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DEPARTMENT OF FIRE CONTROL
200 DAIRY ROAD
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(808) 270-7561
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July 31, 2001

Genevieve Salmonson, Director
Office of Environmental Quality Control
Department of Health
235 S. Beretania St., Suite 702
Honolulu, HI 96813

Dear Ms. Salmonson:

Re: Proposed Wailea Fire Station
TMK 2-1-08:por. 46 and por. 113; TMK 3-9-38:por. 28

In accordance with the provisions of Chapter 343, Hawaii Revised Statutes and Title 11, Chapter 200 of the Administrative Rules of the State Department of Health, a Final Environmental Assessment (EA) has been prepared for the proposed project.

As the approving agency, the County of Maui, Department of Fire Control believes that there will be no significant impacts as a result of the proposed action, and is filing a Finding of No Significant Impact (FONSI).

Enclosed are one (1) copy of the OEQC Publication form and four (4) copies of the Final EA. In addition, please be advised that the Project Summary has not changed since the publication of the Draft EA. We respectfully request that notice of the availability of the Final EA be published in the next edition of the Environmental Notice.

Please feel free to contact me at (808) 270-7561 should you have any questions regarding this letter.

Sincerely,

CLAYTON T. ISHIKAWA
Fire Chief
Department of Fire Control

Enclosure

CC: Brian Miskae, Office of the Mayor
Jay Buzianis, Department of Finance
Colleen Suyama, Department of Planning
Laurel Nahme, Mitsunaga & Associates, Inc.
Glenn Tadaki, Munekiyo & Hiraga, Inc.

08-23-01

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Final Environmental Assessment

PROPOSED WAILEA FIRE STATION

Prepared for:

County of Maui, Department of Fire Control

August 2001

MUNEKIYO & HIRAGA, INC.

Final
Environmental Assessment

PROPOSED WAILEA FIRE STATION

Prepared for:

County of Maui, Department of Fire Control

August 2001

MUNEKIYO & HIRAGA, INC.

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Preface

The County of Maui, Department of Fire Control, proposes the construction of a new fire station and related improvements on a 1.58 acre site in the Wailea District of South Maui on portions of land currently identified by TMK 2-1-08: 46 and 113, as well as TMK 3-9-38: 28.

Since the proposed action involves the use of County lands and funds for the development of the new fire station, as well as the construction of helicopter facilities, an Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawaii Revised Statutes, to document the proposed action's technical characteristics and environmental impacts and alternatives, as well as advance 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 County of Maui, Department of Fire Control, also known as the Maui Fire Department (MFD), proposes to construct a new fire station and ancillary improvements at Wailea, Maui on portions of land presently identified by TMK 2-1-8: 46 and 113, as well as TMK 3-9-38: 28. See Figure 1.

The project site is situated at the gateway to the Wailea Resort, a master-planned resort-residential community. The site is currently vacant and undeveloped and is occupied by scrub vegetation. Access to the site is currently provided by Kilohana Drive, a two-lane connector road that falls under the joint jurisdiction of the State of Hawaii and Wailea Resort Company, Ltd. Generally, the portion of Kilohana Drive extending from Kapili Street to Piilani Highway falls under State control.

The County of Maui is the fee-simple owner of the land underlying the project site.

B. REGULATORY CONTEXT

In February 2001, Wailea Resort Company, Ltd. dedicated 5.752 acres of land to the County of Maui to satisfy a conditional zoning requirement. This dedication involved TMK 2-1-08:46 (1.562 acre), TMK 2-1-08:113 (1.038 acre), and a 3.152 acre portion of TMK 3-9-38:28.

The current State Land Use Commission, Kihei-Makena Community Plan, and Maui County zoning designations for these parcels are reflected in the following table.

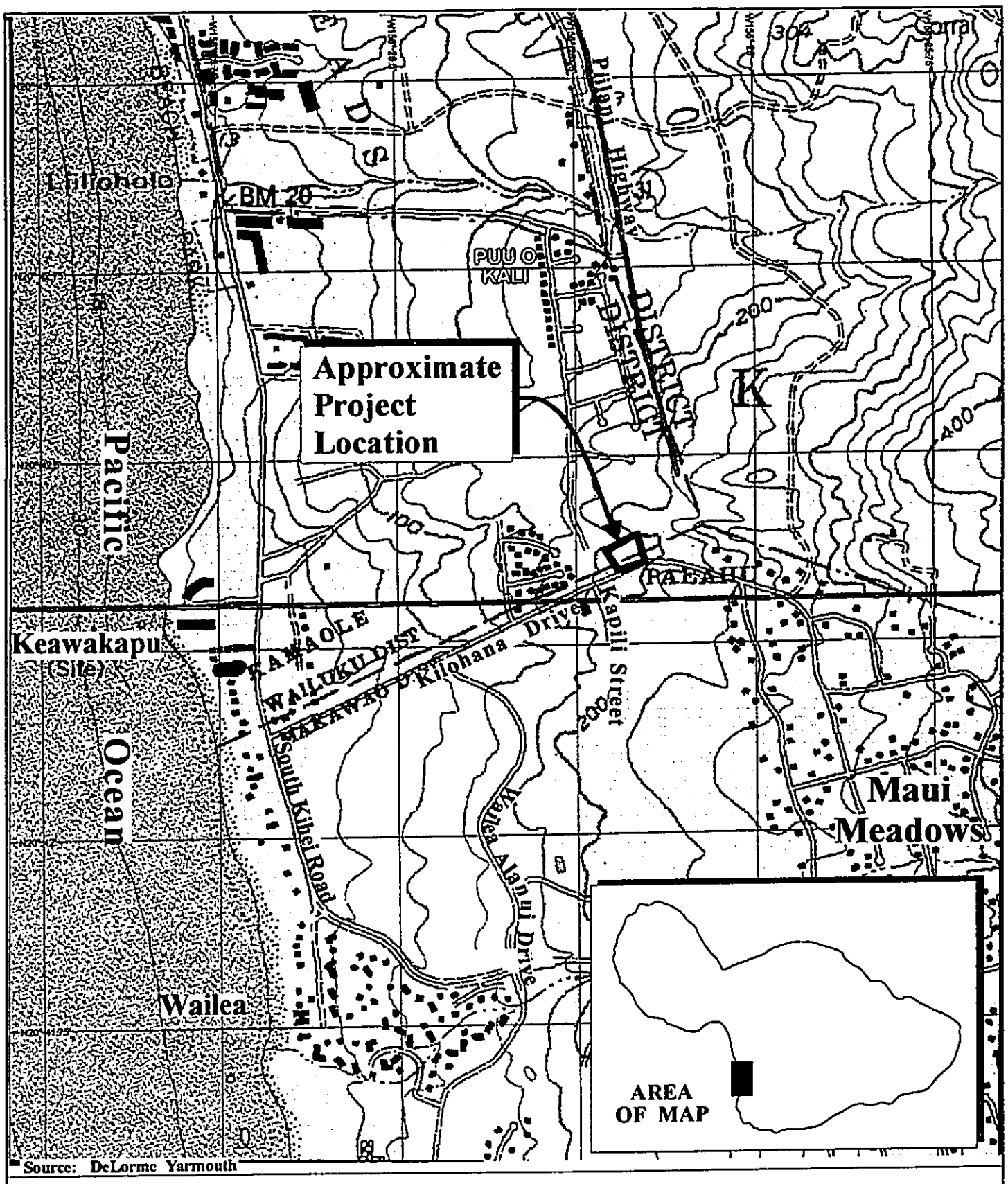


Figure 1 Proposed Wailea Fire Station

Regional Location Map

0 500 Feet
250 1000

Prepared for: County of Maui, Department of Fire Control

MUNEKIYO & HIRAGA, INC.

Table 1

Existing Land Use, Community Plan and Zoning Designations			
TMK	***State Land Use***	***Community Plan***	***Zoning***
2-1-08:46	Urban	Public/Quasi-Public	Open Space/Future Roadway
2-1-08:113	Urban	Public/Quasi-Public	A-1, Apartment
3-9-38:28	Urban	Single Family	R-2, Residential

It should be noted that the land that was dedicated to the County is presently in the process of being consolidated into a single parcel. In addition to the 1.58 acre site for the new Wailea Fire Station, other uses considered for the parcel include a possible future police substation, and a future public gymnasium.

It should also be noted that the County of Maui, Department of Planning is presently in the process of obtaining the appropriate community plan amendment and zoning changes for the establishment of public/quasi-public uses on the property.

Since the proposed action involves the use of County lands and funds, as well as the construction of helicopter facilities, an Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawaii Revised Statutes. In addition, because the project site is situated within the limits of the Special Management Area (SMA) for the island of Maui, an application for an SMA Use Permit has been prepared for review and approval by the Maui Planning Commission.

C. *PROJECT NEED*

Currently, fire protection and emergency response services for the South Maui region are provided by the department's Kihei station, which is located near the Kihei Town Center, about 2 1/4 miles northwest of the project site. In addition to fire suppression, the department also responds to emergency calls involving rescues, accidents, and hazardous materials.

In 1996, the Kihei station responded to a total of 536 alarms, while in 2000, it responded to a total of 718 alarms, an increase of 34 percent. Within the past five (5) years, 44 percent of the alarms that the Kihei station has responded to were from the Wailea District, the area that extends from Kamaole Beach Park II to Makena.

The new Wailea Fire Station will enhance the department's ability to respond to fires and other emergencies in the Wailea District and other areas in South Maui on a timely basis.

D. *PROPOSED ACTION*

The new Wailea Fire Station, which will be similar in design to the existing Kahului station, will house a ladder truck, an engine pumper, and a water tanker, and will be staffed on a daily basis by 11 firefighters. See Appendix "A" (Preliminary Development Plans). Access to the fire station will be provided via a new driveway on Kilohana Drive.

The new fire station will be constructed with a concrete tile roof and concrete slab foundation, as well as CMU and EFS exterior walls. In addition, to facilitate accessibility for disabled individuals, the fire station will be designed in accordance with the requirements of the Americans with Disabilities Act.

With the exception of a hose and training tower, the new station will be two stories and approximately 33.5 feet in height. The station will contain a combined area of about 19,470 square feet of usable floor space; approximately 14,040 square feet on the first level and about 5,430 square feet on the second level.

The ground level of the Wailea Fire Station will contain spaces for offices, living quarters, restrooms, tool rooms, and fire-fighting vehicles, as well as a study, a laundry room, a storage room, a kitchen, pantry, and dining area, and rooms for custodial supplies, as well as electrical and mechanical equipment. The second level of the new fire station will include living quarters, restrooms, and showers, as well as study, utility, and storage rooms, and a room for custodial supplies. An elevator linking the first and second floors of the fire station will also be provided.

In addition to site work and the installation of utilities (water, sewer, power, telephone), ancillary improvements such as a helistop, landscaping, and paved parking areas, as well as a propane tank, diesel fuel pump, and an above-ground diesel fuel storage tank (1,000 gallon capacity) are proposed. The relocation of existing utility poles and power lines is also proposed.

The proposed helistop will feature a paved touchdown and lift-off area and be designed in accordance with Federal Aviation Administration standards. No helicopter will be stationed at the site. In addition to rescue operations requiring air support, the helistop will be utilized to support fire suppression activities in inaccessible areas, as well as for combating large-scale brush fires. It should be noted that the installation of infrastructure for a future gasoline fuel pump and an above-ground gasoline fuel storage tank (1,000 gallon capacity) is also proposed.

Protective pipe bollards will be installed in the areas fronting the fuel pumps and fuel storage tanks.

The total estimated cost of the project is approximately $8.0 million. Construction of the project is anticipated to commence in November 2001, after the receipt of all necessary regulatory permits and approvals.

Chapter II

Description of the Existing Environment

II. DESCRIPTION OF THE EXISTING ENVIRONMENT

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Uses

The project site is located at the gateway to Wailea, a resort-residential master-planned community. Generally, land uses in the Wailea Resort, which is located to the south of the site, provide for hotel, multi-family, single-family, business/commercial and recreational activities. The subject property is bordered by Kilohana Drive to the south and vacant lands to the north, east, and west. Beyond Kilohana Drive to the south lies the Wailea Resort, while the Piilani Highway and the Maui Meadows Subdivision lie beyond the undeveloped lands to the east. Beyond the vacant lands to the west of the property lies the Hale Kilohana Subdivision II, while beyond the undeveloped lands to the north lie the Kihei Village and Puu Hoolai Subdivisions.

2. Climate

Hawaii's tropical location accounts for uniform weather conditions throughout the year. Climatic conditions on Maui are characterized by mild and consistent year-round temperatures, moderate humidity, and steady northeasterly tradewinds. Variations in the island's weather are attributable to regional topographical and climatic conditions.

During the summer months, average high temperatures approach 90 degrees Fahrenheit, while low temperatures range from the mid- to upper 60's. The winter months are more temperate, with average highs and lows in the low 80's, and low 60's, respectively.

Annual rainfall distribution in the vicinity of the project site ranges

between five (5) to fifteen (15) inches, with most of the precipitation occurring during the winter months between November and March. The months between April and October are generally drier, with measurements reflecting less than one-half inch of rainfall per month.

The northeast tradewinds prevail throughout most of the year. Wind speeds in the Kihei-Makena region range from ten (10) to fifteen (15) miles per hour during the afternoon. The winds typically diminish during the morning and evening, and are usually more persistent during summer than in winter. Between the months of October and April, storm-generated "Kona" winds from the south occasionally develop, bringing high winds and heavy rainfall.

3. ***Topography and Soil Characteristics***

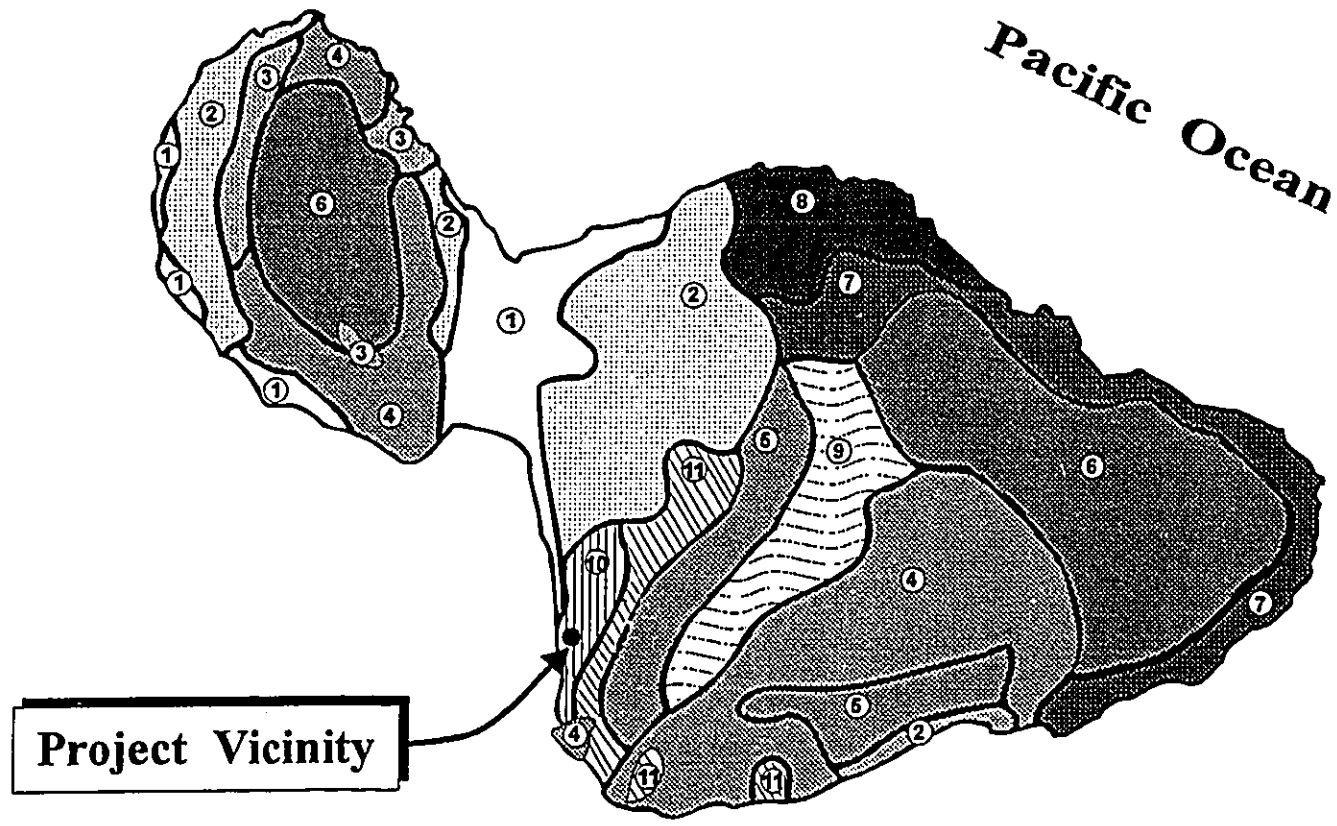
The subject property is situated at the base of the southwestern flank of Haleakala and is characterized by moderately sloping terrain, with a relatively uniform grade that generally slopes in a westerly direction. Existing onsite elevations range from about 187 to 196 feet above mean sea level (amsl) near its eastern border, to approximately 187 feet amsl at its western boundary.

Underlying the subject property is the Keawekapu-Makena soil association. See Figure 2. This series is typically found on the low uplands, and consists of gently sloping to moderately steep, well-drained, medium-textured soils. The substratum ranges in depth from shallow to deep and is comprised of fragmental Aa lava.

The soil types in the project area consist of Makena loam, stony

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: USDA, Soil Conservation Service

Figure 2 Proposed Wailea Fire Station NOT TO SCALE

Soil Association Map

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Prepared for: County of Maui, Department of Fire Control

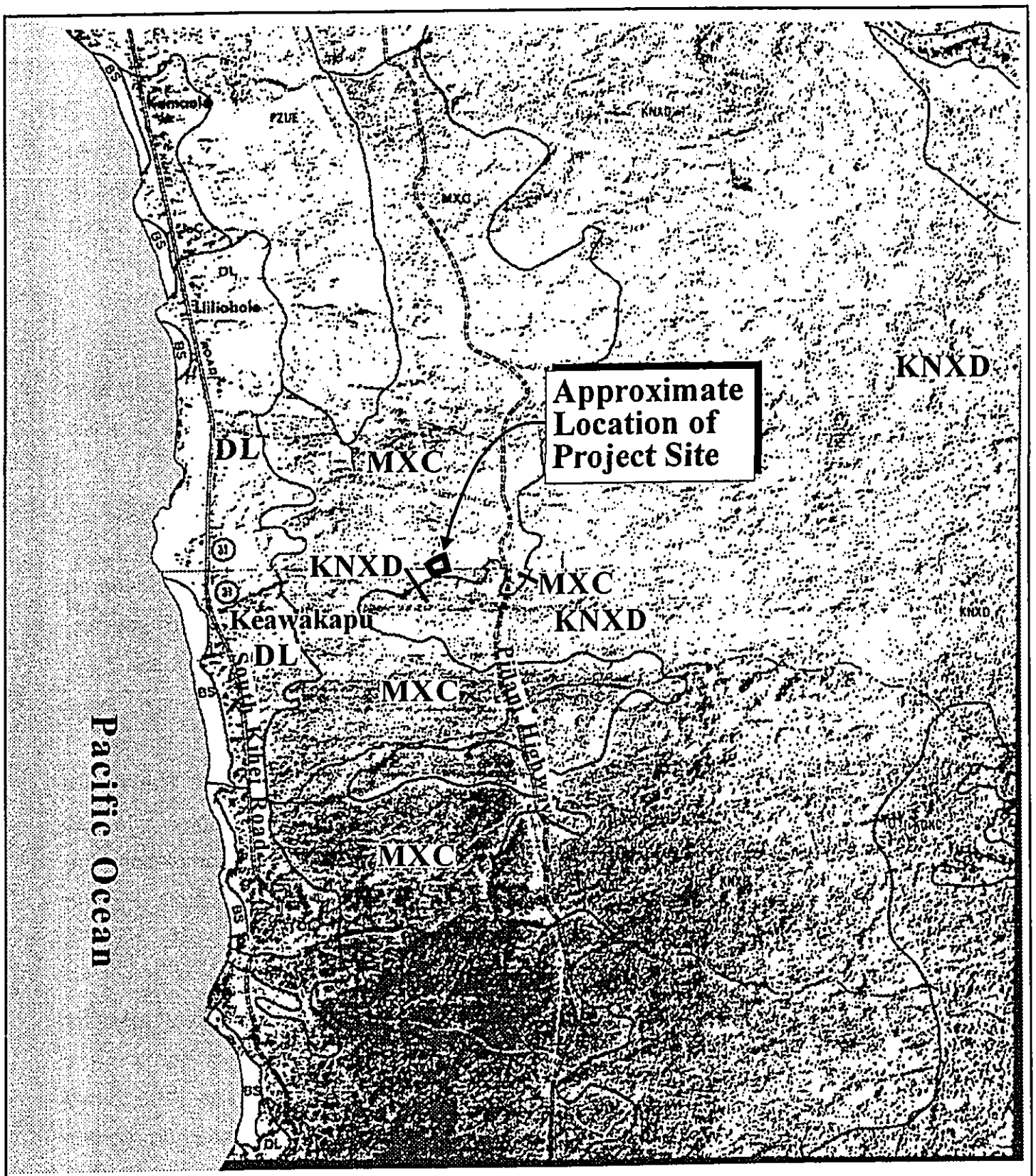
complex, 3 to 15 percent slopes (MXC), and Keawakapu extremely stony silty clay loam, 3 to 25 percent slopes (KNXD). See Figure 3. The Makena loam, stony complex (MXC) soil series is typically found on the lower leeward slopes of Haleakala, between Makena and Kamaole. This series consists of Makena loam and Stony land.

Stony land occurs on low ridges and comprises 30 to 60 percent of the complex. Makena loam occurs as gently sloping areas between the low ridges of Stony land. On the Makena part of the complex, permeability is moderately rapid, runoff is slow to medium, and the erosion hazard is slight to moderate. On the Stony land part, permeability is very rapid and there is no erosion hazard.

The Keawekapu extremely stony silty clay loam (KNXD) soil series, is generally found on low uplands. Permeability is moderate, runoff is slow to medium, and the erosion hazard is slight to moderate.

The University of Hawaii - Land Study Bureau's Detailed Land Classification for Maui establishes total land productivity ratings. A value system based on a declining scale from "A" to "E," with "A" representing the highest level of productivity and "E" the lowest is utilized. The project site is designated "E", reflecting its low agricultural suitability characteristic.

In 1977, the State Department of Agriculture established a classification system for identifying Agricultural Lands of Importance to the State of Hawaii (ALISH), primarily, but not



Source: USDA, Soil Conservation Service

Figure 3

Proposed Wailea Fire Station

Soil Classification

0 1000 Feet
500 2000

MUNEKIYO & HIRAGA, INC.

Prepared for: County of Maui, Department of Fire Control

exclusively on the basis of soil characteristics. The three (3) classes of ALISH lands are: "prime", "unique", and "other". As indicated by the ALISH map, the subject property is surrounded by lands which have been developed for urban uses and does not fall within any of the agricultural land categories.

4. ***Flood and Tsunami Hazard***

As reflected by the Flood Insurance Rate Map (FIRM) for this area of the island, the subject property is situated within Zone C, which is defined as areas of minimal flooding. See Figure 4.

5. ***Flora and Fauna***

The project area is characterized as a dry coastal area. Scattered kiawe, as well as bufflegrass, which are introduced species, currently occupy lands in the area including the project site.

6. ***Archaeological and Cultural Resources***

An archaeological inventory survey of the Wailea Fire Station site and the County-owned lands to the north of the project site was recently conducted. See Appendix B. Upon completion, the inventory survey report will be submitted to the State Historic Preservation Division for review and approval.

The entire survey area has undergone extensive previous disturbances from bulldozing activities in the interior portions and road construction impacts along the peripheral areas. The formal alignment of Kilohana Street extends through the southern portion of the survey area. Wooden posts from a fence line extend along the northern side of the old Kilohana Street right-of-way. The eastern end of the survey area exhibits extensive disturbances

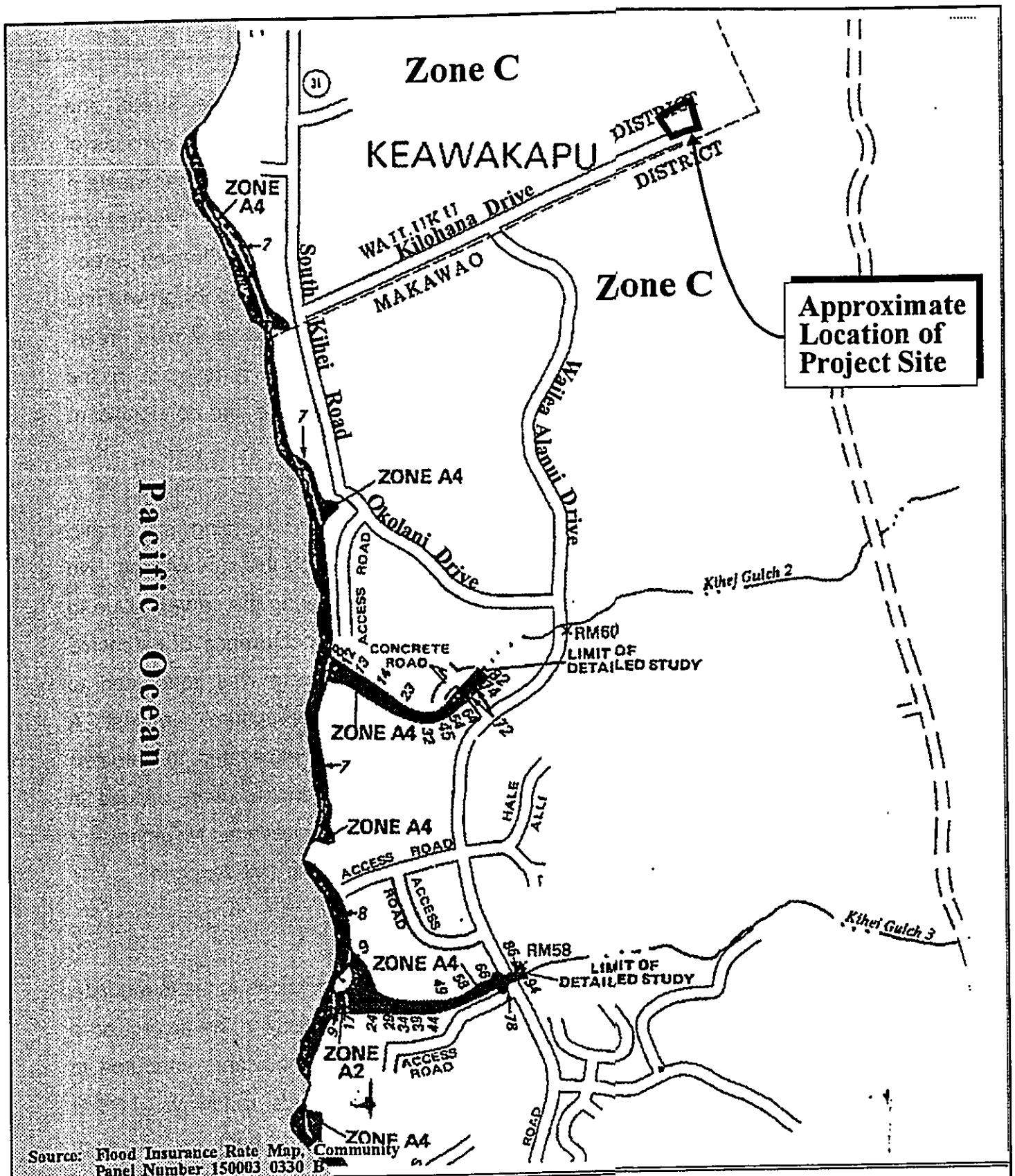


Figure 4

Proposed Wailea Fire Station

Flood Insurance Rate Map

0 250 500 1000 Feet

MUNEKIYO & HIRAGA, INC.

Prepared for: County of Maui, Department of Fire Control

from construction of Piilani Highway and Kilohana Street, and installation of a drainage culvert. Bulldozing activities consists of access roads and clearings in the eastern, southern, and western portions of the survey area. Modern reuse occurs in the western and eastern portions of the survey area along Old Kilohana Street. Vegetation in the survey area is indicative of secondary growth and includes dry grasses with intermittent stands of kiawe trees. Several previous investigations have been completed in the surrounding areas with largely negative results and no significant remains.

A pedestrian survey was conducted by traversing systematic transects spaced 5-10 meters apart through the survey area. No surface cultural remains were identified during the survey. Due to the absence of surface features and the occurrence of extensive disturbances in the area, backhoe trenching was conducted to determine presence/absence of subsurface cultural remains. A total of nine (9) backhoe trenches were excavated in selected areas within the survey area. These trenches were placed in localities exhibiting minimal evidence of disturbance. No significant cultural remains were encountered in any of the trenches.

7. ***Air Quality***

There are no point sources of airborne emissions in the immediate vicinity of the subject property. The air quality in the project area is considered good, with existing airborne pollutants attributed to vehicle-generated exhaust from the region's roadways. Other sources of airborne pollutants typically include dust resulting from construction activities, and residual smoke from sugarcane harvesting operations occurring in the Central Maui plain. These

sources are considered intermittent, and the generated particulates are quickly dispersed by the prevailing tradewinds.

8. *Noise Characteristics*

There are no permanent sources of noise which are considered to have an adverse impact on the project site. Vehicles traveling along neighboring roadways are the primary source of background noise in the area.

9. *Scenic and Open Space Resources*

Scenic resources to the east and south of the project site include Haleakala and the cinder cone of Puu Olai, respectively. The West Maui Mountains constitute scenic resources to the north of the site, while the ocean and the offshore islands of Lanai, Molokini, and Kahoolawe comprise scenic resources which are visible to the west of the site.

The subject property is not located within a scenic view corridor.

B. *SOCIO-ECONOMIC ENVIRONMENT*

1. *Land Use and Community Character*

From a regional standpoint, the subject property is part of the Kihei-Makena Community Plan region which stretches from Maalaea to La Perouse Bay. The region includes a diverse range of physical and socio-economic environments. With its dry and mild climate and proximity to recreation-oriented shoreline resources, the visitor-based economy has grown steadily over the past few years. The project site is adjacent to the master-planned resort of Wailea. The town of Kihei serves as the commercial and residential center of the region with the master-planned

communities of Wailea and Makena serving as the focal point for visitor activities.

2. *Population*

The population of the County of Maui has exhibited relatively strong growth over the past decade with the 1990 population of 100,504 increasing by 27.6 percent to 128,241 in the year 2000 (U.S. Census Bureau, Census 2000). Growth in the County is expected to continue, with the resident population for the year 2010 projected to increase by 9 percent to 140,060.

Just as the island's population has grown, the resident population of the Kihei-Makena region has increased in the last two decades. Population gains were especially pronounced in the 1970's as the rapidly developing visitor industry attracted many new residents. The 1990 resident population of the Kihei-Makena region was approximately 15,365. Regional projections for the year 2010 reflects an estimated population of 23,542. Compared to 1990, this estimate reflects an increase of 53 percent for the year 2010 (Community Resources, Inc., January, 1994).

3. *Economy*

The economy of Maui is heavily dependent upon the visitor industry. The dependency on the visitor industry is especially evident in the Kihei-Makena region, which is one of the State's major resort destination areas. The foundation for the region's visitor strength lies in world-class resorts and recreational facilities located in Wailea and Makena, such as the Renaissance Wailea Beach Resort, the Outrigger Wailea Resort, the Four Seasons Resort-Maui, the Grand Wailea Resort Hotel & Spa, the Fairmont

Kea Lani Resort, and the Maui Prince Hotel properties which have continued to reinforce the region's status as a premier resort destination. Support for the visitor industry is also found in Kihei, where numerous retail commercial centers are found.

During recent years, much of the island's economic growth has been from businesses not directly affiliated with tourism. From May 1997 to May 2000, hotel jobs grew 8.9 percent. Meanwhile, construction jobs grew 41 percent, transportation, telecommunication, and utility jobs grew 22.4 percent, agricultural jobs grew 17.5 percent, and federal government jobs grew 80 percent (Pacific Business News, July 28, 2000).

According to data from the State Department of Labor and Industrial Relations, about 65,900 individuals were employed on the island of Maui in June 2000. The island's growth rate remains high and unemployment continues to be low. In June 2000, Maui's job count was up 5.2 percent from the previous year, while unemployment was down to 4.3 percent (Pacific Business News, July 28, 2000).

As of March 1, 2001, the unemployment rate for Maui County and the island of Maui was 4.1 percent and 3.7 percent, respectively (State of Hawaii, Department of Labor and Industrial Relations, April 2001).

C. PUBLIC SERVICES

1. Police and Fire Protection

The Maui Police Department (MPD) headquarters is located at its Wailuku Station. The Wailuku Station, which services the Kihei-Makena subdistrict, is approximately 13.0 miles northwest of Wailea, while the Department's Kihei substation is located in the Kihei Town Center, about 2 1/4 miles northwest of the project site. The Department's Kihei patrol covers the Kihei-Makena region.

Fire prevention, protection, and suppression services are provided by the Maui Fire Department's (MFD) Kihei Station situated approximately 2 1/4 miles northwest of the project site.

2. Health Care

Maui Memorial Medical Center, the only major medical facility on the island, is approximately 13.0 miles northwest of the project site. This State-operated hospital provides acute, emergency, and general care services. Several Kihei clinics, and dental and medical offices provide local health care services for Kihei-Makena residents and visitors.

3. Recreation

Many diverse recreational opportunities are available within the vicinity of the project site. Recreational facilities include the Wailea Resort's three (3) championship golf courses and its eleven (11) court tennis center. A number of excellent, white sand beaches in the vicinity provide opportunities for diving, fishing, kayaking, surfing, swimming, and windsurfing. Beaches within proximity of the project site include Keawakapu Beach, and Kamaole Beaches I, II, and III.

Over 90 percent of the Kihei-Makena region's parks are either directly on a beach, or across the street from a beach. To the north, the Kihei area contains eight (8) regional and three (3) sub-regional public parks. Beyond Wailea, to the south, are three (3) public parks, including Makena State Park's Big Beach and Little Beach.

In addition, the County's new Kihei Community Center complex, situated about 3.0 miles north of the project site, provides a community center, swimming pool, and athletic playfields.

4. ***Education***

The State of Hawaii, Department of Education (DOE) operates three (3) public schools in the Kihei-Makena region. Kihei Elementary School, Kamali'i Elementary School and Lokelani Intermediate School are comprised of approximately 700, 700 and 800 students, respectively. Kihei Elementary School and Kamali'i Elementary School provide educational services for students from Kindergarten to Grade 5, while Lokelani Intermediate School provides instruction for students from Grades 6 to 8. The schools are located within the central Kihei area, north of the project site.

Students enrolled in Grades 9 to 12 attend Maui High School in Kahului, approximately 13.0 miles north of the project site.

Located in Kahului, about 13.0 miles north of the project site, Maui Community College (MCC), a part of the University of Hawaii (UH) system, offers a broad array of higher education options for island residents. Degrees and certificates are offered in 15 technical-occupational areas.

5. *Solid Waste*

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 are disposed at the County's 55-acre Central Maui Landfill located 4.0 miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies.

D. *INFRASTRUCTURE*

1. *Roadways*

Access to the Kihei region from West Maui and the Wailuku area is provided by North Kihei Road, while access from the Kahului and "Upcountry" areas is provided by Mokulele Highway. These roadways are two-lane roadways which are under the control of the State of Hawaii, Department of Transportation (DOT). North Kihei Road becomes South Kihei Road, near its junction with Mokulele Highway and continues southward through Kihei Town. South Kihei Road terminates at Okolani Drive in Wailea.

Piilani Highway, the primary arterial highway for South Maui, begins at the North Kihei Road-Mokulele Highway intersection and terminates at Wailea Ike Drive in the Wailea Resort. This two-lane State highway runs parallel to and east of South Kihei Road, a two-lane County roadway. Piilani Highway has paved shoulders with left- and right-turn deceleration lanes at major intersections.

Roadways in the immediate vicinity of the project site include Piilani Highway, which has a posted speed limit of 45 miles per hour (mph), as well as Kilohana Drive, which borders the site to the

south and has a speed limit of 20 mph. Kilohana Drive links Piilani Highway on the east to South Kihei Road on the west.

Within the project area, Piilani Highway forms a four-legged intersection, with Mapu Place and Kilohana Drive comprising the east and west legs of the intersection, respectively. On its north and southbound intersection approaches, the speed limit on Piilani Highway is reduced to 35 mph.

Traffic improvements at the signalized Piilani Highway/Kilohana Drive/Mapu Place intersection include a separate left-turn lane and a shared right-turn/through lane on the intersection's northbound approach, and separate right and left-turn lanes, as well as a separate through lane on its southbound approach. Traffic improvements on Kilohana Drive at the eastbound approach to the intersection include a shared right and left-turn/through lane, while improvements on Mapu Place at the westbound approach include a separate right-turn lane and a shared left-turn/through lane.

Kilohana Drive forms a "T" intersection with South Kihei Road which has a posted speed limit of 30 mph. On its north and southbound intersection approaches, the speed limit on South Kihei Road is reduced to 20 mph.

From the project site to South Kihei Road, the following roadways form unsignalized "T" intersections with Kilohana Drive: Kapili Street, Kauhale Street, and Wailea Alanui. Kauhale Street and Wailea Alanui are under the jurisdiction of the County of Maui, while Kapili Street is under the control of Wailea Resort Company (Wailea Resort Company, Ltd., and County of Maui, Department of

Public Works and Waste Management, June 13, 2001).

To the immediate west of the project site lies an access and utility easement. This easement defines the alignment of the future Kapili Street extension which will extend the existing street in a northerly direction to connect to Ohina Street in the Kihei Village Subdivision.

Access to the project site will be provided via a driveway from Kilohana Drive. As previously noted, this two-lane connector road is under the joint jurisdiction of the State of Hawaii and Wailea Resort Company, Ltd. The portion of Kilohana Drive that extends east of Kapili Street falls under the control of the DOT's Highways Division, while the remainder of the road falls under the control of the Wailea Resort Company (Wailea Resort Company, Ltd., and State of Hawaii, Department of Transportation, June 13, 2001).

2. ***Water***

Fire and domestic water service for the Kihei-Makena region is provided by the County of Maui, Department of Water Supply's (DWS) Central Maui Water System which is serviced by the Mokuhau Wells and the Upper Waiehu Wells. The source of water for this system is the Iao Aquifer which has a sustainable yield of 20 million gallons per day (MGD). As of May 1, 2001, rolling annual average groundwater withdrawals from the Iao Aquifer were 17.397 MGD. Two (2) wells in North Waihee were brought on-line in July 1997 and another two (2) adjacent wells were brought on-line during the year 2000. Currently, the DWS is implementing a plan to bring new water sources on-line and to mitigate withdrawals.

