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IN REPLY REFER TO:

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

AIR-EPM
95.1571

September 12, 1995

Mr. Gary Gill, Director
Office of Environmental Quality Control
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Mr. Gill:

Subject: Aircraft Rescue and Fire Fighting Training Facility
Kahului Airport
Project No. AM1033-15

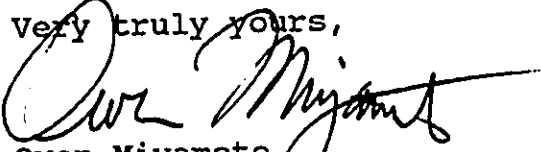
In accordance with the requirements of Chapter 343, Hawaii Revised Statutes, and Chapter 200 of Title 11, Administrative Rules of the State Department of Health, a Final Environmental Assessment has been prepared for the subject project.

Notice of the availability of the Draft Environmental Assessment for the project was published in the May 8, 1995 edition of the OEQC Bulletin. Correspondence received during the public comment period, as well as our responses, have been included in the Final Environmental Assessment.

As the proposing agency, the State Department of Transportation, Airports Division has determined that there will be no significant impacts as a result of the project. Accordingly, we are filing the final Environmental Assessment as a negative declaration.

Enclosed are one (1) copy of the OEQC Bulletin Publication Form and four (4) copies of the Draft Environmental Assessment. We respectfully request that notice of the Final Environmental Assessment be published in the next edition of the OEQC Bulletin.

Very truly yours,


Owen Miyamoto
Airports Administrator

cc: Munekiyo & Arakawa, Inc.

Enclosures: As listed above

122

1995-10-08-MA-FAA-Kahului Airport Aircraft Rescue and fire
fighting training facility

OCT 8 1995
FILE COPY

Final Environmental Assessment

Aircraft Rescue and Fire Fighting Training Facility at Kahului Airport

Prepared for:

August 1995

State of Hawaii
Department of Transportation



Final Environmental Assessment

Aircraft Rescue and Fire Fighting Training Facility at Kahului Airport

Prepared for:

August 1995

State of Hawaii
Department of Transportation



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Preface

The applicant, the State Department of Transportation (DOT) - Airports Division, is proposing to construct an Aircraft Rescue and Fire Fighting (ARFF) training facility at the Kahului Airport, Kahului, Maui, Hawaii. The proposed facility is located adjacent to, and makai of, the Runway 5-23 safety zone.

The proposed improvements will include an aircraft Fuel Spill Fire Trainer (FSFT), an 8-inch off-site water line, an underground fuel storage and delivery system, an underground fuel and water recovery system, an underground fuel and water separation system, an underground leak detection system, a holding pond, a control shed, and additional related improvements.

The approximately 2.0-acre project site is situated within the State Urban District, and is identified by TMK (2) 3-8-01:por. 19. In addition, the project site is located within the Airport District as reflected by Maui County zoning and the Wailuku-Kahului Community Plan, respectively.

Since the proposed project involves State land and funding, this Environmental Assessment (EA) has been prepared pursuant to Chapter 343, Hawaii Revised Statutes and Chapter 200 of Title 11, Department of Health Administrative Rules, Environmental Impact Statement Rules. This Final EA evaluates environmental factors and impacts, and advances finding and conclusions relating to the significance of the completed actions.

In addition, the project site is located within the County of Maui's Special Management Area (SMA). Accordingly, this report also assesses the proposed improvements with respect to County SMA objectives and policies.

Chapter 1

Introduction

I. INTRODUCTION

A. PROPERTY LOCATION, EXISTING USE, AND LAND OWNERSHIP

The applicant, the State of Hawaii, Department of Transportation (DOT) - Airports Division, is proposing to construct an Aircraft Rescue and Fire Fighting (ARFF) training facility situated at the Kahului Airport, Kahului, Maui, Hawaii. See Figure 1 and Figure 2. The proposed facility is located adjacent to, and makai of, the Runway 5-23 safety zone. See Figure 3. Access to the project site is obtained by entering a controlled access security gate at the eastern terminus of Alahao Street.

Identified by TMK (2) 3-8-01:por. 19, the approximately 2.0-acre project site is characterized by an open, paved asphaltic concrete (A.C.) expanse situated within the northern fenced perimeter of the Kahului Airport. In addition to being occasionally used for aircraft parking, a portion of the site was formerly used for ARFF training exercises. With the exception of Kanaha Beach Park, a County recreational facility to the north, the lands immediately surrounding the project site are utilized entirely for airport operations.

The State of Hawaii is the fee simple owner of the underlying property. The project site is located in the Airport District as reflected by Maui County zoning and the Wailuku-Kahului Community Plan, respectively.

B. PROJECT NEED

Kahului Airport is the second busiest airport in the State. In 1993, a total of 172,265 aircraft movements (individual takeoffs and landings) were attributable to aircraft operating from Kahului Airport (County of Maui/MEDB, Inc., December 1994). The distribution of total aircraft movements is reflected in Table 1.

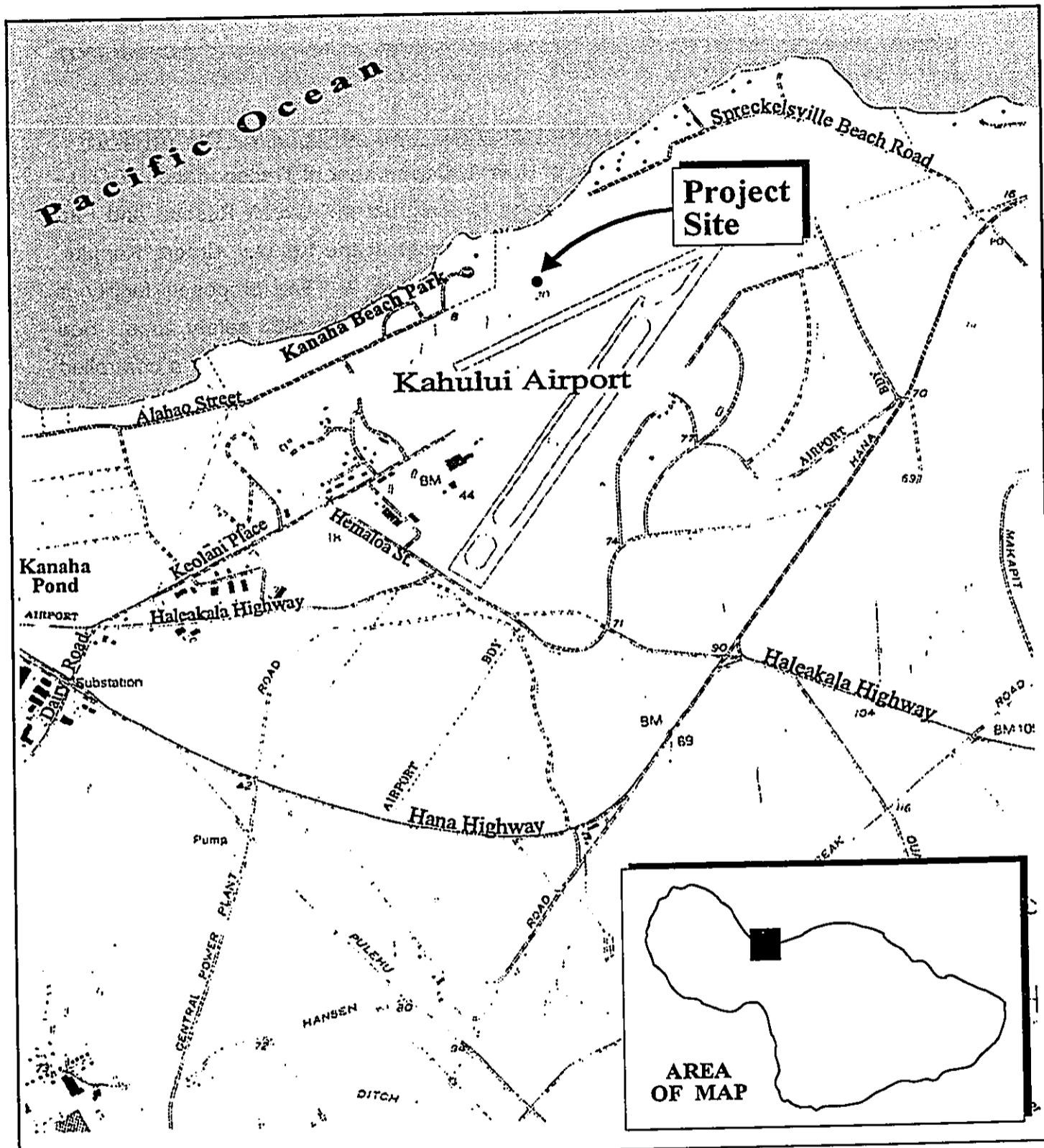
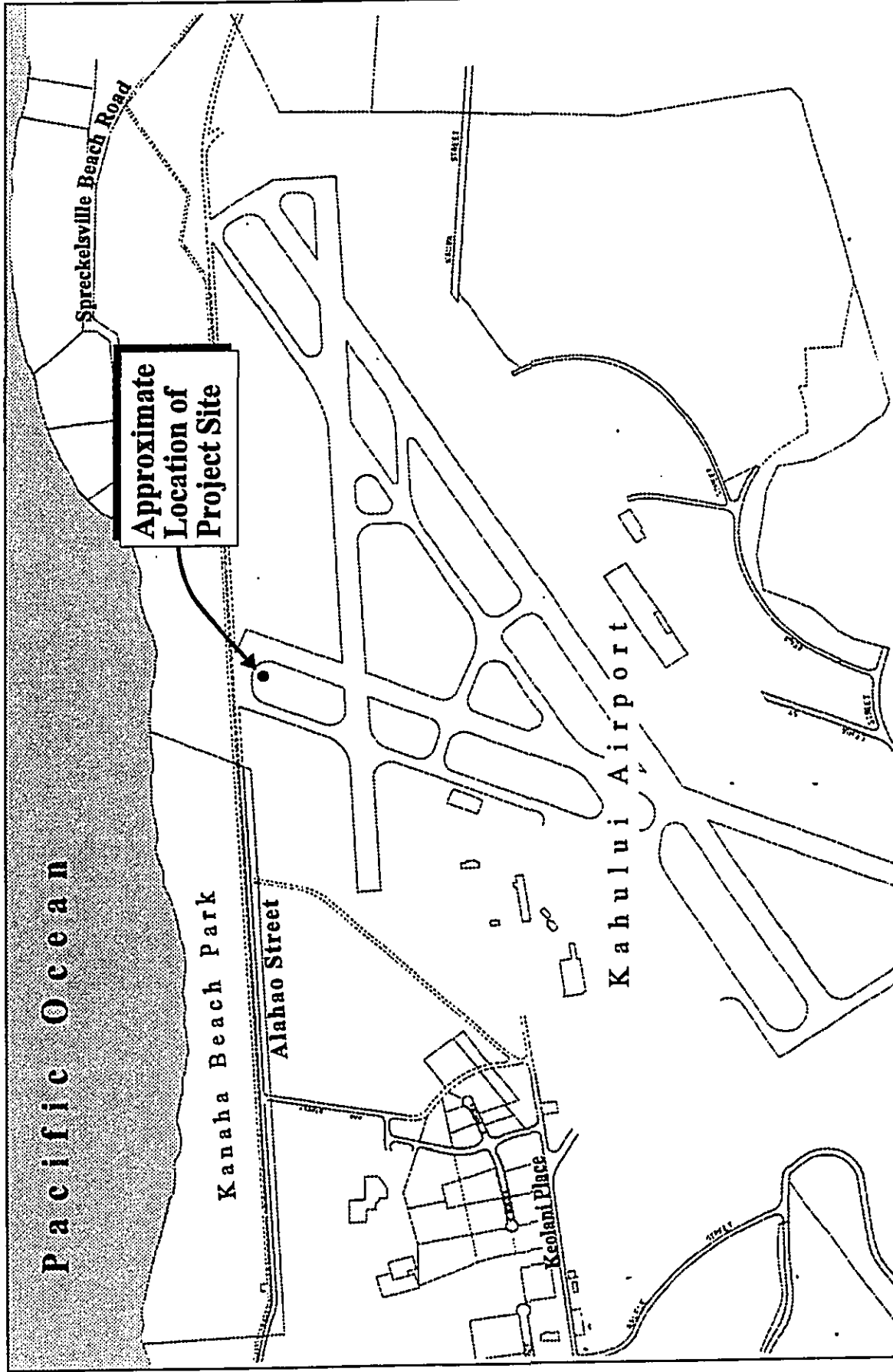


Figure 1 Aircraft Rescue and Fire Fighting Training Facility Regional Location Map



Prepared for: State of Hawaii, Dept. of Transportation



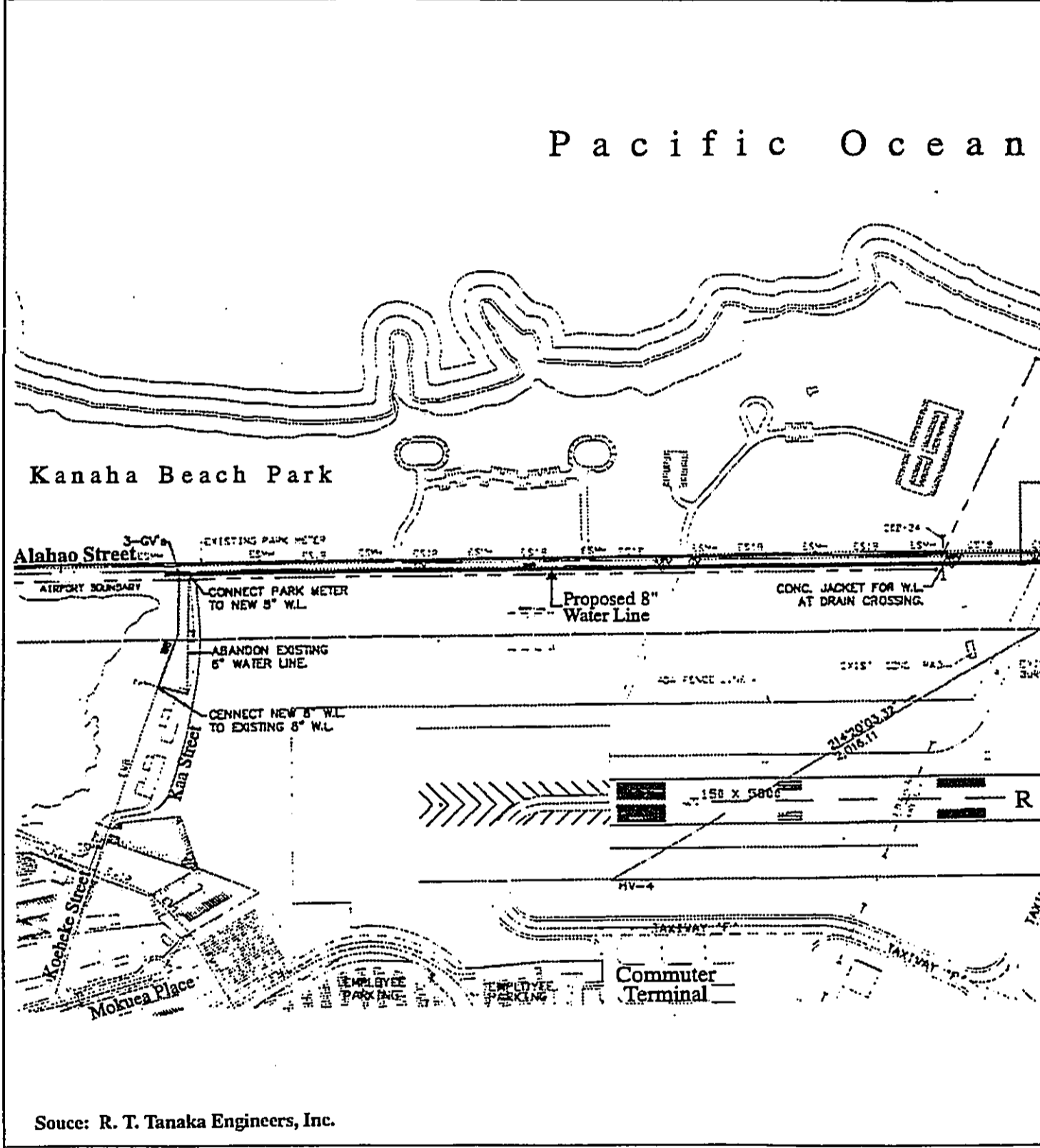
**Figure 2 Aircraft Rescue and Fire Fighting Training Facility
Site Location Map**



Prepared for: State of Hawaii, Dept. of Transportation

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Pacific Ocean



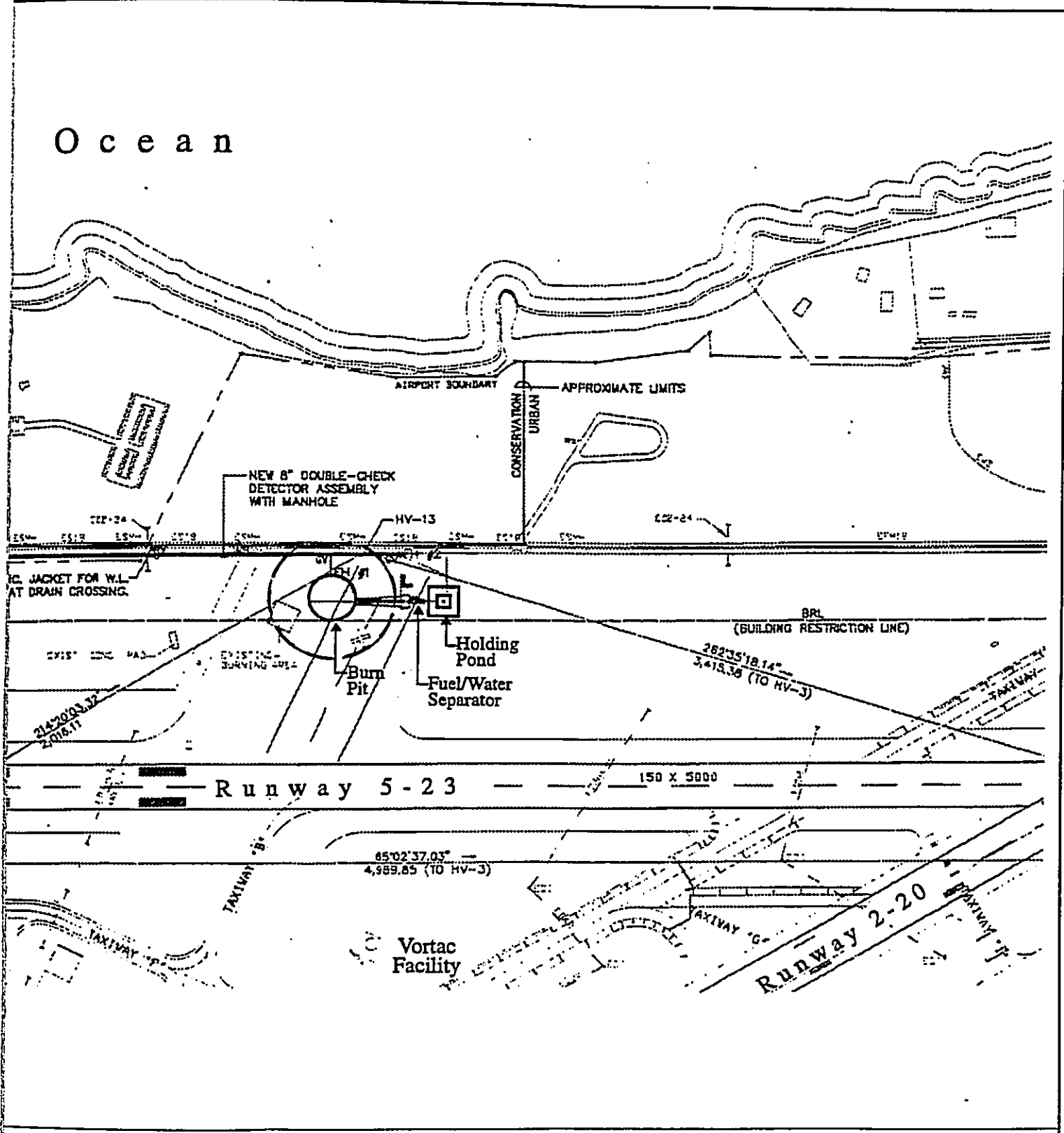
Source: R. T. Tanaka Engineers, Inc.

Figure 3

Aircraft Rescue and Fire Fighting
General Site Plan and
8 inch Off-Site Waterline

Prepared for: State of Hawaii, Dept. of Transportation

Ocean



Fire Fighting Training Facility
Site Plan and Proposed
Off-Site Waterline



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Table 1

AIRCRAFT OPERATIONS, BY TYPE OF AIRCRAFT AT KAHULUI AIRPORT: 1993 ^a	
Air Carrier ^b	51,648
Air Taxi ^c	77,212
General Aviation ^d	37,097
Military ^e	6,308
TOTAL	172,265
^a County of Maui/MEDB, Inc., December 1994. ^b All types of large commercial aircraft with more than 60 seats. ^c All types of small commercial aircraft with less than 60 seats. ^d All types of civilian aircraft. ^e All types of military aircraft.	

Presently there are four (4) ARFF stations located at airports throughout Maui County. The Kahului station is staffed by three (3) shifts consisting of eight (8) fire fighters per 24-hour rotating shift, while the Lanai and Molokai stations are each staffed by five (5) fire fighters per 12-hour rotating shift. The Kapalua station also operates a 12-hour rotating shift and is staffed by two (2) fire fighters. In addition, the Kapalua, Lanai, and Molokai stations are augmented by a total of seventeen (17) volunteer fire fighters (interview with Chief Pat Fevella, Kahului Airport Fire Station, March 1995).

Each station is also equipped with ARFF vehicles capable of dispensing water, aqueous film forming foam (AFFF), dry chemical agents, and halon. Measured in gallons of water capacity, the Kahului station is equipped with two (2) 1,500-gallon and two (2) 3,000-gallon ARFF vehicles, while the Kapalua station is equipped with a single 500-gallon vehicle and a skid-mounted unit containing 100 gallons of AFFF and 450 pounds of a dry chemical agent. The Lanai and Molokai stations are each

equipped with 1,000-gallon and 1,500-gallon vehicles (telephone conversation with Chief Pat Fevella, Kahului Airport Fire Station, March 1995).

In the event an emergency should occur at the Kahului, Kapalua, Lanai, or Molokai Airports, the immediate rescue of aircraft passengers would be the first priority of ARFF personnel, with fire suppression as a secondary objective. As the result of a reciprocal agreement between the County of Maui and the DOT, Maui County fire fighters will respond to emergencies when requested, and if available. However, due to traffic and travel distances, they may not be able to arrive on the scene during the critical first three (3) minutes of an emergency (Pacific Planning & Engineering, Inc., July 1992).

Previously, annual training exercises involving Maui County ARFF personnel utilized a site in an area adjoining the proposed facility. Defined by an A.C. curb, the 80-foot x 80-foot site utilized the existing paved A.C. surface. The proposed facility is intended to replace the existing substandard facility with a modern permanent facility that meets EPA standards. Accordingly, the latest Kahului Airport Development Plan has targeted the implementation of a permanent ARFF training facility as a short-term development objective.

In addition to promoting public safety, as well as mission proficiency and readiness, the proposed facility will enable ARFF personnel to comply with FAA requirements for annual hot-fire training and certification. The proposed facility will also provide fire fighters with a functional, "closed" system capable of providing realistic training exercises in a safe, controlled setting without interrupting ongoing airport operations.

