant and an agreement waiving the County of Maui of any future liability will be recorded with the State Bureau of Conveyances.

17. We acknowledge that the plans will be reviewed for compliance with building codes during the construction permitting process.

18. All grading/grubbing work will comply with Chapter 20.80 (Soil Erosion and Sedimentation Control) of the Maui County Code.

19. The proposed project will comply with Section 16.26.3304 (Improvements to Public Streets) of the Maui County Code.

20. The applicant acknowledges that the project may be subject to Section 12.08 (Driveways) of the Maui County Code.

We appreciate the input provided by your office. Should you require additional information or have any other questions related to the aforementioned subject action, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy
Planner

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cc: Kivette Caigoy, Department of Planning
Paul Fasi, Department of Planning
Howard Murai, Finance Holdings
Stacy Otomo, P.E., Otomo Engineering, Inc.
Eric S. Taniguchi, A.I.A.
Russel Gushi, ASLA

JUL 29 2005

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
Telephone (808) 270-7816 • Fax (808) 270-7833

July 7, 2005

Mr. Michael W. Foley, Director
Planning Department
250 South High Street
Wailuku HI 96793
Attn: Ms Kivette A. Caigoy, Staff Planner

Project Name: Wainee Self Storage Facility
TMK; (2) 4-5-007:004, Lahaina
ID: EA 2005/0007 & SM1 2005/0007

Dear Mr. Foley:

Thank you for the opportunity to comment on this project proposal.

Source Availability and Consumption

The project site is served by our Lahaina system with Launiupoko aquifer as major source of water. As of May 2005, pending projects in West Maui at some stage of discretionary review total roughly 17.9 MGD, of which about 8.3 MGD plan to connect to the county system. DWS does NOT grant or imply any guarantee of water until an application for water meter has been received and reviewed. Water availability will be determined at time of meter application.

Anticipated consumption based on system standards is approximately 2,600 gpd. The applicant estimates an average daily use of 900 gpd. Empirical use of self storage facilities suggests that actual usage will likely be higher than the applicant's estimate.

System Infrastructure

Twelve inch and eight inch waterlines run along the West and East sides of the project site. The applicant should be required to provide domestic and irrigation services as well as fire protection in accordance with standards. Domestic, irrigation and fire flow calculations will be required in the building permit process. Actual fire demand for structures is determined by using fire flow calculations prepared, signed and stamped by a certified architect or engineer. The approved fire flow calculation methods for use include Guidance for Determination of Fire Flow - Insurance Service Office, 1974 and Fire Flow- Hawaii Insurance Bureau, 1991. Required fire flow for business districts is 2000 gallons per minute (gpm) at 250 feet spacing for a 2 hour duration. Installation of reduced pressure back-flow prevention approved by the Department should also be required.

Conservation and Pollution Prevention

Included in the application material is our comment letter of March 14, 2005. We encourage the applicant to include water conservation measures listed in our letter in the project design and construction as well as implement Best Management Practices (BMPs) designed to minimize infiltration and runoff from construction and vehicle operations.

Should you have any questions regarding system infrastructure and requirements, please call our Engineering Division at 270-7835 and any questions on source availability or conservation and resource matters, please contact our Water Resources and Planning Division at 270-7199.

Sincerely,

George Y. Tengan
Director

eam
c: Engineering Division
Applicant

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MUNEKIYO & HIRAGA, INC.

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

August 16, 2005

George Tengan, Director
Department of Water Supply
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

SUBJECT: Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for Proposed Wainee Self Storage Facility and Related Improvements at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii (EA 2005/0007, SM1 2005/0007)

Dear Mr. Tengan:

Thank you for your letter of July 7, 2005, providing comments on the Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for the subject action. We offer the following information in response to the comments noted:

Source Availability and Consumption

We acknowledge the determination made by your office that the subject property is located in an area of the Lahaina System and that water availability will be determined at the time of meter application.

The Department's estimation regarding anticipated water consumption of 2,600 gallons per day (GPD) is also acknowledged. We would, however, like to note that the scale of the proposed project, containing approximately 22,780 square feet of storage space, is significantly smaller than other self storage facilities found on Maui and will not include common features, such as an apartment for a resident manager and multiple restrooms. Water demand is, therefore, expected to be limited to irrigation systems, exterior hosebibs and a single restroom facility. As such, a lower than average water consumption estimate of 900 GPD has been utilized for the purposes of the EA.

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System Infrastructure

We acknowledge your comments regarding available system infrastructure and fire flow calculations/requirements for business districts, as well as the determination that the applicant may be required to install reduced pressure back-flow prevention approved by the Department. The applicant will provide domestic and irrigation services, as well as fire protection in accordance with standards. All required domestic, irrigation and fire flow calculations will be submitted during the building permit application phase of work.

Conservation and Pollution Prevention

We acknowledge your recommendations regarding water conservation measures and will consider the feasibility and applicability of those suggestions. It is also noted that Best Management Practices (BMPs) will be implemented to minimize runoff and protect area water resources from construction and vehicle operations.

We appreciate the input provided by your office. Should you require additional information or have any other questions related to the aforementioned subject action, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy
Planner

MAR:lfm
F:\DATA\FincHldg\WaineeSt\DWSresponse.dea.wpd

cc: Kivette Caigoy, Department of Planning
Paul Fasi, Department of Planning
Howard Murai, Finance Holdings
Stacy Otomo, P.E., Otomo Engineering, Inc.
Eric S. Taniguchi, A.I.A.
Russel Gushi, ASLA

LINDA LINGLE
GOVERNOR

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

RODNEY K. HARAGA
DIRECTOR

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

IN REPLY REFER TO:

STP 8.1803

July 1, 2005

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

Dear Mr. Foley:

Subject: Wainee Self Storage Facility
Special Management Area Use Permit (SM1 2005/0007) and
Draft Environment Assessment (DEA 2005/0007)
TMK: (2) 4-5-007: 004

In reply to your request for our review of the subject application, this is to advise you that the proposed storage facility will not have a significant impact on our highway facilities.

We appreciate the opportunity to provide our comments.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

MUNEKIYO & HIRAGA, INC.

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

August 16, 2005

Rodney K. Haraga
Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

SUBJECT: Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for Proposed Wainee Self Storage Facility and Related Improvements at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii (EA 2005/0007, SM1 2005/0007)

Dear Mr. Haraga:

Thank you for your letter of July 1, 2005, providing comments on the Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for the subject action.

We acknowledge the determination made by your office that the proposed self storage facility will not have a significant impact on State highway facilities.

We appreciate the input provided by your office. Should you have any questions or require further information on the subject action, please feel free contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy
Planner

MAR:lfm
F:\DATA\FincHldg\WaineeSt\SDOTresponse.dea.wpd

cc: Kivette Caigoy, Department of Planning
Paul Fasi, Department of Planning
Howard Murai, Finance Holdings
Stacy Otomo, P.E., Otomo Engineering, Inc.
Eric S. Taniguchi, A.I.A.

planning environment

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 7, 2005

MEMORANDUM

TO: MS. SUSAN MOIKEHA, Chair
AND MEMBERS OF THE MAUI PLANNING COMMISSION

FROM: MR. SAM KALALAU, Chair
AND MEMBERS OF THE CULTURAL RESOURCES COMMISSION

VIA: MR. MICHAEL W. FOLEY, Director
Maui Planning Department

RE: CULTURAL RESOURCES COMMISSION COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR A SELF-STORAGE FACILITY LOCATED AT TMK: 4-5-007: 004, LAHAINA, ISLAND OF MAUI, HAWAII (EA 2005/0004)

At your regular meeting of June 14, 2005, the Maui Planning Commission (Commission) reviewed the Draft Environmental Assessment (EA) for the proposed self-storage facility located on Wainee Street in Lahaina, Maui. The Commission noted that the property is located near the boundaries of the County historic districts, and as such, requested review and comments from the Cultural Resources Commission (CRC) regarding the design of the proposed project in relation to the architectural character of the County historic districts.

At its regular meeting on July 7, 2005, the Cultural Resources Commission (CRC) reviewed the design of the proposed project. Comments and recommendations from the CRC are as follows:

1. Incorporate native vegetation in the landscape planting plan to the extent practicable.

2. Discuss how the visual impacts of the long wall abutting the Longhi Building were assessed in relation to the scale of Lahaina Town. The CRC further noted that they do not object to the design but requested that the concern be discussed.

3. That the applicant meet with the West Maui Taxpayers Association, Lahaina Restoration Association, and the Lahaina Town Action Committee.

4. The CRC further noted that the proposed project successfully integrates design elements of both residential and commercial character. The design of the structure favorably gives the appearance of two (2) stories awhile in actuality using three (3) stories. Further, the location of the parking area in relation to the building successfully allows ease of access.

5. The CRC expressed concerns with security in the evening hours and the potential impacts to the neighboring elderly housing property. The CRC recommended incorporating a gated system and/or security system within the project.

6. The State Historic Preservation Division (SHPD) recommended an archaeological inventory survey be conducted for the property, and the CRC requested the opportunity to review the results of the archaeological inventory survey.

Further, the Cultural Resources Commission recommends incorporating copies of the plans shown at the CRC meeting into the Final EA.

MWF:KAC:lar
c: Wayne Boteilho, Deputy Planning Director
Kivette Caigoy, Environmental Planner
Stanley Solamillo, Staff Planner
Paul Fasi, Staff Planner
CRC
EA Project File
General File
K:\WP_DOCS\PLANNING\EA\2005\0004_SelfStorage\CRC_DEAComments.wpd

MUNEKIYO & HIRAGA, INC.

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

August 16, 2005

Sam Kalalau, Chair, and the
Members of the Cultural Resources Commission
County of Maui
Department of Planning
250 S. High Street
Wailuku, Hawaii 96793

SUBJECT: Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for Proposed Wainee Self Storage Facility and Related Improvements at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii (EA 2005/0007, SM1 2005/0007)

Dear Mr. Kalalau:

Thank you for your letter of July 7, 2005, providing comments on the Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for the subject action.

We have prepared the following responses to your comments, which are arranged below in the same order as they appear in your letter:

1. The applicant intends to incorporate native vegetation in the landscaping plan to the extent practicable. The use of native species deemed appropriate for the landscaping requirements of the proposed project will, however, be contingent on the availability of the required field stock on Maui at the time of landscaping.

2. As discussed during the July 7, 2005 CRC meeting, the design for the proposed project was selected on a basis of providing the area with a transitional use between existing high activity commercial uses (Longhi commercial building, Kaiser Permanente and First Hawaiian Bank) to the south and residential uses (Piilani Elderly Housing Project) to the north of the project site. The abutting wall of the proposed facility (32 feet) will be approximately 6 feet higher than that of the Longhi commercial building roofline (26 feet). The applicant, however, anticipates minimal visual impacts associated with this exposed area of wall to pedestrians and vehicles along both Wainee Street and Honoapiilani Highway. The angle of sight of pedestrians and vehicles traveling along Wainee Street and Honoapiilani Highway is limited by both the close proximity of the aforementioned roadways to the project

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

site as well the existence of a number of large shade trees in the area. In an effort to reduce any visual impacts which may result, a combination of shaded tones and geometric lines will be implemented in the design of the wall in order to break up massing.

3. Copies of the Draft EA were transmitted to the West Maui Taxpayers Association, the Lahaina Restoration Foundation, and the Lahaina Town Action Committee on July 13, 2005. Follow-up coordination has since been undertaken with these three (3) Lahaina based organizations and any comments received will be presented at the upcoming CRC meeting scheduled for September 1, 2005.

4. The applicant acknowledges the determination by commissioners that the proposed project successfully integrates design elements of both residential and commercial character and that the design of the structure favorably gives the appearance of two (2) stories awhile in actuality providing three stories of storage space. Furthermore, the applicant also acknowledges the determination that the location of the parking area in relation to the building successfully allows ease of access.

5. The applicant concurs with the concerns expressed by the CRC in relation to ensuring security during evening hours when the facility will be closed, especially when considering the close proximity of the neighboring Piilani Elderly Housing Project. A number of security measures are therefore proposed to ensure the prevention of unauthorized access to the project site during evening hours including fencing along both the Wainee Street and Honoapiilani project site boundaries, a lockable access gate at the project driveway along Wainee Street and installation of low-level lighting and a security alarm system.

6. As outlined in your comment, the State Historic Preservation Division, in letters dated June 30, 2005 and July 11, 2005, recommended the completion of an archaeological inventory survey for the project site. We acknowledge the request made by CRC at the July 7, 2005 meeting for the opportunity to review the findings of the archaeological inventory survey. As such, a post field investigation report has been attached to this letter detailing all findings and recommendations resulting from the archaeological inventory survey fieldwork that was completed on August 4, 2005 by Lisa Rotunno-Hazuka of Archaeological Services Hawaii. A review of the findings of the archaeological inventory survey by CRC has been scheduled for the September 1, 2005 meeting.

We appreciate the input provided by the CRC and look forward to reviewing the findings of the archaeological survey with the commissioners at the September 1, 2005 meeting.

Should you require additional information or have any other questions related to the aforementioned subject action, please do not hesitate to contact me at (808) 244-2015.

Very truly yours,

Mark Alexander Roy
Planner

MAR:lfm
Enclosure
F:\DATA\FincHldg\WaineeSt\CRCresponse.dea.wpd
cc: Kivette Caigoy, Department of Planning (w/enclosure)
Paul Fasi, Department of Planning (w/out enclosure)
Howard Murai, Finance Holdings (w/out enclosure)
Lisa Rotunno-Hazuka, Archaeological Services Hawaii (w/out enclosure)
Stacy Otomo, P.E., Otomo Engineering, Inc. (w/out enclosure)
Eric S. Taniguchi, A.I.A. (w/out enclosure)
Russel Gushi, ASLA (w/out enclosure)

ARCHEOLOGICAL SERVICES HAWAII, LLC (ASH)
1930A Vineyard Street
Wailuku, Hawaii 96793
Ph.(808) 244-2012;Fx (808) 244-9592

5 August 2005

Mr. Mark Roy
Munekiyo and Hiraga

VIA FACSIMILE

Subject: Post-Field Summary Letter for TMK 4-05-07: 04 located in Lahaina

Dear Mark,

Please be advised that the post-field summary letter (attached) is written to summarize the subsurface testing which was performed at the above referenced parcel on 4 August 05. The summary letter briefly describes the project area, the purpose for the inventory survey and discusses future recommendations for this parcel. Although it is a summary, the content of this letter will be similar to the final archaeological Inventory Survey Report. All discussions and recommendations contained within the post-field summary letter, will be presented within the final report. Again, there are no deviations between a post-field summary letter and the report, it is merely a tool to summarize recently completed work.

Thank you for this opportunity, if you should have any questions and or comments, please do not hesitate to call me.

Respectfully,

Lisa Rotunno-Hazuka
Consulting Archaeologist

ARCHEOLOGICAL SERVICES HAWAII, LLC (ASH)
1930A Vineyard Street
Wailuku, Hawaii 96793
Ph.(808) 244-2012;Fx (808) 244-9592

4 August 2005

Howard Murai
Lee Miller
Finance Holdings, Ltd.

Re: Post-field Summary Letter for Archaeological Testing at TMK 4-5-07:4, Lahaina, Maui Island

Dear Mr. Murai,

Archaeological Services Hawaii, LLC (ASH), of Wailuku, conducted an archaeological inventory survey of a parcel of land located in Panewa *ahupua'a*, Lahaina District, Maui Island. The current undertaking was conducted to determine presence/absence of surface archaeological sites, and the potential for subsurface sites. Ms. Diane Guerriero (B.A.), performed the survey and subsurface testing on August 4, 2005. Ms. Lisa Rotunno-Hazuka (B.A.) coordinated the project, and Mr. Jeffrey Pantaleo was the Principal Investigator. .

The project area (TMK 4-5-07: 4), encompassing 0.428acres (18,090 sq. ft.), is situated along the lower leeward northwestern slopes of West Maui in the coastal portion of Lahaina, Panaewa *ahupua`a*, Lahaina District (Figure1). It is bounded on the east by Honoapiilani Highway, to the south by Parcel 9, along the north by Parcel 5, and Wainee Street defines the west (Figure 2). The parcel is relatively flat and devoid of vegetation with the exception of large mango trees along the north and south property boundaries. It has undergone previous disturbances with the removal of a residential structure, and surface grading. It is situated near the coast less than a kilometer inland from the coast. The elevation ranges from sea level to about 5 feet amsl (above mean sea level) and receives less than 15 inches of rain annually (Armstrong 1983:62), with most `occurring during the winter months between November and February. Foote et al. (1972:115-116) have placed the soils of the project area within the Pulehu Series. "This series consists of well-drained soils on alluvial fans and stream terraces and in basins. They developed in alluvium washed from basic igneous rock. The soils are nearly level to moderately sloping. Elevation ranges from nearly sea level to 300 feet". Specific to the project area is soils identified as Pulehu silt loam, with 0 to 3 percent slopes (PpA), permeability is moderate, runoff is slow, and the erosion hazard is no more than slight. These soils are primarily associated with sugarcane production, and homesites.

The study area is located within the boundaries of the Lahaina National Historic Landmark and is in close proximity to Front Street and Kenui Street where traditional period occupation cultural layers, and Native Hawaiian burial sites have been identified. Due to these circumstances, historic period materials and possibly pre-Contact historic properties may be recovered during subsurface investigations.

Initially, a pedestrian survey of the parcel was conducted to determine the presence/absence of cultural remains and or isolated artifacts. No surface cultural remains were identified, however the parcel had been previously cleared and disturbed. Due to a lack of surface historic properties from past clearing and grubbing, subsurface investigations through mechanical backhoe trenching

Figure 1. Location of Project Area on USGS Lahaina Quadrangle

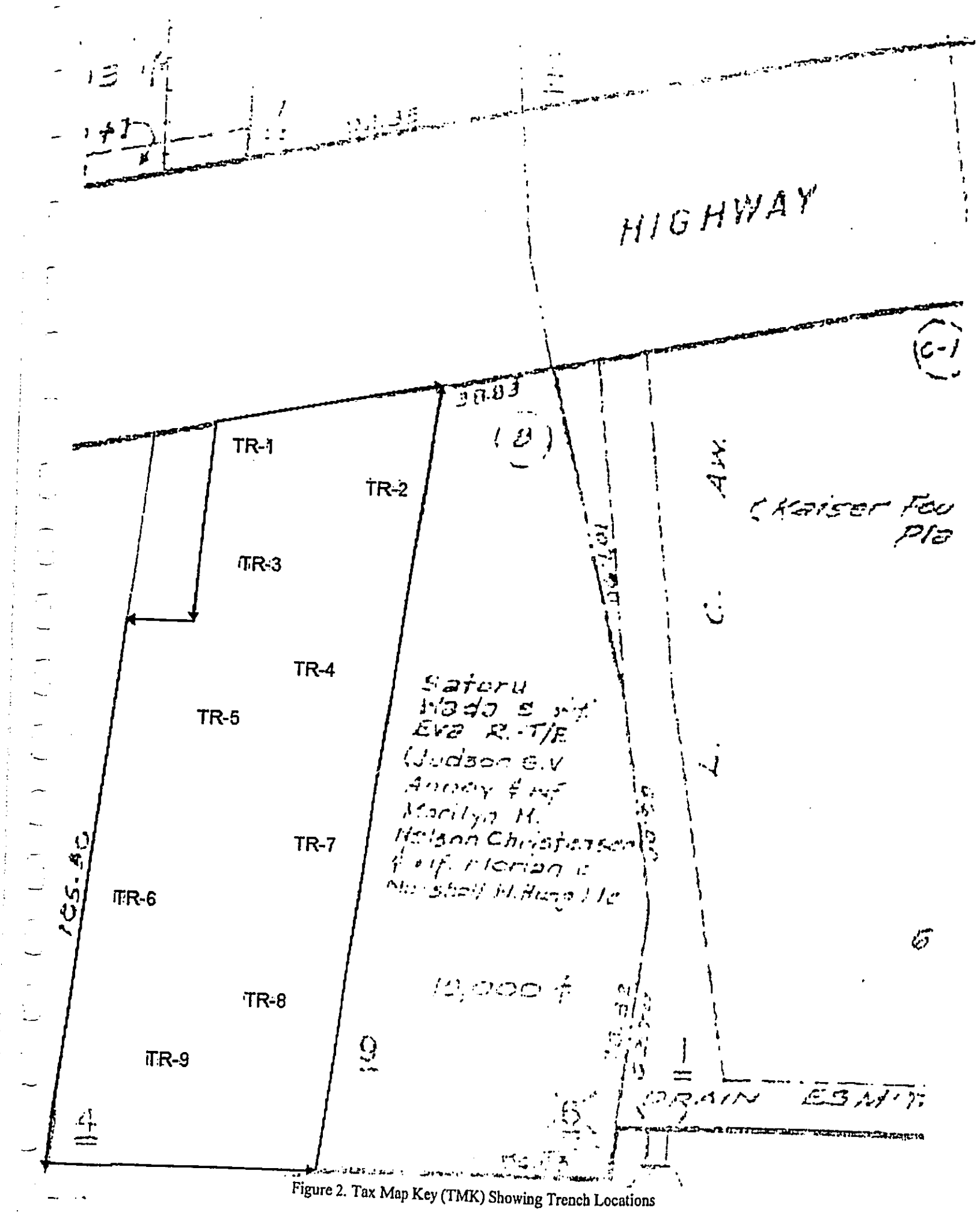


Figure 2. Tax Map Key (TMK) Showing Trench Locations

was implemented. A total of 9 backhoe trenches were excavated. Excavation was terminated when bedrock or sterile subsoil was reached. No cultural remains or deposits were encountered in all of the trenches. Trenches 1 thru 3 were excavated along the eastern portion of the project area, Trenches 3 thru 6 in the central portion and Trenches 7 thru 9 in the western portion.

Generally, three to five stratigraphic layers were exposed in the trenches. The "A" horizon", defined as the surface organic zone, was absent in the central portion of the project area from previous grading activities; the "A" horizon was identified along the north, south and western boundaries under the tree canopy. Surface coverage was scattered patches of various grasses and weeds.

The stratigraphic components of Trench 1 along the northeastern end of the project area were described as:

Layer I (25cm thick): dark grayish-brown (10YR4/2) silt with few roots and a moderate amount of sub-angular pebbles and recent debris including lumber and glass; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (40cm thick): brown, dark brown (7.5YR 4/2, 4/3, 3/3) silt with clay peds and water affected cobbles; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (30cm thick): brown, dark brown (10YR 4/3) silt with fewer water affected cobbles than Layer II; slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer IV (30cm thick): gray, grayish brown (10YR 5/1, 5/2) silt, no inclusions, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer V (40cm thick): gray, grayish brown (10YR 5/1, 5/2) gravel, stream bed, extremely hard, firm, non-sticky, non-plastic; non-cultural. BOE 1.6mbs

The stratigraphic components of Trench 2 along the southeastern end of the project area were described as:

Layer I (27cm thick): dark grayish-brown to brown (10YR 4/3) silt with few roots and a moderate amount of sub-angular pebbles and debris including glass and rusted metal; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (40cm thick): brown, dark brown (10YR 4/3, 3/3) silt with clay peds and water affected cobbles; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (50cm thick): dark brown, dark yellowish brown (10YR 3/3, 3/4) silt with clay peds, charcoal flecks, agricultural zone slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer IV (20cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, extremely hard, firm, non-sticky, non-plastic; non-cultural.

Layer V (40cm thick): dark brown (7.5YR 3/3) silt, no inclusions, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural. BOE 1.8mbs

The stratigraphic components of Trench 3 along the northeastern end of the project area were described as:

Layer I (23cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) silt with few roots and few sub-angular pebbles and debris including glass, wood fragments and rusted metal; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.
Layer II (70cm thick): dark brown (10YR 3/3, 3/4) silt with clay peds, charcoal flecks, *agricultural zone slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.*

Layer III (16cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, very fine, extremely hard, firm, non-sticky, non-plastic; non-cultural.

Layer IV (20cm thick): dark brown (7.5YR 3/3) silt, no inclusions, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer IV (30cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, very fine, extremely hard, firm, non-sticky, non-plastic; non-cultural. BOE 1.66mbs

The stratigraphic components of Trenches 4 and 5 along the south central end and Trenches 7 and 8 along the southwestern portion of the project area were described as:

Layer I (15-20cm thick): dark brown (10YR 3/3) silt with few roots and few sub-angular pebbles and debris including glass, wood fragments and rusted metal; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (1 to 1.2m thick): dark brown (7.5YR 3/3) silt with clay peds, charcoal flecks, agricultural zone slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (30-60cm thick): brown (10YR 4/3) silt, no inclusions, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural. Trenches 7 and 8 contained a deeper deposit of Layer III.

Layer IV in Trenches 4 and 5 (40 cm thick) very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, very fine, extremely hard, firm, non-sticky, non-plastic, non-cultural. BOE for TR 4 was 1.8 and TR 5 was 2mbs.

The stratigraphic components of Trench 6 along the central north end of the project area were described as:

Layer I (12cm thick): dark brown (10YR 3/3) silt with few roots and few sub-angular pebbles and debris including glass, wood fragments and rusted metal; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (80cm thick): dark brown (7.5YR 3/3) silt with clay peds, charcoal flecks, agricultural zone slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (20cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, and small pebbles, storm wash, fine, extremely hard, firm, non-sticky, non-plastic; non-cultural. Layer IIIa (5cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) silt, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer IV (20cm thick): very dark grayish brown (10YR 3/2) loamy silt with scattered pebbles, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer V (50cm thick): dark brown, dark yellowish brown (10YR 3/3, 3/4) silt, charcoal flecks, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural. BOE 1.7mbs.