The existing water system in the vicinity of the project site includes a 1.0 million gallon storage reservoir located at the southwest corner of the Kilohana Drive/Kapili Street intersection, as well as a 12-inch transmission pump line that traverses the project site and the other County-owned lands to the east of the site to provide service to the Maui Meadows Subdivision. Other improvements in the immediate vicinity of the project site include a 12-inch waterline along Kilohana Drive that extends in a westerly direction from Kapili Street and a 12-inch line along Kapili Street which extends north along the alignment of the future Kapili Street extension (County of Maui, Department of Water Supply, June 2001).

3. <u>Wastewater</u>

The service area for the County's Kihei Wastewater Reclamation System extends from North Kihei to Wailea. The system consists of a number of pump stations and force mains which convey wastewater through the County's transmission lines. The combined flows are transported to the Kihei Wastewater Reclamation Facility, which is located adjacent to the Silversword Golf Course. The existing design capacity of the Kihei Wastewater Reclamation Facility is 8.0 MGD. As of February 28, 2001, the cumulative wastewater flow allocation for the facility was 5.873 MGD (County of Maui, Department of Public Works and Waste Management, February 2001).

The project site is presently undeveloped and does not generate any wastewater flow. In addition, there are no existing wastewater system improvements on the site. The existing system in the vicinity of the site includes an 8-inch sewer line in Kilohana Drive

which extends from the Kilohana Drive/Kapili Street intersection and connects to a 30-inch gravity sewer interceptor in South Kihei Road. In addition, an existing County sewer pump station is located near the northeast corner of the Kilohana Drive/South Kihei Road intersection (County of Maui, Department of Public Works and Waste Management, June 2001).

4. ***Drainage***

The project site is currently vacant and undeveloped with limited ground cover (buffel grass) and scattered trees (kiawe). The rocky, moderately sloping terrain and relatively uniform grade of the site utilizes overland sheet flow to direct accumulated runoff from the property. See Appendix C.

Presently, there are no developed drainage systems in the immediate area of the fire station site, except for two (2) subsurface drainage culverts which convey runoff across Kilohana Drive.

The total existing runoff generated by the project site based on a 10-year, 1-hour storm event is 1.71 cubic feet per second (cfs).

5. ***Electrical, Telephone and CATV Service***

Electrical, telephone, and cable television (CATV) service to the project area is provided by Maui Electric Company, Verizon Hawaii, and Hawaiian Cablevision, respectively. An existing electrical easement (in favor of Maui Electric Company) containing wooden utility poles traverses the project site and the other County-owned lands to the east of the site. At the western extent of the project site, the utility poles lie along the northern edge of the Kilohana

Drive right-of-way and proceed in a westerly direction toward South Kihei Road.

Chapter III

Potential Impacts and Mitigation Measures

III. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. IMPACTS TO THE PHYSICAL ENVIRONMENT

1. Surrounding Land Uses

The proposed project is not anticipated to have an adverse impact on surrounding land uses. The proposed use of the property is considered compatible and complementary with existing surrounding land uses.

2. Flora and Fauna

There are no known sensitive habitats or rare, threatened, or endangered species of flora and fauna on the project site, nor are there any streams or wetlands. Accordingly, the proposed action is not considered to have an adverse impact upon these environmental features.

3. Archaeological Resources and Cultural Impact Considerations

The results of the current archaeological inventory survey, as well as previous surveys in the surrounding areas, indicates that the survey area may not have been utilized for sedentary activities during prehistoric and early historic periods; or due to compounded disturbances associated with ranching in the later historic periods, these early sites may have been destroyed. Refer to Appendix B. No surface cultural remains were identified, and backhoe testing showed that subsurface cultural remains were also absent.

Based on the negative results of the current survey, and evidence of compounded previous disturbances in the survey area, no further archaeological work appears warranted. No further pre-construction archaeological procedures or monitoring during construction activities is recommended. However, should any

inadvertent burial features occur during construction activities, work shall be halted in the immediate vicinity of the find and disposition of the remains shall be determined by a qualified archaeologist in consultation with the Maui/Lanai Islands Burial Council and the State Historic Preservation Division of the Department of Land and Natural Resources.

The archaeological inventory survey notes that the project site is located in the Kamaole ahupua'a (Wailuku District) and that prehistoric expansion and settlement of the drier or arid regions on the island probably occurred between 1000-1600 A.D., while permanent habitation in the upland agricultural areas occurred around 1400-1600 A.D. Permanent or seasonal habitation along the coastal areas, to exploit marine resources, occurred around 1000-1400 A.D. The survey area is situated in the intermediate or "barren" zone. Temporary habitation sites, trails, and ahu are commonly found in this zone. The survey indicates that during the historic period, Irish potatoes and sugar cane were being cultivated in the upland areas. Subsequently, cattle ranching became predominant due to the combined effects of a hurricane and severe drought, coupled with the decrease in demand for potatoes after the California gold rush. Prior to, and during World War II, the lower portion of the Kamaole ahupua'a was probably used for military training exercises, while today, the area is used for residential and resort development.

Insofar as the project site is concerned, the archaeological inventory survey notes that due to extensive previous disturbances from ranching and road construction, the probability of encountering cultural remains in the survey area is low. In addition, based on

an inspection of the project site, as well as discussions with the current and previous land owner, there is no indication that the site has been, or is currently utilized for cultural resource purposes. In light of the foregoing, the proposed action is not anticipated to have an adverse effect on the cultural practices of the community or State.

4. ***Air Quality and Noise***

The proposed action will involve construction activity which may be a source of airborne emissions and noise. Construction noise is attributable to material hauling trucks and operation of onsite equipment during the building period. Dust generated from the construction activities are generally attributed to clearing and grubbing activities. Construction equipment may also be a source of airborne emissions which would otherwise not be present at the site. To mitigate the impacts of dust during construction, Best Management Practices (BMPs) shall be incorporated in site construction activities in accordance with Chapter 20.08 of the Maui County Code. In addition, the contractor shall be responsible for properly maintaining vehicle and equipment engines to ensure their efficient operations. Finally, the contractor shall be required to comply with Hawaii Administrative Rules, Chapter 11-46 relating to "Community Noise Control". Construction activity will occur during daylight work hours.

In the long-term, noise from the occasional use of the proposed helistop is expected to temporarily add to background noise levels. The helistop, which will be designed and operated in accordance with Federal Aviation Administration standards, will be utilized by the MFD to support rescue operations, as well as for fire

suppression activities in inaccessible areas, and for combating large-scale brush fires. The flight tracks for approaching and departing helicopters will be formulated to avoid residential areas. In light of the foregoing, noise associated with helistop use will be brief and its effects temporary.

From a long-term perspective, the proposed action is not expected to result in adverse air quality or noise impacts.

5. *Scenic and Open Space Resources*

The proposed project is anticipated to complement the existing character of the surrounding environs. The project will utilize landscaping and architectural design elements to provide a facility which is not only compatible with its surrounding environment, but satisfies spatial, aesthetic, and functional requirements as well.

The proposed project is not anticipated to have an adverse impact upon views or scenic areas.

B. *IMPACTS TO THE SOCIO-ECONOMIC ENVIRONMENT*

1. *Land Use and Community Character*

Presently, fire suppression and emergency response services for the South Maui region are provided by the Kihei Fire Station, which is situated about 2 1/4 miles to the northwest of the project site. Within the past five years, 44 percent of the alarms that the Kihei Fire Station has responded to were from the Wailea district, the area that ranges from Kamaole Beach Park II to Makena. The proposed Wailea Fire Station will enhance the MFD's ability to respond to fires and other emergencies in the Wailea district and other areas in South Maui on a timely basis.

The proposed action is not anticipated to have an adverse impact upon surrounding uses, and is considered compatible with existing land uses in the vicinity.

2. *Population and Economy*

The proposed action is anticipated to have a positive economic effect during the construction phase of development as expenditures for construction and related support services are made. In the longer term, the proposed public project is not anticipated to have significant direct effects on the local economy. The proposed project is not anticipated to have a significant impact on population parameters.

C. *IMPACTS TO PUBLIC SERVICES*

1. *Police, Fire and Health Care*

The proposed project is not anticipated to affect the service capabilities of police and emergency medical operations. However, the Wailea Fire Station will advance the MFD's mission of providing fire suppression and emergency response services, as well as enhance its support capabilities and its response time to alarms.

2. *Recreation and Education*

The proposed project is not considered significant in terms of population generation. As such, the proposed project will not place any new demand on recreational facilities and services. School enrollments or locations will not be affected by the proposed action. As a result, no impacts to educational facilities and services are anticipated.

3. *Solid Waste*

The clearing of the project site will be implemented in accordance with the provisions of Chapter 20.08 of the Maui County Code pertaining to Soil Erosion and Sedimentation Control. A solid waste management plan for the disposal of cleared and grubbed materials resulting from construction activities will be developed in coordination with the County of Maui, Department of Public Works and Waste Management's Solid Waste Division. Once completed, the proposed project is not anticipated to have an adverse impact upon solid waste collection services or landfill capacity.

D. *IMPACTS TO INFRASTRUCTURE*

1. *Roadways*

A traffic letter report has been prepared for the proposed project. See Appendix D.

Access to the new fire station will be off of Kilohana Drive. Major intersections in the vicinity of the project include the intersection of Piilani Highway and Kilohana Drive, which is controlled by a traffic signal system, as well as the intersections of South Kihei Road and Kilohana Drive, and Kilohana Drive and Wailea Alanaui Drive.

The letter report notes that historically, stand-alone fire stations are not generators of significant numbers of vehicular traffic. In this light, the report indicates that the proposed Wailea Fire Station will not adversely impact commuter peak periods of traffic on Piilani Highway or on South Kihei Road.

The letter report also recommends that provisions be made at the new fire station to be able to activate the existing emergency

vehicle preemptors at the traffic signal system at the Piilani Highway/Kilohana Drive intersection. In addition, the report recommends that adequate sight stopping distance on Kilohana Drive be provided at the fire station access driveway.

2. ***Water***

Domestic water and fire flow for the proposed project will be provided by the County of Maui, Department of Water Supply's (DWS) potable water system which serves the Kihei-Makena region. Water service for the project will likely be provided by the existing 12-inch waterline to the west of the project site that extends from Kapili Street in a northerly direction along the alignment of the future Kapili Street extension.

The proposed project is not anticipated to adversely impact regional water service. Requirements and calculations for fire, domestic, and irrigation water service and use, as well as connection to the County's water system will be coordinated with the DWS as part of the project's building permit application review and approval process. In addition, water system improvements will be coordinated with the DWS to ensure that adequate supply is available at the time of development.

3. ***Wastewater***

It is anticipated that an existing 8-inch stubout that extends in an easterly direction from a sewer manhole at the intersection of Kilohana Drive and Kapili Street will be utilized to provide a sewer line connection for the wastewater system for the new Wailea Fire Station.

The proposed project is not expected to place significant new demands on existing wastewater system capacities or facilities. While adequate treatment capacity for the project is available, coordination will be undertaken with the County of Maui, Department of Public Works and Waste Management's Wastewater Reclamation Division (WWRD) during the project's detailed design and engineering phase. In addition to coordinating wastewater system improvements with the WWRD, wastewater contribution calculations will be submitted to the WWRD in connection with the processing of the project's building permit application.

4. ***Drainage***

Based on a 10-year, 1-hour storm, existing runoff generated by the project site is 1.71 cfs. The intent of the proposed drainage scheme for the project is to minimize the drainage impact of the proposed development, and provide adequate stormwater disposal for runoff generated on the site. Refer to Appendix C.

Overland sheet flow, swales, drain inlets, and underground drainlines will be used to intercept the onsite runoff. The accumulated runoff will be directed to new drain inlets located in the fire station's parking lot. The accumulated onsite runoff will be stored and discharged onsite through the use of underground infiltration trench piping. An overflow outlet will also be installed.

Due to the proposed improvements and the increase in impervious surface, the flow generated within the project site will increase from 1.71 cfs to 4.69 cfs. However, 3.00 cfs will be stored and discharged onsite through underground filtration piping. Accordingly, the total runoff from the project contributed offsite will

decrease from 1.71 cfs to 1.69 cfs.

Site work for the project will involve the clearing, grubbing, and grading of the site to establish building and structural foundations for the proposed improvements, as well as trenching for the installation and connection of utilities (water, sewer, power, telephone).

Appropriate mitigative measures and Best Management Practices (BMPs) will be implemented during construction to minimize the effects of soil loss and erosion. Some examples of these measures include:

1. Minimize the time of construction;
2. Retain existing ground cover as long as possible in order to minimize dust and erosion during construction;
3. Early construction of drainage control features;
4. Use temporary area sprinklers in non-active construction areas when ground cover is removed;
5. Utilize onsite water wagons for immediate sprinkling, as needed, in active construction areas (weekends and holidays included);
6. Use temporary berms and cut-off ditches, where needed, to control soil erosion;
7. Water graded areas thoroughly after construction activity has ceased for the day and on weekends and holidays; and
8. All cut and fill slopes shall be sodded or planted immediately after grading work has been completed.

All necessary drainage systems will be designed in accordance

with the "Rules for the Design of Storm Drainage Facilities in the County of Maui" to ensure that the proposed drainage system will not adversely affect downstream and adjacent properties. In addition, a detailed drainage report and erosion control plan with BMPs, will be submitted to the County of Maui, Department of Public Works and Waste Management for review and approval, in conjunction with the processing of the building permit application for the project.

5. ***Electrical, Telephone, and CATV Systems***

Electrical, telephone, and CATV services for the proposed project will be coordinated with Maui Electric Company, Verizon Hawaii, and Hawaiian Cablevision, respectively. In addition, coordination with Maui Electric Company will be undertaken for the relocation of the existing utility poles and overhead lines that traverse the project site, and for the establishment of a substitute easement.

Chapter IV

Relationship to Governmental Plans, Policies and Controls

IV. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICTS

Chapter 205, Hawaii Revised Statutes, relating to the State Land Use Commission (SLUC), establishes the four (4) major land use districts in which all lands in the State are placed. These districts are designated "Urban", "Rural", "Agricultural", and "Conservation".

The project site is within the "Urban" District. See Figure 5. The proposed action involves uses of the property which are compatible with its "Urban" designation.

B. GENERAL PLAN OF THE COUNTY OF MAUI

The General Plan of the County of Maui (1990 Update) sets forth broad objectives and policies to help guide the long-range development of the County. As stated in the Maui County Charter, "The purpose of the General Plan is to recognize and state the major problems and opportunities concerning the needs and development of the County and the social, economic and environmental effects of such development and set forth the desired sequence, patterns and characteristics of future development".

The proposed action is in keeping with the following General Plan objectives and policies:

Objectives:

- To use the land within the County for the social and economic benefit of all the County's residents.
- To improve the quality and availability of public facilities throughout Maui County.

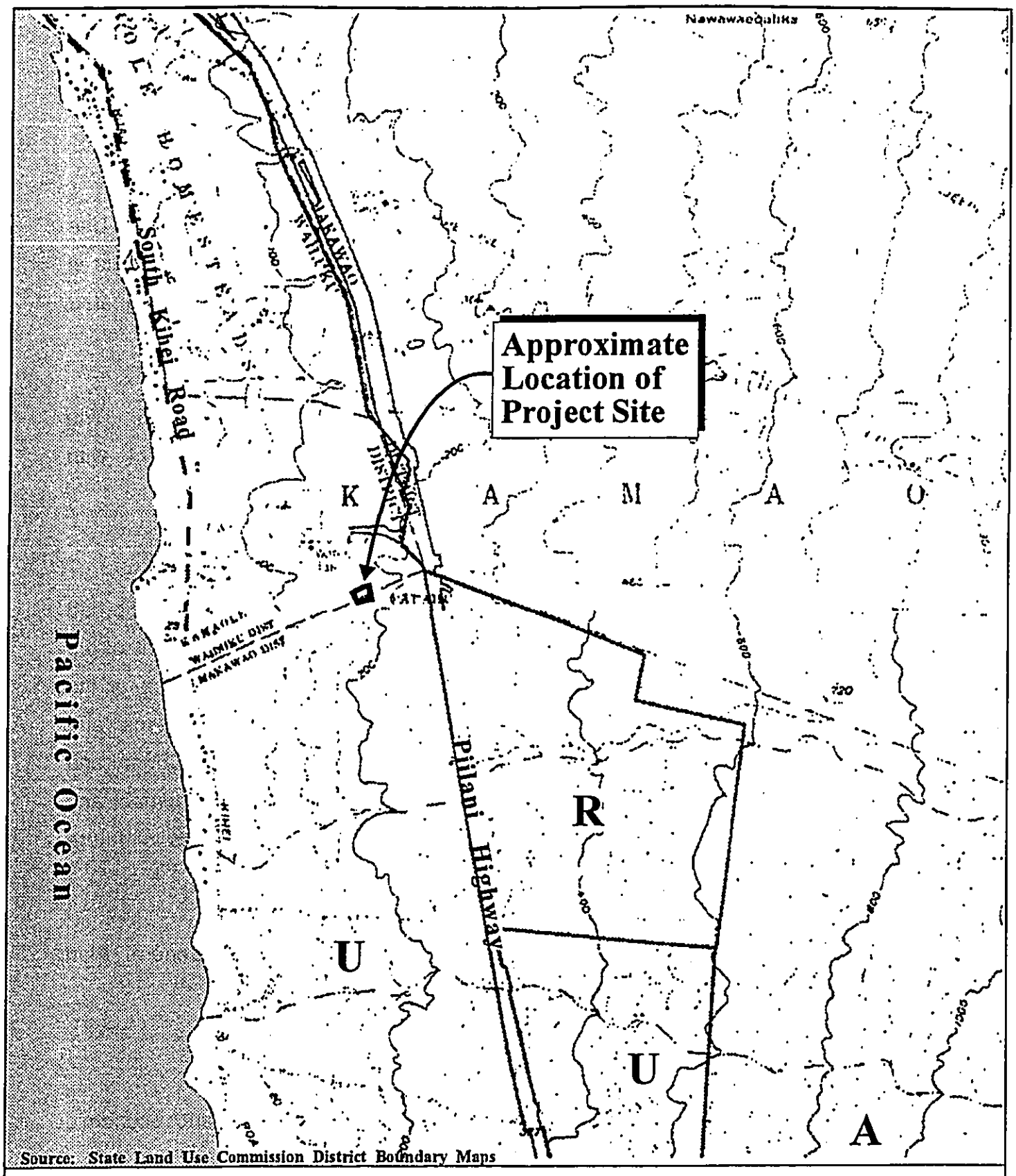


Figure 5 Proposed Wailea Fire Station
State Land Use District Boundary Map

0 500 1000 2000 Feet

MUNEKIYO & HIRAGA, INC.

Prepared for: County of Maui, Department of Fire Control

- To create an atmosphere which will convey a sense of security for all residents and visitors and aid in the protection of life and property.

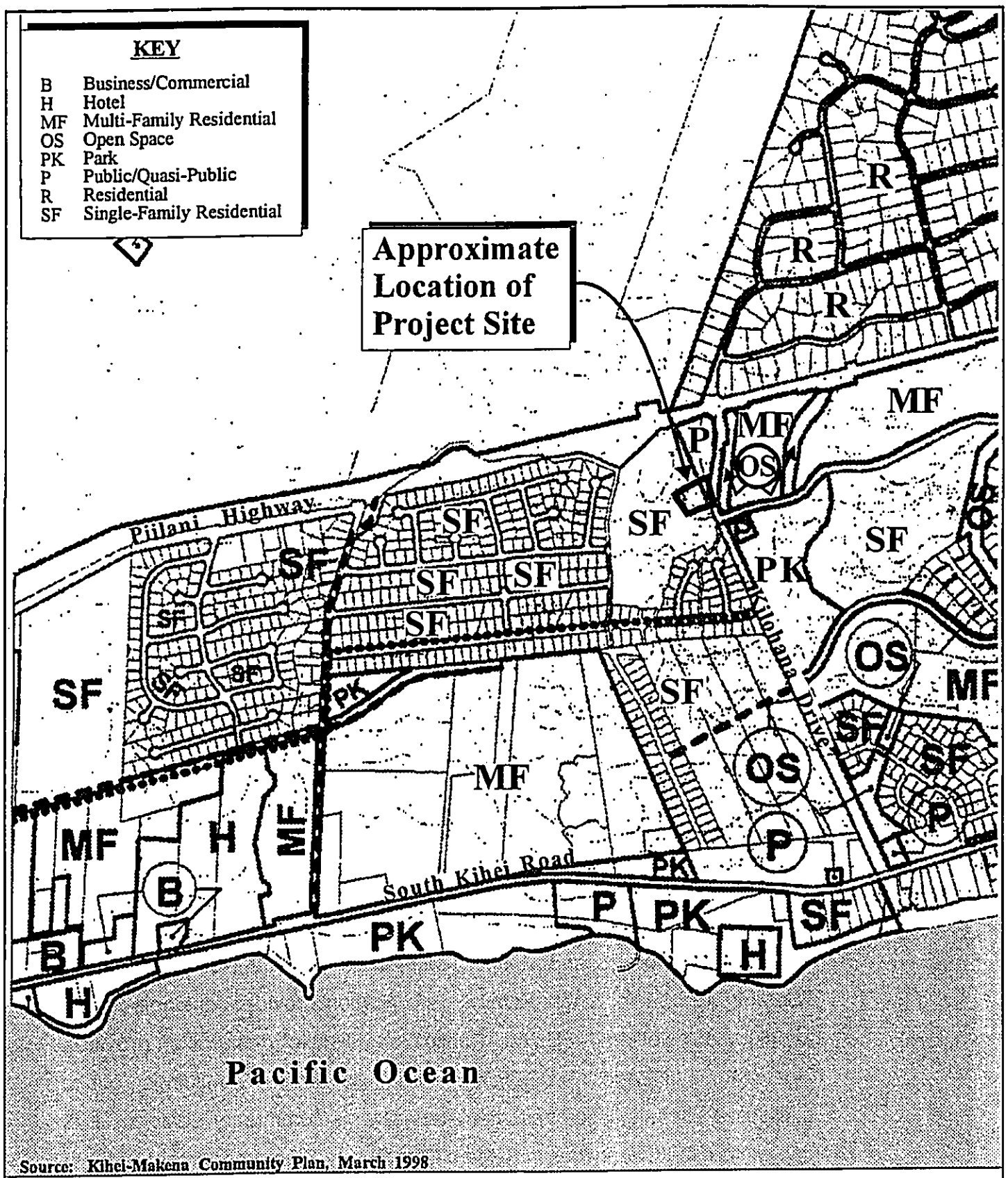
Policies:

- Provide and maintain a range of land use districts sufficient to meet the social, physical, environmental, and economic needs of the community.
- Locate fire, police, and life-saving stations in convenient areas.

C. *KIHEI-MAKENA COMMUNITY PLAN*

The subject parcel is located in the Kihei-Makena Community Plan region which is one (1) of nine (9) Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plans, which are designed to implement the General Plan of the County of Maui. Each Community Plan contains recommendations and standards which guide the sequencing, patterns and characteristics of future development in the region. Land use guidelines for the region are established by the Kihei-Makena Community Plan.

As indicated by the current Kihei-Makena Community Plan, the lands underlying the project site are currently designated for "Single-Family" (TMK 3-9-38:por. 28) and "Public/Quasi-Public" (TMK 2-1-08:46 and 113). See Figure 6. The "Single-Family" classification provides for single-family and duplex dwellings, while the "Public/Quasi-Public" designation provides for schools, libraries, fire/police stations, government buildings, public utilities, hospitals, churches, cemeteries, and community centers. It is noted that the County has initiated a Community Plan amendment request to redesignate the "Single-Family" portion of the property to "Public/Quasi-Public".



Source: Kihei-Makena Community Plan, March 1998

Figure 6 Proposed Wailea Fire Station
Community Plan Land Use Designation

0 250 500 1000 Feet

MUNEKIYO & HIRAGA, INC.

Prepared for: County of Maui, Department of Fire Control

D. ***ZONING***

Presently, the lands underlying the project site are zoned by the County of Maui for "R-2, Residential" (TMK 3-9-38:por. 28), "Open Space/Future Roadway" (TMK 2-1-08:46), and "A-1, Apartment" (TMK 2-1-08:113) uses.

Generally, "R-2, Residential" zoning provides for single-family dwellings, greenhouses, nurseries, and flower/truck gardens, noncommercial parks and playgrounds, publicly and privately owned schools and colleges, facilities used by government agencies for public purposes, accessory buildings and dwellings on the same lot, small-scale day and child care facilities, and bed and breakfast homes.

While not specifically defined by the Maui County Code, the uses set forth by the Kihei-Makena Community Plan for "Open Space" are deemed to be applicable for zoning purposes. As reflected by the community plan, "this use is intended to limit development on certain urban and non-urban designated lands which may be inappropriate for intensive development due to environmental, physical, or scenic constraints, this category would include, but not be limited to shoreline buffer areas, landscape buffers, drainageways, view planes, flood plains, and tsunami areas. Other appropriate urban and non-urban uses may be allowed on a "permit basis".

Uses permitted under "A-1, Apartment" zoning include any use permitted in the residential and duplex districts, apartment houses, boarding houses, rooming houses, and lodging houses, bungalow courts, apartment courts, and townhouses.

As previously noted, the County of Maui, Department of Planning is currently in the process of obtaining the appropriate zoning changes for

the establishment of the "P-1, Public/Quasi-Public" zoning district for the subject property. Permitted uses under "Public/Quasi-Public" zoning include churches, community centers, fire and police stations, government buildings and facilities, hospitals, schools, colleges, and libraries, nursery and day care facilities, offices for nonprofit charitable organizations, public and private parking lots or structures serving the public, and public utility substations.

E. COUNTY OF MAUI-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 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.

(1) Recreational Resources

Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

(A) Improve coordination and funding of coastal recreational planning and management; and

(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

  (i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

  (ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when

such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;

(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

(v) Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;

(vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

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

(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of Section 46-6, HRS.

Response: The subject property is situated about 1.0 mile from the shoreline. As such, the proposed project is not anticipated to affect existing coastal recreational resources. The project is intended to address "Public/Quasi-Public" needs which are in consonance with the objectives, policies, and implementing actions of the Kihei-Makena Community Plan.

(2) ***Historical/Cultural Resources***

Objective: Protect, preserve and, where desirable, restore those

natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

(A) Identify and analyze significant archeological resources;
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Response: The archaeological inventory survey of the project area found no archaeological features, cultural artifacts, or in situ burials on the subject property. The proposed action is not anticipated to have an adverse impact on historical or cultural resources. Should human remains be inadvertently discovered during earth moving activities, work shall cease at once in the immediate area of the find, and the find shall be protected from further damage. The State Historic Preservation Division shall be immediately notified and procedures for the treatment of inadvertently discovered human remains shall be implemented 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 landforms and existing public views to and along the shoreline;
(C) Preserve, maintain, and, where desirable, improve and

restore shoreline open space and scenic resources; and

(D) Encourage those developments which are not coastal dependent to locate in inland areas.

Response: The proposed project will be developed and landscaped to ensure visual compatibility with surrounding land uses. The proposed improvements are not contrary to the objectives and policies for scenic and open space resources.

(4) Coastal Ecosystems

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

Policies:

(A) Improve the technical basis for natural resource management;

(B) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

(C) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

(D) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

Response: The proposed improvements are not expected to adversely impact coastal ecosystems. The proposed drainage system will be utilized to accommodate surface runoff from the development of the site. Drainage improvements shall be designed in accordance with County standards to ensure that there are no adverse effects to adjacent or downstream properties. Applicable BMPs and erosion control measures will also be implemented during the construction of the project.

(5) ***Economic Uses***

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

Policies:

(A) Concentrate coastal dependent development in appropriate areas;

(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;

(ii) Adverse environmental effects are minimized; and

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

Response: The subject property is situated approximately 1.0 mile inland from the shoreline in an area of existing urbanized uses. The proposed action will support short-term construction and construction-related jobs. The project is also in consonance with the objectives, policies, and implementing actions of the Kihei-Makena Community Plan as they relate to health and public safety.

(6) ***Coastal Hazards***

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

Policies:

(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;
(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;
(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program;
(D) Prevent coastal flooding from inland projects; and
(E) Develop a coastal point and nonpoint source pollution control program.

Response: *The project site is located within Zone C, which is an* area of minimal flooding. No significant adverse drainage impacts to downstream properties are anticipated from the proposed project. There are no other site-specific natural hazard conditions affecting the site.

(7) ***Managing Development***

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

Policies:

(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

(B) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and

(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Response: This Environmental Assessment has been prepared for public review in compliance with Chapter 343, Hawaii Revised Statutes, and Chapter 200 of Title 11, Administrative Rules, Environmental Impact Statement Rules.

In addition, applicable State and County requirements will be adhered to in the design and construction of the proposed project.

(8) Public Participation

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

Policies:

(A) Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program;

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

(C) Organize workshops, policy dialogues, and site-specific medications to respond to coastal issues and conflicts.

Response: Public awareness and participation for this project is facilitated through the Chapter 343, HRS environmental review process. A public hearing for the project's Special Management Area Use Permit will be conducted by the Maui Planning Commission. The proposed project is not contrary to the objective of public awareness, education and participation.

(9) Beach Protection

Objectives: Protect beaches for public use and recreation.

Policies:

(A) Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;

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

(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

Response: The proposed project is located approximately 1.0 mile inland from the shoreline and is not anticipated to impact shoreline activities and beach processes.

(10) Marine Resources

Objectives: Implement the State's ocean resources management plan.

Policies:

(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

(B) Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

(C) Coordinate the management of marine and coastal resources and activities management to improve effectiveness and efficiency;

(D) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

(E) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to

understand how ocean development activities relate to and impact upon ocean and coastal resources; and

(F) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Response: The proposed project is not anticipated to have adverse effects upon marine and coastal resources in the vicinity. Runoff from the project site will flow into the proposed onsite drainage system and is not anticipated to adversely affect marine or coastal resources.

Chapter V

Summary of Environmental Effects Which Cannot Be Avoided

V. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

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

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

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

Chapter VI

Alternatives Analysis

VI. ALTERNATIVES ANALYSIS

A. NO ACTION ALTERNATIVE

The "no action" or "no build" alternative calls for retaining the project site in its current condition. Currently, the site is vacant, undeveloped, and vegetated with scattered kiawe and buffel grass. The "no action" alternative would involve a continuation of the underutilized and unmaintained nature of the property. In addition, this alternative is not considered a viable scenario in the context of the community's need for additional fire protection and suppression services.

B. DEFERRED ACTION ALTERNATIVE

As with the "no action" alternative, the "deferred action" alternative is not deemed appropriate.

C. SITE PLAN ALTERNATIVES

Historically, other sites in the Kihei-Makena region have been discussed for the area's second fire station (e.g., within the Wailea 670 development). However, the subject parcel was dedicated to the County of Maui by Wailea Resort Company, Ltd. for the specific purpose of fire station development. The dedication of the property was made in the context of the subject property's central location, proximity to infrastructure, and relative impacts to surrounding areas. As this site was determined to be ideal in terms of the County of Maui's fire protection mission and facility needs, no other site alternatives were considered for the project.

During the project's conceptual site planning stage, several site layouts were considered. However, these preliminary plans were discounted due to cost and functional considerations. It should be noted that the site planning phase involved an examination of the operational requirements

for the proposed fire station in order to ensure that spatial and functional criteria for the project were adequately addressed. In addition, the site planning process involved an analysis of space needs, missions and functions, area requirements, spaces and adjacencies, and people/equipment activities schedule. Through the project's planning process, a site plan was prepared and reviewed to ensure that all operational and performance standards can be addressed.

Although there may be other site layouts which could be examined, the proposed site layout is intended to best accommodate the operational needs of the Maui Fire Department in its mission to provide fire suppression and emergency response services to the public.

Chapter VII

Irreversible and Irretrievable Commitments of Resources

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed action would involve a commitment of fuel, labor, funding and material resources.

Development of the proposed project will involve the commitment of land for a needed public facility which would preclude other land use options for the site. This commitment of land resources, however, is consistent with existing and future land uses in and around the project area.

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

   The subject property has, to a large extent, been previously disturbed in connection with the construction of nearby roadway improvements. The archaeological inventory survey of the project area did not locate any significant archaeological features, cultural artifacts, or in situ burials. Accordingly, the development of the property is not expected to result in any adverse impacts to cultural resources. Should any artifacts or human remains be encountered during construction, work will stop in the immediate vicinity of the find and the State Historic Preservation Division 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***

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

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

The proposed project 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 contribution of taxes, salaries, wages, and benefits. The primary social welfare benefit, however, is the provision of a needed public service in a growing region of South Maui.

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

No adverse impacts to the public's health and welfare are anticipated as a result of the proposed project. The proposed action will have a beneficial effect on public health, safety, and welfare by enhancing existing fire suppression and emergency response services in the South Maui region.

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 in keeping with the objectives, policies, and implementing actions of the Kihei-Makena Community Plan. The proposed project complements and is compatible

with surrounding land uses.

The proposed improvements will hookup to existing County water and wastewater systems. No adverse impacts to water and wastewater capacities and facilities are anticipated. Onsite and offsite surface runoff are expected to be accommodated by the proposed drainage system improvements. The project is not expected to significantly impact other public services such as police, health care, and emergency 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 should 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 Action Does Not Involve a Commitment to Larger Actions, Nor Would Cumulative Impacts Result in Considerable Effects on the Environment***

The proposed action is considered a stand alone project that will be developed in a single phase. The proposed action does not represent a commitment to larger actions. In addition, the proposed action is not expected to result in any cumulative impacts that would adversely affect the environment.

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

There are no rare, threatened or endangered species of flora, fauna, avifauna or their habitats that will be adversely affected 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. 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 and occasional helistop use. It is anticipated that construction will be limited to daylight working hours. Water quality is not expected to be affected.

In the long term, the project is not anticipated to have a significant impact on air and water quality. Helicopter noise from occasional emergency rescue and fire fighting missions is expected to add to ambient noise levels on an intermittent basis. However, helicopter noise is not expected to adversely affect noise conditions, as these missions are expected to be infrequent and its effects temporary.

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 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, this demand is not deemed substantial or excessive within the context of the region's overall energy consumption.

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

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.

State of Hawaii

1. Community Noise Permit
2. Work to Perform in State Highway Right-of-Way

County of Maui

1. Special Management Area Use Permit
2. Construction Permits (Grubbing, Grading, Building, Electrical, Plumbing, Driveway)

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. Agency comments received during the early consultation phase, as well as responses to substantive comments, are included in this section. In addition, comments received after the early consultation comment perod deadline and letters responding to substantive comments are contained in this section as well.

1. Neal Fujiwara, Soil Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, Hawaii 96793-2100

2. George Young, Chief Regulatory Branch
Department of the Army
U.S. Army Engineer District, Hnl.
Attn: Operations Division
Bldg. T-1, Room 105
Fort Shafter, Hawaii 96858-5440

3. Robert P. Smith
Pacific Islands Manager
U. S. Fish and Wildlife Service
P.O. Box 50167
Honolulu, Hawaii 96850

4. Gary Gill, Deputy Director
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

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

6. Gilbert Coloma-Agaran
State of Hawaii
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809

7. Don Hibbard
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawaii 96707

8. Robert Siarot, Maui District Engineer
State of Hawaii
Department of Transportation
Highways Division
650 Palapala Drive
Kahului, Hawaii 96732

9. Colin Kippen, Deputy Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

10. Clayton Ishikawa, Chief
County of Maui
Department of Fire Control
200 Dairy Road
Kahului, Hawaii 96732

11. John Min, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

12. Floyd Miyazono, Director
County of Maui
Department of Parks and Recreation
1580-C Kaahumanu Avenue
Wailuku, Hawaii 96793

13. Tom Phillips, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawaii 96793

14. David Goode, Director
County of Maui
Department of Public Works and Waste Management
200 South High Street
Wailuku, Hawaii 96793

15. David Craddick, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

16. Bill Overton
Wailea Community Association
555 Kaukahi Street #214
Wailea, Hawaii 96753

17. Rudy Luuwai
Makena Homeowners Association
5100 Makena Road
Kihei, Hawaii 96753

18. Barney Eiting, Chair
Kihei Community Association
Planning and Development Committee
P.O. Box 2311
Kihei, Hawaii 96753

19. Dorothy Williams, President
Maui Meadows Homeowners Association
P.O. Box 1935
Kihei, Hawaii 96753

20. Ron Sturtz, President
Maui Meadows Neighborhood Association
874 Kumulani Drive
Kihei, Hawaii 96753

JUN 1 1 2001

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

REPLY TO
ATTENTION OF

June 6, 2001

Regulatory Branch

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

Dear Mr. Tadaki:

This letter responds to your request for comments on the proposed Wailea Fire Station, dated May 31, 2001. The information summary is not sufficiently detailed to determine if a Department of the Army (DA) permit will be required for this project. Please include us on the mailing list for the Draft Environmental Assessment and include in the document information concerning the presence or absence of streams or wetlands on the project site.

If you have any questions concerning this determination, please contact William Lennan of my staff at 438-6986 or FAX 438-4060, and reference File No. 200100369.

Sincerely,

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

BENJAMIN J. CAYETANO
GOVERNOR

JUN 13 2001

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MAUI DISTRICT
650 PALAPALA DRIVE
KAHULUI, HAWAII 96732

IN REPLY REFER TO:
HWY-M2.184-01

June 7, 2001

MEMORANDUM

TO: **Glenn Tadaki**
Munekiyo & Hiraga, Inc.

FROM: **Paul M. Chung**
State Highways

SUBJECT: **Proposed Wailea Fire Station**
ME 01-44

Thank you for the opportunity to review and comment on the project summary for the proposed Wailea Fire Station. Based upon our review, we have no comments to offer at this time.

If there are any questions or concerns, please call me at 873-3535.

/pmc

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

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

June 8, 2001

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

Dear Mr. Tadaki:

SUBJECT: PROPOSED WAILEA FIRE STATION

We have reviewed the summary for the subject project and have no comments or objections at this time.

Thank you for the opportunity to review and comment. Should there be any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

FLOYD S. MIYAZONO
Director

c: Patrick Matsui, Chief of Planning and Development

Tracy

From: Madge Schaefer <msch4@ccmaui.com>
To: <planning@mhinconline.com>
Sent: Tuesday, June 12, 2001 11:29 AM
Subject: Proposed Wailea Fire Station

I understand that you are in the process of preparing an Environmental Assessment for the Proposed Wailea Fire Station. As part of that EA, the Maui Meadows Neighborhood Association would request that consideration be given to an ambulance bay as part of this fire station. Response time from the ambulance station located in North Kihei grow longer and longer. It is a high priority on the Dept of Health safety services list to provide a second ambulance service based in South Kihei. It is logical for this EA to include such a facility now.
Thank you for your consideration. I can be reached at 874-9293 should you have any questions.
Madge Schaefer

MUNEKIYO & HIRAGA, INC.