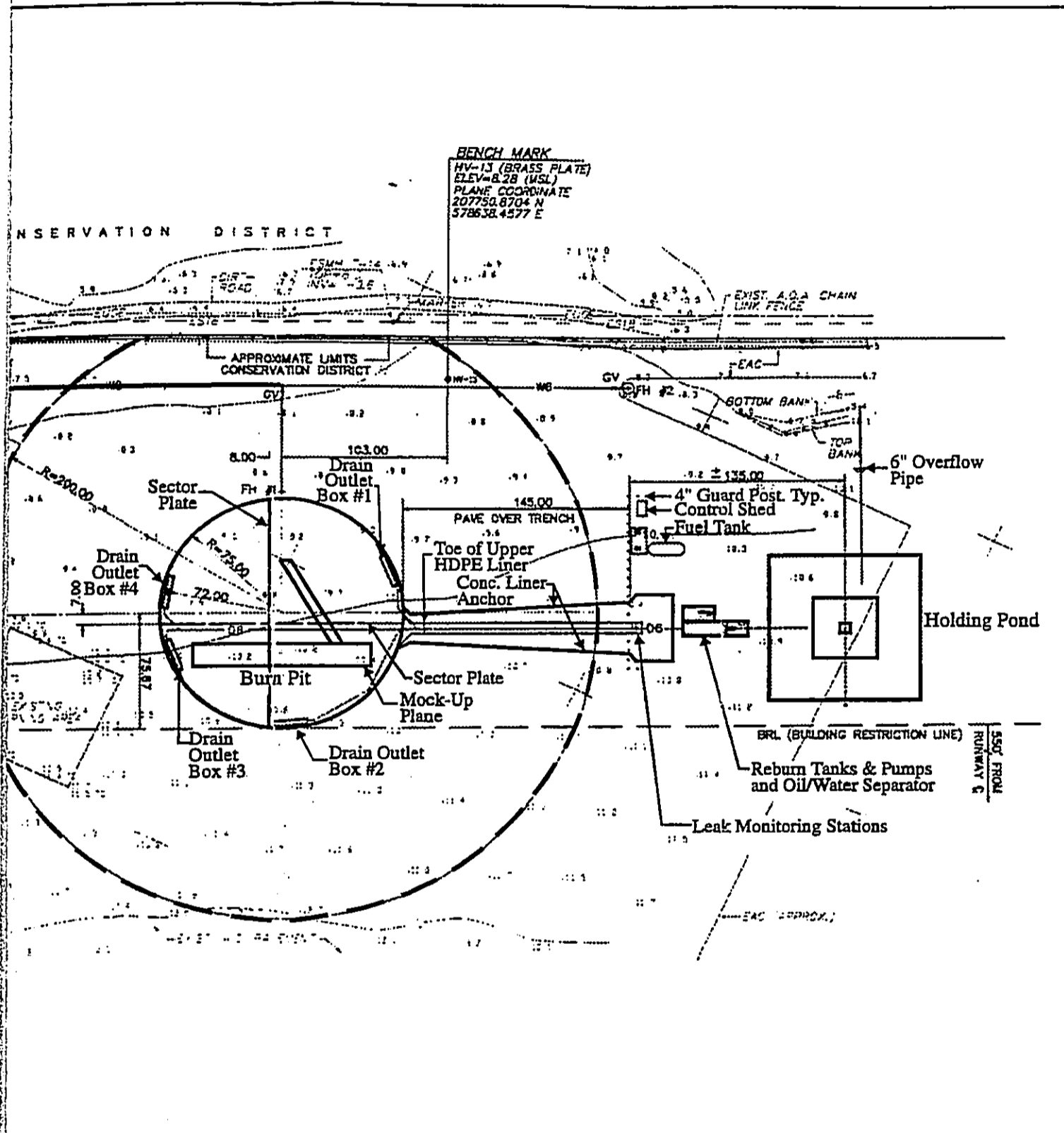
C. PROPOSED ACTION

The proposed facility will feature a modern fire fighting training system capable of providing ARFF personnel with the necessary training and certification required to enable fire fighters to control and extinguish large scale, aircraft fuel spill fires under various conditions while in the presence of fire, smoke, and high heat.

The proposed improvements involve the construction of an aircraft Fuel Spill Fire Trainer (FSFT), an 8-inch off-site water line, an underground fuel storage and delivery system, an underground fuel and water recovery system, an underground fuel and water separation system, an underground leak detection system, a holding pond, a control shed, and additional related improvements. The fuel and water delivery and recovery systems will enable residual fuel and water to be recycled for future use. See Figure 4.

The FSFT will feature a flammable liquid hydrocarbon-fueled Fuel Spill Burn Area (FSBA). Liquid hydrocarbon fuel (a.k.a., Jet A), is a kerosene-based product similar to diesel, without the volatility of automotive or aviation gasolines. Although AFFF will also be utilized as a supplement, water will be the primary extinguishing agent used during all ARFF training exercises.

Consisting of a 150-foot diameter burn pit with a refractory concrete perimeter curb, the FSBA will be divided into four (4) quadrants from which flames will emanate. The burn pit will contain a top layer of heat-resistant, impervious rock followed by a layer of uncompacted aggregate base course and geotextile filter fabric. In addition, sand cushion layers, separated by a containment layer consisting of high density polyethylene (HDPE) flexible membrane liners separated by drainage nets, are also



Fire Fighting Training Facility
 Preliminary Site Plan



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proposed.

A truncated aircraft mockup, consisting of a fuselage, single wing, and tail and wing engine enclosures, will also be positioned on pedestals in the FSBA. Both tail and wing engine enclosures will have the capability of simulating a three-dimensional fire with leaking or cascading fuel.

To control the size of fuel spill simulations, each quadrant can be independently regulated from a control shed to provide a range of partial to full flame engulfment capabilities. To accomplish this, the burn pit will first be filled with water, with the water level not to exceed the height of each quadrant's rock layer and sector plate. Next, fuel will be conveyed from a 6,000-gallon underground fuel storage tank and directed into the appropriate quadrant(s) prior to being inflamed by a propane ignition system. Fire fighters will then utilize ARFF vehicles and handlines while employing various fire fighting techniques to quell the fire.

Upon the completion of training exercises, the water level in the appropriate quadrant(s) will be raised to allow the surface layer of residual fuel/water to exceed the height of each quadrant's sector plate. To accelerate and direct the surface layer of residual fuel/water toward appropriate drainage outlets in each quadrant, risers with jet spray nozzles will be installed along the perimeter of the burn pit. Next, the residual fuel/water will be conveyed to an underground fuel/water separator and recycled for approximately two (2) hours to ensure maximum separation. Upon completion of the recycling process, the 300-gallon per minute fuel/water separator will convey the residual fuel to an underground reburn fuel tank where it will be stored for future use. The remaining water will then be transported to a holding pond where it can also be used for future training exercises or allowed to dissipate through

evaporation. It should be noted that while the facility is not being utilized for annual training exercises, the water in the burn pit will be maintained at a level approximately 1-inch below the rock layer surface.

The 72-foot x 72-foot holding pond will be lined with a drainage net sandwiched between HDPE liners on a layer of sand bedding. A 2-1/2 foot concrete masonry unit (CMU) wall will encircle the holding pond to prevent frogs and toads from nesting and breeding. To facilitate maintenance, the water in the burn pit and holding pond can be alternately transferred between each facility.

Extending approximately 125 feet beyond the perimeter of the burn pit, the existing paved A.C. surface will be utilized by ARFF personnel for vehicle and personnel deployment during training exercises. A portion of the maneuvering area will encompass the former ARFF training site, necessitating the removal of its existing A.C. perimeter curb. Another portion of the existing paved A.C. surface will be excavated to install the facility's system of underground drain lines and fuel and water supply lines. Upon completion, layers of A.C. mix, asphalt-treated base, and aggregate base course will be used to restore the excavated portion of the maneuvering area.

Off-site improvements include a new 8-inch water line, which will be connected to an existing 8-inch water line. Related water system improvements also include the installation of valves, fire hydrants, and an 8-inch double detector check valve assembly.

To address environmental, safety, and operational requirements, appropriate construction materials and procedures, in conformance with all applicable County, State, and Federal standards, will be implemented

in the construction and operation of the proposed improvements. In addition, equipment engineered to meet all applicable governmental design criteria will be utilized in the operation of the proposed facility.

D. CONSTRUCTION COST AND IMPLEMENTATION

Approximately \$2.9 million has been allocated for the development of the proposed improvements. Upon the receipt of all applicable permits, construction is anticipated to commence in December, 1995. The construction of the proposed improvements is projected to last approximately nine (9) months.

Chapter II

***Description of the
Existing Environment***

II. DESCRIPTION OF THE EXISTING ENVIRONMENT

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Uses

With a land area of approximately 727 square miles, the island of Maui is the second largest of the Hawaiian Islands. Maui is flanked by the islands of Molokai to the northwest, Lanai to the west, Kahoolawe to the southwest, and the "Big Island" of Hawaii to the southeast.

Situated along the north shore of the isthmus separating Haleakala and the West Maui Mountains, the town of Kahului includes the State's second busiest airport and harbor facilities. With its proximity to transportation facilities and services, Kahului serves as a focal point for commercial and light industrial activities and has emerged as the island's center of commerce. The town of Wailuku, approximately two (2) miles north of Kahului, serves as the County seat of government.

Kahului Airport is located approximately 1.5 miles to the east of Kahului. The project site is situated within the northern fenced perimeter of the Kahului Airport and is characterized by an expanse of open, A.C. pavement.

Encompassing approximately 2.0 acres, the project site is located in an area adjoining Runway 5-23, within proximity of that runway's safety zone. Access to the project site is obtained by entering a controlled access security gate at the eastern terminus of Alahao Street, a two-way, two-lane minor County roadway.

Existing land uses to the north of the project site include Kanaha Beach Park, a County recreational facility, and vacant, undeveloped land proposed for future park expansion. In addition to the land encompassed by the Runway 5-23 safety zone, land uses to the northeast of the project site include the single-family residences of the Spreckelsville Beach Lots subdivision. Fields of cultivated sugar cane typify land uses to the east and south, while commercial, public/quasi-public facilities, and vacant, undeveloped land exemplify land uses to the west of the project site.

2. Climate

Hawaii's tropical location accounts for generally 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.

Based on data collected by the National Weather Services' meteorological facility at Kahului Airport, average monthly temperatures for 1993 ranged from 69.6 degrees in February, to 80.3 degrees in August. The average annual temperature for 1993 measured 75.9 degrees. In addition, rainfall for 1993 ranged from .09 inch in June, to 2.19 inches in January. Total precipitation for 1993 measured 12.69 inches (County of Maui/MEDB, Inc., December 1994).

The island of Maui lies within the path of the northeast tradewinds which predominate throughout most of the year. Although wind speeds at Kahului Airport can attain speeds of 40 to 45 miles per

hour (mph), the tradewinds typically range from ten (10) to twenty (20) mph during afternoons, with lighter wind conditions prevailing during the morning and evening periods. The diurnal heating and cooling of the land mass gives rise to onshore sea breezes during the day and offshore land breezes at night.

Between the months of October to April, storm-generated winds from the south spawn "Kona" storms which are often characterized by high winds and heavy rainfall. In the absence of the tradewinds and Kona storms, wind conditions may become light and variable.

3. Topography and Soil Characteristic

Located at elevations ranging from 8-feet to 11-feet above mean sea level, the project site is presently surfaced with A.C. pavement and features a slope of approximately one (1) percent.

Underlying the project site and surrounding area are soils of the Pulehu-Ewa-Jaucus association. See Figure 5. These soils are deep, well-drained soils that have a moderately fine textured to coarse textured subsoil, and are found on low uplands. Predominantly derived from coral and seashells, the soil specific to the project site is Dune Land (DL). See Figure 6. With elevations ranging from near sea level to 150 feet, dune land consists of windblown sand particles which have accumulated and formed hills and ridges. This soil type is used for recreational areas, wildlife habitat, and as a source for liming material.

4. Flood and Tsunami Hazards

The project site is located within Zone V23 as indicated by the Flood Insurance Rate Map for the County of Maui. See Figure 7.

LEGEND

- | | |
|---|---|
| <ul style="list-style-type: none"> ① Pulehu-Ewa-Jaucas association ② Waiakoa-Keahua-Molokai association ③ Honolulu-Olelo association ④ Rock land-Rough mountainous land association ⑤ Puu Pa-Kula-Pane association ⑥ Hydrandepts-Tropaquods association | <ul style="list-style-type: none"> ⑦ Hana-Makaalae-Kailua association ⑧ Pauwela-Haiku association ⑨ Laumain-Kaipoi-Olinda association ⑩ Keawakapu-Makena association ⑪ Kamaole-Oanapuka association |
|---|---|

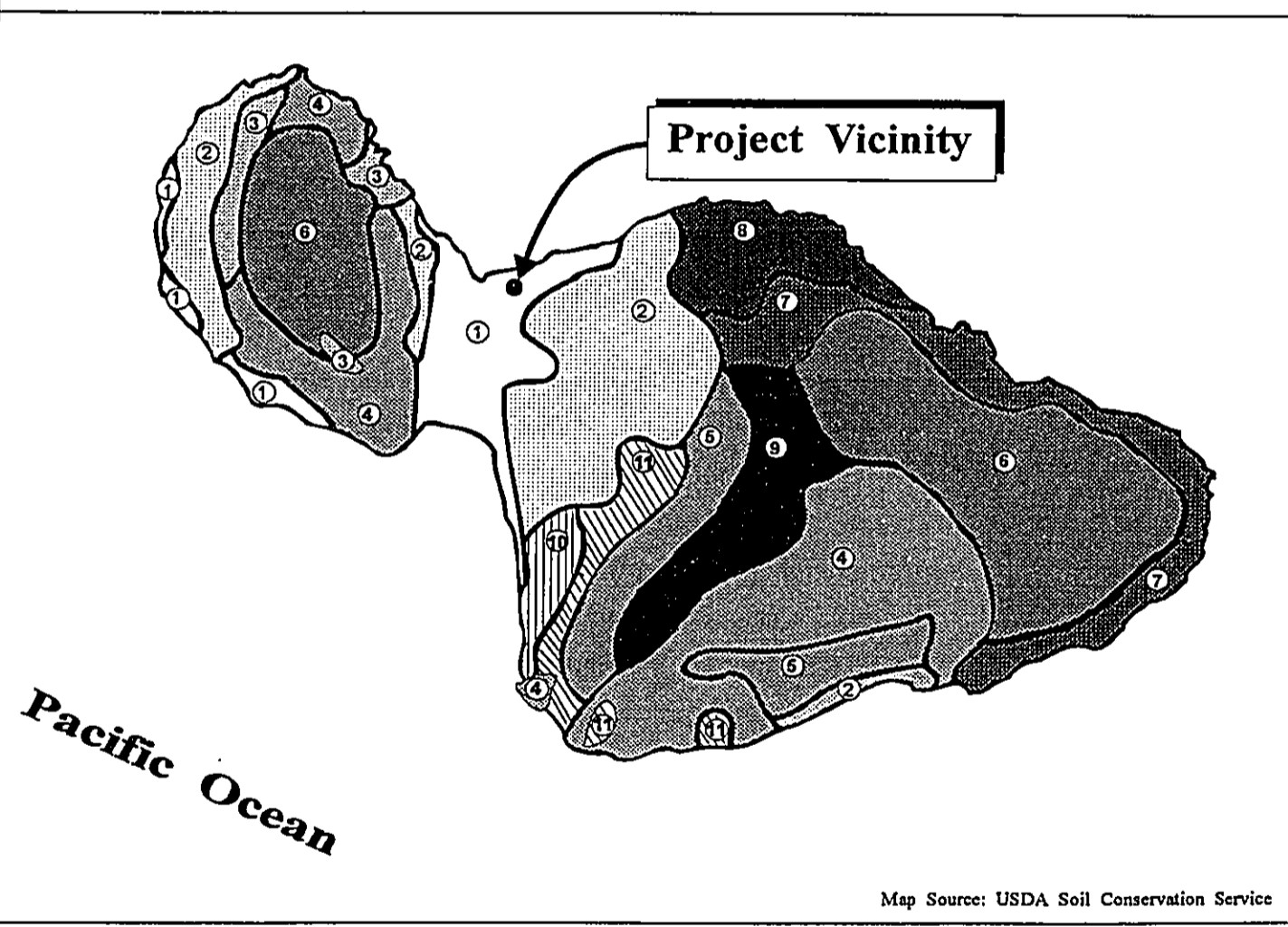


Figure 5 Aircraft Rescue and Fire Fighting Training Facility Soil Association Map



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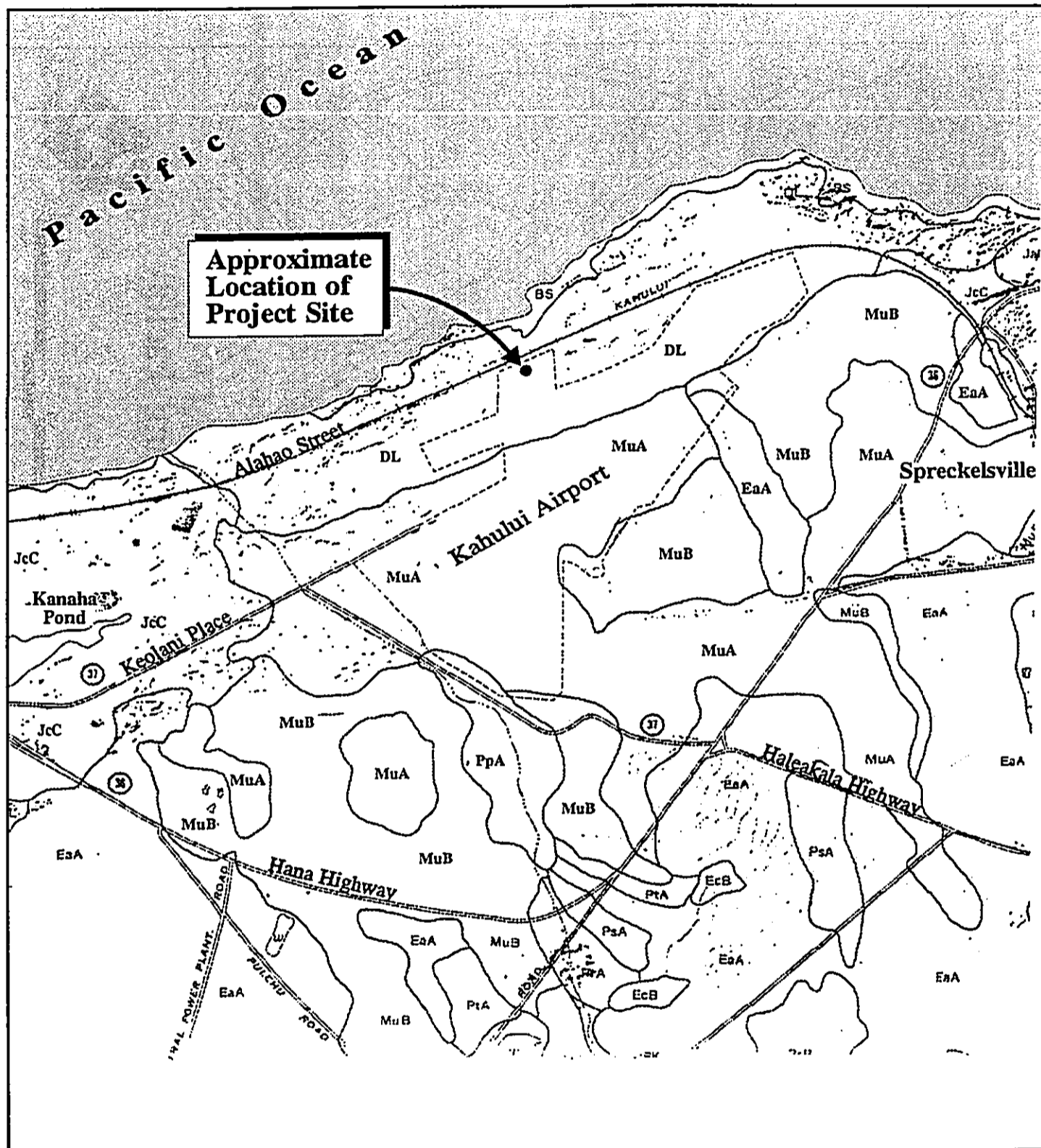
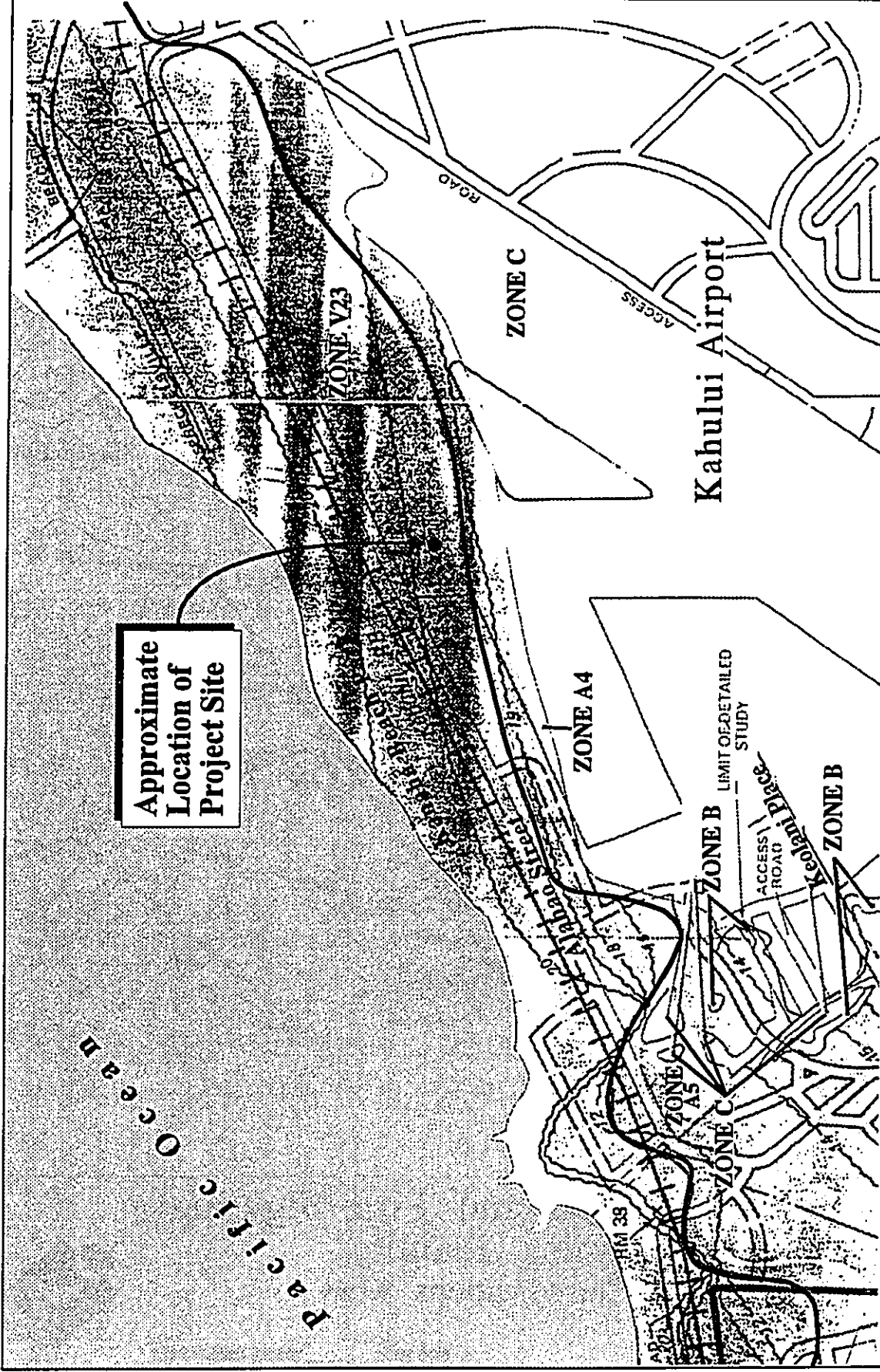


Figure 6 Aircraft Rescue and Fire Fighting Training Facility Soil Classifications Map



Prepared for: State of Hawaii, Dept. of Transportation



**Figure 7 Aircraft Rescue and Fire Fighting Training Facility
Flood Insurance Rate Map**



Prepared for: State of Hawaii, Dept. of Transportation

Zone V23 is defined as an area of 100-year coastal flooding with wave action.