The stratigraphic components of Trench 9 along the northwestern end of the project area were described as:

Layer I (10cm thick): dark brown (10YR 3/3) loamy silt with few roots, orgainic debris and few sub-angular pebbles and modern debris including recent glass, plastic; loose, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (60cm thick): dark reddish brown (5YR 3/3) silty clay with few roots, scattered sub-angular pebbles and cobbles, slightly hard, fine, friable, sticky, plastic; non-cultural.

Layer III (80cm thick): dark reddish brown (5YR 3/2) clay, a few cobbles, hard, fine, firm, very sticky, plastic; non-cultural. BOE 1.5mbs.

A total of nine backhoe trenches were excavated within this small parcel area. The results of archaeological testing, coupled with the project areas close proximity to Kahoma Stream produced evidence for past agricultural use (possibly *lo'i*) within this parcel. The soil deposits were thick, and some layers exhibited charcoal flecking which is typical of agricultural soils. No evidence for pre-Contact or historic period habitation (beyond the presence of mango trees and the former structure) was recovered during the current undertaking. Further archival research and analyses of the L.C.A's in the immediate vicinity should provide additional information regarding past land use.

Due to the negative results of the backhoe testing, together with previous disturbances from surface grading activities, no further archaeological inventory work is recommended; however, due to the presence of significant sites in the vicinity, archaeological monitoring during initial construction-related activities is recommended to assess the subsurface and ensure that any unanticipated subsurface remains are properly documented.

If you have any question, please contact Lisa Rotunno-Hazuka in Wailuku at 281-3004

Respectfully

Lisa Rotunno-Hazuka
Consulting Archaeologist

REFERENCES

Armstrong, R.W., J.A. Bier, and S. Chang
1983:2 *Atlas of Hawaii* University of Hawaii Press, Honolulu.

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.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

Layer II (80cm thick): dark brown (7.5YR 3/3) silt with clay peds, charcoal flecks, agricultural zone slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (20cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, and small pebbles, storm wash, fine, extremely hard, firm, non-sticky, non-plastic; non-cultural. Layer IIIa (5cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) silt, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer IV (20cm thick): very dark grayish brown (10YR 3/2) loamy silt with scattered pebbles, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer V (50cm thick): dark brown, dark yellowish brown (10YR 3/3, 3/4) silt, charcoal flecks, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural. BOE 1.7mbs.

The stratigraphic components of Trench 9 along the northwestern end of the project area were described as:

Layer I (10cm thick): dark brown (10YR 3/3) loamy silt with few roots, orgainic debris and few sub-angular pebbles and modern debris including recent glass, plastic; loose, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (60cm thick): dark reddish brown (5YR 3/3) silty clay with few roots, scattered sub-angular pebbles and cobbles, slightly hard, fine, friable, sticky, plastic; non-cultural.

Layer III (80cm thick): dark reddish brown (5YR 3/2) clay, a few cobbles, hard, fine, firm, very sticky, plastic; non-cultural. BOE 1.5mbs.

A total of nine backhoe trenches were excavated within this small parcel area. The results of archaeological testing, coupled with the project areas close proximity to Kahoma Stream produced evidence for past agricultural use (possibly *lo'i*) within this parcel. The soil deposits were thick, and some layers exhibited charcoal flecking which is typical of agricultural soils. No evidence for pre-Contact or historic period habitation (beyond the presence of mango trees and the former structure) was recovered during the current undertaking. Further archival research and analyses of the L.C.A's in the immediate vicinity should provide additional information regarding past land use.

Due to the negative results of the backhoe testing, together with previous disturbances from surface grading activities, no further archaeological inventory work is recommended; however, due to the presence of significant sites in the vicinity, archaeological monitoring during initial construction-related activities is recommended to assess the subsurface and ensure that any unanticipated subsurface remains are properly documented.

If you have any question, please contact Lisa Rotunno-Hazuka in Wailuku at 281-3004

Respectfully

Lisa Rotunno-Hazuka
Consulting Archaeologist

REFERENCES

Armstrong, R.W., J.A. Bier, and S. Chang
1983:2 *Atlas of Hawaii* University of Hawaii Press, Honolulu.

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.

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

2005

COUNTY OF MAUI
DEPARTMENT OF PLANNING

September 6, 2005

MEMO TO: MS. SUSAN MOIKEHA, CHAIR
AND MEMBERS OF THE MAUI PLANNING COMMISSION

FROM: MICHAEL W. FOLEY, PLANNING DIRECTOR M.W.F.

SUBJECT: CRC ARCHEOLOGICAL FINDINGS REVIEW FOR THE PROPOSED SELF-STORAGE FACILITY LOCATED AT TMK: 4-5-007: 004, LAHAINA, ISLAND OF MAUI, HAWAII (EA 2005/0004)

At its regular meeting on September 1, 2005, the Cultural Resources Commission reviewed the archaeological findings report for the above-referenced project and recommended approval without comment.

If further clarification is required, please contact Paul Fasi, Staff Planner, of this office at 270-7814 or paul.fasi@co.maui.hi.us

MWF:PFbsv
c: Wayne A. Boteilho, Deputy Planning Director
Clayton I. Yoshida, AICP, Planning Program Administrator
Kivette A. Caigoy, Environmental Planner
Mark Roy, Munekiyo & Hiraga
EA Project File
General File
(K:\WP_DOCS\PLANNING\EA\2005\0004_SelfStorage\MPC_CRC.wpd)

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD05/1745B

June 28, 2005

Michael Foley
County of Maui
Department of Planning
250 South High Street
Wailuku, HI 96793

RE: Draft Environmental Assessment and Special Management Area Use Permit for the Proposed Wainee Self Storage Facility, Lahaina, Maui, TMK: (2) 4-5-07:04.

Dear Mr. Foley,

The Office of Hawaiian Affairs (OHA) is in receipt of your May 25, 2005 request for comment on the above listed proposed project, TMK: (2) 4-5-07:04. OHA offers the following comments:

The area of proposed development lies within the Lahaina National Historic Landmark District. Because of the historic nature of the parcel and the possibility that subsurface historic properties will be encountered, an Archaeological Monitoring Plan should be drafted in support of the proposed project. This document will analyze the need for "on-site" or "on-call" monitoring. If the plan is not completed, OHA's default recommendation would be that all ground altering activities (footing excavations and trenching for water lines and other utilities) should be monitored by a professional archaeologist.

A possible alternative to a monitoring program would be an Archaeological Inventory Survey program that would emphasize subsurface testing. In either case, some form of documented excavation should take place with an archaeologist present to mitigate potential effects to subsurface historic properties.

OHA recommends that the proposed project's landscaping plans include a variety of Native Hawaiian flora. This would help to create a native landscape and to promote a native ecosystem in coastal Lahaina, which is currently overrun with exotic flora and fauna.

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.

'O wau iho nō,

Clyde W. Nāmu'o
Administrator

MUNEKIYO & HIRAGA, INC.

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

August 16, 2005

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

SUBJECT: Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for Proposed Wainee Self Storage Facility and Related Improvements at TMK (2)4-5-07:04, Lahaina, Maui, Hawaii (EA 2005/0007, SM1 2005/0007)

Dear Mr. Nāmu`o:

Thank you for your letter of June 28, 2005, providing comments on the Draft Environmental Assessment (EA) and Application for Special Management Area (SMA) Use Permit for the subject action.

We have prepared the following responses to your comments, which are arranged below in the same order as they appear in your letter.

1. We concur with the determination made by your office that the subject property is located within the Lahaina National Historic Landmark District (LNHLD). We also acknowledge that given the historic importance of the surrounding area, historic sites and/or remnants of previously disturbed sites may be present in the subsurface deposits. As such, the applicant is currently in the process of completing an archaeological inventory survey for the proposed project area to determine whether significant historic sites are present on-site. Upon completion, a copy of the report documenting findings of the archaeological inventory survey will be forwarded to the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources (DLNR) for historic preservation review and determination.

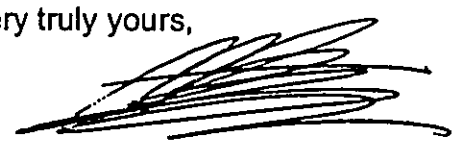
2. In regards to landscaping, the applicant's landscape architect intends to utilize Native Hawaiian flora in the proposed project to the extent practicable.

3. Should human remains or significant Hawaiian cultural/traditional deposits be encountered during ground disturbance for the proposed project, work will cease at

once in the immediate area of the find and the appropriate agencies will be contacted pursuant to applicable law.

We appreciate the input provided by your office. Should you have any questions or require further information on the subject action, please feel free contact me at (808) 244-2015.

Very truly yours,



Mark Alexander Roy
Planner

MAR:lfm
F:\DATA\FincHldg\WaineeSt\OHAresponse.cic-s.wpd
cc: Kivette Caigoy, Department of Planning
Paul Fasi, Department of Planning
Howard Murai, Finance Holdings
Russel Gushi, ASLA
Lisa Rotunno-Hazuka, Archaeological Services Hawaii

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

JUN 2 0 2005

COUNTY OF MAUI
DEPARTMENT OF PLANNING

June 15, 2005

Mr. Mark Roy
Munekiyo & Hiraga
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Roy:

RE: Maui Planning Commission Comments on the Draft Environmental Assessment (DEA) for a Self-Storage Facility located at TMK: 4-5-007: 004, Lahaina, Island of Maui, Hawaii (EA 2005/0004)

At its regular meeting on June 14, 2005, the Maui Planning Commission (Commission) reviewed the above-referenced document and provided the following comments:

1. Discuss the demand for the proposed use within the West Maui area.

2. The Commission requests that the design of the proposed action be reviewed by the Urban Design Review Board (UDRB). The Commission further encouraged the use of more shade trees as an element of design.

3. The Property is not located within the boundaries of the County Historic Districts, and as such, does not require review and approval by the Cultural Resources Commission (CRC). However, the Property is located near the boundaries, and the Commission recommends that the proposed action be reviewed by the CRC relative to the design of the structure. The Commission requests these comments prior to the public hearing for the Special Management Area Use permit application.

4. Discuss whether the proposed action considered designing the parking lot to accommodate large storage containers.

Thank you for your cooperation. If additional clarification is required, please contact Ms. Kivette A. Caigoy, Environmental Planner, of this office at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:KAC:lar
c: Wayne A. Boteilho, Deputy Planning Director
Clayton I. Yoshida, AICP, Planning Program Administrator
Kivette A. Caigoy, Environmental Planner
Paul Fasi, Staff Planner
EA Project File
General File
K:\WP_DOCS\PLANNING\EA\2005\0004_SelfStorage\MPC_DEAComments.wpd

MUNEKIYO & HIRAGA, INC.

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

August 16, 2005

Michael Foley, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

SUBJECT: Draft Environmental Assessment (DEA) for a Proposed Self Storage Facility at TMK (2) 4-5-007:004, Lahaina, Maui, Hawaii

Dear Mr. Foley:

Thank you for providing to us the Planning Commission's comments on the Draft Environmental Assessment (DEA) for the subject action.

We have prepared the following responses to the comments provided. The responses are numbered to correspond with the listed comments set forth in your letter of June 15, 2005.

1. The applicant believes there to be a significant demand for self storage space in Lahaina Town, particularly among the local residential community. There are currently two existing self storage facilities in the Lahaina area, one located at the Anchor Square Commercial Center and the other situated in Honokowai. Preliminary market research completed by the applicant over a period of two (2) years indicates that the aforementioned facilities are currently operating at or very close to full occupancy. A third, large capacity (approximately 100,000 square feet) self storage facility is presently under construction in Lahaina Industrial Park and is reportedly intended for larger commercial uses. The design of the proposed self storage facility has, therefore, been tailored specifically towards catering to the additional residential demand for storage space that exists within Lahaina Town and will contain approximately 198 low volume units ranging from 3.5 ft. x 5 ft. to 10 ft. x 20 ft. in size. The project site has been selected as the optimal location for the subject action due to the presence of numerous nearby multi-family residential developments, such as Hale Mahaolu's Lahaina Surf apartment complex. Furthermore, several residents of the neighboring Piilani Elderly Housing Project expressed a need for additional storage space beyond that currently available in their apartments during a community meeting held on March 16, 2005.

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

2. The applicant acknowledges the request by the Planning Commission that the preliminary designs for the proposed self storage facility be reviewed by the Urban Design Review Board (UDRB). A review of the project was provided by the Urban Design Review Board during a meeting that took place on July 19, 2005. A copy of the UDRB recommendation letter, dated July 25, 2005, has been attached to this letter for your reference.

   Furthermore, the applicant acknowledges the importance of shade trees as an integral design element for Lahaina Town. Appropriate landscape planting will be provided accordingly.

3. The applicant concurs with the determination made by the Department of Planning, that the project site is not located within the boundaries of the County Historic Districts. However, as the property is located in the midst of Lahaina Town, the applicant also acknowledges the recommendation that the design of the proposed facility be reviewed by the Cultural Resources Commission (CRC). As such, a CRC meeting was attended on July 7, 2005, allowing comments to be received prior to the public hearing for the Special Management Area Use permit application.

4. As mentioned above, the proposed facility has been designed as a low volume, low activity facility catering specifically to existing residential demand for storage space in Lahaina Town. Insomuch as the proposed self storage facility is intended for residential users, container sized loading areas are deemed as unnecessary.

Should you require additional information or have any other questions related to the aforementioned subject action, please do not hesitate to call me on (808) 244-2015.

Very truly yours,

Mark Alexander Roy, Planner

MAR:yp
Enclosure
cc: Howard Murai and Lee Miller, Finance Holdings, Ltd. (w/out enclosure)
Eric Taniguchi, Eric S. Taniguchi, AIA (w/out enclosure)
F:\DATA\FincHldg\WaineeSt\planning.deares.wpd

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

JUL 2 0 2005

COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 25, 2005

Ms. Susan Moikeha, Chairperson
and Members of the Maui Planning Commission
County of Maui
250 South High Street
Wailuku, Hawaii 96793

Dear Chairperson Moikeha and Commissioners:

RE: Proposed Wainee Self Storage Facility and Related Improvements at TMK (2) 4-5-07:04, Lahaina, Maui, Hawaii

At its regular meeting on July 19, 2005, the Maui Urban Design Review Board (UDRB) reviewed the design, landscaping, architectural plans, and related aspects of the proposed project referenced above. Based on those considerations within the Board's purview, it voted to recommend approval subject to the following conditions:

1. Provide sufficient landscaping along the Honoapiilani Highway border of the building to mitigate the massing of the wall facing the highway.

2. Utilize landscaping (e.g. Areca Palms or similar), with a foliage height of 15 feet, to the extent field stock of the size specified is available on Maui, along the building's Honoapiilani Highway and Wainee Street sides to soften the building's massing.

3. Incorporate mansard roof detail along the roofline of the building's elevation facing the Piilani Elderly Housing Project.

4. Utilize an Areca Palm or shade tree in the small alcove area between the building and Wainee Street.

The UDRB respectfully recommends its decision to be incorporated into the Maui Planning Commission's deliberations during the public hearing on the SMA application.

If additional clarification is required, please contact the undersigned or Mr. Paul Fasi, Staff Planner, County of Maui, Department of Planning at (808) 270-7814.

Sincerely,

FOR DEMETREOUS CALLINICOS
MAUI URBAN DESIGN REVIEW BOARD

DC:PF:lar

c: Clayton Yoshida, AICP, Planning Program Administrator
Paul Fasi, Staff Planner
Kivette Caigoy, Staff Planner
Mark Alexander Roy, Munekiyo & Hiraga, Inc.
Howard Murai, Finance Holdings, Ltd.
Project File
General File

K:\WP_DOCS\PLANNING\SM1\2005\0016_WaineeSelfStorage\UDRBappvl.wpd

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

June 15, 2005

TO: KIVETTE A. CAIGOY, Staff Planner
Department of Planning

FROM: ALICE L. LEE, Director
Department of Housing and Human Concerns

SUBJECT: I.D.: EA 2005/0007 and SM1 2005/0007
TMK: (2)4-5-007:004
PROJECT NAME: WAINEE SELF STORAGE FACILITY
APPLICANT: FINANCE HOLDINGS, INC.

We have reviewed the draft Environmental Assessment (EA) and Special Management Area (SMA) Use Permit Application for the subject project and do not have any comments to offer.

Thank you for the opportunity to comment. We are returning the draft EA and SMA Use Permit Application for your use.

ETO:hs

Enclosure

c: Housing Administrator

LINDA LINGLE
GOVERNOR OF HAWAII

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

'05 JUN 14 A8:14

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

June 13, 2005

Kivi,
Permit nos.
incorrect.

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: **Wainee Self Storage Facility**
TMK: (2) 4-5-007:004
EA 2005/0007 and SM1 2005/0007

Thank you for the opportunity to comment on the proposed Wainee Self Storage Facility. Comments from this office were made during the early consultation process of the environmental assessment. We have no further comments to offer at this time.

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

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

ALAN M. ARAKAWA
MAYOR

OUR REFERENCE
YOUR REFERENCE ti

POLICE DEPARTMENT
COUNTY OF MAUI

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

THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLICE

June 6, 2005

MEMORANDUM

TO : MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM : THOMAS M. PHILLIPS, CHIEF OF POLICE

SUBJECT :

I.D.	:	EA 2005/0007 and SM1 2005/0007
TMK	:	(2) 4-5-007: 004
Project Name	:	Wainee Self Storage Facility
Applicant	:	Finance Holdings, Inc.

_x_ No recommendation or comment to offer.

____ Refer to enclosed comments and/or recommendations.

As always, thank you for giving us the opportunity to comment on this project. We are returning the draft EA and SMA which were submitted for our review.

Acting Assistant Chief Glenn Miyahira
For: THOMAS M. PHILLIPS
Chief of Police

Enclosures

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, Wailuku, Hawaii 96793

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

05 JUN 6 P3:31

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

MEMORANDUM

June 2, 2005

TO: Michael W. Foley, Director
Planning Department

FROM: Glenn T. Correa, Director

SUBJECT: Wainee Self Storage Facility
EA 2005/0007
SM1 2005/0007
TMK (2) 4-5-007:004

Thank you for the opportunity to review and comment on the Wainee Self Storage Facility project.

At this time we have no comment to offer.

Should you have any questions or need of additional information, please call me, or Patrick Matsui, Chief of Parks Planning & Development at extension 7931.

c: Patrick Matsui, Chief of Parks Planning & Development

Appendices

Appendix A

State Historic Preservation Division "No Effect" Letters (1998/1999)

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

JUL 23 1999

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
GILBERT COLOMA-AGARAN
TIMOTHY E. JOHNS

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

November 23, 1998

Munekiyo Arakawa, and Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

LOG NO: 22555
DOC NO: 9811CD08

Dear Mr. Tadaka:

SUBJECT: **Chapter 6E-42 Historic Preservation Review of the Proposed Waine'e Office Building Change in Zoning Permit Request**
Ahupua'a, Lahaina District, Maui Island
TMK: 4-5-07:004

Thank you for the opportunity to comment on this project which consists of a change in zoning request for the Waine'e Building from the "A-1, Apartment District to the B-2, Community Business District for the future development of a two-story office building. Our review is based on reports, maps and aerial photographs maintained at the State Historic Preservation Office; no field inspection was made of the subject property.

The subject property is located in the Lahaina National Historic District and seems likely to have once been the location of pre-Contact agriculture and perhaps scattered housing. However, 20th century residential construction has since altered the landscape, making it unlikely that any historic sites remain intact. Therefore we believe that this project will have "no effect" on significant historic sites.

In the event that historic remains (i.e. subsurface firepits, artifacts, or human skeletal remains) are inadvertently uncovered during construction, all work in the vicinity should cease and the contractor should immediately contact the State Historic Preservation Office.

Please call Cathleen Dagher at 692-8023 if you have any questions.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

CD:jen

NOV 30 1998

MAR 2 6 1999

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JANET E. KAWELO

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

March 18, 1999

Mr. John E. Min
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

LOG NO: 23110
DOC NO: 9903CD09

Dear Mr. Min:

SUBJECT: Chapter 6E-42 Historic Preservation Review of the Proposed Waine'e Office Building Change in Zoning Permit Request
Pana'ewa Ahupua'a, Lahaina District, Island of Maui
TMK: 4-5-005: 05

Thank you for the opportunity to comment on this project which we understand to be a change in zoning request for the Waine'e Building from the "A-1, Apartment District to the B-2 Community Business District" for the future development of a 2-story office building.

We have previously reviewed the proposed project (SHPD DOC NO. 1530a and 9811CD08) and found that this project will have "no effect" on significant historic sites.

The proposed project is located in the Lahaina Historic District and seems likely to have once been the location of pre-contact agriculture and associated houses. However, this area is no longer likely to contain historic sites due to 20th century residential construction and ground disturbance resulting from modern sugar cane cultivation .

In the event that historic remains (i.e. artifacts, human skeletal remains, and/or concentrations of charcoal or shell) are inadvertently encountered during construction, all work needs to cease in the immediate vicinity of the find and the find needs to be protected from further damage. The Contractor needs to immediately contact the State Historic Preservation Office at 243-5169 on Maui or 692-8023 on O'ahu. The Division will assess the significance of the find and recommend mitigation measures, if necessary.

Please call Cathleen Dagher at 692-8023 if you have any questions.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

CD:jen

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

July 16, 1999

LOG NO: 23795
DOC NO: 9907CD11

Mr. Glen Tadaki
Munekiyo, Arakawa and Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Mr. Tadaki,

SUBJECT: Historic Preservation Review of a Change in Zoning Request for the Waine'e Office Building
Lahaina Ahupua'a, Lahaina District, Island of Maui
TMK: 4-5-07:004

Thank you for the opportunity to comment on the Change in Zoning request for the Waine'e Office Building. We have made previous comments regarding this request. Please see attachment.

Please call Cathleen Dagher at 692-8023 if you have any questions.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

CD:lpf

Appendix A-1

Post Field Investigation Report Letter From Archaeological Services Hawaii

ARCHEOLOGICAL SERVICES HAWAII, LLC (ASH)
1930A Vineyard Street
Walluku, Hawaii 96793
Ph.(808) 244-2012;Fx (808) 244-9592

5 August 2005

Mr. Mark Roy
Munekiyo and Hiraga

VIA FACSIMILE

Subject: Post-Field Summary Letter for TMK 4-05-07: 04 located in Lahaina

Dear Mark,

Please be advised that the post-field summary letter (attached) is written to summarize the subsurface testing which was performed at the above referenced parcel on 4 August 05. The summary letter briefly describes the project area, the purpose for the inventory survey and discusses future recommendations for this parcel. Although it is a summary, the content of this letter will be similar to the final archaeological Inventory Survey Report. All discussions and recommendations contained within the post-field summary letter, will be presented within the final report. Again, there are no deviations between a post-field summary letter and the report, it is merely a tool to summarize recently completed work.

Thank you for this opportunity, if you should have any questions and or comments, please do not hesitate to call me.

Respectfully,

Lisa Rotunno-Hazuka
Consulting Archaeologist

ARCHEOLOGICAL SERVICES HAWAII, LLC (ASH)
1930A Vineyard Street
Wailuku, Hawaii 96793
Ph.(808) 244-2012;Fx (808) 244-9592

4 August 2005

Howard Murai
Lee Miller
Finance Holdings, Ltd.

Re: Post-field Summary Letter for Archaeological Testing at TMK 4-5-07:4, Lahaina, Maui Island

Dear Mr. Murai,

Archaeological Services Hawaii, LLC (ASH), of Wailuku, conducted an archaeological inventory survey of a parcel of land located in Panewa *ahupua'a*, Lahaina District, Maui Island. The current undertaking was conducted to determine presence/absence of surface archaeological sites, and the potential for subsurface sites. Ms. Diane Guerriero (B.A.), performed the survey and subsurface testing on August 4, 2005. Ms. Lisa Rotunno-Hazuka (B.A.) coordinated the project, and Mr. Jeffrey Pantaleo was the Principal Investigator. .

The project area (TMK 4-5-07: 4), encompassing 0.428acres (18,000 sq. ft.), is situated along the lower leeward northwestern slopes of West Maui in the coastal portion of Lahaina, Panaewa *ahupua`a*, Lahaina District (Figure1). It is bounded on the east by Honoapiilani Highway, to the south by Parcel 9, along the north by Parcel 5, and Wainee Street defines the west (Figure 2). The parcel is relatively flat and devoid of vegetation with the exception of large mango trees along the north and south property boundaries. It has undergone previous disturbances with the removal of a residential structure, and surface grading. It is situated near the coast less than a kilometer inland from the coast. The elevation ranges from sea level to about 5 feet amsl (above mean sea level) and receives less than 15 inches of rain annually (Armstrong 1983:62), with most `occurring during the winter months between November and February. Foote et al. (1972:115-116) have placed the soils of the project area within the Pulehu Series. "This series consists of well-drained soils on alluvial fans and stream terraces and in basins. They developed in alluvium washed from basic igneous rock. The soils are nearly level to moderately sloping. Elevation ranges from nearly sea level to 300 feet". Specific to the project area is soils identified as Pulehu silt loam, with 0 to 3 percent slopes (PpA), permeability is moderate, runoff is slow, and the erosion hazard is no more than slight. These soils are primarily associated with sugarcane production, and homesites.