June 19, 2001

Madge Schaefer
Maui Meadows Neighborhood
Association
c/o 874 Kumulani Drive
Kihei, Hawaii 96753

SUBJECT: Proposed Wailea Fire Station

Dear Ms. Schaefer:

Thank you for providing us with the association's comments on the subject project. On behalf of the Department of Fire Control, we would like to note that your comments concerning the provision of an ambulance bay at the new fire station will be considered during the project's technical design phase.

Thank you again for providing us with your comments. A copy of the subject's Draft Environmental Assessment will be provided to the Maui Meadows Neighborhood Association for review.

Very truly yours,

Glenn Tadaki, Planner

GT:cc
cc: Jay Buzianis, Department of Finance
Clayton Ishikawa, Department of Fire Control
Laurel Nahme, Mitsunaga & Associates, Inc.
Colleen Suyama, Department of Planning
ma\wlearire\schaefer.ltr

environment

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

JUN 1 3 2001

Wailea Community Association

555 Kaukahi Street, Suite 214
Wailea, Hawaii 96753-8333
(808) 874-6866 • FAX (808) 874-4027
email wca@maui.net

June 13, 2001

Munekiyo Hiraga, Inc.
Attn: Glenn Tadaki
305 High Street
Suite 104
Wailuku, Hawai'i 96793

Dear Glenn,

We here at the Wailea Community Association are pleased with the plans to build a new fire station in Wailea. I agree with your assessment that there is a strong need for such a facility to better respond to the growing communities in the area. Your plans to add a Police substation is another benefit to the community and we hope that will be done soon as well.

I appreciate your notifying us of the status and wish to offer my support to this. Please keep me notified of any progress concerning the development of the fire station and remaining property.

Sincerely,

Frank "Bud" Pikrone
Operations Manager

LETTERS RECEIVED AFTER THE EARLY CONSULTATION COMMENT PERIOD DEADLINE AND RESPONSES TO SUBSTANTIVE COMMENTS

JUN 20 20

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-6109
Telephone (808) 270-7816 • Fax (808) 270-7833

June 13, 2001

Mr. Glenn Tadaki
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

SUBJECT: Wailea Fire Station Site
TMK: 2-1-08:046 and 113, and TMK 3-9-38: por 026

Dear Mr. Tadaki,

Thank you for the opportunity to provide comments in preparation of the draft Environmental Assessment (EA).

The EA should include the sources and expected potable and non-potable water usage. This project area is served by the Central Maui System. The major source of water for this system is the Iao Aquifer. Rolling annual average groundwater withdrawals from the Iao Aquifer as of May 1, 2001 were 17.397 MGD. The regulatory sustainable yield of this aquifer is 20 MGD. If rolling annual average withdrawals exceed 20 MGD, the State Commission on Water Resource Management will designate Iao Aquifer. Two wells in North Waihee were brought on-line in July 1997 and another two adjacent wells were brought on-line during 2000. The Department is continuing to implement a plan to bring new sources on-line and to mitigate withdrawals. No guarantee of water is granted or implied as a result of these comments. Water availability will be reviewed at the time of application for meter or meter reservation.

The applicant will be required to comply with subdivision requirements, waived in the "Agreement for the Deferral of Subdivision Water System Improvements" of March 22, 1993, and provide fire and domestic service according to Department standards. All domestic, fire, and irrigation calculations will be reviewed in detail during the development process. Please note that an easement in favor of the Board of Water Supply is granted for the 12-inch water line traversing the South border of TMK parcel 2-1-08:046. Attached are copies of the Department fire protection map of the subject areas.

Brackish and/or reclaimed water sources should be used for all non-potable uses, including irrigation and dust control during construction, if such alternative sources are or will become available. We recommend that the following water conservation measures be implemented:

Use Climate-adapted Plants: The project site is located in "Maui County Planting Plan" - Plant Zone 3. We encourage the applicant to review the Maui Planting Plan and attached document and use climate-adapted and salt-tolerant native plants for all landscaping purposes. Native plants adapted to this area, conserve water and further protect the watershed from degradation due to invasive alien species.

Eliminate Single-Pass Cooling: Single-pass, water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20. These units pass water once-through for cooling, and then dispose of the water into the drain.

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 16.20.675 requires the use of low flow water fixtures and devices in faucets, showerheads, urinals, water closets and hose bibs. Water conserving washing machines, ice-makers and other units are also available.

Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Refer to the attached handout, "The Costly Drip". The applicant should establish a regular maintenance program.

Prevent Over-Watering By Automated Systems: Provide rain-sensors on all automated irrigation controllers. Check and reset controllers at least once a month to reflect the monthly changes in evapotranspiration rates at the site.

Limit Irrigated Turf: Limit irrigated turf to 25% or less of total landscaped area. Select turf species with low water use requirements. Low-water use shrubs and groundcovers can be equally attractive and require substantially less water than turf.

The project overlies the Kamaole aquifer. The Department of Water Supply strives to protect the integrity of surface water and groundwater resources by encouraging applicants to adopt best management practices (BMPs) relevant to potentially polluting activities. We list a few BMP references here. Additional information can be obtained from the State Department of Health.

"The Megamanual - Nonpoint Source Management Manual - A Guidance Document for Municipal Officials." Massachusetts Department of Environmental Protection.

"Guidance Specifying Management Measures For Sources of Nonpoint Pollution In Coastal Waters." United States Environmental Protection Agency, Office of Water.

If you need additional information, please call the Water Resources and Planning Division at: 270-7199.

Sincerely,

David Craddick
Director

emb

C:\WPdocs\EAs EISs\Wailea Fire Station pre consult.wpd

cc: engineering division

Attachments:
1) "The Costly Drip"
2) Maui County Department of Water Supply, "Saving Water in The Yard - What and How to Plant In Your Area."
3) Ordinance 2108 - "An ordinance amending Chapter 16.20 of the Maui County Code, pertaining to the plumbing code"
4) A Checklist of Water Conservation Ideas For Cooling
5) A Checklist of Water Conservaton Ideas For Commercial Buildings
6) Portions of Department of Water Supply Fire Protection Map

JAMES "KIMO" APANA
Mayor

DAVID C. GOODE
Director

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

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

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS AND WASTE MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Land Use and Codes Administration

RON R. RISKA, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

June 18, 2001

Mr. Glenn Tadaki
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

SUBJECT: PRELIMINARY ENVIRONMENTAL ASSESSMENT
WAILEA FIRE STATION
TMK: (2) 3-9-038:POR. OF 026
(2) 2-1-008:046 & 113

We have reviewed the subject application and have the following comments:

1. Submit plan for any construction waste disposal/recycling.

2. Although wastewater system capacity is currently available as of June 7, 2001, the developer should be informed that wastewater system capacity cannot be ensured at the time of building permit final approval or if the project completion is delayed.

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. Indicate on the plans the ownership of each easement (in favor of which party). Note: County will not accept sewer easements that traverse private property.

Should you have any questions regarding this memorandum, please call Milton Arakawa at 270-7845.

Sincerely,

for DAVID GOODE
Director of Public Works
and Waste Management

MA:jso
S:\LUCA\CZM\WaileaFireStation1.wpd

JUL 2 5 200

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

Mr. Milton Arakawa, Deputy Director
County Department of Public Works
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Arakawa:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your early response letter of June 18, 2001 offering comments on the above mentioned project.

The fire station will comply with the counties policies on construction waste and recycling. Regarding wastewater capacity, the project should be on line by September of 2002. Wastewater calculations will be provided at the time of building permit submission. The project will provide any off-site improvements to the collection system and wastewater pump stations as is appropriate. Concerning easements for sewer lines, please note the site is owned and will continue to be owned by the County of Maui.

Should you require anything further, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director

JUN 2 2 2001

COUNTY OF MAUI
DEPARTMENT OF PLANNING

June 21, 2001

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

Dear Mr. Tadaki:

RE: Preliminary Consultation of Draft Environmental Assessment (DEA) for the Wailea Fire Station at TMK: 2-1-008:046 and 113 and TMK: 3-9-038:Por. 026, Wailea, Maui, Hawaii

The Maui Planning Department has reviewed the above-referenced project and has the following comments:

1. The subject properties are located within the State Urban District. The County land use designations of the subject properties are as follows:

TMK: 2-1-008:046	Community Planned - Public/Quasi-Public Zoning - Open Space/Future Roadway (L.Z. Map 511)
TMK: 2-1-008:113	Community Planned - Public/Quasi-Public Zoning - A-1 Apartment (L.Z. Map 511)
TMK: 3-9-038:Por. 28 & 26	Community Planned - Single Family Residential Zoning - R-2 Residential

2. In addition to the land use map, the Kihei-Makena Community Plan also includes objectives and policies which are applicable to the proposed project, such as the following:

   There are four major problems identified in the Community Plan. The fourth problem identified is "Public Services." Under Public

Services, it states:" the Kihei Fire Station needs a ladder truck to aid in fighting high-rise fires; additionally, *a fire and ambulance station needs to be provided in the Wailea area.*" (Emphasis added)

Further, under Health and Public Safety:

Objective and Policies

a. Improve and expand th delivery of health and public safety services to Kihei-Makena residents and visitors.

Implementing Action

b. Expand the fighting and rescue capabilities, including the acquisition of a new ladder truck, and the provision of a fire and ambulance station in the Wailea area.

3. The R-2 Residential District zoning of TMK: 3-9-038:Por. 026 (main site of fire station) lists as a permitted use "buildings or premises used by the federal, state or county governments for public purposes." The fire station is a building/premise used by county government for public purposes and is a permitted use. As a permitted use in the residential district, the development would also be consistent with the single-family designation of the community plan.

Further, a portion of the project (4 parking stalls) is located on the Open Space/Future roadway zoning designation of TMK: 2-1-008:046 (Land Zoning Map No. 511). It is noted that although a portion of the subject property is zoned open space, Title 19, Zoning, Maui County Code, does not contain an Open Space District. The proposed parking stalls is not a structure and does not obstruct open space and parking is a use normally associated with roadways, and therefore, is in compliance with the intent of the zoning designations as well as the public/quasi-public designation of the community plan.

It appears that the open space area was designated as a buffer between the future roadway lot and the adjacent single-family residential lots north of Kilohana Drive. However, the alignment

of Kilohana Drive further south within the A-1 Apartment District lot makes the buffer zone (open space/future roadway lot) no longer needed.

4. The County of Maui is presently processing a Community Plan Amendment to change TMK: 3-9-038:Por. 026 from single-family use to public/quasi-public use on the land use map for the Kihei-Makena Community Plan. Concurrent with the Community Plan Amendment is a request for a Change in Zoning to change the zoning of the three subject parcels to P-1 Public/Quasi-Public use. These land use changes will reflect the proposed uses on the subject properties and is a housekeeping measure since the uses are currently permitted.

Thank you for the opportunity to comment. If additional clarification is required, please contact Ms. Colleen Suyama, Staff Planner, of this office at 270-7735.

Very truly yours,

JOHN E. MIN
Planning Director

JEM:CMS:cmb

c: Clayton Yoshida, AICP, Deputy Planning Director
Jeffrey Chang, Acting Planning Program Administrator
Colleen Suyama, Staff Planner
Project File
General File
(S:\ALL\COLLEEN\WaileaFireStationDraftEA.wpd)

JUL 2 3 2001

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

Mr. John E. Min, Director
County Department of Planning
250 South High Street
Wailuku, Hawaii 96793

Dear Mr. Min:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your early response letter of June 21, 2001 offering comments on the above mentioned project.

We note that areas of non-compliance have been addressed through zoning and community plan amendment actions being undertaken by your department. Your comments relating to compliance with the community plan objectives is noted.

Should you require anything further, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

24/cpo

June 29, 2001

Mr. Glenn Tadaki
Munekiyo Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

Subject: Proposed Wailea Fire Station.
TMK: 2-1-8: 46 and 113
TMK: 3-9-38: por.26

Thank you for allowing us to review and comment on the subject proposal. We do not have any comments to offer at this time.

Sincerely,

GARY GILL
Deputy Director
Environmental Health Administration

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

Mr. Gary Gill, Deputy Director
State Department of Health
PO Box 3378
Honolulu, Hawaii 96801

Dear Mr. Gill:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your letter of June 29, 2001 offering comments on the subject project. We note you have no objections.

Should you have any further comments, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

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

Pursuant to the requirements of the environmental review process, letters received during the Draft Environmental Assessment public comment period, as well as responses to substantive comments, are included in this section.

BENJAMIN J. CAYETANO
GOVERNOR

WAYNE H. KIMURA
COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING
AND GENERAL SERVICES
SURVEY DIVISION
P. O. BOX 119
HONOLULU, HAWAII 96810

RESPONSE REFER TO:

FILE NO. _____

July 3, 2001

Mr. Glenn Tadaki, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Mr. Tadaki:

Subject: Proposed Wailea Fire Station

Please be advised that the subject proposal has been reviewed and confirmed that no Government Survey Triangulation Stations and Benchmarks are affected. The Survey Division has no objections to the proposed project.

Should you have any questions, please call me at 586-0390.

Very truly yours,

Randall M. Hashimoto

RANDALL M. HASHIMOTO
State Land Surveyor

JUL 2 5 2001

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

Mr. Randall M. Hashimoto, State Land Surveyor
State Department of Accounting and General Services
PO Box 119
Honolulu, Hawaii 96810

Dear Mr. Hashimoto:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your letter of July 3, 2001 offering comments on the subject project. We note you have no objections and that no Government Survey Triangulation Stations and Benchmarks will be affected.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzianis, Project Manager
Brian Miskae

JUL 1_ 2001

PHONE (808) 594-1888

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

FAX (808) 594-1865

'01 JUL 16 A10:48

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

July 3, 2001

Mr. John Min
Planning Director
Department of Planning
County of Maui
200 South High Street
Wailuku, HI 96793

Subject: Proposed Wailea Fire Station – DEA and Special Area Management Area Use Permit

Dear Mr. Min:

Thank you for the opportunity to comment on the above referenced project. The Office of Hawaiian Affairs has the following concerns:

OHA is concerned about the project's impacts on the Iao aquifer which has not fully recovered from recent overpumping. Maui's water resources are in a critical state. Available water falls short of that needed to support developments already zoned in Central and South Maui. While the project's water use is estimated to be relatively modest when compared to larger developments, the final EA should address the impact that the project will have on the aquifer. Brackish and/or reclaimed water sources should be used for all non-potable uses, including irrigation and dust control during construction, if such alternative sources are or will become available.

The DEA notes that the project overlies the Kamaole aquifer and that there are plans for diesel and gasoline fuel pumps, as well as two 1,000 gallon above-ground fuel storage tanks. The Office of Hawaiian Affairs requests that the proper permits and approvals be obtained prior to commencement of these projects.

The DEA also identifies the procedures to be followed if human remains are inadvertently discovered (pages 42 and 53). OHA requests that those sections be amended to include notification of the Maui/Lana'i Islands Burial Council as well as the SHPD.

Should you have any questions, please contact Jerry B. Norris at 594-1847, or email him at jnorris@oha.org.

Sincerely,

Colin C. Kippen Jr.

Colin C. Kippen, Jr.
Deputy Administrator

cc: OHA Board of Trustees
Ronald B. Mun, Acting Administrator
Thelma Shimaoka, Maui CAC
Clayton Ishikawa, Chief, Department of Fire Control, Maui
Brian Miskae, Executive Assistant, Office of the Mayor, Maui

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

Mr. Colin C. Kippen, Jr.
Deputy Administrator
State of Hawaii, Office of Hawaiian Affairs
711 Kapiolani Blvd., Suite 500
Honolulu, Hawaii 96813

Dear Mr. Kippen:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your letter of July 3rd, 2001 offering comments on the above mentioned project.

Your concerns regarding impacts on the Iao Aquifer are noted. The fire station is not a large consumer of water and should have no impact on the overall health of the Iao Aquifer. The public interest is being well served with the construction of the fire station and is therefore considered a necessary use of the water source. Every effort will be made to convert irrigation to a non-potable source when it is available. During construction, non-potable dust control will be utilized to the extent possible.

Concerning the provision of fuel storage, all necessary permits and safeguards will be incorporated into the above-ground fuel tanks.

Regarding the possibility of finding human remains during the construction period, an established procedure is already in place which involves the Maui/Lanai Islands Burial Council and the State Historic Preservation Division of the Department of Land and Natural Resources. Should any remains be discovered both these agencies would be notified immediately.

Should you require anything further, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

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

REPLY TO
ATTENTION OF

July 5, 2001

Regulatory Branch

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

Dear Mr. Tadaki:

This letter responds to your request for comments on the Draft Environmental Assessment, Proposed Wailea Fire Station, dated June, 2001. The information provided is not sufficient to determine if a Department of the Army (DA) permit will be required for this project. Please include us on the mailing list for the Final Environmental Assessment and include in the document information concerning the presence or absence of streams or wetlands on the project site. A copy of the photos provided with the original Application for Special Management Area Use Permit, Wailea Fire Station, dated June, 2001 would also be helpful.

If you have any questions concerning this matter, please contact William Lennan of my staff at 438-6986 or FAX 438-4060, and reference File No. 200100369.

Sincerely,

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

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

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

Dear Mr. Young:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your letter of July 5, 2001 offering comments on the subject project.

The subject project is located approximately ½ mile inland from the ocean shoreline. According to Federal Insurance Rate Maps, no wetlands are present anywhere on the site nor are there any intermittent or perennial streams that would affect the project.

Your organization will be on the mailing list for the Final Environmental Assessment. A copy of an air photo taken in 1998 of the general vicinity is enclosed for your review and records.

Should you have any further comments, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

50 Imi Kala St.
Suite 209
Wailuku, HI 96793

USDA

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

DATE: July 5, 2001

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

Dear Mr. Tadaki,

SUBJECT: Proposed Wailea Fire Station

We have no comment on the proposed subject.

Thank you for the opportunity to comment.

Sincerely,

Neal S. Fujiwara
District Conservationist

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

Mr. Neil S. Fujiwara
District Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
210 Imi Kala St., Suite 209
Wailuku, Hawaii 96793

Dear Mr. Fujiwara:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your letter of July 5, 2001 offering comments on the subject project. We note you have no objections.

Should you have any further comments, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

BENJAMIN J. CAYETANO
GOVERNOR

BRUCE S. ANDERSON, PH.D., M.P.H.
DIRECTOR OF HEALTH

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

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

July 5, 2001

Mr. John Min
Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawai`i 96793

Dear Mr. Min:

Subject: **Wailea Fire Station**
TMK: (2) 2-1-8: 46 & 113 and 3-9-38: 28
Draft Environmental Assessment (DEA) and Special Management Area (SMA) Use Permit Application

Thank you for the opportunity to comment on the DEA and SMA for the Wailea Fire Station. We have no comments to offer this time.

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

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

c: Brian Miskae
Clayton Ishikawa
Glen Tadaki

JUL 25 2001

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

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

Dear Mr. Matsubayashi:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your letter of July 5 2001 offering comments on the subject project. We note you have no objections.

Should you have any further comments, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

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

IN REPLY REFER TO:

STP 8.9952

July 9, 2001

Mr. John E. Min
Director
Department of Public Works and Waste Management
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Min:

Subject: Wailea Fire Station
Draft Environmental Assessment (DEA) and
Special Management Area (SMA) Use Permit
TMK: 2-1-8: 46 and 113, and TMK: 3-9-38: 28

Thank you for your transmittal requesting our review of the subject project.

The proposed development will not impact our State transportation facilities.

We appreciate the opportunity to provide comments.

Very truly yours,

BRIAN K. MINAAI
Director of Transportation

c: Mr. Clayton Ishikawa, Maui Department of Fire Control
Mr. Brian Miskae, Office of the Mayor

JUL 25 2001

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

Mr. Brian K. Minaai, Director
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Minaai:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your letter of July 9 2001 offering comments on the subject project. We note you have no objections and that the proposed development will not impact your State transportation facilities.

Should you have any further comments, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-7109
Telephone (808) 270-7816 • Fax (808) 270-7833

July 12, 2001

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

SUBJECT: Proposed Wailea Fire Station
TMK 2-1-08:046 & 113 and 3-9-39: por 26

Dear Mr Tadaki:

Thank you for the opportunity to review the above-mentioned project proposal. The comments we provided in our June 13, 2001 letter would still apply. A copy of this letter is attached for your reference.

Should you have any questions, please contact our Water Resources and Planning Division at 270-7199.

Sincerely,

David Craddick
Director

eam

c engineering division

attachment: June 13,2001 letter

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-6109
Telephone (808) 270-7816 • Fax (808) 270-7833

June 13, 2001

Mr. Glenn Tadaki
Munekiyo, Arakawa & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

SUBJECT: Wailea Fire Station Site
TMK: 2-1-08:046 and 113, and TMK 3-9-38: por 026

Dear Mr. Tadaki.

Thank you for the opportunity to provide comments in preparation of the draft Environmental Assessment (EA).

The EA should include the sources and expected potable and non-potable water usage. This project area is served by the Central Maui System. The major source of water for this system is the Iao Aquifer. Rolling annual average groundwater withdrawals from the Iao Aquifer as of May 1, 2001 were 17.397 MGD. The regulatory sustainable yield of this aquifer is 20 MGD. If rolling annual average withdrawals exceed 20 MGD, the State Commission on Water Resource Management will designate Iao Aquifer. Two wells in North Waihee were brought on-line in July 1997 and another two adjacent wells were brought on-line during 2000. The Department is continuing to implement a plan to bring new sources on-line and to mitigate withdrawals. No guarantee of water is granted or implied as a result of these comments. Water availability will be reviewed at the time of application for meter or meter reservation.

The applicant will be required to comply with subdivision requirements, waived in the "Agreement for the Deferral of Subdivision Water System Improvements" of March 22, 1993, and provide fire and domestic service according to Department standards. All domestic, fire, and irrigation calculations will be reviewed in detail during the development process. Please note that an easement in favor of the Board of Water Supply is granted for the 12-inch water line traversing the South border of TMK parcel 2-1-08:046. Attached are copies of the Department fire protection map of the subject areas.

Brackish and/or reclaimed water sources should be used for all non-potable uses, including irrigation and dust control during construction, if such alternative sources are or will become available. We recommend that the following water conservation measures be implemented:

Use Climate-adapted Plants: The project site is located in "Maui County Planting Plan" - Plant Zone 3. We encourage the applicant to review the Maui Planting Plan and attached document and use climate-adapted and salt-tolerant native plants for all landscaping purposes. Native plants adapted to this area, conserve water and further protect the watershed from degradation due to invasive alien species.

Eliminate Single-Pass Cooling: Single-pass, water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20. These units pass water once-through for cooling, and then dispose of the water into the drain.

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 16.20.675 requires the use of low flow water fixtures and devices in faucets, showerheads, urinals, water closets and hose bibs. Water conserving washing machines, ice-makers and other units are also available.

Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Refer to the attached handout, "The Costly Drip". The applicant should establish a regular maintenance program.

Prevent Over-Watering By Automated Systems: Provide rain-sensors on all automated irrigation controllers. Check and reset controllers at least once a month to reflect the monthly changes in evapotranspiration rates at the site.

Limit Irrigated Turf: Limit irrigated turf to 25% or less of total landscaped area. Select turf species with low water use requirements. Low-water use shrubs and groundcovers can be equally attractive and require substantially less water than turf.

The project overlies the Kamaole aquifer. The Department of Water Supply strives to protect the integrity of surface water and groundwater resources by encouraging applicants to adopt best management practices (BMPs) relevant to potentially polluting activities. We list a few BMP references here. Additional information can be obtained from the State Department of Health.

"The Megamanual - Nonpoint Source Management Manual - A Guidance Document for Municipal Officials." Massachusetts Department of Environmental Protection.

"Guidance Specifying Management Measures For Sources of Nonpoint Pollution In Coastal Waters." United States Environmental Protection Agency, Office of Water.

If you need additional information, please call the Water Resources and Planning Division at: 270-7199.

Sincerely,

David Craddick
Director

emb

C:\WPdocs\EAs EISs\Wailea Fire Station pre consult.wpd

cc: engineering division

Attachments:
1) "The Costly Drip"
2) Maui County Department of Water Supply, "Saving Water in The Yard - What and How to Plant In Your Area."
3) Ordinance 2108 - "An ordinance amending Chapter 16.20 of the Maui County Code, pertaining to the plumbing code"
4) A Checklist of Water Conservation Ideas For Cooling
5) A Checklist of Water Conservaton Ideas For Commercial Buildings
6) Portions of Department of Water Supply Fire Protection Map

JUL 25 2001

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

Mr. David Craddick, Director
County Department of Water Supply
PO Box 1109
Wailuku, Hawaii 96793

Dear Mr. Craddick:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-38:ptn 026

Thank you for your letter of June 13, 2001 and follow up letter of July 12, 2001 offering comments on the subject project.

Your first concern related to sources and expected potable and non-potable water usage. Domestic and irrigation water will be derived from the Department of Water Supply. At such time as non-potable sources are made available site irrigation will be utilize this source. Every effort will be made to utilize non-potable sources for dust control.

Concerning subdivision requirements having been waived in the agreement for deferral of subdivision water system improvements in March of 1993, the project will meet the current requirements for water system improvements.

Landscape planting plans include use climate-adapted plant palates. Cooling systems for the project will not utilize water cooling. Low-flow fixtures and devices will be incorporated into the project. An on-going maintenance program will be instituted to ensure fixtures within the project will not leak. Landscape areas will be irrigated through a controlled automated system to conserve water.

The project will utilize Best Management Practices to prevent any possibility of adversely affecting the Kamaole aquifer.

Thank you for your comments.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munikyo & Hiraga
Jay Buzianis, Project Manager

JAMES "KIMO" APANA
Mayor

DAVID C. GOODE
Director

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

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

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS AND WASTE MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Land Use and Codes Administration

RON R. RISKA, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

July 16, 2001

MEMO TO: CLAYTON ISHIKAWA
FIRE CHIEF

F R O M: for DAVID GOODE
DIRECTOR OF PUBLIC WORKS AND WASTE MANAGEMENT

SUBJECT: SPECIAL MANAGEMENT AREA USE PERMIT APPLICATION AND DRAFT ENVIRONMENTAL ASSESSMENT
WAILEA FIRE STATION
TMK: (2) 3-9-038:POR. OF 026
(2) 2-1-008:046 & 113

We have reviewed the subject application and have the following comments in addition to our earlier comments dated May 17, 2001 and June 18, 2001:

1. Off street parking, loading spaces and landscaping shall be provided per Maui County Code, Chapter 19.36.

2. Hawaii Revised Statues, Section 103-50: All plans and specifications shall be reviewed by the Disabilities and Communications Access Board (formally known as the Commission on Persons with Disabilities).

Should you have any questions regarding this letter, please call Milton Arakawa at 270-7845.

MA:jso
c: John E. Min, Planning Director
Brian Miskae, Executive Assistant to the Mayor
Glenn Tadaki, Munekiyo & Hiraga, Inc.
S:\LUCA\CZM\WaileaFireStation2.wpd

JUL 2 3 2001

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

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

Dear Mr. Goode:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your letter of July 16th, 2001 offering comments on the above mentioned project.

The fire station project will comply with the county's off street parking, loading spaces and landscaping requirements. In addition, the plans prepared have been reviewed and approved for compliance with the Americans with Disabilities Act.

Should you require anything further, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

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

July 17, 2001

Mr. John E. Min, Director
Department of Planning
County of Maui
200 S. High Street
Wailuku, HI 96793

Dear Mr. Min:

Subject: Proposed Wailea Fire Station

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. See attached for our comments sent to you earlier dated May 11, 2001.

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

Sincerely,

Neal Shinyama
Manager, Energy Delivery

Cc: Glenn Tadaki, Munekiyo & Hiraga, Inc.

COPY

May 11, 2001

Mr. John E. Min
Planning Director
Maui Planning Department
250 S. High Street
Wailuku, HI 96793

Dear Mr. Min:

Subject: Resolution No. 01-62 (Wailea Fire Station Site)
TMK: 3-9-038:026 and 2-1-008:046, 113
I.D.: CIZ 2001/0004

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

In reviewing the information transmitted and our records, we have no objection to the subject project. As noted in the resolution, MECO has existing easements. Any relocation of our existing overhead lines will require the grant of a substitute easement and will require coordination between the developer and MECO. The cost of relocation shall be borne by the party requesting the relocation. 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,

DT

Edward L. Reinhardt
Manager, Energy Delivery

ELR/dt:lkh

JUL 2 5 2001

JAMES "KIMO" APANA
MAYOR

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

July 20, 2001

Mr. Neil Shinyama,
Manager, Energy Delivery
Maui Electric Company, Ltd.
PO Box 398
Kahului, Hawaii 96732

Dear Mr. Shinyama:

Re: **Proposed Wailea Fire Station**
TMK: 2-1-08:046 and 113, and TMK: 3-9-038: ptn.026

Thank you for your letter of July17, 2001 offering comments on the subject project. We note you have no objections and that the proposed development will not impact your facilities.

Should you have any further comments, please do not hesitate to contact the writer.

Sincerely,

Clayton T. Ishikawa
Fire Chief

cc: Munekiyo & Hiraga
Jay Buzainis, Project Manager
Brian Miskae

JUL 3 0 2001

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

01-070/epo

July 23, 2001

Mr. Glenn Tadaki
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Tadaki:

Subject: Wailea Fire Station
TMK: 2-1-8:46 & 113 & TMK: 3-9-38:28

Thank you for allowing us to review and comment on the subject project. We do not have any comments to offer at this time.

Sincerely,

Virginia Pressler

for GARY GILL
Deputy Director
Environmental Health Administration

Maui Meadows Homeowners Association

P.O. Box 1935, Kihei, Maui, HI 96753

July 30, 2001

Clayton Ishikawa, Chief
Department of Fire Control
County of Maui
200 Dairy Road
Kahului, HI 96732

John Min, Director
Department of Planning
County of Maui,
200 South High Street
Wailuku, HI 96793

Brian Miskae,
Executive Assistant
Office of the Mayor
County of Maui
200 South High St.
Wailuku, HI 96793

Subject: Proposed Wailea Fire Station
Comments on Draft EA and Application for SMA Use Permit

The Maui Meadows Homeowners Association is pleased to provide its comments on the subject documents.

Our Association has been actively providing support for a new fire station to serve the South Maui area, during all of the project's planning and budgeting process. The population of the Kihei-Makena region by 2010 is expected to increase by 53% more than it was in 1990. The new Wailea Fire Station will indeed enhance the ability of the Fire Department to respond to fires and other emergencies in South Maui, on a timely basis.

The EA finds that the new fire station will not result in adverse significant environmental impacts. It will have a beneficial effect on the public health, safety and welfare of the community, by improving fire suppression and emergency response services in our rapidly growing region. The archaeological inventory survey found no significant cultural remains, and combined with evidence of previous disturbance in the project area, it stated that no further archaeological work during construction appears warranted. As always, if human remains are found during construction work shall cease in the immediate area of the find, and the find shall be protected from further damage.

From a land use viewpoint the proposed project is in keeping with the objectives, policies and implementing actions of the Kihei-Makena Community Plan. This is so even though the land use map shows part of the property for single family use. The Planning Department is processing an amendment to the community plan to change the single family portion to public/quasi-public use. Concurrently a request will be made for change in zoning for all lands involved to the same public/quasi-public use. This is simply a housekeeping measure since that use is currently permitted for the various zoning categories.

Now let's build it!

Please contact me if you have any questions.

Sincerely,

Dorothy R. Williams

Dorothy R. Williams, President

√cc: Glenn Tadaki, Planner
Munekiyo & Hiraga, Inc.

BEN J. CAYETANO
GOVERNOR OF HAWAII

AUG 0 6 2001

GILBERT S. COLOMA-AGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPUTIES
JANET E. KAWELO
LINNEL NISHIOKA

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

July 13, 2001

Mr. John E. Min
Planning Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793

LOG NO: 27834 ✓
DOC NO: 0107CD16

Dear Mr. Min,

SUBJECT: **Chapter 6E-8 Historic Preservation Review Pertaining to the Application for Special Management Area Use Permit and the Draft Environmental Assessment for the Proposed Wailea Fire Station**
Peahu & Kama`ole Ahupua`a, Wailuku & Makawao Districts, Island of Maui
TMK: 2-1-08: 046 & 113 and 3-9-38:026 & 028 por.

Thank you for the opportunity to comment on the application for Special Management Area Use Permit (SMA) and the Draft Environmental Assessment (DEA) for the proposed Wailea Fire Station. 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 parcel.

We have previously reviewed the Change in Zoning (CIZ) request pertaining to the proposed undertaking (SHPD DOC NO.: 0105CD28/LOG NO.: 276050). Based on the submitted documents, we understand the proposed undertaking consists of the construction of the proposed Wailea Fire Station. The proposed undertaking includes utility installations (water, sewer, electrical power, and telephone service), as well as ancillary improvements including a helistop, landscaping, paved parking areas, fuel pumps, and above ground diesel/fuel storage tanks.

A search of our records indicates an archaeological inventory survey has not been conducted of the subject parcels. The general area seems likely to have once been the location of pre-Contact farming, perhaps with scattered houses. It also appears that portions of the proposed project area were utilized as ranch lands during the mid-1800s. Based on archaeological inventory surveys conducted in the vicinity, we believe it is likely that historic sites may be present within the proposed project area, as historic sites usually withstand the impacts of ranching.

The DEA indicates an archaeological inventory survey has recently been conducted of the proposed project area. However, we have not yet received a copy of the report documenting the findings of the inventory survey, so we are unable to provide comments pertaining to the proposed undertaking at this time. As soon as we are provided with a copy of the archaeological report we will review it and provide your office with our comments/recommendations.

Given the above information, we recommend that no action be taken on the SMA and DEA until our office is able to complete the review.

Please call Cathleen Dagher, at 692-8023, if you have any questions.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

CD:jen

c: Mr. Glen Tadaki, Munekiyo & Hiraga, Inc., 305 High Street, Suite 104 Wailuku, HI 96793

MUNEKIYO & HIRAGA, INC.

August 7, 2001

Don Hibbard, Administrator
State Historic Preservation Division
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

SUBJECT: Proposed Wailea Fire Station

Dear Mr. Hibbard:

Thank you for providing us with your comments on the proposed project. On behalf of the Department of Fire Control, we would like to note that the archaeological inventory survey for the project was recently submitted to the State Historic Preservation Division (SHPD) for review and approval.

It is noted that the conclusions of the Post-field Summary for the Archaeological Inventory Survey for the Proposed Wailea Fire Station (which is contained in the Draft EA) are supported by the findings of the recent inventory survey. In light of the foregoing, the proposed project is not anticipated to have an adverse impact on historic or cultural resources.

Thank you again for providing us with your comments.

Very truly yours,

Glenn Tadaki, Planner

GT:cc
cc: Clayton Ishikawa, Department of Fire Control
Brian Miskae, Office of the Mayor
Jay Buzianis, Department of Finance
Colleen Suyama, Department of Planning
Laurel Nahme, Mitsunaga & Associates, Inc.
mai\wlearefire\shpd.ltr

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

AUG 0 7 2001

MMNA

MAUI MEADOWS NEIGHBORHOOD ASSOCIATION

August 4, 2001

Clayton Ishikawa, Chier
Department of Fire Control
County of Maui
200 Dairy Road
Kahului, Hawaii 96732

John Min, Director
Department of Planning
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Brian Miskae, Executive Assistant
Office of the Mayor
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Glenn Tadaki, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Ste 104
Wailuku, Hawaii 96793

Subject: CIZ 2001/0004
TMK: 3-9-38:026, 2-1-08:46, 113
Resolution No.01-62 Wailea Fire Station Site

Gentlemen:

Thank you for allowing us to comment on the subject project. Our Board of Directors recently met to review this project and offer the following comments which represent the unanimous view of our Board.

We applaud the decision to locate this emergency facility in the designated location. With the rapid development of South Kihei, Wailea, Makena, the services of this facility are sorely needed, Notably absent from the plans is the inclusion of an ambulance bay and ambulance support facilities. With the nearest ambulance services being located in North Kihei, response time and unit availability appear to be dramatically deficient.

Inclusion of such a facility within the currently planned location should significantly reduce the cost of a stand-alone facility. If current funding is insufficient for present-time build-out, we feel that it would be prudent to, at least, include the design of an ambulance bay within your current design and entitlements approval process, so that it can more readily be built once funding becomes available.

Thank you for this opportunity to provide our input. If you have any questions, please feel free to contact the undersigned at 891-0425

Sincerely,

Ron Stutz
Board Member

MUNEKIYO & HIRAGA, INC.

August 7, 2001

Ron Sturtz, Board Member
Maui Meadows Neighborhood Association
P.O. Box 160
Kihei, Hawaii 96753

SUBJECT: Proposed Wailea Fire Station

Dear Mr. Sturtz:

Thank you for providing us with the association's comments on the subject project. On behalf of the Department of Fire Control, we would like to note that your comments concerning the provision of an ambulance bay at the new fire station will be considered during the project's detailed technical design phase.

Thank you again for providing us with your comments.

Very truly yours,

for Glenn Tadaki, Planner

GT:cc
cc: Clayton Ishikawa, Department of Fire Control
Brian Miskae, Office of the Mayor
Jay Buzianis, Department of Finance
Colleen Suyama, Department of Planning
Laurel Nahme, Mitsunaga & Associates, Inc.
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planning environment
305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

MUNEKIYO & HIRAGA, INC.

August 9, 2001

Mr. Ron Sturtz, Board Member
Maui Meadows Neighborhood Association
P.O. Box 160
Kihei, Hawaii 96753

SUBJECT: Proposed Wailea Fire Station

This letter provides updated information in response to your comments of August 4, 2001. With regard to an ambulance facility at the fire station, the County of Maui is in discussions with the State of Hawaii, Department of Health. The County of Maui has offered an approximate 22,000 s.f. area within the fire station site to the State for construction of an ambulance facility. Discussions have been positive and the State is working toward the development of an ambulance station on the makai portion of the project.

Thank you again for providing us with your comments.

Very truly yours,

Gwen Ohashi Hiraga
Project Manager

GOH:cc
cc: Clayton Ishikawa, Department of Fire Control
Brian Miskae, Office of the Mayor
Jay Buzianis, Department of Finance
Colleen Suyama, Department of Planning
Laurel Nahme, Mitsunaga & Associates, Inc.
ma\wailea\sturtz.ltr

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AUG 0 8 2001

BENJAMIN J. CAYETANO
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

August 6, 2001

Mr. Clayton Ishikawa, Chief
Department of Fire Control
County of Maui
200 Dairy Road
Wailuku, Hawai'i 96793

Ms. Gwen Ohashi Hiraga
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Dear Ms. Hiraga and Mr. Ishikawa:

Having reviewed the draft environmental assessment for the County's proposed fire station at Wailea, we offer the following comments for your consideration.