The average regulatory flood level at the project site is approximately 20-feet above mean sea level. Lands to the interior of the project site are situated within Zone A4, areas of 100-year flooding, and Zone C, areas of minimal flooding.

5. **Flora**

A botanical survey was conducted for the preparation of the Final Environmental Impact Statement (FEIS) for the Kahului Airport Master Plan Update. Vegetation observed in the vicinity of the project site include koa-haole shrubs with a dense cover of buffel grass, green panic grass, or Guinea grass among the shrubs. Of the 146 plant species inventoried during the survey, nineteen (19) were identified as native. Of the native species, eighteen (18) were found to be indigenous, that is, found in the State and elsewhere throughout the Pacific; however, only one (1) was found to be endemic, that is, native only to the islands.

As indicated in the survey, there are no officially listed threatened and endangered plants, or any plants proposed for listing, in the general vicinity of the project site (Pacific Planning & Engineering, Inc., July 1992).

6. **Fauna**

A bird and mammal field survey was also prepared in connection with the FEIS for the Kahului Airport Master Plan Update. The survey did not reveal any unusual concentrations of exotic, or introduced species. In addition to migratory and native species, the

survey noted that endemic and indigenous resident avifauna utilize Kanaha Pond, a wildlife sanctuary on the eastern outskirts of Kahului, for nesting, foraging, and resting. The survey also noted that Kanaha Pond's adjoining wetlands, coastal shoreline, and the grass covered areas around the airport's runways are also used by avifauna. Although avifauna may frequent the general vicinity, there are no known wetlands associated with the project site. As such, the project site does not offer a habitat for these species.

Feral mammals typically associated with the region include cats, mice, rats, and mongoose. There are no known endangered or threatened wildlife species observed within proximity of the project site (Pacific Planning & Engineering, Inc., July 1992).

7. Archaeological Resources

Defined by an expanse of open, A.C. pavement and originally developed as a Naval Air Station facility, the project site and surrounding area have been subsequently utilized for ARFF training exercises and occasional aircraft parking.

The results of an archaeological survey and subsurface testing undertaken for the preparation of the FEIS for the Kahului Airport Master Plan Update revealed that the majority of the areas surveyed did not contain any significant archaeological or historic resources. The test area encompassed nearly 120 acres of coastal lowlands, in the vicinity of Spreckelsville, beyond the northeastern extent of Runways 2-20 and 5-23. Testing was not required beyond the survey area due to previous widespread surface and subsurface alterations and disturbances related to past grading and clearing activities associated with the development of the Kahului

Airport and its related facilities (Pacific Planning & Engineering, Inc., July 1992).

8. **Air Quality**

Air quality in the vicinity of the project site is affected by a variety of sources, including smoke and dust from sugar cane harvesting and cultivation operations. In addition, airborne pollutants are largely attributable to vehicular exhaust from traffic along Hana Highway and secondary roadways. However, these sources are intermittent and prevailing winds quickly disperse the particulates generated by these temporary sources.

An air quality analysis conducted for the FEIS prepared for the Kahului Airport Master Plan Update reveals that particulate matter, carbon dioxide, and nitrogen oxide levels are below State and Federal emission standards. Emissions generated by airport operations are dispersed in a southerly to southwesterly direction by the prevailing tradewinds (Pacific Planning & Engineering, Inc., July 1992).

9. **Noise**

The project site is primarily surrounded by lands utilized for airport operations. Accordingly, ambient noise is generally attributable to airport operations involving aircraft arrivals and departures. Situated at the terminus of Alahao Street, beyond the entrance to Kanaha Beach Park, vehicular traffic in the vicinity of the project site does not affect background noise levels due to its low traffic volume. With the exception of noise generated by aircraft operations and vehicular traffic, background noise is basically attributable to natural conditions such as wind and rain.

Typical of airport operations, aircraft noise contours at the Kahului Airport range from 65 to 75 Ldn as indicated by the FEIS prepared for the Kahului Airport Master Plan Update. Vehicular noise levels in the vicinity of the project site are minimal due to the relatively low volume of traffic along Alahao Street (Pacific Planning & Engineering, Inc., July 1992).

10. Scenic and Open Space Resources

The project site is located at elevations ranging from 8-feet to 11-feet above mean sea level. Kanaha Beach Park and the adjoining ocean define the scenic resources to the north of the project site. The open expanse of the FAA safety zone and fields of cultivated sugar cane typify the open space resources to the east and south. Scenic resources to the southeast include Haleakala, while to the west lies Iao Valley and the West Maui Mountains. The project site is not considered to be within a scenic view corridor.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population

The population of Maui County has exhibited relatively strong growth over the past decade with the July 1992 resident population estimated to be 108,000, a 52 percent increase over the July 1980 population of 71,600 (County of Maui/MEDB, Inc., December 1994). Growth in the County is expected to continue, with resident population projections to the years 2000 and 2010 estimated to be 112,349 and 133,459, respectively (Community Resources, Inc., January 1994).

The Wailuku-Kahului Community Plan region is anticipated to follow the Countywide pattern of population growth, with the

region's 1990 population of 32,816 expected to increase to 40,452 by the year 2000 and to 48,132 by the year 2010 (Community Resources, Inc., January 1994).

2. **Economy**

As previously noted, the Kahului region is the island's center of commerce. Combined with neighboring Wailuku, the region's economic character encompasses a broad range of commercial, financial, governmental, light industrial, and service-oriented activities. In addition, the region is surrounded by productive agricultural lands which include macadamia nut orchards, and pineapple and sugar cane fields. This vast expanse of agricultural land, managed by Hawaiian Commercial & Sugar (HC&S) and Wailuku Agribusiness, is considered a key component of the local economy.

C. **PUBLIC SERVICES**

1. **Recreational Facilities**

Stretching along the shoreline from Kahului to Paia, recreational areas such as Hoaloha Park, Kanaha Beach Park, Kooks Beach, Camp One, Baby Beach, H.A. Baldwin Beach Park, and Lower Paia Park provide a full range of ocean activities including boating, canoeing, diving, fishing, kayaking, snorkeling, swimming, surfing, and windsurfing. In addition, popular outdoor activities such as baseball, jogging, picnicking, soccer, and volleyball are accommodated by the Kanaha Beach Park and H.A. Baldwin Beach Park facilities.

The North Shore Greenway, an open space corridor with a bikeway component, is proposed along the coastal lowlands between

Kahului and Paia. A one (1) mile segment of the bikeway is proposed to the north of the project site.

2. **Police and Fire Protection**

With headquarters situated in Wailuku, approximately 3.5 miles west of the project site, police and security services for Maui County are provided by the Maui Police Department (MPD). The MPD consists of 369 administrative, patrol, and support personnel. Including the Wailuku patrol district, MPD's uniformed patrol bureau also serves the Hana, Lahaina, Lanai, and Molokai patrol districts (Maui County Police Department, December 1992).

Fire prevention, suppression, and protection services for the Wailuku-Kahului region are provided by the Maui Fire Department's Kahului Fire Station, about two (2) miles southwest of the project site. Additional support is also provided by the MFD's Wailuku station, approximately four (4) miles west of the project site.

3. **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 refuse crews is transported to the County's 55-acre Central Maui Landfill located at Puunene, approximately five (5) miles south of the project site. The Central Maui Landfill also accepts commercial waste from private solid waste collection services.

4. **Medical Services**

Maui Memorial Hospital, the island's only major medical facility, also services the Wailuku-Kahului region. Acute, general, and

emergency care services are provided by the 145-bed facility. In addition, numerous privately operated medical/dental clinics and offices provide health care services for the region's residents.

5. Schools

In addition to several privately operated schools, the Wailuku-Kahului region is primarily served by the State Department of Education's (DOE) public schools system. DOE facilities in the Kahului area include Lihikai and Kahului School (Grades K-5), Maui Waena Intermediate School (Grades 6-8), and Maui High School (Grades 9-12).

Existing facilities in the Wailuku area include Wailuku Elementary School (Grades K-5), Iao Intermediate School (Grades 6-8), and Baldwin High School (Grades 9-12). Maui Community College, a branch of the University of Hawaii, serves as the island's only institute for higher education.

D. INFRASTRUCTURE

1. Roadways

The Wailuku-Kahului region is served by a network of roadways consisting of primary and secondary arterials, and collector and minor streets. Kaahumanu Avenue and Kahului Beach Road are the major roadways linking Kahului with Wailuku. Diverging from Kaahumanu Avenue near the eastern outskirts of Kahului, Hana Highway conveys traffic to Paia, Haiku, Hana, Makawao, Pukalani, and Kula. Puunene Avenue, another principal roadway, connects to Mokulele Highway at Puunene to link Kahului with Kihei, Wailea, Makena, and Maalaea.

In addition to serving Kanaha Beach Park, access to the project site is provided by Alahao Street. Owned and maintained by the County of Maui, Alahao Street is a two-way, two-lane paved asphalt roadway with an ultimate right-of-way of 44 feet and a speed limit of 30 mph.

2. Water

The Wailuku-Kahului region is served by the Department of Water Supply's (DWS) domestic water system. Situated in the vicinity of Iao and Waiehu Streams, water drawn from the Iao Aquifer supplies the Central Maui Water System. The system services the communities of Waihee and Waiehu to the north, Wailuku, Kahului, and Paia to the east, and Maalaea, Kihei, and Makena to the south. The Iao Aquifer has an estimated sustainable yield of 20 mgd. Recent estimates place the average monthly basal water withdrawal from the aquifer at approximately 19 mgd (telephone conversation with Ellen Kraftsow, Department of Water Supply, March 1995).

A single 12-inch water transmission line, situated in the general vicinity of the project site, conveys water past Kahului Airport to Paia. Diverging from the 12-inch transmission line, an 8-inch water line along Koeheke Street presently terminates near the Kaa Street intersection with Alahao Street. Currently, a 6-inch water line branches from the 8-inch water line and provides service to Kanaha Beach Park. Refer to Figure 3 and Figure 4.

3. Wastewater

Domestic wastewater generated in the Wailuku-Kahului region is conveyed to the County's Wailuku-Kahului Wastewater

Reclamation Facility located along Amala Place, approximately one (1) mile west of the project site. The facility serves the Kahului, Wailuku, Paia, Kuau, and Spreckelsville areas. An existing 18-inch sewer line and a 12-inch force main lie to the north and northeast of the project site, respectively. Refer to Figure 3 and Figure 4.

The design capacity of the facility is 7.9 million gallons per day (mgd). Excluding groundwater and stormwater infiltration, current sewage flow volume treated by the facility is approximately 6.28 mgd (telephone conversation with Dave Taylor, Department of Public Works and Waste Management, Wastewater Reclamation Division, March 1995).

4. **Drainage and Erosion**

The project site consists of an open, paved A.C. expanse and is characterized by a slope of about one (1) percent. Elevations range from 8-feet to 11-feet above mean sea level.

Presently, there is no existing drainage facility serving the project site. On-site runoff is currently disposed of by surface flows which discharge into the vacant, undeveloped lands to the north of the project site. The runoff is then trapped in local depressions and pockets until it percolates into the ground or evaporates.

Under present conditions, the project site is capable of generating a storm flow of about 10.6 cubic feet per second (cfs) for a 10-year storm intensity. See Appendix A.

The project site is presently surfaced with A.C. pavement. In addition to being occasionally used for aircraft parking, a portion of the project site was formerly utilized for ARFF training exercises.

5. **Electrical and Telephone Systems**

Electrical and telephone service to the project site will be provided by Maui Electric Company, Ltd. and GTE Hawaiian Telephone Company, Inc., respectively.

Chapter III

Potential Impacts and Mitigation Measures

III. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. IMPACTS TO THE PHYSICAL ENVIRONMENT

1. Surrounding Land Uses

The area adjoining the project site was formerly utilized for annual ARFF training exercises. In addition, the latest Kahului Airport Development Plan has targeted the implementation of a permanent ARFF training facility as a short-term development objective. As such, the development of a permanent ARFF training facility is consistent with adjacent and surrounding land uses and is not anticipated to create any adverse impacts.

2. Topography and Landform

In addition to the off-site water system, the development of the project site will involve the excavation, trenching, and filling of existing surfaces for the construction of the burn pit, holding pond, and underground detection, distribution, storage, and recovery systems, as well as portions of the ARFF maneuvering area.

In general, however, the finished paved surfaces will follow existing grades to minimize site work and maintain existing drainage patterns. While the burn pit and holding pond will modify the appearance of the existing landform, the development of the proposed facility is not anticipated to affect the overall appearance of the surrounding area.

3. Flood and Tsunami Hazards

The project site is located within Zone V23, an area within the limits of 100-year coastal flooding with wave action. Due to its location, coordination with applicable governmental agencies will be

initiated as needed to address requirements for structures located within flood hazard districts.

4. **Flora and Fauna**

There are no known significant habitats or rare, endangered, or threatened species of flora and fauna located on the project site.

The proposed project will not impact wetland areas and adjoining wildlife habitats. In addition, the utilization of the project site for the development of the proposed facility is not anticipated to adversely impact the area's wildlife population.

5. **Archaeological Resources**

The proposed project is not anticipated to impact any archaeological or historic resources. The presence of any archaeological or historic features are not anticipated due to previous widespread surface and subsurface alterations and disturbances associated with past grading and clearing activities related to the development of the Kahului Airport and its ancillary facilities.

However, should any archaeological or historic features be encountered during development, the SHPD will be notified, and applicable procedures to ensure compliance with Chapter 6E, Hawaii Revised Statutes, will be implemented.

6. **Air Quality**

Emissions from construction equipment and other vehicles involved in construction activities may temporarily affect the ambient air quality within the immediate vicinity. However, these effects can

be minimized by properly maintaining construction equipment and vehicles.

In addition, dust generated during construction, especially from earth-moving operations such as excavating, trenching, and filling, may also result in a temporary decrease in ambient air quality. Mitigation measures include utilizing waterwagons and/or sprinklers to control dust, watering exposed areas after construction activities have ceased for the day, and covering all exposed graded areas with grass, gravel, or pavement upon the completion of finish grading.

On a long-term basis, once construction activities have been completed, traffic along Alahao Street and the region's roadways will generate automotive emissions. However, due to the facility's removed location and the dissipating effect of the prevailing winds, these emissions are not expected to adversely impact local and ambient air quality conditions.

7. **Noise**

Ambient noise conditions may be temporarily affected by construction activities. Heavy construction machinery, such as back hoes, dump trucks, front-end loaders, paving equipment, and material-transport vehicles, are anticipated to be the dominant noise generating source during the construction period.

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

remote location of the project site is also anticipated to minimize the effects of construction noise to adjoining developed areas.

In the context of the surrounding airport environs, the operation of the proposed facility is not anticipated to have adverse long-term noise impacts.

8. Scenic and Open Space Resources

The project site is situated at elevations ranging from 8-feet to 11-feet above mean sea level. As viewed from the project site, Haleakala is visible to the southeast and Iao Valley and the West Maui Mountains to the west.

With the exception of the approximately 8-foot height of the control shed, the remaining improvements will be constructed at elevations ranging from below grade to slightly above grade. The proposed facility is not part of a scenic corridor and will not affect view from inland vantage points. As such, the proposed project is not anticipated to have an adverse impact upon the visual character of the surrounding area.

B. IMPACTS TO THE SOCIO-ECONOMIC ENVIRONMENT AND PUBLIC SERVICES

1. Economy

On a short-term basis, the proposed project will support construction and construction-related employment.

Once developed, the proposed facility will contribute to the long-term support of the regional economy through purchases of

equipment, materials, and services which will be required to maintain the condition and operational status of the facility.

2. **Public Services**

The proposed facility is not anticipated to affect the service capabilities of police, fire, medical, and emergency medical operations. The existing service area limits for emergency services are not expected to be extended or affected. In addition, the proposed improvements will not affect requirements for recreational and educational facilities.

3. **Solid Waste**

A solid waste management plan will be coordinated with the Department of Public Works and Waste Management's (DPWWM) Solid Waste Division for the disposal of cleared, grubbed, and excavated material.

C. **IMPACTS TO THE INFRASTRUCTURE**

1. **Roadways**

Access to the project site is obtained by entering a controlled access security gate at the eastern terminus of Alahao Street. With the exception of Kanaha Beach Park, lands immediately adjoining the project site along Alahao Street are vacant and undeveloped.

Accordingly, vehicular traffic in the vicinity of the project site is not anticipated to have an adverse effect on the traffic circulation of the surrounding roadways.

2. Water

The proposed 8-inch water line will connect to an existing 8-inch water line near the Alahao and Kaa Street intersection and proceed in an easterly direction along Alahao Street toward the project site. Refer to Figure 3 and Figure 4.

In addition to initially filling the burn pit, proposed water use will involve discharging the surface layer of residual fuel/water from the burn pit upon the completion of training exercises. A fuel/water separator will then segregate the residual fuel/water and convey the water to a holding pond where it will be recycled for future training exercises. The fuel will be transported to a reburn fuel tank where it will be stored and recycled for future use.

The proposed facility is expected to utilize approximately 110,000 gallons of water to initially fill the burn pit.

Water system improvements will be designed in accordance with standards established by the Department of Water Supply (DWS). Considering the annual nature of the training exercises, and the specialized use and recycling capabilities of the proposed facility, the proposed improvements are not anticipated to adversely impact existing water facilities and capacities.

3. Wastewater

The proposed facility will not generate any wastewater flows. Accordingly, the ARFF training facility is not anticipated to have an adverse effect on existing wastewater facilities and capacities.

4. **Drainage and Erosion Control**

Massive grading is not planned for the construction of the proposed facility. Site work will primarily involve excavation for the burn pit, holding pond, water system, and underground detection, distribution, storage, and recovery systems. With the exception of the burn pit and holding pond, all disturbed surfaces will be restored to their original grade and will be finished with grass, gravel, or A.C. pavement. Refer to Appendix A.

The proposed burn pit and holding pond will be provided with perimeter curb and CMU walls, respectively. In addition, these facilities will also be constructed with containment liners to prevent liquids from leaching into the ground. As a result of these improvements, rainfall captured by the burn pit and holding pond will be retained on-site; thereby, reducing the storm runoff presently generated at the site. At post developed conditions, the site is expected to generate about 7.7 cfs, a reduction of 2.9 cfs from existing drainage flows. Refer to Appendix A.

The proposed facility will not include any drainage facilities. The project site will utilize surface sheet flows, similar to existing drainage patterns, for the disposal of runoff. Storm waters will flow into the open area north of the project site where they will be trapped by depressions and retained until evaporation or percolation occur. Refer to Appendix A.

The development of the proposed facility is not anticipated to have adverse drainage effects on adjacent and downstream properties.

Erosion control measures recommended during construction include the following:

1. Using waterwagons and/or sprinklers to control dust;
2. Utilize temporary berms or similarly approved diversionary methods to divert off-site runoff away from excavated areas and toward natural drainageways;
3. Ensure that adequate provisions, such as the installation of silt fences downgrade from graded areas, are implemented as needed to prevent sediment-laden runoff from leaving the project area;
4. Water graded areas after construction activity has ceased for the day as well as on weekends and holidays; and
5. Upon completion of finish grading, finish all exposed areas with grass, gravel, or pavement.

The uncontrolled erosion rate is projected to be less than the allowable erosion rate. In addition, the severity number is within the maximum value of 50,000. Accordingly, normal construction erosion control measures are considered sufficient for project development, with no excessive soil loss occurring. Refer to Appendix A.

5. **Electrical and Telephone Services**

The proposed facility is not anticipated to adversely impact electrical and telephone services in the Wailuku-Kahului region.

Chapter IV

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

IV. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICTS

Chapter 205A, HRS, contains provisions which established the four (4) major land use districts throughout the State. As indicated by the State Land Use Commission, these districts are designated "Urban", "Rural", "Agricultural", and "Conservation". The proposed action involves the use of "Urban" designated lands for a new ARFF training facility and is consistent with land uses permitted within the "Urban" district. See Figure 8.

B. HAWAII STATE PLAN

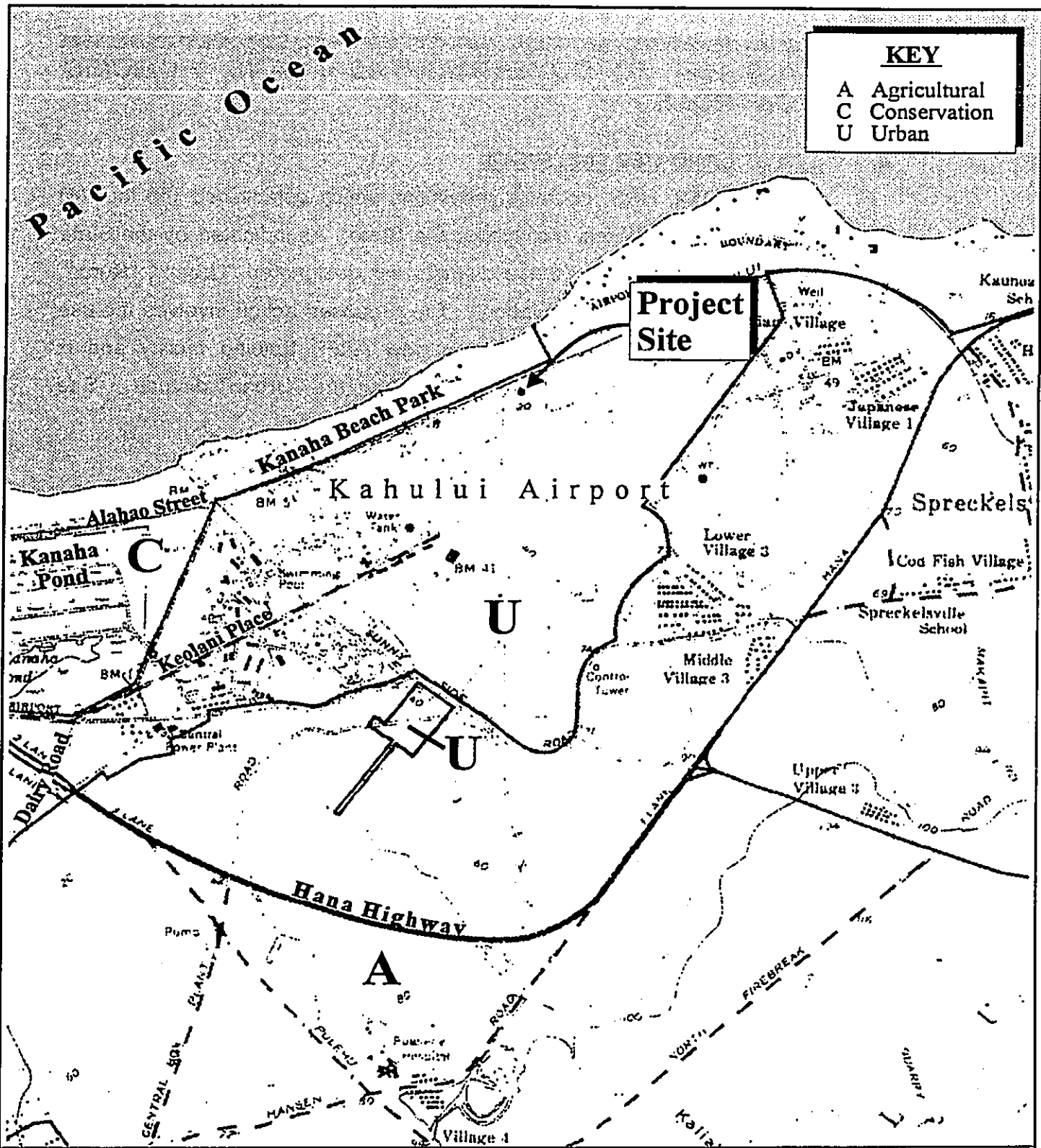
The proposed action is in compliance with Chapter 226, HRS, of the Hawaii State Planning Act. More specifically, HRS, Section 226-104(a)(3) seeks to ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the state. The proposed action will further the stated goal of providing adequate support services.