The study area is located within the boundaries of the Lahaina National Historic Landmark and is in close proximity to Front Street and Kenui Street where traditional period occupation cultural layers, and Native Hawaiian burial sites have been identified. Due to these circumstances, historic period materials and possibly pre-Contact historic properties may be recovered during subsurface investigations.

Initially, a pedestrian survey of the parcel was conducted to determine the presence/absence of cultural remains and or isolated artifacts. No surface cultural remains were identified, however the parcel had been previously cleared and disturbed. Due to a lack of surface historic properties from past clearing and grubbing, subsurface investigations through mechanical backhoe trenching

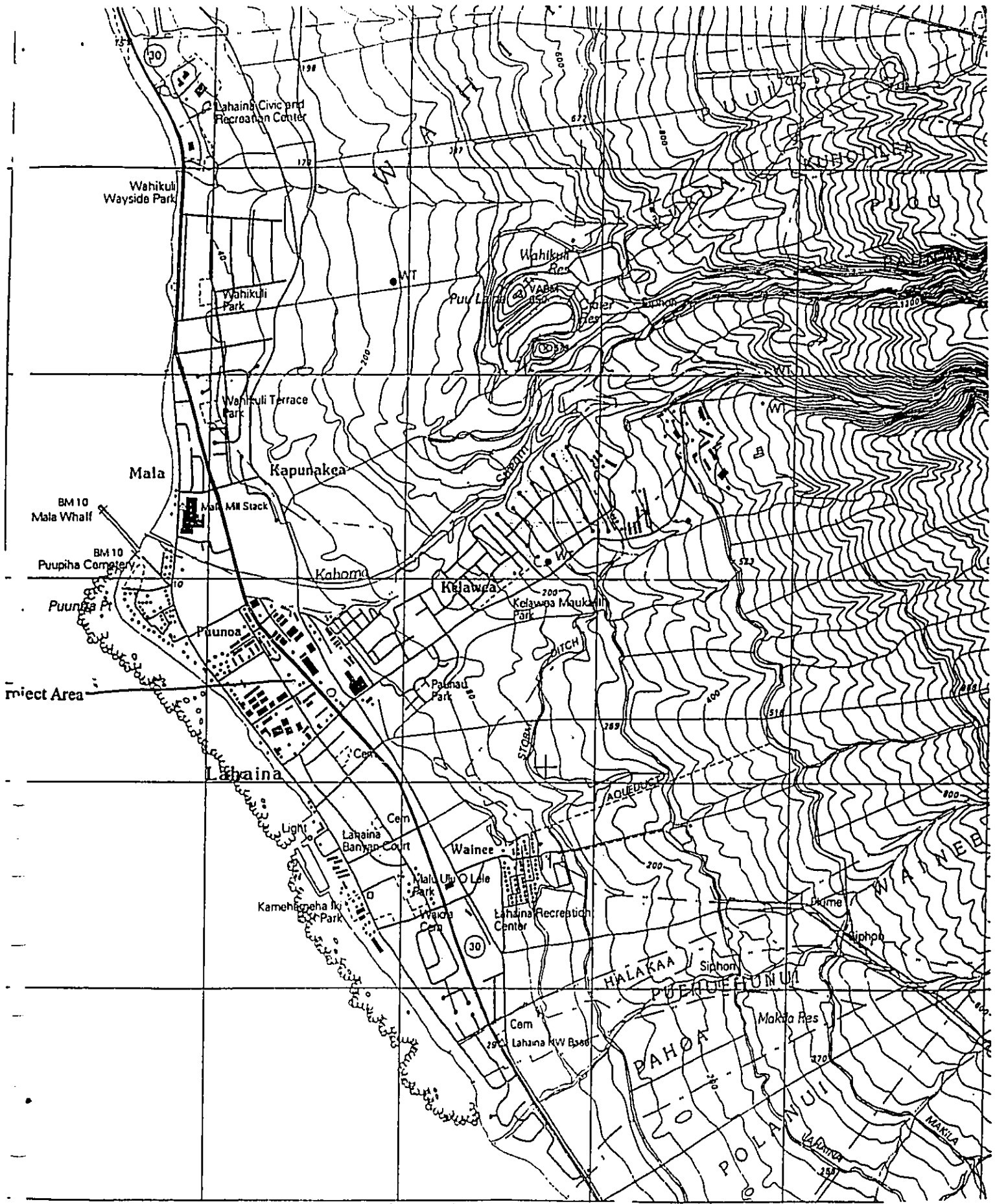


Figure 1. Location of Project Area on USGS Lahaina Quadrangle

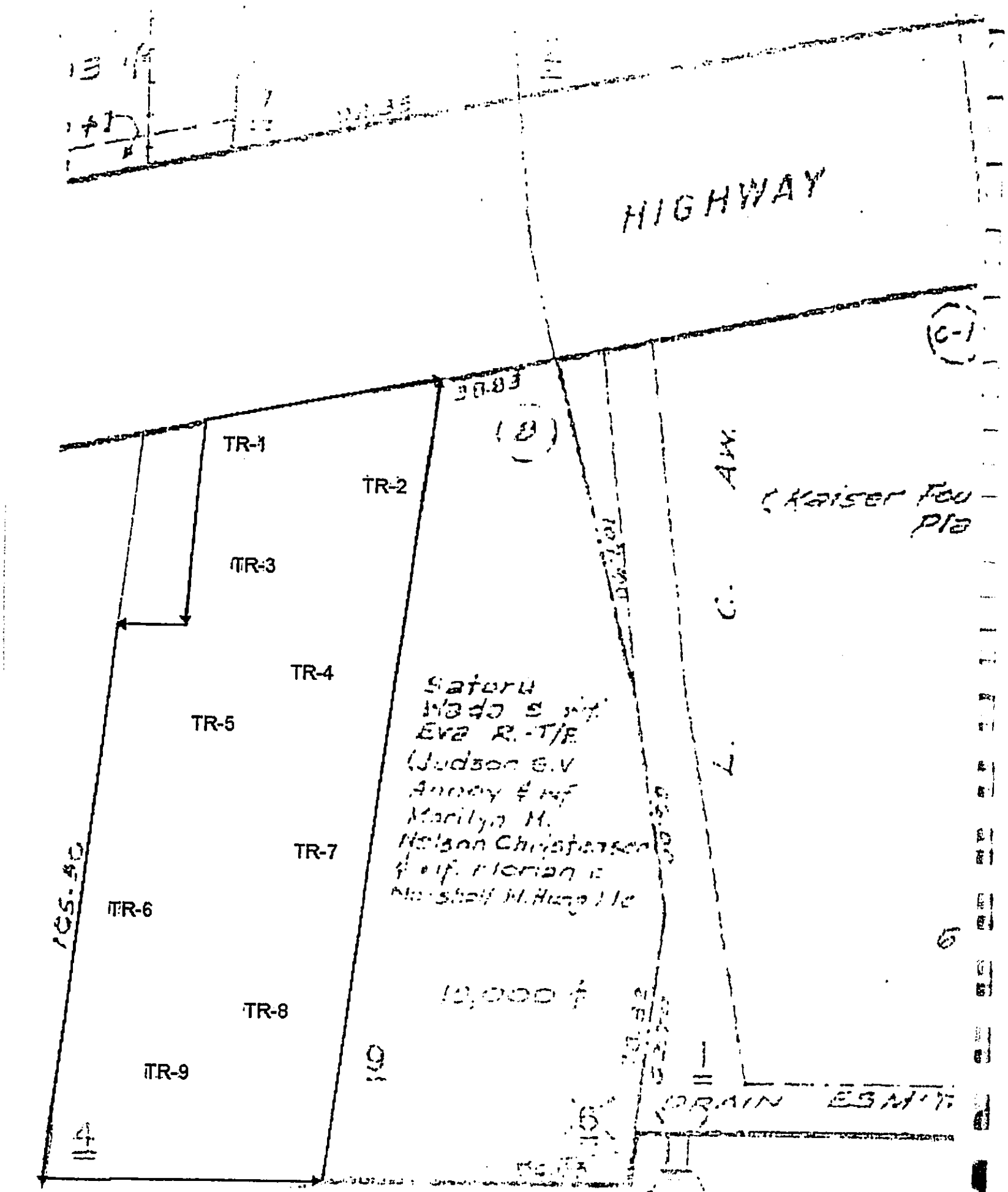


Figure 2. Tax Map Key (TMK) Showing Trench Locations

was implemented. A total of 9 backhoe trenches were excavated. Excavation was terminated when bedrock or sterile subsoil was reached. No cultural remains or deposits were encountered in all of the trenches. Trenches 1 thru 3 were excavated along the eastern portion of the project area, Trenches 3 thru 6 in the central portion and Trenches 7 thru 9 in the western portion.

Generally, three to five stratigraphic layers were exposed in the trenches. The "A" horizon", defined as the surface organic zone, was absent in the central portion of the project area from previous grading activities; the "A" horizon was identified along the north, south and western boundaries under the tree canopy. Surface coverage was scattered patches of various grasses and weeds.

The stratigraphic components of Trench 1 along the northeastern end of the project area were described as:

Layer I (25cm thick): dark grayish-brown (10YR4/2) silt with few roots and a moderate amount of sub-angular pebbles and recent debris including lumber and glass; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (40cm thick): brown, dark brown (7.5YR 4/2, 4/3, 3/3) silt with clay peds and water affected cobbles; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (30cm thick): brown, dark brown (10YR 4/3) silt with fewer water affected cobbles than Layer II; slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer IV (30cm thick): gray, grayish brown (10YR 5/1, 5/2) silt, no inclusions, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer V (40cm thick): gray, grayish brown (10YR 5/1, 5/2) gravel, stream bed, extremely hard, firm, non-sticky, non-plastic; non-cultural. BOE 1.6mbs

The stratigraphic components of Trench 2 along the southeastern end of the project area were described as:

Layer I (27cm thick): dark grayish-brown to brown (10YR 4/3) silt with few roots and a moderate amount of sub-angular pebbles and debris including glass and rusted metal; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (40cm thick): brown, dark brown (10YR 4/3, 3/3) silt with clay peds and water affected cobbles; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (50cm thick): dark brown, dark yellowish brown (10YR 3/3, 3/4) silt with clay peds, charcoal flecks, agricultural zone slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer IV (20cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, extremely hard, firm, non-sticky, non-plastic; non-cultural.

Layer V (40cm thick): dark brown (7.5YR 3/3) silt, no inclusions, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural. BOE 1.8mbs

The stratigraphic components of Trench 3 along the northeastern end of the project area were described as:

Layer I (23cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) silt with few roots and few sub-angular pebbles and debris including glass, wood fragments and rusted metal; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.
Layer II (70cm thick): dark brown (10YR 3/3, 3/4) silt with clay peds, charcoal flecks, agricultural zone slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (16cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, very fine, extremely hard, firm, non-sticky, non-plastic; non-cultural.

Layer IV (20cm thick): dark brown (7.5YR 3/3) silt, no inclusions, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer IV (30cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, very fine, extremely hard, firm, non-sticky, non-plastic; non-cultural. BOE 1.66mbs

The stratigraphic components of Trenches 4 and 5 along the south central end and Trenches 7 and 8 along the southwestern portion of the project area were described as:

Layer I (15-20cm thick): dark brown (10YR 3/3) silt with few roots and few sub-angular pebbles and debris including glass, wood fragments and rusted metal; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (1 to 1.2m thick): dark brown (7.5YR 3/3) silt with clay peds, charcoal flecks, agricultural zone slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (30-60cm thick): brown (10YR 4/3) silt, no inclusions, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural. Trenches 7 and 8 contained a deeper deposit of Layer III.

Layer IV in Trenches 4 and 5 (40 cm thick) very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, very fine, extremely hard, firm, non-sticky, non-plastic, non-cultural. BOE for TR 4 was 1.8 and TR 5 was 2mbs.

The stratigraphic components of Trench 6 along the central north end of the project area were described as:

Layer I (12cm thick): dark brown (10YR 3/3) silt with few roots and few sub-angular pebbles and debris including glass, wood fragments and rusted metal; slightly hard, fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (80cm thick): dark brown (7.5YR 3/3) silt with clay peds, charcoal flecks, agricultural zone slightly hard, very fine, friable, slightly sticky, slightly plastic; non-cultural.

Layer III (20cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) gravel, and small pebbles, storm wash, fine, extremely hard, firm, non-sticky, non-plastic; non-cultural. Layer IIIa (5cm thick): very dark grayish brown, dark brown (10YR 3/2, 3/3) silt, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer IV (20cm thick): very dark grayish brown (10YR 3/2) loamy silt with scattered pebbles, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural.

Layer V (50cm thick): dark brown, dark yellowish brown (10YR 3/3, 3/4) silt, charcoal flecks, soft, fine, very friable, slightly sticky, slightly plastic, non-cultural. BOE 1.7mbs.

The stratigraphic components of Trench 9 along the northwestern end of the project area were described as:

Layer I (10cm thick): dark brown (10YR 3/3) loamy silt with few roots, orgainic debris and few sub-angular pebbles and modern debris including recent glass, plastic; loose, friable, slightly sticky, slightly plastic; non-cultural.

Layer II (60cm thick): dark reddish brown (5YR 3/3) silty clay with few roots, scattered sub-angular pebbles and cobbles, slightly hard, fine, friable, sticky, plastic; non-cultural.

Layer III (80cm thick): dark reddish brown (5YR 3/2) clay, a few cobbles, hard, fine, firm, very sticky, plastic; non-cultural. BOE 1.5mbs.

A total of nine backhoe trenches were excavated within this small parcel area. The results of archaeological testing, coupled with the project areas close proximity to Kahoma Stream produced evidence for past agricultural use (possibly *lo'i*) within this parcel. The soil deposits were thick, and some layers exhibited charcoal flecking which is typical of agricultural soils. No evidence for pre-Contact or historic period habitation (beyond the presence of mango trees and the former structure) was recovered during the current undertaking. Further archival research and analyses of the L.C.A's in the immediate vicinity should provide additional information regarding past land use.

Due to the negative results of the backhoe testing, together with previous disturbances from surface grading activities, no further archaeological inventory work is recommended; however, due to the presence of significant sites in the vicinity, archaeological monitoring during initial construction-related activities is recommended to assess the subsurface and ensure that any unanticipated subsurface remains are properly documented.

If you have any question, please contact Lisa Rotunno-Hazuka in Wailuku at 281-3004

Respectfully

Lisa Rotunno-Hazuka
Consulting Archaeologist

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Armstrong, R.W., J.A. Bier, and S. Chang
1983:2 *Atlas of Hawaii* University of Hawaii Press, Honolulu.

Foote, D., E.L. Hill, S. Nakamura, and F. Stephens
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Appendix B

Preliminary Engineering Report

PRELIMINARY ENGINEERING REPORT

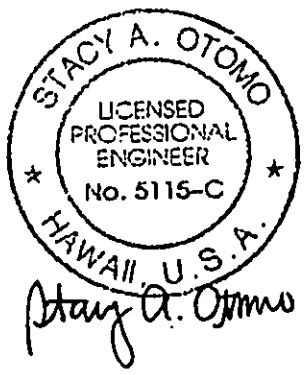
FOR

FINANCE REALTY STORAGE BUILDING

T.M.K.: (2) 4-5-007: 004

Prepared For:

Finance Realty, Ltd.
1164 Bishop Street, Suite 810
Honolulu, Hawaii 96813



Prepared By:

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April 2005

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IV. DRAINAGE

V. SEWER

VI. WATER

VII. ELECTRIC, TELEPHONE, AND CABLE TV

PRELIMINARY ENGINEERING REPORT
FOR
FINANCE REALTY STORAGE BUILDING
Lahaina, Maui, Hawaii

I. INTRODUCTION

The purpose of this report is to provide information on the existing infrastructure which will be servicing the proposed project. It will also evaluate the adequacy of the existing infrastructure and any improvements which may be required for the proposed project.

II. SITE LOCATION AND PROJECT DESCRIPTION

The subject parcel is identified as T.M.K.: (2) 4-5-007: 004 which encompasses an area of approximately 18,638 square feet. The project site is bordered by a residence to the north, Honoapiilani Highway to the east, a commercial building to the south, and Wainee Street to the west.

The proposed project consists of a three story storage building occupying approximately 22,160 square feet.

Associated improvements include grading, paved parking areas, utility connections, and landscaping

III. ROADWAYS

The major roadway servicing the Lahaina area is Honoapiilani Highway. Papalaua Street and Kenui Street link Honoapiilani Highway with Front Street. Wainee Street parallels Honoapiilani Highway and intersects both Papalaua Street and Kenui Street. Access to the project site will be from Wainee Street.

The right-of-way width of Wainee Street fronting the subject property is 44 feet. The existing pavement width is approximately 30 feet with an existing sidewalk fronting the property and unpaved shoulder and an existing curb, gutter and sidewalk on the opposite side of the street. The County will require a road widening lot to achieve the planned right-of-way width of 56 feet. Curb, gutter and sidewalk improvements will also be required per County standards.

Access to the property will be provided by a proposed driveway from Wainee Street.

IV. DRAINAGE

There are no drainage facilities onsite or immediately fronting the parcel. Surface runoff sheet flows across the project site in the east to west direction towards Wainee Street. Surface runoff exits the parcel onto Wainee Street and flows along the existing roadway gutter into the existing drainage system in the surrounding area.

It is estimated that the existing 50-year storm runoff from the project site is 0.53 cfs. After the development of the proposed project, it is estimated that the 50-year storm runoff will be 1.75 cfs, a net increase of only 1.22 cfs.

Surface runoff from the project site will be intercepted by grated catch basins located within the paved parking and conveyed to the proposed onsite subsurface drainage system. The subsurface drainage system will be sized to accommodate the increase in runoff volume from the project site for a 50 year-1 hour storm. There will be no additional runoff from the project site onto Wainee Street. Overflow from the project will continue to drain into the existing drainage system along Wainee Street which outlets makai of Front Street.

V. SEWER

The existing facility is serviced by an 8-inch sewerline on Wainee Street. Wastewater collected from the Lahaina area is transported to the Lahaina Waste Water Treatment Plant, which is located in Honokowai.

According to the Wastewater Reclamation Division, County of Maui, as of December 31, 2004, said treatment plant has ample capacity. The treatment plant was designed to handle 6.7 million gallons a day and 6.14 million gallons have been allocated. There is approximately 5 million gallons of wastewater being processed at the plant daily.

VI. WATER

Domestic water and fire flow for the for the proposed project will be provided by the County's water system. Presently, there is an existing 12-inch waterline along Wainee Street which will service the project.

As part of the building permit process, domestic water and fire flow calculations will be provided to determine the adequacy of the existing water system, in accordance with the rules of the Department of Water Supply.

VII. ELECTRIC, TELEPHONE AND CABLE TV

Existing overhead utility lines are located along Wainee Street, on the opposite side of the project's street frontage. The installation of electrical, telephone and cable TV systems for the project will be coordinated with Maui Electric Company, Verizon Hawaii, and Hawaiian Cablevision.

Appendix C

Preliminary Drainage Report

PRELIMINARY DRAINAGE REPORT

FOR

FINANCE REALTY STORAGE BUILDING
Lahaina, Maui, Hawaii

T.M.K.: (2) 4-5-007: 004

Prepared For:

Finance Realty, Ltd.
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4 Flood Insurance Rate Map

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PRELIMINARY DRAINAGE REPORT
FOR
FINANCE REALTY STORAGE BUILDING
Lahaina, Maui, Hawaii

I. INTRODUCTION

The purpose of this report is to examine both the existing drainage conditions and proposed drainage improvements for the proposed project.

II. SITE LOCATION AND PROJECT DESCRIPTION

The subject parcel is identified as T.M.K.: (2) 4-5-007: 004 which encompasses an area of 18,638 square feet. The project site is bordered by a senior housing to the north, Honoapiilani Highway to the east, a commercial building to the south, and Wainee Street to the west.

The proposed project consists of a three story storage building occupying approximately 22,160 square feet.

Associated improvements include grading, paved parking areas, utility connections, and landscaping.

III. EXISTING TOPOGRAPHY AND SOIL CONDITIONS

The project site is currently undeveloped and is covered with various trees, shrubs and grass. The property generally slopes down in the east to west direction with the elevations on the site ranging from 24 feet at the mauka boundary to 20 feet at the makai boundary, averaging about 1.8%.

According to the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)," prepared by the United States Department of Agriculture Soil Conservation Service, the soil within the project site is classified as Ewa silty clay loam (EaA). On this soil, runoff is very slow and the erosion hazard is no more than slight.

IV. EXISTING DRAINAGE CONDITIONS

It is estimated that the existing 50-year storm runoff from the project site is 0.53 cfs. Presently, onsite runoff sheet flows across the project site in the east to west direction towards Wainee Street. Surface runoff exits the parcel onto Wainee street and flows along the existing roadway gutter into the existing drainage system in the surrounding area.

V. FLOOD AND TSUNAMI ZONE

According to Panel Number 150003 0163 B of the Flood Insurance Rate Map, June 1, 1981, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zone C. Flood Zone C represents areas of minimal flooding.

VI. PROPOSED DRAINAGE PLAN

After the development of the proposed project, it is estimated that the 50-year storm runoff will be 1.75 cfs, a net increase of approximately 1.22 cfs.

Surface runoff from the project site will be intercepted by grated catch basins located within the paved parking and conveyed to the proposed onsite subsurface drainage system. The subsurface drainage system will be sized to accommodate the increase in runoff volume from the project site for a 50 year-1 hour storm. There will be no additional runoff from the project site sheet flowing onto Wainee Street.

VII. HYDROLOGIC CALCULATIONS

The hydrologic calculations are based on the "Drainage Master Plan for the County of Maui," and the "Rainfall Frequency Atlas of the Hawaiian Islands," Technical Paper No. 43, U.S. Department of Commerce, Weather Bureau.

Rational Formula Used: $Q = CIA$

Where Q = rate of flow (cfs)

C = rainfall coefficient

I = rainfall intensity for a duration equal to the time of concentration (in/hr)

A = drainage area (Acres)

See Appendix A for Hydrologic Calculations

VIII. CONCLUSION

The proposed development is expected to generate a 50-year storm runoff of 1.75 cfs, with an increase of 1.22 cfs. Onsite runoff will continue to sheet flow through the project site into the proposed grated catch basins in the paved parking areas and conveyed into the proposed subsurface drainage system. There will no additional surface runoff sheet flowing from the project site onto

Wainee Street. The post-development runoff pattern will remain the same as the pre-development.

Therefore, it is our professional opinion that the proposed development will not have an adverse effect on the adjoining or downstream properties.

IX. REFERENCES

A. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, August, 1972.

B. Erosion and Sediment Control Guide for Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, March, 1981.

C. Rainfall-Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43, U.S. Department of Commerce, Weather Bureau, 1962.

D. Flood Insurance Rate Maps of the County of Maui, June, 1981.

E. Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui, prepared by the Department of Public Works and Waste Management, County of Maui, 1995.