1. CULTURAL IMPACTS. Section II.A.6 is entitled "Archaeological and Cultural Resources" but the paragraph only historic and archaeological considerations. This section also needs to include information on current cultural resources and practices in the region and impacts the propject may have on these resources or practices. This information may be obtained by consulting with with knowledgeable cultural practicioners in the Kihei-Makena region. Chapter 343, Hawai'i Revised Statutes now requires that these cultural impacts be assessed (see enclosed copy of Act 50, SLH 2000). A copy of the Environmental Council's guidelines for assessing cultural impacts is enclosed for your use.
2. GUIDELINES FOR SUSTAINABLE BUILDING DESIGN IN HAWAI'I: We ask that you consider implementing some of the techniques discussed in the enclosed guidelines for sustainable building design, adopted by the environmental council on October 13, 1999. Hawai'i law calls for efforts to conserve natural resources, promote efficient use of water and energy, and encourage recycling of waste products. Planning a project from the very beginning to include sustainable design concepts can be a critical step toward meeting these goals.
3. USE OF RECYCLED GLASS IN CONSTRUCTION PROJECTS. To promote the use of recycled materials in-state, section 103-D-407, Hawai'i Revised Statutes recommends that county agencies purchase materials with minimum recycled glass content. We ask that you consider this in the design of your station.
4. INDIGENOUS AND POLYNESIAN INTRODUCED PLANTS FOR USE IN PUBLIC LANDSCAPING: We ask that you consider the use of native, indigenous and polynesian introduced plants in your landscaping.

If there are any questions, please call Leslie Segundo of my staff at (808) 586-4185. Thank you for the opportunity to comment.

Sincerely,

GENEVIEVE SALMONSON
Director

Enclosures

State of Hawaii
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
Guidelines for Assessing Cultural Impacts

Adopted by the Environmental Council, State of Hawaii
November 19, 1997

I. INTRODUCTION

It is the policy of the State of Hawaii under Chapter 343, HRS, to alert decision makers, through the environmental assessment process, about significant environmental effects which may result from the implementation of certain actions. An environmental assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to Chapter 343, and promotes responsible decision making.

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project.

The Environmental Council encourages preparers of environmental assessments and environmental impact statements to analyze the impact of a proposed action on cultural practices and features associated with the project area. The Council provides the following methodology and content protocol as guidance for any assessment of a project that may significantly affect cultural resources.

II. CULTURAL IMPACT ASSESSMENT METHODOLOGY

Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

Such information may be obtained through scoping, community meetings, ethnographic interviews and oral histories. Information provided by knowledgeable informants, including traditional cultural practitioners, can be applied to the analysis of cultural impacts in conjunction with information concerning cultural practices and features obtained through consultation and from documentary research.

In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment. Thus, for example, a proposed action that may not physically alter gathering practices, but may affect access

to gathering areas would be included in the assessment. An ahupua'a is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action, particularly if it includes all of the types of cultural practices associated with the project area. In some cases, cultural practices are likely to extend beyond the ahupua'a and the geographical extent of the study area should take into account those cultural practices.

The historical period studied in a cultural impact assessment should commence with the initial presence in the area of the particular group whose cultural practices and features are being assessed. The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs.

The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural, including submerged cultural resources, which support such cultural practices and beliefs.

If the subject area is in a developed urban setting, cultural impacts must still be assessed. Many incorrectly assume that the presence of urban infrastructure effectively precludes consideration of current cultural factors. For example, persons are known to gather kauna"oa, "ilima, "uhaloa, noni or ki on the grassy slopes and ramps of the H-1 freeway and some state highways on the neighbor islands. Certain landmarks and physical features are used by Hawaiian navigators for sailing, and the lines of sight from landmarks to the coast by fisherman to locate certain fishing spots. Blocking these features by the construction of buildings or tanks may constitute an adverse cultural impact.

The Environmental Council recommends that preparers of assessments analyzing cultural impacts adopt the following protocol:

(1) identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua`a;

(2) identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;

(3) receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;

(4) conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;

(5) identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and

(6) assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

Interviews and oral histories with knowledgeable individuals may be recorded, if consent is given, and field visits by preparers accompanied by informants are encouraged. Persons interviewed

should be afforded an opportunity to review the record of the interview, and consent to publish the record should be obtained whenever possible. For example, the precise location of human burials are likely to be withheld from a cultural impact assessment, but it is important that the document identify the impact a project would have on the burials. At times an informant may provide information only on the condition that it remain in confidence. The wishes of the informant should be respected.

Primary source materials reviewed and analyzed may include, as appropriate: Mahele, land court, census and tax records, including testimonies; vital statistics records; family histories and genealogies; previously published or recorded ethnographic interviews and oral histories; community studies, old maps and photographs; and other archival documents, including correspondence, newspaper or almanac articles, and visitor journals. Secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials, published and unpublished, should also be consulted. Other materials which should be examined include prior land use proposals, decisions, and rulings which pertain to the study area.

III. CULTURAL IMPACT ASSESSMENT CONTENTS

In addition to the content requirements for environmental assessments and environmental impact statements, which are set out in HAR §§§§ 11-200-10 and 16 through 18, the portion of the assessment concerning cultural impacts should address, but not necessarily be limited to, the following matters:

1. A discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.

2. A description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.

3. Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.

4. Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.

5. A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.

6. A discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the

proposed action is located, as well as their direct or indirect significance or connection to the project site.

7. A discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project.

8. An explanation of confidential information that has been withheld from public disclosure in the assessment.

9. A discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.

10. An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

11. A bibliography of references, and attached records of interviews which were allowed to be disclosed.

The inclusion of this information will help make environmental assessments and environmental impact statements complete and meet the requirements of Chapter 343, HRS. If you have any questions, please call 586-4185.

Guidelines for Sustainable Building Design in Hawai`i

A planner's checklist

(Adopted by the Environmental Council on October 13, 1999)

Introduction

Hawai`i law calls for efforts to conserve natural resources, promote efficient use of water and energy and encourage recycling of waste products. Planning a project from the very beginning to include sustainable design concepts can be a critical step toward meeting these goals.

The purpose of the state's environmental review law (HRS Ch. 343) is to encourage a full, accurate and complete analysis of proposed actions, promote public participation and support enlightened decision making by public officials. The Office of Environmental Quality Control offers the following guidelines for preparers of environmental reviews under the authority of HRS 343 to assist agencies and applicants in meeting these goals.

These guidelines do not constitute rules or law. They have been refined by staff and peer review to provide a checklist of items that will help the design team create projects that will have a minimal impact on Hawai`i's environment and make wise use of our natural resources. In a word, projects that are *sustainable*.

A sustainable building is built to minimize energy use, expense, waste, and impact on the environment. It seeks to improve the region's sustainability by meeting the needs of Hawai`i's residents and visitors today without compromising the needs of future generations. Compared to conventional projects, a resource-efficient building project will:

I. Use less energy for operation and maintenance
II. Contain less *embodied* energy (e.g. locally produced building products often contain less *embodied* energy than imported products because they require less energy-consuming transportation.)
III. Protect the environment by preserving/conserving water and other natural resources and by minimizing impact on the site and ecosystems
IV. Minimize health risks to those who construct, maintain, and occupy the building
V. Minimize construction waste
VI. Recycle and reuse generated construction wastes

VII. Use resource-efficient building materials (e.g. materials with recycled content and low embodied energy, and materials that are recyclable, renewable, environmentally benign, non-toxic, low VOC (Volatile Organic Compound) emitting, durable, and that give high life cycle value for the cost.)

VIII. Provide the highest quality product practical at competitive (affordable) first and life cycle costs.

In order to avoid excessive overlapping of items, the checklist is designed to be read in totality, not just as individual sections. This checklist tries to address a range of project types, large scale as well as small scale. Please use items that are appropriate to the type and scale of the project.

Although this list will help promote careful and sensitive planning, mere compliance with this checklist does not confirm sustainability. Compliance with and knowledge of current building codes by users of this checklist is also required.

TABLE OF CONTENTS

I. Pre Design

___1. Hold programming team meeting with client representative, Project Manager, planning consultant, architectural consultant, civil engineer, mechanical, electrical, plumbing (MEP) engineer, structural engineer, landscape architect, interior designer, sustainability consultant and other consultants as required by the project. Identify project and sustainability goals. Client representatives and consultants need to work together to ensure that project and environmental goals are met.

___2. Develop sustainable guideline goals to insert into outline specifications as part of the Schematic Design documents. Select goals from the following sections that are appropriate for the project.

___3. Use Cost-Benefit Method for economic analysis of the sustainability measures chosen. (Cost-Benefit Method is a method of evaluating project choices and investments by comparing the present and life cycle value of expected benefits to the present and life cycle value of expected costs.)

___4. Include "Commissioning" in the project budget and schedule. (Building "Commissioning" is the process of ensuring that systems are designed, installed, functionally tested, and capable of being operated and maintained in accordance with specifications that meet the owner's needs, and recognize the owner's financial and operational capacity. It improves the performance of the building systems, resulting in energy efficiency and conservation, improved air quality and lower operation costs. *Refer to Section IX.*)

II. Site Selection & Site Design

A. Site Selection

___1. Analyze and assess site characteristics such as vegetation, topography, geology, climate, natural access, solar orientation patterns, water and drainage, and existing utility and transportation infrastructure to determine the appropriate use of the site.

___2. Whenever possible, select a site in a neighborhood where the project can have a positive social, economic and/or environmental impact.

___3. Select a site with short connections to existing municipal infrastructure (sewer lines, water, waste water treatment plant, roads, gas, electricity, telephone, data communication lines and services). Select a site close to mass transportation, bicycle routes and pedestrian access.

B. Site Preparation and Design

___1. Prepare a thorough existing conditions topographic site plan depicting topography, natural and built features, vegetation, location of site utilities and include solar information,

rainfall data and direction of prevailing winds. Preserve existing resources and natural features to enhance the design and add aesthetic, economic and practical value. Design to minimize the environmental impact of the development on vegetation and topography.

___2. Site building(s) to take advantage of natural features and maximize their beneficial effects. Provide for solar access, daylighting and natural cooling. Design ways to integrate the building(s) with the site that maximizes and preserves positive site characteristics, enhances human comfort, safety and health, and achieves operational efficiencies.

___3. Locate building(s) to encourage bicycle and pedestrian access and pedestrian oriented uses. Provide bicycle and pedestrian paths, bicycle racks, etc. Racks should be visible and accessible to promote and encourage bicycle commuting.

___4. Retain existing topsoil and maintain soil health by clearing only the areas reserved for the construction of streets, driveways, parking areas, and building foundations. Replant exposed soil areas as soon as possible. Reuse excavated soils for fill and cut vegetation for mulch.

___5. Grade slopes to a ratio of less than 2 : 1 (run to rise). Balance cut and fill to eliminate hauling. Check grading frequently to prevent accidental over excavation.

___6. Minimize the disruption of site drainage patterns. Provide erosion and dust controls, positive site drainage, and siltation basins as required to protect the site during and after construction, especially, in the event of a major storm.

___7. Minimize the area required for the building footprint. Consolidate utility and infrastructure in common corridors to minimize site degradation, and cost, improve efficiency, and reduce impermeable surfaces.

___8. For termite protection, use non toxic alternatives to pesticides and herbicides, such as Borate treated lumber, Basaltic Termite Barrier, stainless steel termite barrier mesh, and termite resistant materials.

III. Building Design

___1. Consider adaptive re-use of existing structures instead of demolishing and/or constructing a new building. Consult the State Historic Preservation Officer for possible existing historic sites that may meet the project needs.

___2. Plan for high flexibility while designing building shell and interior spaces to accommodate changing needs of the occupants, and thereby extend the life span of the building.

___3. Design for re-use and/or disassembly. (For recyclable and reusable building products, see Section VII).

___4. Design space for recycling and waste diversion opportunities during occupancy.

___5. Provide facilities for bicycle and pedestrian commuters (showers, lockers, bike racks, etc.) in commercial areas and other suitable locations.

___6. Plan for a comfortable and healthy work environment. Include inviting outdoor spaces, wherever possible. *(Refer to Section VIII.)*

___7. Provide an Integrated Pest Management approach. The use of products such as Termi-mesh, Basaltic Termite Barrier and the Sentricon "bait" system can provide long term protection from termite damage and reduce environmental pollution.
___8. Design a building that is energy efficient and resource efficient. *(See Sections IV, V, VII.)* Determine building operation by-products such as heat gain and build up, waste/gray-water and energy consumption, and plan to minimize them or find alternate uses for them.
___9. For natural cooling, use
   a. Reflective or light colored roofing, radiant barrier and/or insulation, roof vents
   b. Light colored paving (concrete) and building surfaces
   c. Tree Planting to shade buildings and paved areas
   d. Building orientation and design that captures trade winds and/or provides for convective cooling of interior spaces when there is no wind.

IV. Energy Use

___1. Obtain a copy of the State of Hawai'i Model Energy Code (available through the Hawai'i State Energy Division, at Tel. 587-3811). Exceed its requirements. (Contact local utility companies for information on tax credits and utility-sponsored programs offering rebates and incentives to businesses for installing qualifying energy efficient technologies.)
___2. Use site sensitive orientation to :
   a. Minimize cooling loads through site shading and carefully planned east-west orientation.
   b. Incorporate natural ventilation by channeling trade winds.
   c. Maximize daylighting.
___3. Design south, east and west shading devices to minimize solar heat gain.
___4. Use spectrally selective tints or spectrally selective low-e glazing with a Solar Heat Gain Coefficient (SHGC) of 0.4 or less.
___5. Minimize effects of thermal bridging in walls, roofs and window systems.
___6. Maximize efficiencies for lighting, Heating, Ventilation, Air Conditioning (HVAC) systems and other equipment. Use insulation and/or radiant barriers, natural ventilation, ceiling fans and shading to avoid the use of air conditioning whenever appropriate.
___7. Eliminate hot water in restrooms when possible.
___8. Provide tenant sub-metering to encourage utility use accountability.
___9. Use renewable energy. Use solar water heaters and consider the use of photovoltaics and Building Integrated Photovoltaics (BIPV).
__10. Use available energy resources such as waste heat recovery, when feasible.

A. Lighting

___1. Design for at least 15% lower interior lighting power allowance than the Energy Code.
___2. Select lamps and ballasts with the highest efficiency, compatible with the desired level of illumination and color rendering specifications. Examples that combine improved color rendering with efficient energy use include compact flourescents and T8 flourescents that use tri-phosphor gases.
___3. Select lighting fixtures which maximize system efficacy and which have heat removal capabilities
___4. Reduce light absorption on surfaces by selecting colors and finishes that provide high reflectance values without glare.
___5. Use task lighting with low ambient light levels.
___6. Maximize daylighting through the use of vertical fenestration, light shelves, skylights, clerestories, building form and orientation as well as through translucent or transparent interior partitions. Coordinate daylighting with electrical lighting for maximum electrical efficiency.
___7. Incorporate daylighting controls and/or motion activated light controls in low or intermittent use areas.
___8. Avoid light spillage in exterior lighting by using directional fixtures.
___9. Minimize light overlap in exterior lighting schemes.
__10. Use lumen maintenance procedures and controls.

B. Mechanical Systems

___1. Design to comply with the Energy Code and to exceed its efficiency requirements.
___2. Use "Smart Building" monitor/control systems when appropriate.
___3. Utilize thermal storage for reduction of peak energy usage.
___4. Use Variable air volume systems to save fan power.
___5. Use variable speed drives on pumping systems and fans for cooling towers and air handlers.
___6. Use air-cooled refrigeration equipment or use cooling towers designed to reduce drift.
___7. Specify premium efficiency motors.
___8. Reduce the need for mechanical ventilation by reducing sources of indoor air pollution. Use high efficiency air filters and ultraviolet lamps in air handling units. Provide for regular maintenance of filtration systems. Use ASHRAE standards as minimum.
___9. Locate fresh air intakes away from polluted or overheated areas. Locate on roof where possible. Separate air intake from air exhausts by at least 40 ft.
__10. Use separate HVAC systems to serve areas that operate on widely differing schedules and/or design conditions.
__11. Use shut off or set back controls on HVAC system when areas are not occupied.
__12. Use condenser heat, waste heat or solar energy. (Contact local utility companies for information on the utility-sponsored Commercial and Industrial Energy Efficiency

Programs which offer incentives to businesses for installing qualifying energy efficient technologies.)

__13. Evaluate plug-in loads for energy efficiency and power saving features.

__14. Improve comfort and save energy by reducing the relative humidity by waste reheat, heat pipes or solar heat.

__15. Minimize heat gain from equipment and appliances by using:
   a. Environmental Protection Agency (EPA) Energy Star rated appliances.
   b. Hoods and exhaust fans to remove heat from concentrated sources.
   c. High performance water heating that exceeds the Energy Code requirements.

__16. Specify HVAC system "commissioning" period to reduce occupant exposure to Indoor Air Quality (IAQ) contaminants and to maximize system efficiency.

V. Water Use

A. Building Water

___1. Install water conserving, low flow fixtures as required by the Uniform Plumbing Code.

___2. If practical, eliminate hot water in restrooms.

___3. Use self closing faucets (infrared sensors or spring loaded faucets) for lavatories and sinks.

B. Landscaping and Irrigation

(See Section VI.)

VI. Landscape and Irrigation

___1. Incorporate water efficient landscaping (xeriscaping) using the following principles:
   a. Planning, Efficient irrigation: Create watering zones for different conditions. Separate vegetation types by watering requirements. Install moisture sensors to prevent operation of the irrigation system in the rain or if the soil has adequate moisture. Use appropriate sprinkler heads.
   b. Soil analysis/improvement: Use (locally made) soil amendments and compost for plant nourishment, improved water absorption and holding capacity.
   c. Appropriate plant selection: Use drought tolerant and/or slow growing hardy grasses, native and indigenous plants, shrubs, ground covers, trees, appropriate for local conditions, to minimize the need for irrigation.
   d. Practical turf areas: Turf only in areas where it provides functional benefits.

e. Mulches: Use mulches to minimize evaporation, reduce weed growth and retard erosion.

Contact the local Board of Water Supply for additional information on xeriscaping such as efficient irrigation, soil improvements, mulching, lists of low water-demand plants, tours of xeriscaped facilities, and xeriscape classes.

___2. Protect existing beneficial site features and save trees to prevent erosion. Establish and carefully mark tree protection areas well before construction.

___3. Limit staging areas and prevent unnecessary grading of the site to protect existing, especially native, vegetation.

___4. Use top soil from the graded areas, stockpiled on the site and protected with a silt fence to reduce the need for imported top soil.

___5. Irrigate with non-potable water or reclaimed water when feasible. Collect rainwater from the roof for irrigation.

___6. Sub-meter the irrigation system to reduce water consumption and consequently water and sewer fees. Contact the local county agency to obtain irrigation sub-metering requirements and procedures. Locate irrigation controls within sight of the irrigated areas to verify that the system is operating properly.

___7. Use pervious paving instead of concrete or asphalt paving. Use natural and man-made berms, hills and swales to control water runoff.

___8. Avoid the use of solvents that contain or leach out pollutants that can contaminate the water resources and runoff. Contact the State of Hawai'i Clean Water Branch at 586-4309 to determine whether a NPDES (National Pollutant Discharge Elimination System) permit is required.

___9. Use Integrated Pest Management (IPM) techniques. IPM involves a carefully managed use of biological and chemical pest control tactics. It emphasizes minimizing the use of pesticides and maximizing the use of natural process

__10. Use trees and bushes that are felled at the building site (i.e. mulch, fence posts). Leave grass trimmings on the lawn to reduce green waste and enhance the natural health of lawns.

__11. Use recycled content, decay and weather resistant landscape materials such as plastic lumber for planters, benches and decks.

VII. Building Materials & Solid Waste Management

A. Material Selection and Design

___1. Use durable products.

___2. Specify and use natural products or products with low embodied energy and/or high recycled content. Products with recycled content include steel, concrete with glass,

drywall, carpet, etc. Use ground recycled concrete, graded glass cullet or asphalt as base or fill material.

___3. Specify low toxic or non-toxic materials whenever possible, such as low VOC (Volatile Organic Compounds) paints, sealers and adhesives and low or formaldehyde-free materials. Do not use products with CFCs (Chloro-fluoro-carbons).

___4. Use locally produced products such as plastic lumber, insulation, hydro-mulch, glass tiles, compost.

___5. Use advanced framing systems that reduce waste, two stud corners, engineered structural products and prefabricated panel systems.

___6. Use materials which require limited or no application of finishing or surface preparation. (i.e. finished concrete floor surface, glass block and glazing materials, concrete block masonry, etc.).

___7. Use re-milled salvaged lumber where appropriate and as available. Avoid the use of old growth timber.

___8. Use sustainably harvested timber.

___9. Commit to a material selection program that emphasizes efficient and environmentally sensitive use of building materials, and that uses locally available building materials. (A list of Earth friendly products and materials is available through the Green House Hawai`i Project. Call Clean Hawai`i Center, Tel. 587-3802 for the list.)

B. Solid Waste Management, Recycling and Diversion Plan

___1. Prepare a job-site recycling plan and post it at the job-site office.

___2. Conduct pre-construction waste minimization and recycling training for employees and sub-contractors.

___3. Use a central area for all cutting.

___4. Establish a dedicated waste separation/diversion area. Include Waste/Compost/Recycling collection areas and systems for use during construction process and during the operational life cycle of the building.

___5. Separate and divert all unused or waste cardboard, ferrous scrap, construction materials and fixtures for recycling and/or forwarding to a salvage exchange facility. Information on "Minimizing C&D (construction and demolition) waste in Hawai`i" is available through Department of Health, Office of Solid Waste Management, Tel. 586-4240.

___6. Use all green waste, untreated wood and clean drywall on site as soil amendments or divert to offsite recycling facilities.

___7. Use concrete and asphalt rubble on-site or forward the material for offsite recycling.

___8. Carefully manage and control waste solvents, paints, sealants, and their used containers. Separate these materials from C&D (construction and demolition) waste and store and dispose them of them carefully.

___9. Donate unused paint, solvents, sealants to non-profit organizations or list on HIMEX (Hawai`i Materials Exchange). HIMEX is a free service operated by Maui Recycling

Group, that offers an alternative to landfill disposal of usable materials, and facilitates no-cost trades. See web site, www.himex.org.

__10. Use suppliers that re-use or recycle packaging material whenever possible.

VIII. Indoor Air Quality

___1. Design an HVAC system with adequate supply of outdoor air, good ventilation rates, even air distribution, sufficient exhaust ventilation and appropriate air cleaners.

___2. Develop and specify Indoor Air Quality (IAQ) requirements during design and contract document phases of the project. Monitor compliance in order to minimize or contain IAQ contaminant sources during construction, renovation and remodeling.

___3. Notify occupants of any type of construction, renovation and remodeling and the effects on IAQ.

___4. Inspect existing buildings to determine if asbestos and lead paint are present and arrange for removal or abatement as needed.

___5. Supply workers with, and ensure the use of VOC (Volatile Organic Compounds)-safe masks where required.

___6. Ensure that HVAC systems are installed, operated and maintained in a manner consistent with their design. Use UV lamps in Air Handling Units to eliminate mold and mildew growth. An improperly functioning HVAC system can harbor biological contaminants such as viruses, bacteria, molds, fungi and pollen, and can cause Sick Building Syndrome (SBS).

___7. Install separate exhaust fans in rooms where air polluting office equipment is used, and exhaust directly to the exterior of the building, at sufficient distance from the air intake vents.

___8. Place bird guards over air intakes to prevent pollution of shafts and HVAC ducts.

___9. Control indoor air pollution by selecting products and finishes that are low or non-toxic and low VOC emitting. Common sources of indoor chemical contaminants are adhesives, carpeting, upholstery, manufactured wood products, copy machines, pesticides and cleaning agents.

__10. Schedule finish application work to minimize absorption of VOCs into surrounding materials e.g. allow sufficient time for paint and clear finishes to dry before installing carpet and upholstered furniture. Increase ventilation rates during periods of increased pollution.

__11. Allow a flush-out period after construction, renovation, remodeling or pesticide application to minimize occupant exposure to chemicals and contaminants.

IX. Commissioning & Construction Project Closeout

___1. Appoint a Commissioning Authority to develop and implement a commissioning plan and a preventative maintenance plan. Project Manager's responsibilities must include coordination of commissioning activities during project closeout.
___2. Commissioning team should successfully demonstrate all systems and perform operator training before final acceptance.
___3. Provide flush-out period to remove air borne contaminants from the building and systems.
___4. Provide as-built drawings and documentation for all systems. Provide data on equipment maintenance and their control strategies as well as maintenance and cleaning instructions for finish materials.

X. Occupancy and Operation

A. General Objectives

___1. Develop a User's Manual for building occupants that emphasizes the need for Owner/Management commitment to efficient sustainable operations.
___2. Management's responsibilities must include ensuring that sustainability policies are carried out.

B. Energy

___1. Purchase EPA rated, Energy Star, energy-efficient office equipment, appliances, computers, and copiers. (Energy Star is a program sponsored by U.S. Dep. Of Energy. Use of these products will contribute to reduced energy costs for buildings and reduce air pollution.)
___2. Institute an employee education program about the efficient use of building systems and appliances, occupants impact on and responsibility for water use, energy use, waste generation, waste recycling programs, etc.
___3. Re-commission systems and update performance documentation periodically per recommendations of the Commissioning Authority, or whenever modifications are made to the systems.

C. Water

___1. Start the watering cycle in the early morning in order to minimize evaporation.
___2. Manage the chemical treatment of cooling tower water to reduce water consumption.

D. Air

___1. Provide incentives which encourage building occupants to use alternatives to and to reduce the use of single occupancy vehicles.

___2. Provide a location map of services within walking distance of the place of employment (child care, restaurants, gyms, shopping).
___3. Periodically monitor or check for indoor pollutants in building.
___4. Provide an IAQ plan for tenants, staff and management that establishes policies and documentation procedures for controlling and reporting indoor air pollution. This helps tenants and staff understand their responsibility to protect the air quality of the facility.

E. Materials and Products

___1. Purchase business products with recycled content such as paper, toners, etc.
___2. Purchase Furniture made with sustainably harvested wood, or with recycled and recycled content materials, which will not off gas VOC's.
___3. Remodeling and painting should comply with or improve on original sustainable design intent.
___4. Use low VOC, non-toxic, phosphate and chlorine free, biodegradable cleaning products.

F. Solid Waste

___1. Collect recyclable business waste such as paper, cardboard boxes, and soda cans.
___2. Avoid single use items such as paper or Styrofoam cups and plates, and plastic utensils.

XI. Resources

Financing: Energy Efficiency in Buildings. U.S. Department of Energy, DOE/EE-0152, May, 1998 (Call Tel.1-800-DOE-EREC or visit local office)

Building Commissioning: The Key to Quality Assurance. U.S. Department of Energy, DOE/EE-0153, May, 1998 (Call Tel.1-800-DOE-EREC or visit local office)

Guide to Resource-Efficient Building in Hawaii. University of Hawai'i at Manoa, School of Architecture and Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, October 1998. (Call Tel. 587-3804 for publication)

Hawaii Model Energy Code. Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, November 1997 (Call Tel. 587-3810 for publication)

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Building Integrated Photovoltaics: A Case Study. NREL Publications #TP-472-7574, March 1995 (Call Tel.1-800-DOE-EREC or visit local office)

Solar Electric Applications: An overview of Today's Applications. NREL Publications, DOE/GO #10097-357, Revised February, 1997 (Call Tel.1-800-DOE-EREC or visit local office)

Green Lights: An Enlightened Approach to Energy Efficiency and Pollution Prevention. U.S. Environmental Protection Agency, Pacific Island Contact Office (Call Tel. 541-2710 for publication.)

Healthy Lawn, Healthy Environment. U.S. Environmental Protection Agency, Pacific Island Contact Office. (Call Tel. 541-2710 for this and related publications)

How to Plant a Native Hawaiian Garden. Office of Environmental Quality Control (OEQC), Department of Health, State of Hawai'i (Call Tel. 586-4185 for publication)

Buy Recycled in Hawai'i. Clean Hawai'i Center, Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, November 1997. (Call Tel. 587-3802 for publication)

Hawai'i Recycling Industry Guide and other recycling and reuse related fact sheets. Clean Hawai'i Center, Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, July 1999. (Call Tel. 587-3802 for publication)

Minimizing Construction and Demolition Waste. Office of Solid Waste Management, Department of Health and Clean Hawai'i Center, Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, February 1998. (Call Tel. 586-4240 for publication)

Contractor's Waste Management Guide and Construction and demolition Waste Management Facilities Directory. Clean Hawai'i Center, Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, 1999. (Call Tel. 587-3802 for publication)

Waste Management and Action: Construction Industry. Department of Health, Solid and Hazardous Waste Branch (Call Tel. 586-7496 for publication)

Business Guide For reducing Solid Waste. U.S. Environmental Protection Agency, Pacific Island Contact Office, Tel. 541-2710 (Call for publication.)

The Inside Story: A Guide to Indoor Air Quality. U.S. Environmental Protection Agency, Pacific Island Contact Office, Tel. 541-2710 (Call for this and related publications.) Additional information is available from the American Lung Association, Hawai'i, Tel. 537-5966

Selecting Healthier Flooring Materials. American Lung Association and Clean Hawai'i Center, February 1999. (Call Tel. 537-5966 x307)

Office Paper Recycling: An Implementation Manual. U.S. Environmental Protection Agency, Pacific Island Contact Office, Tel. 541-2710 (Call for publication.)

Acknowledgments

OEQC and the Environmental Council would like to thank Allison Beale, Gary Gill, Nick H. Huddleston, Gail Suzuki-Jones, Purnima McCutcheon, Virginia B. MacDonald, Steve Meder, Ramona Mullahey, Thomas P. Papandrew, Victor Olgay, Howard Tanaka, and Howard Wiig for their assistance with this project.

MUNEKIYO & HIRAGA, INC.

August 9, 2001

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

SUBJECT: Proposed Wailea Fire Station

Dear Ms. Salmonson:

Thank you for your letter of August 6, 2001, commenting on the subject project. On behalf of the applicant, the following are noted with regard to your comments;

1. ***Cultural Impacts***

The Final EA document will be revised to address to your comments. Accordingly, Chapter III pertaining to "POTENTIAL IMPACTS AND MITIGATION MEASURES", Section A.3 will include information on current cultural resources and practices in the region as well as impacts the project may have on these resources or practices.

2. ***Guidelines for Sustainable Building Design in Hawaii***

Consideration will be given to implementing appropriate techniques as provided in your guidelines for sustainable building design.

3. ***Use of Recycled Glass in Construction Projects***

Consideration will be given to use of recycled materials in-state and purchasing materials with minimum recycled glass content in the design of the fire station.

4. ***Indigenous and Polynesian Introduced Plants for Use in Public Landscaping***

Consideration will be given for the use of native, indigenous and polynesian introduced plants in the landscaping for the project.

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

We thank you for your comments on the project.

Very truly yours,

Gwen Ohashi Hiraga
Project Manager

GOH:cc
cc: Clayton Ishikawa, Department of Fire Control
Brian Miskae, Office of the Mayor
Jay Buzianis, Department of Finance
Colleen Suyama, Department of Planning
Laurel Nahme, Mitsunaga & Associates, Inc.
ma\wlesfire\oeqcrsp.ltr

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County of Maui, Kihei-Makena Community Plan, March 6, 1998.

County of Maui, Department of Water Supply, Fire Protection System for Maui and Molokai, 1991.

Community Resources, Inc., Maui County Community Plan Update Program Sock-Economic Forecast Report, January 1994.

County of Maui, Maui County Data Book 1999, April 1999.

County of Maui, Department of Public Works and Waste Management-Engineering Division, personal communication with Charlene Shibuya, June 14, 2001.

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County of Maui, Department of Public Works and Waste Management-Wastewater Reclamation Division, Plant Capacity Status, February 28, 2001.

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Pacific Business News, July 28, 2000.

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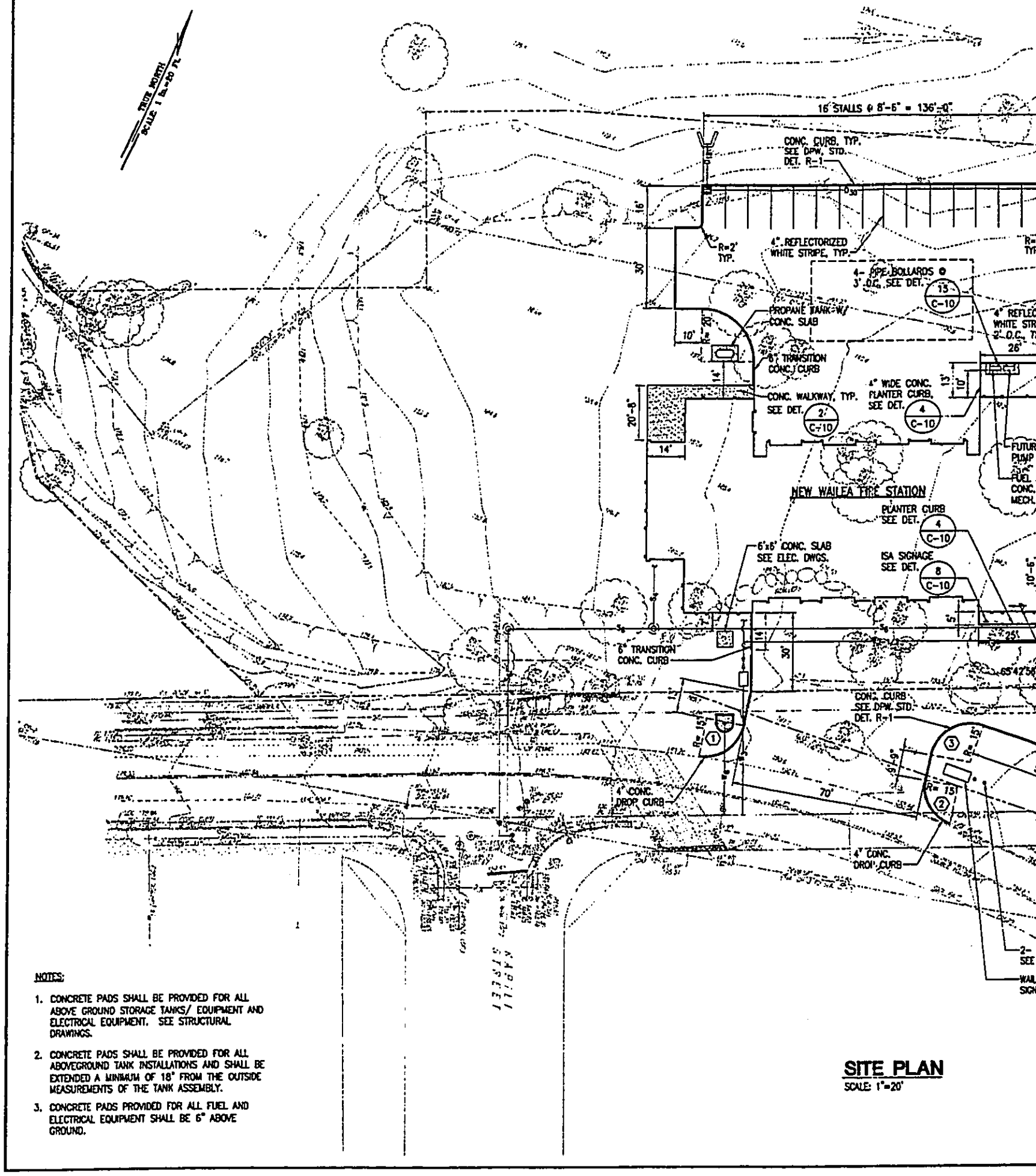
U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, 1972.

Wailea Resort Company, Ltd., personal communication with Melanie Kaimiola, June 13, 2001.

Appendices

Appendix A

Preliminary Development Plans



NOTES:

1. CONCRETE PADS SHALL BE PROVIDED FOR ALL ABOVE GROUND STORAGE TANKS/ EQUIPMENT AND ELECTRICAL EQUIPMENT. SEE STRUCTURAL DRAWINGS.
2. CONCRETE PADS SHALL BE PROVIDED FOR ALL ABOVEGROUND TANK INSTALLATIONS AND SHALL BE EXTENDED A MINIMUM OF 18" FROM THE OUTSIDE MEASUREMENTS OF THE TANK ASSEMBLY.
3. CONCRETE PADS PROVIDED FOR ALL FUEL AND ELECTRICAL EQUIPMENT SHALL BE 6" ABOVE GROUND.

SITE PLAN

SCALE: 1"=20'

CURVE DATA						
	Δ	Δ/2	R	T	C	Lc
①	88°04'58"	44°02'29"	15'	14.51'	20.86'	23.06'
②	79°04'05"	39°32'03"	15'	12.38'	19.10'	20.70'
③	98°42'06"	49°21'03"	15'	17.47'	22.76'	25.84'
④	74°44'41"	37°22'20"	10'	7.64'	12.14'	13.05'

8'-6" = 136'-0"

CONC. WALKWAY & ACCESSIBLE RAMP, SEE DET. 2 C-10 AND 5 C-10

6" CONC. SLAB SEE DET. 1 C-10

CRM WALL W/ RAILING, SEE DET. 12 C-10

R=2' TYP.

PE BOLLARDS @ SEE DET. 13 C-10

4" REFLECTORIZED WHITE STRIPE AT 2' O.C. TYP.

4 STALLS @ 8'-6" = 34'-0"

5 STALLS @ 8'-6" = 42'-6"

35'-6"

26'

5'

13'

10'

22'-2"

16' TYP

15'

" WIDE CONC. LANTER CURB, EE DET. 4 C-10

FUTURE FUEL PUMP

FUEL PUMP WITH CONC. SLAB, SEE MECH. DWGS.

1,000 GAL. DIESEL FUEL TANK (W/ CONC. PAD), SEE MECH. DWGS. INSTALL PIPE BOLLARDS (6) @ 4' O.C. SEE DET. 13 C-10

PROVIDE CONC. PAD FOR FUTURE 1,000 GAL. FUEL TANK

4" REFLECTORIZED BLUE STRIPE AT 2' O.C.

ACCESSIBLE PARKING SIGN, SEE DET. 9 C-10

TOWING SIGNAGE SEE DET. 9 C-10

VAN-ACCESSIBLE PARKING SIGN, SEE DET. 9 C-10

ACCESSIBLE PAVEMENT MARKING; TYP. SEE DET. 6 C-10

STATION

PLANTER CURB SEE DET. 4 C-10

ISA SIGNAGE SEE DET. 8 C-10

10'-6"

5'

25'

R=15'

11'

3'

65°42'56"

CURB DPW STD. R-1

STALLS

30'

16' TYP

58'-6"

R= 15'

121°39'01"

16.34' (TYP)

WAILEA ALANUI DRIVE

2- FLAG POLES SEE STRUCT. DWGS.