C. MAUI COUNTY GENERAL PLAN

The Maui County General Plan (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 the 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."

DOCUMENT CAPTURED AS RECEIVED



KEY	
A	Agricultural
C	Conservation
U	Urban

Figure 8 Aircraft Rescue and Fire Fighting Training Facility State Land Use Designations

↑

MUNEIYO & ARAKAWA, INC.

0 1000 2000 4000 Feet

Prepared for: State of Hawaii, Dept. of Transportation

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

Objective: 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:

1. Maintain a proper state of preparedness for man-made or natural disasters.
2. Maintain efficiency of police and fire fighters at the highest attainable level through in-service educational and training programs.

D. WAILUKU-KAHULUI COMMUNITY PLAN

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

Land use guidelines are set forth by the Wailuku-Kahului Community Plan Land Use Map. See Figure 9. As indicated by the Wailuku-Kahului Community Plan, the proposed ARFF training facility is situated within an area designated for airport use.

The proposed project is consistent with the Wailuku-Kahului Community Plan.

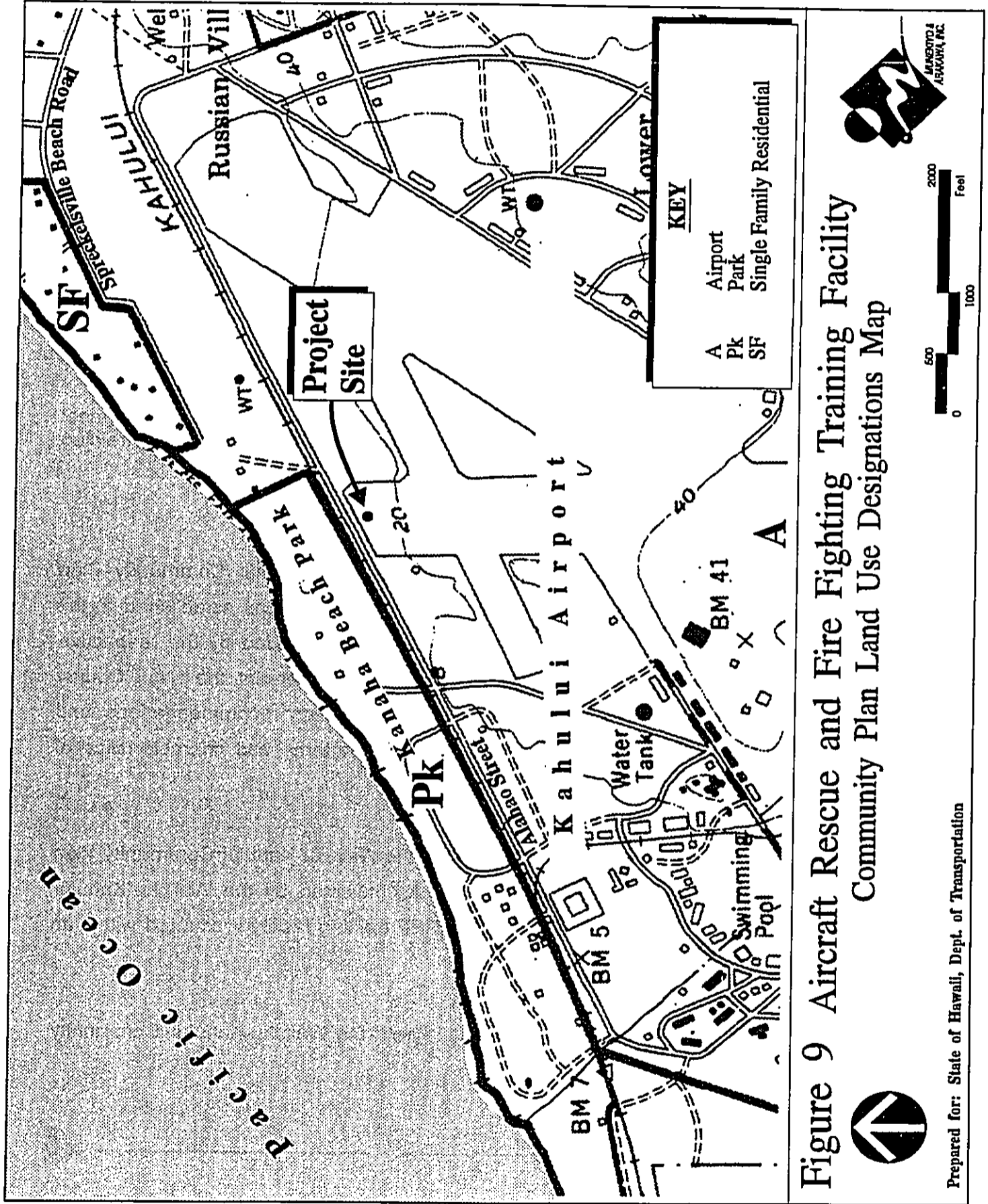


Figure 9 Aircraft Rescue and Fire Fighting Training Facility
Community Plan Land Use Designations Map

Prepared for: State of Hawaii, Dept. of Transportation



E. SPECIAL MANAGEMENT AREA OBJECTIVES AND POLICIES

Pursuant to Chapter 205A, Hawaii Revised Statutes, and the Rules and Regulations of the Planning Commission of the County of Maui, projects located 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 and the Rules and Regulations of the Planning Commission.

1. Recreational Resources

Objective: Provide coastal recreational resources accessible to the public.

Policies:

1. Improve coordination and funding of coastal recreation planning and management; and
2. Provide adequate, accessible and diverse recreational opportunities in the coastal zone management area by:
 - a. Protecting coastal resources uniquely suited for recreation activities that cannot be provided in other areas;
 - b. Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sandy beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;
 - c. Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

-
- d. Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
 - e. 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;
 - f. Adopting water quality standards and regulating point and non-point sources of pollution to protect and where feasible, restore the recreational value of coastal waters; and
 - g. Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions, and crediting such dedication against the requirements of Section 46-6 of the Hawaii Revised Statutes.

Response: The proposed project will not impact coastal recreational resources. Existing shoreline rights-of-way will remain unaffected by the proposed action.

2. Historical/Cultural Resources

Objective: Protect, preserve and where desirable, restore those natural and man-made historic and prehistoric resources in the coastal zone management areas that are significant in Hawaiian and American history and culture.

Policies:

1. Identify and analyze significant archaeological resources;
2. Maximize information retention through preservation of remains and artifacts or salvage operations; and

-
3. Support State goals for protection, restoration, interpretation and display of historic resources.

Response: An archaeological survey and subsurface testing was previously conducted within the general vicinity of the project area. Testing was not required for the area proposed for the project site due to previous widespread surface and subsurface alterations and disturbances related to past grading and clearing activities associated with the development of the Kahului Airport and its related improvements.

As a result, the proposed project is not anticipated to have an adverse effect on any significant archaeological or historic resources.

3. **Scenic and Open Space Resources**

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

Policies:

1. Identify valued scenic resources in the coastal zone management area;
2. Insure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural land forms and existing public views to and along the shoreline;
3. Preserve, maintain and, where desirable, improve and restore shoreline open space and scenic resources; and
4. Encourage those developments which are not coastal dependent to locate in inland areas.

Response: The proposed project will not impact coastal scenic and open space resources and is not anticipated to affect scenic view corridors.

4. **Coastal Ecosystems**

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

Policies:

1. Improve the technical basis for natural resource management;
2. Preserve valuable coastal ecosystems of significant biological or economic importance;
3. 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
4. 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 development of the proposed facility is not anticipated to affect coastal ecosystems. Appropriate soil mitigation measures will be implemented during the construction of the proposed improvements.

5. **Economic Uses**

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

Policies:

1. Concentrate coastal dependent development in appropriate areas;
2. 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
3. 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:
 - a. Utilization of presently designated locations is not feasible; and
 - b. Adverse environmental effects are minimized.

Response: The economy of the State is heavily dependent upon air travel. By providing adequate training facilities, the proposed project will enable ARFF personnel to maintain a level of preparedness and proficiency required to address public safety requirements.

6. **Coastal Hazards**

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

Policies:

1. Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

-
2. Control development in areas subject to storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;
 3. Ensure that developments comply with requirements of the Federal Flood Insurance Program;
 4. Prevent coastal flooding from inland projects; and
 5. Develop a coastal point and nonpoint source and pollution control program.

Response: The project site is located within an area of 100-year coastal flooding with wave action. Accordingly, the project will comply with the Flood Hazard Area requirements, reflected in Chapter 19.62 of the Maui County Code.

Utilizing surface sheet flows similar to existing drainage patterns, runoff will flow into the area north of the project site where it will be trapped by local depressions and retained until evaporation or percolation occur. The proposed project is not anticipated to have any adverse drainage effects on adjacent or downstream properties.

7. **Managing Development**

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

Policies:

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

-
2. Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and
 3. Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the general public to facilitate public participation in the planning and review process.

Response: All aspects of development will be conducted in accordance with applicable Federal, State, and County requirements. Opportunities for reviewing the proposed action are available through the early consultation, and public notification, review, and comment processes.

8. **Public Participation**

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

Policies:

1. Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program;
2. 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
3. Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Response: As previously noted, opportunities for agency and public review of the proposed action are provided through Federal and State notification, review, and comment processes, as well as the County Special Management Area permitting process.

9. **Beach Protection**

Objective: Protect beaches for public use and recreation.

Policies:

1. Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;
2. 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 water line activities; and
3. Minimize the construction of public erosion-protection structures seaward of the shoreline.

Response: The proposed action is not anticipated to interfere with existing recreational and shoreline activities.

Chapter V

***Summary of Unavoidable, Adverse
Environmental Effects; Alternatives
to the Proposed Action; and the
Irreversible and irretrievable
Commitment of Resources***

V. SUMMARY OF UNAVOIDABLE, ADVERSE ENVIRONMENTAL EFFECTS; ALTERNATIVES TO THE PROPOSED ACTION; AND THE IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

A. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

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 site preparation and construction activities. In addition, there may be temporary air quality impacts associated with dust generated from construction activities, and exhaust emissions discharged by construction equipment.

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

B. ALTERNATIVES TO THE PROPOSED ACTION

1. No Action Alternative

In light of the established need for the proposed improvements, the "no action alternative" does not represent a responsible option in addressing public safety requirements as well as promoting and maintaining the proficiency and readiness of ARFF personnel.

The proposed site will also enable fire fighters to receive realistic training in a safe, controlled setting without interrupting ongoing airport operations.

C. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The proposed development of the ARFF training facility would involve the commitment of fuel, labor, funding, and material resources.

Development of the proposed project will involve the commitment of land for improvements which will preclude other land options for the site. This commitment of land resources is consistent with existing and future land uses in and around the project area.

Chapter VI

Findings and Conclusions

VI. FINDINGS AND CONCLUSIONS

The proposed project will involve the construction of a Fuel Spill Fire Trainer (FSFT), an 8-inch off-site water line, an underground fuel storage and delivery system, an underground fuel and water recovery system, an underground fuel and water separation system, an underground leak detection system, a holding pond, a control shed, and additional related improvements.

Since the proposed improvements involve State land and funding, this Environmental Assessment (EA) has been prepared pursuant to Chapter 343, HRS and Chapter 200 of Title 11, Department of Health Administrative Rules. Because the project site falls within the County of Maui's Special Management Area (SMA), an application for a SMA Use Permit will also be filed with the County's Planning Department.

The development of the proposed facility will involve short-term environmental impacts typically associated with construction activities. To minimize dust, mitigation measures include using waterwagons and/or sprinklers, and covering exposed graded areas with grass, gravel, or pavement upon completion of finish grading. Ambient noise conditions may also be temporarily affected by construction activities; however, due to the remote location of the project site, noise impacts to adjoining developed areas are not anticipated to have any adverse effects. Due to its location within a flood hazard area, coordination with appropriate governmental agencies will be initiated to ensure conformance with applicable design and construction standards.

From a long-term perspective, the proposed project is not anticipated to result in any adverse environmental impacts. There are no known rare or endangered species of flora or fauna situated within proximity of the project site. Due to previous widespread alterations and disturbances associated with past grading and clearing activities related to the development of Kahului Airport, the

proposed project is not anticipated to impact any archaeological or historic resources. The proposed improvements are not part of a scenic corridor and are not anticipated to have an adverse impact upon the visual character of the surrounding area.

With regard to short-term socio-economic impacts, construction-related employment is anticipated to have a positive effect on the local economy.

In the long-term, the proposed actions are not anticipated to have any adverse impacts upon public services or infrastructure systems.

The proposed facility will also enable Aircraft Rescue and Fire Fighting (ARFF) personnel to address Federal Aviation Agency (FAA) requirements for training and certification and ensure that public safety objectives are adequately fulfilled.

Based on an assessment of the proposed actions, the development of the ARFF training facility will not result in any significant environmental impacts.

Chapter VII

***Agencies Consulted During
the Preparation of the
Environmental Assessment***

**VII. AGENCIES CONSULTED DURING THE PREPARATION OF
THE ENVIRONMENTAL ASSESSMENT**

1. State of Hawaii
Department of Transportation
Airports Division
Kahului Airport
Kahului, Hawaii 96732
2. County of Maui
Department of Public Works
and Waste Management
Wastewater Reclamation Division
200 South High Street
Wailuku, Hawaii 96793
3. County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

Chapter VIII

***Correspondence Received
During the Public Comment
Period and Responses
to Substantive Comments***

VIII. CORRESPONDENCE RECEIVED DURING THE PUBLIC COMMENT PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

JUN 5 1995

ISAAC DAVIS HALL

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(808) 244-9017
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OF COUNSEL
D. RICHARD DESECK

June 5, 1995

Via Facsimile and U.S. Mail
838-8750

Mr. Owen Miyamoto, Administrator
Airports Division, Dept. of Transportation
State of Hawaii
400 Rodgers Blvd. #700
Honolulu International Airport
Honolulu, HI 96819-1880

Re: Comments upon Draft Environmental Assessment for the Kahului
Airport Aircraft Rescue and Firefighting Training Facility

Dear Owen Miyamoto:

This letter is written on behalf of the Sierra Club, Mary Evanson, the Maui Air Traffic Association, Inc., Stephen Pitt, James Bardon, Hul Alanui o Makena, Dana Naone Hall and the National Audubon Society. The Department of Transportation, Airports Division ("DOT") has prepared a Draft Environmental Assessment ("DEA") for an agency action to construct an Aircraft Rescue and Firefighting ("ARFF") training facility situated at the Kahului Airport, Kahului, Maui, Hawaii. According to the OEGC Bulletin, comments on this DEA are due by June 7, 1995. See Exhibit "1". DOT has also filed an application for a special management area ("SMA") use permit for this project. Notice of the receipt of this application by the County of Maui Planning Department was published in the May 21, 1995 edition of the Maui News. See Exhibit "2".

This DEA and SMA application have been prepared, processed and filed in direct contravention of the "Stipulation and Order" filed on January 18, 1994 in *Sierra Club et al. v. Walker et al.*, Civ. No. 92-06981(1). This Order is attached as Exhibit "3". Paragraph 2 of this Order provides as follows:

DOT Defendants shall take no further actions, within the meaning of NEPA and HRS Chapter 343, to implement the Kahului Airport Master Plan dated June, 1993, including but not limited to, the filing of further processing of any applications for governmental permits or approvals, such as the change in zoning application before the Maui County Council, until (a) the single or joint EIS is

prepared in accordance with this Court's prior orders, NEPA and HEPA and the regulations promulgated thereunder and accepted and a Record of Decision is issued, and (b) the single or joint EIS, the acceptance letter and Record of Decision are delivered to all parties. (Emphasis added.)

The ARFF is a project which is a component of the Kahului Airport Master Plan, dated June, 1993. See §2.2.14.2 of this Master Plan. See Exhibits "4" and "5". The ARFF facility itself was completed in 1978. The proposed training area for the ARFF crew is to be located on the west side of Runway 5-23.

It is undisputed that the ARFF training area is one component of the Kahului Airport Master Plan. It is also undisputed that the single or joint EIS has not been prepared; it has not been accepted and a Record of Decision has not yet been issued.

DOT's filing and processing of an application for a component of the Master Plan not only violates the "Stipulation and Order" discussed above, it also violates Chapter 343 and the regulations promulgated thereunder. As a component of a larger total undertaking, it is illegal to segment the component for separate treatment without treating the larger total undertaking as a "single action." See H.A.R. §11-200-7. A state and federal EIS is already being prepared for the "single action" or the larger total undertaking. A Negative Declaration cannot be issued for this segmented project, as a matter of fact and law, while an EIS is under preparation for the larger total undertaking.

It would also be illegal for the Maui Planning Commission to enter a Negative Declaration with regard to a single segment of the larger total undertaking for which an EIS is being prepared. The Maui Planning Department cannot declare the SMA application complete until the federal and state EIS is published, accepted and a Record of Decision issued.

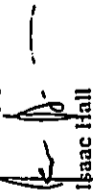
Based upon the description of this component, it should be clear that this component, even if taken by itself, may have a significant impact upon the environment. DOT's consultants have admitted that wetlands exist in the area. The drainage impacts of this project may harm these wetlands. DOT's consultants have not addressed the impacts of smoke and other pollutants upon the users of the adjoining bikeway and parklands. See Exhibit "6".

Based upon the above, we demand that DOT withdraw its DEA and SMA permit application; that the SMA application be determined to be incomplete until and unless the federal and state EIS is accepted and a Record of Decision is issued and that an EIS be required for this project because it is a component of a larger total undertaking for which an EIS is already being prepared.

Thank you for the opportunity to comment on these matters. Please provide a written response as soon as possible. If the DEA and SMA application are not withdrawn promptly, we will file a motion in the Circuit Court to compel compliance with the "Stipulation and Order" referenced above.

Please contact me if you have any questions about any of the above. I look forward to hearing from you.

Sincerely yours,


Isaac Hall

IH/jp
cc: Lane Ishida
OEQC
Michael Muncieyo
Maui Planning Department
Maui Planning Commission
EIS clients
Encl.

BENJAMIN J. CAYETANO
Governor
GARY GILL
Director



OEQC Bulletin

VOLUME XII MAY 23, 1995 NO. 10
REGISTER OF DOCUMENTS PREPARED UNDER CHAPTER 343, HAWAII REVISED STATUTES

The OEQC Bulletin is a semi-monthly publication. The publication dates of the OEQC Bulletin are the eighth and twenty-third of each month. Environmental Assessments should be submitted to the appropriate agency directly. For environmental assessments (EA) for which a Negative Declaration is anticipated, agencies should submit four copies of the Draft EA with a letter stating that a Negative Declaration is anticipated and that notice of the Draft EA should be published in the OEQC Bulletin. (When an agency initially determines that an EIS will be required for a project, an EIS Preparation Notice determination is made. No Draft EA is required since these projects undergo two comment periods throughout the EIS process.) After the Draft EA comment period ends, the agency will submit to OEQC, four copies of the document and a determination of a Negative Declaration or an EIS Preparation Notice for publication in the OEQC Bulletin. Applicants should deliver an appropriate number of Draft and Final Environmental Impact Statements (EIS) to the accepting authority before submitting copies to OEQC for publication. All documents submitted for publication in the OEQC Bulletin should be delivered to the Office of Environmental Quality Control, 220 South King Street, 4th Floor, Honolulu, Hawaii 96813. The deadline for all submissions is eight working days prior to the publication date. To ensure proper processing of documents, please attach the OEQC Bulletin Publication Form (Revised July, 1992) with all submissions. This form can be obtained by calling OEQC at 818-4186.

Please contact the approving or proposing agency to request copies of any Draft EAs, Negative Declarations, EIS/NEIS or EISs. Any questions related to this content of these documents should be directed to the listed agency contact person.

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OFFICE OF ENVIRONMENTAL QUALITY CONTROL
220 South King Street, Central Pacific Plaza, Suite 400, Honolulu, HI 96813
Telephone: (808) 586-4181
Facsimile: (808) 586-2451

EXHIBIT I

- OTHER
- Shoreline Certification Applications 20
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DRAFT ENVIRONMENTAL ASSESSMENTS

A negative declaration determination is submitted for the following actions. Act 341, SLH 1992, was approved by the Governor on June 17, 1992, and became effective on that same date. The Act requires that environmental assessments for projects for which a negative declaration is anticipated, to undergo a 30-day comment period before a final determination is made. The comment period begins when the notice of availability of the draft EA is first published in the OECC Bulletin and ends 30 calendar days later. For agency actions, the proposing agency shall respond to all comments submitted within the 30-day period. For applicants, the applicant shall respond to all comments submitted within the 30-day period. See the deadlines below for comment period end dates.

HALO HOUSING

District: South Halo
TAK: 2-3-3201 (low J)
AGENCY: Department of Land and Natural Resources
P. O. Box 938
Halo, Hawaii 96721-0938
Applicant: Athena Home Town (933-4248)
Address: 1268 Waihanuanua Avenue
Halo, Hawaii 96720
Attendant: Brenda Nichols (938-1733)
Consultant: Roy Terry (812-8331)
HCI: 8378
Public Comment Deadline: June 22, 1998

HAWAII

HAKEEY AMENDMENTS TO ORIGINAL CONSERVATION DISTRICT USE PERMIT

District: North Kona
TAK: 7-1-0203
AGENCY: Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813
Attendant: Roy Schaefer (837-0377)
Applicants: Earl and Dotis Blakem
c/o Roy A. Vazourek III (831-9348)
Cedar Schutte Farming and Whiting
78-670 Hualalai Road, Suite B-302
Kalaheena, Hawaii 96740
Public Comment Deadline: June 7, 1998

Press send the original copy of your comments to the agency and duplicate copies of the comments to the applicant, consultant, and OECC.