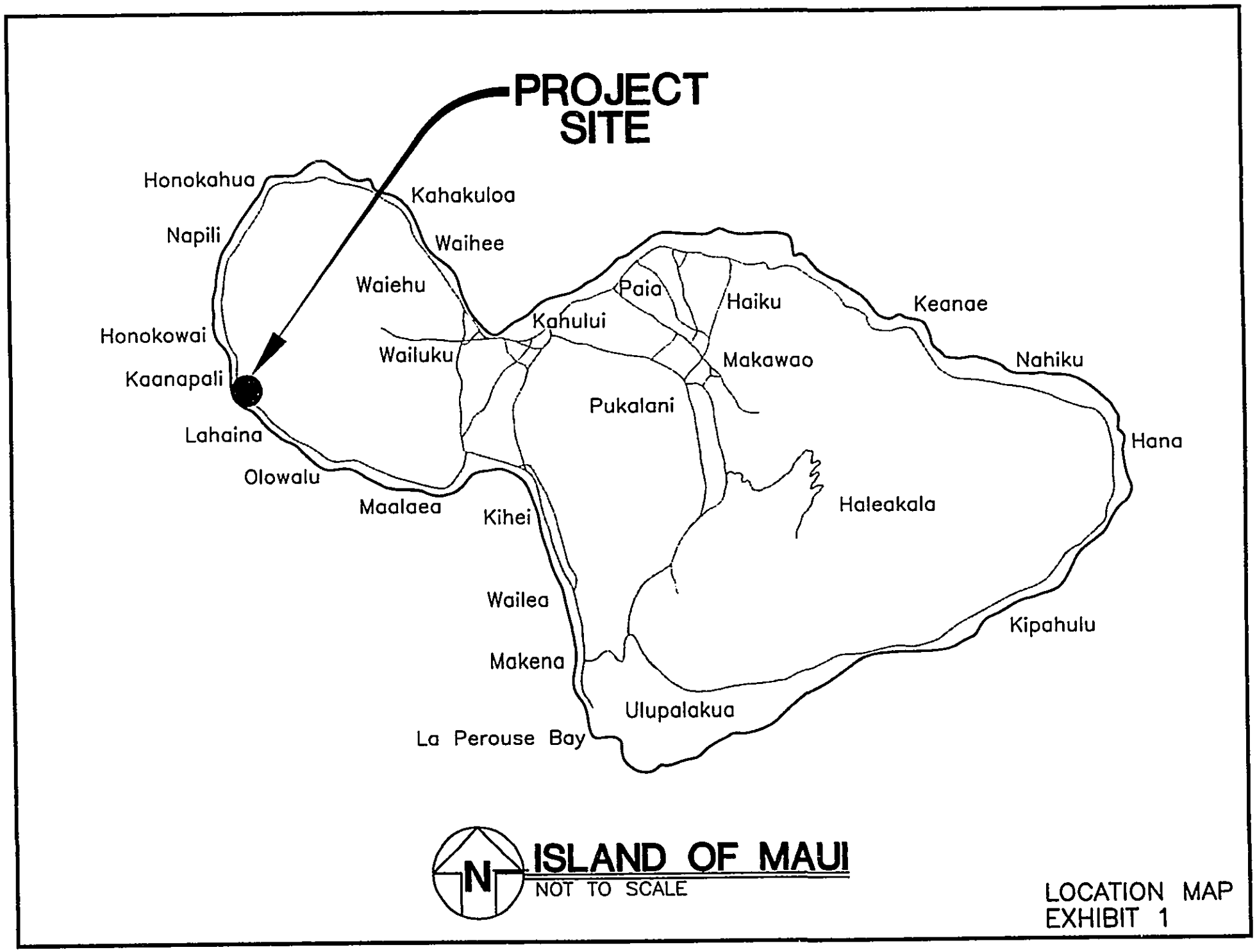
EXHIBITS

1 Location Map

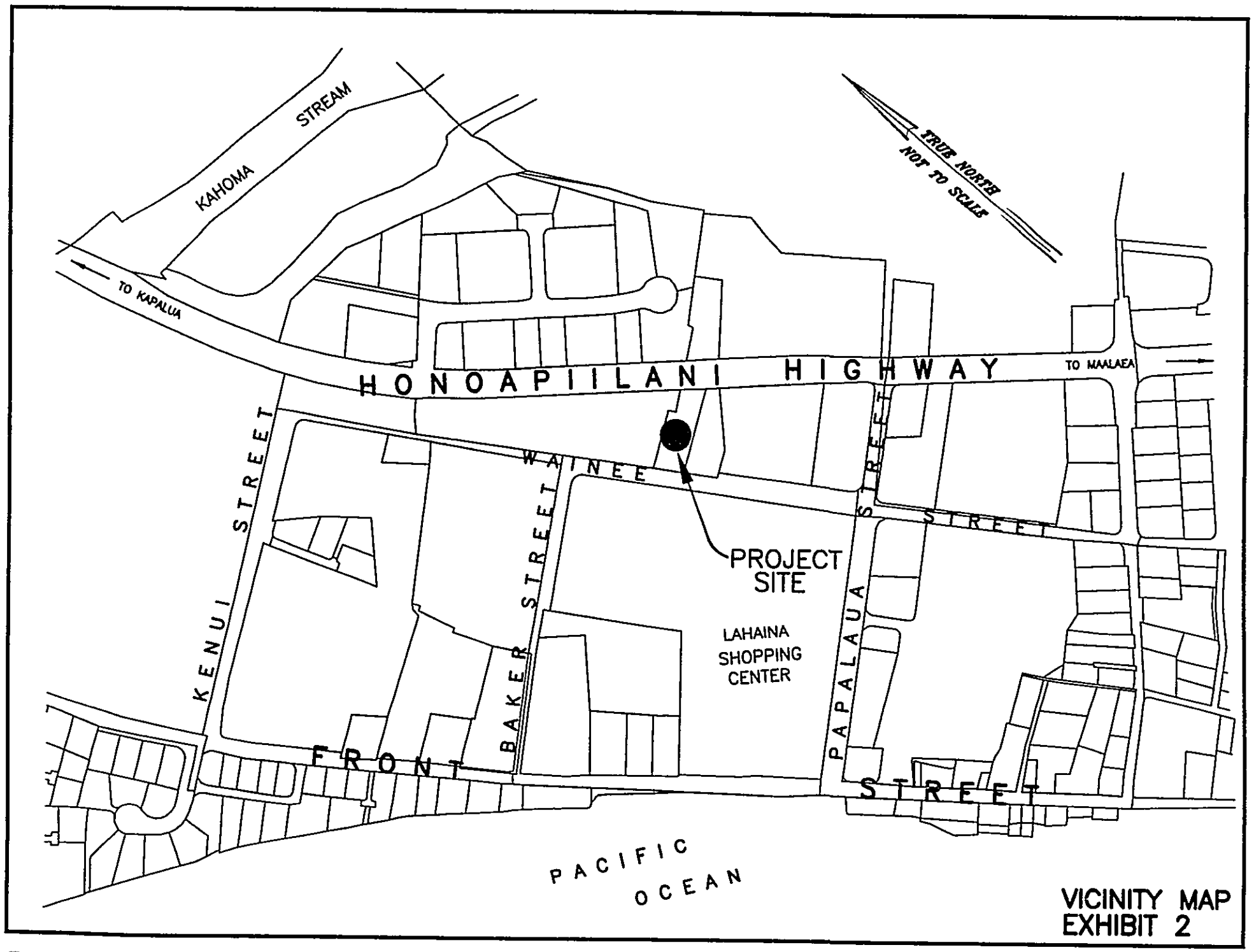
2 Vicinity Map

3 Soil Survey Map

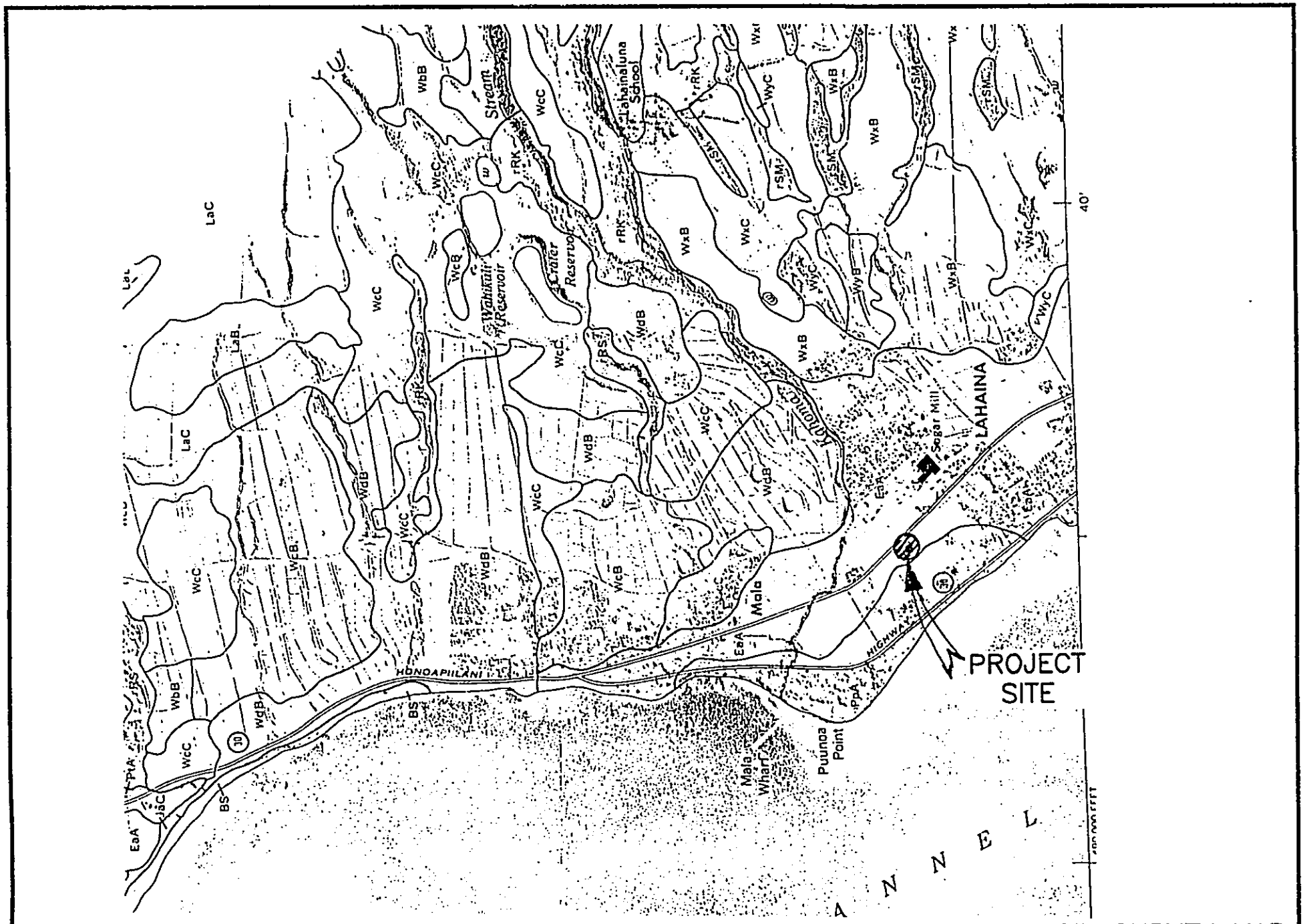
4 Flood Insurance Rate Map



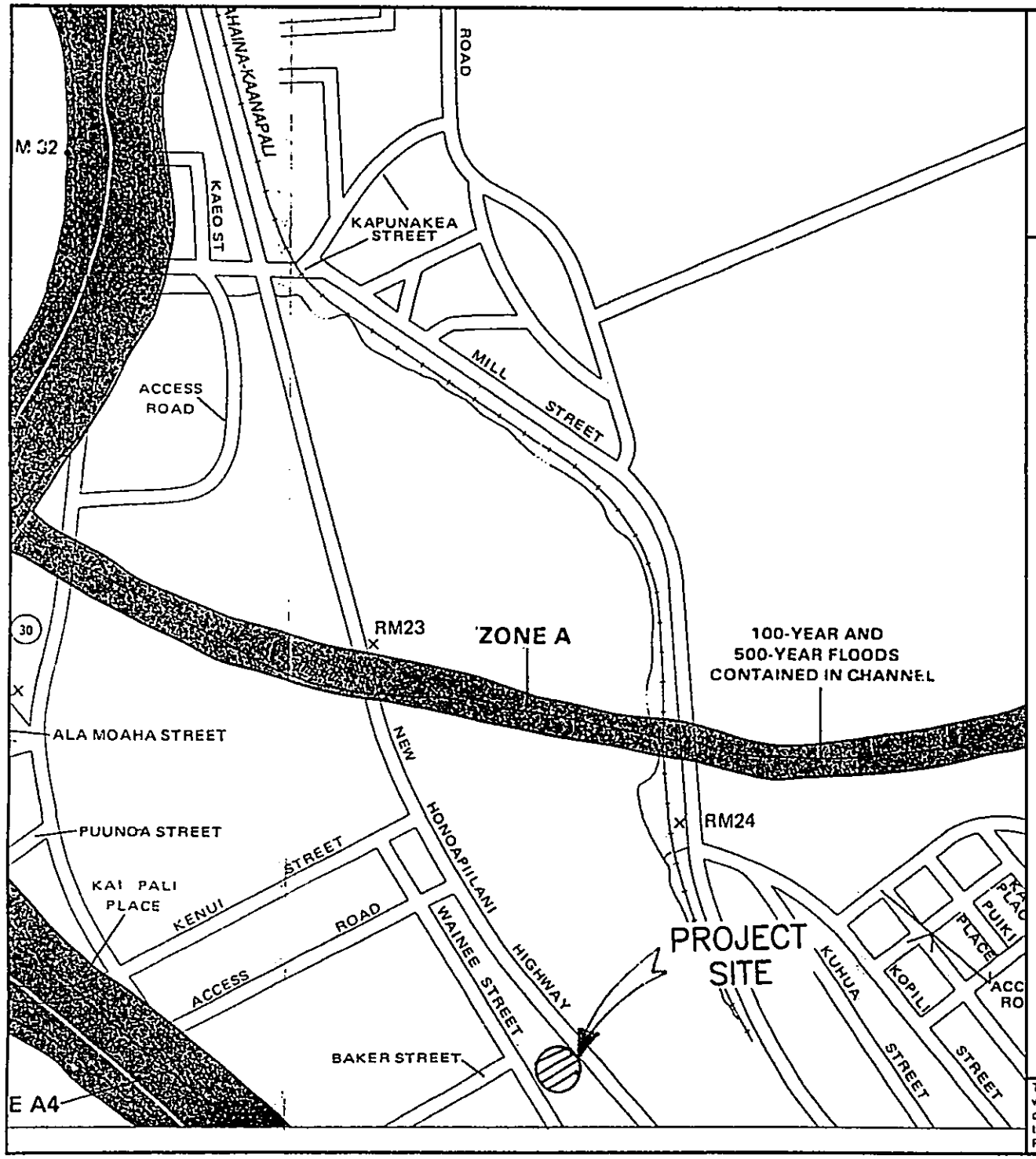
LOCATION MAP
EXHIBIT 1

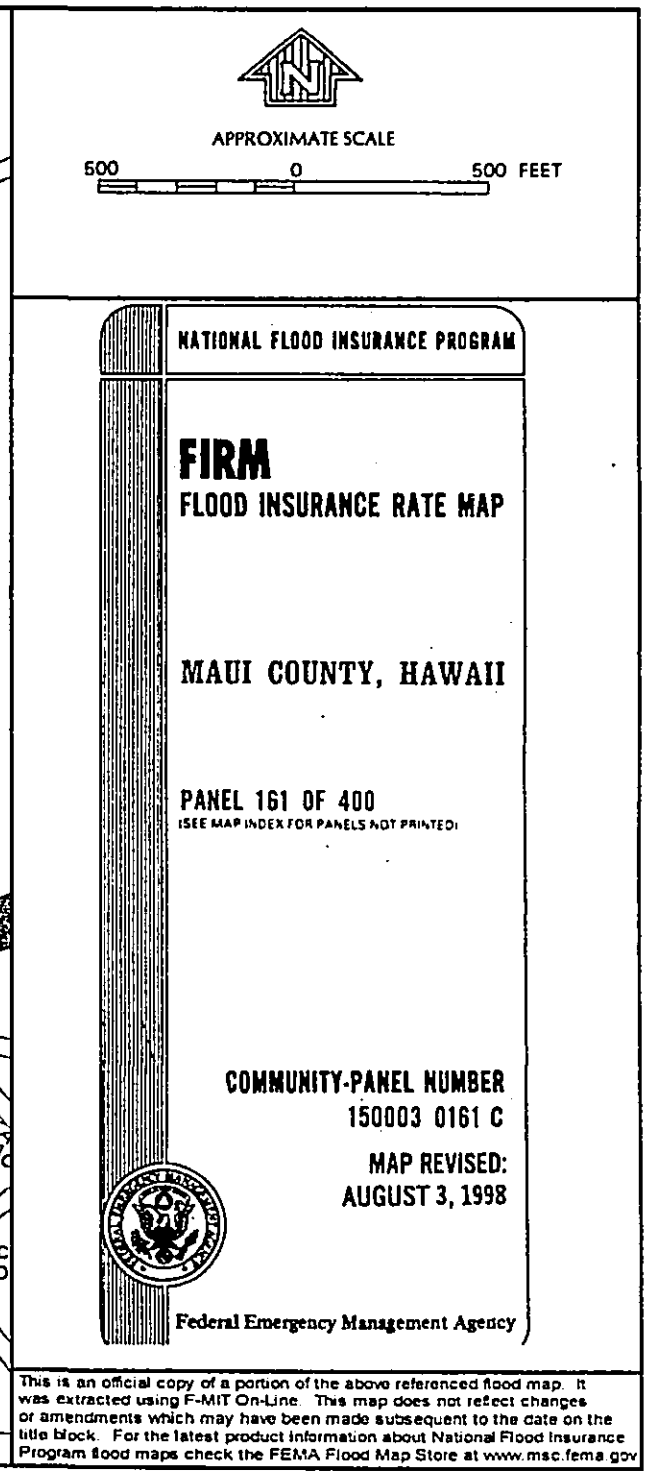


VICINITY MAP
EXHIBIT 2



SOIL SURVEY MAP
EXHIBIT 3





APPENDIX A

HYDROLOGIC CALCULATIONS

Hydrologic Calculations

Purpose: Determine the increase in surface runoff from the development of the proposed project based on a 10-year storm.

A. Determine the Runoff Coefficient (C):

PAVEMENT AREAS:

Infiltration (Negligible)		= 0.20
Relief (Flat)		= 0.00
Vegetal Cover (None)		= 0.07
Development Type (Developed)		= 0.55
	C	= 0.82

ROOF AREAS:

Infiltration (Negligible)		= 0.20
Relief (Steep)		= 0.08
Vegetal Cover (None)		= 0.07
Development Type (Developed)		= 0.55
	C	= 0.90

LANDSCAPED AREAS:

Infiltration (Medium)		= 0.07
Relief (Flat)		= 0.00
Vegetal Cover (High)		= 0.00
Development Type (Open)		= 0.15
	C	= 0.22

EXISTING CONDITION:

Infiltration (Medium)		= 0.07
Relief (Flat)		= 0.00
Vegetal Cover (Poor)		= 0.05
Development Type (Open)		= 0.15
	C	= 0.27

DEVELOPED CONDITIONS:

Pavement Areas = 0.14 Acres

Roof Areas = 0.20 Acres

Landscaped Areas = 0.09 Acres

WEIGHTED C = 0.73

B. Determine the 50-year 1-hour rainfall:

i_{10} = 2.5 inches

Adjust for time of concentration to compute Rainfall Intensity (I):

Existing Condition:

T_c = 15 minutes

I = 4.6 inches/hour

Developed Condition:

T_c = 8 minutes

I = 5.6 inches/hour

C. Drainage Area (A) = 0.43 Acres

D. Compute the 50-year storm runoff volume (Q):

Q = CIA

Existing Conditions:

$$Q = (0.61)(4.9)(1.58)$$

$$= 4.7 \text{ cfs}$$

Developed Conditions:

$$Q = (0.63)(4.9)(1.58)$$

$$= 4.9 \text{ cfs}$$

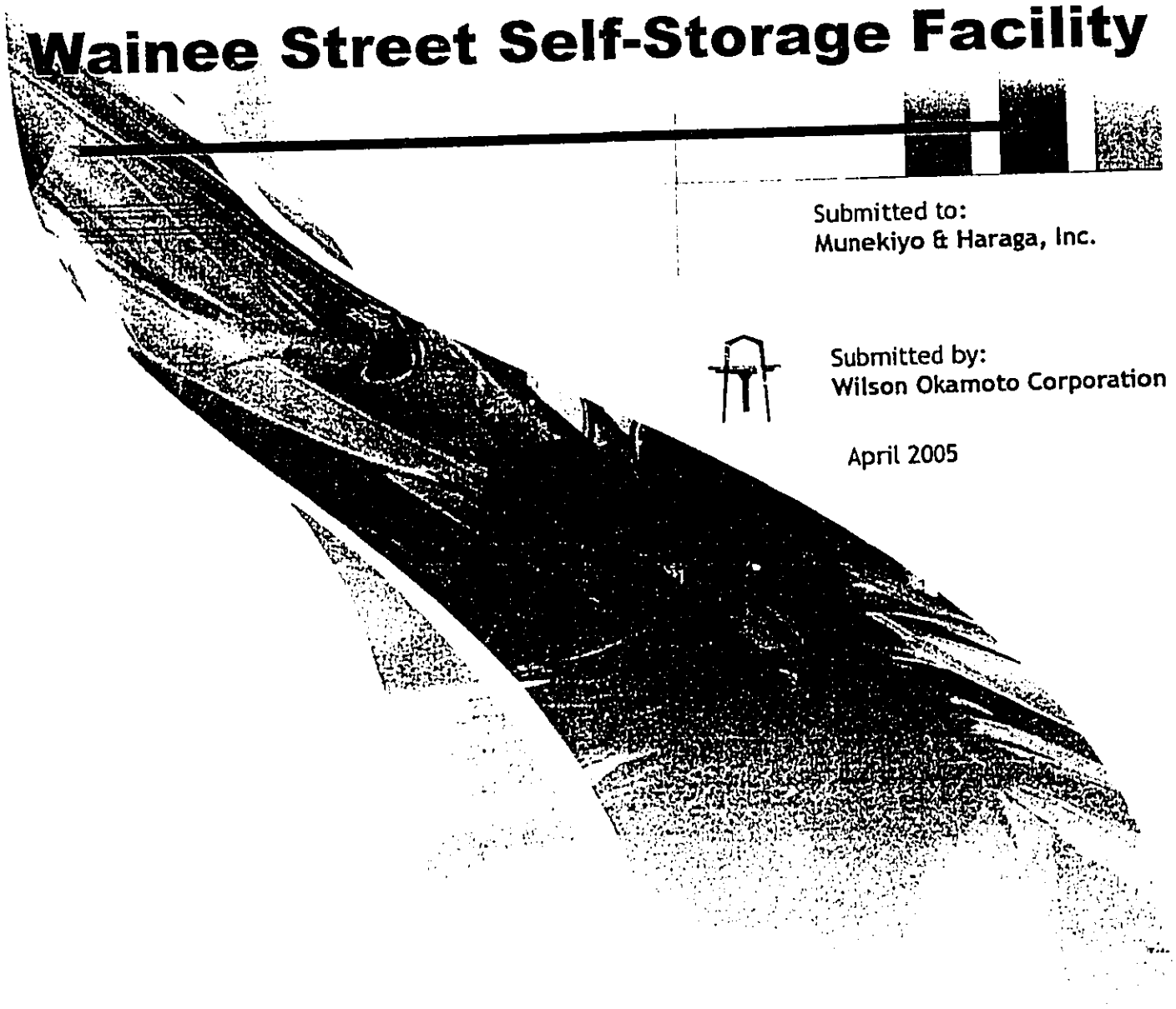
The increase in runoff due to the proposed development is 4.9 - 4.7 = 0.2 cfs.

Appendix D

Traffic Assessment Report

Traffic Assessment Report

Wainee Street Self-Storage Facility



Submitted to:
Munekiyo & Haraga, Inc.

Submitted by:
Wilson Okamoto Corporation

April 2005

TRAFFIC ASSESSMENT REPORT

FOR THE PROPOSED

WAINEE STREET SELF-STORAGE FACILITY

Prepared for:

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Prepared by:

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WOC ref. 7339-01

April 2005

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I. INTRODUCTION

A. Purpose of Study

The purpose of this study is to identify and assess the traffic impacts resulting from the proposed Wainee Street Self-Storage Facility in Lahaina project. The proposed project site will be located within a single block in Lahaina bounded by Kenui Street, Honoapiilani Highway, Papalaua Street, and Wainee Street.

B. Scope of Study

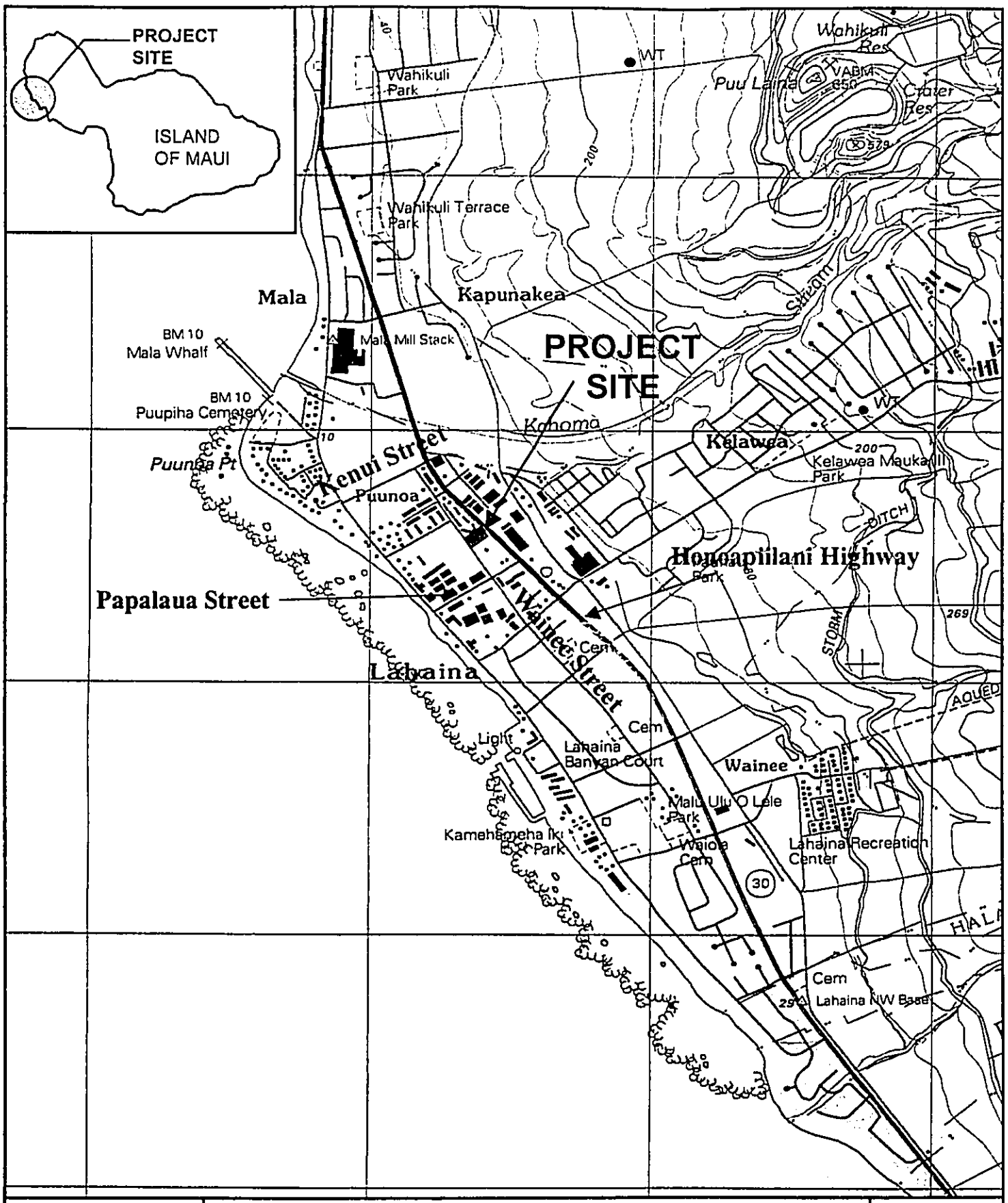
This report presents the findings and conclusions of the traffic study, the scope of which includes:

1. Description of the proposed project.
2. Evaluation of existing roadway and intersection traffic operations in the vicinity.
3. Analysis of future roadway and traffic conditions without the proposed project.
4. Analysis and development of trip generation characteristics for the proposed project.
5. Superimposition of proposed project-generated traffic over future traffic conditions.
6. Identification and analysis of traffic impacts resulting from the proposed project.
7. Formulation of recommendations for improvements, if appropriate, to mitigate traffic impacts resulting from the proposed project.