WAILEA FIRE STATION SIGN, SEE ARCH. DWGS.

STA. CP-3 1/2" PIPE DIP (ELEV.=200.10)

E PLAN

'=20'

REVISIONS	BY

EDWARD H. IIDA LICENSED PROFESSIONAL ENGINEER No. 4076-C HAWAII, U.S.A.

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MITSUNAGA & ASSOCIATES

WAILEA FIRE STATION

HAWAII

MAUI

WAILEA

TAX MAP KEY: 2-1-08: 46 & 113

Sheet Title

SITE PLAN

Date JUNE 2001

Scale AS SHOWN

Design By CM

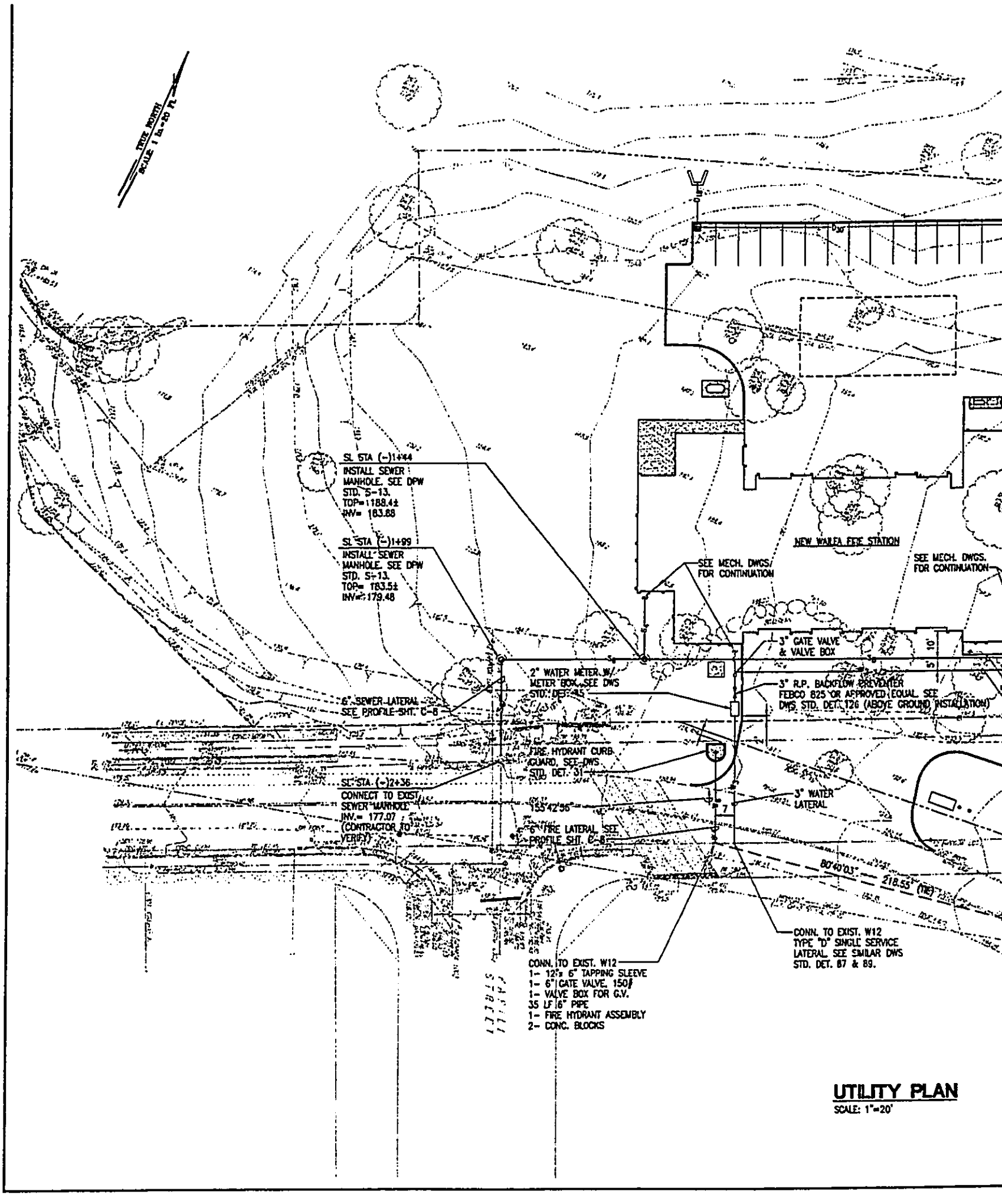
Drawn By CM, CC

Job 0683-01-C

Sheet No.

C-5

Sheet ___ of ___



UTILITY PLAN

SCALE: 1"=20'

NOTES:
1. FOR FIRE HYDRANT INSTALLATION, SEE DWS STD. DETAIL 27.
2. FOR VALVE BOX INSTALLATION, SEE DWS STD. DETAIL 12.

E STATION

SEE MECH. DWGS. FOR CONTINUATION

10'

5'

REVENTER
ROVED EQUAL. SEE
(ABOVE GROUND INSTALLATION)

6" SEWER LATERAL

2-1/2" WATER LATERAL

SL STA 0+00
6" SEWER COTG
TOP= 189.9±
INV= 186.10

218.55' (ME)

W12
SERVICE
ILAR DWS
89.

LITY PLAN
1"=20'

REVISIONS	BY

EDWARD H. IIDA
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HAWAII, U.S.A.

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MITSUNAGA & ASSOCIATES

WAILEA FIRE STATION

WAILEA — MAUI — HAWAII

TAX MAP KEY: 2-1-08: 46 & 113

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CONSTRUCTION MANAGEMENT

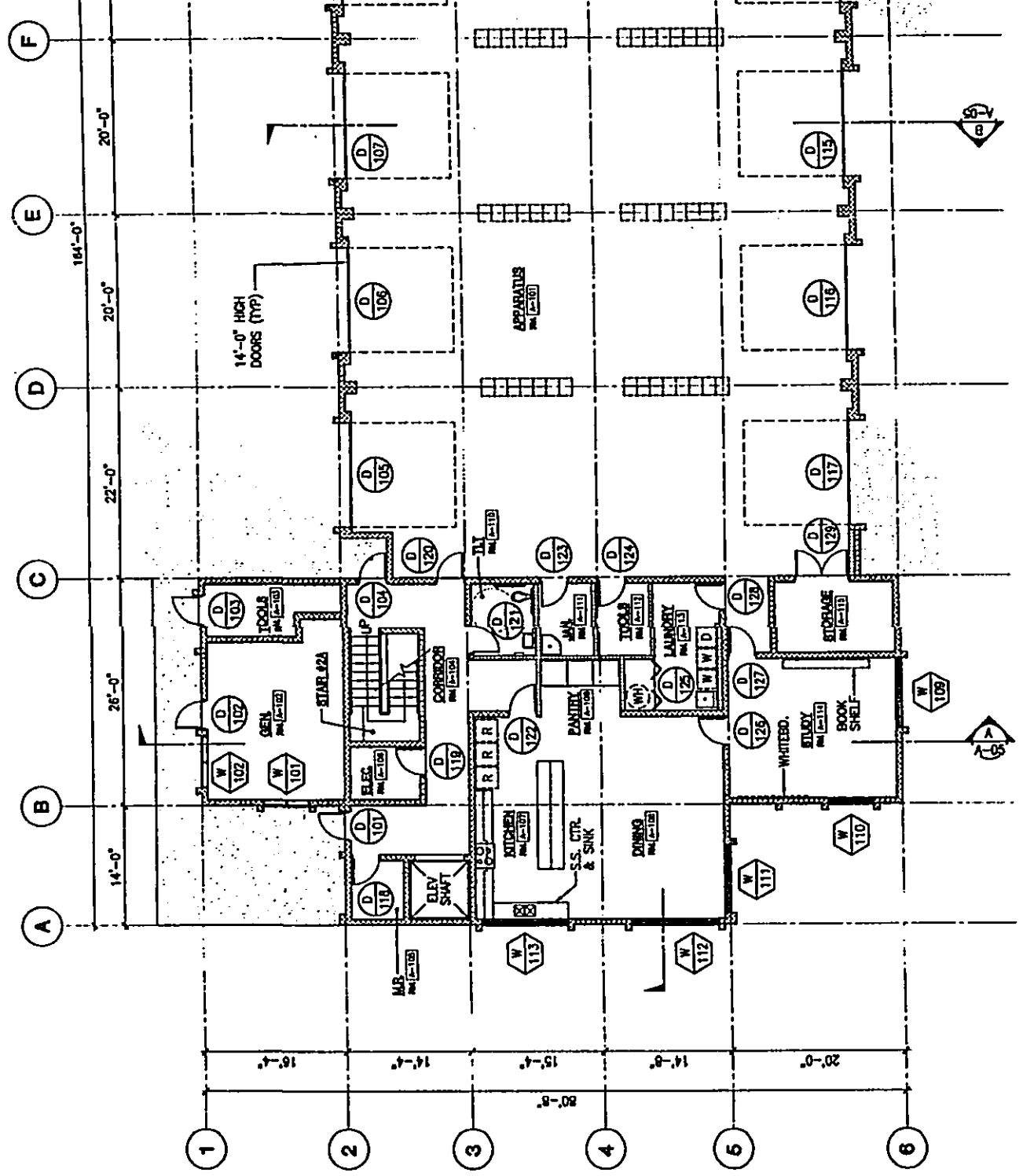
Sheet Title

UTILITY PLAN

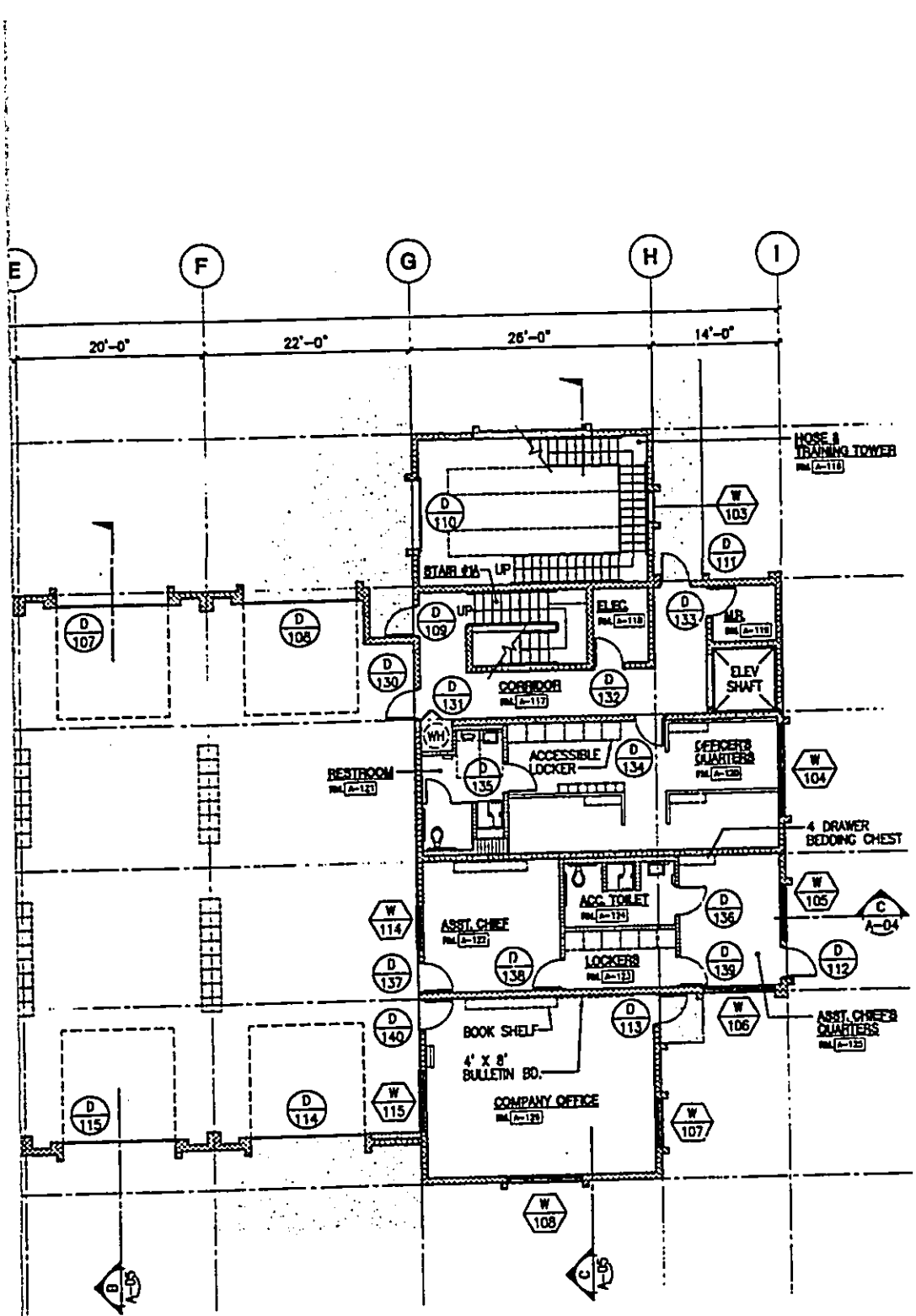
Date JUNE 2001
Scale AS SHOWN
Design By CJI
Drawn By CM, CC
Job 0883-01-C
Sheet No.

C-6

Sheet __ of __



1 LOWER FLOOR PLAN
SCALE: 1/8" = 1'-0"



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WAILEA FIRE STATION

HAWAII

MAUI

WAILEA

TAX MAP KEY: 2-1-08: 46 & 113

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PLANNING
CONSTRUCTION MANAGEMENT

Sheet Title
LOWER FLOOR PLAN

Date JUNE 2001

Scale AS SHOWN

Design By SDW

Drawn By

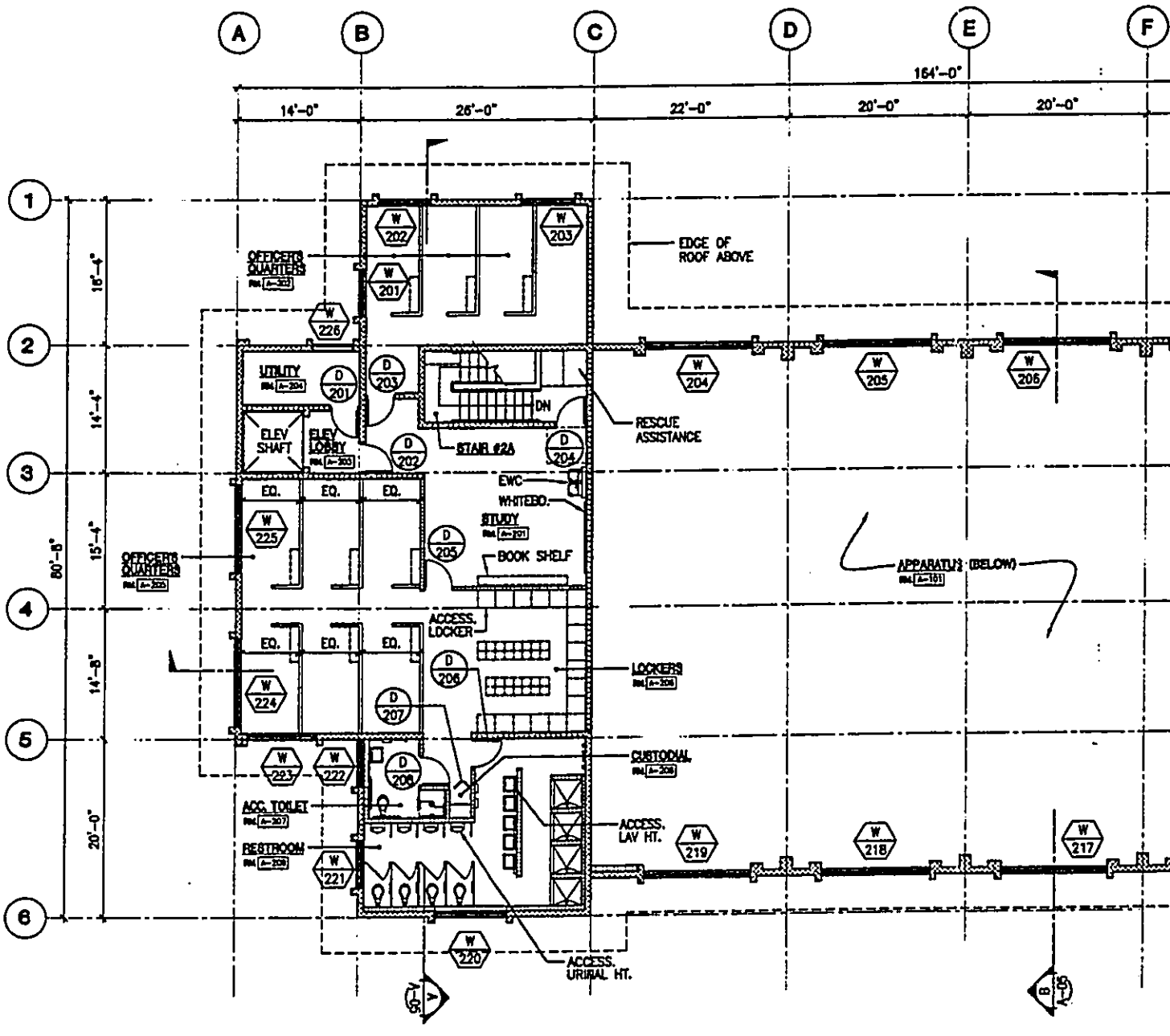
Job 0883-01-A

Sheet No.
A-1

Sheet ___ of ___

2 A-02 PLAN AT TOWER

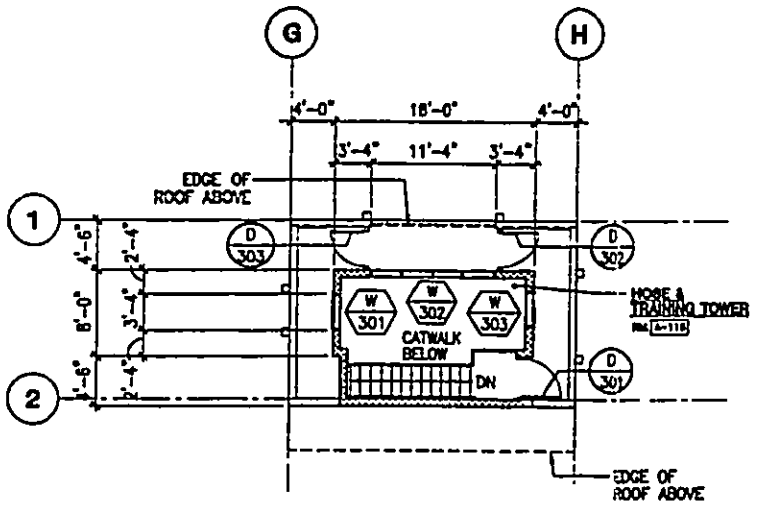
SCALE: 1/8" = 1'-0"

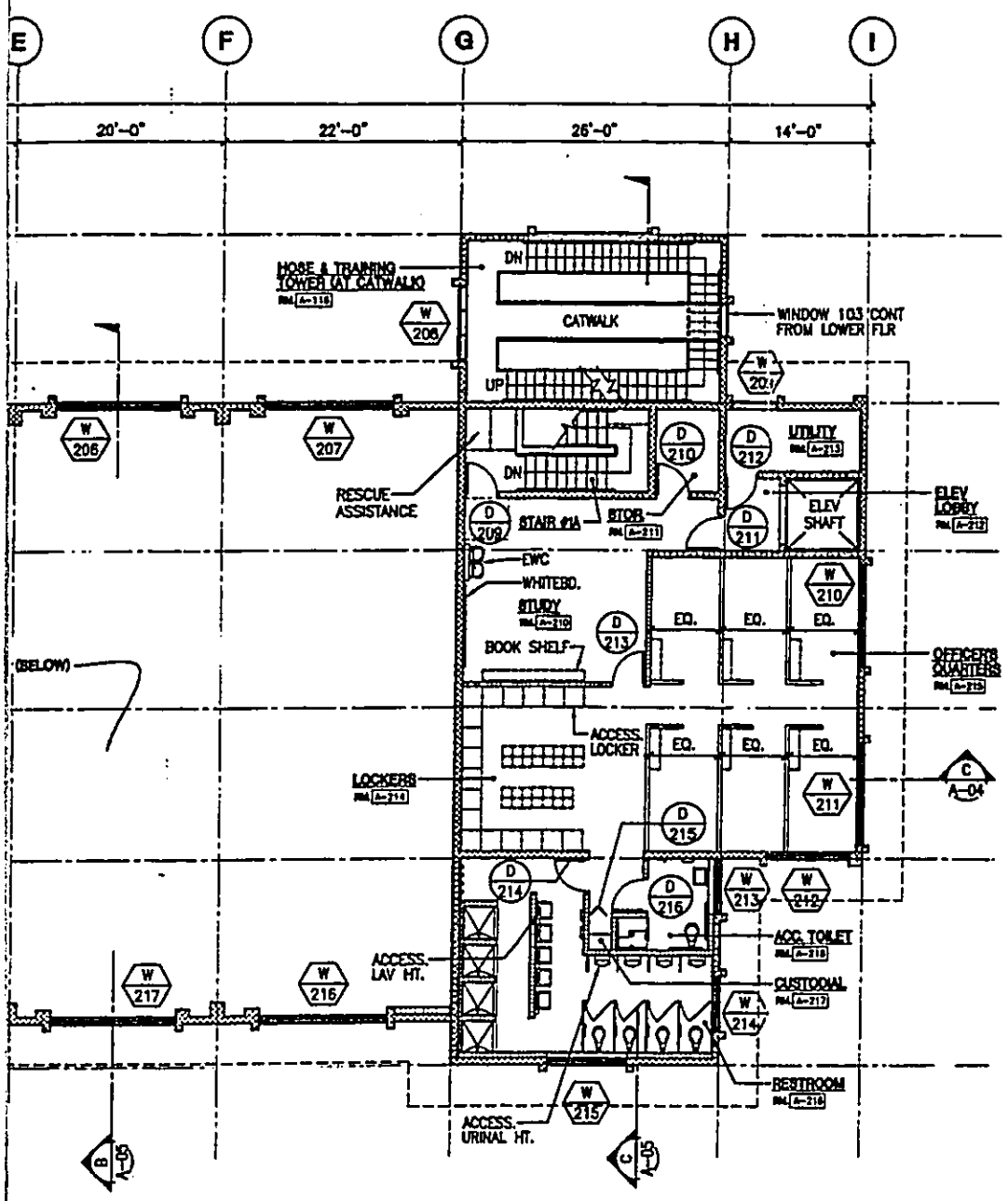


1 A-02 UPPER FLOOR PLAN

SCALE: 1/8" = 1'-0"

T TOWER
1'-0"





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MITSUNAGA & ASSOCIATES

WAILEA FIRE STATION

WAILEA — MAUI — HAWAII

TAX MAP KEY: 2-1-08: 46 & 113

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ARCHITECTURE
PLANNING
CONSTRUCTION MANAGEMENT

Sheet Title
UPPER FLOOR PLAN

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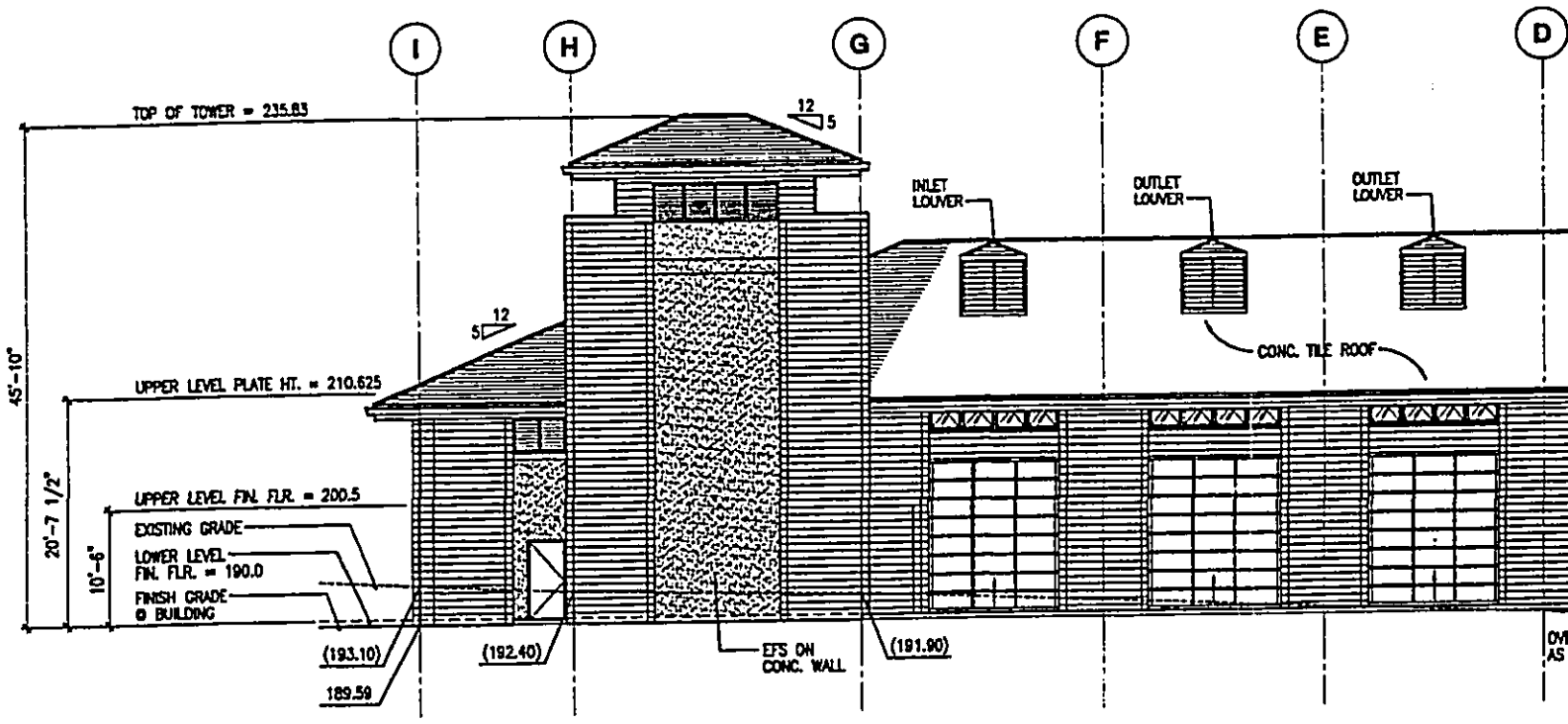

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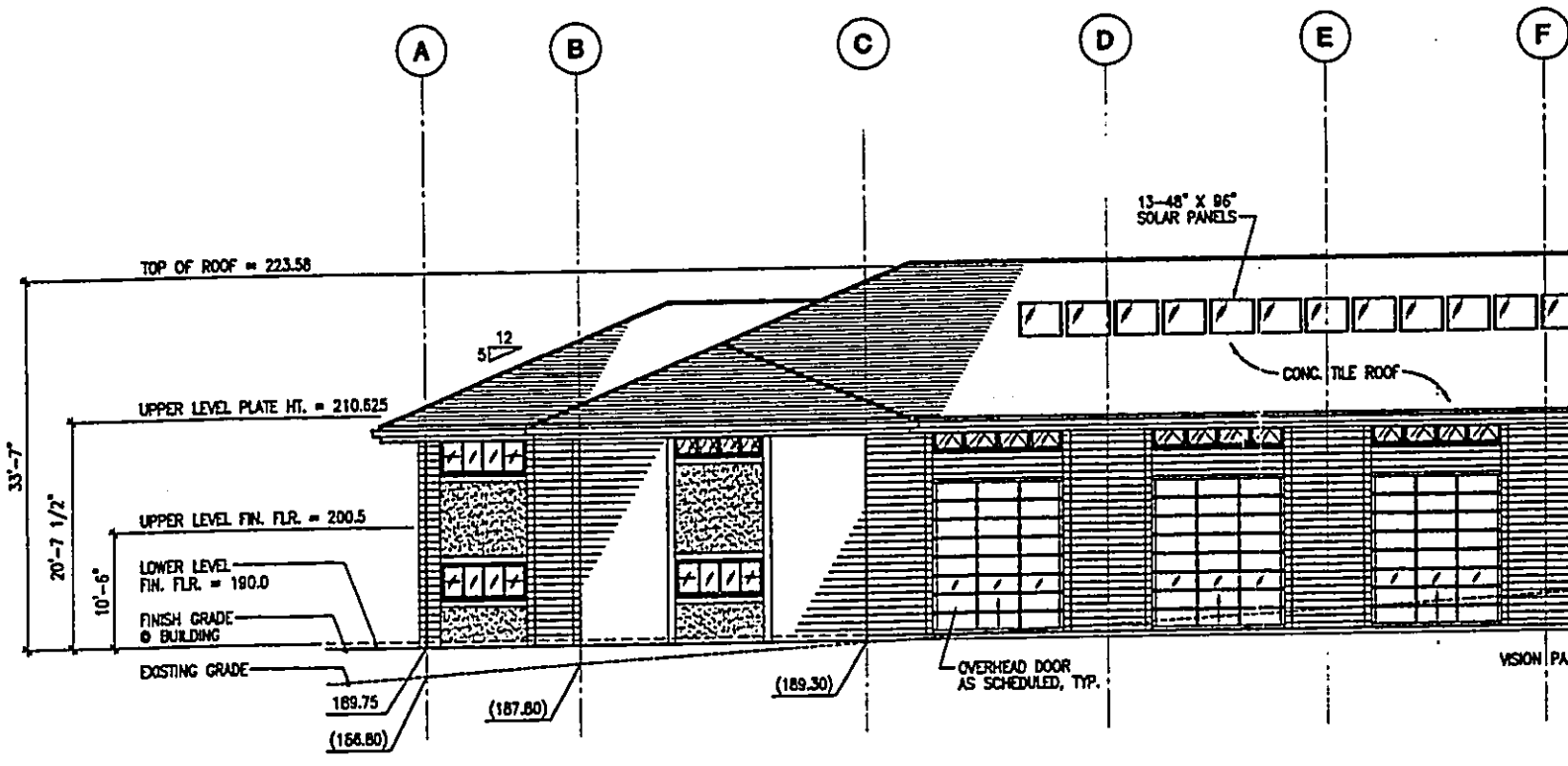

B / A-03 **SOUTH ELEVATION** (FROM KILOHANA DRIVE)
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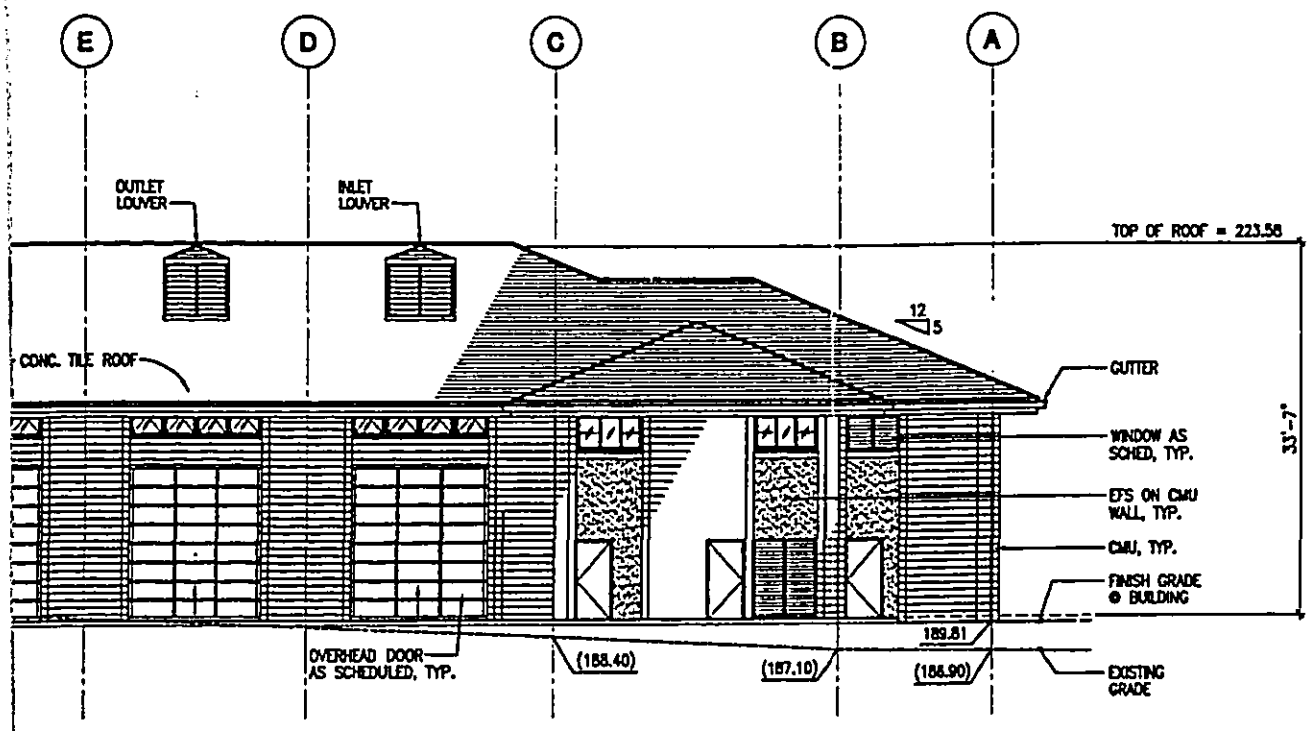

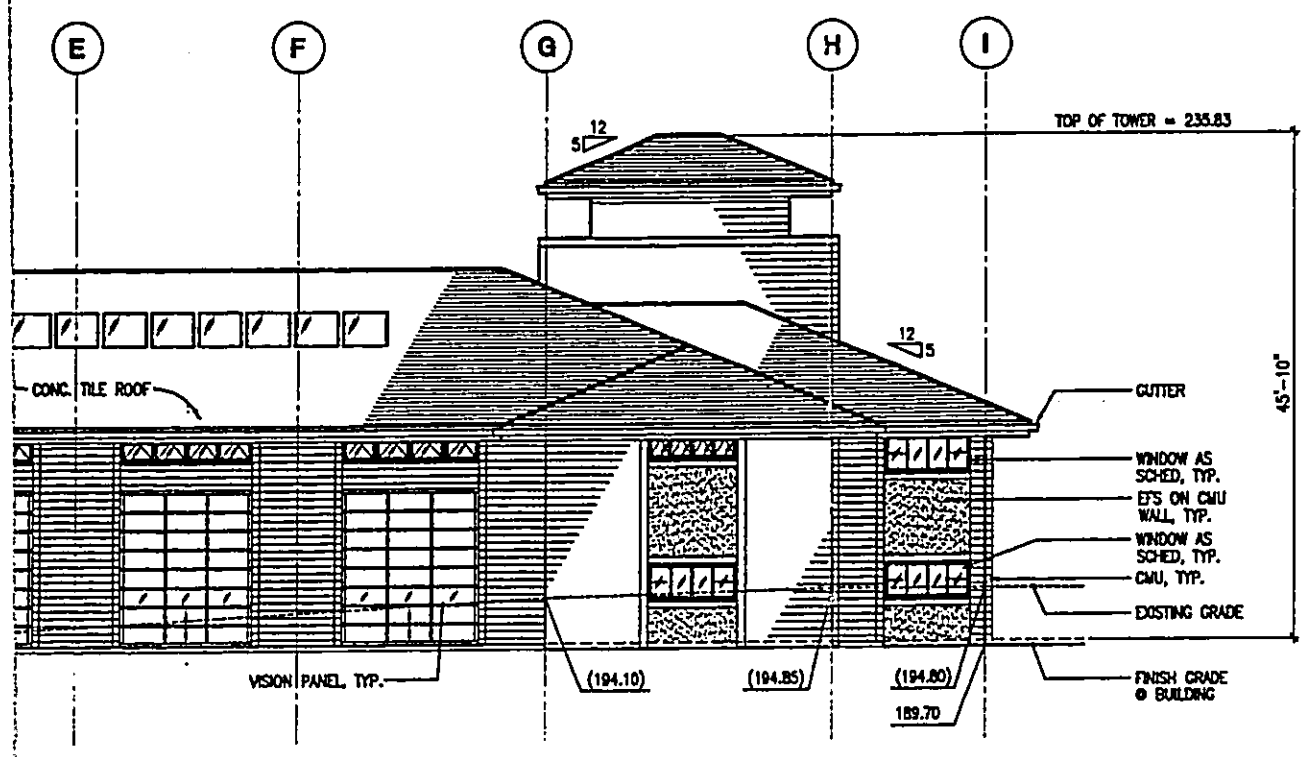

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MITSUNAGA & ASSOCIATES

WAILEA FIRE STATION

WAILEA — MAUI — HAWAII

TAX MAP KEY: 2-1-08: 46 & 113

Mitsunaga & Associates, Inc.