The project site contains no valuable natural or cultural resources. Environmental impacts are negligible and consist of altering the scenery, which will be mitigated by landscaping, and minor addition to traffic levels on Waihanuanua Avenue.

REPTULIAN ESTATES ASSOCIATES DIRECT SALE OF STATE LAND FOR ACCESS AND UTILITY CORRIDOR

District: North Kona
TAK: 7-8-1213 and 22

rainlike running time. The system will be housed in an equipment storage structure to be built over existing water tanks. The system will include a heat recovery system and insulated piping and electrical conduits.

HALO HOUSING

District: South Halo
TAK: 2-3-3201 (low J)
AGENCY: Department of Land and Natural Resources
P. O. Box 938
Halo, Hawaii 96721-0938
Applicant: Athena Home Town (933-4248)
Address: 1268 Waihanuanua Avenue
Halo, Hawaii 96720
Attendant: Brenda Nichols (938-1733)
Consultant: Roy Terry (812-8331)
HCI: 8378
Public Comment Deadline: June 22, 1998

Homesite of Halo proposes to lease State land to construct and operate an outpatient center and administration building. The 1.85 acre portion of the parcel proposed for lease fronts Waihanuanua Avenue near Halo Hospital.

Homesite of Halo is a tax-exempt, non-profit organization dedicated to providing care for the terminally ill in East Hawaii. The basic goal is to assist them in facing impending death in comfort, peace and dignity, at no cost to the client or the client's family. During the last three years, the average annual number of clients served by Homesite of Halo has grown from less than 50 to over 100, and this base is expected to exceed 250 within 10 years.

This operation is currently housed in a designated 1,200-square foot cottage on the grounds of the Halo Medical Center. The facilities are inadequate in size and design for Homesite's purposes. Furthermore, the cottage is designated for retirement by the Halo Medical Center.

The project site contains no valuable natural or cultural resources. Environmental impacts are negligible and consist of altering the scenery, which will be mitigated by landscaping, and minor addition to traffic levels on Waihanuanua Avenue.

REPTULIAN ESTATES ASSOCIATES DIRECT SALE OF STATE LAND FOR ACCESS AND UTILITY CORRIDOR

District: North Kona
TAK: 7-8-1213 and 22

sample tray or directly to the bottom depending on the substrate. Upon completion of each experimental run all equipment will be removed from the substrate. Duration of each experimental run would be 2 weeks for the sediment traps and up to 24 hours for the chlo cards. Approximately one experiment would be run each month. It is expected that the program will be ongoing for at least a year to develop a complete profile of water movement and sediment dispersal within the bay in order to better understand observed changes in the reef dynamics.

KAHULUI AIRPORT AIRCRAFT RESCUE AND FIRE FIGHTING TRAINING FACILITY

District: Kahala
TAK: 3-8-01 (low J)
AGENCY: Department of Transportation, Airports Division
Honolulu International Airport
Honolulu, Hawaii 96819
Attendant: Owen Miyamoto (838-8800)
Consultant: Manulabo and Aulawa, Inc.
1823 Waike Street, Suite 3
Waihala, Hawaii 96783
Applicant: Michael Manulabo (324-2018)
Public Comment Deadline: June 7, 1998

The applicant, the State Department of Transportation - Airports Division, is proposing to construct an Aircraft Rescue and Fire Fighting (ARFF) training facility situated at Kahala Airport, Kahala, Maui, Hawaii. The proposed facility is located adjacent to, and north of, the Runway B-33 safety zone. Access to the project site is obtained by entering a controlled access security gate at the eastern terminus of Alhalee Street.

The approximately 2.0 acre project site is characterized by an open, paved asphalt concrete expanse located within the northern fenced perimeter of Kahala Airport. In addition to being occasionally used for aircraft parking, a portion of the site was formerly used for ARFF training exercises. With the exception of Kanaha Beach Park, a County recreational facility to the north, the lands immediately surrounding the project site are utilized entirely for airport operations.

The proposed facility will feature a modern fire fighting training system which will enable ARFF personnel to control and extinguish large scale, aircraft fuel spill fires under various conditions, while complying with Federal Aviation Agency requirements for annual fire-fighting training and certification. In addition to providing public safety as well as mission proficiency and readiness, the proposed facility will provide fire fighters with realistic training in a safe, controlled setting without interrupting ongoing airport operations.

The fuel and water delivery and recovery system will enable residual fuel and water to be recycled for subsequent use.

To address environmental, safety, and operational requirements appropriate construction materials and procedures, in conformance with applicable regulatory standards, will be implemented in the construction and operation of the proposed improvement. In addition, equipment engineered to meet all applicable government design criteria will be utilized in the operation of the proposed facility.

Approximately \$2.8 million has been allocated for the development of the proposed facility. Upon the receipt of all applicable permits construction is anticipated to commence in December, 1998. The construction of the proposed improvements is projected to last approximately nine (9) months.

KIHEE EAST UPOA STREET DRAINAGE IMPROVEMENT

District: Waialua
TAK: 3-8-02
AGENCY: County of Maui
Department of Public Works and Waste Management
200 South High Street
Waialua, Hawaii 96783
Attendant: Joe Koenig (243-7748)
Consultant: QMP Associates, Inc.
841 Bishop Street, Suite 1801
Honolulu, Hawaii 96813
Applicant: Marc Suth (821-4711)
Public Comment Deadline: June 22, 1998

The County of Maui, Department of Public Works and Waste Management proposes construction of a new drainage system on East Upoa Street. The improvements will address the flood hazard on East Upoa Street.

In the short-term, the impacts generated from the construction activities are not expected to be significant. During construction, soil erosion control measures will be implemented. Potential soil loss is anticipated to be minimal. Discharges from diverting will be routed to the current county drainage system, in conformance with all applicable, Federal, state, and county regulations. There are no impacts on water quality, and no known historical/archaeological features or reworked/unexcavated species of flora and fauna species in the project site. Noise control measures, such as muffling devices, are applicable to minimize noise impacts. Mitigation measures for dust control will be implemented through the use of spraying and watering to minimize emissions. Traffic monitoring and coordination shall be conducted to minimize traffic inconvenience.

In the long-term, the project is not anticipated to cause adverse impacts. Based on the history of runoff transport through existing drains into the State Regulation Reservoir, the proposed project is not expected to adversely affect the existing water quality or flow in the reservoir.



EXHIBIT 2

2ND CIRCUIT COURT
STATE OF HAWAII
FILED

MAY 19 1994

ROBERT A. MARKS 2163
Attorney General of Hawaii

LANE T. ISHIDA 3691
Deputy Attorney General
Department of the Attorney
General, State of Hawaii
300 Kukuanao's Building
465 South King Street
Honolulu, Hawaii 96813
Phone: (808) 587-2990

Attorneys for Plaintiff

IN THE CIRCUIT COURT OF THE SECOND CIRCUIT
STATE OF HAWAII

SIERRA CLUB, a California
non-profit corporation;
et al.,

CIVIL NO. 92-0698 (1)
(DECLARATORY RELIEF)

Plaintiffs,

vs.

JOHN WAIHEE, in his capacity
as Governor of the State of
Hawaii; et al.,

Defendants.

10599

STIPULATION AND ORDER

Plaintiffs SIERRA CLUB; HARY EVANSON; MAUI AIR
TRAFFIC ASSOCIATION, INC.; STEPHEN PITT; JAMES BEIDON; HUI
ALANUI O MAHEHA; DANA NACHE HALL; and NATIONAL AUDUBON SOCIETY
("Plaintiffs"); Defendants JOHN WAIHEE; DEPARTMENT OF
TRANSPORTATION, STATE OF HAWAII; REX D. JOHNSON ("DOT
Defendants"); and Defendants STATE LAND USE COMMISSION, STATE
OF HAWAII; and RENTON L. K. NIP ("SLUC Defendants"), through
their respective undersigned counsel, have reached a stipulated

EXHIBIT 3

Agreement resolving some of the issues raised in this case which these parties request that this Court enter as the Stipulated Order which follows:

WHEREAS, Plaintiffs filed the above-captioned lawsuit which asserts three claims for Relief: (1) Count I, *Inter Alia*, alleges that the Final Environmental Impact Statement ("current EIS") prepared by DOT Defendants is not legally adequate under HRS Chapter 343 and the acceptance of the EIS by Defendant Hainee must therefore be voided; (2) Count II, *Inter Alia*, alleges that the EIS was not prepared in accordance with the Stipulated Order entered by this Court on March 12, 1991, in *SLEKTA CLUB v. DOT*, Civil No. 89-0336(1); and (3) Count III, *Inter Alia*, alleges that because the EIS is inadequate, DOT Defendants are forbidden from implementing the project, including through seeking governmental permits or approvals from the State Land Use Commission and other approving entities;

WHEREAS, this Court has already entered an Order in this case on June 2, 1993, requiring, among other matters, DOT Defendants to prepare a single or joint EIS with the Federal Aviation Administration in accordance with the procedural, format and content requirements set forth in the National Environmental Policy Act ("NEPA"), 42 U.S.C. 5432 et seq. and the Hawaii Environmental Policy Act ("HEPA"), HRS Chapter 343, and the regulations respectively promulgated thereunder;

WHEREAS, the DOT Defendants have begun preparing the single or joint EIS referenced above;

WHEREAS, ¹⁴trial is not scheduled in this case for the week of January 18, 1994; and

WHEREAS, all parties are in agreement that to forward the policies in favor of increasing judicial economy, decreasing the costs of litigation and encouraging settlement, the following Stipulated Order should be entered and, upon approval by this Court, is effective:

IT IS HEREBY ORDERED, ADJUDGED AND DECREED:

1. The DOT Defendants shall file a Motion in Docket No. A92-684 before the State Land Use Commission, in time to have the Motion heard on January 27, 1994, seeking a continuance of these proceedings pending (a) the completion, acceptance and issuance of a Record of Decision for the single or joint EIS prepared in accordance with this Court's prior orders, NEPA and HEPA and the regulations promulgated thereunder, and (b) the delivery of the single or joint EIS, the acceptance letter and Record of Decision to all parties. The SJUC Defendants shall hear and act upon this Motion before proceeding further with the Intervenor's case. A continuance may be conditioned upon Intervenor's completion of its case in chief on the proposed projects, as currently described, and the current EIS.


2. DOT Defendants shall take no further actions, within the meaning of NEPA and HRS Chapter 343, to implement the Kahului Airport Master Plan dated June 1993, including but not limited to, the filing or further processing of any

applications for governmental permits or approvals, such as the change in zoning application before the Maui County Council, until (a) the single or joint EIS is prepared in accordance with this Court's prior orders, NEPA and HEPA and the regulations promulgated thereunder and accepted and a Record of Decision is issued, and (b) the single or joint EIS, the acceptance letter and Record of Decision are delivered to all parties. The DOT Defendants shall instruct all permitting entities before whom applications are now pending to cease processing these applications until further order of this Court. Once the acceptance and Record of Decision are issued, Plaintiffs are free to pursue any legal actions or remedies which they deem to be appropriate.

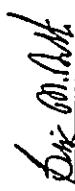
3. Upon the resumption of the evidentiary hearings in the boundary amendment proceedings referenced above, the single or joint EIS shall be introduced into evidence and, thereafter, the Intervenor shall be permitted to present further evidence which is relevant to: (a) changes in the size, scope, location or timing, among other things, of the actions as described to data in the boundary amendment proceedings and the current EIS; (b) new or different anticipated environmental impacts; (c) changes in proposed mitigation measures; and (d) new circumstances or evidence which bring to light matters not previously discussed to date in the boundary amendment proceedings or the current EIS.

4. Other than those matters explicitly agreed to above, the parties do not waive any of their rights pursuant to NEPA, HRS Chapter 91, Chapter 343 or the orders of this Court.
5. This Court shall retain continuing jurisdiction to review compliance with this Order and, upon satisfactory performance by all parties, may consider the dismissal of this lawsuit.


DATED: Honolulu, Hawaii, _____


Lane T. Ishida
Deputy Attorney General

Attorney for DOT Defendants


Benjamin Matsubara
Hervyn M. Kotake
Attorneys for SIUC Defendants

DATED: Wailuku, Hawaii, 11.13.94


Paul P. Spaulding, III
Isaac Hall
Attorneys for Plaintiffs

APPROVED AND SO ORDERED:

7/13/94

JUDGE OF THE ABOVE-ENTITLED COURT

IN THE CIRCUIT COURT OF THE SECOND CIRCUIT, STATE OF HAWAII;
SIERRA CLUB, et al. v. WAHEE, et al.; Stipulation and Order

KAHULUI AIRPORT MASTER PLAN

Kahului Airport, Kahului, Maui

The preparation of this document was financed in part through a planning grant from the Federal Aviation Administration as provided under Section 505 of the Airport and Airway Improvement Act of 1982, as amended. The contents do not necessarily reflect the official views or policies of the FAA. Acceptance of this report by the FAA does not constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public laws.

Prepared for:
State of Hawaii
Department of Transportation
Airports Division

June 1993
Prepared by:
Belt Collins & Associates
Aires Consultants Ltd.

The rental car counters are situated in a relatively new, State-owned building constructed for that purpose opposite the northern end of the main passenger terminal parking area. As previously noted, a limited number of parking stalls are situated immediately south of the rental car counters for ready and return vehicles.

2.2.14 AIRPORT SUPPORT FACILITIES

2.2.14.1 FAA Air Traffic Control Tower

The FAA Air Traffic Control Tower complex, which includes offices for the FAA and the National Weather Service, was completed in 1988. It is located east of the General Aviation T-hangars. Underground communication lines link the FAA Air Traffic Control Tower with the Airport Surveillance Radar (ASR), new Radio Transmitter/Receiver Building, and new Airfield Lighting Vault.

Because of the Air Traffic Control Tower's location relative to terrain and buildings that have been constructed adjacent to the East Ramp, certain portions of the apron used by helicopters cannot be seen by controllers. This complicates the task of controlling the ground movement of these aircraft. The northernmost portion of the new passenger terminal obstructs the controllers' views of Taxiway "H", portions of Taxiway "F", and the commuter terminal apron.

2.2.14.2 Aircraft Rescue and Firefighting (ARFF)

The Aircraft Rescue and Firefighting (ARFF) facility abuts the apron on the west side of Runway 2-20. It has direct access to the aircraft operating area which helps ARFF crews to respond quickly to fires in the passenger terminal complex area. Completed in 1978, the structure is in relatively good condition. Six firefighting and rescue trucks are assigned to the station. These include two 3,000-gallon and two 1,500-gallon capacity firefighting trucks, one rescue truck, and one 4-wheel drive utility vehicle. Airfield access, however, from the station has been compromised by the new holdrooms, and the Airports Division has a new ARFF facility under construction on the East Ramp.

The training area for the ARFF crew is located on the west side of Runway 5-23. It is a remote area and well-screened by vegetation from public view. This training area is readily accessible from the aircraft operating area, as well as from the Airport via Alahao Street. The prevailing winds blow smoke generated by practice operations away from the passenger terminal.

2.2.14.3 State DOT Maintenance Baseyard Facility

The State DOT maintenance baseyard and associated buildings are located in the industrial area on the east side of Keolu Place. The industrial area has a number of other tenants. These include the State Highways Division, Hawaii Air National Guard, Department of Land and Natural Resources, Maui County Water Department, and various private businesses.

2.2.14.4 Airline Ground Equipment Maintenance

The airlines at Kahului Airport use a portion of the ramp located to the east of the intersection of Taxiway "G" and Taxiway "F" and leading to the commuter aircraft parking apron, to maintain ground support equipment. Because of the area's proximity to the VORTAC

EXHIBIT 4

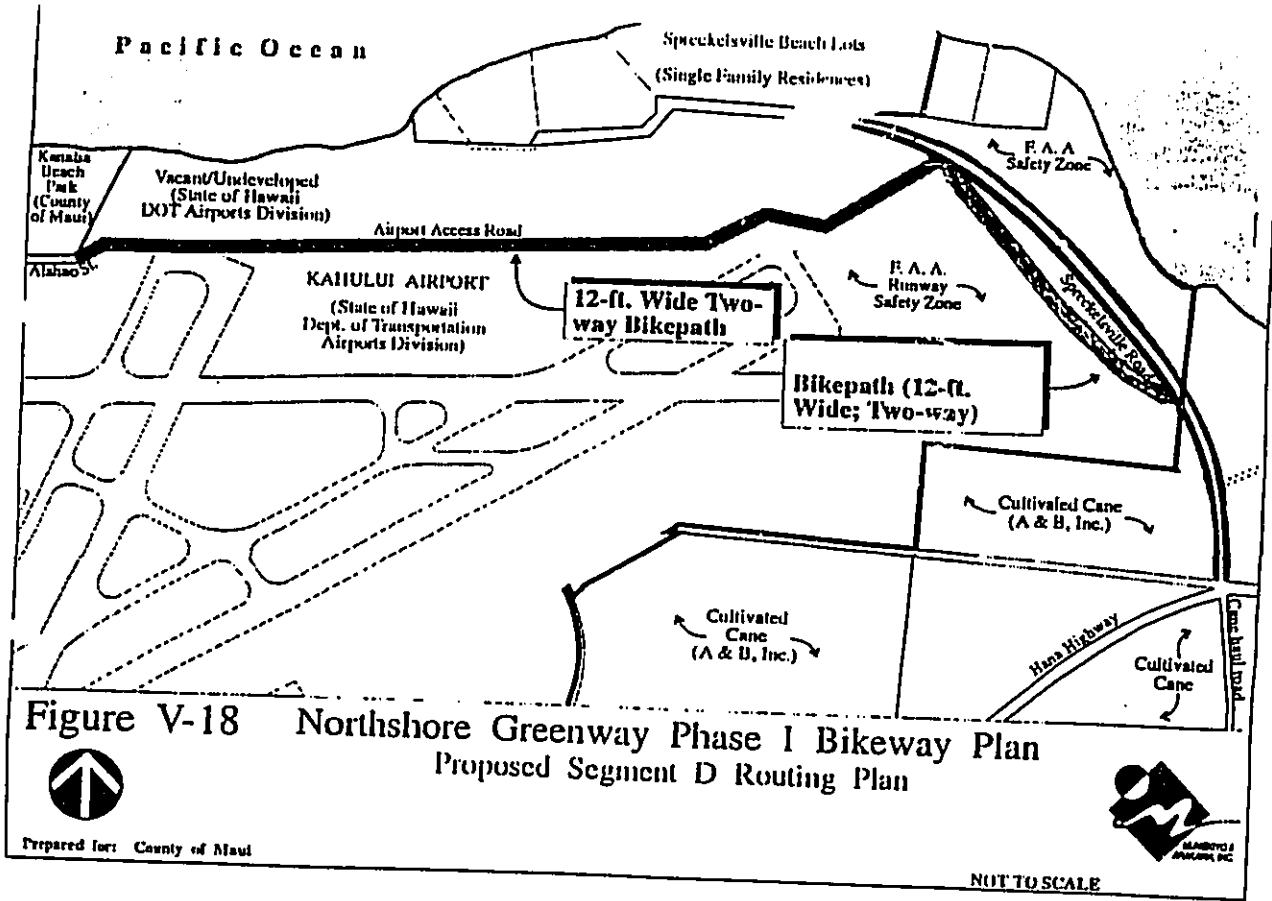
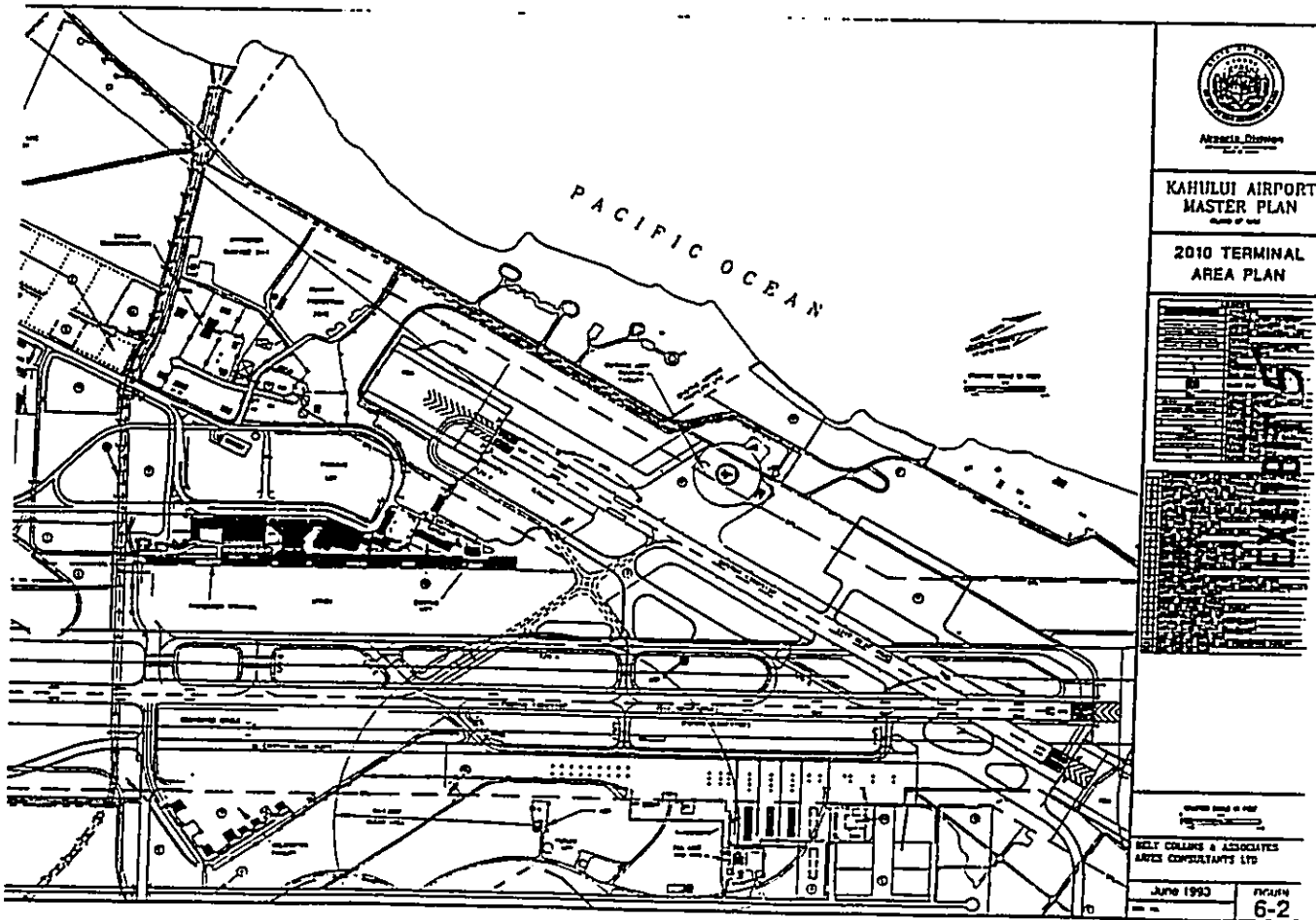


EXHIBIT 6





STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
100 BOODESS BOULEVARD, SUITE 200
HONOLULU INTERNATIONAL AIRPORT - HONOLULU, HAWAII 96819-1880

JERRY H. MATSUDA
DIRECTOR
GENERAL MANAGER

PM 11:45
AUG 7 1995

AIR-EPH
95-1515
NEW/REFER TO:

Hr. Isaac Davis Hall, Esquire
2087 Hell Street
Kaliuku, Hawaii 96793

Dear Mr. Hall:

Subject: Comments Submitted on Draft Environmental Assessment
for Kahului Airport Aircraft Rescue and Firefighting
Training Facility

This letter is in response to your letter dated June 5, 1995,
regarding your comments on the subject draft environmental
assessment. This letter is also to assure you that this project
is indeed the same project which has already been litigated in
Sletta Club, et al., v. Department of Transportation, et al.,
Civil No. 89-0336 (1).