II. PROJECT DESCRIPTION

A. Location

The project site is located in Lahaina on the island of Maui (see Figure 1). It occupies a portion of the block bounded by Kenui Street to the north, Honoapiilani Highway to the east, Papalaua Street to the south, and Wainee Street to the west. The 22,160 square-foot project site is further identified as Tax Map Key (TMK): 4-5-007:004. Access to the proposed project will be via a driveway off of Wainee Street.



WILSON OKAMOTO CORPORATION ENGINEERS - PLANNERS	WAINEE STREET SELF-STORAGE FACILITY LOCATION MAP AND VICINITY MAP	FIGURE 1

B. Project Characteristics

The proposed Wainee Street Self-Storage Facility will include 22,160 square feet of storage space. A 15-stall on-site parking area will be provided with 1 required accessible parking stall and 2 loading areas. The proposed Wainee Street Self-Storage Facility is expected to be completed and occupied by the start of Year 2007. Figure 2 shows the proposed site plan.

One vehicular access/egress point will serve the project. The driveway connection will be located on Wainee Street, near the southern edge of the project site. The Wainee Street driveway will provide two-way ingress and egress into the parking area of the Wainee Street Self-Storage Facility.

III. EXISTING TRAFFIC CONDITIONS

A. General

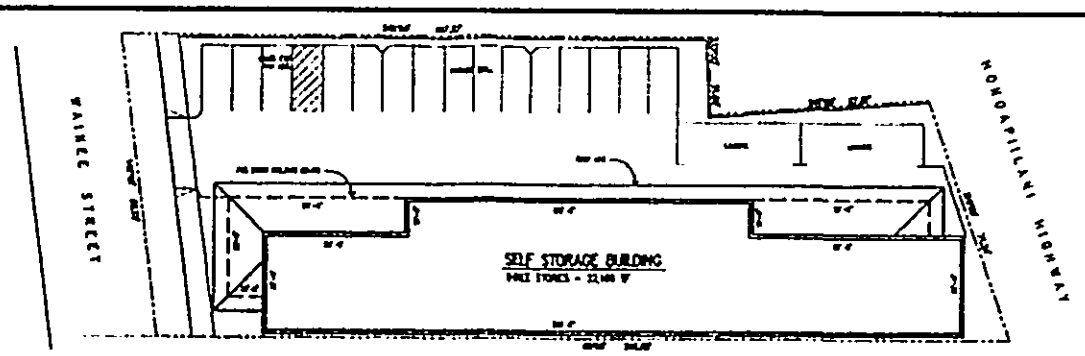
The roadway network in Lahaina town is generally comprised of roadways forming a grid system. Honoapiilani Highway (Route 30) provides regional access to and from other areas of the island.

B. Area Roadway System

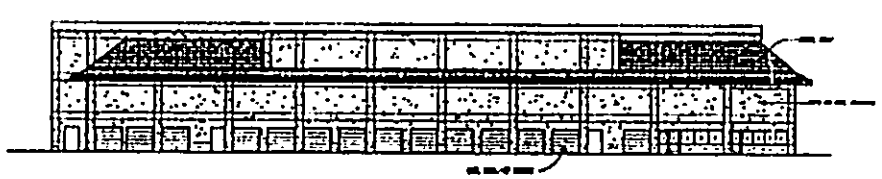
In the vicinity of the project site, Wainee Street is generally a two-lane, two way north-south County of Maui roadway with various parking restrictions on both sides of the roadway during peak traffic periods. Traffic signal systems and turning lanes are provided at major intersections along Wainee Street. At the intersection with Papalaua Street, all approaches include separate left-turn lanes. The traffic signal system at the intersection Wainee Street and Papalaua Street operates on four phases within a 90-second cycle, allowing the protected and permitted movements of left-turns from all approaches.

Papalaua Street is a two-lane, two-way, County of Maui roadway oriented in the east-west directions. Papalaua Street serves as a connector road linking Wainee Street with Honoapiilani Highway with a posted speed limit of 20 mph. Multiple driveways along Papalaua Street serve several commercial uses.

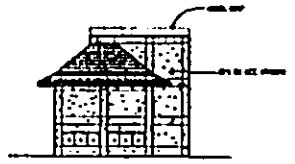
Approximately 1,650 feet north of the Wainee Street and Papalaua Street intersection, Wainee Street intersects with Kenui Street to form a T-intersection.



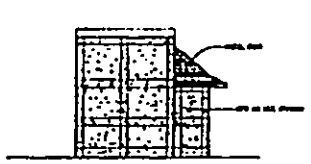
SITE PLAN



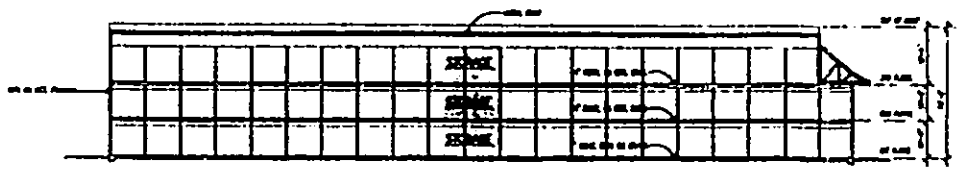
ELEVATION 1



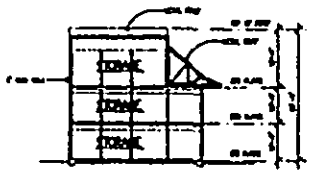
ELEVATION 4



ELEVATION 2



BUILDING SECTION A-A



BUILDING SECTION B-B

PROJECT DATA

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WAINEE STREET SELF-STORAGE FACILITY

SITE PLAN

FIGURE 2

Kenui Street is a two-lane, two-way County of Maui local street. At the intersection of Wainee Street and Kenui Street, the westbound approach of Kenui Street services left-turn and through traffic movements and the eastbound approach services through and right-turn traffic movements. The northbound approach of the intersection is stop-controlled and services left-turn and right-turn traffic movements.

C. Traffic Volumes and Conditions

1. General

a. Field Investigation

A field investigation was conducted on January 18 and 19, 2005 and consisted of manual turning movement count surveys and 24-hour mechanical count surveys along Papalaua Street, west of the intersection with Wainee Street, and along Wainee Street, north of the intersection with Papalaua Street. The manual turning movement count surveys were conducted between the morning peak hours of 6:00 AM and 8:30 AM, and the afternoon peak hours of 3:00 PM and 6:00 PM at the following intersections:

- Wainee Street and Papalaua Street
- Wainee Street and Kenui Street

Appendix A includes the existing traffic count data.

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" representing ideal or free-flow traffic operating conditions and LOS "F" unacceptable or potentially congested traffic operating conditions. The LOS definitions are included in Appendix B.

"Volume-to-Capacity" (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at capacity. A v/c ratio of greater than 1.00 indicates that the traffic demand exceeds the road's carrying capacity.

2. Existing Peak Hour Traffic

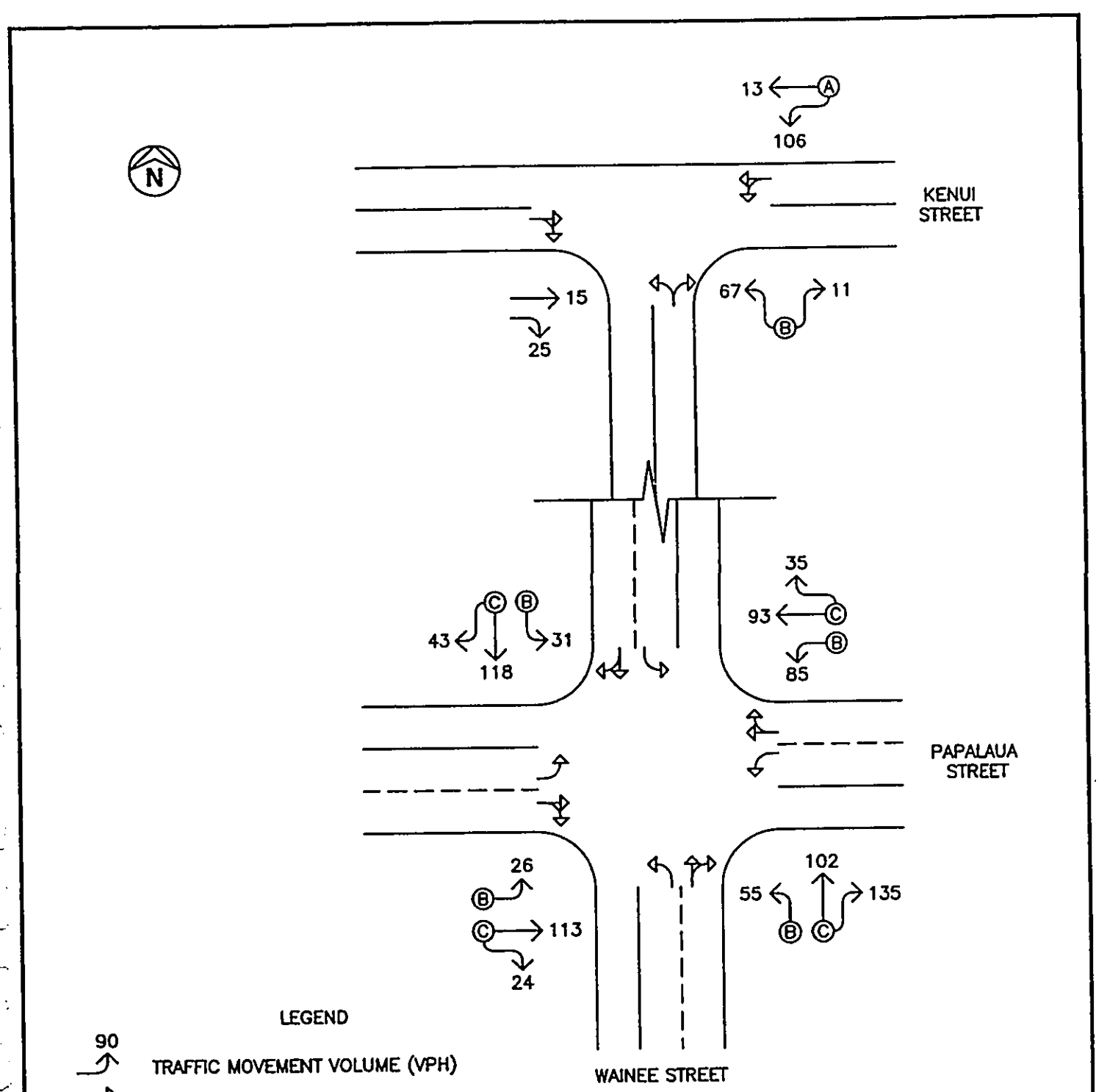
a. General

Figures 3 and 4 show the existing AM and PM peak hour traffic volumes and operating traffic conditions. The AM peak hour of traffic generally occurs between 7:15 AM and 8:15 AM in the vicinity of the proposed project. In the afternoon, the PM peak hour of traffic generally occurs between the hours of 3:00 PM and 4:00 PM. The analysis is based on these peak hour time periods to identify the traffic impacts resulting from the proposed project. LOS calculations are included in Appendix C.

b. Wainee Street and Papalaua Street

North of the intersection of Wainee Street and Papalaua Street, Wainee Street carries 355 vehicles during the AM peak hour of traffic, 163 vehicles traveling northbound and 192 vehicles traveling southbound. During the PM peak hour of traffic, Wainee Street just north of Papalaua Street carries 607 vehicles, 271 vehicles traveling northbound and 336 vehicles traveling southbound. The northbound and southbound left-turn movements of Wainee Street at the intersection of Papalaua Street operate at LOS "B" during both the existing AM and PM peak hours of traffic. The northbound and southbound through and right-turn movements of Wainee Street at the intersection of Papalaua Street operate at LOS "C" during both the existing AM and PM peak hours of traffic.

East of the intersection of Wainee Street and Papalaua Street, Papalaua Street carries 492 vehicles during the AM peak hour of traffic, 213 vehicles traveling westbound and 279 vehicles traveling



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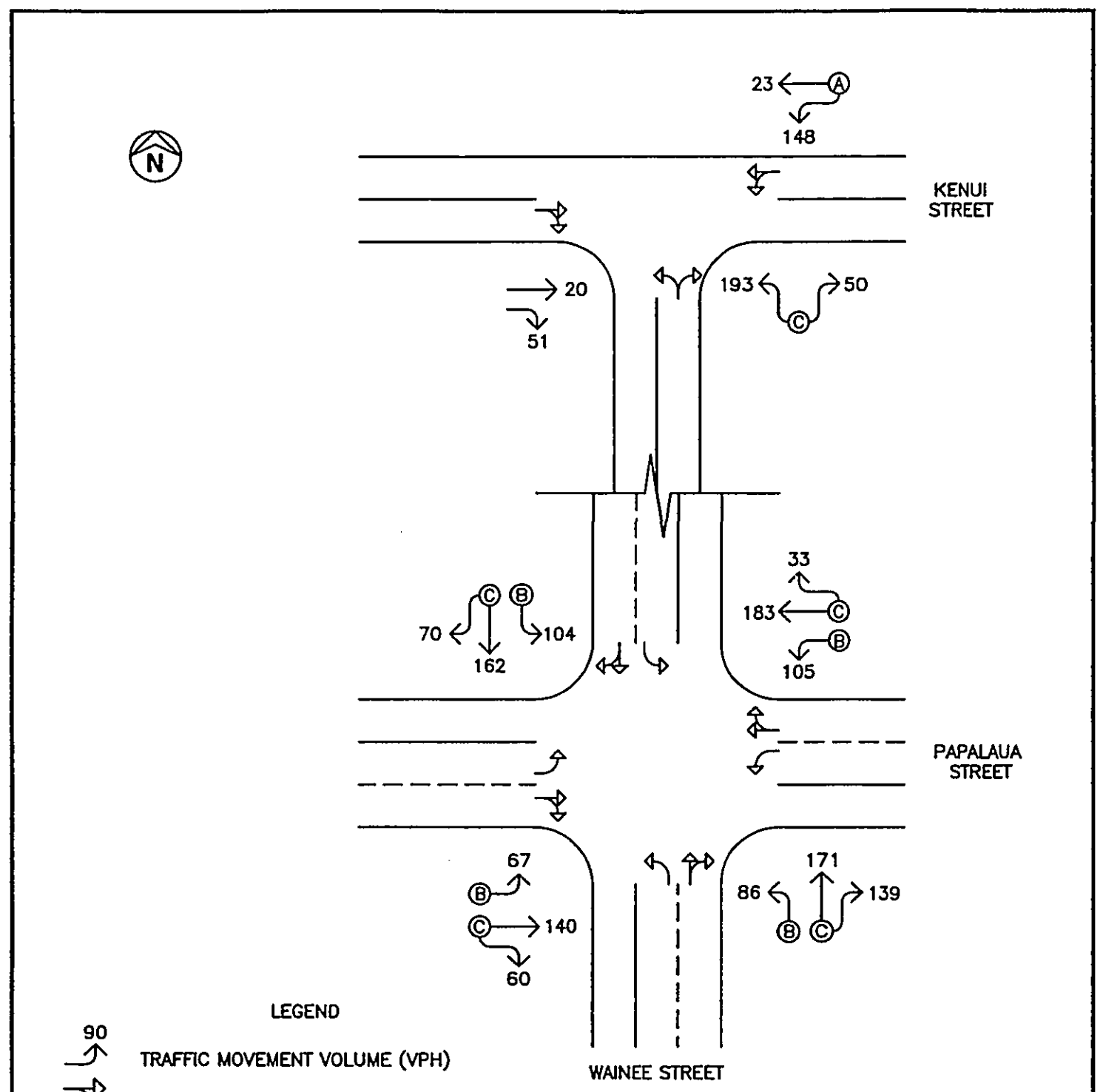
WAINEE STREET SELF-STORAGE FACILITY

EXISTING AM PEAK HOUR OF TRAFFIC

FIGURE 3



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WAINEE STREET SELF-STORAGE FACILITY

EXISTING PM PEAK HOUR OF TRAFFIC

FIGURE 4

eastbound. During the PM peak hour of traffic, Papalaua Street just east of Wainee Street carries 704 vehicles, 321 vehicles traveling westbound and 383 vehicles traveling eastbound. The westbound and eastbound left-turn movements of Papalaua Street at the intersection of Wainee Street operate at LOS "B" during both the existing AM and PM peak hours of traffic. The westbound and eastbound through and right-turn movements of Papalaua Street at the intersection of Wainee Street operate at LOS "C" during both the existing AM and PM peak hours of traffic.

c. Wainee Street and Kenui Street

At the intersection of Wainee Street and Kenui Street, Kenui Street just east of Wainee Street carries 145 vehicles during the AM peak hour of traffic, 119 vehicles traveling westbound and 26 vehicles traveling eastbound. During the PM peak hour of traffic, Kenui Street just east of Wainee Street carries 241 vehicles, 171 vehicles traveling westbound and 70 vehicles traveling eastbound. The westbound left-turn and through movements of Kenui Street at the intersection of Wainee Street operates at LOS "A" during both the existing AM and PM peak hours of traffic.

Wainee Street at this intersection carries 209 vehicles during the AM peak hour of traffic, 78 vehicles traveling northbound and 131 vehicles traveling southbound. During the PM peak hour of traffic, Wainee Street carries 442 vehicles, 243 vehicles traveling northbound and 199 vehicles traveling southbound. The northbound approach of this intersection operates at LOS "B" and LOS "C" during the AM and PM peak hours of traffic, respectively.

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 and procedures developed by the Institute of

Transportation Engineers (ITE) and published in "Trip Generation, 7th Edition," 2003. The ITE trip rates are developed empirically by correlating the trip generation data with various land use characteristics, such as the gross floor area of the project. The project is not expected to generate a significant amount of traffic during the morning and afternoon commuter traffic peak hours. Table 1 summarizes the project site trip generation characteristics applied to the AM and PM peak hours of traffic to measure the impact resulting from the proposed Wainee Street Self-Storage Facility project.

Table 1: Peak Hour Trip Generation

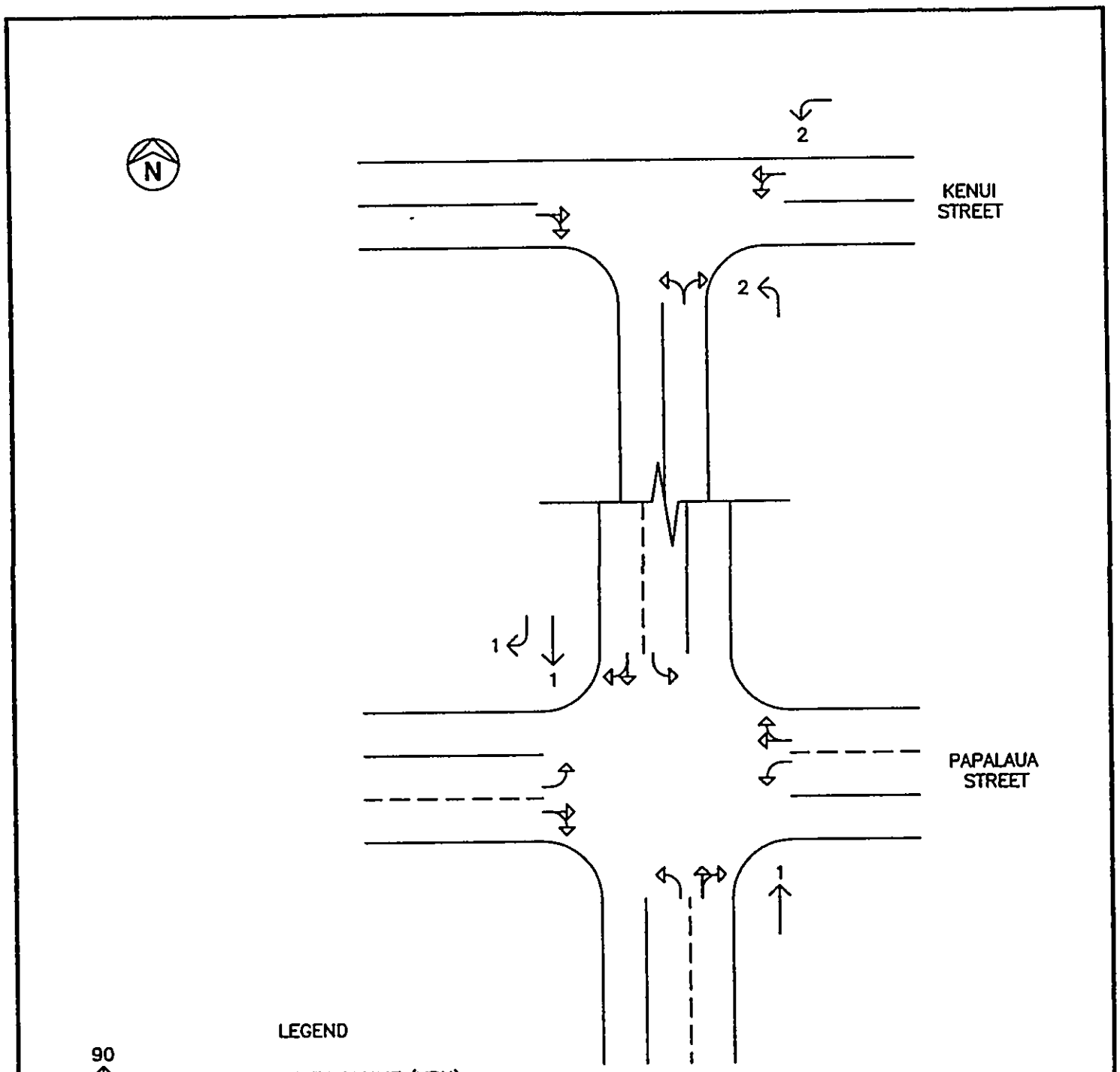
MINI-WAREHOUSE Independent Variable: 22,160 Square Feet		
	PROJECTED TRIP ENDS	
AM PEAK	ENTER	3
	EXIT	4
	TOTAL	7
PM PEAK	ENTER	3
	EXIT	3
	TOTAL	6

2. Trip Distribution

The directional distribution and traffic assignment of site-generated trips were based on the prevailing traffic patterns of Wainee Street. The 7 and 6 trips generated by the proposed project in the morning and afternoon peak hours, respectively, were assumed to represent a net increase in traffic on the area street system. As stated above, access to the proposed project would be via a driveway connection off of Wainee Street. The directional distribution of all site-generated vehicular trips was based on the directional distribution of existing traffic along Wainee Street fronting the proposed project site (southbound and northbound) (See Figures 5 & 6).