ARCHITECTURE
ENGINEERING
PLANNING
CONSTRUCTION MANAGEMENT

Sheet Title: EXTERIOR ELEVATIONS

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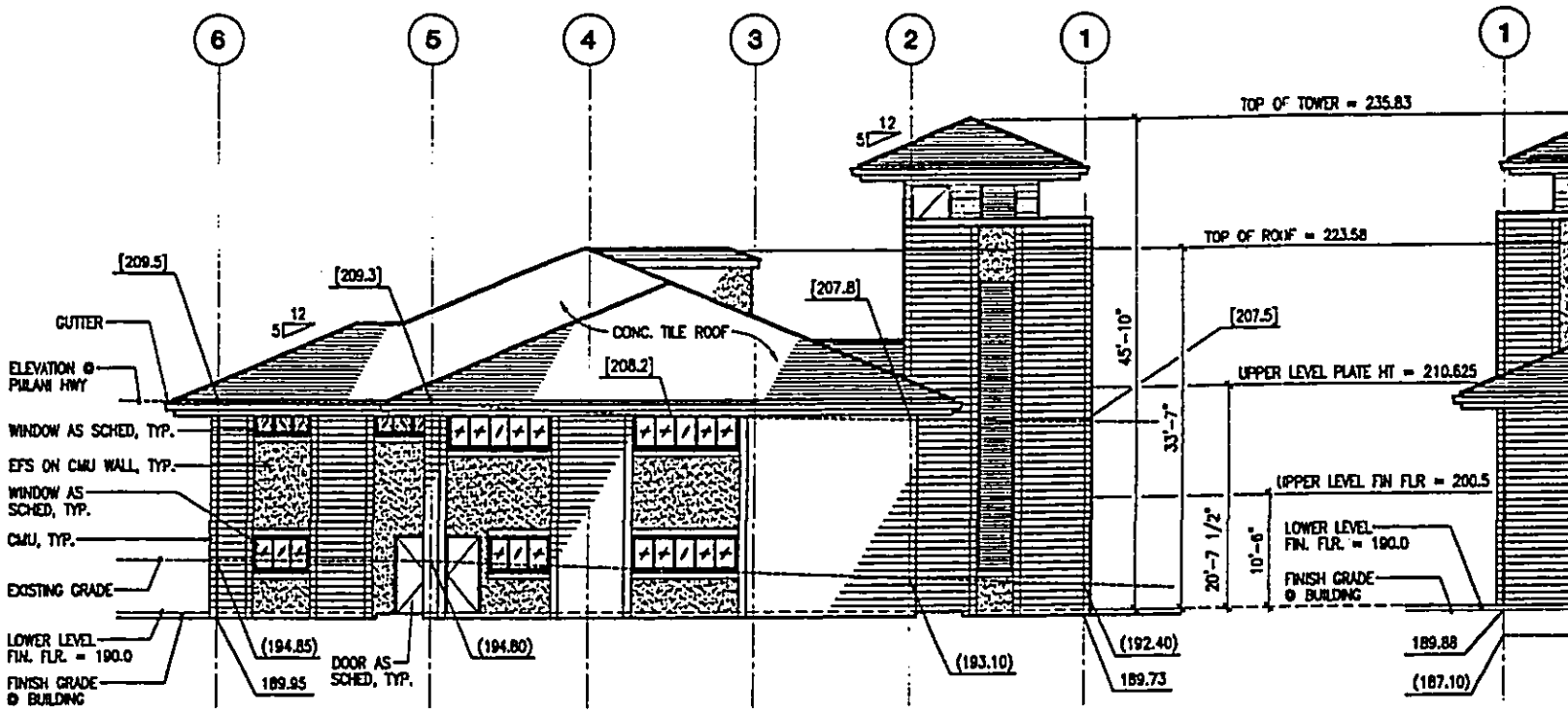

A A-04 **EAST ELEVATION** (FROM PILANI HWY)
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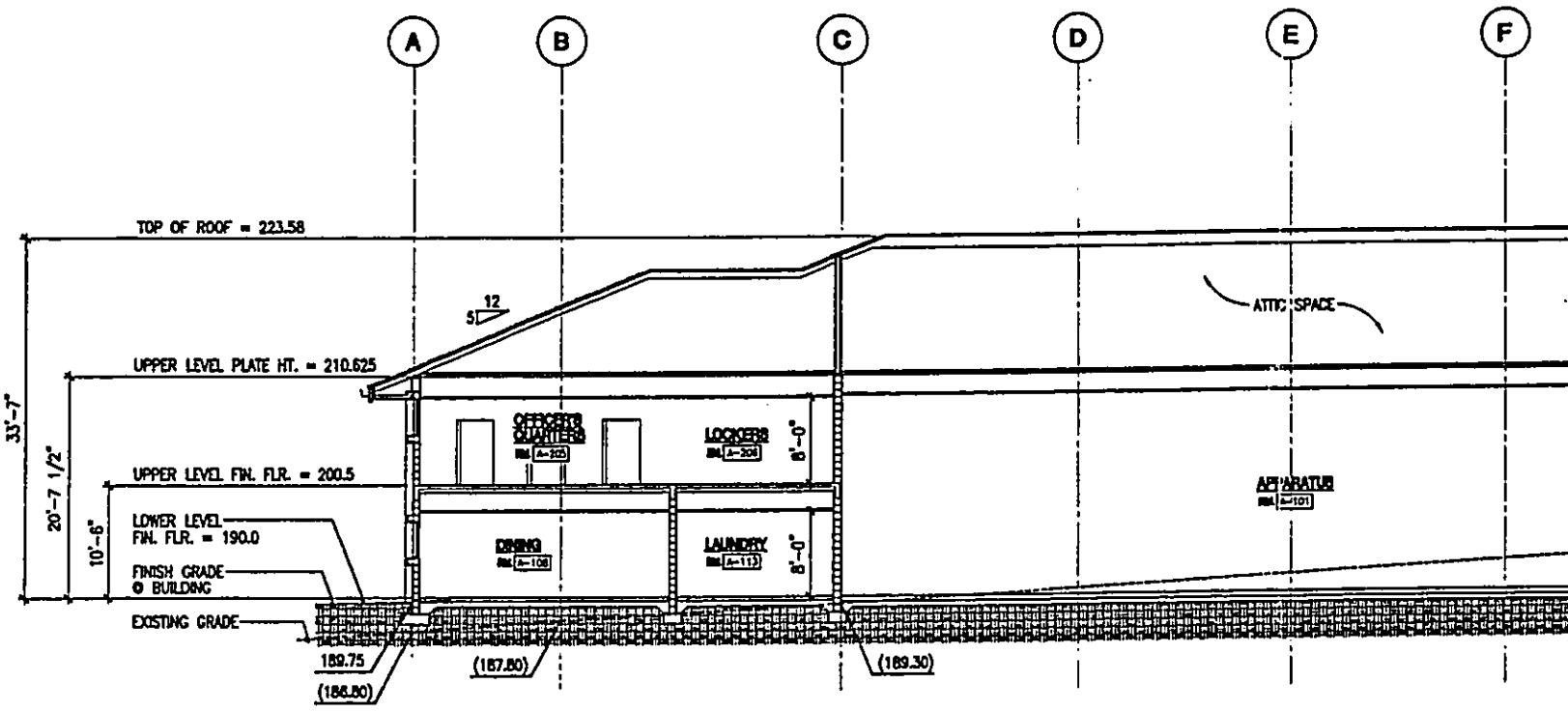

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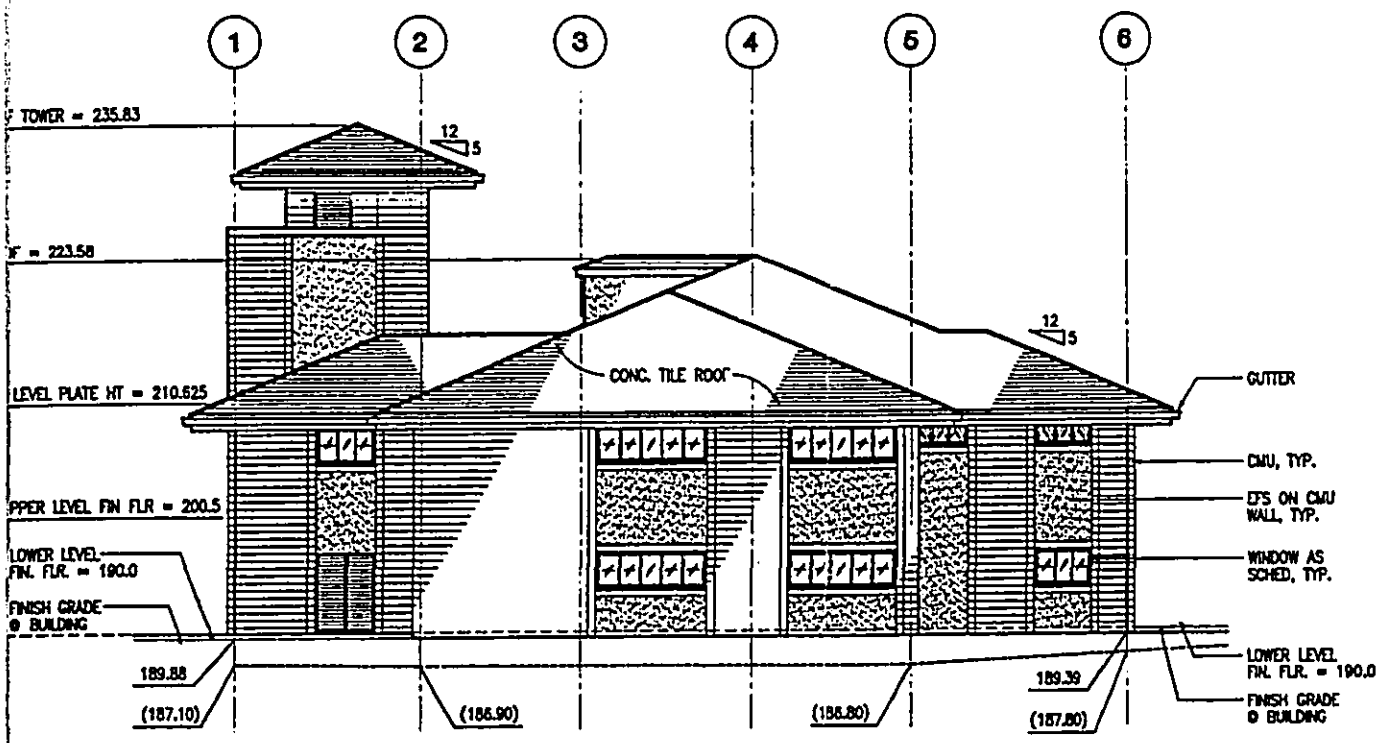

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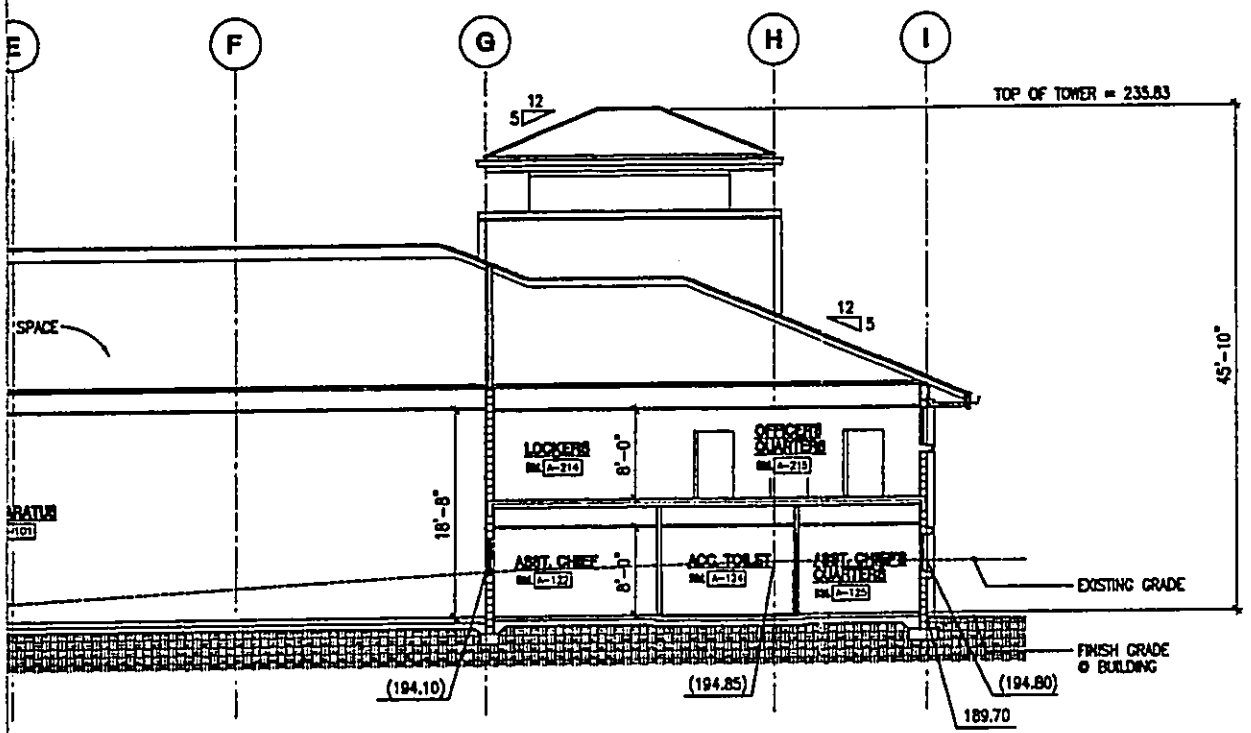

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WAILEA FIRE STATION

WAILEA — MAUI — HAWAII

TAX MAP KEY: 2-1-08: 46 & 113

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Sheet Title: EXTERIOR ELEVATIONS & BUILDING SECTION

Date: JUNE 2001
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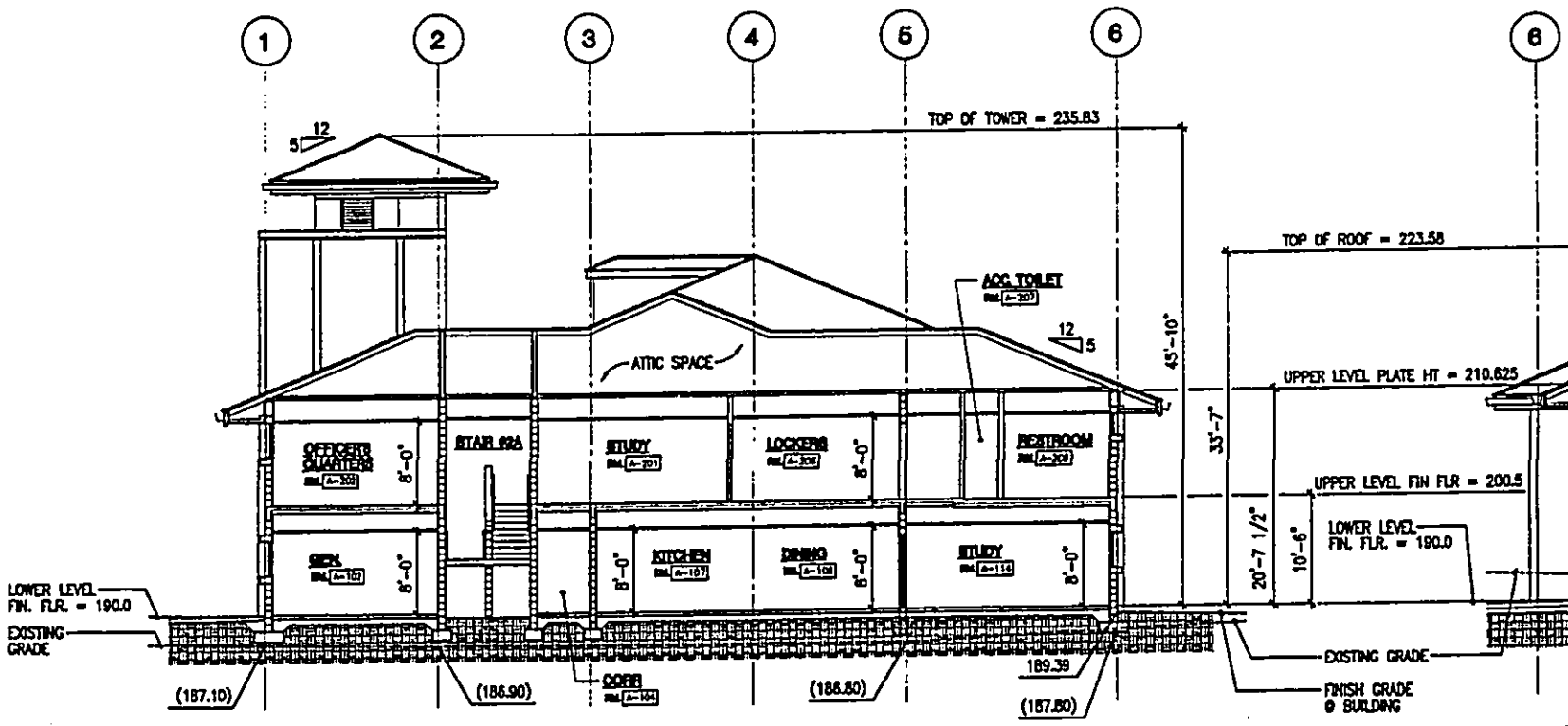

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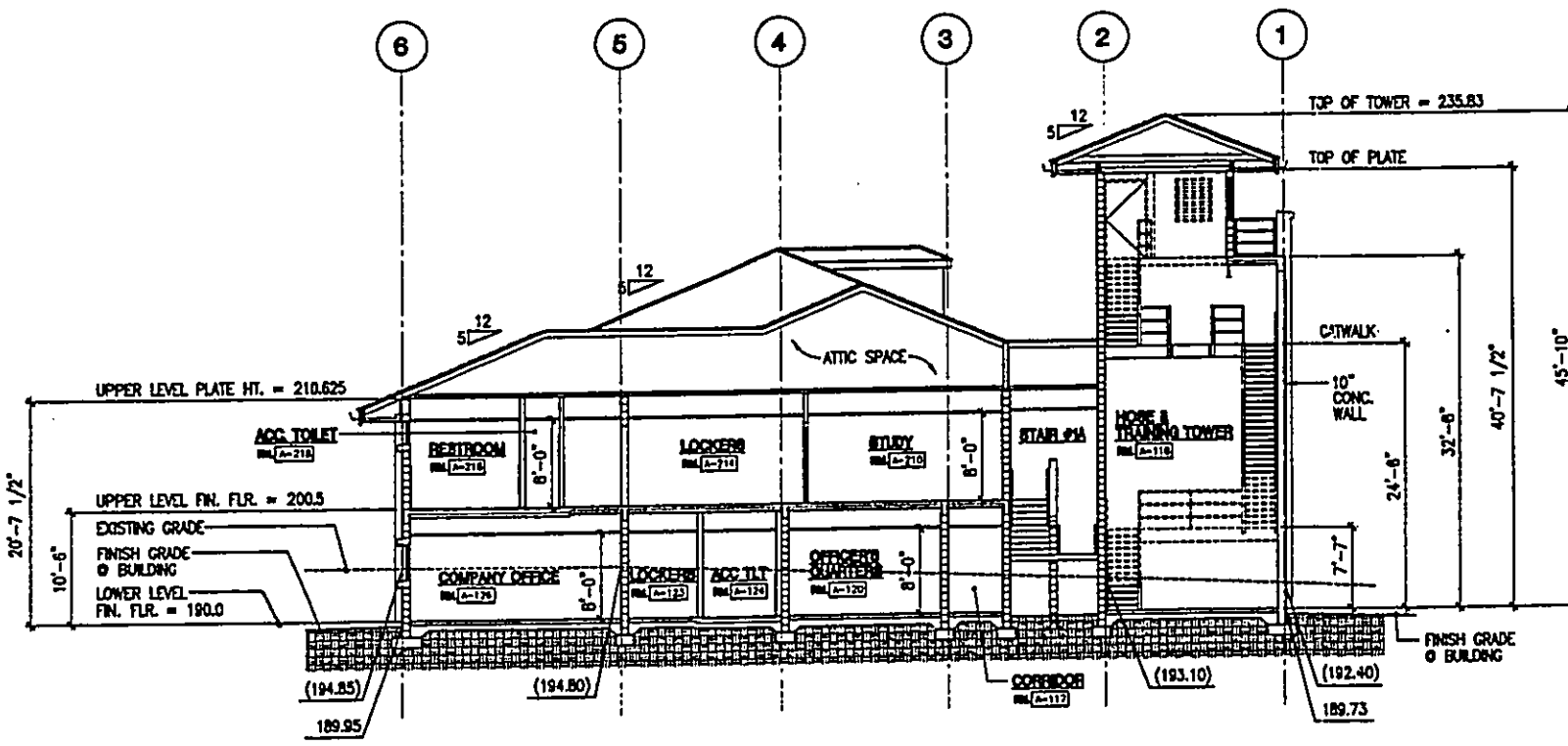

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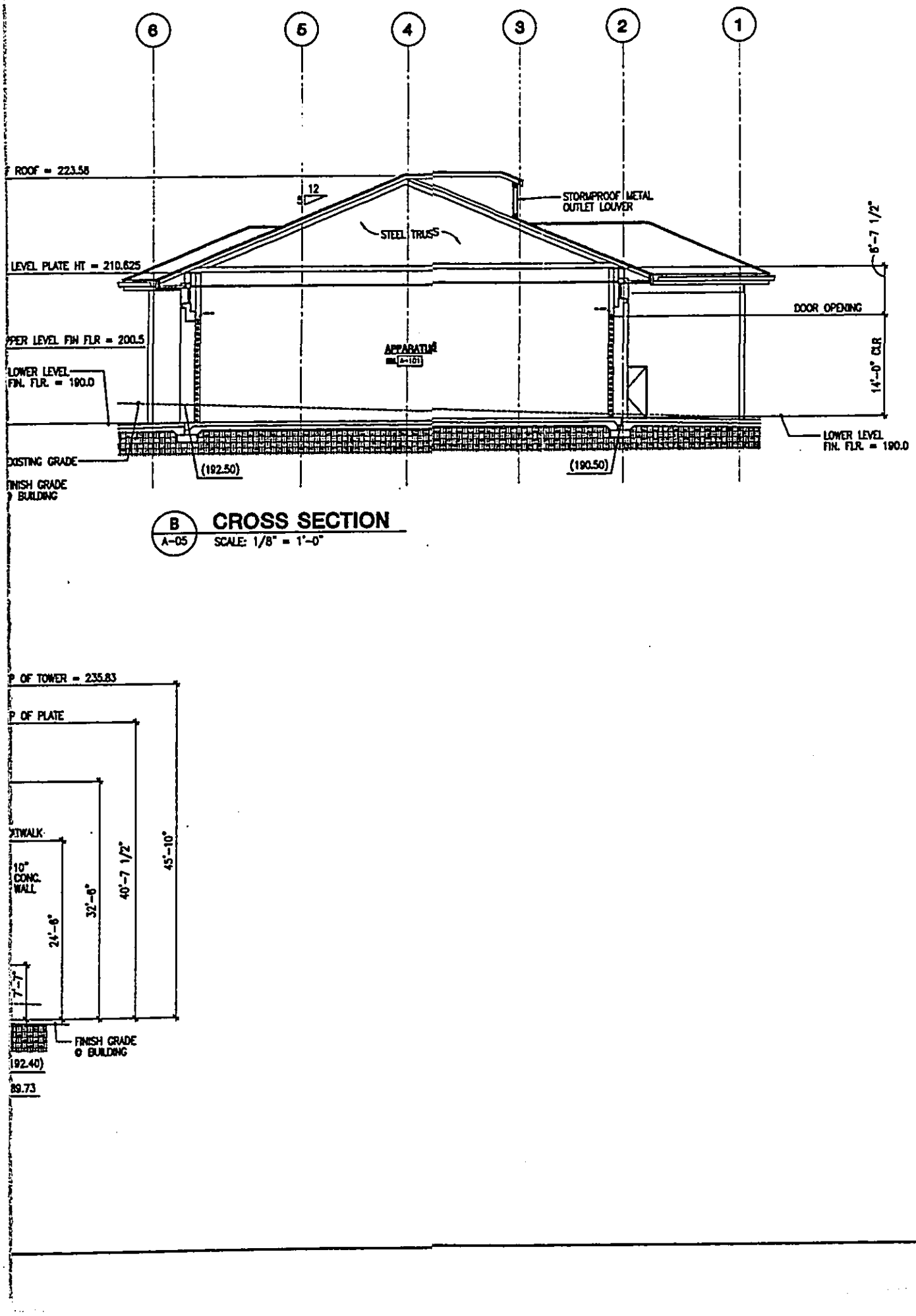

B
A-05
CROSS SECTION
SCALE: 1/8" = 1'-0"

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WAILEA FIRE STATION

WAILEA — MAUI — HAWAII

TAX MAP KEY: 2-1-08: 46 & 113

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Sheet Title: BUILDING SECTIONS

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Appendix B

Archaeological Inventory Survey

ASH0601-1

ARCHAEOLOGICAL INVENTORY SURVEY FOR THE PROPOSED WAILEA FIRESTATION AND FUTURE POLICE STATION KAMA'OLE *AHUPUA'A*, WAILUKU DISTRICT, MAUI ISLAND (TMK 2-1-08:113, por., 3-9-38:289, por.)

by

Jeffrey Pantaleo, M.A.

for

Michael T. Munekiyo
303 High Street, Suite 104
Wailuku, Hawaii 96793

June 2001

Archaeological Services Hawaii, LLC
16 South Market Street, Suite G
Wailuku, Hawaii 96793

ABSTRACT

At the request of Michael T. Munekiyo, Archaeological Services Hawaii, LLC (ASH) of Wailuku, conducted an archaeological inventory survey of a 5.752-acre parcel of land in Kama'ole *ahupua'a*, Wailuku District, Maui Island (TMK 2-1-08:113, por., 3-9-38:289, por.). The project area is being proposed for the Wailea Firestation and future development of the Wailea Police Station. The objective of the current investigation was to determine the presence/absence, nature, extent, and significance of cultural remains in the project area.

Results of the current survey indicated that the entire project area had undergone extensive previous disturbances from bulldozing and road construction activities. No surface features were encountered. Due to the absence of surface features and ample evidence of extensive previous disturbances in the area, nine backhoe trenches were excavated in selected areas of the parcel in localities with highest potential of intact subsurface deposits.

No cultural remains were encountered during subsurface testing. In general, two stratigraphic layers of Makena loam overlying bedrock, was present in all of the trenches. T-7 through 9 exhibited various depths of overburden (fill) from construction of the old Kilohana Road alignment overlying Layer I. Due to the negative results of the survey and subsurface testing, together with the compounded previous disturbances in the subject project area, no further archaeological work including monitoring during construction is recommended. However, in the event cultural remains are inadvertently discovered during construction, a consulting archaeologist shall be contacted to determine disposition of the findings, in consultation with the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources (DLNR).

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INTRODUCTION

At the request of Michael T. Munekiyo, Archaeological Services Hawaii, LLC (ASH) of Wailuku, conducted an archaeological inventory survey of a 5.752-acre parcel of land in Kama'ole *ahupua'a*, Wailuku District, Maui Island. The subject project area is being proposed for the Wailea Fire Station, and future development of the Wailea Police Station. The survey was conducted on Thursday, May 31, 2001, by Jeffrey Pantaleo, M.A. and Ian Bassford, B.A.

PROJECT LOCATION

The project area is situated on the lower southwestern slopes of Haleakala Volcano, immediately east of the Makawao District boundary and north of Paeahu *ahupua'a* (Figure 1). Located at the intersection of Pi'ilani Highway and Kilohana Street, the project parcel is bounded by Pi'ilani Highway to the east, Kilohana Street to the south, Hale Kilohana Subdivision to the west, and open land to the north (TMK 2-1-08:113, por., 3-9-38:289, por.).

ENVIRONMENT

Topography of the project area is relatively flat, gently sloping to the west, and also moderately sloping towards a small gulch along the northern boundary (Figure 2). The entire project area appears to have been previously chained, grubbed, and bulldozed for ranching activity and road construction. The original alignment of a segment of Kilohana Street traverses the southern portion of the project area in an east-west direction (Figure 3). Wooden posts from a fenceline stand along the northern side of old Kilohana Street. The eastern and southern portions of the project area exhibited extensive disturbances from the construction of Pi'ilani Highway and Kilohana Street, and installation of a culvert (Figure 3). Bulldozing activities for access roads and clearings occur in the southern, eastern, and western portions of the project area. Modern refuse occurs in the western and eastern portions of the project area and along old Kilohana Street alignment.

Vegetation in the project area includes dry grasses with intermittent stands of *kiawe* (*Prosopis pallida*). Dense stands of *kiawe* are located in the drainage. Elevation ranges from 160 to 200 feet above mean sea level. Rainfall averages below 10 inches a year, predominantly occurring during the winter months between November and February.

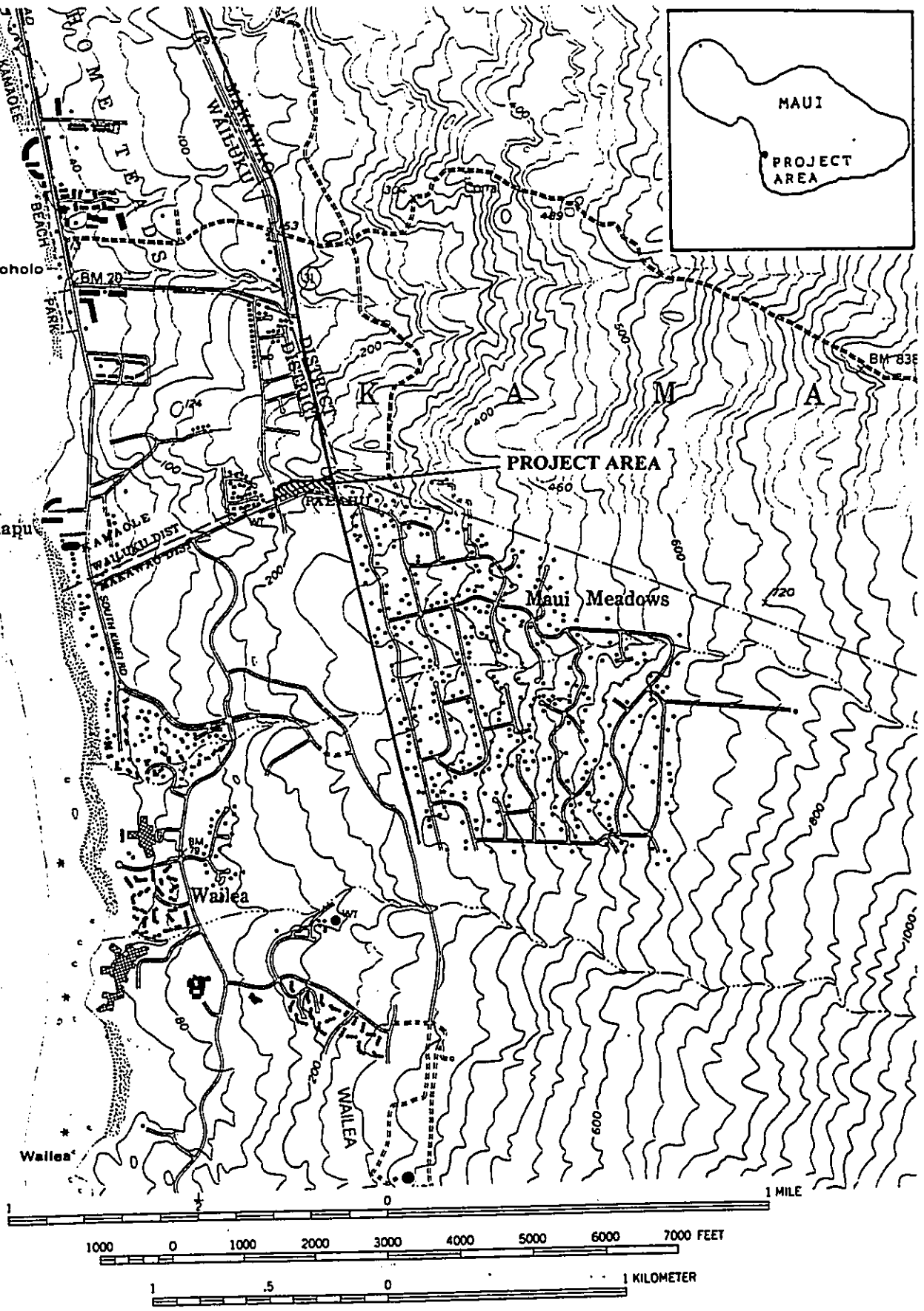

Figure 1. Location of Project Area on USGS Puu O Kali and Makena Quadrangles

Figure 2. Top: Overview of Project Area. View to Northeast.
Bottom: Overview of Northern Boundary Showing Drainage

Figure 3. Top: Overview of Project Area Showing Old Kilohana Street, View to West.
Bottom: North End of Project Area Showing Previous Disturbances, View to North

Soils in the project area include Makena loam, stony complex, 3-5% slopes. This complex consists of Makena loam and Stony land. Stony land occurs on low ridges, and Makena loam occurs as gently sloping areas between the low ridges. On Makena loam, permeability is moderately rapid, runoff is slow to medium, and the erosion hazard is slight to moderate. On Stoney land, permeability is very rapid and there is no erosion hazard.

HISTORICAL BACKGROUND

Historical background data regarding Kama'ole *ahupua'a* and Kula District has been summarized in Kennedy et al. (1992), Hurst et al. (1991), and Sinoto et al. (1999). The reader is referred to these studies for detailed information.

The earliest prehistoric settlement on Maui Island is postulated to have occurred between A.D. 300-600 along the windward regions (Kirch 1985, Cordy and Athens 1988). Population expansion into the drier, leeward areas likely took place by A.D. 1000-1200. Permanent or seasonal settlements occurred along the coastal areas to exploit marine resources, while permanent settlements occurred in the upland areas to exploit the agricultural resources. *Mauka-makai* trails linked the upland and coastal settlements.

The French navigator, Jean Francois de Galaup La Perouse landed on Maui on May 30, 1786. Anchored at Keoneoio Bay, La Perouse noted that this part of the coast was destitute of running water, and brackish water was obtained from shallow wells. Handy (1940:113-114) stated that due to the lack of running water, dryland taro was cultivated in the upland areas in pockets of moist soil, while sweet potatoes were grown at lower elevations.

Irish potatoes became an important cash crop for provisioning whaling ships and supplying the west coast during the Gold Rush of 1848. Irish potatoes were introduced to Maui during the 1840s, and by 1846 spread from Kula to Honuaula. Sugarcane was also being cultivated in Honuaula by 1841. M.J. Nowlein and S.D. Burrows leased lands from Kamehameha III at Ulupalakua to grow sugarcane and Irish potatoes. In 1845, Nowlein and Burrows transferred their lease and interests, comprising 2087 acres, to Linton L. Torbert, who extended sugarcane cultivation to adjoining lands and started cattle ranching. Captain James Makee bought the Torbert Plantation in 1856, and renamed it Rose Ranch. By 1862, sugarcane was being

extensively cultivated, and a steam mill was built for processing the sugarcane. However, a severe drought in 1878 ended the production of sugarcane and cattle ranching became the dominant commercial enterprise of Honuaula.

The current project area is located in Kama'ole *ahupua'a*, in the traditional district of Kula. The literal meaning of Kama'ole is "childless" (Pukui et al. 1974:81). Land conveyance records indicate that apparently much of Kula was government land and in 1911, the territorial government of Hawaii sold large acreages of public lands.

During the Mahele in 1848, lands of Hawaii were divided among the Royalty, government, and commoners. In Kama'ole *ahupua'a*, 20 L.C.A.'s ranging in size from 0.5 to 57 acres were awarded, but none were in the project area. The majority of lands in Kama'ole *ahupua'a* were reserved for cattle ranching (Hurst et al. 1991) and came under the ownership of Haleakala Ranch. In 1926 and 1927, a total of 3,020 acres of Kama'ole *ahupua'a* was exchanged between Hawaii National Parks and Haleakala Ranch as Grant 9325:2. The current project area is situated within Grant 5008. This grant, consisting of 415.55 acres, was sold to the Henry Waterhouse Trust Company, Ltd. at a public auction in 1906.

PREVIOUS ARCHAEOLOGY

Winslow Walker (1931) provided the first archaeological survey of prominent *heiau* sites on Maui Island, including upland Kama'ole *ahupua'a*. Numerous archaeological studies have been completed in the coastal portions of Kihei, Wailea, and Makena in conjunction with resort, recreational, and residential development following the enactment of cultural resource management laws in the early 1970s. For a summary of work pertinent to the current project area, the reader is referred to Kennedy et al. (1992) and Sinoto et al. (1999).

No previous archaeological work has been conducted within the current project area; however, several archaeological surveys have been conducted in the vicinity of the project area in conjunction with development of the Wailea Resort lands.

The Applied Research Group of Bishop Museum conducted an archaeological inventory survey on a portion of Wailea Parcel MF-12 in Paeahu *ahupua'a* (TMK 2-1-8:42), proposed for a rock crusher site (Stocker et al. 1992). State Site Number 50-50-14-3114, Features 1-4, were recorded during the survey. Types of features identified included an oval-shaped enclosure, a wall, and two

circular rock alignments. Testing was conducted at Features 1, 3, and 4, but revealed no subsurface cultural remains. Four backhoe trenches excavated in each quadrant of the proposed rock crusher site also revealed no subsurface cultural remains. Based on the negative results of testing, no further archaeological work was recommended at Features 1, 3, and 4. Data recovery was recommended for the Feature 2, wall.

The Applied Research Group of Bishop Museum conducted data recovery procedures for Wailea Parcel SF-7 in Paeahu *ahupua'a*, Makawao District, Maui Island. Seven sites were initially recorded in the project area (Landrum and Cleghorn 1989); however, five of these sites were destroyed during road grading for a residential project. The remaining two sites, 50-50-14-2867 and 3113, were data recovered. Features 1, 2, 2a, and 3 of Site 2867 were investigated during a subsequent project (Klieger et al. 1992). Feature 1 is a circular rock terrace faced with basalt cobbles on three sides. One trench and three test units were excavated at this feature. Feature 2 and 2a consist of two superimposed structural components including a C-shaped enclosure and a rectangular alignment of cobbles and boulders. Three test units were excavated at these adjacent features, revealing no cultural remains. It was determined that these features were not associated with each other. Feature 3 is a lava tube shelter fronted by a terrace. Extensive excavations were conducted in the interior of the lava tube, revealing moderate amounts of cultural remains and a human bone fragment. Features 1 and 2 of Site 3113 were also investigated. One test unit was excavated at Feature 1, a C-shaped alignment, revealing no cultural remains. One test unit was excavated at Feature 2, a C-shaped structure, also revealing no cultural remains. Another test unit was excavated 2.0 meters north of Feature 1 in an area defined by surface boulders, and five shovel probes were excavated around Feature 2. No cultural remains were encountered in any of these excavations.

The Applied Research Group of Bishop Museum (Pantaleo et al. 1991) conducted an archaeological surface assessment of four alternative lots for the Kihei school site selection, Kihei, Wailea, Makawao, Maui Island. One surface feature, a free-standing wall segment, was encountered in Paeahu *ahupua'a*. This wall was investigated during a subsequent project and assigned State Site Number 50-50-14-4791 (Sinoto et al. 1999).

Aki Sinoto Consulting (Sinoto et al. 1999) conducted an archaeological inventory survey for the proposed Douglas Spencer Subdivision in Kama'ole *ahupua'a*, Wailuku, Maui Island (TMK 3-9-04:129). A remnant segment of a free-standing wall was recorded during this survey. No State

Site number was assigned since the majority of the wall is located in the adjacent parcel to the north. Previous disturbances from ranch-related activities were observed. Eight backhoe trenches were excavated along the northern edge of the parcel. No cultural remains or deposits were encountered in any of the backhoe trenches. Deposits of sand were determined to be shallow and largely surficial. No further work was recommended prior to commencing construction activities.

Scientific Consultant Services (Spear 2000) conducted an archaeological inventory survey of 17.89 acres in Paeahu *ahupua'a*, Makawao District, Maui Island (TMK 2-1-08:103 and 121). The project area was found to have previously undergone heavy mechanical disturbance by machine activities. No surface cultural remains were encountered during this survey.