As you recall, in Civil No. 89-0336 (1), the Plaintiffs (the
identical people you represent in your June 5, 1995 letter)
brought a lawsuit challenging the environmental assessment
prepared for the "Kahului Airport Development Plan, State Project
No. AM1040-01." The same allegations of "segmentation" of
projects that were made in that lawsuit are being reincarnated
again, here. In order to resolve that lawsuit, the parties
entered into a stipulation to dismiss Civil No. 89-0336 (1). See
Exhibit "A", attached hereto. "Due to the public benefit and/or
lack of adverse impact" the plaintiffs agreed to waive their
objection that several projects required an environmental impact
statement. Paragraph 3 of the stipulation resolving that
lawsuit, states, in part:

"3. Plaintiffs shall waive any objections to the lack of an
EIS covering the following Short-Term Development and other
enumerated projects for the Kahului Airport, due to their
public benefit and/or lack of adverse impact:

- D. Construction of a new crash fire rescue station
and training facility (D,P) [.]"

Hr. Isaac Davis Hall, Esquire
Page 2
July 25, 1995

AIR-EPH
95-1515

The "D" and "P" refer to the two project descriptions in the
Kahului Airport Development Plan. See Exhibit "B", attached
hereto. The crash fire rescue station has been constructed and
the training facility is this project. As you can tell from
Figure 6.2 attached as Exhibit "B", project "P" is in the same
location.

For your reference, enclosed is the scope of work for the design
consultant for this project as contemplated by the Department of
Transportation, in 1990. See Exhibit "C", attached hereto. This
is the same project contemplated back in 1990.

Notwithstanding the waiver by plaintiffs to challenge the prior
environmental assessment of this project, the Department of
Transportation has performed a second environmental assessment
exclusively for this project to seek further information of
possible environmental impact.

The Aircraft Rescue and Fire Fighting (ARFF) Training Facility
project currently at issue is not a new project proposed by the
Kahului Airport Master Plan. Paragraph 2.2.14 in the Master Plan
attached to your letter merely identifies Airport Support
Facilities. The ARFF Training Facility is a support facility at
the Kahului Airport.

The stipulation entered into in the first lawsuit is still viable
as to both parties. The purpose of Sletta Club, et al., v. John
Halgee, et al., Civil No. 92-0698 (1) was to ensure compliance
with the first lawsuit.

In response to your concerns relating to drainage impacts to
wetlands and air quality impacts to adjoining recreational areas,
we provide the following:

According to the Drainage and Soil Erosion Control Study
prepared for the proposed facility, the project site
presently generates a storm flow of approximately 10.6 cubic
feet per second (cfs) for a storm with a 10-year recurrence
interval. The proposed facility's berm pit and holding pond
will be provided with perimeter curbs and CHU walls,
respectively, and will also include containment liners to
prevent liquids from leaching into the ground. Rainfall
captured by these proposed improvements will be retained on-
site, thereby decreasing the storm runoff currently
generated by the site from approximately 10.6 cfs to 7.7
cfs, a reduction of approximately 2.9 cfs.

Mr. Isaac Davis Hall, Esquire
Page 3
July 25, 1995

AIR-EPH
95.1515

The reduced developed runoff will utilize existing drainage patterns and convey runoff onto the undeveloped lands north of the project site where it will be trapped and retained in local depressions and pockets until it percolates into the ground or is lost to the atmosphere by evaporation. It should be noted that the County of Maui, Department of Parks and Recreation has indicated that the proposed project will not impact park usage and accordingly, does not have any objections to the project. See Exhibit "D".

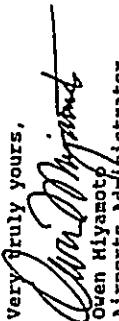
With regard to wetland impacts, the U.S. Army Corps of Engineers, has recently indicated that no wetlands, streams, or other waters of the U.S. will be affected by the project. Accordingly, the Corps has indicated that Department of the Army permit will not be required. See Exhibit "E".

As with previous training exercises, the State Department of Transportation, Airports Division will notify the public of any scheduled training exercises, through coordination with local radio stations, as well as the Maui Fire Department and Maui Police Department.

Federal Aviation Administration (FAA) standards require a minimum of one (1) hot-fire training exercise for annual certification. To ensure public safety as well as promote proficiency and readiness, approximately three (3) training exercises are proposed to be scheduled each quarter. Each training exercise is anticipated to last about three (3) to five (5) minutes in duration. To minimize air quality impacts, training exercises will consider favorable wind conditions to ensure that smoke will be dispersed away from populated areas. Since the smoke resulting from the training exercises will be of limited duration and quickly dispersed by the prevailing wind, no lasting adverse impacts to ambient air quality are anticipated as a result of the training exercises.

We hope that this letter alleviates your concerns. Thank you for your comments and interest in this project.

Very truly yours,


Owen Miyamoto
Airports Administrator

Enclosures: Exhibits A, B, C, D and E

cc: Project Managers Hawaii, Inc., AIR-EP

ARNOLD L. LUM 3523-0
Sierra Club Legal Defense Fund, Inc.
212 Merchant Street, Suite 202
Honolulu, HI 96813
Telephone: 808-599-2436

ISAAC HALL 2238-0
2087 Wells Street
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Attorneys for Plaintiffs

IN THE CIRCUIT COURT OF THE SECOND CIRCUIT

STATE OF HAWAII

SIERRA CLUB, a California
non-profit corporation,
et al.,

Plaintiffs,

vs.

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII, et al.,

Defendants.

Civil No. 89-0336(1)

STIPULATION BETWEEN
PLAINTIFFS AND
DEFENDANTS TO PREPARE
ENVIRONMENTAL IMPACT
STATEMENT AND TO DISMISS
COMPLAINT FOR DECLARATORY
AND INJUNCTIVE RELIEF AND
ORDER

STIPULATION BETWEEN PLAINTIFFS AND DEFENDANTS TO PREPARE
ENVIRONMENTAL IMPACT STATEMENT AND TO DISMISS COMPLAINT
FOR DECLARATORY AND INJUNCTIVE RELIEF AND ORDER

WHEREAS, the Hawaii Department of Transportation ("DOT")

prepared a Kahului Airport Development Plan, including
Revisions thereto ("Plan"), describing in said Plan those
projects which are to be undertaken in connection with: (1) a
Short-Term Development Plan, and (2) a Long-Term Development
Plan for the Kahului Airport at Kahului, Maui, Hawaii
("Airport"), pursuant to which Plan the Airport will be
expanded; and

EXHIBIT "A"

31 MAR 12 P1:42

CLERA L. AKOYAMA

2/11/01

WHEREAS, state and federal funds have been and will be expended on, and state land has been and will be allocated for use by, the projects described in the Plan; and

WHEREAS, the DOT prepared an Environmental Assessment ("EA") addressing the projects described in the Short-Term Development Plan; and

WHEREAS, Defendants published on May 21, 1989 a Negative Declaration for the projects described in the EA for the Short-Term Development Plan; and

WHEREAS, Defendants began to implement several of the projects described in said EA, through the expenditure of state funds and use of state lands; and

WHEREAS, plaintiffs filed on August 5, 1989 a Complaint for Declaratory and Injunctive Relief in the above-entitled action seeking, *inter alia*, the (1) withdrawal of the Negative Declaration; (2) publication of an Environmental Impact Statement ("EIS") Preparation Notice; (3) preparation of an EIS addressing the projects described in the EA for the Short-Term Development Plan; and (4) cessation by Defendants of the expenditure of state funds and use of state lands to implement the projects described in said EA, pending acceptance of said EIS pursuant to the provisions set forth in Chapter 343, HRS; and

WHEREAS Defendants agree and acknowledge that, when viewed together as a whole, some projects described in the Short-Term and Long-Term Development Plans may have a

significant effect on the environment within the meaning of Chapter 343, HRS; and

WHEREAS, the Kahului Airport Master Plan Update EIS Preparation Notice was filed with the DEQC on July 8, 1990. A 30-day review period to provide comments or request "consulted party" status ensued. Additionally, two (2) scoping meetings were held on October 4, 1990 to further allow interested and affected individuals and organizations an opportunity to present their concerns and identify issues relevant to the EIS preparation. These issues and concerns will be incorporated and addressed in the Draft EIS (DEIS) document. Plaintiffs agree that Defendants have complied with Preparation Notice and scoping requirements so long as the issues raised during the scoping sessions and in this stipulation are among the subjects of the EIS and consultation concerning these issues actually takes place.

WHEREAS, Defendants have agreed to prepare an EIS which will address: (1) the Long-Term Development Plan projects; (2) the Short-Term Development Plan projects described in the EA, except as stipulated to herein; and (3) certain other projects enumerated in paragraph 1, below:

NOW THEREFORE, Plaintiffs and Defendants stipulate and agree that:

1. Defendants shall prepare, in accordance with the procedural, format and content requirements set forth in HRS §343, the Hawaii Environmental Policy Act, and 42 U.S.C.

§4332 et seq., the National Environmental Policy Act, including the rules and regulations thereunder, (1) an EIS covering both the Long-Term Development Plan projects and (2) the following Short-Term Development Plan and other enumerated projects for the Kahului Airport:

- A. Development of the commercial development area east of Runway 5-23 (H-K);
- B. Construction of the transient aircraft parking apron on the west side of Runway 5-23 (K);
- C. Construction of the access or ramp service road connecting the transient aircraft parking apron with the new passenger terminal and the east ramp (K);
- D. Development of new lease sites in the ground transportation subdivision area across Kaliahnuui Gulch (J);
- E. Construction of a new general cargo facility (G);
- F. Construction of a new hold cargo facility (L);
- G. Provision of a lease site on Airport property for the development of a flight kitchen facility (R);
- H. Provision of a lease site and pipeline right-of-way for the development of the bulk fuel storage facility (Q,U,V);
- I. Construction or implementation of a new general aviation facility (G);

J. Construction or implementation of the long term phase of the helicopter facility (E);

K. Expansion or improvement of utility and drainage systems on the East Ramp to service airport facility development ();

L. Acquisition of approximately 190 acres of additional land for airport development, and for the Kahului Airport land bank, including Parcels 135-A and 5-A as identified by the State of Hawaii, Department of Transportation; however, excluding approximately 126 acres of land which is necessary for the development of the terminal access roadway, for the widening of Keolani Place from the Kahului Airport boundary to Dairy Road, and for the widening of Hana Highway;

M. Construction of the runway pavement strengthening project for Runway 2-20 and the taxiways overlay, not to include emergency repairs necessary to keep the runway open ();

N. Construction of Phase II of the new passenger terminal building, a long term project identified in the March 1989 Kahului Airport Development Plan (Revision 1) and shown as part of the Long-Term Development Plan on Figure 6.1 (Revision 1)(A);

O. Improvement of terminal facilities for Air Scenic Tour passengers (F); and

P. Construction of the Helicopter/Scenic Tour connector taxiways (B-B);

Q. Construction of the Airport passenger terminal access road (X-Y);

2. Plaintiffs shall waive any objections to the lack of an EIS covering the following Short-Term Development Plan projects for the Kahului Airport which are either complete or substantially complete, and/or for which a prior negative declaration has been issued:

A. Construction of the Kaliahinui Gulch

improvements ();

B. Construction of Phase I of the new passenger terminal building as identified in the 1981 Environmental Assessment for said project and the March 1989 Kahului Airport Development Plan (Revision 1) as part of the Short-Term Development Plan in Figure-6-2 (Revision 1)(A);

C. Construction of the circulation roadways and vehicular parking facilities at the Airport (A);

D. Construction of the 1,000 foot runway safety area at the southern end of Runway 2-20, including the perimeter access road (A-A); however, this provision shall be subject to the terms of paragraph 1) herein;

E. Widening of Keolani Place from the western boundary of the Airport to Dairy Road (); and

F. Relocation of the Traffic Control Tower and VORTAC installations (N,T);

3. Plaintiffs shall waive any objections to the lack of an EIS covering the following Short-Term Development and other enumerated projects for the Kahului Airport, due to their public benefit and/or lack of adverse impact:

A. Construction of a security fence around the Airport perimeter, subject to later relocation (M);

B. Construction of the post office and access ramp (C-C), provided that, should the Puunene Airport be reopened on a temporary or long-term basis, one alternative to be studied in the EIS is the location or relocation of the Post Office to Puunene;

C. Development of the Maui County baseyard at the airport ();

D. Construction of a new crash fire rescue station and training facility (D,P);

E. Acquisition of approximately 126 acres of land for the development of the Airport passenger terminal access road, for the widening of Keolani Place from the Airport boundary to Dairy Road, and for the widening of Hana Highway ();

F. Construction of ramp or service "perimeter" roadway (I-I);

G. New terminal access road connecting airline support facilities with passenger terminal apron (G-G);

H. Construction of a fourth lane to widen Hana Highway (X); and

I. Proposed Pulehu/Hansen Road realignment;

4. Defendants shall keep Koeheke Street open to public use at least until the Alahao Street bypass road is open to public use;

5. Defendants shall keep the perimeter road around the Runway 2-20 safety area and Haleakala Highway open to public use at least until the Hana Highway widening project is completed and the additional lanes are open to public use;

6. Defendants shall analyze the traffic impacts at the Dairy Road and Puanene Avenue intersection as part of the above-referenced EIS;

7. Defendants shall investigate, in the EIS and otherwise, the feasibility of reactivating the Puanene Airport on a permanent basis for general aviation, as a reliever airport and for night cargo operations. Defendants recognize that the implementation of the Runway 2-20 pavement strengthening project referenced to in paragraph 1.H. above could indirectly impose adverse impacts upon surrounding landowners. To mitigate these impacts, Defendants will also consider reactivation of the Puanene Airport on a temporary basis for night aircraft use during the period of time required to implement the runway strengthening project. If Defendants determine that the Puanene Airport will be developed as a general aviation and reliever airport, either

on a temporary or long-term basis, Plaintiffs and Defendants stipulate and agree that upon the opening of the Puanene Airport on at least a temporary basis for night use by commercial cargo aircraft, the Runway 2-20 pavement strengthening project referred to in paragraph 1.H. and the temporary reopening of the Puanene Airport need not be included within the scope of the above-referenced EIS. Should Defendants determine that the Puanene Airport will be opened on a long term basis the Kahului Airport land bank project referred to in paragraph 1.L. above need not be included within the scope of the above-referenced EIS;

8. DOT shall investigate in the EIS realigning, widening and improving Alahao Street and extending it to the northeast to Hana Highway as a road which shall be open for public use providing through traffic along the coastal side of the Kahului Airport.

9. DOT shall investigate in the EIS a recreational area/beach park on airport lands adjoining the County Kanaha Beach Park.

10. Plaintiffs and Defendants stipulate and agree that for any other and further projects, including but not limited to those described in the Long Term Development Plan and any revisions to the Kahului Airport Development Plan (June 1988), or substantial or major modifications to projects enumerated in paragraphs 1 through 3 above, for which negative declarations have been published, Defendants shall

comply with applicable laws to determine whether they should be included within the scope of the above-referenced EIS or should be the subject of a supplemental EIS;

11. Defendants affirm that all projects or operations which are in planning, design or construction at the Kahului Airport have been disclosed in the Kahului Airport Development Plan (June 1988); Revision 1 to the Kahului Airport Development Plan (March 1989) and the International Flights Facilities Requirements Study, Kahului Airport (January 1989). Defendants shall provide to Plaintiffs, through their counsel, all further planning documents, environmental assessments and/or studies for revised, modified or additional projects or operations planned for the Kahului Airport, which would substantially increase beyond current levels the number or type of aircraft operations, the number of passengers using Kahului Airport, the number of vehicles using airport roadways and/or the amount of noise generated through aircraft operations.

12. Until the subject of international flight operations is fully analyzed in the EIS to be prepared by DOT, the DOT shall not allow regularly scheduled international flights to land or take off at the Kahului Airport and no facilities, including customs facilities, necessary for international flights, shall be constructed either on a temporary or permanent basis;

13. No runways at the Kahului Airport shall be constructed, strengthened or extended in a fashion necessary to facilitate increased aircraft operations, the landing or taking off of aircraft carrying heavier loads or increased passenger operations until the impacts of these increased operations are fully analyzed in the EIS to be prepared by DOT, except that DOT may conduct emergency repairs necessary to keep runways open;

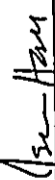
14. The findings, alternatives and recommendations contained in the FAR Part 150 Noise Study currently being undertaken for the Kahului Airport shall be investigated in the EIS. No final decisions shall be made by Defendants on the location of new facilities which are the subject of the Part 150 Noise Study and the EIS at the Kahului Airport whose positioning may have a bearing on noise impacts imposed upon surrounding lands until the completion of the Part 150 Noise Study and its submittal to the Federal Aviation Administration.

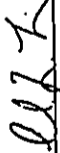
15. Except as provided in paragraph 16 below, the Complaint for Declaratory and Injunctive Relief filed herein shall be dismissed with prejudice upon compliance with the terms and conditions above and the publication of an Amended Preparation Notice consistent with the above in the OEOC Bulletin pursuant to Section 13-200-15(b), Hav. Admin. Rules; and


16. Dismissal of this case shall be without prejudice to Plaintiffs' right to seek recovery of attorney fees and other expenses herein and should be without prejudice to the rights of either party to enforce the terms of this stipulated Order. Any provision in this Stipulation shall not be used as a basis for recovery of attorney's fees or costs.

DATED: Mailuku, Maui, Hawaii _____
MAR 11 1991


APPROVED AS TO FORM:


Isaac Hall
Co-counsel for Plaintiffs


Arnold L. Lun
CO-COUNSEL FOR PLAINTIFFS


Keith Tanaka
Counsel for Defendants

APPROVED AND SO ORDERED:


Judge of the above-entitled court

Sierka Club et al. v. Department of Transportation, State of Hawaii et al.; Civil No. 89-0316(1); Stipulation Between Plaintiffs and Defendants to Prepare Environmental Impact Statement and Dismiss Complaint for Declaratory and Injunctive Relief and Order

KAHULUI AIRPORT DEVELOPMENT PLAN

State Project No. AM1040-01

Prepared For:

State of Hawaii
Department of Transportation
Airports Division

Prepared By:

Project Managers Hawaii
1020 Auahi Street
Building 6, Room 1;
Honolulu, Hawaii 96814

and

KFC Airport, Inc.
615 Pihaol Street, Suite 1000
Honolulu, Hawaii 96814

June 1988

EXHIBIT "D"

seasonal flooding in the vicinity of Kalia Gulch until that problem is finally solved by Gulch improvements and other measures proposed in this Plan.

5.8.2 Development Alternatives. Only one location was considered for expansion of the Ground Transportation Subdivision. That is to extend it southward along Keolani Place, across Kalia Gulch. The site can be extended linearly along the road, keeping out of the approach path to Runway 5-23 and outside the boundary of the environmentally protected area around Kanaha Pond. As a variation of this, the subdivision could expand across Kalia Gulch and also grow in depth along the channel to the west. Once beyond the clear zone of Runway 5, it is acceptable to use the land under the approach path if vertical building restrictions are observed. The new conservation boundary would permit this deeper development scheme.

Groundside roadway access to the expanded subdivision may continue as a single point of entry at Koehaka Street until the planned new access roadway is built or another access from Keolani Street could be provided south of Kalia Gulch in the 1990-1995 time period. It is important that the rental car return path be easily found by passengers coming to the airport to board a flight and the distance between the terminal area and car storage areas be as short as possible to minimize rental car van traffic on the airport roadway system.

5.8.3 Recommended Plan. It is recommended that the Ground Transportation Subdivision remain in its present location, in proximity to the new terminal building, and be expanded across Kalia Gulch and along the gulch to the west in the future. Between 1987 and 1990, the present 23.5 acres should be expanded to 27.1 acres for the operators. This may be accomplished by consolidating land use in the existing subdivision or expanding across Kalia Gulch. A new access to the subdivision street system should be provided south of Kalia Gulch at the time the new access roadway is constructed. The extension of Kalia Street on the west side of Keolani Place may serve this purpose. Design of all improvements and any tenant structure is to recognize that a portion of this subdivision is subjected to flooding by Kalia Gulch (see Figure 5-4). Recommendations for improvements to Kalia Gulch are made in section 5.14, Utilities and Drainage. Beyond 1990, development will expand the area by bridging the channel bordering the western boundary to allow acquisition of an additional 18.3 acres. All streets, utilities, drainage and other improvements will then be extended into this parcel to create a unified whole.

5.9 Cargo Facilities (CFR-ABE) Facilities

The CFR facilities in existence at Kahului Airport consist of a CFR Station and a makeshift training facility. The station, located near the existing (hold) cargo building and fronting on the airfield system, is relatively new, having been built in 1978. It presently accommodates four major pieces of CFR equipment: one 3,000 gallon truck, one 1,500 gallon

truck, one 500 gallon truck and one rescue truck. Because of its proximity to the hold cargo building, it limits future growth of that facility. In its present location, it is in danger of having its view of Runway 2-20 blocked by an extension of the new passenger terminal holdroom concourse.

The CFR Training Facility is located to the west of Runway 5-23 at the end of Alahao Street. It is readily accessible from the airfield system and positioned so the prevailing wind blows smoke from training fires away from the passenger terminal area and active runways. Fuels stored in barrels at the site and practice fires are ignited on a paved area.

5.9.1 Egress Facility Requirements. Two future changes are required for CFR facilities: 1) CFR Station position and size must be changed to meet FAA crash response requirements and increased equipment needs when the parallel runway is built, and 2) the CFR Training Facility must be updated and improved.

o Change CFR Station Position and Size. If the new parallel runway is constructed in the 1995-2000 time period, more equipment will probably be required to cover increases in aircraft operations and changes in fleet mix and the station/s must be positioned to meet FAA response time requirements on an expanded airfield. Station/s should have direct access to all parts of the aircraft operating area for CFR equipment via non-public access roads and access to the groundside roadway system for automobiles and straight trucks. Utility requirements for stations are water, sewer, electricity and communications. The site drainage system should provide for frequent washdown of CFR equipment.

o Improve CFR Training Facility. It is necessary to upgrade the existing CFR Training Facility in the 1987-1990 time period. It must be located in a remote area on the airfield that is immediately accessible by CFR vehicles from the runway-taxiway system and so positioned that the prevailing winds will blow smoke from training fires away from active runways and the passenger terminal area.

The site must be geometrically regular with a training surface 460 ft. in diameter that is cleared and compacted to support CFR vehicles. In the center of the training area, a 100 ft. diameter concrete fire pit should be provided and connected by pipes to a 6,000 gallon fuel tank located on the periphery of the training area.

The site requires water and the drainage system should be able to handle large quantities of water and chemical fire retardant as well as a possible fuel spill. Security fencing should protect any part of the facility not within the AOA fence.

o Study Need for CFR Boat. At present, the U.S. Coast Guard is relied upon to respond to an aircraft crash in the ocean off the northern ends of Runways 2-20 and 5-23. Because Coast Guard boats are usually on station on the western side of Maui, guaranteed response times may be three hours or longer. Although there are private boats in Kahului harbor, they cannot be relied on in an emergency. The Waialuku Fire Department has

a small boat that is kept about five miles from the airport that may or may not be able to respond. A study of CFR response to water ditching should be made to assess the need for a CFR boat for Kahului airport and a facility for berthing it on the coast on airport property. The study should be carried out in the 1987-1990 time period and coordinated with the State Harbors Division. Early completion of the study is required because it deals with a potential safety item.