B. Through Traffic Forecasting Methodology

The travel forecast is based upon historical traffic count data obtained from the State DOT, Highways Division at a survey station located along Honoapiilani Highway in the project vicinity. The historical data were



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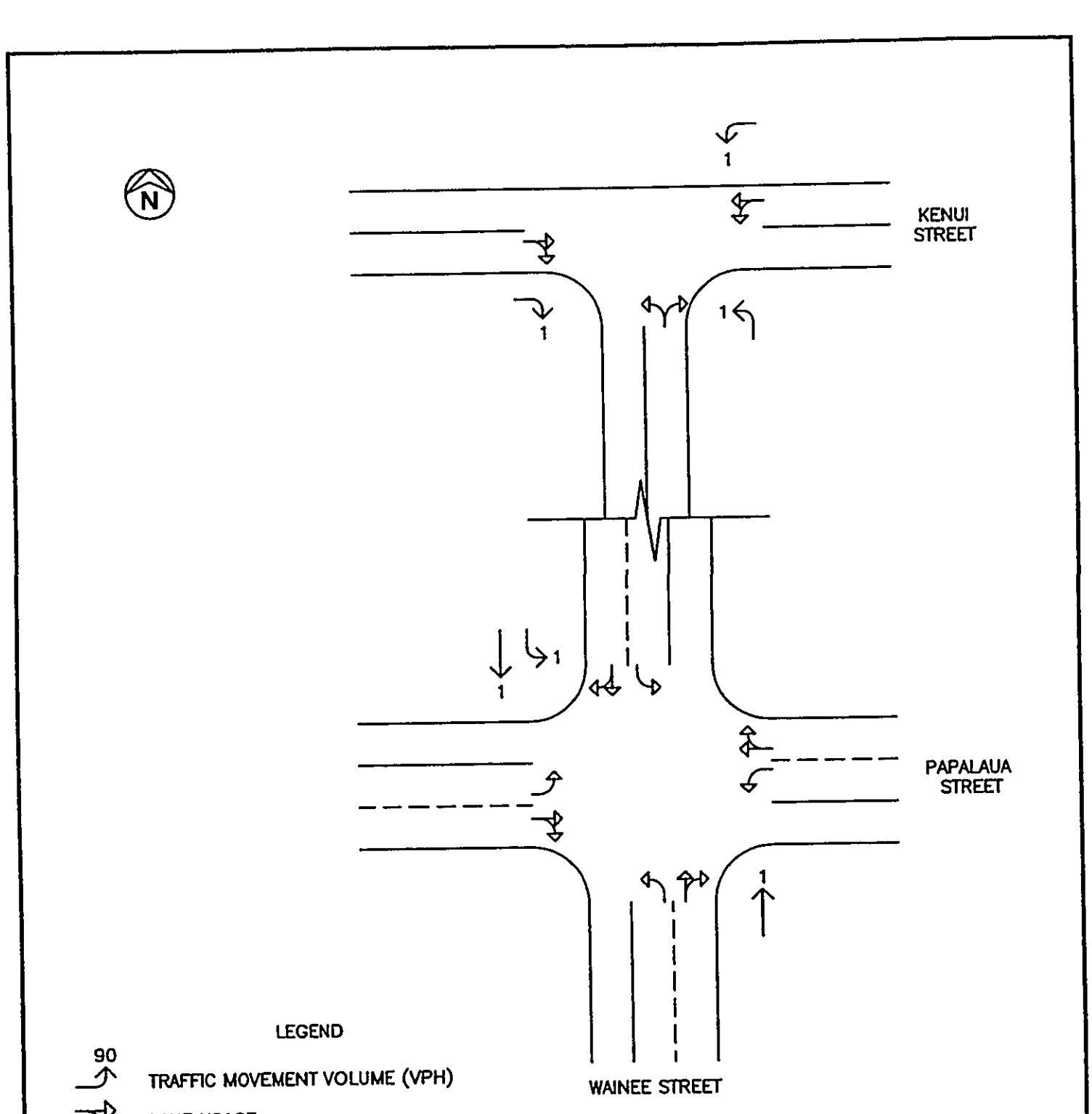
WAINEE STREET SELF-STORAGE FACILITY

DISTRIBUTION OF AM PEAK HOUR SITE-GENERATED TRAFFIC

FIGURE 5



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WAINEE STREET SELF-STORAGE FACILITY

DISTRIBUTION OF PM PEAK HOUR SITE-GENERATED TRAFFIC

FIGURE 6

analyzed by linear regression techniques to obtain an annual traffic growth rate. However, historical trends indicate a net decrease in traffic demands in the project vicinity partly due to the increased availability of roadways serving as alternate routes, effects of tourism, and other factors contributing to the traffic demand. For the purpose of this study, however, a 2% per year growth was conservatively assumed to encompass other developments in the area. A growth factor of 1.040 was applied to the existing traffic movements on Wainee Street and Papalaua Street to achieve the projected Year 2007 traffic demands.

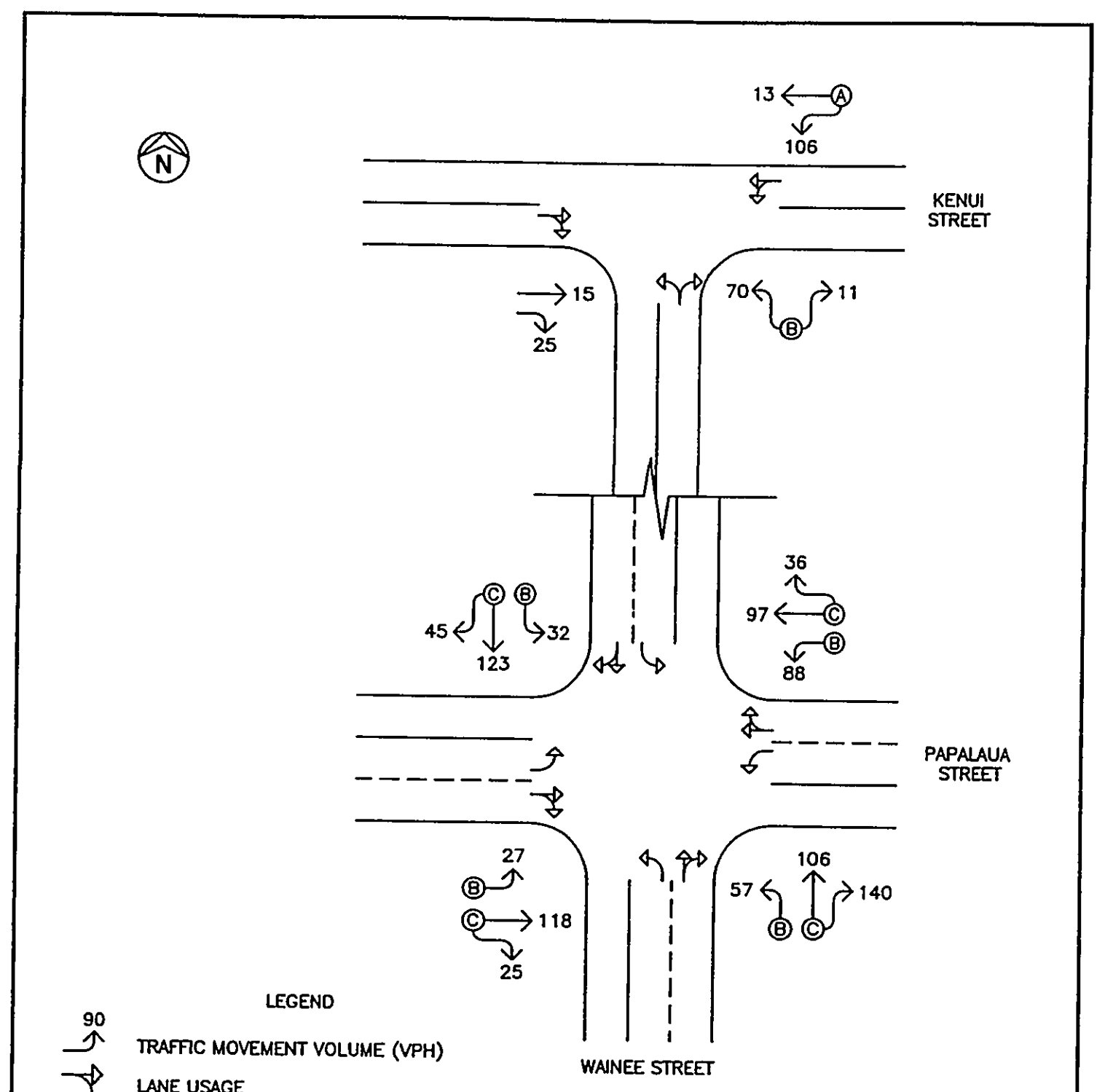
C. Total Traffic Volumes Without Project

Figures 7 and 8 show the projected Year 2007 AM and PM peak hour traffic volumes and operating conditions within the project vicinity without the development of the proposed Wainee Street Self-Storage Facility project. Comparisons of the existing and projected (without project) levels of service are included in Table 2.

Traffic operations under Year 2007 without project conditions are expected to remain similar to existing conditions along Wainee Street in the project vicinity. The left-turn movement of all approaches at the intersection of Wainee Street and Papalaua Street would continue to operate at LOS "B" during both projected peak hours of traffic. All through and right-turn movements at the Wainee Street and Papalaua Street intersection would continue to operate at LOS "C" conditions during the projected AM and PM peak hours of traffic. Similarly, at the intersection of Wainee Street with Kenui Street, all approaches are expected to operate similar to existing conditions with no changes to the operating levels of service during both the projected Year 2007 AM and PM peak hours without the proposed project.

D. Total Traffic Volumes With Project

Figures 9 and 10 show the cumulative AM and PM peak hour traffic conditions resulting from the projected ambient traffic and the development of the proposed Wainee Street Self-Storage Facility project. The cumulative



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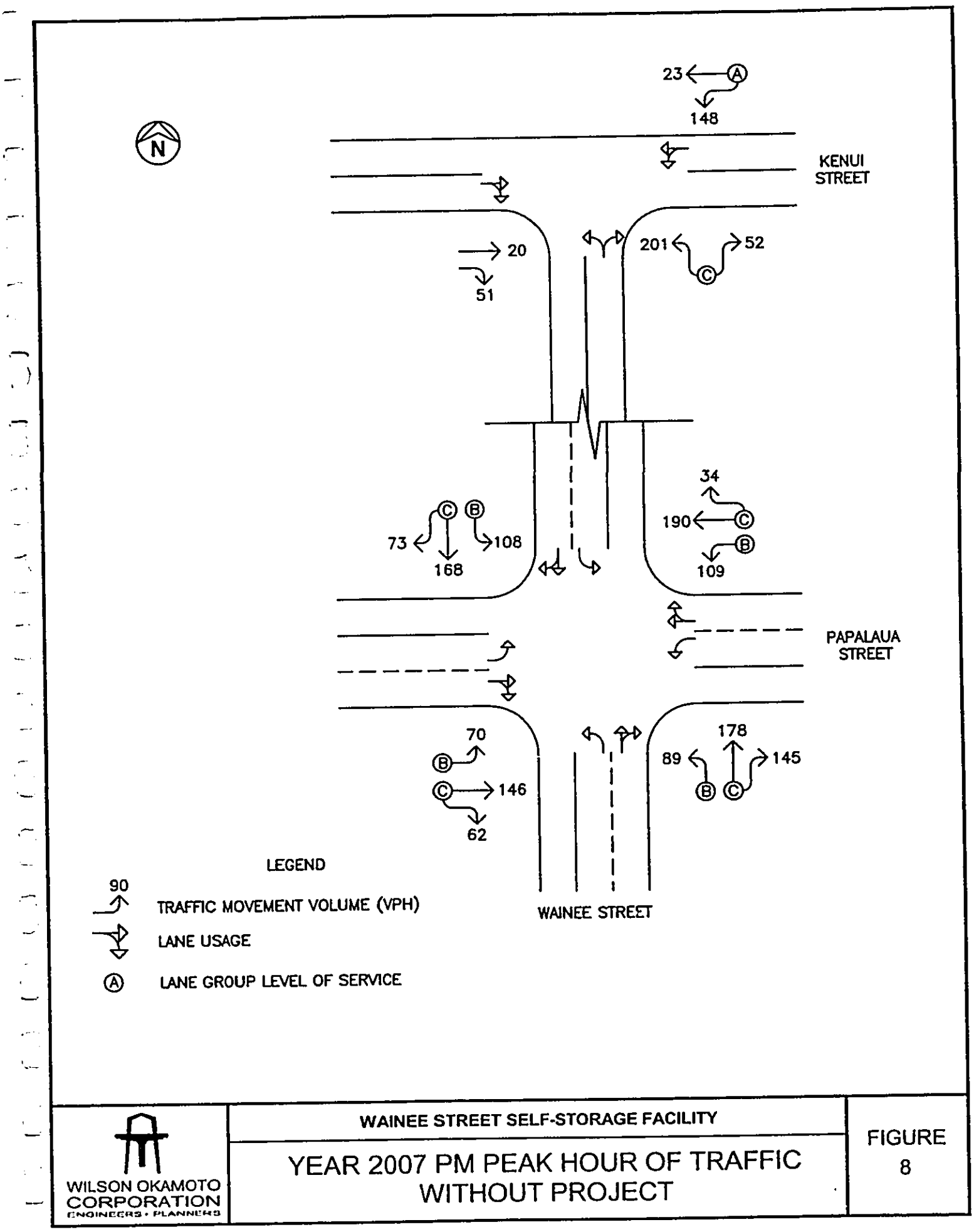
WAINEE STREET SELF-STORAGE FACILITY

YEAR 2007 AM PEAK HOUR OF TRAFFIC WITHOUT PROJECT

FIGURE 7



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WAINEE STREET SELF-STORAGE FACILITY

YEAR 2007 PM PEAK HOUR OF TRAFFIC WITHOUT PROJECT

FIGURE 8

volumes consist of site-generated traffic superimposed over Year 2007 projected traffic demands.

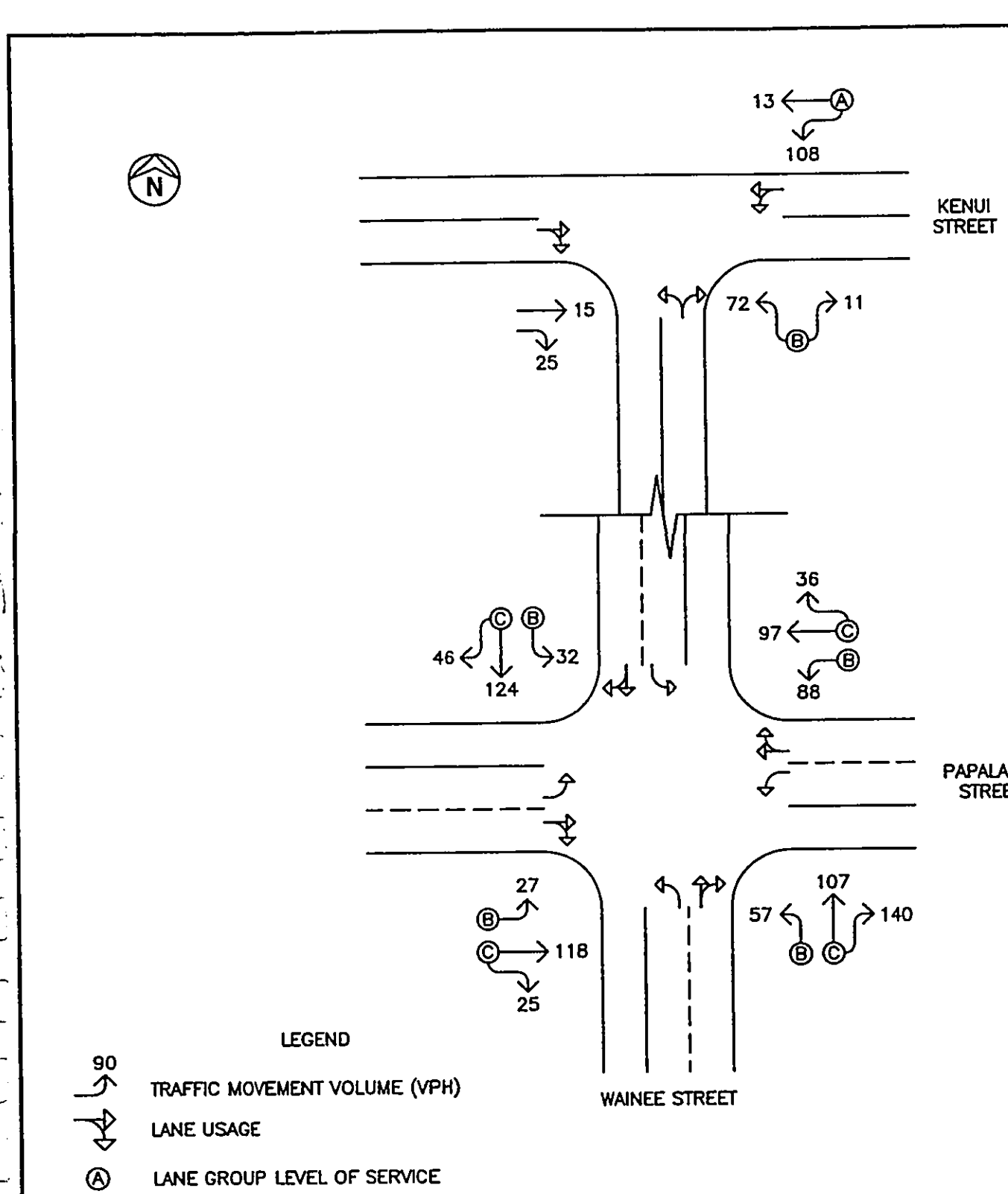
Table 2: Comparison of Existing and Projected (Without Project) Intersection LOS Traffic Operating Conditions

Intersection	Approach/ Movement	AM		PM	
		Existing	Year 2007 w/out Project	Existing	Year 2007 w/out Project
Wainee Street and Papalaua Street	Westbound LT	B	B	B	B
	Westbound TH+RT	C	C	C	C
	Eastbound LT	B	B	B	B
	Eastbound TH+RT	C	C	C	C
	Northbound LT	B	B	B	B
	Northbound TH+RT	C	C	C	C
	Southbound LT	B	B	B	B
	Southbound TH+RT	C	C	C	C
Wainee Street and Kenui Street	Westbound LT+TH	A	A	A	A
	Northbound LT+RT	B	B	C	C

V. TRAFFIC IMPACT ANALYSIS

The Year 2007 cumulative AM and PM peak hour traffic conditions with the proposed new Wainee Street Self-Storage Facility project are summarized in Table 3. The existing and projected Year 2007 operating conditions without the proposed project are provided for comparison purposes.

Within the project vicinity, traffic operations under Year 2007 with project conditions are expected to remain similar to existing as well as Year 2007 without project conditions. The left-turn movement of all approaches at the intersection of Wainee Street and Papalaua Street would continue to operate at LOS "B" during both projected peak hours of traffic. All through and right-turn movements at the Wainee Street and Papalaua Street intersection



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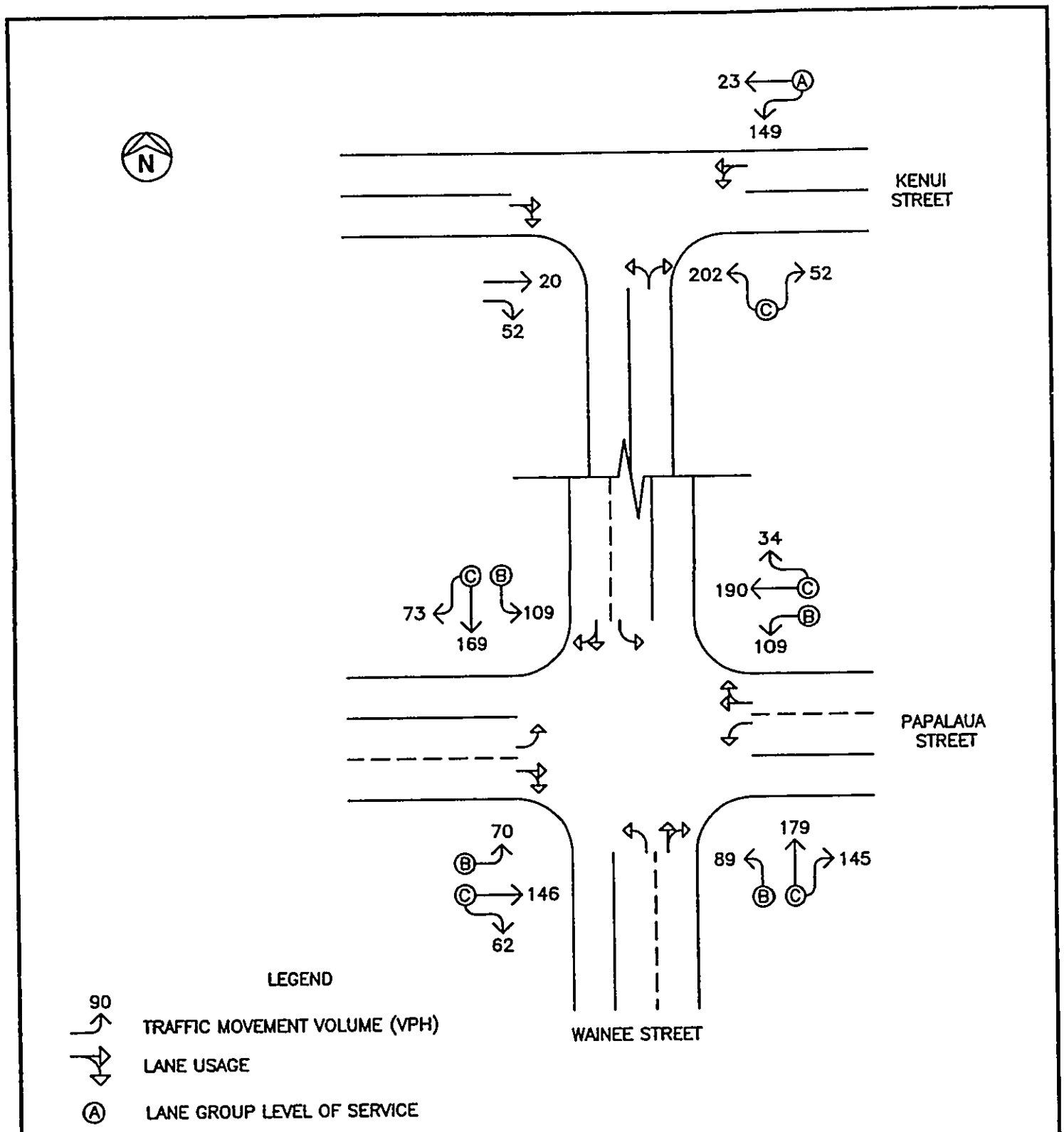
WAINEE STREET SELF-STORAGE FACILITY

YEAR 2007 AM PEAK HOUR OF TRAFFIC WITH PROJECT

FIGURE 9



WILSON OKAMOTO CORPORATION ENGINEERS · PLANNERS	WAINEE STREET SELF-STORAGE FACILITY YEAR 2007 PM PEAK HOUR OF TRAFFIC WITH PROJECT	FIGURE 10

would continue to operate at LOS "C" conditions during the projected AM and PM peak hours of traffic. Similarly, at the intersection of Wainee Street with Kenui Street, all approaches are expected to operate similar to existing conditions with no changes to the operating levels of service during both the projected Year 2007 AM and PM peak hours with the proposed project.

Table 3: Comparison of Existing and Projected (With and Without Project) Intersection LOS Traffic Operating Conditions

Intersection	Approach/ Movement	AM			PM		
		Existing	Year 2007 w/out Project	Year 2007 w/ Project	Existing	Year 2007 w/out Project	Year 2007 w/ Project
Wainee Street and Papalaua Street	Westbound LT	B	B	B	B	B	B
	Westbound TH+RT	C	C	C	C	C	C
	Eastbound LT	B	B	B	B	B	B
	Eastbound TH+RT	C	C	C	C	C	C
	Northbound LT	B	B	B	B	B	B
	Northbound TH+RT	C	C	C	C	C	C
	Southbound LT	B	B	B	B	B	B
	Southbound TH+RT	C	C	C	C	C	C
Wainee Street and Kenui Street	Westbound LT+TH	A	A	A	A	A	A
	Northbound LT+RT	B	B	B	C	C	C

VI. RECOMMENDATIONS

Based on the analysis of traffic impacts attributable to the proposed Wainee Street Self-Storage Facility project, the following recommendations should be incorporated in the project design:

1. Maintain sufficient sight distances for motorists to safely enter and exit the project access driveway. This improvement should be addressed in the design phase of the project.

2. Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project property. Avoid vehicle-reversing maneuvers onto County streets. This improvement should be addressed in the design phase of the project.

3. Provide sufficient driveway width and storage to accommodate safe vehicle ingress and egress. If a gated entry is provided at the driveway, ensure a minimum of one vehicle-storage (25 feet) is provided from the road travelway in the driveway design.

4. Provide sufficient turning radii at driveway for vehicular ingress and egress clearances. This improvement should be addressed in the design phase of the project.

VIII. CONCLUSION

The proposed Wainee Street Self-Storage Facility is not expected to impact traffic operations in the vicinity. The recommendations provided above are presented to ensure they are incorporated in the project design to maintain the quality of the project. Notably, the assumptions used in this traffic study were conservative regarding growth in external or ambient traffic unrelated to the proposed project. The historical trends show a relatively steady decline in traffic volumes in the vicinity. Even with the conservative projected peak generation volumes superimposed over projected AM and PM peak periods, the operating levels of service for all traffic movements at the study intersection would remain within the same range as existing conditions. The project would generate very minimal traffic representing 1.8% and 1.0% of the total traffic on Wainee Street during the AM and PM peak hours of traffic, respectively.