SETTLEMENT PATTERN

Prehistoric expansion and settlement into the drier or arid regions on Maui Island probably occurred between A.D. 1000-1600 (Kirch 1985). Permanent habitation occurred in the upland agricultural areas around A.D. 1400-1600, as indicated by the presence of *heiau*. Types of features included enclosures and platforms for the *heiau* and permanent habitation structures, and walls, rock alignments, and terraces for the agricultural features. The permanent or seasonal habitation occurred along the coastal areas around A.D. 1000-1400 to exploit marine resources (Chapman and Kirch 1979). Types of features along the coastal areas included enclosures and overhang shelters for permanent or seasonal habitation, and mounds and small planting areas in selected localities for the agricultural features. *Mauka-makai* trails linked the permanent upland habitation areas to the coastal areas.

The current project area is situated in the intermediate or "barren" zone, primarily used for traveling between the upland and coastal areas. Temporary habitation sites, trails, and *ahu* are commonly found in this zone.

During the historic period, Irish potatoes and sugarcane were being cultivated in the upland areas. When the demand for potatoes following the California Gold Rush diminished, together with the effects of a hurricane and severe drought, cattle ranching became predominant. Prior to and during World War II, the lower portion of Kama'ole *ahupua'a* was probably used for military training exercises. Currently, the area is used for residential and resort development.

SITE EXPECTABILITY

Based on the results of previous archaeological investigations in the vicinity, sites associated with temporary habitation and trails are expected. Also, features associated with historic ranching activities such as walls and corrals and World War II training exercises may also be present in the project area. However, due to extensive previous disturbances from ranching and road construction, the probability of encountering cultural remains is low.

METHODOLOGY

Archaeological and historical background research was conducted at the State Historic Preservation Division (SHPD) library at the Department of Land and Natural Resources (DLNR) in Kapolei, and the Bureau of Conveyances and Land Management Branch of DLNR in Honolulu.

The survey was conducted by walking systematic transects of 5-10 meter intervals throughout the project area. Potential features were cleared of vegetation and inspected. Standard archaeological methods and procedures were followed to obtain sufficient information to determine significance of the remains.

Due to the absence of surface features and other surface indications, backhoe trenching was conducted to determine presence/absence and extent of subsurface cultural remains. Nine backhoe trenches were excavated in selected areas in the parcel that exhibited minimal previous disturbances and potential for intact subsurface deposits. A Ford 675E backhoe, provided and operated by Maui County, was used to excavate the trenches. Representative stratigraphic columns were recorded for each trench. The location of each trench was plotted on a project area map. Soil descriptions using Munsell color designations were completed for each trench, and color photographs were taken.

RESULTS OF SURVEY

No surface cultural remains were encountered during the surface survey of the project area. A total of 9 localities were selected for backhoe testing to determine presence/absence, nature, and extent of subsurface cultural remains.

The backhoe trenches were excavated at selected locations that exhibited limited previous disturbances and considered to have potential for subsurface remains. Trenches T-1 through T-5 were placed in TMK 2-1-08:113, por., the proposed location of the Wailea Fire Station, and T-6 through T-9 were placed in TMK 3-9-38:289, por., the future location of the Wailea Police Station. T-1 was excavated on a level grassy area in the southwestern corner of the project area. T-2 was located east of T-1 on a level grassy area between access roads. T-3 was excavated in a lowlying area north of T-2 on a grassy area at the base of a ridge. T-4 was located along the northern boundary of the project area on an outcrop in a lowlying area near the drainage. T-5 was excavated east of T-2 on top of a level grassy ridge. T-6 was excavated on a level grassy area in the eastern portion of the project area where minimal previous disturbance was observed. T-7 was located at the base of a slope in the southeast corner of the project area, adjacent to the south of the old Kilohana Street. T-8 was excavated at the base of a low ridge in the central portion of the project area, adjacent to the wooden fence posts. T-9 was located at the base of a slope and adjacent to the south of old Kilohana Street (Figure 4).

No significant cultural remains or deposits were encountered in any of the trenches. Generally two stratigraphic layers, consisting of Makena loam overlying bedrock, were observed in all of the trenches. T-7 through 9 exhibited various depths of overburden from the construction of the old alignment of Kilohana Road overlying Layer I. The stratigraphic components in all trenches were:

Overburden (T-7 through T9): dark yellowish brown (10YR 3/4 - 4/6) silt loam; fine-grained, powdery, soft, non-sticky, non-plastic, abundant rocks and roots and rootlets, and modern refuse.

Layer I: dark red brown (5YR ¾) silty loam (Makena Series); very fine grained, powdery, soft, non-sticky, non-plastic, abundant angular cobbles and boulders and roots and rootlets; no cultural remains.

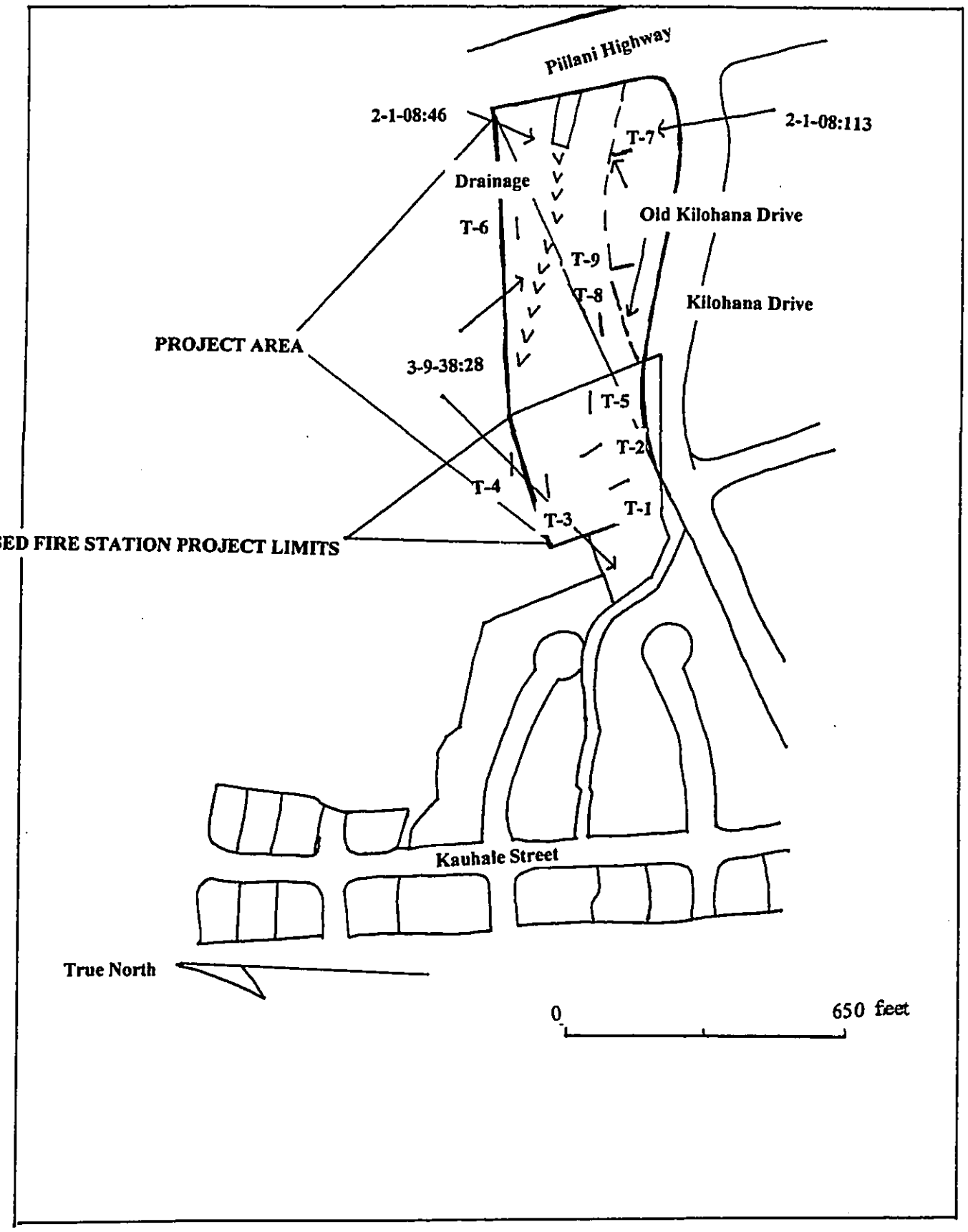

Figure 4. Location of Backhoe Trenches on Project Area Plan Map

Layer II: decomposing bedrock with pockets of gray (10YR 6/1) to dark yellowish brown (10YR ¾) silty clay loam; slightly sticky, slightly plastic, fine-grained, abundant angular cobbles and boulders; no cultural remains.

Table 1 presents dimensions and stratigraphic information for each trench. Representative stratigraphic columns are depicted in Figure 5. Figures 6-13 show photographic overviews of each trench.

Table 1. Dimensions and Stratgraphic Information for T-1 through T-9

BHT	LENGTH	WIDTH	DEPTH	ORIENT.	FILL	LAYER I	LAYER II	CULTURAL
1	4.7m	0.60m	0.60m	345	none	0.20m	0.40m	no
2	4.5m	0.60m	0.60m	260	none	0.40m	0.20m	no
3	5.0m	0.60m	0.60m	250	none	0.46m	0.14m	no
4	5.0m	0.60m	0.75m	255	none	0.50m	0.25m	no
5	5.0m	0.85m	0.85m	255	none	0.45m	0.40m	no
6	5.0m	0.75m	0.75m	250	none	0.50m	0.25m	no
7	5.6m	0.85m	0.75m	165	0.6m	0.12m	0.30m	no
8	4.5m	0.65m	0.90m	255	0.68m	0.22m	east end	no
9	5.0m	0.80m	0.95m	155	0.75m	0.15m	0.50m	no

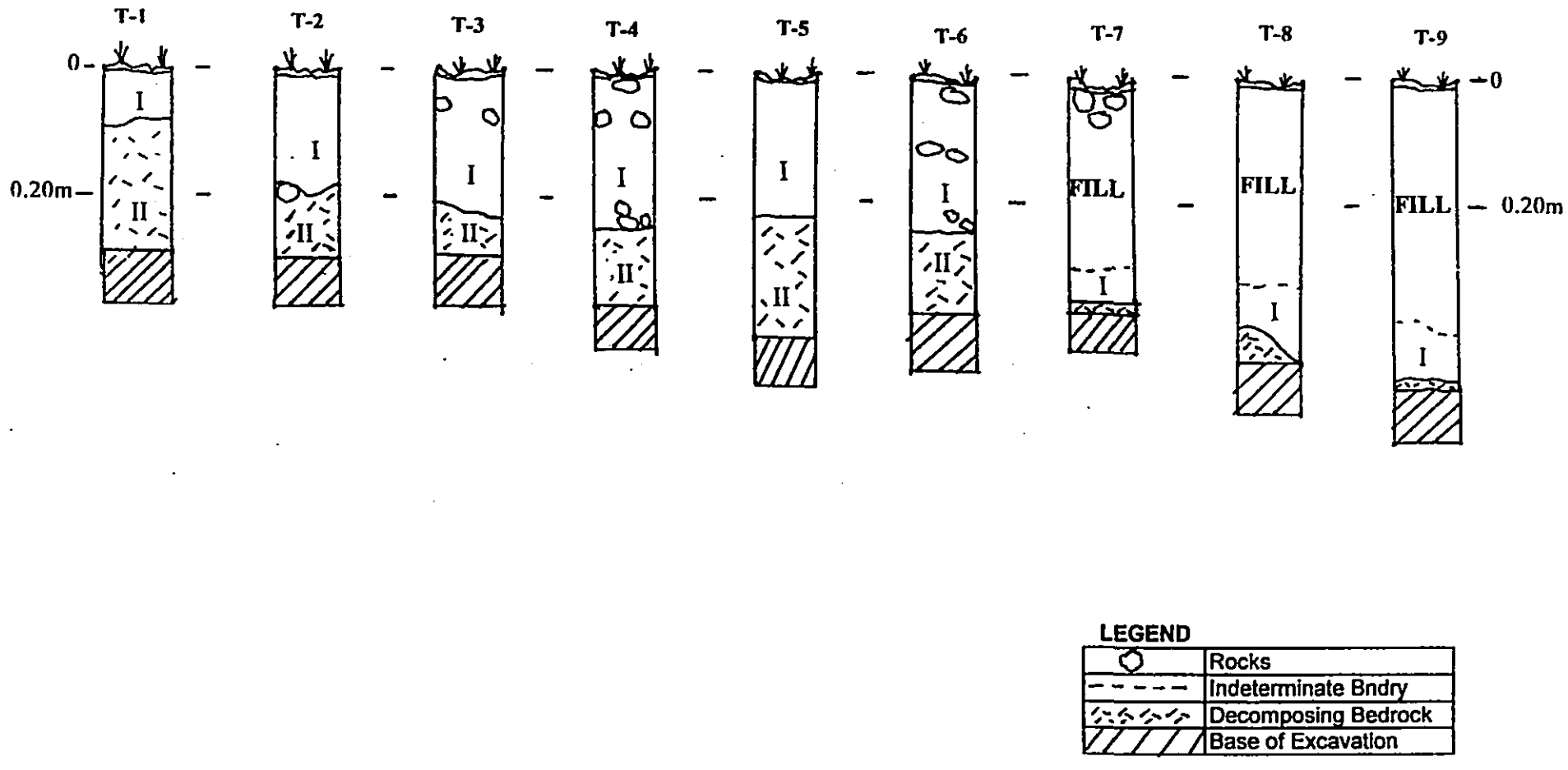

Figure 5. Representative Stratigraphic Profiles of T-1 through T-9

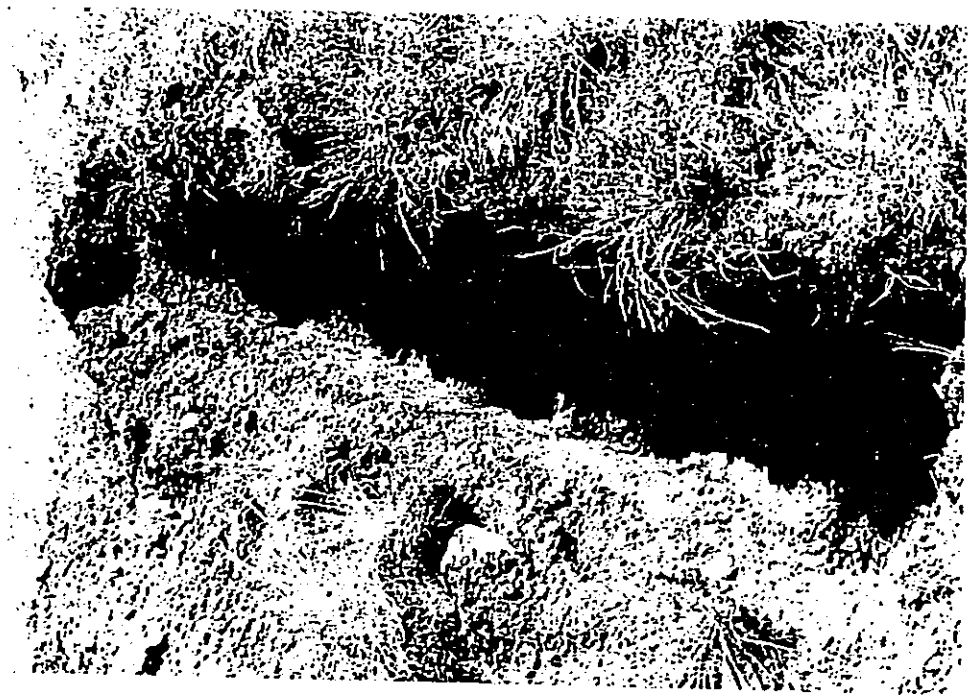

Figure 6. T-1, View to North

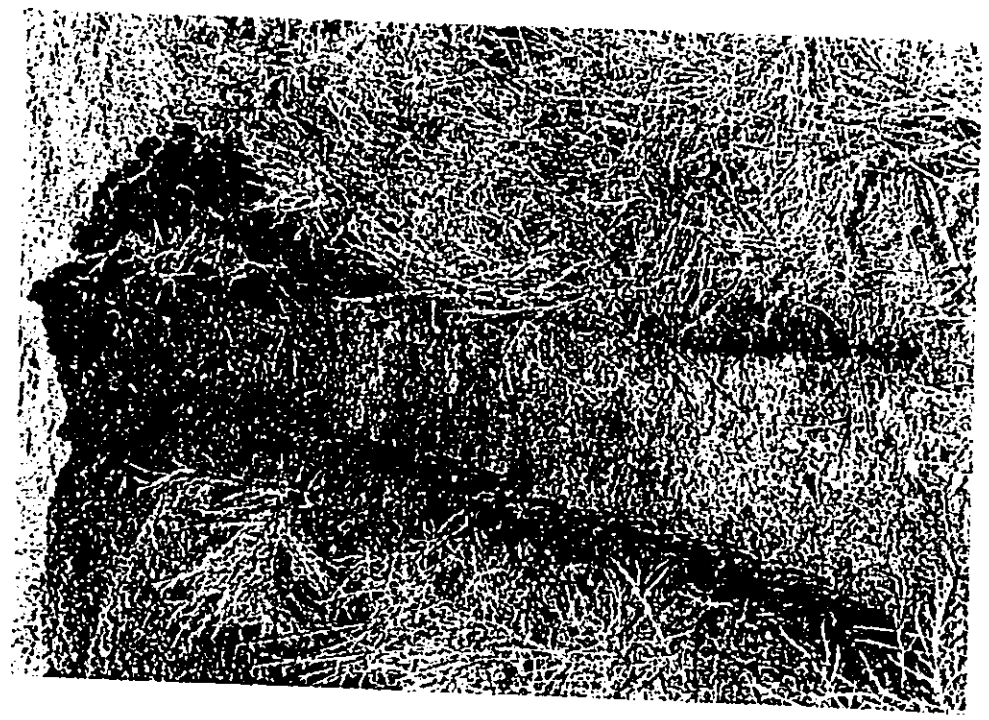

Figure 7. T-2, View to West

Figure 8. T-3, View to West

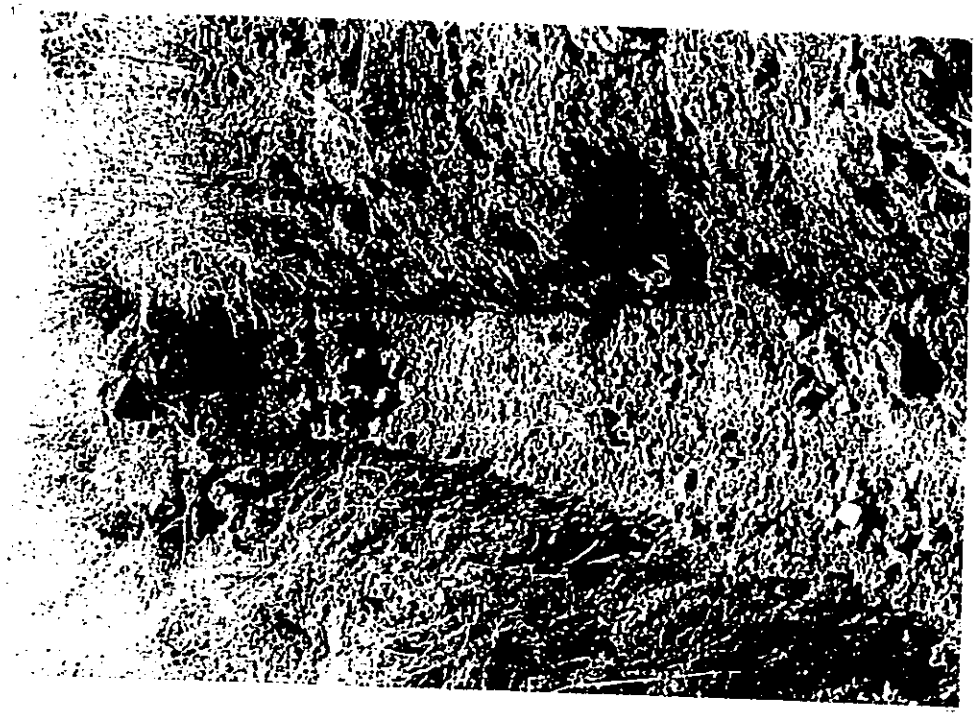

Figure 9. T-4, View to East

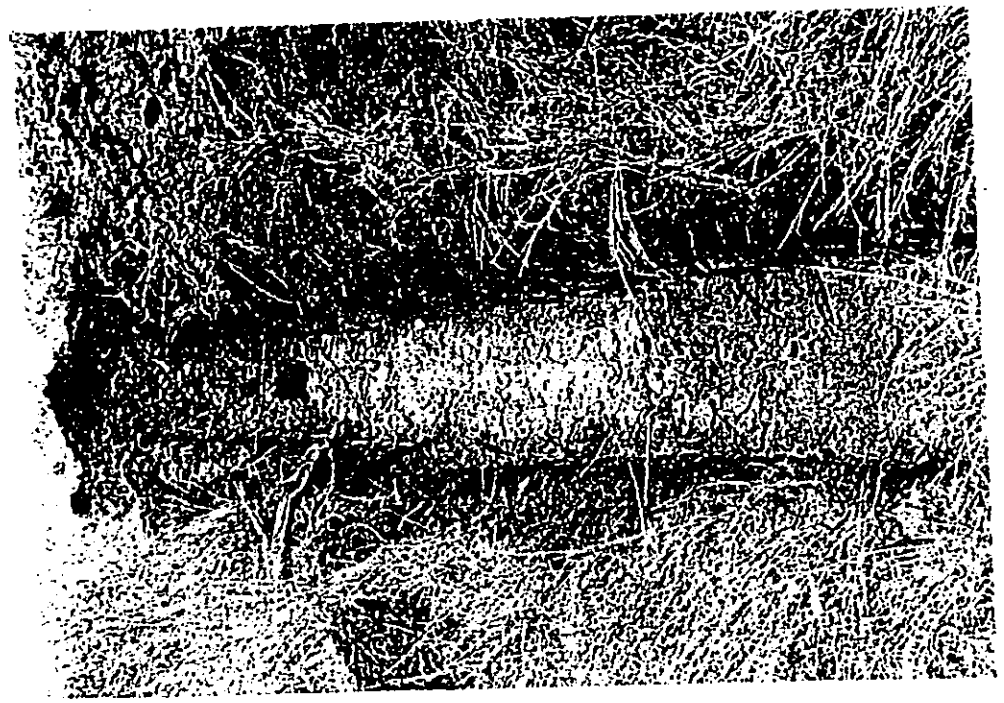

Figure 10. T-5, View to West

Figure 11. T-6, View to West

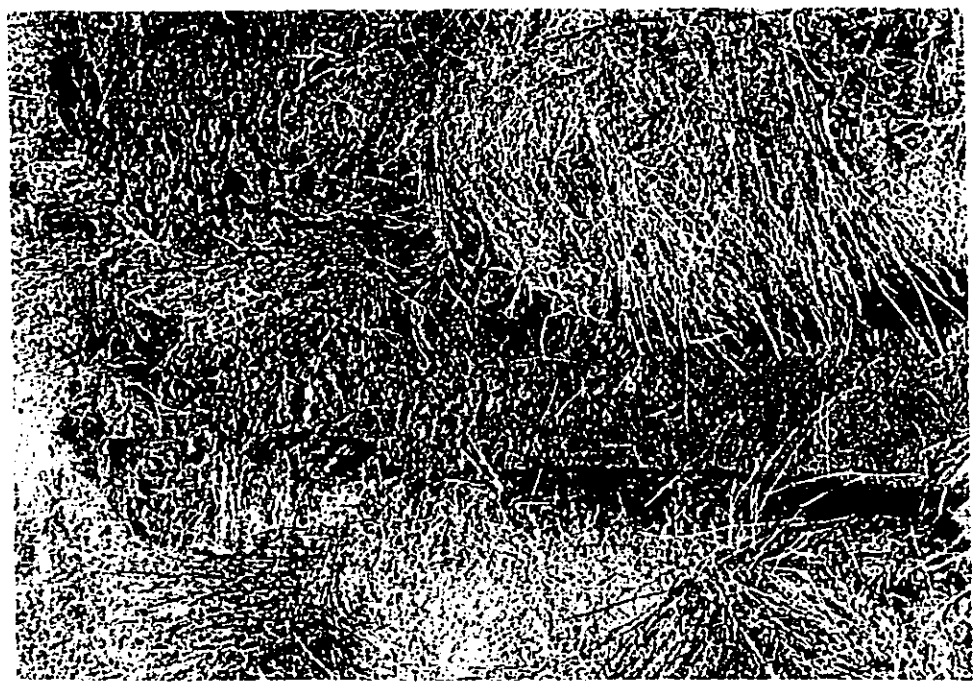

Figure 12. T-7, View to South

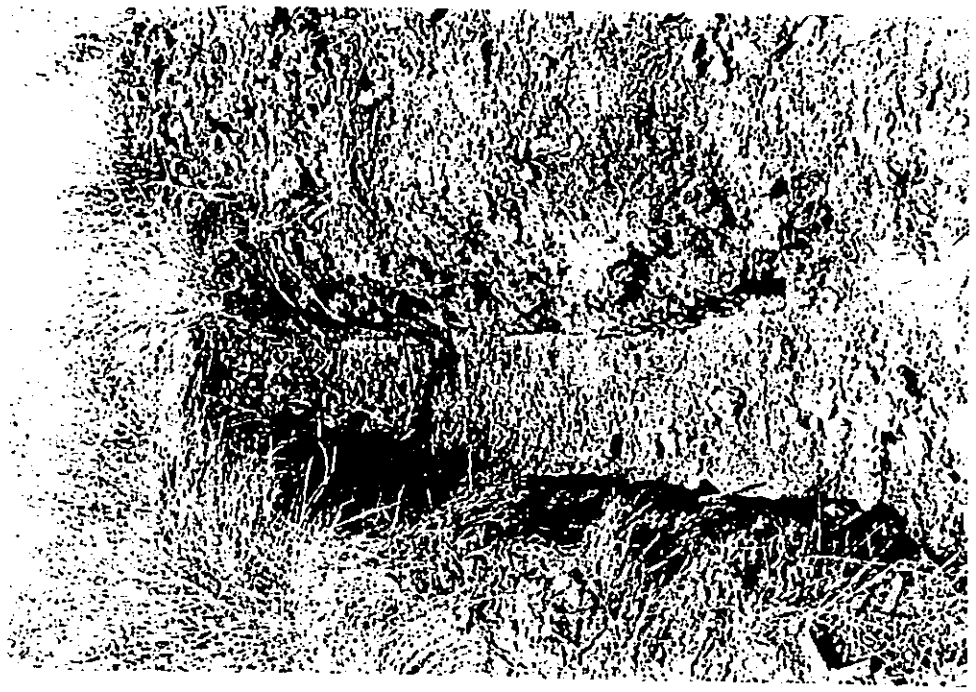

Figure 13. Top: T-8, View to West. Bottom: West Wall Profile of T-9

DISCUSSION

No significant surface or subsurface cultural remains were encountered during the current inventory survey. The results of the current investigation produced no evidence for sedentary cultural activities during the prehistoric and early historic periods in the subject project area. No surface cultural remains were present, and backhoe testing showed that subsurface cultural remains were also absent. The background research supports this conclusion.

The project area is situated in the intermediate or "barren" zone, primarily used as a zone of transit for traveling between the coastal and upland zones. Cultural remains in this zone would have been marginal at best, so the compounded ground disturbing activities from ranching and road construction may have destroyed such surface features. The paucity of soil in the area as well or expected site types and function argue against the development of any substantial deposition from cultural activities.

RECOMMENDATIONS

Based on the negative results of the current survey and subsurface testing, together with evidence for compounded previous disturbances in the subject project area, no further archaeological work is recommended. Archaeological monitoring during construction activities also does not appear to be warranted. However, should any inadvertent discoveries occur during construction activities, work shall be halted in the immediate vicinity, and disposition of the remains shall be determined by a qualified archaeologist in consultation with the State Historic Preservation Division of the Department of Land and Natural Resources.

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Appendix C

Drainage Report

DRAINAGE REPORT

WAILEA FIRE STATION
Wailea, Maui, Hawaii
Kilohana Drive
(TMK: 2-1-08: 46 & 113; 3-9-38:28)

Grading and Drainage

The project is located within the Wailea District of Maui along Kilohana Drive. The purpose of the grading is to prepare the site for a new Fire Station, in which a building structure, parking lot and helistop will be provided. ADA accessibility requirements will also be addressed.

The grading of the 1.58 acre project site will be in conformance with the County of Maui grading and drainage requirements and the recommendations of the Geotechnical Engineer. On-site fill meeting the specification requirements will be utilized within the project limits, as directed by the Engineer. Site grading will have slopes 3:1 or flatter.

Existing Conditions

The existing site is presently undeveloped and open with limited ground cover. Sparse trees also exist throughout the property, in which a rocky and moderately sloping terrain utilizes overland sheet flow to direct accumulated runoff from the site. Presently, there are no developed drainage systems in the immediate area of the proposed fire station, except for two existing drainage culverts, which transports runoff across Kilohana Drive.

The proposed project area does not fall within the 100-year flood zone, as shown on FIRM Panel 150003 0330B (June 6, 1981). The project area is located in "Zone C", which is described as areas of minimal flooding. The total existing runoff generated by the project site based on a 10-year flow is 1.71 cubic feet per second (cfs).

Proposed Drainage Plan

The intent of the drainage plan is to minimize the drainage impact of the proposed fire station development, and provide adequate storm water disposal for on-site generated runoff. The on-site drainage system will be designed to comply with the County of Maui Drainage Standards and Standard Details.

Overland sheet flow, swales, drain inlets, and underground drainlines will be used to intercept the on-site runoff. The accumulated runoff will be directed to new drain inlets located within the parking lot. The accumulated on-site runoff will be stored and discharged on-site through the use of underground infiltration trench piping. An overflow drain outlet will be provided in case of sub-drain failure.

The flow generated within the project site will increase from 1.71 cfs to 4.69 cfs due to the proposed development and the increase in impervious surface. However, 3.00 cfs will be stored and discharged on-site through underground infiltration trench piping. Therefore, the total runoff from the proposed development contributed off-site will decrease from 1.71 cfs to 1.69 cfs.

Drainage Summary

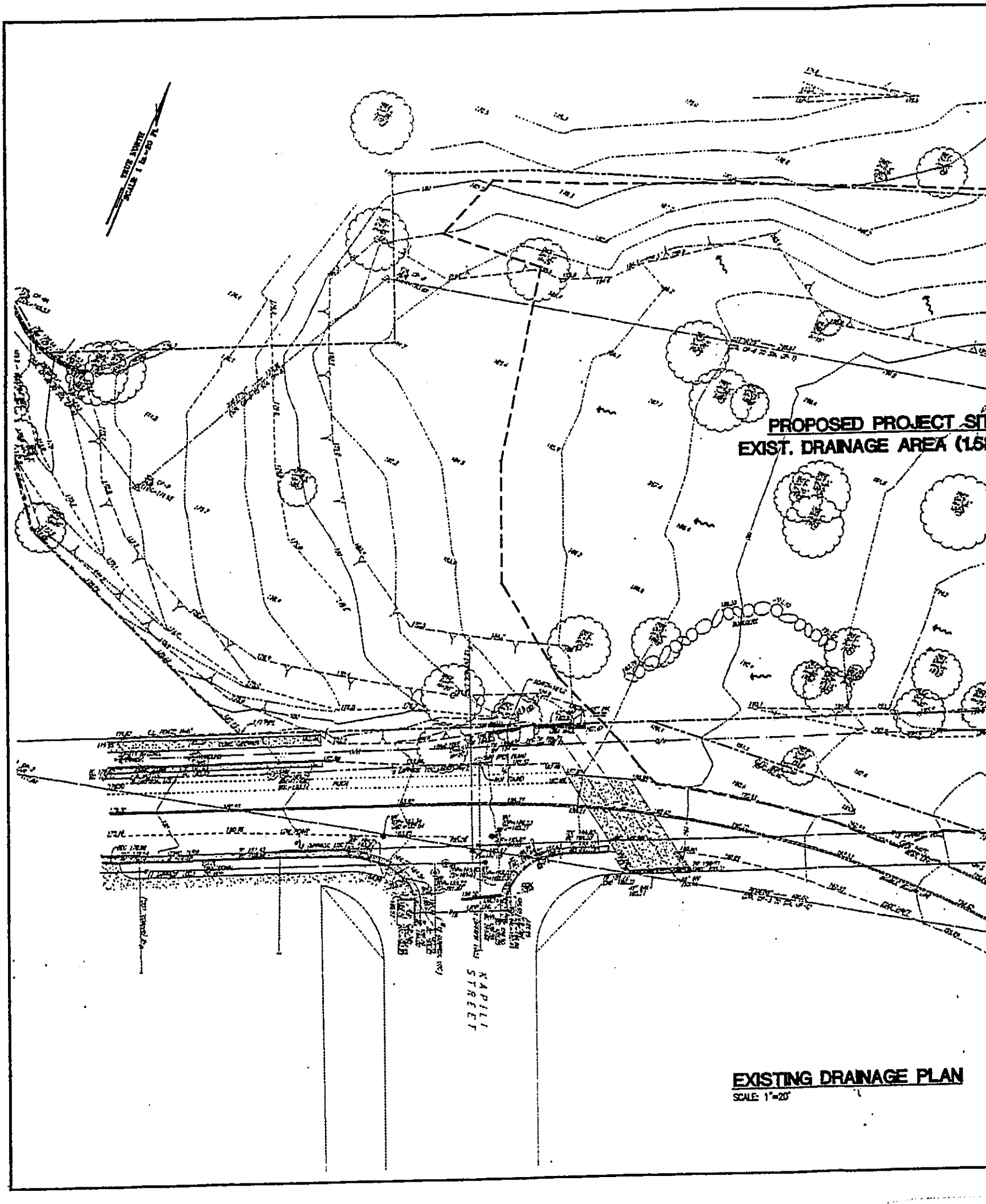
Item	*Description*	*Area (acres)*	*Runoff (cfs)*
1E	Existing Conditions	1.58 acres	1.71 cfs
1P	Proposed Development	1.58 acres	4.69 cfs
2	Runoff to be stored & discharged on-site (drainage subarea 1)	0.74 acres	3.00 cfs
3	Increase in total runoff due to proposed development	N/A	2.98 cfs
4	Net increase to off-site drainage facilities	N/A	-0.02 cfs

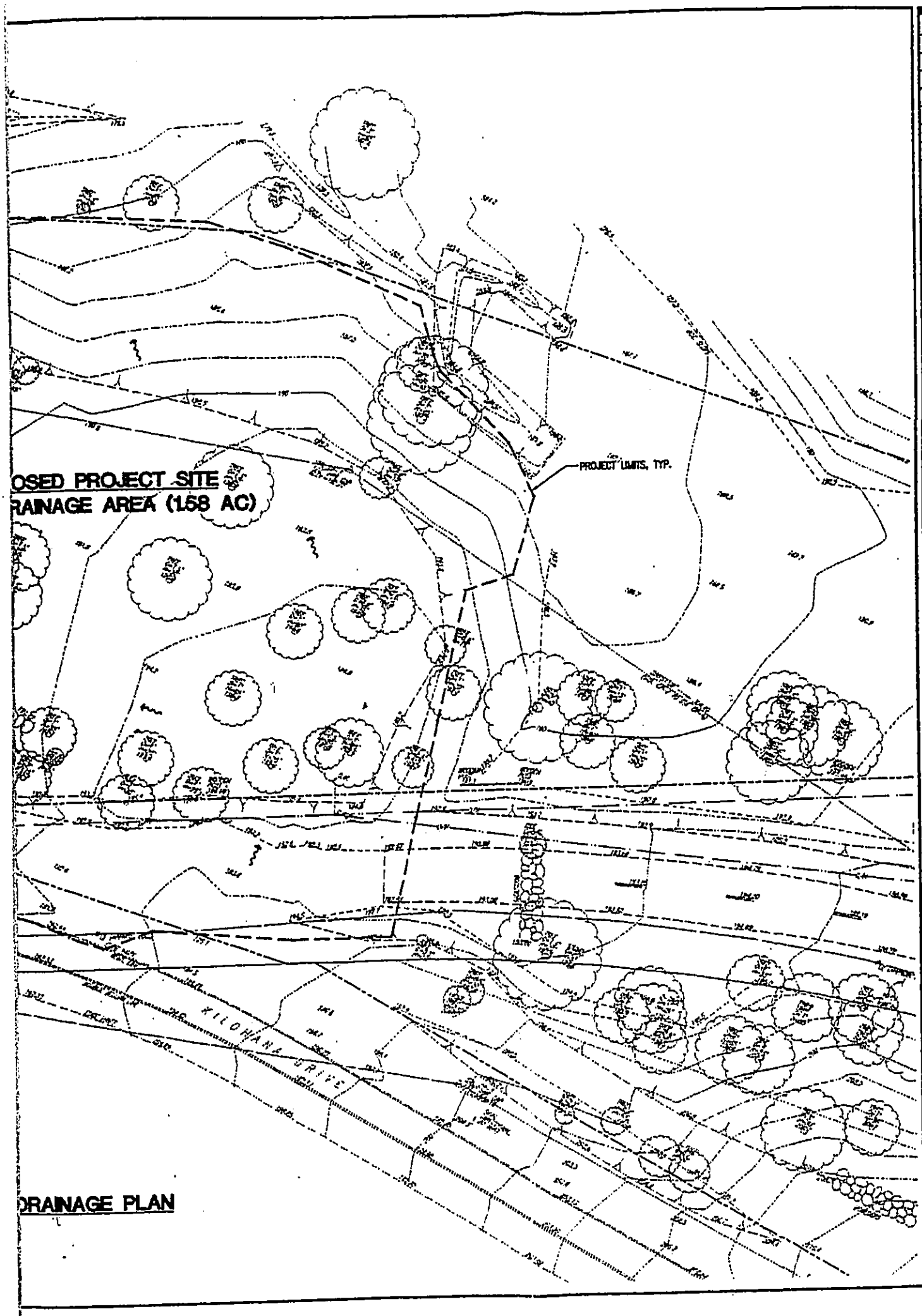
The total increase in runoff due to the proposed improvements is 2.98 cfs. This increase is due to the construction of additional impervious surface at the fire station, and will not affect the existing flow conditions within the project area. No additional runoff will be contributed off-site due to the proposed development. The additional runoff attributed to the proposed project will be contained and discharged on-site.

References:

1. Flood Insurance Rate Map (FIRM), County of Maui.

2. *Rules for the Design of Storm Drainage Facilities in the County of Maui.* Department of Public Works and Waste Management, County of Maui, November 1995.