5.9.2 Development Alternatives

o Change CFR Station Position and Size. Alternatives to relocation of the existing CFR Station to a site on the east ramp included leaving it at its present location, moving it to a position to the west of Runway 5-23 between the runway and Alahao Street and moving it to a position at the extreme north end of the new passenger concourse.

The disadvantage of leaving it in its present location is that extension of the new passenger terminal concourse to the north would block the CFR Station from view and ready access to Runway 2-20. Use of closed circuit television or movement of the station to the extreme north end of the passenger concourse would solve this problem but would require that a second CFR Station be built at the time of construction of the parallel runway. An advantage of leaving it on the west ramp is that most day-to-day CFR calls are to the terminal area for fuel spills, medical assistance and the like. The principal disadvantage of the Runway 5-23 location is the need to build a second station later on.

o Improve CFR Training Facility. In the case of the CFR Training Area, priority was given to moving its site south between Runway 5-23 and Alahao Street to a point opposite the Runway 5 clear zone. It could not be left at its present location because of relocation of General Cargo to that area (an overriding consideration). A site near its present location is desirable because of the proven smoke dispersal pattern from that general area.

5.9.3 Recommended Plan

o Relocate Existing CFR Station. It is recommended that the existing CFR Station be moved to a position on the east ramp between the Helicopter and Air Scenic Tour Facilities when the parallel runway is built. Until that time, the station should remain at its present location, be equipped with a closed circuit television system, and provided with a clear access to Runway 2-20 beneath the passenger terminal concourse. Upon relocation, the 10,000 sq. ft. high bay portion of the existing building should be largely salvagable. The high bay (center) portion is a metal frame structure that should be movable in its entirety. The remainder of the building is largely concrete block built on a slab on grade. Once the parallel runway is constructed and the station relocated, an additional 10,000 sq. ft. of high bay area should be added to the station to accommodate three additional pieces of CFR equipment. The paved area around the existing building should be replicated at the new site

for vehicle parking and equipment repairs, and landscaping added. The building should be oriented to provide unobstructed lines of sight to Runways 2-20 and 5-23 and advantage taken of the direct access to the airfield system inherent in the new site. A drainage trap may be needed to remove oil and chemicals from the equipment washdown area and prevent their discharge into the airport drainage system. The direct equipment access road leading to Runway 2L (on the west) can probably be routed directly to the taxiway between the Helicopter and Air Scenic Tour Facilities. From there, CFR equipment can reach any part of the western runway system. The equipment road leading to Runway 2R (on the east) should probably connect to the interconnecting taxiway between parallel runways.

o Improve CFR Training Facility. It is recommended that the CFR Training Facility remain between Runway 5-23 and Alahao Street but be shifted to the south to a position just north of the Runway 5 clear zone. The 6,000 gallon fuel tank should be located in a fenced area near the access to the site from Alahao street in order that fuel trucks can replenish it from that direction as well as from aloha. Entrance to the site from Alahao Street must be controlled by a security fence and gate. The fire pit, sump structure and remainder of the facility should be arranged in accordance with the model design of the facility at the Naval Air Station at Barber's Point (see Figure 5-4 for site geometry).

5.10 Flight Kitchen Facility

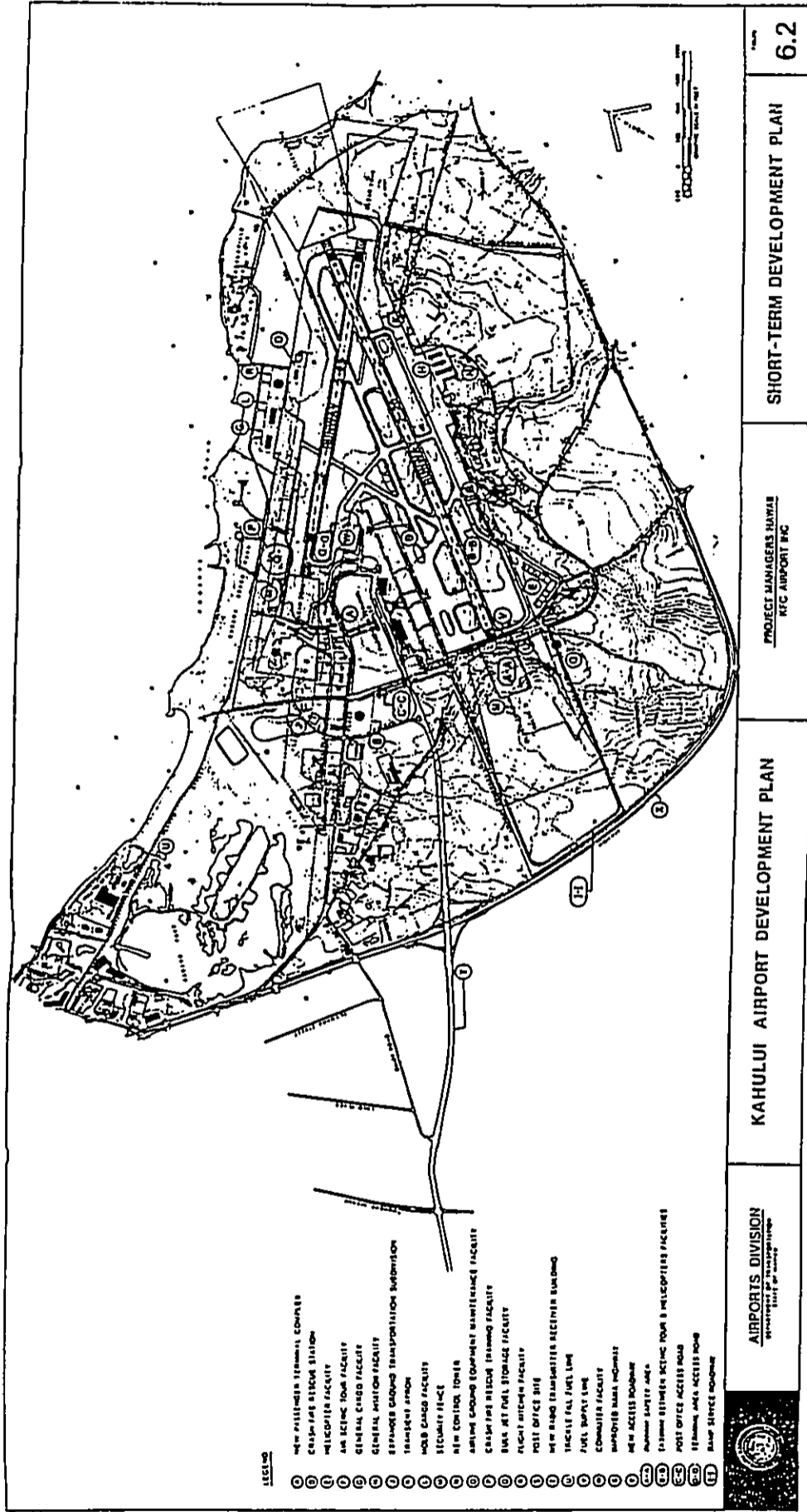
Until regularly scheduled overseas airline service to Maui began in 1983, there was no requirement for in-flight meal service at Kahului Airport. The interisland carriers, flying very short route segments, generally provide only beverages to their passengers.

With the advent of frequent, direct flights from Maui to the mainland United States, Dobbs Houses, Inc. opened a flight kitchen in the town of Kahului and began providing overseas carriers with in-flight meals from an off-airport location. As the number of flights grew and flight kitchen truck traffic on the airport roadway system increased, it became apparent that a Flight Kitchen Facility located on airport property was needed. Accordingly, the Airports Division of the Department of Transportation decided to include selection of a location for a Flight Kitchen Facility in this Airport Development Plan. The selected site will be made available for lease to a qualified flight meal catering firm.

5.10.1 Future Facility Requirements. Based on the forecasts of the Hawaii Airport State System Plan, future average daily departing overseas passengers from Kahului are estimated to be:

	1990	1995	2000	2005
Daily Departing PAX	1375	1795	2245	2990

Between the present time and 1990 when the new passenger terminal becomes fully operational, overseas flights from Kahului will remain a mixture of direct mainland flights and those with a stop at Honolulu for fueling and provisioning. Thereafter, until the





Office
D

December 18, 1990

Peter Hsi Associates, Inc.
615 Piikoi Street, Suite 2001
Honolulu, Hawaii 96814

Attention: Mr. Peter Hsi

Gentlemen:

Subject: ARFF Training Facility
Kahului Airport
Project No. AH 1033-15

Please submit a fee proposal for the subject project based on the enclosed scope of work and site plan. This project will construct fire training facilities similar to those under construction at the Honolulu International Airport. We have enclosed the construction plans for the HIA project for your reference.

Your fee proposal should separate the Architectural and civil portions of the design, by manhours. Include in your fee proposal, any major reimbursable costs you anticipate during the design. In addition, please submit a construction cost estimate for the entire project.

Very truly yours,

PROJECT MANAGERS HAWAII, INC.

Hisao Yamada
Hisao Yamada

Enclosures

cc: IDOT-A (Mr. Shuzo Kimura)

EXHIBIT "C"

ARTICLE V - SCOPE OF WORK

5.1 General. The Consultant shall prepare complete Plans, Specifications and Costs Estimates for the construction of "AIRPORT RESCUE AND FIRE FIGHTING (ARFF) TRAINING FACILITY, KAHULUI AIRPORT, PROJECT NO. AH 1033-15".

5.2 Review by State. The Consultant's working office shall be established on the Island of Oahu to enable the State to inspect, review, and discuss proposed design features, compliance with State policies, and other requirements with the least amount of delay.

Monthly review of the progress of the Consultant's work will be made by the State.

5.3 Data to be furnished by the State. The State will furnish at no cost to the Consultant the following:

- (a) "As-Built" Plans where applicable.
- (b) Results of tests on samples of materials taken during construction of the project.

If existing conditions data to be furnished by the State is not sufficient, the Consultant shall obtain such data as required through independent sources when approved in writing by the State, and such additional expense shall constitute a reimbursable cost. Compensation to the Consultant shall be as specified in Section 5.11.

5.4 Work by Consultant. Unless indicated otherwise, the Consultant shall provide all architectural and engineering services necessary to complete the work specified for this project, including the following:

- (a) Construction of a new Airport Rescue and Fire Fighting training facility as indicated in the Kahului Airport Development Plan and as approved by the State and the Federal Aviation Administration.

Design of the facility shall conform with the current edition of the Maui County Building Code, State of Hawaii Department of Transportation and Department of Health standards, the FAA Advisory Circular No. 150/5220-17 and Federal Environmental Protection Agency regulations.

The facilities shall be designed to provide effective training of ARFF personnel on multiple aircraft type structures, without interruption to ongoing airport operations.

- (b) One (1) large burn area structure 150 feet in diameter, with aircraft mock-up, and one (1) 3-dimensional burn area structure. Both burn area structures shall have a flexible membrane liner with crushed stone cover, drainage trench, berm, and weir. The burn area structures shall be designed to the following criteria.
 - 1) Designed to utilize construction materials that retain their material and performance integrity under cyclic thermal, hydraulic, mechanical, and bearing stresses, and long term exposure.
 - 2) In compliance with federal, state and local environmental standards for ground water protection.
 - 3) Designed so that fuel, water and ignition are centrally controlled from an observation area.
 - 4) The structures shall also be capable of creating a variety of fire suppression scenarios involving forcible entry, fuel spills, 3-dimensional or cascading fires, ruptured fuel lines, engine fires, tire/wheel fires and interior cabin and cargo fires.
 - 5) Designed to be capable of rapid recycling of fuel and water.
- (c) A 250 foot diameter ARFF vehicle maneuvering area around the large burn area structure to allow maneuvering within the training facility and offering different attack approaches to the burn area structure.
- (d) Aircraft mock-up (minimum 50% scale) of a Boeing DC-10 size airplane with multiple engines.
- (e) Vented fuel/water separator to separate unburned fuel and used water for recycling.
- (f) Burn area control center and observation tower with an adjacent 650 square foot storage building located up wind of the burn area structure.

- (g) Underground, vented 15,000 gallon fuel tank and distribution system with explosion-proof pumps, independent zonal fuel delivery network, and burn area fuel delivery network. Fuel tank and distribution system shall be in compliance with federal, state and local environmental standards for ground water and shoreline protection.
- (h) All support facilities shall be sited far enough away from the burn area or have provisions to protect the facilities from the heat generated by the various type training fires in the burn area.
- (i) Vehicle access road, with AOA access gate, from Alahao Street to the tower/storage building and fuel tank for service and maintenance vehicles.
- (j) Vehicle access road from the airfield to the control center/observation tower for ARFF response vehicles.
- (k) Two (2) each 3,000 gallon per minute fire hydrants.
- (l) Utility service for water, electricity and sanitary sewer.
- (m) The Consultant shall consult with, present to, and advise the users of the facilities at the appropriate phases of the project.

The Consultant shall furnish all drafting materials, supplies, including reproduction of the Plans and Specifications of the various phases for the submission to the State for its review. Six (6) sets of drawings and specifications are required for each submission.

The Consultant shall be available during the period of advertising for bids to answer all questions from the bidders on the Plans and Specifications. He shall also provide construction administration during the entire length of the construction period.

5.5 Planning, Design and Construction Stages. For the convenience in checking and reviewing the Project Plans and Specifications and Costs Estimates, the State has classified the work into six (6) basic phases, namely:

- (a) Preliminary Plan phase;
- (b) Design Development phase;

- (c) Semi-Final Construction Documents phase;
- (d) Final Construction Documents phase;
- (e) Advertising and Bidding phase;
- (f) Construction Administration phase.

Here physical submission of Plans, Estimates, Specifications and other design data shall not constitute an automatic advancement from one stage to the next stage. The aforementioned Preliminary Plan, Design Development and Semi-Final and Final Construction Documents submitted for review shall be finished to the specified stage of better and shall also meet all requirements and standards herein specified before any written approval will be given by the State for that specified stage.

5.6 Preliminary Plan Phase. The Consultant shall consult with the State to ascertain the requirements of the project and shall confirm such requirements with the State.

The Consultant shall prepare Preliminary Plan Studies consisting of drawings and other documents illustrating the scale and relationship of project components for approval by the State.

The Consultant shall submit to the State a statement of probable construction cost based on current area, volume or other unit costs.

5.7 Design Development Phase. The Consultant shall prepare from the approved Preliminary Plan Studies, for approval by the State, the Design Development Documents consisting of drawings and other documents to fix and describe the size and character of the entire project components as to civil, architectural, structural, mechanical and electrical systems, materials and such other essentials as may be appropriate. An outline of Technical Specifications shall be submitted.

The Consultant shall submit to the State a further statement of probable construction cost.

The Consultant shall make all changes and revisions required by the State in connection with the preliminary designs submitted as a part of the Design Development phase. The Consultant shall not proceed with the preparation of any semi-final construction documents until the Design Development Plans for the project is completed and approved in writing by the State.

5.8 Semi-Final Construction Documents. Upon the return and receipt of the approved Design Development Plans, the Consultant shall proceed with the preparation of the Semi-Final Plans and Specifications.

The Semi-Final Plans and Specifications shall include, but not be limited to, the following:

- (a) site plan (including tie-ins to landscaping, roads, utilities, and fencing, etc. as developed by others);
- (b) Floor Plans, elevations, sections, and details of the building and appurtenances;
- (c) Plans and details of all utilities required for the project;
- (d) Technical Specifications. Sections of the Technical Specifications shall be numbered so that they can be combined with the State's Specifications and shall be in accordance with the sixteen (16) divisions of CSI.
- (f) A Cost Estimate prepared by a professional estimator.

The Semi-Final Construction Documents shall set forth in detail and illustrate the size and character of the project with respect to the kinds of materials, type of structure, mechanical and electrical systems, and equipment, and such other work as may be required.

5.9 Submission of Semi-Final Construction Documents. Upon the completion of the Semi-Final Plans and Specifications, the Consultant shall submit six (6) sets of said Plans and Specifications to the State for its review and approval.

The State may, upon completing its review of the aforementioned submission, approve said Plans and Specifications as submitted, approve them subject to such revisions or changes as desired by the State, or may withhold approval if there is insufficient information to warrant approval or if the changes are extensive.

5.10 Final Construction Documents. The Consultant shall make all changes and revisions required by the State in connection with the aforementioned semi-final submission, and shall furnish the State with the revised, corrected and completed tracings setting forth in detail the architectural, structural, mechanical, electrical, landscaping, and civil work required as the Final Plans and Specifications for the Construction Package.

The Final Plans and Specifications shall consist of the technical specifications, all tracings, detailed estimates (schedule of alternatives with deductive and additive items as may be necessary to meet available funds), notes, computations, and all other materials required to be furnished by the Consultant under the terms of the contract.

The Technical Specifications and Proposal Schedule shall be typed on clean bond paper which produces sharp and clear reproductions.

The Consultant shall prepare all Final Plans on standard tracing sheets furnished by the State.

Final drawings may be submitted in pencil. Pencil drawings shall be clean and suitable for obtaining clear prints.

The Final Plans and Specifications shall be considered final only after they have been approved in writing by the State.

The Consultant shall be responsible for obtaining the approval of the State Department of Health, the County of Maui, and any other governmental agency having jurisdiction over the design of the project.

5.11 Advertising and Bidding Phase. The Consultant shall be available during the period of advertising for bids of the project to answer all questions from contractors on the Plans and Specifications. He shall also attend each pre-bid and pre-construction meetings for the project. The Consultant shall review and recommend approval of materials or equipment submitted for substitution for specified materials or equipment.

The State shall print all bid documents, advertise for bids and award the contract for construction.

5.12 Construction Administration Phase. The Consultant shall review and recommend actions on samples, schedules, shop drawings and other submissions by the contractor during construction. The Consultant shall provide during construction such supplemental details as may be required to clarify the contract documents, and in that connection shall provide supplemental plans and cost estimates for construction changes, review and approve samples, shop drawings, and other submissions by the contractor, at no additional cost to the State.

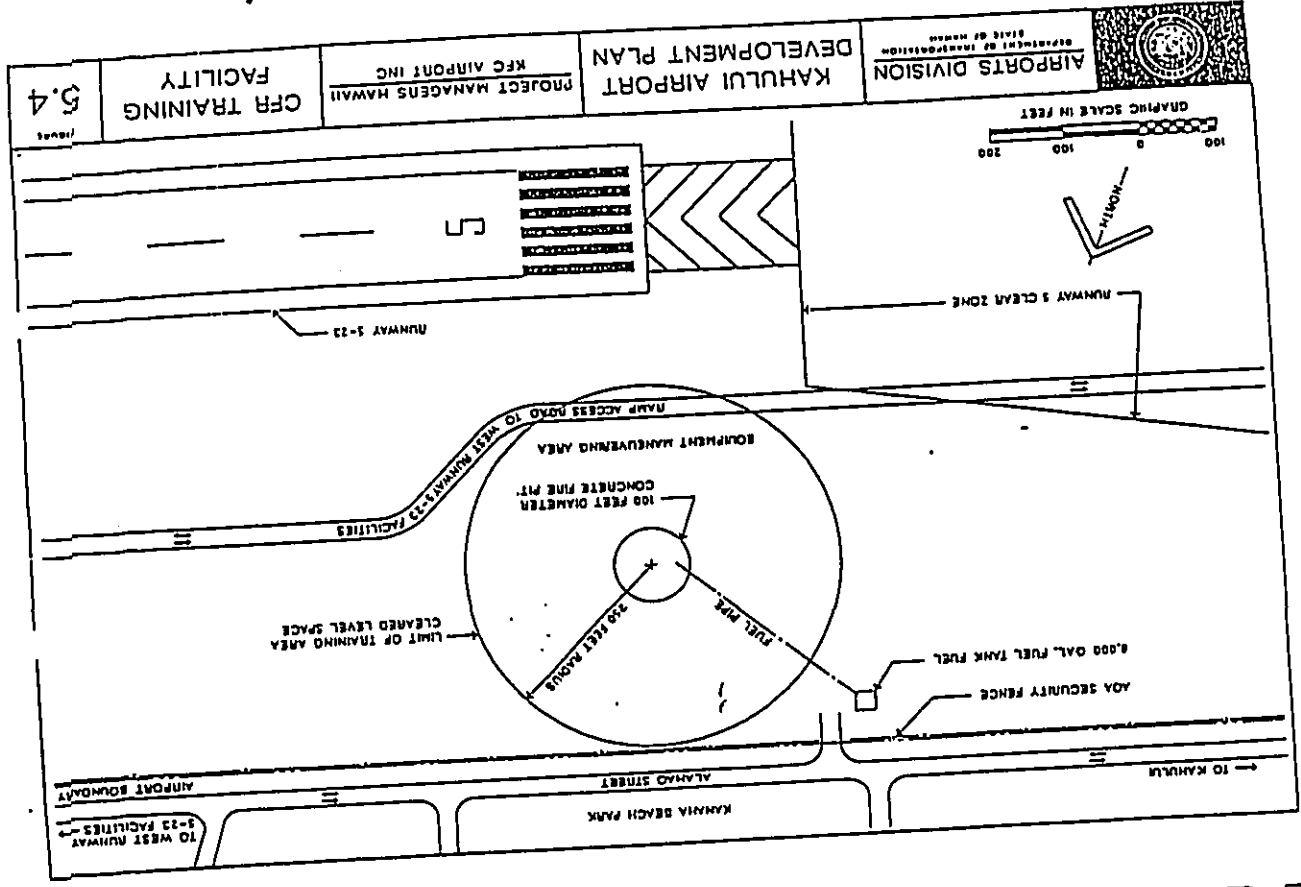
The Consultant shall make periodic visits to the job site as requested by the State on a reimbursable basis to assist the State and to determine in general if the work is proceeding in accordance with the Final Construction Documents for the project. On the basis of his on-site observations, he shall endeavor to guard the State against defects and deficiencies in the work of the contractor. The Consultant shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work. The Consultant shall not be responsible for construction means, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work, and he shall not be responsible for the Contractor's failure to carry out the work in accordance with the Final Construction Documents.

The Consultant shall be responsible for errors and/or omissions in the design plans and specifications of the project. Designs and/or revisions and field visits required to correct said errors or omissions shall be performed by the Consultant, for which no additional compensation will be made, including all travel costs and meals. Should problems develop, which are not the result of errors or omissions of the Consultant, and for special job site consultations requested in writing by the State, payment will be made as provided for in Section 5.13.

The Consultant shall accompany the State on pre-final and final inspections and shall advise the State as to whether the project is completed in reasonable and substantial accordance with the Final Construction Documents.

The State shall perform tests of construction materials when requested by the Consultant. Final acceptance and closing of the construction contract shall be made by the State.

5.13 Consultant's Reimbursable Costs. Subsurface investigations by an approved sub-consultant (if required), off-island travel costs, printing costs for review submissions, and project-connected long distance phone calls shall be considered as reimbursable costs and the Consultant shall be compensated on the basis of the actual cost incurred by the Consultant and supported by receipts, expense accounts, and other invoices, and by a brief statement as to the purpose sought and/or accomplished by such expense. The Consultant shall be paid for expenses incurred at actual cost.



All personnel who must travel away and off-island from their assigned office to perform services required herein will be entitled to a per diem subsistence allowance of SIXTY-FIVE AND NO/100 (\$65.00) and travel expenses, subject, however, to the State's written approval. Reproduction costs shall constitute the actual reproduction costs of designs, plans, and specifications submitted to the State for its review.

5.14 Post Construction Phase. The Consultant shall furnish the State with a complete set of "as-built" originals based on field information from the State with one set of one-half size drawings. "As-built" drawings shall include, but not be limited to the location, size, and elevation of all utilities within the limits of the defined scope of service.

5.15 Limitation on Consultant's Authority. In performing the work under this contract, Consultant shall have no right or power or authority to make any covenants, representations or commitments incurring obligations or liabilities of any kind whatsoever in the name of the State.



DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1310 KAAHUNAHI AVENUE, WAILUKU, HAWAII 96793

LINDA CROCKETT LINGLES
Mayor
CHARMAINE TAVARES
Director
ROSE DAVIS
Deputy Director

US -31 26 22 11

(98)10-709

May 26, 1995

Mr. Brian Miskae
Planning Director
Maui Planning Department
250 South High Street
Wailuku, HI 96793

Attention: Larry Brooks

Subject: I.D. No.: 95/SMA-011
TMK: 3-8-001:19
Kahului Airport AARFT Facility
Applicant: Dept. of Transportation, Airports

Dear Mr. Miskae:

We have reviewed the subject application and have no objections to the project. The project's type of land use does not impact park usage.

Thank you for allowing us to comment on the Special Management Area Permit application. We are returning the project's documents for your disposition.

Sincerely,

Charmaine Tavares
CHARMAINE TAVARES
Director

CT/rt

Enclosure

EXHIBIT "D"



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96763-5440

667110
ATTENTION OF

June 5, 1995

95 JUN -6 P1 28

Planning Division

DEPT OF PLANNING
667110, HI MAUI
RECEIVED

Mr. Larry Brooks, Staff Planner
County of Maui
Planning Department
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Brooks:

Thank you for the opportunity to review and comment on the Special Management Area Permit Application and Environmental Assessment for the Kahului Airport Aircraft Rescue and Fire Fighting Training Facility, Kahului, Maui (TKK 3-8-1: 19). The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act, the Rivers and Harbors Act of 1899, and the Marine Protection, Research and Sanctuaries Act.

a. Based on the information provided, no wetlands, streams, or other waters of the U.S. will be affected by the project; therefore, a DA permit will not be required.

b. The flood hazard information provided on page 14 of the environmental assessment is correct.

Sincerely,

Ray H. Jyo
Ray H. Jyo, P.E.
Director of Engineering

EXHIBIT "E"

References

References

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

County of Maui, The General Plan of the County of Maui, September 1990 Update.

County of Maui, Maui County Police Department - Annual Report, 1992.

County of Maui, Wailuku-Kahului Community Plan, December 1987.

County of Maui, Office of Economic Development and Maui Economic Development Board, Inc., Maui County Data Book, December 1994.

Michael T. Munekiyo Consulting, Inc., Final Environmental Assessment - United Parcel Service Parcel Distribution Center, December 1992.

Michael T. Munekiyo Consulting, Inc., Final Environmental Assessment - Maui Central Park Parkway and Papa Avenue Extension, July 1993.

Pacific Planning & Engineering, Inc., Final Environmental Impact Statement - Kahului Airport Master Plan Update, July 1992.

Interview and telephone conversation with Chief Pat Fevella, Airports Division - Kahului Airport Fire Station, March 1995.

Telephone conversation with Dave Taylor, Department of Public Works and Waste Management, Wastewater Reclamation Division, March 1995.

Telephone conversation with Ellen Kraftsow, Department of Water Supply, March 1995.

University of Hawaii, Land Study Bureau, Detailed Land Classification Island of Maui, May 1967.

University of Hawaii, Department of Geography, Atlas of Hawaii, Second Edition, 1983.

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

Appendix A

Preliminary Drainage and Soil Erosion Control Study

**PRELIMINARY
DRAINAGE & SOIL EROSION CONTROL STUDY
FOR
PROPOSED AIRCRAFT RESCUE AND
FIRE FIGHTING (ARFF) TRAINING FACILITY
PROJECT NO. AM 1033-15
KAHULUI AIRPORT, MAUI, HAWAII
TMK: (2) 3-8-01:19 (PORTION)**

MARCH 1995

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- I. BASIS OF STUDY
- II. FLOOD HAZARDS
- III. STORM DRAINAGE
- IV. SOIL EROSION CONTROL STUDY
- V. CONCLUSION
- VI. REFERENCES
- VII. HYDROLOGY CHART
- VIII. EXHIBITS
 - FIGURE D-1 - FLOOD MAP
 - FIGURE D-2 - DRAINAGE AREA MAP
 - FIGURE D-3 - SOILS MAP

I. BASIS OF STUDY:

This preliminary drainage and soil erosion analyses are in accordance with the Maui County Interim Drainage Standards [1] and Chapter 20-08, "Soil Erosion and Sedimentation Control" of the Maui County Code, respectively.

II. FLOOD HAZARDS:

Site of the proposed project falls within Zone "V23" as established by the "Flood Insurance Rate Map" of the County Maui (Figure D-1). Zone "V23" are areas affected by the 100-year coastal flood with wave action.

The average regulatory flood level at the project site is about 20 feet above mean sea level.

III. STORM DRAINAGE:

A. EXISTING CONDITIONS:

The project site is presently paved with asphalt concrete. It has a flat slope of about 1.2% with elevations ranging from 8 feet to 11 feet above mean sea level.

There is no existing drainage facility serving the project site. Onsite runoff is presently disposed of by surface flow which discharges into the open and undeveloped lands north of the project area. The runoff will then be trapped in local depressions and pockets until it percolates into the ground or is lost to the atmosphere by evaporation.

At present conditions, the site can generate a storm flow of about 10.6 cubic feet per second (cfs) for a 10-year storm intensity.

Hydrology calculation is shown on the attached Hydrology Chart. Drainage area is delineated on Figure D-2.

B. FUTURE CONDITIONS:

There is no massive grading planned for this project. Grading will primarily involve the excavation of the burn pit, holding pond, trenches and placement of underground storage tanks. Except for the burn pit and holding pond, all ground surfaces disturbed will be restored to their original grade and will be paved, grassed or gravelled.

The proposed burn pit and holding pond will be provided with perimeter curb and CMU wall, respectively. They will also be constructed with containment liners to prevent liquid leaching into the ground. With these features, rainfall captured by these facilities will be retained onsite; thereby, reducing the storm runoff presently generated by the site.

At post developed conditions, the site can generate about 7.7 cfs, a reduction of 2.9 cfs from the existing drainage flow.

There are no drainage facilities planned for this project. The site will rely on surface flow method for the disposal of runoff similar to present drainage pattern; thereby, storm waters will flow into the open

lands north of the project where they will be trapped and retained until lost to the atmosphere or to the ground.

IV. SOIL EROSION CONTROL STUDY:

A. EXISTING SOIL CONDITION:

Existing soil at the project site (Figure D-3) is classified by the United States Department of Agriculture, Soil Conservation Service as Dune Land (DL) [2]. This type of soil consists of hills and ridges of sand-sized particles located mostly in coastal areas. Dune lands are suitable for wildlife habitat, recreational areas and as a source for liming materials.

The site is presently paved, being part of the old Runway 17-23 and is now used for fire training exercise and sometimes for aircraft parking.

B. HESL SOIL LOSS FOR PROJECT DURING CONSTRUCTION:

Erosion rate, as set forth by the County of Maui Ordinance:

$$E = RKLSCP$$

Where:

E = Soil Loss in tons/acres/year

R = Rainfall factor = 160 tons/acre/year

K = Soil Erodibility Factor, Dune Land = 0.10

L = LS Factor = Slope Length = 250 ft.
(worst conditions)

S = LS Factor = Slope Gradient = 1.2%

LS = Slope Length Factor = 0.20

C = Cover Factor, Use Bare Soil = 1.0

P = Control Factor, Construction Site = 1.0

E = $160 \times 0.10 \times 0.20 \times 1 \times 1 = 3.2$ tons/acre/year

B. ALLOWABLE SOIL LOSS FOR SITE:

1. Coastal Water Hazard (D) = Class A = 2

2. Downstream Hazard (F) = 4

3. Duration of Site Work = $\frac{1}{2}$ year

4. Maximum Allowable Construction Area x Erosion
Rate = 3,571 tons/year

5. Area of Graded Land = 1.0 acres

6. Allowable Erosion Rate = $3,571/1.0$
= 3,571 tons/acre/year

Allowable E = 3,571 > 3.2

C. SEVERITY NUMBER (H):

$$H = (2 F T + 3 D) A E$$

Where:

H = Severity Number

F = Unit Downslope - Downstream Factor = 4

D = Unit Coastal Water Hazard Rating Factor = 2

T = Time of Distribution (years) = 0.5

A = Area of Disturbance = 1.0

E = Soil Loss Rate from USLE = 3.2 tons/acre/year

$$H = (2 \times 4 \times 0.5 + 3 \times 2) \times 1.0 \times 3.2 = 32$$

Estimated severity number for this project is less than the allowable value of 50,000.

E. EROSION CONTROL PLAN:

The uncontrolled erosion rate is less than the allowable erosion rate and the severity number is within

the maximum allowable value of 50,000. Therefore, normal construction erosion control measures are sufficient for this project with no excessive soil loss occurring.

Temporary erosion control measures shall include the following:

1. Control dust by means of waterwagon and/or sprinklers during period of construction.
2. Provide temporary berms or other approved methods required to divert offsite runoff away from excavated areas to natural drainageways during construction. Also provide adequate provisions, such as installation of silt fences downgrade of graded areas, to prevent sediment-laden runoff from leaving the project area.
3. Graded areas will be thoroughly watered after construction activity has ceased for the day and for weekends and holidays.
4. All exposed graded areas shall be paved, grassed and/or gravelled immediately upon completion of finish grading.

V. CONCLUSION:

Based on this preliminary study, construction of the ARFF Training Facility will not have adverse drainage effects on adjacent and downstream properties. The expected runoff for the project site will flow into unused airport lands

where they will be trapped by depressed areas until they will infiltrate into the ground or evaporate to the atmosphere.

VI. REFERENCES:

1. Interim Drainage Standards for the County of Maui, January 1994.
2. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, August 1972.
3. Erosion and Sediment Control Guide for Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, March 1981.
4. Rainfall-Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43, U. S. Department of Commerce, Weather Bureau, 19762.
5. Flood Insurance Rate Maps for the County of Maui, June 1981, revised September 6, 1989.

PROJECT: ARFF Training Facility

DATE: Feb. 28, 1995

LOCATION: Kahului Airport

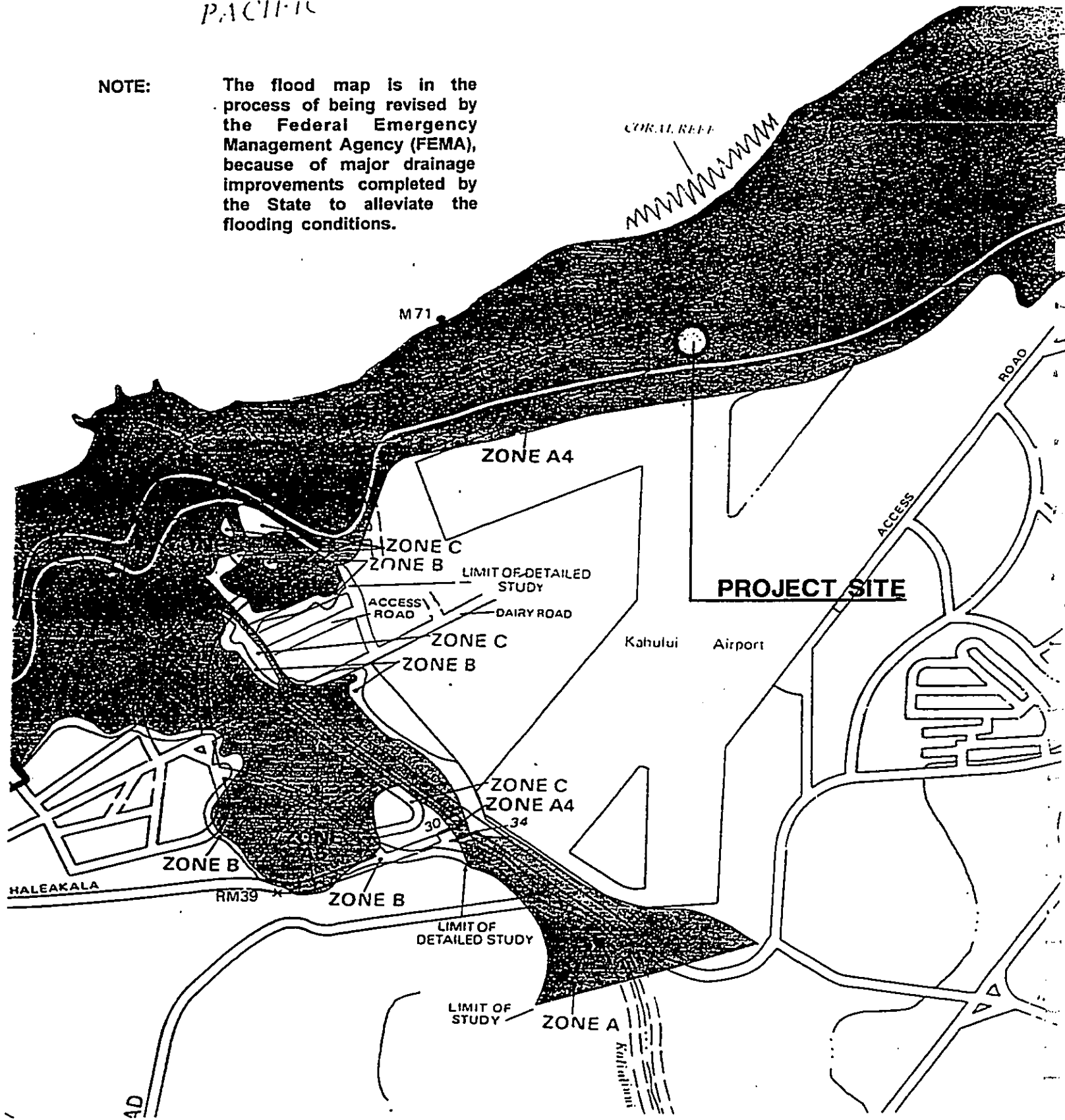
HYDROLOGY

T.M.K.

Drainage Area Designation	Inlet Structure/Designation	Area (Acres)	Length of Overland Flow (feet)	Average Slope, %	Character of Ground	T_c (min.)	C	TM (Years)	1-Hour Rainfall (inches)	I (in./hr.)	$Q=AIC$ (c.f.s.)	Remarks
	EXISTING CONDITION											Refer to Fig. D-2 for Drainage Area
--	--	2.25	250	1.2	Paved	6	0.95	10	2.0	4.95	10.6	
	FUTURE CONDITION											
--	--	1.63	250	1.2	Paved	6	0.95	10	2.0	4.95	7.7	
											2.9	Decrease After Project Completion

PACIFIC

NOTE: The flood map is in the process of being revised by the Federal Emergency Management Agency (FEMA), because of major drainage improvements completed by the State to alleviate the flooding conditions.



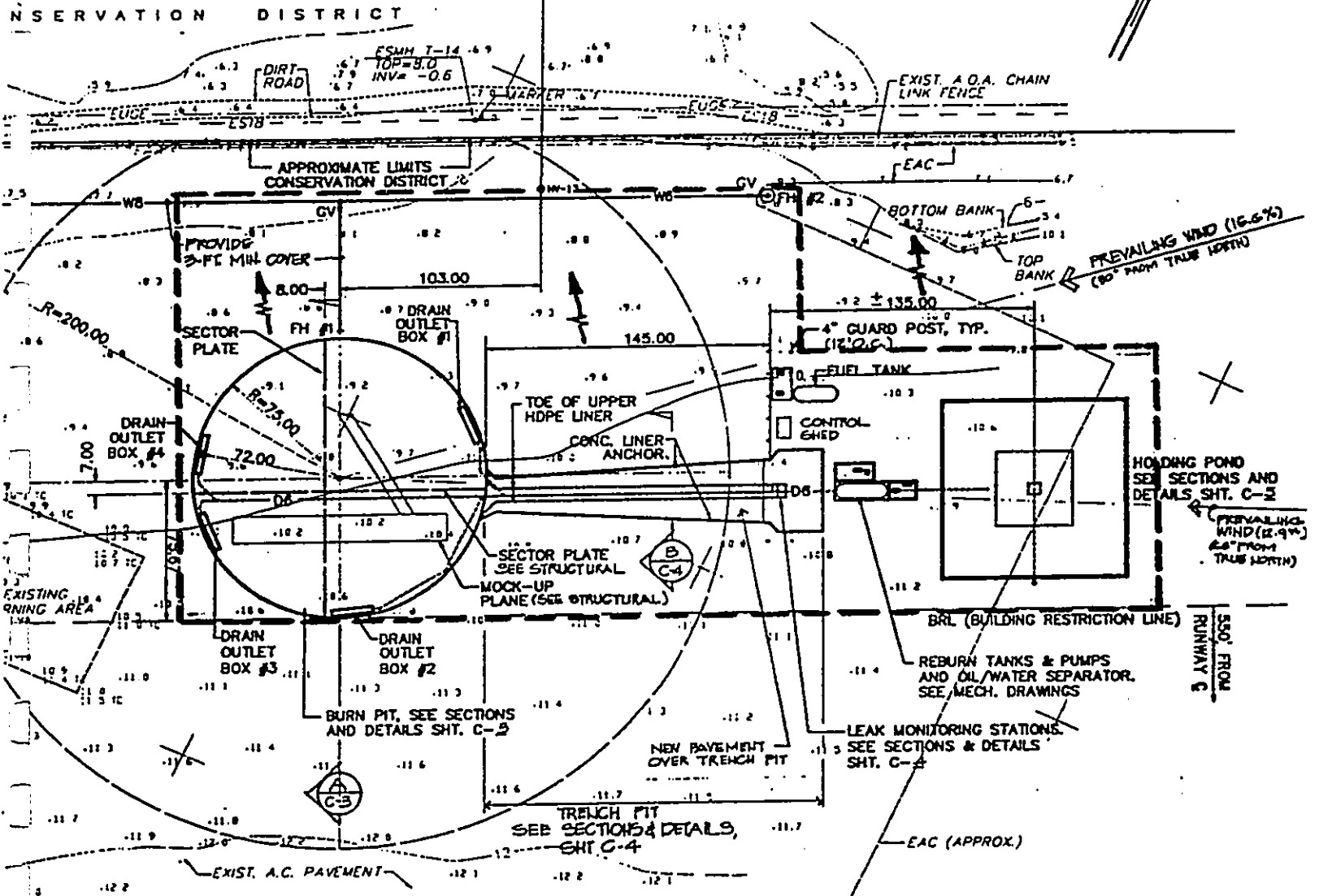
FLOOD MAP

Scale: 1" = 1,000'

FIGURE D-1

UNDEVELOPED LAND
(Owner: State of Hawaii, Airports Division)

BENCH MARK
HV-13 (BRASS PLATE)
ELEV=8.28 (MSL)
PLANE COORDINATE
207750.8704 N
578638.4577 E



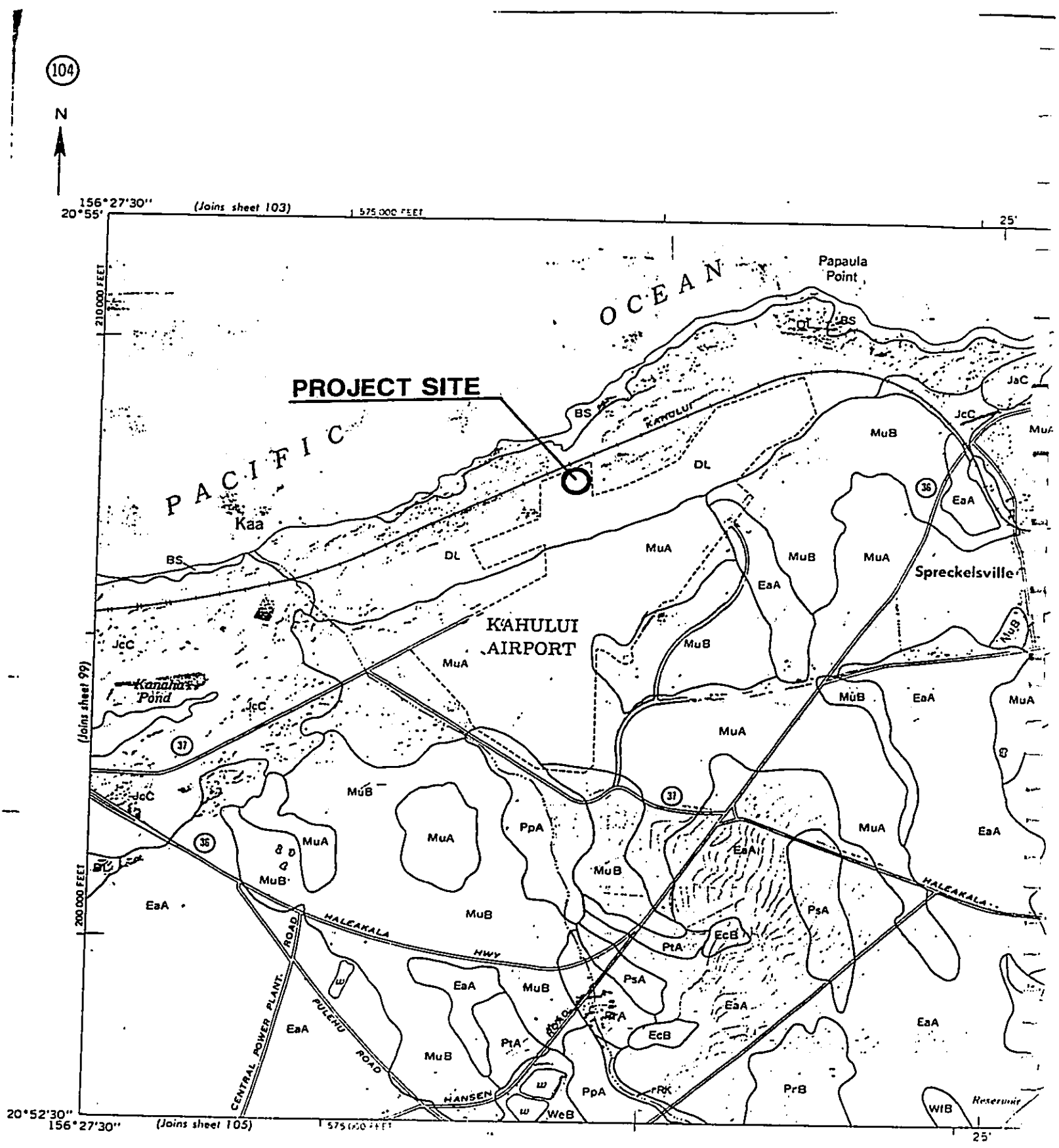
DRAINAGE AREA MAP

PRELIMINARY SITE PLAN



FIGURE D-2

DOCUMENT CAPTURED AS RECEIVED



SOILS MAP

Scale: 1" = 2,000'

FIGURE D-3-