APPENDIX A

EXISTING TRAFFIC COUNT DATA

Wilson Okamoto Corporation
1907 S. Beretania St. Suite 400
Honolulu, HI 96826

Counter: D1-0525/D1-0528
Counted By: KT/GMT
Weather: Clear

File Name : papwaia
Site Code : 00000001
Start Date : 1/19/2005
Page No : 1

Groups Printed- Unshifted

	Wainee Street Southbound				Papalaua Street Westbound				Wainee Street Northbound				Papalaua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	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		1.0	1.0	1.0		
06:00 AM	2	0	3	5	4	12	1	17	2	2	7	11	2	8	3	13	46
06:15 AM	4	1	4	9	4	9	2	15	3	4	6	13	1	9	1	11	48
06:30 AM	4	5	6	15	6	13	0	19	7	1	12	20	0	16	3	19	73
06:45 AM	5	11	5	21	6	19	0	25	11	10	17	38	2	11	3	16	100
Total	15	17	18	50	20	53	3	76	23	17	42	82	5	44	10	59	267
07:00 AM	5	29	4	38	10	24	8	42	10	9	16	35	2	16	3	21	136
07:15 AM	4	37	14	55	31	23	9	63	11	13	33	57	2	23	4	29	204
07:30 AM	9	40	11	60	24	23	6	53	16	26	42	84	8	27	6	41	238
07:45 AM	7	17	10	34	18	24	8	50	13	39	28	80	12	40	7	59	223
Total	25	123	39	187	83	94	31	208	50	87	119	256	24	106	20	150	801
08:00 AM	11	24	8	43	12	23	12	47	15	24	32	71	4	23	7	34	195
08:15 AM	8	25	10	43	13	37	10	60	11	20	21	52	4	19	9	32	187
Grand Total	59	189	75	323	128	207	56	391	99	148	214	461	37	192	46	275	1450
Apprch %	18.3	58.5	23.2		32.7	52.9	14.3		21.5	32.1	46.4		13.5	69.8	16.7		
Total %	4.1	13.0	5.2	22.3	8.8	14.3	3.9	27.0	6.8	10.2	14.8	31.8	2.6	13.2	3.2	19.0	

	Wainee Street Southbound				Papalaua Street Westbound				Wainee Street Northbound				Papalaua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	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																	
Intersection	07:15 AM																
Volume	31	118	43	192	85	93	35	213	55	102	135	292	26	113	24	163	860
Percent	16.1	61.5	22.4		39.9	43.7	16.4		18.8	34.9	46.2		16.0	69.3	14.7		
07:30 Volume	9	40	11	60	24	23	6	53	16	26	42	84	8	27	6	41	238
Peak Factor																	0.903
High Int.	07:30 AM				07:15 AM				07:30 AM				07:45 AM				
Volume	9	40	11	60	31	23	9	63	16	26	42	84	12	40	7	59	
Peak Factor				0.800				0.845				0.869				0.691	

Wilson Okamoto Corporation
1907 S. Beretania St. Suite 400
Honolulu, HI 96826

Counter: D1-0525/D1-0528
Counted By: KT/GMT
Weather: Slightly Rainy

File Name : papwaip
Site Code : 00000001
Start Date : 1/18/2005
Page No : 1

Groups Printed- Unshifted

	Wainee Street Southbound				Papalaua Street Westbound				Wainee Street Northbound				Papalaua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	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		1.0	1.0	1.0		
03:00 PM	29	31	15	75	25	44	7	76	31	43	31	105	15	36	14	65	321
03:15 PM	21	49	15	85	23	43	13	79	24	50	34	108	18	40	14	72	344
03:30 PM	31	35	28	94	25	32	4	61	16	45	33	94	18	32	14	64	313
03:45 PM	23	47	12	82	32	64	9	105	15	33	41	89	16	32	18	66	342
Total	104	162	70	336	105	183	33	321	86	171	139	396	67	140	60	267	1320
04:00 PM	22	53	14	89	21	42	11	74	28	50	28	106	13	29	7	49	318
04:15 PM	13	53	6	72	39	44	10	93	24	55	33	112	13	26	12	51	328
04:30 PM	14	36	8	58	35	39	10	84	21	50	29	100	11	30	17	58	300
04:45 PM	14	46	7	67	20	33	12	65	18	52	37	107	7	34	16	57	296
Total	63	188	35	286	115	158	43	316	91	207	127	425	44	119	52	215	1242
05:00 PM	15	51	23	89	24	40	15	79	28	47	38	113	9	24	11	44	325
05:15 PM	20	27	10	57	22	34	6	62	11	35	33	79	7	31	12	50	248
05:30 PM	20	22	10	52	18	40	8	66	12	31	27	70	7	16	16	39	227
05:45 PM	14	23	11	48	16	35	9	60	8	27	25	60	6	40	12	58	226
Total	69	123	54	246	80	149	38	267	59	140	123	322	29	111	51	191	1026
Grand Total	236	473	159	868	300	490	114	904	236	518	389	1143	140	370	163	673	3588
Apprch %	27.2	54.5	18.3		33.2	54.2	12.6		20.6	45.3	34.0		20.8	55.0	24.2		
Total %	6.6	13.2	4.4	24.2	8.4	13.7	3.2	25.2	6.6	14.4	10.8	31.9	3.9	10.3	4.5	18.8	

	Wainee Street Southbound				Papalaua Street Westbound				Wainee Street Northbound				Papalaua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	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	03:00 PM																
Volume	104	162	70	336	105	183	33	321	86	171	139	396	67	140	60	267	1320
Percent	31.0	48.2	20.8		32.7	57.0	10.3		21.7	43.2	35.1		25.1	52.4	22.5		
03:15 Volume	21	49	15	85	23	43	13	79	24	50	34	108	18	40	14	72	344
Peak Factor																	0.959
High Int.	03:30 PM				03:45 PM				03:15 PM				03:15 PM				
Volume	31	35	28	94	32	64	9	105	24	50	34	108	18	40	14	72	
Peak Factor				0.894				0.764				0.917				0.927	

Wilson Okamoto Corporation
1907 S. Beretania St. Suite 400
Honolulu, HI 96826

Counter: D1-0526
Counted By: TO
Weather: Clear

File Name : waikena
Site Code : 00000002
Start Date : 1/19/2005
Page No : 1

Groups Printed- Unshifted

		Kenui Street Westbound				Wainee Street Northbound				Kenui Street Eastbound				
Start Time	App. Total	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		
06:00 AM	0	3	0	0	3	3	0	0	3	0	0	1	1	7
06:15 AM	0	3	2	0	5	6	0	0	6	0	1	0	1	12
06:30 AM	0	3	2	0	5	0	0	0	0	0	4	3	7	12
06:45 AM	0	14	0	0	14	7	0	1	8	0	2	3	5	27
Total	0	23	4	0	27	16	0	1	17	0	7	7	14	58
07:00 AM	0	18	3	0	21	8	0	3	11	0	3	5	8	40
07:15 AM	0	29	4	0	33	9	0	2	11	0	2	10	12	56
07:30 AM	0	38	3	0	41	14	0	5	19	0	4	5	9	69
07:45 AM	0	23	3	0	26	23	0	4	27	0	5	4	9	62
Total	0	108	13	0	121	54	0	14	68	0	14	24	38	227
08:00 AM	0	16	3	0	19	21	0	0	21	0	4	6	10	50
08:15 AM	0	18	1	0	19	13	0	2	15	0	2	12	14	48
Grand Total	0	165	21	0	186	104	0	17	121	0	27	49	76	383
Apprch %		88.7	11.3	0.0		86.0	0.0	14.0		0.0	35.5	64.5		
Total %	0.0	43.1	5.5	0.0	48.6	27.2	0.0	4.4	31.6	0.0	7.0	12.8	19.8	

		Kenui Street Westbound				Wainee Street Northbound				Kenui Street Eastbound				
Start Time	App. Total	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														
Intersection	07:15 AM													
Volume	0	106	13	0	119	67	0	11	78	0	15	25	40	237
Percent		89.1	10.9	0.0		85.9	0.0	14.1		0.0	37.5	62.5		
07:30 Volume	0	38	3	0	41	14	0	5	19	0	4	5	9	69
Peak Factor														0.859
High Int.	5:45:00 AM	07:30 AM				07:45 AM				07:15 AM				
Volume	0	38	3	0	41	23	0	4	27	0	2	10	12	
Peak Factor					0.726				0.722				0.833	

Wilson Okamoto Corporation
1907 S. Beretania St. Suite 400
Honolulu, HI 96826

Counter: D1-0526
Counted By: TO
Weather: Slighty Rainy

File Name : waikenp
Site Code : 00000002
Start Date : 1/18/2005
Page No : 1

Groups Printed- Unshifted

		Kenui Street Westbound				Wainee Street Northbound				Kenui Street Eastbound				
Start Time	App. Total	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	33	6	0	39	55	0	16	71	0	6	10	16	126
03:15 PM	0	42	7	0	49	48	0	10	58	0	4	20	24	131
03:30 PM	0	36	8	0	44	43	0	13	56	0	6	10	16	116
03:45 PM	0	37	2	0	39	47	0	11	58	0	4	11	15	112
Total	0	148	23	0	171	193	0	50	243	0	20	51	71	485
04:00 PM	0	36	6	0	42	54	0	14	68	0	6	14	20	130
04:15 PM	0	45	4	0	49	45	0	9	54	0	7	10	17	120
04:30 PM	0	29	3	0	32	54	0	7	61	0	6	12	18	111
04:45 PM	0	29	1	0	30	49	0	7	56	0	4	20	24	110
Total	0	139	14	0	153	202	0	37	239	0	23	56	79	471
05:00 PM	0	31	7	0	38	51	0	6	57	0	6	11	17	112
05:15 PM	0	21	3	0	24	30	0	5	35	0	2	8	10	69
05:30 PM	0	14	7	0	21	37	0	1	38	0	8	7	15	74
05:45 PM	0	18	5	0	23	37	0	9	46	0	2	13	15	84
Total	0	84	22	0	106	155	0	21	176	0	18	39	57	339
Grand Total	0	371	59	0	430	550	0	108	658	0	61	146	207	1295
Apprch %		86.3	13.7	0.0		83.6	0.0	16.4		0.0	29.5	70.5		
Total %	0.0	28.6	4.6	0.0	33.2	42.5	0.0	8.3	50.8	0.0	4.7	11.3	16.0	

		Kenui Street Westbound				Wainee Street Northbound				Kenui Street Eastbound				
Start Time	App. Total	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	03:15 PM													
Volume	0	151	23	0	174	192	0	48	240	0	20	55	75	489
Percent		86.8	13.2	0.0		80.0	0.0	20.0		0.0	26.7	73.3		
03:15 Volume	0	42	7	0	49	48	0	10	58	0	4	20	24	131
Peak Factor														0.933
High Int.	2:45:00 PM	03:15 PM				04:00 PM				03:15 PM				
Volume	0	42	7	0	49	54	0	14	68	0	4	20	24	
Peak Factor					0.888				0.882				0.781	

Wilson Okamoto Corporation
1907 S. Beretania St, 4th Flr
Honolulu, HI 96826

Title1 : Waincc Street
Title2 : Slightly Rainy
Title3 : 0065A-3326

Site: 2
Date: 1/18/2005

Interval	NB			SB			Combined			Day: Tuesday
Begin	AM	PM		AM	PM		AM	PM		
12:00	•	•	82	•	•	64	•	•	146	
12:15	•	•		•	•		•	•		
12:30	•	•		•	•		•	•		
12:45	•	82		•	64		•	146		
01:00	•	74	328	•	102	419	•	176	747	
01:15	•	94		•	110		•	204		
01:30	•	74		•	83		•	157		
01:45	•	86		•	124		•	210		
02:00	•	81	329	•	126	435	•	207	764	
02:15	•	84		•	110		•	194		
02:30	•	81		•	112		•	193		
02:45	•	83		•	87		•	170		
03:00	•	68	249	•	124	428	•	153	578	
03:15	•	61		•	124		•	135		
03:30	•	54		•	96		•	154		
03:45	•	66		•	84		•	136		
04:00	•	53	210	•	95	307	•	153	576	
04:15	•	45		•	85		•	134		
04:30	•	52		•	65		•	150		
04:45	•	60		•	62		•	139		
05:00	•	40	161	•	70	251	•	161	581	
05:15	•	34		•	62		•	156		
05:30	•	45		•	65		•	139		
05:45	•	42		•	54		•	125		
06:00	•	46	161	•	56	197	•	122	427	
06:15	•	35		•	56		•	118		
06:30	•	38		•	47		•	92		
06:45	•	42		•	38		•	95		
07:00	•	57	199	•	63	225	•	76	304	
07:15	•	40		•	53		•	92		
07:30	•	59		•	52		•	70		
07:45	•	43		•	57		•	66		
08:00	•	34	145	•	36	116	•	42	156	
08:15	•	44		•	26		•	46		
08:30	•	35		•	28		•	35		
08:45	•	32		•	26		•	33		
09:00	•	40	128	•	38	100	•	23	86	
09:15	•	38		•	22		•	19		
09:30	•	32		•	24		•	27		
09:45	•	18		•	16		•	17		
10:00	•	20	50	•	24	57	•	10	66	
10:15	•	8		•	14		•	17		
10:30	•	11		•	9		•	25		
10:45	•	11		•	10		•	14		
11:00	•	8	24	•	6	24	•	7	39	
11:15	•	6		•	8		•	11		
11:30	•	6		•	3		•	14		
11:45	•	4		•	7		•	7		
Totals	0	2,066		0	2,623		0	4,470		
Split%	•	44.1		•	55.9		•			

Day Totals	2,066	2,623	4,470
Day Splits	44.1	55.9	

Peak Hour	•	01:15		•	01:45		•	01:45
Volume	•	335		•	472		•	804
Factor	•	0.89		•	0.94		•	0.96

Wilson Okamoto Corporation
1907 S. Beretania St, 4th Flr
Honolulu, HI 96826

Title1 : Wainee Street
Title2 : Slightly Rainy
Title3 : 0065A-3326

Site: 2
Date: 1/19/2005

Interval Begin	NB AM	NB	NB PM	SB AM	SB	SB PM	Combined AM	Combined	Combined PM
12:00	4	44	•	7	24	•	11	68	•
12:15	5		•	5		•	10		•
12:30	15		•	4		•	19		•
12:45	20		•	8		•	28		•
01:00	4	8	•	2	10	•	6	18	•
01:15	0		•	4		•	4		•
01:30	1		•	2		•	3		•
01:45	3		•	2		•	5		•
02:00	2	6	•	2	3	•	4	9	•
02:15	3		•	0		•	3		•
02:30	1		•	0		•	1		•
02:45	0		•	1		•	1		•
03:00	0	3	•	1	4	•	2	8	•
03:15	0		•	1		•	1		•
03:30	1		•	2		•	3		•
03:45	2		•	0		•	2		•
04:00	3	17	•	2	26	•	5	43	•
04:15	4		•	5		•	9		•
04:30	2		•	9		•	11		•
04:45	8		•	10		•	18		•
05:00	12	63	•	11	54	•	23	117	•
05:15	13		•	12		•	25		•
05:30	16		•	14		•	30		•
05:45	22		•	17		•	39		•
06:00	20	136	•	29	149	•	49	285	•
06:15	30		•	43		•	73		•
06:30	39		•	32		•	71		•
06:45	47		•	45		•	92		•
07:00	58	187	•	42	193	•	100	380	•
07:15	38		•	50		•	88		•
07:30	43		•	57		•	100		•
07:45	48		•	44		•	92		•
08:00	42	233	•	60	225	•	102	458	•
08:15	62		•	49		•	111		•
08:30	58		•	54		•	112		•
08:45	71		•	62		•	133		•
09:00	42	97	•	62	113	•	104	210	•
09:15	55		•	51		•	106		•
09:30	0		•	•		•	•		•
09:45	•		•	•		•	•		•
10:00	•		•	•		•	•		•
10:15	•		•	•		•	•		•
10:30	•		•	•		•	•		•
10:45	•		•	•		•	•		•
11:00	•		•	•		•	•		•
11:15	•		•	•		•	•		•
11:30	•		•	•		•	•		•
11:45	•		•	•		•	•		•
Totals	794		0	801		0	1,596		0
Split%	49.8		•	50.2		•			
Day Totals		794			801			1,596	
Day Splits		49.8			50.2				
Peak Hour	08:00		•	08:00		•	08:15		•
Volume	233		•	225		•	460		•
Factor	0.82		•	0.91		•	0.86		•

Day: Wednesday

Wilson Okamoto Corporation
1907 S. Beretania St, 4th Flr
Honolulu, HI 96826

Title1 : Papalaua Street
Title2 : Slightly Rainy
Title3 : 0065A-3327

Site: 1
Date: 1/18/2005

Interval	WB		EB		Combined		Day: Tuesday
Begin	AM	PM	AM	PM	AM	PM	
12:00	•	•	•	•	•	•	
12:15	•	•	•	•	•	•	
12:30	•	•	•	•	•	•	
12:45	•	•	•	•	•	•	
01:00	•	• 254	•	• 248	•	• 502	
01:15	•	80	•	48	•	128	
01:30	•	70	•	102	•	172	
01:45	•	104	•	98	•	202	
02:00	•	78 343	•	140 534	•	218 877	
02:15	•	100	•	132	•	232	
02:30	•	90	•	124	•	214	
02:45	•	75	•	138	•	213	
03:00	•	88 346	•	144 542	•	232 888	
03:15	•	95	•	155	•	250	
03:30	•	85	•	115	•	200	
03:45	•	78	•	128	•	206	
04:00	•	104 426	•	133 558	•	237 984	
04:15	•	100	•	143	•	243	
04:30	•	114	•	152	•	266	
04:45	•	108	•	130	•	238	
05:00	•	95 251	•	141 429	•	236 680	
05:15	•	58	•	84	•	142	
05:30	•	46	•	113	•	159	
05:45	•	52	•	91	•	143	
06:00	•	62 231	•	63 308	•	125 539	
06:15	•	60	•	86	•	146	
06:30	•	59	•	76	•	135	
06:45	•	50	•	83	•	133	
07:00	•	30 131	•	70 227	•	100 358	
07:15	•	39	•	56	•	95	
07:30	•	29	•	61	•	90	
07:45	•	33	•	40	•	73	
08:00	•	42 178	•	59 219	•	101 397	
08:15	•	42	•	46	•	88	
08:30	•	46	•	52	•	98	
08:45	•	48	•	62	•	110	
09:00	•	26 95	•	46 141	•	72 236	
09:15	•	25	•	23	•	48	
09:30	•	20	•	34	•	54	
09:45	•	24	•	38	•	62	
10:00	•	23 58	•	27 74	•	50 132	
10:15	•	14	•	30	•	44	
10:30	•	12	•	12	•	24	
10:45	•	9	•	5	•	14	
11:00	•	10 38	•	34 66	•	44 104	
11:15	•	10	•	18	•	28	
11:30	•	12	•	6	•	18	
11:45	•	6	•	8	•	14	
Totals	0	2,351	0	3,346	0	5,697	
Split%	•	41.3	•	58.7			

Day Totals	2,351	3,346	5,697
Day Splits	41.3	58.7	

Peak Hour	•	04:00	•	04:00	•	04:00
Volume	•	426	•	558	•	984
Factor	•	0.93	•	0.92	•	0.92

Wilson Okamoto Corporation
1907 S. Beretania St, 4th Flr
Honolulu, HI 96826

Title1 : Papalaua Street
Title2 : Slightly Rainy
Title3 : 0065A-3327

Site: 1
Date: 1/19/2005

Day: Wednesday

Interval	WB			EB			Combined		
Begin	AM		PM	AM		PM	AM		PM
12:00	5	18		2	27		7	45	
12:15	6			11			17		
12:30	4			6			10		
12:45	3			8			11		
01:00	6	23		5	16		11	39	
01:15	8			0			8		
01:30	3			6			9		
01:45	6			5			11		
02:00	0	10		2	8		2	18	
02:15	4			2			6		
02:30	2			4			6		
02:45	4			0			4		
03:00	0	2		1	1		1	3	
03:15	2			0			2		
03:30	0			0			0		
03:45	0			0			0		
04:00	2	10		2	7		4	17	
04:15	2			0			2		
04:30	4			3			7		
04:45	2			2			4		
05:00	8	22		0	19		8	41	
05:15	3			5			8		
05:30	8			7			15		
05:45	3			7			10		
06:00	8	52		8	35		16	87	
06:15	8			6			14		
06:30	16			3			19		
06:45	20			18			38		
07:00	36	211		21	182		57	393	
07:15	57			35			92		
07:30	74			40			114		
07:45	44			86			130		
08:00	42	216		60	203		102	419	
08:15	52			54			106		
08:30	52			52			104		
08:45	70			37			107		
09:00	54	200		48	205		102	405	
09:15	46			48			94		
09:30	42			45			87		
09:45	58			64			122		
10:00	62	62		60	60		122	122	
10:15									
10:30									
10:45									
11:00									
11:15									
11:30									
11:45									
Totals	826		0	763		0	1,589		0
Split%	52.0			48.0					

Day Totals	826	763	1,589
Day Splits	52.0	48.0	

Peak Hour	08:15	07:45	07:45
Volume	228	252	442
Factor	0.81	0.73	0.85

Data File: Papalaua

Printed : 1/20/2005 Page: 2

APPENDIX B

LEVEL OF SERVICE DEFINITIONS

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	≤10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤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.

"Highway Capacity Manual," Transportation Research Board, 2000

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.

"Highway Capacity Manual," Transportation Research Board, 2000

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

Level of Service	Average Control Delay (Sec/Veh)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

"Highway Capacity Manual," Transportation Research Board, 2000

APPENDIX C

CAPACITY ANALYSIS CALCULATIONS
EXISTING PEAK HOUR TRAFFIC ANALYSIS

HCS2000: Signalized Intersections Release 4.1d

Analyst: GMT
Agency:
Date: 1/21/2005
Period: AM Peak
Project ID:
E/W St: Papalaua Street

Inter.:
Area Type: All other areas
Jurisd:
Year : Existing

N/S St: Wainee Street

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	26	113	24	85	93	35	55	102	135	31	118	43
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			5			7			27			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			Thru		A		
Right		A			Right		A		
Peds					Peds				
WB Left	A	A			SB Left	A	A		
Thru		A			Thru		A		
Right		A			Right		A		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	32.0				8.0	32.0		
Yellow	0.0	4.0				0.0	4.0		
All Red	0.0	1.0				0.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	529	1770	0.07	0.44	14.4	B		
TR	648	1822	0.30	0.36	21.1	C	20.0+	C
Westbound								
L	487	1770	0.21	0.44	15.2	B		
TR	639	1798	0.22	0.36	20.5	C	18.3	B
Northbound								
L	490	1770	0.13	0.44	14.8	B		
TR	611	1719	0.39	0.36	22.2	C	20.6	C
Southbound								
L	447	1770	0.09	0.44	14.7	B		
TR	640	1801	0.30	0.36	21.1	C	20.0+	C

Intersection Delay = 19.8 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1d

Analyst: GMT
Agency:
Date: 1/21/2005
Period: PM Peak
Project ID:
E/W St: Papalaua Street

Inter.:
Area Type: All other areas
Jurisd:
Year : Existing

N/S St: Wainee Street

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	67	140	60	105	183	33	86	171	139	104	162	70
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			12			7			28			14

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				Thru		A		
Right		A				Right		A		
Peds						Peds				
WB Left	A	A			SB	Left	A	A		
Thru		A				Thru		A		
Right		A				Right		A		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	32.0					8.0	32.0		
Yellow	0.0	4.0					0.0	4.0		
All Red	0.0	1.0					0.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	420	1770	0.17	0.44	15.3	B		
TR	637	1791	0.32	0.36	21.4	C	19.8	B
Westbound								
L	478	1770	0.29	0.44	15.7	B		
TR	650	1828	0.42	0.36	22.4	C	20.2	C
Northbound								
L	444	1770	0.21	0.44	15.4	B		
TR	623	1753	0.49	0.36	23.3	C	21.4	C
Southbound								
L	395	1770	0.30	0.44	16.2	B		
TR	637	1791	0.38	0.36	22.0	C	20.1	C

Intersection Delay = 20.5 (sec/veh) Intersection LOS = C

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: GMT
Agency/Co.:
Date Performed: 1/21/2005
Analysis Time Period: AM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing
Project ID:
East/West Street: Kenui Street
North/South Street: Wainee Street
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		15	25	106	13	
Peak-Hour Factor, PHF		0.83	0.83	0.73	0.73	
Hourly Flow Rate, HFR		18	30	145	17	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1 0		0 1		
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	67		11			
Peak Hour Factor, PHF	0.72		0.72			
Hourly Flow Rate, HFR	93		15			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		145		108				
C(m) (vph)		1559		633				
v/c		0.09		0.17				
95% queue length		0.31		0.62				
Control Delay		7.5		11.9				
LOS		A		B				
Approach Delay				11.9				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: GMT
Agency/Co.:
Date Performed: 1/21/2005
Analysis Time Period: PM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Existing
Project ID:
East/West Street: Kenui Street
North/South Street: Wainee Street
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		20	51	148	23	
Peak-Hour Factor, PHF		0.74	0.74	0.87	0.87	
Hourly Flow Rate, HFR		27	68	170	26	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes		1 0		0 1		
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	193		50			
Peak Hour Factor, PHF	0.86		0.86			
Hourly Flow Rate, HFR	224		58			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		170		282				
C(m) (vph)		1499		575				
v/c		0.11		0.49				
95% queue length		0.38		2.83				
Control Delay		7.7		17.2				
LOS		A		C				
Approach Delay				17.2				
Approach LOS				C				

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2007 PEAK HOUR TRAFFIC
ANALYSIS WITHOUT PROJECT

HCS2000: Signalized Intersections Release 4.1d

Analyst: GMT
Agency:
Date: 1/31/2005
Period: AM Peak
Project ID:
E/W St: Papalaua Street

Inter.:
Area Type: All other areas
Jurisd:
Year : Year 2007 Without Project

N/S St: Wainee Street

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	27	118	25	88	97	36	57	106	140	32	123	45
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			5			7			27			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			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left	A	A			SB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.0	32.0				8.0	32.0	
Yellow	0.0	4.0				0.0	4.0	
All Red	0.0	1.0				0.0	1.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	525	1770	0.07	0.44	14.4	B		
TR	648	1822	0.31	0.36	21.3	C	20.1	C
Westbound								
L	481	1770	0.22	0.44	15.3	B		
TR	640	1799	0.23	0.36	20.5	C	18.4	B
Northbound								
L	482	1770	0.14	0.44	14.9	B		
TR	611	1719	0.41	0.36	22.4	C	20.8	C
Southbound								
L	439	1770	0.09	0.44	14.8	B		
TR	640	1800	0.31	0.36	21.3	C	20.2	C