PROPOSED PROJECT SI
EXIST. DRAINAGE AREA (1.5
KAPILI STREET
EXISTING DRAINAGE PLAN
SCALE: 1"=20'



OSED PROJECT SITE
RAINAGE AREA (1.58 AC)

DRAINAGE PLAN

REVISIONS	BY

EDWARD H. IIDA
LICENSED PROFESSIONAL ENGINEER
No. 4076-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

MITSUNAGA & ASSOCIATES

WAILEA FIRE STATION

HAWAII

MAUI

WAILEA

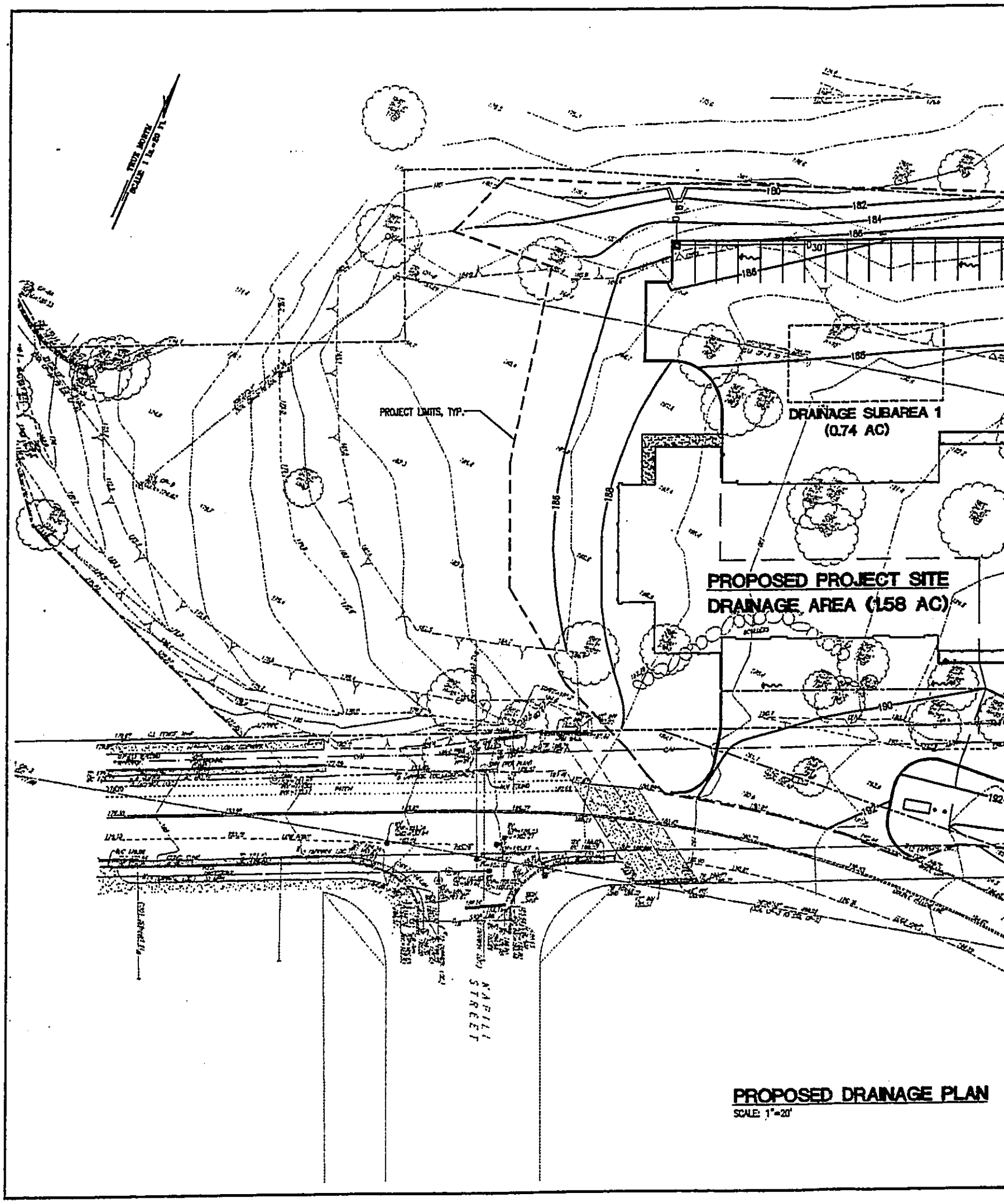
TAX MAP KEY: 2-1-08: 46 & 113

DRAINAGE PLAN 1

Date MAY 2001
Scale AS SHOWN
Design By CM
Drawn By CM, CC
Job 0883-01-C

C-01

Sheet ___ of ___



PROPOSED DRAINAGE PLAN

SCALE: 1"=20'

LEGEND:

187 EXISTING GROUND CONTOUR LINE

187 FINISH GROUND CONTOUR LINE

LIMITS OF PROJECT/ GRADING

DRAINAGE SUBAREA 1

GRADE TO DRAIN (RUNOFF DIRECTION)

AGE SUBAREA 1
0.74 AC)

ROJECT SITE
EA (1.58 AC)

DRAINAGE SUBAREA 1, TYP.

KILOHANA DRIVE

DRAINAGE PLAN

REVISIONS	BY

EDWARD H. IIDA
LICENSED PROFESSIONAL ENGINEER
No. 4576-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

MITSUNAGA & ASSOCIATES

WAILEA FIRE STATION

WAILEA MAUI HAWAII

TAX MAP KEY: 2-1-08: 46 & 113

DRAINAGE PLAN 2

Date MAY 2001
Scale AS SHOWN
Drawn By CM
Checked By CM, CC
Job 0883-01-C

C-02

Sheet ___ of ___

EXISTING CONDITIONS

- TOTAL EXIST. ON-SITE RUNOFF (PROJECT SITE)

RATIONAL METHOD, $Q = CIA$

- AREA, $A = 68,650$ SF $= 1.58$ AC
- RUNOFF COEFFICIENT, C:

TABLE 1 → INFILTRATION = MODERATE = 0.07
BELTER = ROLLING = 0.03
VEGETAL COVER = GOOD (10% - 50%) = 0.03
DEVELOPMENT TYPE = AGRICULTURAL = 0.15
} $C = 0.28$

TABLE 2 → UNIMPROVED AREAS = 0.30

$0.28 < 0.30 \rightarrow \therefore$ USE $C = 0.30$

- RAINFALL INTENSITY, I (IN/HR):

TIME OF CONCENTRATION, TC:

LENGTH, L = 350'
COVER = POOR GRASS SURFACE
SLOPE = 5%
} TC = 13.2 MIN. (PLATE 1)

RECURRENCE INTERVAL: 10 YEAR - 1 HOUR RAINFALL

10 YR. - 1 HOUR RAINFALL = 1.9 IN/HR
TIME OF CONCENTRATION, TC = 13.2 MIN
} I = 3.6 IN/HR (PLATE 2)

$Q = CIA = 0.30\ (3.6\ \text{IN/HR})\ (1.58\ \text{AC}) = 1.71$ CFS

- EXIST. UNDEVELOPED RUNOFF, $Q_E = 1.71$ CFS

DESCRIPTION: DRAINAGE ANALYSIS	Mitsunaga & Associates, Inc.	BY: CH	CHECKED
	PROJECT: VALLEY FIRE STATION	JOB NO. 0933-01-C	SHEET 1 OF
		DATE	

PROPOSED IMPROVEMENTS

PROJECT SITE: TOTAL AREA = 1.53 AC

RATIONAL METHOD, $Q = CIA$

- AREA, A = 1.53 AC
- RUNOFF COEFFICIENT, C:
  TABLE 2 → STRUCTURES / PAVEMENTS: C = 0.95 (50%)
  GRASS (SANDY, SOIL, AVG 2-7%): C = 0.15 (50%)

  $C = 0.95(0.50) + 0.15(0.50) = 0.55$

- RAINFALL INTENSITY, I (IN/HR):

  TIME OF CONCENTRATION, Tc:
  LENGTH, L = 390'
  COVER = PAVED
  SLOPE = 2%
  → Tc = 6.6 MIN. (PLATE 1)

  RECURRENCE INTERVAL: 10 YR - 1 HOUR RAINFALL
  10 YR - 1 HOUR RAINFALL = 1.9 IN/HR
  TIME OF CONCENTRATION, Tc = 6.6 MIN.
  → I = 5.4 IN/HR (PLATE 2)

$Q = CIA = 0.55\ (5.4\ \text{IN/HR})\ (1.53\ \text{AC}) = 4.69\ \text{CFS}$

- PROPOSED IMPROVEMENTS, $Q_P = 4.69$ CFS
- Δ RUNOFF = $Q_P - Q_E$ = 4.69 CFS − 1.71 CFS = 2.93 CFS

DESCRIPTION	Mitsunaga & Associates, Inc.	BY:	CHECKED
DRAINAGE ANALYSIS	PROJECT: WAIMEA FIRE STATION	JOB NO.	SHEET 2 OF
		DATE	

PROPOSED IMPROVEMENTS

DRAINAGE SUBAREA 1 (0.14 AC)

RATIONAL METHOD, $Q = CIA$

- AREA, $A = 0.14$ AC
- RUNOFF COEFFICIENT, C:
  TABLE 2 → STRUCTURES / PAVEMENTS: $C = 0.95$ (15%)
  GRASS (SANDY, SOIL, AVG. 2-7%): $C = 0.15$ (25%)

  $C = 0.95(0.15) + 0.15(0.25) = 0.15$

- RAINFALL INTENSITY, I (IN/HR):

  TIME OF CONCENTRATION, T_c:
  LENGTH, $L = 350'$
  COVER: PAVED
  SLOPE = 2%
  → $T_c = 6.6$ MIN (PLATE 1)

  RECURRENCE INTERVAL: 10 YR - 1 HOUR RAINFALL
  10 YR - 1 HOUR RAINFALL = 1.9 IN/HR
  TIME OF CONCENTRATION, $T_c = 6.6$ MIN.
  → $I = 5.4$ IN/HR (PLATE 2)

$Q = CIA = 0.15\ (5.4\ \text{IN/HR})\ (0.14\ \text{AC}) = \underline{3.00\ \text{CFS}}$

- EXIST. RUNOFF = 1.11 CFS
- PROPOSED RUNOFF = 4.69 CFS (DUE TO IMPROVEMENTS)
- RUNOFF TO BE HANDLED ON-SITE = 3.00 CFS (DRAINAGE SUBAREA 1)

→ (TOTAL PROPOSED RUNOFF) − (RUNOFF HANDLED ON-SITE)
4.69 CFS − 3.00 CFS = 1.69 CFS

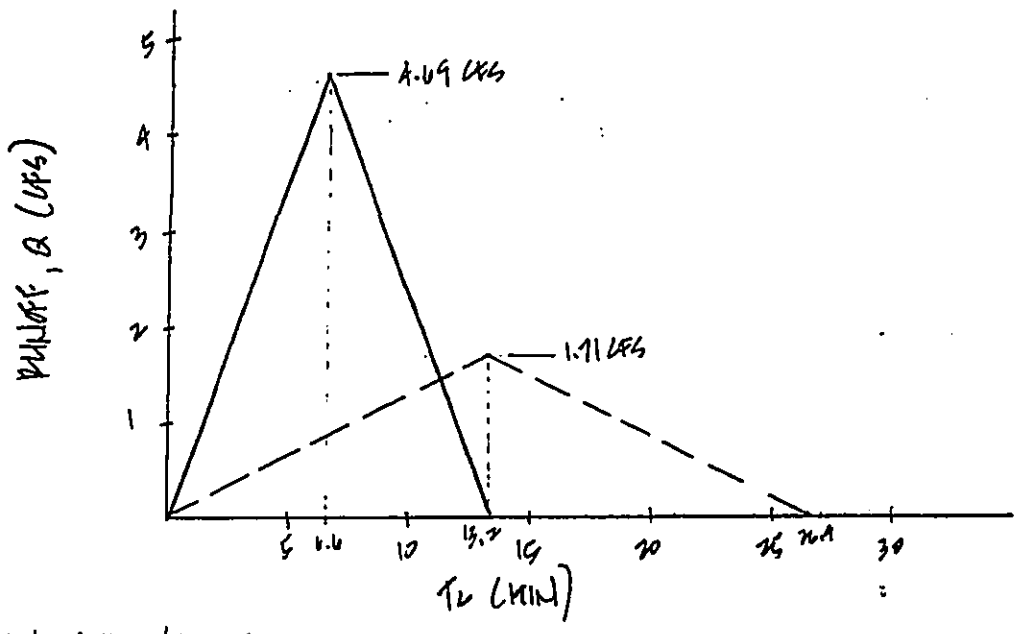
1.69 CFS < 1.11 CFS → ∴ NO ADDITIONAL RUNOFF CONTRIBUTED OFF-SITE DUE TO PROPOSED DEVELOPMENT

DESCRIPTION	Mitsunaga & Associates, Inc.	BY:	CHECKED
DRAINAGE ANALYSIS	PROJECT: VALLEY FIRE STATION	JOB NO.	SHEET OF 3
		DATE	

- STORAGE VOLUME REQUIRED

  - EXIST. CONDITIONS: Q_E = 1.71 CFS (1.53 AC)
    T_L = 13.2 MIN.

  - PROPOSED IMPROVEMENTS: Q_P = 4.69 CFS (1.58 AC)
    T_L = 6.6 MIN.



- RUNOFF VOLUME:

  EXIST. VOLUME, V_E = ½ (26.4 MIN) × (1.71 CF/SEC) × 60 SEC/MIN = 1354 CF

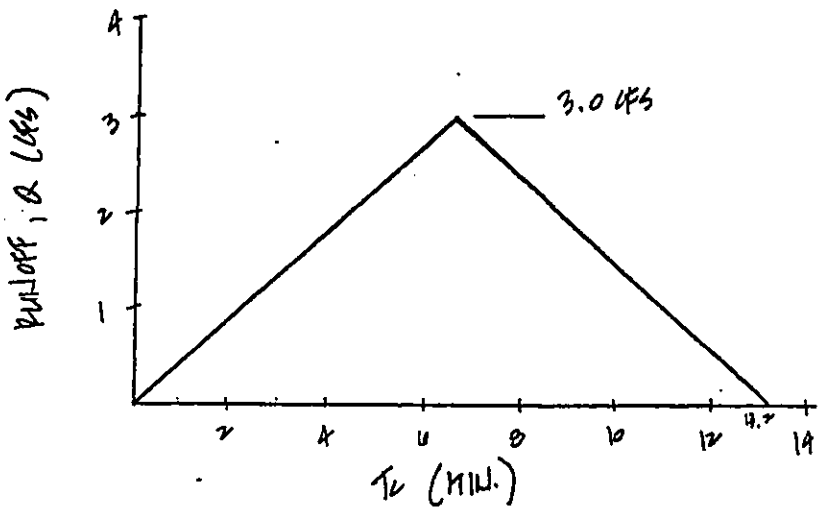
  PROPOSED VOL, V_P = ½ (13.2 MIN) × (4.69 CF/SEC) × 60 SEC/MIN = 1857 CF

  Δ VOLUME = $V_P - V_E$ = 1857 CF - 1354 CF = 503 CF

DESCRIPTION	Mitsunaga & Associates, Inc.	BY:	CHECKED
DRAINAGE ANALYSIS	PROJECT: KALIKA FIRE STATION	JOB NO.	SHEET OF 4
		DATE	

- PROPOSED IMPROVEMENTS
(STORAGE VOLUME REQUIRED)

DRAINAGE SUBAREA 1 : Q_P = 3.0 CFS (0.14 Ac)
T_C = 6.6 MIN.



STORAGE VOLUME = ½ (13.2 MIN.) × (3 CF/SEC) × 60 SEC/MIN. = 1188 CF
(SUBAREA 1)

- STORAGE VOL. REQUIRED : 1188 CF > 503 CF ⟶ USE Vol. = 1188 CF (V_R)

- USE 30"ϕ PERF. DRAIN : $V_R = \pi/4\,(30/12)^2 \times L$ = 1188 CF

L = 242 L.F (30"ϕ PIPE)

DESCRIPTION	Mitsunaga & Associates, Inc.	BY:	CHECKED
DRAINAGE ANALYSIS	PROJECT: KAIVEA FIRE STATION	JOB NO.	SHEET OF 5
		DATE	

ERNEST K. HIRATA & ASSOCIATES, INC.
99-1433 Koaha Place • Aiea, Hawaii 96701-3279
Phone: (808) 486-0787 • Fax: (808) 486-0870
Email: eha@aloha.net

FAX MEMORANDUM

April 27, 2001
W.O. 01-3420

TO: Chad McDonald
Mitsunaga & Associates, Inc.
Fax 946-2563

FROM: Con Truong CT

RE: Preliminary Percolation Test Results
Wailea Fire Station
Maui, Hawaii

A falling head percolation test was performed in boring B5 which was drilled to a depth of approximately 10 feet below existing grade. The following presents the results of the percolation test. The approximate location of the boring/test hole is shown on the attached boring location plan.

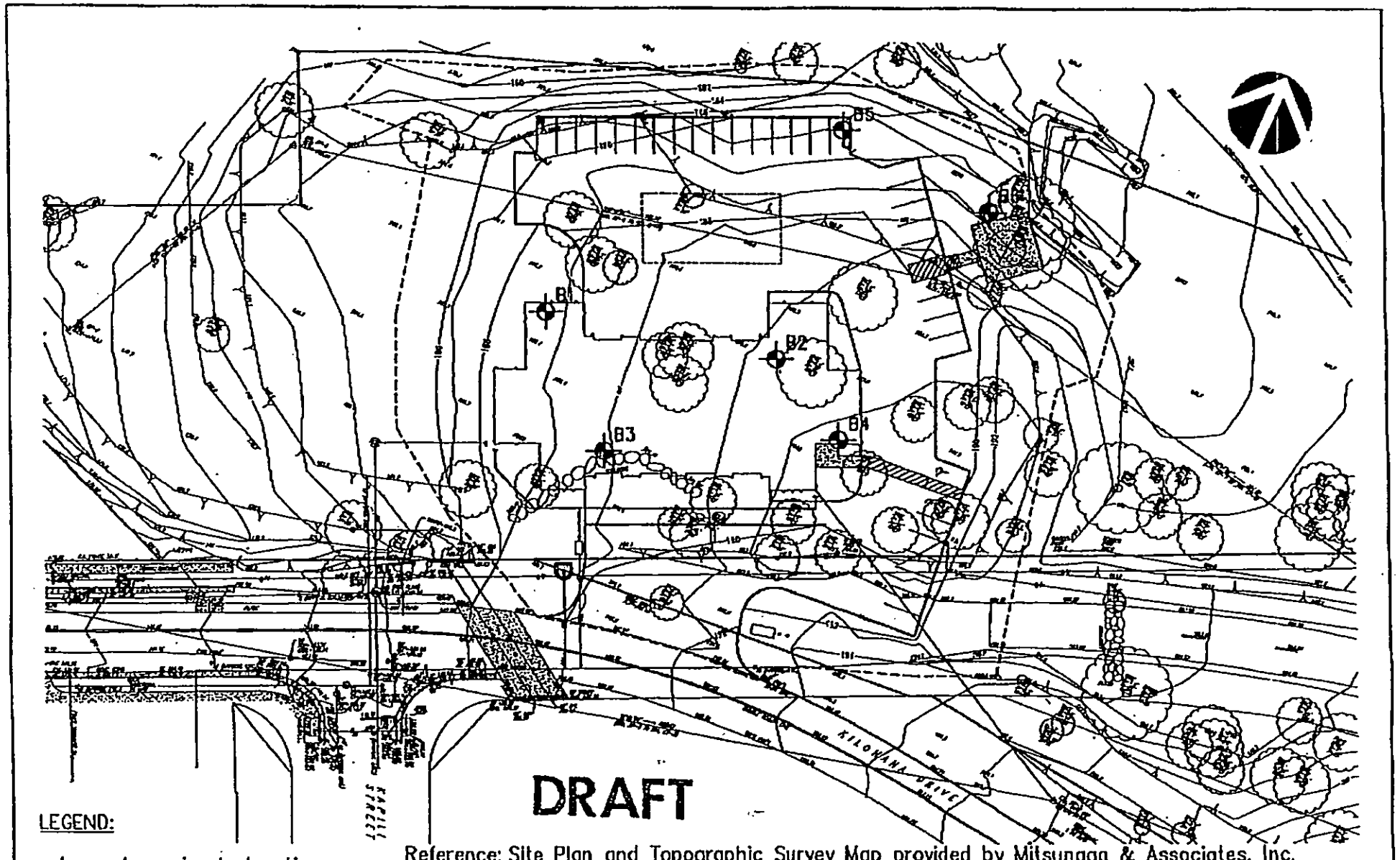
Soil profile =	0 - 12 inches	Reddish brown clayey silt with sand
	1 - 4.5 feet	Yellowish brown sandy silt with gravel and cobbles
	4.5 - 10 feet	Moderately to slightly weathered basalt

Diameter of hole = 4 inches
Depth to hole bottom = 10 feet
Percolation test result = 0.7 min./in.

Please feel free to call us if you have any questions.

:\3420.m01.wpd

No. of pages transmitted: 2
If this transmission is not complete,
please call us at (808) 486-0787.



LEGEND:

Approximate location of borings

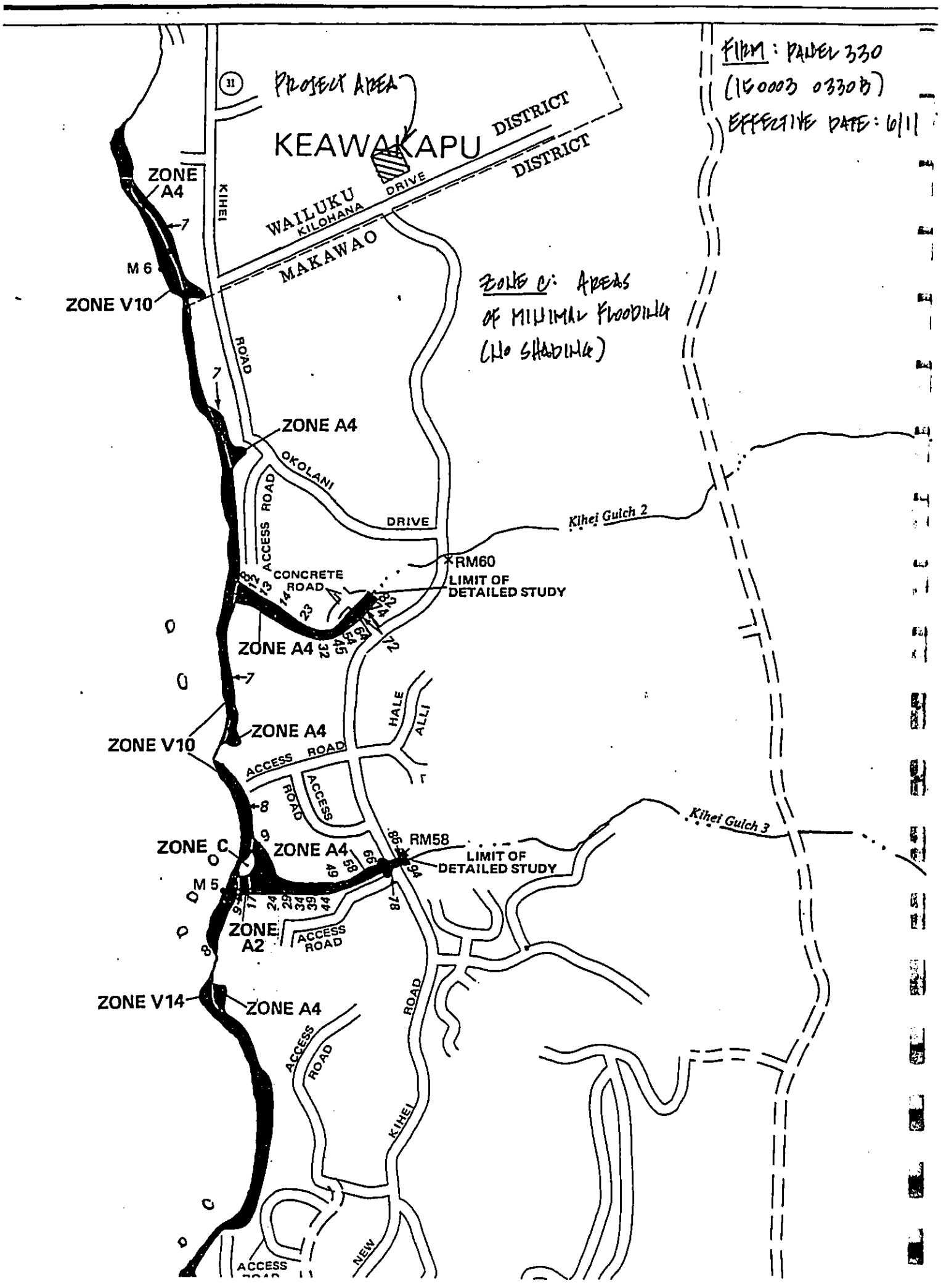
GRAPHIC SCALE:

0 30 60 120FT.

1" = 60'

Reference: Site Plan and Topographic Survey Map provided by Mitsunaga & Associates, Inc.

W.O. 01-3420	Wailea Fire Station, Maui, Hawaii
Ernest K. Hirata & Associates, Inc.	BORING LOCATION PLAN Plate 2



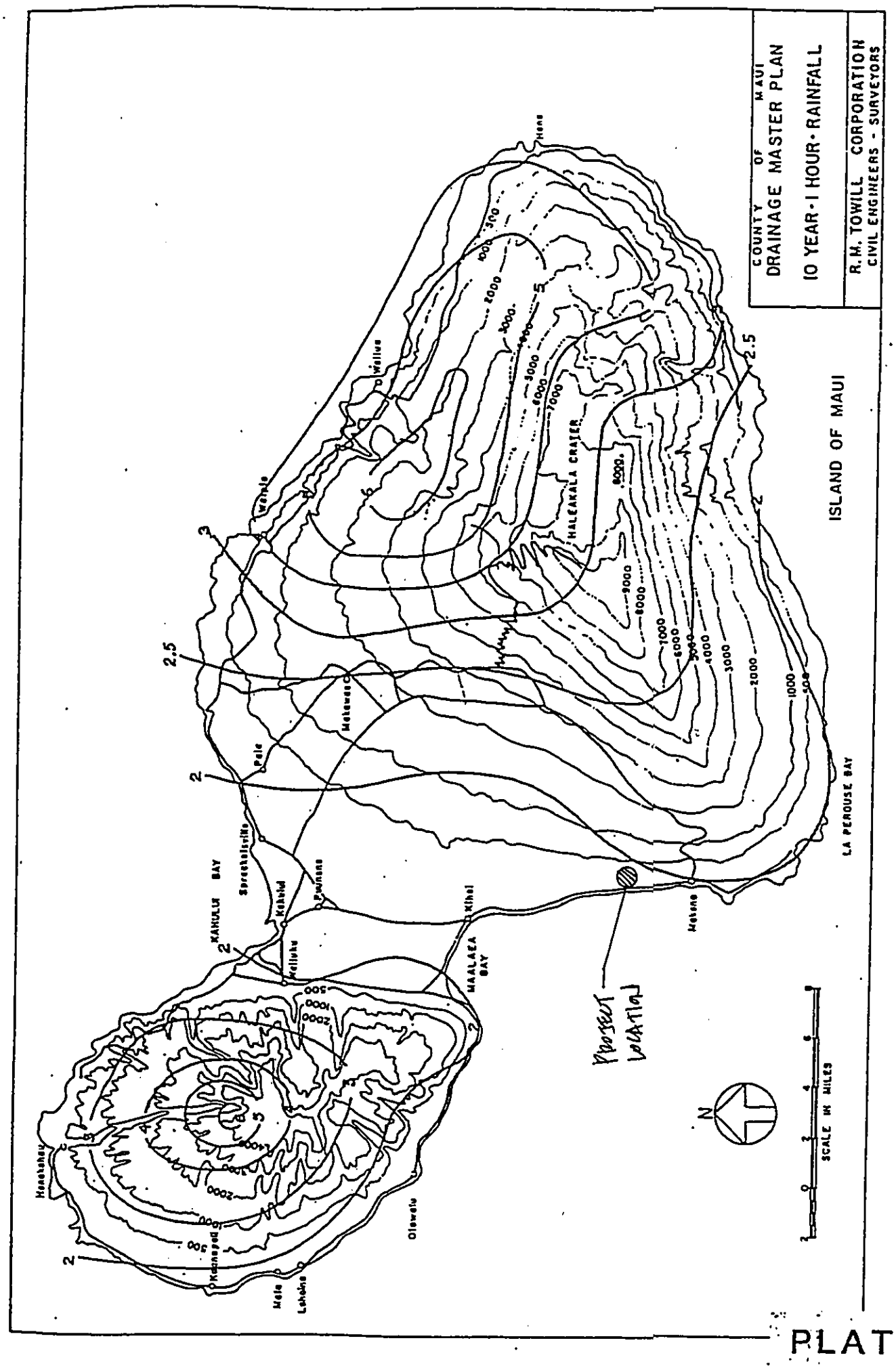


PLATE 4

Table 1

GUIDE FOR THE DETERMINATION OF RUNOFF COEFFICIENTS FOR BUILT-UP AREAS*

WATERSHED CHARACTERISTICS	EXTREME	HIGH	MODERATE	LOW
INFILTRATION	NEGLIGIBLE 0.20	SLOW 0.14	MEDIUM 0.07	HIGH 0.0
RELIEF	STEEP (> 25%) 0.08	HILLY (15-25%) 0.06	ROLLING (5-15%) 0.03	FLAT (0-5%) 0.0
VEGETAL COVER	NONE 0.07	POOR (< 10%) 0.05	GOOD (10-50%) 0.03	HIGH (50-90%) 0.0
DEVELOPMENT TYPE	INDUSTRIAL & BUSINESS 0.55	HOTEL-APARTMENT 0.45	RESIDENTIAL 0.40	AGRICULTURAL 0.15

*NOTE: *The design coefficient "c" must result from a total of the values for all four watershed characteristics of the site.*

Table 2

RUNOFF COEFFICIENTS

Type of Drainage Area	Runoff Coefficient C
Business:	
Downtown areas	0.95
Neighborhood areas	0.70
Residential:	
Single-family areas	0.50
Multi-units, detached	0.60
Multi-units, attached	0.75
Suburban	0.40
Apartment dwelling areas	0.70
Industrial:	
Light areas	0.80
Heavy areas	0.90
Parks, cemeteries	0.25
Playgrounds	0.35
Railroad-yard areas	0.40
Unimproved areas	0.30
Streets:	
Asphaltic	0.95
Concrete	0.95
Brick	0.85
Drive and walks	0.85
Roofs	0.95
Lawns:	
Sandy, soil, flat, 2%	0.10
Sandy, soil, avg., 2-7%	0.15
Sandy, soil, steep, 7%	0.20
Heavy soil, flat, 2%	0.17
Heavy soil, avg., 2-7%	0.22
Heavy soil, steep, 7%	0.35

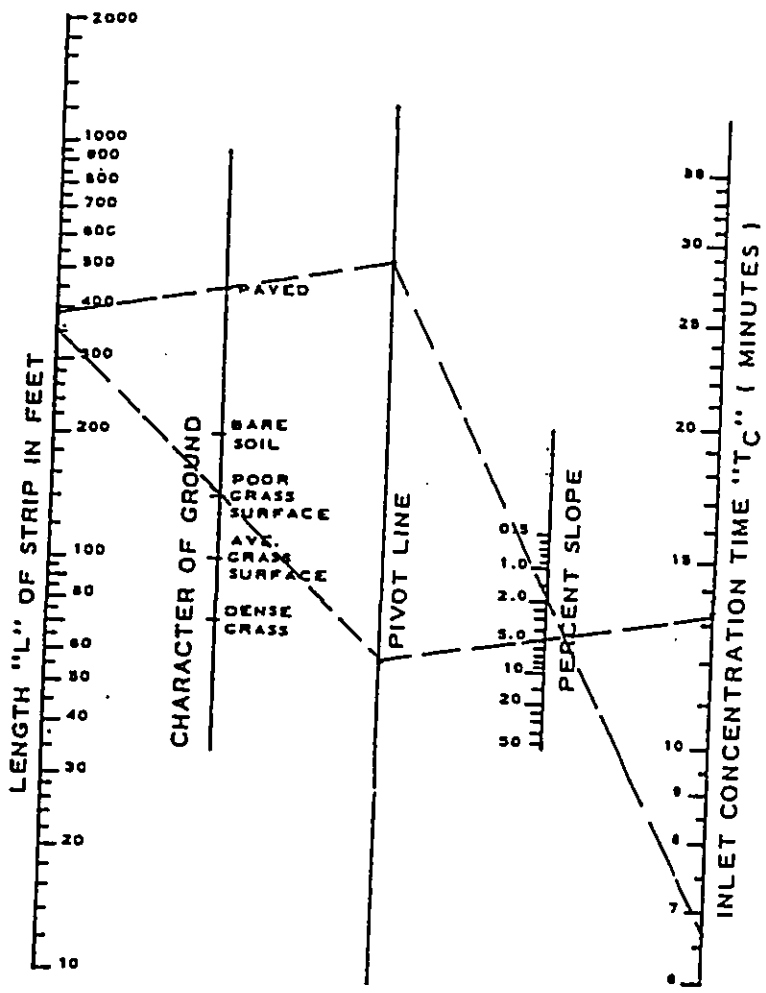
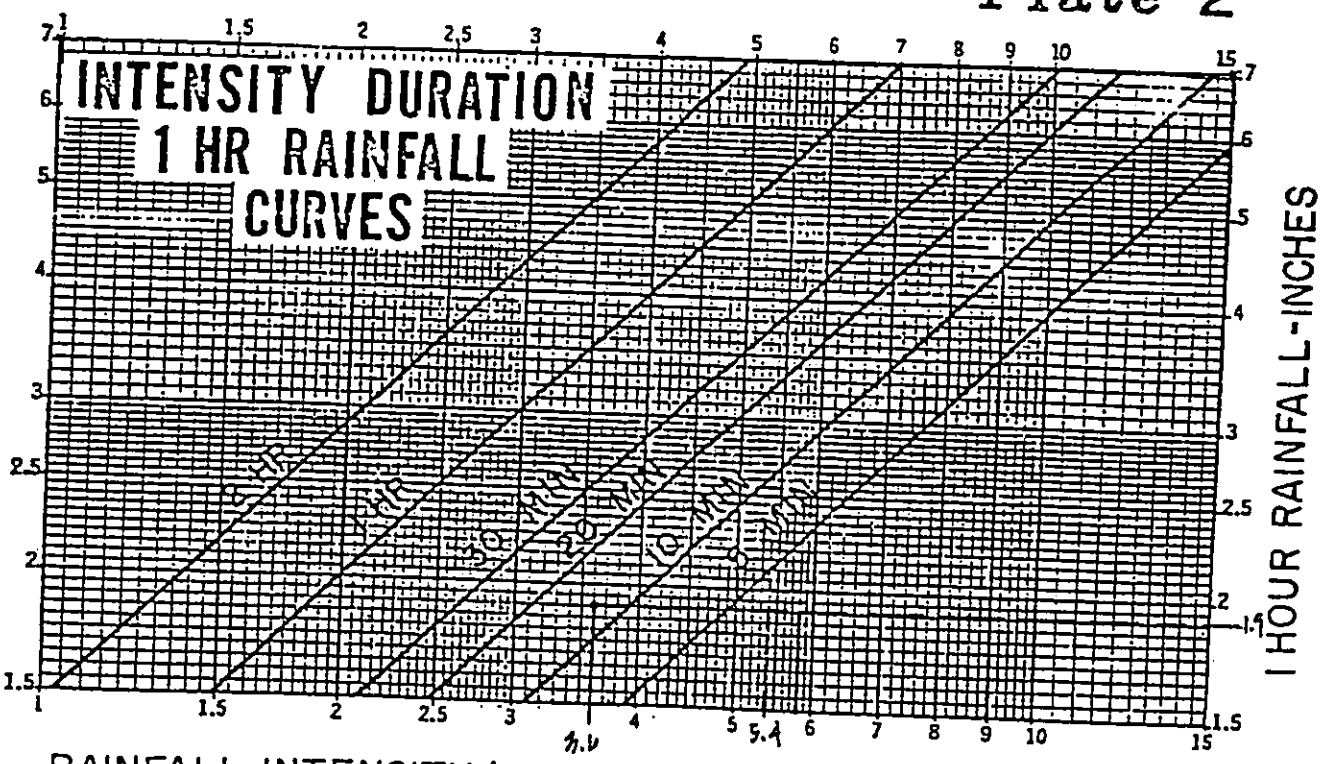


Plate 1

Overland Flow Chart

Plate 2



Appendix D

Traffic Letter Report

JUN 1 4 2001

AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1934

TED S. KAWAHIGASHI, P.E., FACEC
KENNETH K. KUROKAWA, P.E.
DONOHUE M. FUJII, P.E.
STANLEY T. WATANABE
TERRANCE S. ARASHIRO, P.E.
MERNA S. KIBE

O-0 060

June 13, 2001

via fax [(808) 244-8729] and mail

Ms. Gwen Hiraga
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96792

Dear Ms. Hiraga:

Subject: Wailea Fire Station

This is a letter report of our findings and recommendations relative to the construction of the proposed Wailea Fire Station at the northwest quadrant of the intersection of Piilani Highway and Kilohana Drive.

More specifically, the proposed Wailea Fire Station will be constructed on TMK: 2-1-8:46 and 113, and TMK: 3-9-38:26. The fire station will be similar to the Kahului Fire Station in design, consisting of a ladder truck, an engine pumper, and a water tanker. It will be staffed on a daily basis by 11 firefighters. Access to the fire station will be off of Kilohana Drive. Major intersections in the vicinity of the project include the intersections of Piilani Highway and Kilohana Drive, which is controlled by a traffic signal system, South Kihei Road and Kilohana Drive, and Kilohana Drive and Wailea Alanui Drive.

This fire station will enhance the Maui Fire Department's ability to respond to fires and other emergencies in the Wailea District and other south Maui areas in a timely manner.

Historically, stand-alone fire stations are not generators of significant numbers of vehicular traffic. It is, therefore, our professional opinion that the proposed Wailea Fire Station will not adversely impact commuter peak periods of traffic on Piilani Highway or on South Kihei Road.

We recommend that provisions be made at the new fire station to be able to activate the existing emergency vehicle preemptors at the traffic signal system at the Piilani Highway/Kilohana Drive Intersection. In addition, we recommend that there be adequate sight stopping distance on Kilohana Drive at the fire station access driveway.

Should you have any questions on our letter report, please do not hesitate to call me.

Sincerely,

AUSTIN, TSUTSUMI & ASSOCIATES, INC.

By Ted S. Kawahigashi
TED S. KAWAHIGASHI, P.E., FACEC
President

TSK:jf

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