Intersection Delay = 19.9 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1d

Analyst: GMT
Agency:
Date: 1/31/2005
Period: PM Peak
Project ID:
E/W St: Papalaua Street

Inter.:
Area Type: All other areas
Jurisd:
Year : Year 2007 Without Project

N/S St: Wainee Street

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	70	146	62	109	190	34	89	178	145	108	168	73
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			12			7			28			14

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			Thru		A	
Right		A			Right		A	
Peds					Peds			
WB Left	A	A			SB Left	A	A	
Thru		A			Thru		A	
Right		A			Right		A	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	8.0	32.0				8.0	32.0	
Yellow	0.0	4.0				0.0	4.0	
All Red	0.0	1.0				0.0	1.0	

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	412	1770	0.18	0.44	15.4	B		
TR	637	1791	0.33	0.36	21.5	C	19.9	B
Westbound								
L	472	1770	0.30	0.44	15.8	B		
TR	650	1828	0.44	0.36	22.6	C	20.4	C
Northbound								
L	436	1770	0.22	0.44	15.5	B		
TR	623	1752	0.51	0.36	23.6	C	21.7	C
Southbound								
L	385	1770	0.31	0.44	16.4	B		
TR	636	1790	0.40	0.36	22.2	C	20.3	C

Intersection Delay = 20.6 (sec/veh) Intersection LOS = C

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: GMT
Agency/Co.:
Date Performed: 1/31/2005
Analysis Time Period: AM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Year 2007 Without Project
Project ID:
East/West Street: Kenui Street
North/South Street: Wainee Street
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		15	25	106	13	
Peak-Hour Factor, PHF		0.83	0.83	0.73	0.73	
Hourly Flow Rate, HFR		18	30	145	17	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	70		11			
Peak Hour Factor, PHF	0.72		0.72			
Hourly Flow Rate, HFR	97		15			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		145		112				
C(m) (vph)		1559		631				
v/c		0.09		0.18				
95% queue length		0.31		0.65				
Control Delay		7.5		11.9				
LOS		A		B				
Approach Delay				11.9				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: GMT
Agency/Co.:
Date Performed: 1/31/2005
Analysis Time Period: PM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Year 2007 Without Project
Project ID:
East/West Street: Kenui Street
North/South Street: Wainee Street
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		20	51	148	23	
Peak-Hour Factor, PHF		0.74	0.74	0.87	0.87	
Hourly Flow Rate, HFR		27	68	170	26	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1 0			0 1	
Configuration		TR			LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	201		52			
Peak Hour Factor, PHF	0.86		0.86			
Hourly Flow Rate, HFR	233		60			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		170		293				
C(m) (vph)		1499		575				
v/c		0.11		0.51				
95% queue length		0.38		3.05				
Control Delay		7.7		17.7				
LOS		A		C				
Approach Delay				17.7				
Approach LOS				C				

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2007 PEAK HOUR TRAFFIC
ANALYSIS WITH PROJECT

HCS2000: Signalized Intersections Release 4.1d

Analyst: GMT
Agency:
Date: 1/21/2005
Period: AM Peak
Project ID:
E/W St: Papalaua Street

Inter.:
Area Type: All other areas
Jurisd:
Year : Year 2007 With Project

N/S St: Wainee Street

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	27	118	25	88	97	36	57	107	140	32	124	46
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			5			8			27			11

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			Thru		A		
Right		A			Right		A		
Peds					Peds				
WB Left	A	A			SB Left	A	A		
Thru		A			Thru		A		
Right		A			Right		A		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	8.0	32.0				8.0	32.0		
Yellow	0.0	4.0				0.0	4.0		
All Red	0.0	1.0				0.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	526	1770	0.07	0.44	14.4	B		
TR	648	1822	0.31	0.36	21.3	C	20.1	C
Westbound								
L	481	1770	0.22	0.44	15.3	B		
TR	640	1800	0.23	0.36	20.5	C	18.4	B
Northbound								
L	482	1770	0.14	0.44	14.9	B		
TR	611	1719	0.41	0.36	22.4	C	20.8	C
Southbound								
L	438	1770	0.09	0.44	14.8	B		
TR	640	1801	0.31	0.36	21.3	C	20.2	C

Intersection Delay = 19.9 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1d

Analyst: GMT
Agency:
Date: 1/31/2005
Period: PM Peak
Project ID:
E/W St: Papalaua Street

Inter.:
Area Type: All other areas
Jurisd:
Year : Year 2007 With Project

N/S St: Wainee Street

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	70	146	62	109	190	34	89	179	145	109	169	73
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			12			7			28			14

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				Thru		A		
	Right		A				Right		A		
	Peds						Peds				
WB	Left	A	A			SB	Left	A	A		
	Thru		A				Thru		A		
	Right		A				Right		A		
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		8.0	32.0					8.0	32.0		
Yellow		0.0	4.0					0.0	4.0		
All Red		0.0	1.0					0.0	1.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	412	1770	0.18	0.44	15.4	B		
TR	637	1791	0.33	0.36	21.5	C	19.9	B
Westbound								
L	472	1770	0.30	0.44	15.8	B		
TR	650	1828	0.44	0.36	22.6	C	20.4	C
Northbound								
L	435	1770	0.22	0.44	15.5	B		
TR	623	1753	0.52	0.36	23.7	C	21.8	C
Southbound								
L	383	1770	0.32	0.44	16.4	B		
TR	637	1791	0.40	0.36	22.2	C	20.3	C

Intersection Delay = 20.7 (sec/veh) Intersection LOS = C

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: GMT
Agency/Co.:
Date Performed: 1/31/2005
Analysis Time Period: AM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Year 2007 With Project
Project ID:
East/West Street: Kenui Street
North/South Street: Wainee Street
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		15	25	108	13	
Peak-Hour Factor, PHF		0.83	0.83	0.73	0.73	
Hourly Flow Rate, HFR		18	30	147	17	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1 0			0 1	
Configuration		TR			LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	72		11			
Peak Hour Factor, PHF	0.72		0.72			
Hourly Flow Rate, HFR	99		15			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		147		114				
C(m) (vph)		1559		627				
v/c		0.09		0.18				
95% queue length		0.31		0.66				
Control Delay		7.5		12.0				
LOS		A		B				
Approach Delay				12.0				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: GMT
Agency/Co.:
Date Performed: 1/31/2005
Analysis Time Period: PM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Year 2007 With Project
Project ID:
East/West Street: Kenui Street
North/South Street: Wainee Street
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		20	52	149	23	
Peak-Hour Factor, PHF		0.74	0.74	0.87	0.87	
Hourly Flow Rate, HFR		27	70	171	26	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1 0			0 1	
Configuration		TR			LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	202		52			
Peak Hour Factor, PHF	0.86		0.86			
Hourly Flow Rate, HFR	234		60			
Percent Heavy Vehicles	2		2			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		171		294				
C(m) (vph)		1496		572				
v/c		0.11		0.51				
95% queue length		0.39		3.10				
Control Delay		7.7		17.9				
LOS		A		C				
Approach Delay				17.9				
Approach LOS				C				

Appendix E

Ordinance No. 2827, Bill No. 7 (2000)

ORDINANCE NO. 2827

BILL NO. 7 (2000)

A BILL FOR AN ORDINANCE TO CHANGE ZONING FROM A-1 APARTMENT DISTRICT TO B-2 COMMUNITY BUSINESS DISTRICT (CONDITIONAL ZONING) FOR PROPERTY SITUATED AT LAHAINA, MAUI, HAWAII

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Pursuant to Chapters 19.18 and 19.510, Maui County Code, a change in zoning from A-1 Apartment District to B-2 Community Business District (conditional zoning) is hereby granted for property situated at Lahaina, Maui, Hawaii, and identified by Tax Map Key No. (2) 4-5-007: 004, comprised of approximately 18,638 square feet, and more particularly described in Exhibit "A", attached hereto and by this reference made a part hereof, and in Land Zoning Map No. L-865 which is on file in the Office of the County Clerk of the County of Maui, and which is by this reference made a part hereof.

SECTION 2. Pursuant to Section 19.510.050, Maui County Code, the zoning established by this ordinance is subject to the conditions set forth in Exhibit "B", attached hereto and by this reference made a part hereof, and the Unilateral Agreement and Declaration for Conditional Zoning, attached hereto as Exhibit "C" and by this reference made a part hereof.

SECTION 3. This ordinance shall take effect upon its approval.

APPROVED AS TO FORM
AND LEGALITY:

Kelly A Cairns

KELLY A. CAIRNS
Deputy Corporation Counsel
S:\CLERICAL\LJ\ORD\4601025C.WPD

EXHIBIT "A"

All of that certain parcel of land (being portion of the land(s) described in and covered by Land Patent Number 8278, Land Commission Award 11033 to George Shaw and Haunahina) situate, lying and being between Honoapiilani Highway and Wainee Street, approximately 300 feet southeasterly from Baker Street, at Kuhoililea 1, Lahaina, Island and County of Maui, State of Hawaii, being PARCEL "A", of the "NISHIDA SUBDIVISION", and thus bounded and described:

Beginning at the northwest corner of this piece of land and on the southwest side of Honoapiilani Highway, the coordinates of said point of beginning referred to Government Survey Triangulation Station "LAINA" being 5856.58 feet south and 3927.61 feet west and running by azimuths measured clockwise from true South:

1.	316°	59'	71.34 feet	along the southwest side of Honoapiilani Highway;
2.	65°	00'	242.54 feet;	
3.	147°	49'	85.13 feet;	along the northeast side of Wainee Street;
4.	245°	00'	187.97 feet	along R. P. 8227 L. C. Aw. 8849 to Coles; Kakaelaiki and L. P. 8391 to L. C. Aw. 11216 Ap. 19 to M. Kekauonohi;
5.	333°	00'	21.00 feet	along L. P. 8391 L. C. Aw. 11216 Ap. 19 to M. Kekauonohi;
6.	241°	00'	62.57 feet	along L. P. 8391 L. C. Aw. 11216 Ap. 19 to M. Kekauonohi to the point of beginning and containing an area of 18,638 square feet, more or less.

Said above described parcel of land having been acquired by the Grantor herein by the following Deeds:

1. Deed of Joyce Ouchi, unmarried, and Miles S. Kunishige, unmarried, dated April 3, 1987, and recorded in Liber 20558 on Page 144; and

2. Deed of Linda R. Marcum, unmarried, dated November 5, 1987, and recorded in Liber 22359 on Page 462.

SUBJECT, HOWEVER, to the restrictive vehicular access affecting Course 1.

END OF EXHIBIT "A"

Tax Key: 4-5-007-004 (2)

EXHIBIT "B"

Conditions

Pursuant to Section 19.510.050 of the Maui County Code, the zoning established for the Parcel described herein shall be subject to the following conditions:

1. That the uses on the site shall be limited to business offices, financial offices, and professional offices, as well as uses permitted in the B-1 Neighborhood District, excluding churches, day care, laundromats, gas stations, and liquor stores.

2. That the height limit shall be restricted to 35 feet.

3. That the architectural design, signage, and landscaping shall be compatible with the Design Guidelines for the Lahaina Historic District.

THE ORIGINAL OF THE DOCUMENT
RECORDED AS FOLLOWS:

BUREAU OF CONVEYANCES
DATE: DEC 10 2001 8:02
DOCUMENT NO. 2001-018332

LAND COURT SYSTEM | REGULAR SYSTEM

Return By Mail (X) Pickup ( ): To:
Office of the County Clerk
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

TITLE OF DOCUMENT:

UNILATERAL AGREEMENT AND DECLARATION FOR CONDITIONAL ZONING

PARTIES TO DOCUMENT:

Declarant: FINANCE HOLDINGS, LTD.
1164 Bishop Street, Suite 810
Honolulu, Hawaii 96813-2810

County of Maui: County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Affects Tax Map Key: (2) 4-5-007:004 (This document consists of 8 pages.)

[illegible]

UNILATERAL AGREEMENT AND DECLARATION FOR CONDITIONAL ZONING

THIS INDENTURE, made this 21st day of January, 2000, by FINANCE HOLDINGS, LTD., a Hawaii corporation, whose principal place of business is located in Honolulu, Oahu, Hawaii and whose mailing address is 1164 Bishop Street, Suite 810, Honolulu, Hawaii 96813-2810, hereinafter referred to as "DECLARANT", and who is the owner of the parcel of land located at Lahaina, Island and County of Maui, State of Hawaii, comprised of approximately 18,638 square feet, and identified for real property tax purposes by Tax Map Key No. (2) 4-5-007:004, hereinafter referred to as "PARCEL".

WITNESSETH:

WHEREAS, the Council of the County of Maui, State of Hawaii, hereinafter referred to as "Council", is considering the establishment of zoning for the Parcel, comprised of approximately 18,638 square feet, which is more particularly described in Exhibit "A", attached hereto and made a part hereof, and more particularly identified in Land Zoning Map No. 865, which is on file in the Office of the County Clerk of the County of Maui; and

WHEREAS, the Council recommends through its Land Use Committee, Committee Report No. 00-12, that said establishment of zoning be approved for passage on first reading subject to certain conditions pursuant to Section 19.510.050, Maui County Code; and

WHEREAS, the Declarant has agreed to execute this instrument pursuant to the conditional zoning provisions of Section 19.510.050, Maui County Code;

NOW, THEREFORE, the Declarant makes the following Declaration:

1. That this Declaration is made pursuant to the provisions of Section 19.510.050, Maui County Code relating to conditional zoning;

2. That until written release by the County of Maui, hereinafter referred to as the "County", the Parcel, and all parts thereof, are and shall be held subject to covenants, conditions and restrictions which shall be effective as to and shall run with the land as to the Parcel, from and after the recording of this Declaration with the Bureau of Conveyances or the Land Court of the State of Hawaii, without the execution, delivery or recordation of any further deed, instrument, document, agreement, declaration, covenant or the like with respect thereto by the Declarant, the County, or any heir, devisee, executor, administrator, personal representative, successor, and assign; that the acquisition of any right, title or interest in or with respect to the Parcel by any person or persons, entity or entities, whomsoever, shall be deemed to constitute the acceptance of all of the covenants, conditions and restrictions of this Declaration by such person or persons, entity or entities; and that upon any transfer of any right, title or interest in or with respect to the Parcel the same shall be subject to, and the transferee shall assume and be bound and obligated to observe and perform all of the covenants, conditions and restrictions of this Declaration;

3. That this Declaration and all of the covenants, conditions and restrictions contained herein shall continue to be effective as to and run with the land in perpetuity, or until the Declarant notifies the appropriate County Department that any said covenants, conditions and restrictions are satisfied by the Declarant, and the appropriate County Department verifies the satisfaction and provides a written release of the covenant, condition or restriction;

4. That the term "Declarant" and any pronoun in reference thereto, wherever used herein, shall be construed to mean the singular or the plural, the masculine or the feminine, or the neuter, and vice versa, and shall include any corporation, and shall be held to mean and include the "Declarant", the Declarant's heirs, devisees, executors, administrators, personal representatives, successors, and assigns;

5. That the Declaration shall become fully effective on the effective date of the zoning ordinance approving the establishment of B-2, Community Business District Zoning and this Declaration shall be recorded in the Bureau of Conveyances or Land Court of the State of Hawaii;

6. That the Declarant agrees to develop said Parcel in conformance with the conditions set forth in Exhibit "B", which is attached hereto and made a part hereof and which shall be made a part of the zoning ordinance;

7. That the conditions imposed are reasonable and rationally relate to the objective of preserving the public health, safety and general welfare and such conditions fulfill the need for the public service demands created by the proposed use.

AND IT IS EXPRESSLY UNDERSTOOD AND AGREED that until released in writing by the County, the conditions imposed in this Declaration shall run with the land identified hereinabove and shall bind and constitute notice to all subsequent lessees, grantees, assignees, mortgagees, lienors and any other persons who claim an interest in said land, and the County of Maui shall have the right to enforce this Declaration by appropriate action at law or suit in equity against all such persons, provided that the Declarant or its successors and assigns may at any time file a petition for the removal of the conditions and terminate this Unilateral Agreement, such petition to be processed in the same manner as petitions for change in zoning.

IN WITNESS WHEREOF, the undersigned has executed this Declaration the day and year first above written.

DECLARANT:

FINANCE HOLDINGS, LTD.

By _____
Print
Name: Howard Y. Murai
Its Vice President

By _____
Print
Name: Jed Sueoka
Its Vice-President

APPROVED AS TO FORM AND LEGALITY:

_____
KELLY A. CARNS
Deputy Corporation Counsel
County of Maui

STATE OF HAWAII)
) SS.
CITY AND COUNTY OF HONOLULU)

On this 21 day of January, 2000, before me appeared HOWARD Y. MURAI, to me personally known, who, being by me duly sworn, did say that he is the Vice-President of FINANCE HOLDINGS, LTD., a Hawaii corporation, that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors, and said HOWARD Y.MURAI acknowledged said instrument to be the free act and deed of said corporation.

6

Elaine J Uemura

Print/Type
Name: Elaine Uemura

Notary Public, State of Hawaii

My Commission expires: June 12, 2002

STATE OF HAWAII)
) SS.
HONOLULU)

On this 21 day of January 2000, before me appeared JED SUEOKA, to me personally known, who, being by me duly sworn, did say that he is the VICE-PRESIDENT of FINANCE HOLDINGS, LTD., a Hawaii corporation, that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors, and said JED SUEOKA acknowledged said instrument to be the free act and deed of said corporation.

Elaine Uemura

Print/Type
Name: Elaine Uemura

Notary Public, State of Hawaii

My Commission expires: June 12, 2002

[illegible].001

EXHIBIT "A"

All of that certain parcel of land (being portion of the land(s) described in and covered by Land Patent Number 8278, Land Commission Award 11033 to George Shaw and Maunahina) situate, lying and being between Honoapiilani Highway and Wainee Street, approximately 300 feet southeasterly from Baker Street, at Kuhoiilea 1, Lahaina, Island and County of Maui, State of Hawaii, being PARCEL "A", of the "NISHIDA SUBDIVISION", and thus bounded and described:

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2.	65°	00'	242.54 feet;
3.	147°	49'	85.13 feet along the northeast side of Wainee Street;
4.	245°	00'	167.97 feet along R. P. 8227 L. C. Aw. 8843 to Coles; Kekaelaiki and L. P. 8391 to L. C. Aw. 11216 Ap. 19 to M. Kekauonohi;
5.	333°	00'	21.00 feet along L. P. 8391 L. C. Aw. 11216 Ap. 19 to M. Kekauonohi;
6.	241°	00'	62.37 feet along L. P. 8391 L. C. Aw. 11216 Ap. 19 to M. Kekauonohi to the point of beginning and containing an area of 18,638 square feet, more or less.

Said above described parcel of land having been acquired by the Grantor herein by the following Deeds:

1. Deed of Joyce Ouchi, unmarried, and Miles S. Kunishige, unmarried, dated April 3, 1987, and recorded in Liber 20558 on Page 344; and

2. Deed of Linda R. Marcum, unmarried, dated November 5, 1987, and recorded in Liber 22389 on Page 462.

SUBJECT, HOWEVER, to the restrictive vehicular access affecting Course 1.

END OF EXHIBIT "A"

Tax Key: 4-4-007-004 (2)

EXHIBIT "B"

Conditions

Pursuant to Section 19.510.050 of the Maui County Code, the zoning established for the Parcel described herein shall be subject to the following conditions:

1. That the uses on the site shall be limited to business offices, financial offices, and professional offices, as well as uses permitted in the B-1 Neighborhood District, excluding churches, day care, laundromats, gas stations, and liquor stores.

2. That the height limit shall be restricted to 35 feet.

3. That the architectural design, signage, and landscaping shall be compatible with the Design Guidelines for the Lahaina Historic District.

WE HEREBY CERTIFY that the foregoing BILL NO. 7 (2000)

1. Passed FINAL READING at the meeting of the Council of the County of Maui, State of Hawaii, held the 18th day of February, 2000, by the following votes:

Patrick S. KAWANO Chair	Dain P. KANE Vice-Chair	Michael A. DAVIS	J. Kalani ENGLISH	John Wayne ENRIQUES	G. Riki HOKAMA	Dennis Y. NAKAMURA	Wayne K. NISHIKI	Charmaine TAVARES
Aye	Aye	Aye	Aye	Aye	Excused	Aye	Aye	Aye

2. Was transmitted to the Mayor of the County of Maui, State of Hawaii, on the 18th day of Februa 2000.

DATED AT WAILUKU, MAUI, HAWAII, this 18th day of February, 2000.

PATRICK S. KAWANO, CHAIR
Council of the County of Maui

DIANE A. WAKAMATSU, DEPUTY COUNTY CLEF
County of Maui

THE FOREGOING BILL IS HEREBY APPROVED THIS 28 DAY OF February, 2000.

JAMES H. APANA JR., MAYOR
County of Maui

I HEREBY CERTIFY that upon approval of the foregoing BILL by the Mayor of the County of Maui, the sa BILL was designated as ORDINANCE NO. 2827 of the County of Maui, State of Hawaii.

DARYL T. YAMAMOTO, COUNTY CLERK
County of Maui

Passed First Reading on February 4, 2000.
Effective date of Ordinance February 28, 2000.

RECEIVED
2000 FEB 28 AM 8:55
COUNTY CLERK

I HEREBY CERTIFY that the foregoing is a true and correct copy Ordinance No. 2827, the original of which is on file in the Office the County Clerk, County of Maui, State of Hawaii.

Dated at Wailuku, Hawaii, on

County Clerk, County of Maui

Appendix F

Summary of Community Meeting with Residents of Piilani Elderly Housing Project (March 16, 2005)

MUNEKIYO & HIRAGA, INC.

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

March 21, 2005

MEETING MEMORANDUM

Date of Meeting: March 16, 2005

From: Mark Roy, Planner

Subject: Proposed Self Storage Facility at TMK 4-5-7:04, Lahaina, Maui, Hawaii

Participants: Cliff Libed, Public Housing Manager ***(Hawaii Housing and Community Development Corporation) (HCDC)***

Howard Murai and Lee Miller ***(Finance Holdings, Ltd.)***

Eric Taniguchi ***(Eric S. Taniguchi, AIA)***

Michael Munkekiyo and Mark Roy ***(Munekiyo & Hiraga, Inc.)***

Piilani Elderly Housing Project Residents ***(See attached list)***

A community meeting was held with residents of the Piilani Elderly Housing Project at 10:00 a.m. on Wednesday, March 16, 2005. Cliff Libed, Public Housing Manager for the Hawaii Housing and Community Development Corporation (HCDC), also attended the meeting. The primary aim of the meeting was to provide the residents with an overview of the proposed project and to address any concerns or questions. Presentations were first delivered by Howard Murai, Eric Taniguchi and Mike Munekiyo. A question and answer session then followed.

A number of questions were raised and discussed during the meeting, relating to proposed facility design, public safety, security, traffic, parking, lighting, repair of sidewalk fronting property, and the preservation of onsite mango trees. The overall footprint and design of the proposed facility, particularly the use of a pitched roof, raised favorable reactions from the residents attending the meeting.

Primary concerns expressed by residents related to how the subject property would be secured at night and what was going to be done to ensure their safety. Residents expressed particular concern regarding the unauthorized use of parking at the facility both during the day and at night, due to parking shortages currently experienced around the

Front Street area. In response to the parking issue, residents were informed that a lockable gate would restrict out-of-hours access to the site and that the position of the proposed managers office relative to the gated access point would also ensure the use of onsite parking by customers only. Security concerns were addressed through the fact that alarm systems, and low-level parking lighting have all been integrated in the overall site design. Concern for the preservation of the mango tree nearest to the Piilani Elderly Housing Project was also expressed along with the need for the County to improve the sidewalk area fronting the subject property. Residents were assured that these concerns would be further addressed in the planning and permitting process.

At the end of the meeting, president of the Piilani Elderly Housing Community Association, Mr. Stuart Kahan, stated that all issues of concern seem to have been effectively addressed in the design and planning stages of the project. He stated that it represented the most acceptable project out of all other past proposals made in connection with the subject property. As a next step, Mr. Kahan pointed out that the subject action would be presented and further discussed with all the residents at the next meeting of the Community Association, whereupon an official statement would be issued.

Mark Roy, Planner

MR:yp
Attachment

cc: Lee Miller, Finance Holdings, Ltd. (w/attachment)
Eric Taniguchi, Eric S. Taniguchi, AIA (w/out attachment)
Cliff Libed, Housing and Community Development Corporation (w/out attachment)

finhldg\wainees\t\031605.meetingmemo

	NAME	ADDRESS	CONTACT TELEPHONE NUMBER
1.	Connie Valley	G-2	344-1611
2.	Randolph Hussey	C4	667-~~5846~~
3.	Helen Lee	H-3	667-6164
4.	Juanita Lannadio	H-4	667-2012
5.	James A. Hunt	H-1	661-6689
6.	Stuart A. Kahan	E-5	661-0238
7.	Edythe Pass	H2	6620278
8.	Raymond Cacciatore	E2	661-5650
9.	Peggy Tidwell		
10.			
11.			
12.			
13.			
14.			
15.			

2005-10-08 OA FONSI MANOA HERITAGE CENTER

MĀNOA HERITAGE CENTER

FINAL REVISED ENVIRONMENTAL ASSESSMENT & SUPPORT DOCUMENT FOR CONDITIONAL USE PERMIT (MINOR) APPLICATIONS

Prepared for the Mānoa Heritage Center by
PlanPacific, Inc.
September 2005

CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING