FINAL ENVIRONMENTAL ASSESSMENT
and
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

FOR

HANA AIRPORT AIRCRAFT RESCUE FIRE FIGHTING FACILITY AND PERIMETER FENCE

HANA AIRPORT

400 ALALELE PLACE, HANA, MAUI

[TMK: (2) 1-3-003:022]

AUGUST 2008

Prepared for:

State of Hawaii Department of Transportation
Airports Division

Prepared by:

GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813

Final Environmental Assessment
and
Finding of No Significant Impact
(FONSI)

FOR

HANA AIRPORT AIRCRAFT RESCUE FIRE-FIGHTING FACILITY AND PERIMETER FENCE

HANA AIRPORT
400 ALALELE PL. HANA, MAUI
[TMK: (2) 2-1-003:022-040]

This environmental document has been prepared pursuant to Chapter 343, Hawaii Revised Statutes

Prepared for:
State of Hawaii
The Department of Transportation,
Airports Division

Prepared by:

HAWAII, INC.

GMP Hawaii, Inc.
1100 Alakea St. suite 1800
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Project:	Hana Airport Improvements
Proposing Agency: (Applicant)	State of Hawaii Department of Transportation, Airports Division 400 Rodgers Boulevard, Suite 700 Honolulu, Hawaii 96819 Contact: Kevin Funasaki Phone: (808) 838-8828
Agent:	GMP Hawaii, Inc. 1100 Alakea Street Suite 1800 Honolulu, Hawaii 96813 Contact: Jennifer Littenberg Phone: (808) 521-4711
Approving Agency:	Department of Transportation, Airports Division
Property Owner:	State of Hawaii
Property Location:	400 Alalele Place Hana, Maui, Hawaii
Tax Map Key:	2-1-003:003:022
Property Acreage:	143.79 Acres
Existing Use:	Airport Facilities, and Airport Operations
State Land Use Classification:	Agricultural, Conservation
County Zoning:	Interim/Agricultural
Proposed Project:	*The State of Hawaii Department of Transportation Airports Division (HDOT) is proposing the following facility improvements at the Hana Airport to accommodate forecast aviation demand through the near future based on the review of the 1998 Hana Airport Master Plan and to address current Federal Aviation Administration (FAA) requirements.*
Agency Determination:	Finding of No Significant Impact (FONSI)

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AOA	Airport Operations Area
AOC	Airport Operating Certificate
ASDS	Aircraft Sound Description System
ARFF	Aircraft Rescue and FireFighting Facility
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CFR	Code of Federal Regulations
CRP	Coral Reef Protection
CZMP	Coastal Zone Management Program
dBA	a-weighted decibel(s)
DOT	Department of Transportation
ECP	Erosion Control Plan
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FOD	Foreign Object Damage
HAC	Hawaii Aeronautics Commission
HNM	Hana Airport
HRS	Hawaii Revised Statue
IBC	International Building Code
LEED	Leadership in Energy and Environmental Design
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
OFZ	Object Free Zone
OSHA	Occupational Safety and Health Administration
SMA	Special Management Area
SSV	Shoreline Setback Variance
TSA	Transportation Security Administration
UBC	Uniform Building Code
UH	University of Hawaii
US	United States
USC	United States Code

USDA	United States Department of Agriculture
USGS	United States Geological Service
WRCC	Western Regional Climate Center

EXECUTIVE SUMMARY

The State of Hawaii Department of Transportation (HDOT), Airports Division under the direction and funding of the United States Federal Aviation Administration (FAA) grant number 3-15-0001-05 has requested that an Environmental Assessment (EA) be conducted to address the proposed improvements and construction at the Hana Airport (HNM). These improvements include the construction of a new Aircraft Rescue and Fire Fighting (ARFF) Facility and construction and installation of a perimeter security fence.

This project is being funded under a grant by the FAA to bring HNM in compliance with Federal Aviation Requirements, Code of Federal Regulations Part 139 Certification of Airports. Federal Aviation Requirement Part 139; establishes certification requirements for small airports serving scheduled air carrier operations with 10-30 passengers.

This Final EA details the proposed improvements and construction projects at the Hana Airport. These improvements include the; 1) Construction of a new one-story ARFF building, new septic sewer tank, emergency back-up generator, a proposed 500 gallon vehicle fuel storage tank, and a proposed 300 gallon water storage tank as redundant back-up systems. 2) Construction of a new security perimeter fence.

This Final EA presents the purpose and need for the proposed project, a comprehensive analysis of the alternatives considered, the affected environment, project and site-specific environmental consequences, and impact mitigation measures associated with the proposed construction of the ARFF building and security perimeter fencing.

The anticipated short-term impacts associated with the construction and implementation of the proposed project is confined to the immediate site and to the area's existing infrastructure. The short-term impacts shall be limited to the estimated construction period and all construction activities will be contained within the project site property.

Construction, operation, and maintenance of the proposed action as outlined, could have short-term minimal adverse impacts as well as long-term positive impacts on the public health, safety and human environment. Most of the adverse impacts would be short-term and construction-related. Adverse effects on topography, soils, and geology; floodplains and wetlands; biological resources; air quality; hazardous materials and wastes; infrastructure; land use and noise and cultural resources are expected to be minimal or negligible with implementation of appropriate mitigation measures.

For the proposed action alternative, impacts on the human environment are expected to be less than significant with implementation of prescribed adverse affect minimization/mitigation measures outlined in this Final EA, along with applicable regulatory permit compliance. Impacts to the socioeconomic environment are positive due to the creation of jobs during the construction phase. The proposed project is in concert with planned development and existing land use.

The information contained in this Final EA was taken from site visits, personal communications, existing environmental, engineering and planning studies, as well as consultation with Federal, State and County agencies.

This Final EA has been prepared in accordance with the requirements of Chapter 343, Hawaii Revised Statutes (HRS) and associated Title 11, Chapter 200, HAR of the DOH Rules, National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the United States (U.S.) FAA (Order 1050.1E and Order 5050.4B).

The proposed project would require the use of State funds and lands and, therefore, requires the preparation of an EA pursuant to Chapter 343, HRS and associated Title 11, Chapter 200, HAR.. The HDOT has reviewed the comments received during the Draft EA public comment period and determined that the proposed project at the Hana Airport will not have a significant impact on any environmental, cultural, social, or economic resources based on the criteria set forth in the DOH Rules, Chapter 200, Title 11. The HDOT has issued a Finding of No Significant Impact (FONSI) determination for this proposed project.

SECTION ONE INTRODUCTION

The State of Hawaii Department of Transportation (HDOT), Airports Division under the direction and funding of the United States Federal Aviation Administration (FAA) grant number 3-15-0001-05 has requested that a Final Environmental Assessment (EA) be conducted to address the proposed improvements and construction at the Hana Airport (HNM). These improvements include the construction of a new Aircraft Rescue and Fire Fighting (ARFF) Facility and construction and installation of a security perimeter fence.

This project is being funded under a grant by the FAA to bring HNM in compliance with Federal Aviation Requirements, Code of Federal Regulations Part 139 Certification of Airports. Federal Aviation Requirement Part 139; establishes certification requirements for small airports serving scheduled air carrier operations with 10-30 passengers.

This Final EA (FEA) was prepared in accordance with Chapter 343, Hawaii Revised Statutes (HRS), Chapter 200 Title 11, Administrative Rules, State of Hawaii Department of Health, the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the United States (U.S.) FAA (Order 1050.1E and Order 5050.4B). These policies require the FAA to take into account environmental considerations when funding any Federal action. This FEA provides a framework to address the impacts of the proposed improvements and construction activities at the Hana Airport on Maui.

This FEA evaluates the environmental issues involved with the project and assures the responsibility of its accuracy and content. The information within this FEA has been used to determine whether or not the impacts of the proposed action are significant enough to warrant the preparation of an Environmental Impact Statement (EIS). This FEA evaluates the existing environmental conditions and potential environmental impacts resulting from the proposed project, as well as the mitigation measures which would be implemented to minimize any adverse impacts.

The proposed project would require the use of State funds and lands and, therefore, requires the preparation of an EA pursuant to Chapter 343, HRS and associated Title 11, Chapter 200, HAR. The HDOT has reviewed the comments received during the Draft EA public comment period and determined that the proposed project at the Hana Airport will not have a significant impact on any environmental, cultural, social, or economic resources based on the criteria set forth in the DOH Rules, Chapter 200, Title 11. The HDOT has issued a Finding of No Significant Impact (FONSI) determination for this proposed project.

Due to heightened Transportation Security (TSA), and Federal Aviation Administration (FAA) requirements following the events of September 11th 2001, security improvements for airports across the United States have been proposed, particularly around the perimeter of runways.

United States Title 14 Code of Federal Regulations (CFR) Part 139 requires the Federal Aviation Administration (FAA) to issue Airport Operating Certificate to airports that:

1. Serve scheduled and unscheduled air carrier aircraft with more than 30 seats;
2. Serve scheduled air carrier operations in aircraft with more than 9 seats but less than 31 seats; and
3. The FAA Administrator requires the Airport to obtain a certificate.

An Airport Operating Certificate (AOC) serves to ensure safety in air transportation. To obtain a certificate, an airport must agree to develop certain operational and safety standards such as: fire fighting and rescue equipment, and the infrastructure to respond to potential aircraft related incidents to ensure the publics safety. These requirements may vary depending on the size of the airport and the type of flights available.

The Hana Airport is a regional airport of the State of Hawai'i located on the east shore of the island of Maui, approximately three miles (5 km) northwest of the town of Hana. The airport covers 119 acres (0.5 km^2) and has one runway. It is primarily a commuter facility used by unscheduled air taxis and general aviation. Figure 1 illustrates the project location.

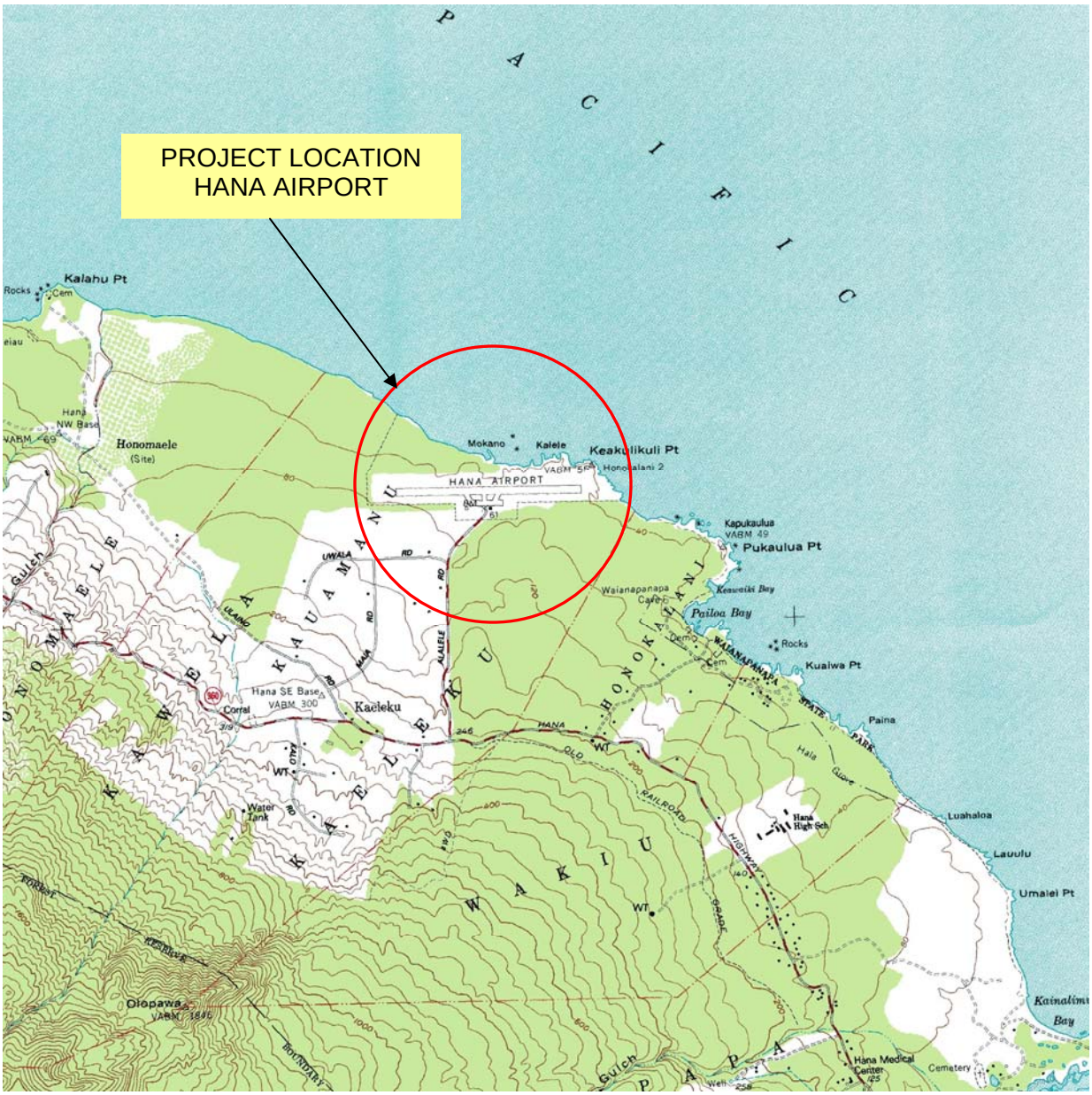
As classified by the FAA's Federal Aviation Regulations (FAR) CFR 14 Part 139, the Hana Airport is defined as a Class III Airport. This classification signifies that the Hana Airport is qualified to "serve scheduled operations of small air carrier aircraft" but cannot serve scheduled or unscheduled large air carrier aircraft. "Small air carrier" aircraft is defined as having passenger seats that provide for 10 to 30.

This project is being funded, in part, by the Airports Division of the HDOT under a grant issued by the FAA, to ensure that Hana Airport can obtain this FAA issued Operating Certificate that complies with FAR; CFR 14 Part 139, Certification of Airports.

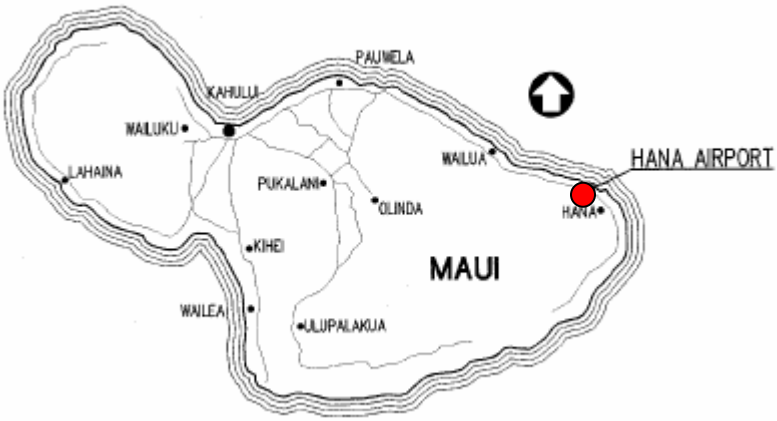
Currently there are no enclosures around the perimeter of the airport property, runway or aircraft movement areas at the Hana Airport. The lack of enclosures for the aircraft movements areas is a major safety concern, not only for the safety of those that may be on the ground but for the safety of the arriving and departing aircrafts as well. The Hana Airports need for an ARFF Facility is crucial in order to assure the safety of aircraft operations and to ensure a fast and efficient response to any aircraft emergencies. Therefore the justification for the proposed improvements at Hana Airport is due to the trigger of CFR 14 Part 139 requirement of an AOC (Appendix A).

The need for improvement to the aviation facilities at the Hana Airport is one regarding safety. The Hana Airport is the only means of aviation transportation for the east side of

Maui and therefore it is vital that the airport facilities meet the FAA's safety standards. Presently, the current airport facilities are not deemed secure under FAA regulations for an airport of their classification.



LOCATION MAP



VICINITY MAP

FIGURE 1 – PROJECT LOCATION

The HDOT and the U.S. FAA evaluated several options in regards to the improvements to the facilities at the Hana Airport.

3.1 ALTERNATIVES NOT CARRIED FORWARD

Taking into consideration that the Hana Airport is currently in operation, the proposal of re-locating the airport was not considered feasible.

3.2 ALTERNATIVES CARRIED FORWARD

The State of Hawaii Environmental Regulations, NEPA and CEQ regulations implementing NEPA (40 CFR parts 1500-1508), and FAA regulations for NEPA compliance (44 CFR part 10) directs the HDOT and the U.S. FAA to investigate and evaluate project alternatives. This EA evaluates two alternatives; the No Action Alternative and the Proposed Action Alternative. The intent of this document is to assess the environmental impacts associated with the HDOT and FAA's request for a specific project (Proposed Action Alternative).

3.2.1 Alternative 1: No Action

The No Action Alternative is defined as maintaining the status quo; in which the FAA would not provide funding for any actions. Under this alternative, no funds would be provided for the improvement or construction to the Hana Airport, and the Proposed Action Alternative would not be implemented.

Under the No Action Alternative, the Hana Airport would continue to not meet FAA safety criteria, and would also continue to provide inadequate emergency operations for the public's safety, posing security risks for the near and long-term.

In the event that the FAA finds that an airport is not meeting any of the obligations required under Part 139, it will often impose administrative action. It can also impose a financial penalty for each day the airport continues to violate the requirements of Part 139. In extreme cases, the FAA may revoke the airport's certificate or limit the areas of an airport where air carriers can land or take off.

In order to ensure that an airport with an AOC is meeting the requirements of Part 139; FAA Airport Certification Safety Inspectors conduct certification inspections. These inspections typically occur yearly, but the FAA can also make unannounced inspections. Below are just a few examples of features or facilities that may be inspected at the airport during a safety inspection:

- **Movement Area Inspection:** A check of the approach slopes of each runway end; inspect movement areas to find out condition of pavement, markings, lighting, signs, abutting shoulders, and safety areas; watch ground vehicle operations; ensure the public is protected against inadvertent entry and jet or propeller blast; check for the presence of any wildlife; check the traffic and wind direction indicators.

- **Aircraft Rescue and Fire Fighting Inspection:** Inspectors will conduct a timed response drill; a review of aircraft rescue and fire-fighting personnel training records, including annual live-fire drill and documentation of basic emergency medical care training; a check of equipment and protective clothing for operation, condition and availability.

- **Fueling Facilities Inspection:** An inspection of the fuel farm and mobile fuelers; a check of airport files for documentation of their quarterly inspections of the fueling facility; a review of certification from each tenant fueling agent about completion of fire safety training.

3.2.2 Alternative 2: Proposed Action

The HDOT and FAA have proposed improvements for the Hana Airport, which include the construction of an ARFF building and a security perimeter fence (herein referred to as the Proposed Action Alternative).

The Proposed Project Alternative is composed of two key infrastructure elements which include; 1.) Construction of a new ARFF and, 2.) Construction of a new security perimeter fence. The Hana Airport does not currently have an ARFF station or a perimeter fence to provide a secure Airport Operations Area (AOA). The construction of the ARFF will enable airport operations to provide quick responses to aircraft related incidents within or near the airport area. The construction of a new security perimeter fence will minimize the infringement of unauthorized individuals into the AOA. Figure 2 presents the proposed ARFF and perimeter fence.

Aircraft Rescue and Fire Fighting (ARFF) Facility:

The primary objective of an ARFF is to save lives by minimizing the effects of an aircraft incident. Optimizing the location of the ARFF station enhances the effectiveness and efficiency of service personnel. Station site location which emphasizes operational ARFF vehicle factors lowers emergency response times. A major factor affecting the ARFF vehicle response time is the location of the ARFF station. An optimum located ARFF station would allow for:

1.) Centrally situated to permit quick and unobstructed response to all areas.
2.) Immediate, straight and safe access towards the airside.
3.) Unimpeded access routes with a minimum of turns to runways, taxiways, and aircraft parking areas.

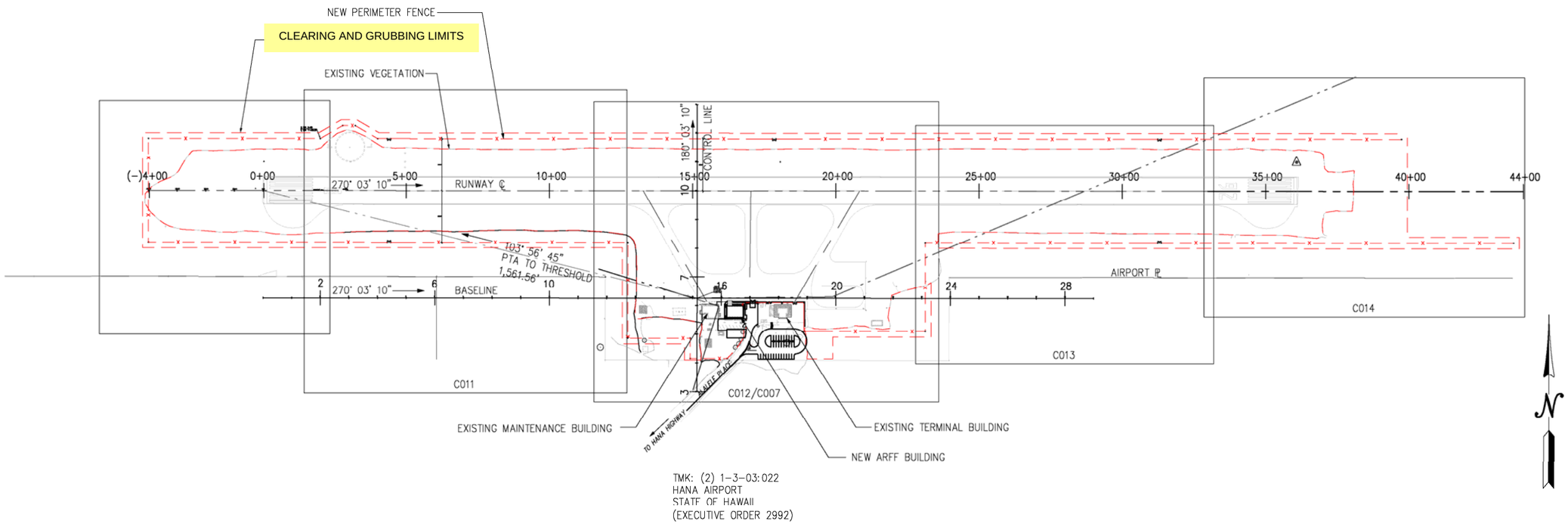
The ARFF Station is proposed as an alternative to demolishing the existing maintenance building. A new building is proposed to be constructed within the existing parking lot area, just east of the existing maintenance building location. Figure 3 illustrates the proposed ARFF facility location. As shown in Figures 4, 5 & 6, the new ARFF building will be

composed of approximately 2,503 sq. ft., one-story building with a building layout that provides for:

(1) One ARFF vehicle storage bay.
(2) Maintenance Shop.
(3) Mechanical room.
(4) Electrical room.
(5) Storage room.
(6) Two sleeping rooms.
(7) Multipurpose dining/conference/training room.
(8) Kitchen.
(9) Control Room (Watch room).
(10) Unisex toilet/shower room.

The proposed ARFF design also provides for an emergency back-up generator, a proposed 500 gallon vehicle fuel storage tank, and a proposed 300 gallon water storage tank as redundant back-up systems. The proposed design accommodates future addition or expansions to the structure, such as increasing ARFF personnel and equipment.

HRS §196-9 requires each agency to implement Leadership in Energy and Environmental Design (LEED) Silver or other nationally recognized standards to the extent possible, except when the guidelines, standard or system interferes or conflicts with the use of the facility. Where applicable the proposed project design will incorporate LEED Silver standards as outlined in HRS §196-9.



TMK: (2) 1-3-03:022
HANA AIRPORT
STATE OF HAWAII
(EXECUTIVE ORDER 2992)

OVERALL SITE PLAN

SCALE: 1" = 200'

NOTES

1. AZIMUTHS AND COORDINATES ARE REFERRED TO GOVERNMENT SURVEY TRIANGULATION STATION "HONOKALANI 2".
2. ELEVATIONS ARE BASED ON MEAN SEA LEVEL.

GRAPHIC SCALE:

200' 0 200' 400' 800'

SCALE: 1"=200'-0"

FIGURE 2 – OVERALL SITE PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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DSGN.	DRWN.	CHKD.	APPD.
TAC	EFP	TAC	

KEY PLAN / NOTES:

NO.	DATE	REVISIONS
C	12/21/07	100% DESIGN REVIEW
B	10/29/07	60% DESIGN REVIEW

I HEREBY CERTIFY THAT THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature:

Expiration date: April 30, 2008

PROJECT TITLE :

AIRCRAFT RESCUE AND FIRE FIGHTING FACILITY & SECURITY PERIMETER FENCE

PART 139 IMPROVEMENTS AT HANA AIRPORT
HANA, MAUI, HAWAII

PROJECT NO.:

AM3031-01

SHEET TITLE:

OVERALL SITE PLAN

DATE : DECEMBER 21, 2007

DWG. NO. : C004

SHEET OF -- SHEETS

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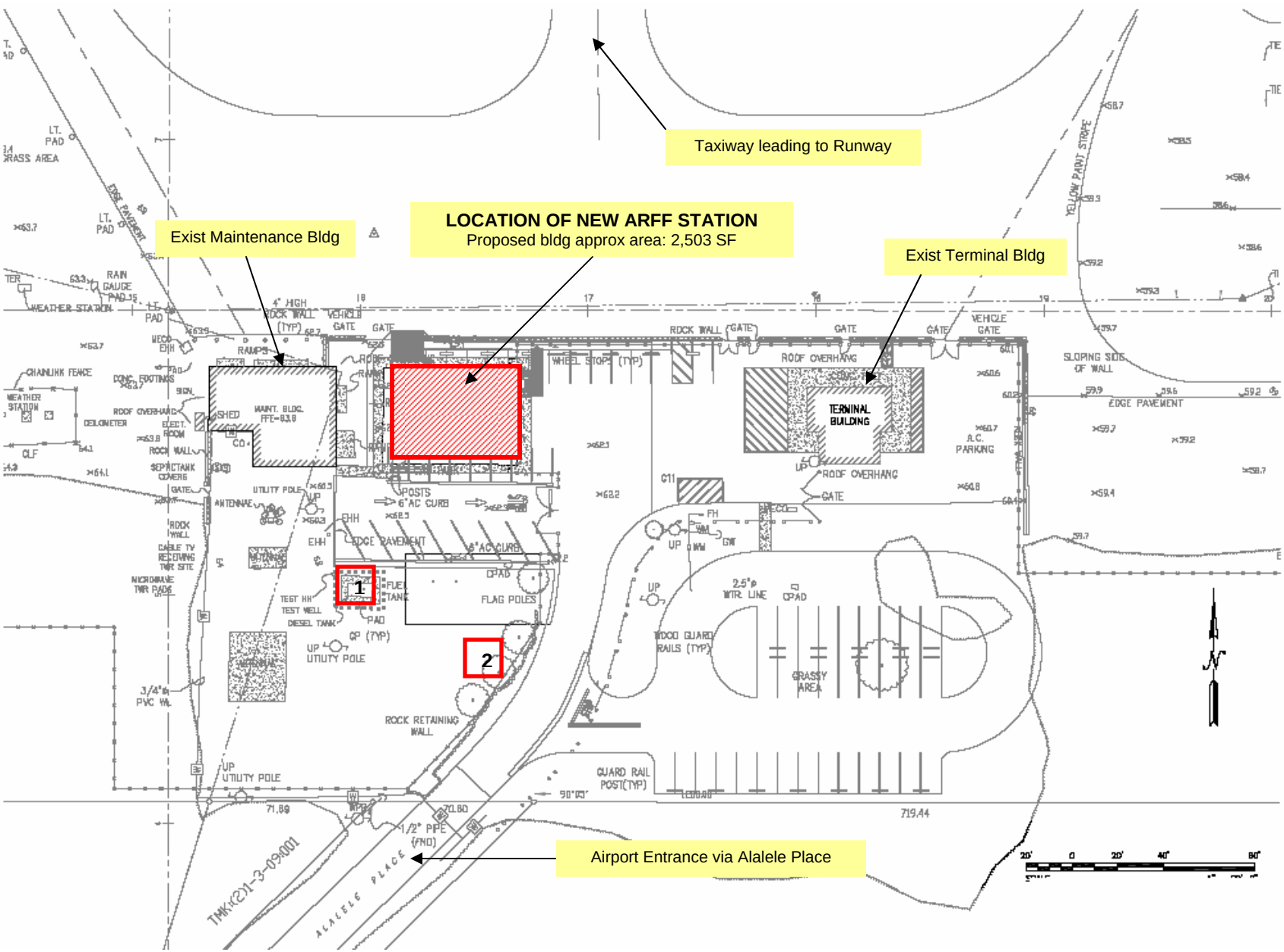
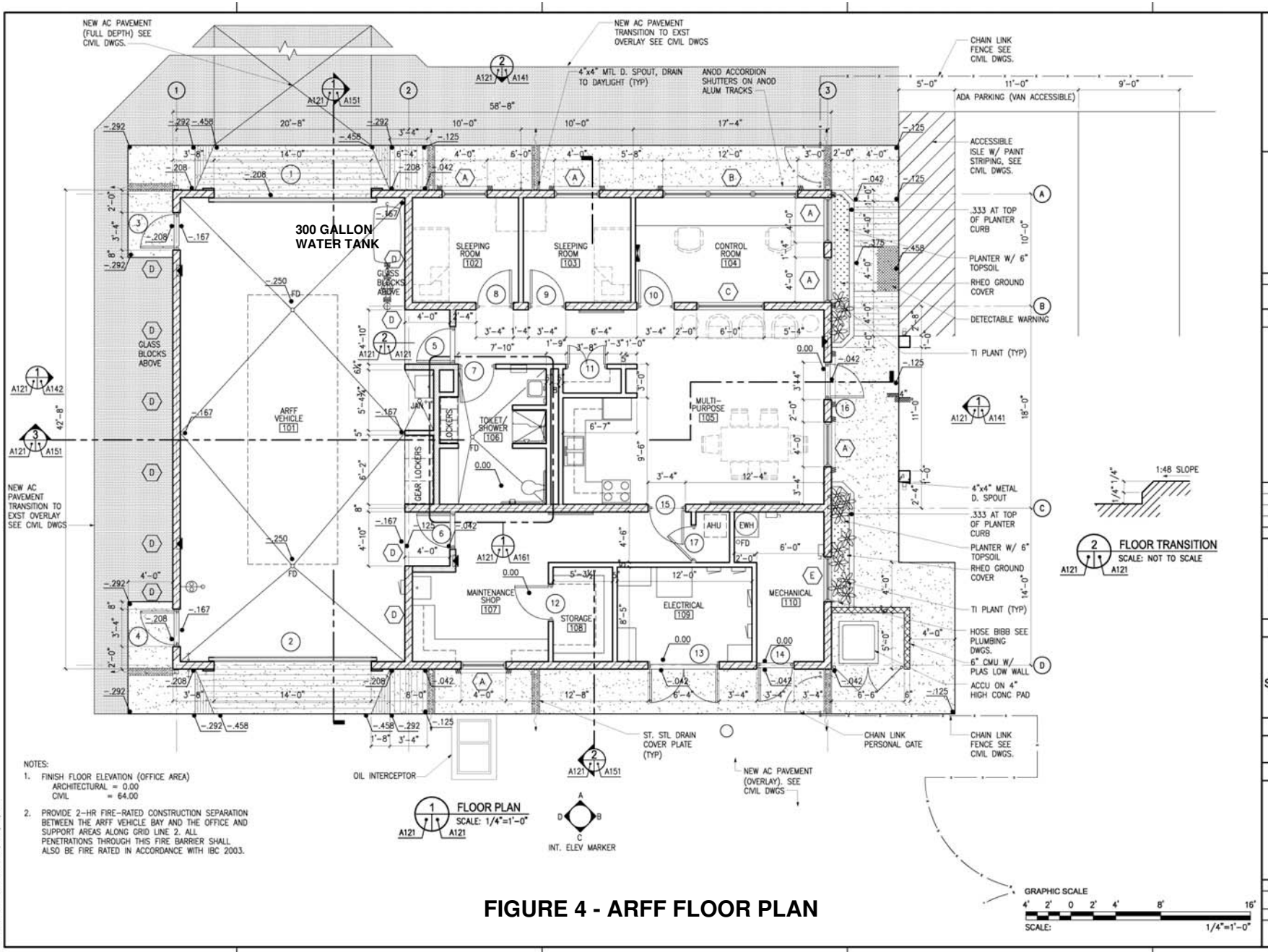


FIGURE 3 – ARFF SITE PLAN

1 500 GALLON FUEL TANK
2 APPROXIMATE LOCATION OF SEPTIC TANK



NOTES:

1. FINISH FLOOR ELEVATION (OFFICE AREA)
   ARCHITECTURAL = 0.00
   CIVIL = 64.00
2. PROVIDE 2-HR FIRE-RATED CONSTRUCTION SEPARATION BETWEEN THE ARFF VEHICLE BAY AND THE OFFICE AND SUPPORT AREAS ALONG GRID LINE 2. ALL PENETRATIONS THROUGH THIS FIRE BARRIER SHALL ALSO BE FIRE RATED IN ACCORDANCE WITH IBC 2003.

FIGURE 4 - ARFF FLOOR PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

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DSGN.	DRWN.	CHKD.	APPD.
VES	WPJ	VES	?

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

VINCENT E. SABIAN LICENSED PROFESSIONAL ARCHITECT No. AR-17896 HAWAII, U.S.A.

I HEREBY CERTIFY THAT THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature:

Expiration date: XXX. DD, 2008

PROJECT TITLE:
AIRCRAFT RESCUE AND FIRE FIGHTING FACILITY & SECURITY PERIMETER FENCE
PART 139 IMPROVEMENTS
AT HANA AIRPORT
HANA, MAUI, HAWAII

PROJECT NO.: AM3031-01

SHEET TITLE: FLOOR PLAN

DATE: JUNE 26, 2007

DWG. NO.: A121

SHEET OF -- SHEETS

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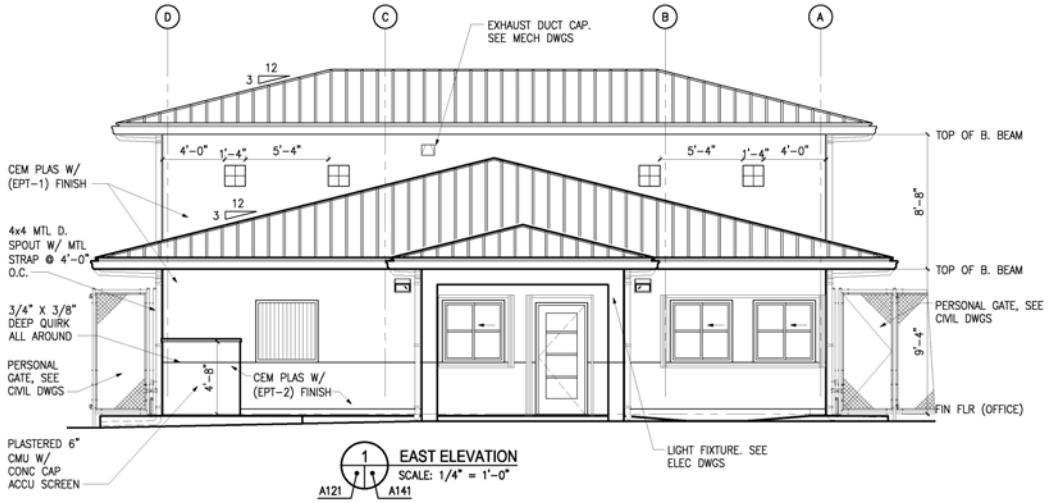
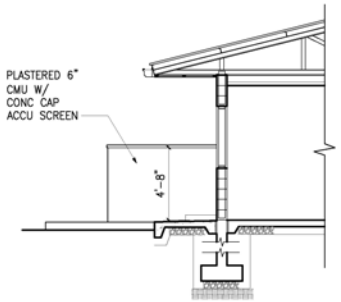
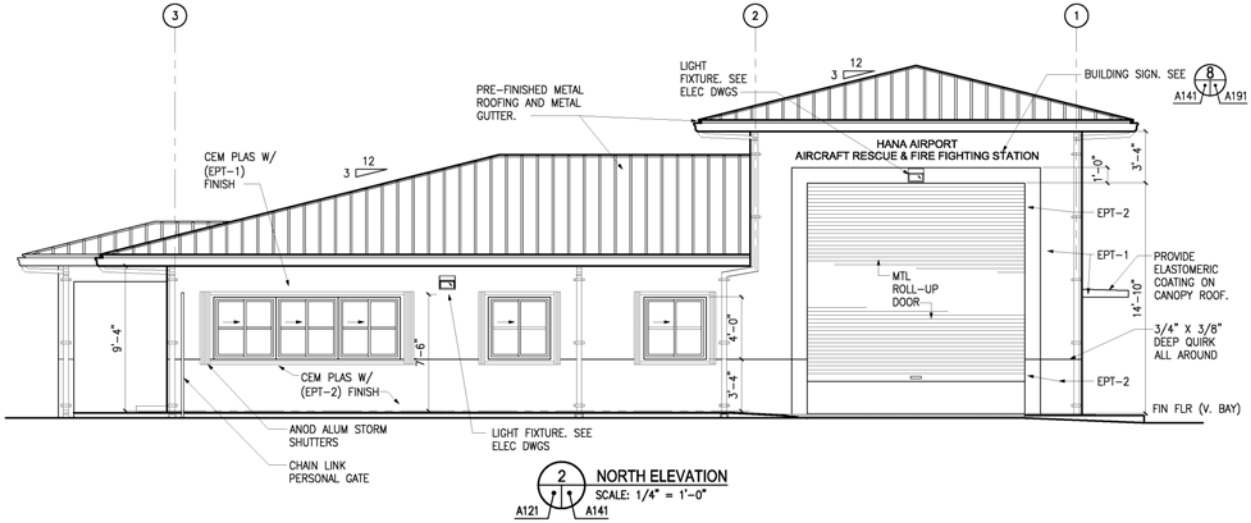
NOTE:
FINISH FLOOR AT VEHICLE BAY IS 2" LOWER THAN FINISH FLOOR AT OFFICE AREA.



1 EAST ELEVATION
SCALE: 1/4" = 1'-0"
A121 A141



3 PARTIAL ELEVATION
SCALE: 1/4" = 1'-0"
A141 A141



2 NORTH ELEVATION
SCALE: 1/4" = 1'-0"
A121 A141

GRAPHIC SCALE
4' 2' 0 2' 4' 8' 16'
SCALE: 1/4"=1'-0"

FIGURE 5 - BUILDING ELEVATIONS

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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DSGN.	DRWN.	CHKD.	APPD.
VES	WPJ	VES	?

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

VINCENT E. SABLAN
LICENSED PROFESSIONAL ARCHITECT
No. AR-11996
HAWAII, U.S.A.

I HEREBY CERTIFY THAT THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Signature:
Expiration date: XXX. 00, 2008

PROJECT TITLE :
AIRCRAFT RESCUE AND FIRE FIGHTING FACILITY & SECURITY PERIMETER FENCE
PART 139 IMPROVEMENTS AT HANA AIRPORT
HANA, MAUI, HAWAII

PROJECT NO.:
AM3031-01

SHEET TITLE:
BUILDING ELEVATIONS

DATE : JUNE 26, 2007
DWG. NO. : A141
SHEET OF -- SHEETS

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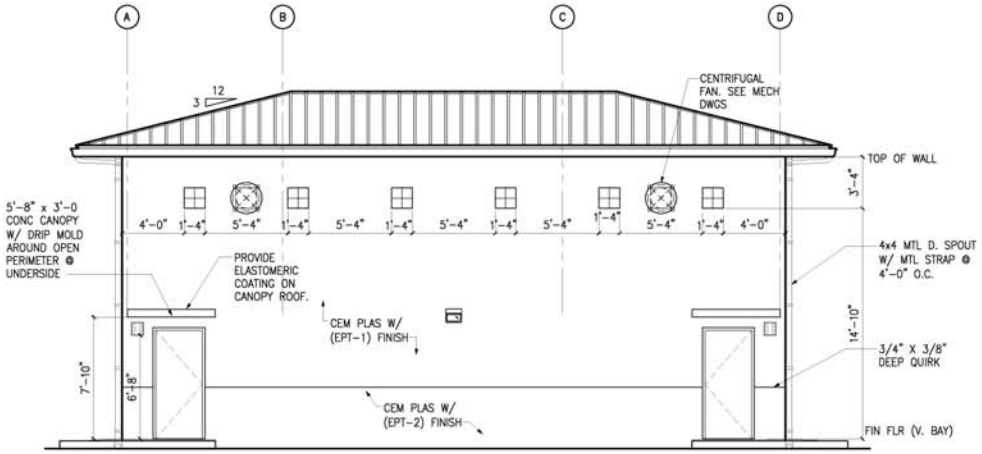
Plotted on: Dec 21, 2007 at 1:44 pm by: sjames

NOTE:
FINISH FLOOR AT VEHICLE BAY IS 2" LOWER THAN FINISH FLOOR AT OFFICE AREA.



1 WEST ELEVATION
SCALE: 1/4" = 1'-0"
A121 A142

2 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"
A121 A142

FIGURE 6 - BUILDING ELEVATIONS

GRAPHIC SCALE
4' 2' 0 2' 4' 8' 16'
SCALE: 1/4"=1'-0"

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

HAWAII, INC.
ENGINEERS/ARCHITECTS/PLANNERS
1100 Alakea Street
Suite 1800 Honolulu, HI 96813
Ph: (808) 521-4711 www.gmphawaii.com

DSGN.	DRWN.	CHKD.	APPD.
VES	WPJ	VES	?

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

VINCENT E. SARLAN LICENSED PROFESSIONAL ARCHITECT No. AR-11986 HAWAII, U.S.A.

I HEREBY CERTIFY THAT THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Signature:
Expiration date: XXX. DD, 2008

PROJECT TITLE :
AIRCRAFT RESCUE AND FIRE FIGHTING FACILITY & SECURITY PERIMETER FENCE
PART 139 IMPROVEMENTS AT HANA AIRPORT
HANA, MAUI, HAWAII

PROJECT NO.:
AM3031-01

SHEET TITLE:
BUILDING ELEVATIONS

DATE : JUNE 26, 2007
DWG. NO. : A142
SHEET OF -- SHEETS

FILE: A142_HH82701-008.dwg XREFS: TX_HH82701.dwg
Plotted on: Dec 21, 2007 at 1:46 pm by wjones

ARFF Construction Methods and Materials

A building can generally be broken down into three basic physical systems, the structural system, exterior envelope, and interior subdivisions of space. Each of these in turn, are made of linear and planar assemblies. Planar assemblies consisting of horizontal or sloping roof planes, horizontal floor planes, and vertical wall planes. The linear assemblies consist of horizontal beams and vertical columns. These elements and assemblies can come together in a number of ways, depending on the nature of the materials used, the method for transferring and resolving the forces acting on a building, and the desired physical form of the building. A site's geographic location, topography, climate and cost factors have an important influence in the decisions of the construction methods and materials that are used to form the three basic physical systems. The Hana Airport is located along the coastal shoreline, on the remote eastern end of the island. Highway access to the airport from the major city port of Kahului is a considerable distance, with narrow and very winding roads. The logistics of transporting labor, materials and equipment will also bear an influence proposal materials on the methods and materials used for construction.

The Security Perimeter Fence

The primary objective of a security perimeter fence is to set a boundary that will outline the secure AOA area, which will provide a sufficient barrier for unauthorized individuals or animals affecting safe aircraft operations. It is proposed that all vegetation obstructing the visual site of the fence within the AOA area will be cleared up to the fence line. The Security Perimeter Fence layout involves the construction of a new fence line running within the airport boundary limits, therefore minimizing the area needing to be cleared. Bringing the fence line within the airport boundaries will also leave a fishing trail intact that was discovered during an Archeological Field Inspection on the North side of the runway.

The proposed fence line, as shown in Figure 7, is an alternative to the conventional fence lines for AOA areas. This particular fence line minimizes the area to be cleared of existing brush and trees, while still allowing access to the shoreline. This fence line delineates a smaller AOA area, approximately 44.4 acres, but requires a fence line length of approximately 10,100 feet. The new fence line will be constructed on the northern, western and southern boundaries of the runway, taxiway and apron pavement areas. The eastern end of the runway would be secured by the existing cliff shoreline.

Security Perimeter Fence Construction Methods and Materials

Materials proposed for the fence line is galvanized steel, chain link fence. Galvanized chain link fencing is one of the most common types of fence systems used. This type of fencing can be provided with various external coatings to provide a more sustainable product. Other materials are available that can provide better resistance to climatic conditions (e.g. PVC coated chain-link) but will come at a much greater cost. The security fence will be constructed of chain link material fencing to an approximate height of 8 feet, with barbed wire placed along the top of the fence line. In unpaved areas, a line of barbed wire will be placed along the ground surface of the fence line to discourage burrowing by animals.

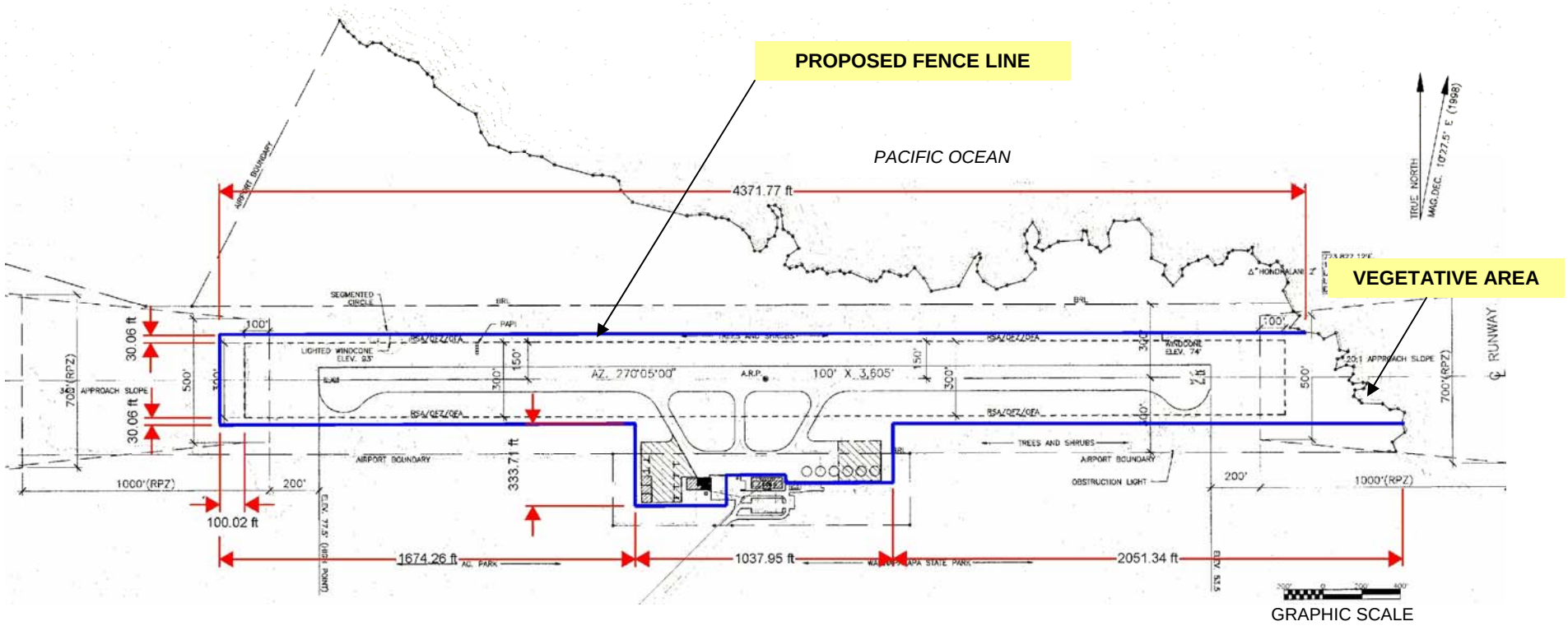


FIGURE 7 – PROPOSED SECURITY PERIMETER FENCE LINE

4.1 EXISTING LAND USE AND ZONING

The Hana Airport (HNM) is located on the northeast side of the town of Hana, on the island of Maui. The airport property is identified by Tax Map Key (TMK) 2-1-3-003:022. The project area is within the State Department of Transportation, Airports Division property and reserved strictly for the use of the airport. The HDOT, Airport Division owns the 143.7 acre Class III airport property parcel. According to the Maui County Real Property Assessment Division and the State Land Use Commission, the property is zoned as conservation and agriculture. Currently the airport property is used for airport activities only. Figures 8 and 9 illustrate the zoning of the airport and surrounding areas. Access to the project site is from the Hana Highway via Alalele Place right-of-way. The grounds of the Wai'anapanapa State Park are located east of the airport. The Ka'eleku State Park lands lies along the south-east boundary of the project parcel, and private lands designated as an agricultural park are located to the south and west of the airport runway.

According to the 1994 Hana Community Plan; land use patterns in the Hana region were designed to maintain Hana's identity as a unique "Hawaiian place," having qualities of old Hawaii which are reflected in its natural beauty, its cultural resources and practices, and in the character of its people. Land use patterns recognize the need to preserve and protect Hana's unique natural and cultural resources while providing its residents with opportunities to lead a stable and harmonious Hana lifestyle. The goal of Hana land use is to have an effective distribution of urban, rural and agricultural land uses in order to provide for the social and economic well-being of residents in the Hana Community Plan region. Preservation and enhancement of the current land use patterns which establish and enrich the Hana Community Plan region's unique and diverse qualities.

The Hana Community Plan states that one of the objectives for transportation in the Hana region is to ensure that any master plan for the Hana Airport is consistent with the objectives and policies set forth in the Hana Community Plan.

4.1.1 *Alternative 1 No Action*

No impacts to the land use would occur under the No Action Alternative.

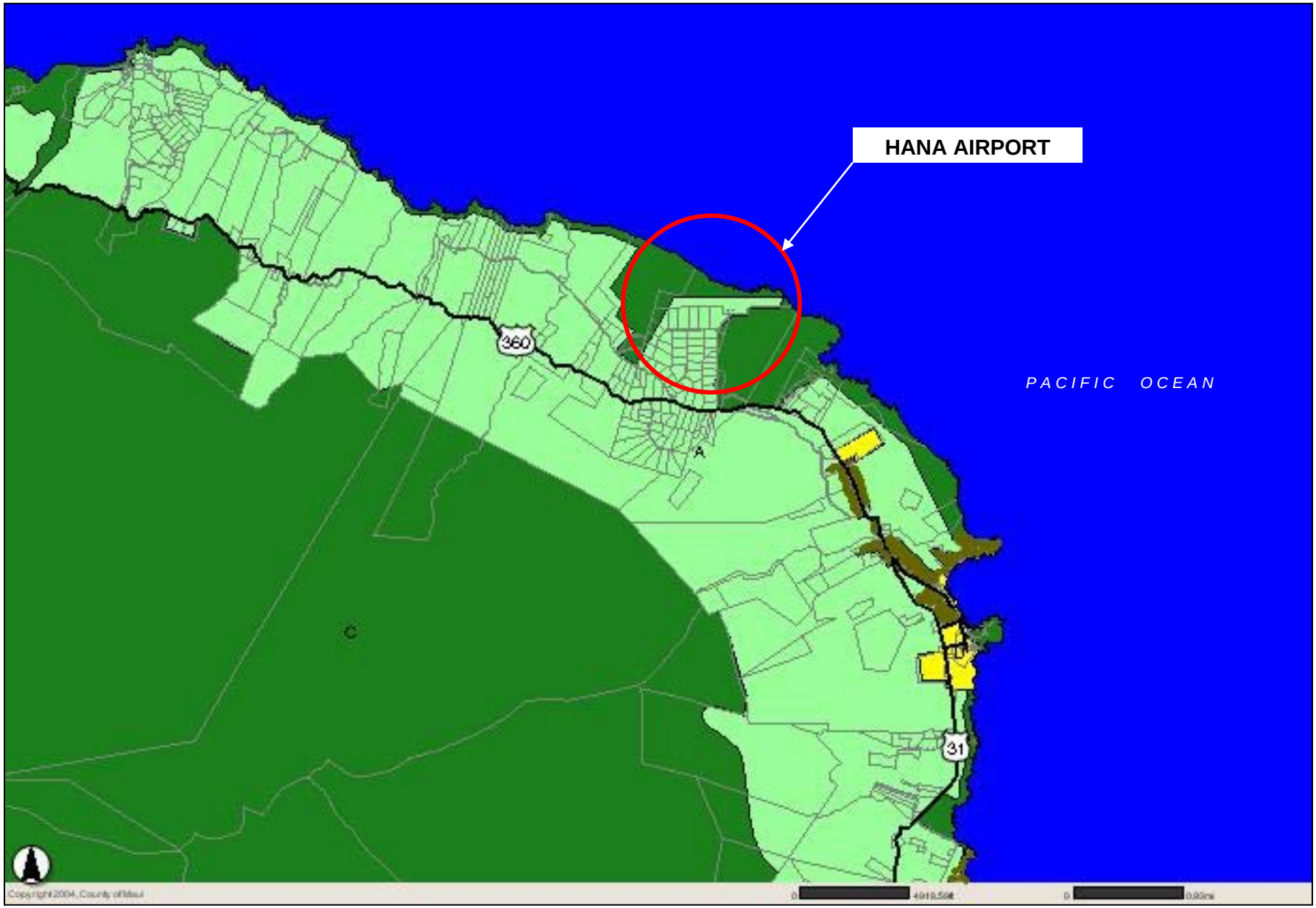
4.1.2 *Alternative 2: Proposed Action*

Presently the project site is owned by the HDOT. The proposed action will be located within the HDOT property and no acquisition of adjacent land will be required. A portion of the proposed security perimeter fence along the eastern boundary lies within the conversations district. The area of the proposed fence line that lies within the conservation district is detailed on Figure 10. The conservation district on the eastern boundary of the project site begins at approximately 300 feet from the end of the runway according to the State Land Use Commission Map (Figure 9). A Site Plan approval from the Department of Land and Natural Resources, Office of Conservation and Coastal

Lands will be required to perform any construction within the conservation district. The following activities are proposed within the conservation district along the eastern portion of the runway:

- Approximately 72 feet along the north boundary and 463 feet of fencing along the south boundary is required (See Figure 10)
- The total area requiring clearing within the conservation district is approximately 56,000 square feet (sqft).
- No fencing will be placed along the eastern coastline. The eastern end of the project site will be secured by the existing coastline.
- All areas that require clearing and grubbing will be stabilized and landscaped with appropriate grass or shrubs prior to the removal of erosion and sediment control measures.

No significant impact to land use would result from the proposed action, and all project activities would occur within the existing site location and the project would be consistent and supportive of land use policies and local development plans.



LEGEND:

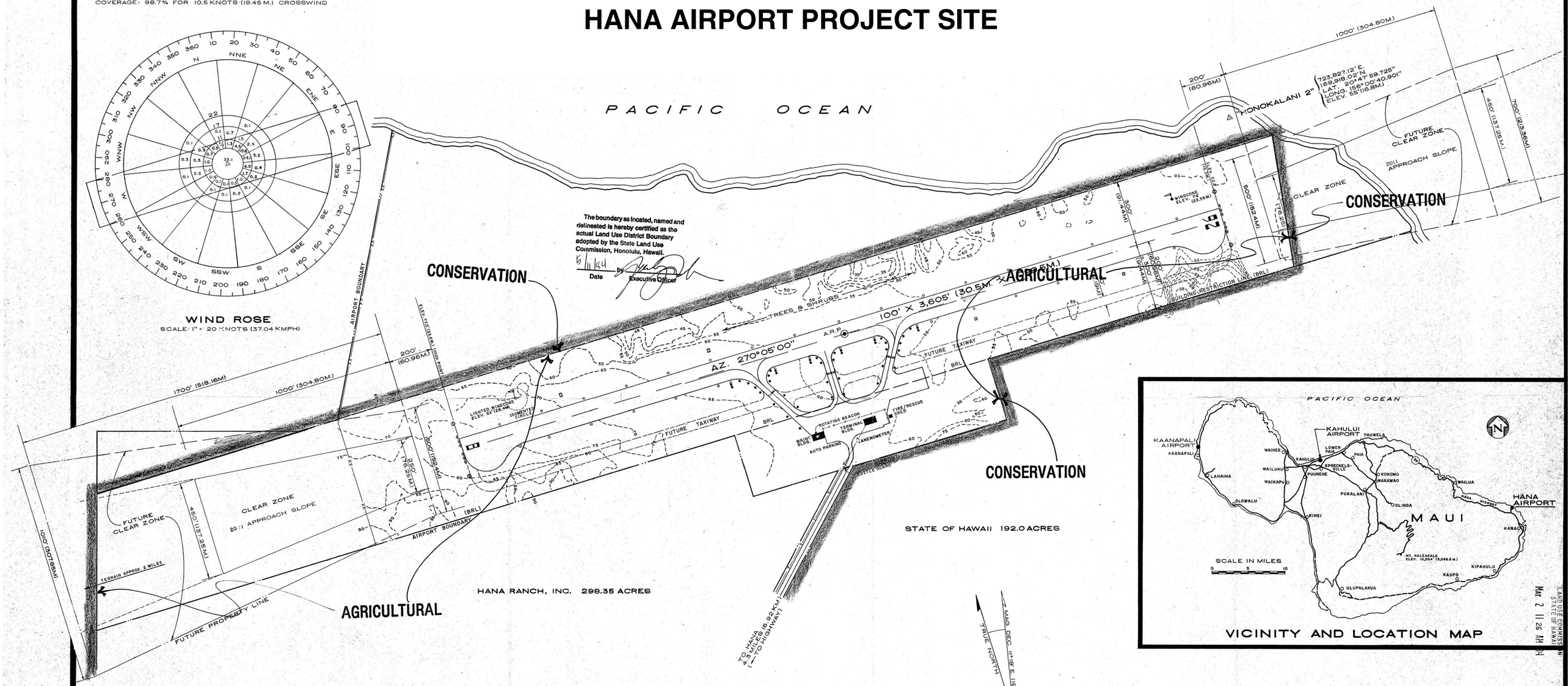
URBAN
CONSERVATION
RURAL
AGRICULTURAL

FIGURE 8 – ZONING MAP

FIGURE 9 - STATE LAND USE COMMISSION BOUNDARY MAP
HANA AIRPORT PROJECT SITE

WIND DATA:
SOURCE: HANA AIRPORT
PERIOD: JANUARY 1967 – DECEMBER 1967
COVERAGE: 98.7% FOR 10.5 KNOTS (19.45 M.) CROSSWIND

WIND ROSE
SCALE: 1" = 20 KNOTS (37.04 KMPH)



VICINITY AND LOCATION MAP

LAND USE COMMISSION STATE OF HAWAII
MAY 2 11 26 AM '84

LEGEND	EXISTING	ULTIMATE
PROPERTY LINE		
GROUND CONTOURS (IN FEET)	65	SAME
AIRPORT REFERENCE POINT		SAME
BUILDING RESTRICTION LINE	BRL	(BRL)
BUILDINGS		SAME
APPROACH SURFACE		
FENCE LINE	X	XX
POWER LINE	T	T
RUNWAY LIGHTS		SAME
TAXIWAY LIGHTS	NONE	
AIRPORT BEACON		SAME
REIL	NONE	
VASI-2	NONE	

AIRPORT DATA	EXISTING	ULTIMATE
AIRPORT REFERENCE POINT (ARP)	LAT. 20°47'58.8" LONG. 156°01'02."	SAME
NORM. MAX. TEMP. OF HOTTEST MON.	84°	SAME
AIRPORT & TERMINAL NAV. AIDS	NONE	NONE
AIRPORT ELEVATION	77.5' (23.62M)	SAME

RUNWAY DATA	RUNWAY 8 - 26 EXISTING	ULTIMATE
EFFECTIVE GRADIENT (%)	0.676	SAME
WIND COVERAGE (%)	98.7	SAME
INSTRUMENT RUNWAY	NO	NO
PAVEMENT STRENGTH *	30(S) 15,820 Kg. 48(D) 21,792 Kg.	SAME
APPROACH SLOPE	R/W8 20:1	R/W8 34:1
APPROACH SLOPE	R/W26 20:1	SAME
RUNWAY LIGHTING	MIRL	SAME
RUNWAY MARKINGS	BASIC	SAME
NAVIGATIONAL AIDS	NONE	REIL, VASI VOR/DME

*VALUES GIVEN ARE THE WEIGHTS IN 1,000 LBS. FOR (S) SINGLE AND (D) DUAL GEAR AIRCRAFT.

REVISIONS	DATE
FAA APPROVED: REFER TO LTR DATED 8/13/81	
GENERAL UPDATE	6/15/81
FAA APPROVED: REFER TO LETTER DATED 26 AUGUST 1976.	

APPROVED:
E. Alvey Wright 8/23/76
DIRECTOR, DEPT. OF TRANSPORTATION, STATE OF HAWAII — DATE
Owen Myranith 8/19/76
CHIEF, AIRPORTS DIVISION, STATE OF HAWAII — DATE

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
AIRPORTS DIVISION

HANA AIRPORT
HANA, MAUI

AIRPORT LAYOUT PLAN

SCALE: AS SHOWN — DATE: 13 AUG. 1976

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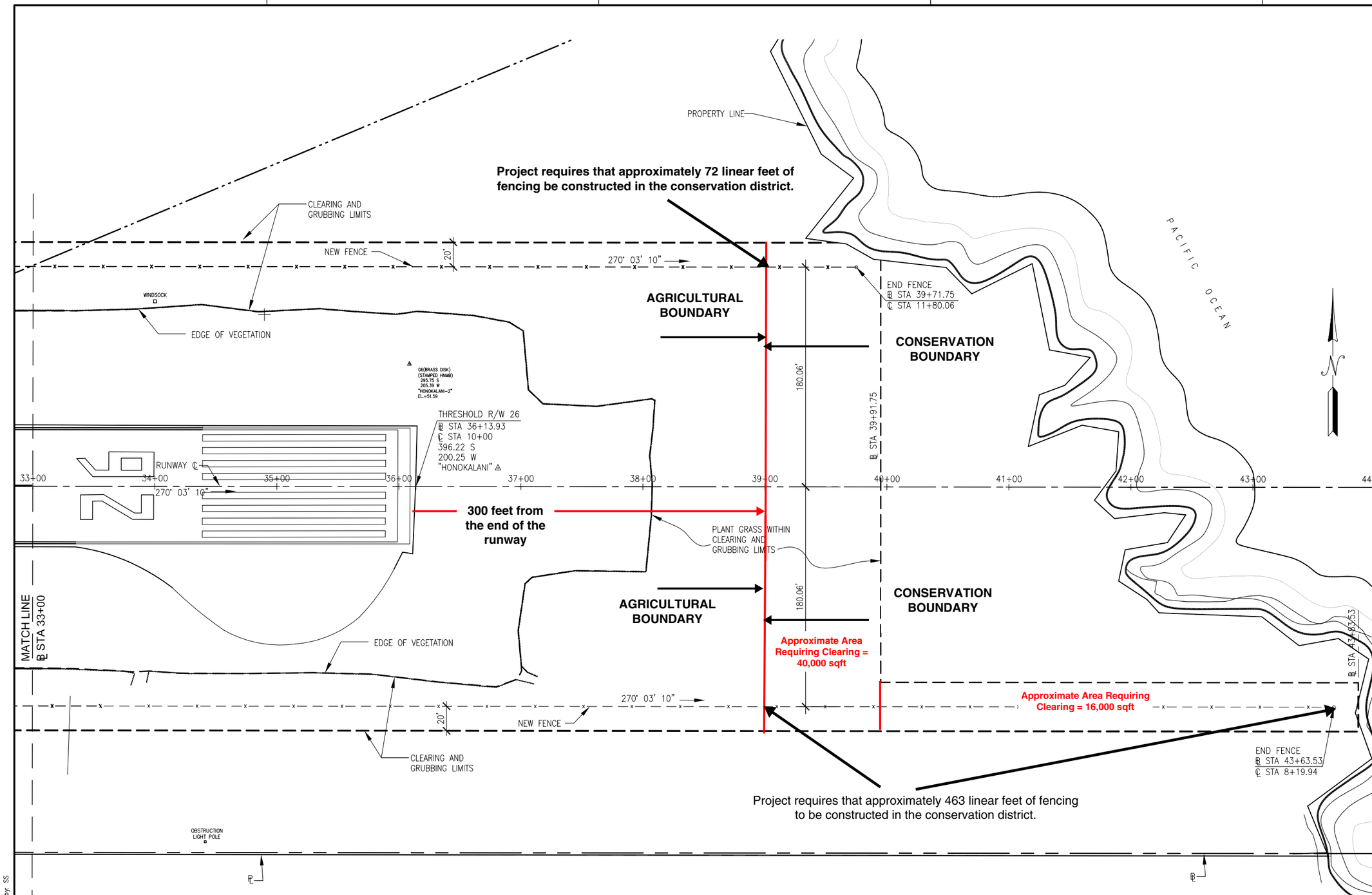

FIGURE 10 - PORTION OF FENCE LINE IN STATE LAND USE CONSERVATION DISTRICT

FENCE ALIGNMENT
SCALE: 1" = 40'

40' 0 40' 80' 160'
SCALE: 1" = 40'-0"

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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DSGN.	DRWN.	CHKD.	APPD.
TAC	ENL	TAC	?

KEY PLAN / NOTES:

NO.	DATE	REVISIONS
C	12/21/07	100% DESIGN REVIEW
B	10/29/07	60% DESIGN REVIEW

TOMMY A. CAMARILLO
LICENSED PROFESSIONAL ENGINEER
No. 3123-C
HAWAII, U.S.A.

I HEREBY CERTIFY THAT THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature:

Expiration date: April 30, 2008

PROJECT TITLE :

AIRCRAFT RESCUE AND FIRE FIGHTING FACILITY
&
SECURITY PERIMETER FENCE
PART 139 IMPROVEMENTS
AT HANA AIRPORT
HANA, MAUI, HAWAII

PROJECT NO.:

AM3031-01

SHEET TITLE:

FENCE ALIGNMENT
STA 33+00 TO STA 43+63.53

DATE : DECEMBER 21, 2007
DWG. NO. : C014
SHEET
OF -- SHEETS

FILE: C014_HH62701-014.dwg XREFS: TX_HH62701.dwg; CX_HH62701-POINTS.dwg; CX_HH62701TOPO.dwg; CX_HH62701-FENCE.dwg; CX_HH62701-SITE.dwg
Plotted on: Dec 24, 2007 at 9:07 am by: SS

4.2 CLIMATE

The climate in Hana is characterized as semi-tropical and is influenced by Hawaii's geographical location within the tropics, southwest of the Pacific High or anticyclone. According to the Maui County Data Book (MCDB 2006), the average annual temperature recorded at the Hana Airport ranges between 67.4ºF during the coolest month, and 80.8 ºF during the warmest month. The estimated average annual rainfall is 80.76 inches per year.

4.3 GEOLOGY & SOILS

Geology

Maui, the second largest island in the State of Hawaii and is 48 miles long and 26 miles wide. The land area is 465,920 acres, or 728 square miles. The island formed through the merging of two volcanoes-the East Maui volcano, known as Haleakala, and the West Maui volcano. It is divided into three main areas: West Maui, East Maui, and Central Maui, or the isthmus.

West Maui is a deeply dissected volcano that rises to 5,788 feet at Puu Kukui. The central part of West Maui consists of canyons and steep ridges and is not easily accessible. It is surrounded by a moderately sloping, smooth narrow belt with few gulches. East Maui was created from three volcanic series, Haleakala Volcano (10,025-feet) and the Honomanu, Kula and Hana volcanic series. The project site is largely underlain by the Hana volcanic series. Near the summit and on the eastern and southwestern slopes, the land is rough and rocky. The western and northern slopes are relatively smooth but are sloping to moderately steep.

At an elevation of approximately 78 feet above mean sea level (msl), the project site and surrounding areas are relatively flat with no unique topographical features identified.

Soils

The Hana Airport Property is located in the Hana-Makaakae-Kailua soil association, which is generally associated with intermediate uplands. The soils are classified as moderately deep and deep, gently sloping to steep, well drained soils that have a moderately fine textured or fine textured subsoil or underlying material. These soils are gently sloping to steep. They developed in material weathered from volcanic ash. The association makes up about 7 percent of the island. The elevation ranges from near sea level to 2,500 feet. The annual rainfall is 40 to 160 inches. The mean annual soil temperature is between 69° and 75° F. The natural vegetation consists of Christmas berry, ferns, guava, guineagrass, hilograss, kaimiclover, and kikuyugrass. Hana soils make up about 30 percent of the association, Makaalae soils about 25 percent, and Kailua soils about 20 percent. Kaupo, Makawao, Malama, and Opihikao soils make up the rest.

According to the U.S. Department of Agricultural Natural Resources Conservation Service (NRCS), the soil at the project site is classified as Malama extremely stoney muck 3 to 25% slopes. This soil is on rough Aa lava flows and includes small areas of

outcrops of Aa lava near the edge and on the sides of small gulches. In a representative profile the surface layer is black muck about 8 inches thick. The substratum is fragmental Aa lava. It contains a small amount of organic material in voids in the upper 24 inches. The amount of organic material decreases with depth. Permeability is rapid. Runoff is very slow, and the erosion hazard is no more than slight. In places roots penetrate to a depth of 2 feet. This soil is used mostly for water supply. Small acreages are used for orchard crops and pasture

4.1.3 *Alternative 1 No Action*

Under the No Action Alternative the geology and soils of the Hana Airport would not be impacted.

4.1.4 *Alternative 2: Proposed Action*

The Proposed Action Alternative would involve some site clearing, grubbing, and grading work, at the site for both the proposed ARFF facility and the perimeter fence. Due to the already flat topography of the project site, changes in topography are expected to be relatively insignificant. Construction activities for the Proposed Action Alternative would result in the disturbance of soil and ground cover. Adverse impacts to the remaining geologic and soil resources are not expected.

4.4 WATER RESOURCES

4.4.1 Groundwater

Basal groundwater is formed by rainwater percolating down through the residual soils and permeable volcanic rock. The entire portion of the volcanic materials, which form the islands located below sea level, is saturated with seawater. Fresh rainwater, moving downward through the hundreds of lava flows, encounters the saltwater in the rocks. Since fresh water is less dense than saltwater, it floats on and displaces the underlying salt water. The fresh basal water floating on the saltwater presses downward on the saltwater forming a basal, or a “Ghyben-Herzberg” lens. A zone of transition between the fresh groundwater and the ocean salt water occurs due to the constant movement of the interface as a result of tidal fluctuations, seasonal fluctuations in recharge and discharge, and discharge due to aquifer development (Mink & Lau 1990). The island of Maui is divided into six aquifer sectors, one of which is the Hana aquifer. The project site overlies the Kawaipapa aquifer system, which is comprised of basal groundwater at least two (2) miles inland. The aquifer is protected at the coast by cap rock. Inland, high level dike water in Honomanu basalt lies far below the surface. The estimated sustainable yield of 48 million gallons per day (MGD) reflects the high rainfall the system receives.

4.4.1.1 *Alternative 1: No Action*

The No Action Alternative would have not impact the groundwater resources.

4.4.1.2 *Alternative 2: Proposed Action*

The nearest water supply wells are located approximately 1.5 miles up gradient from the site. Therefore the construction and operation of the Proposed Action Alternative would not have an impact on the drinking water resources. No significant impact to the groundwater underlying the project site is anticipated during the construction or operation of the Proposed Action Alternative. Mitigation measures will be developed to protect the groundwater resources during construction.

4.4.2 Surface and Coastal Water

Surface Water
There are no surface water bodies, i.e. streams or rivers identified at the project site. Kawaipapa Gulch (perennial stream) is the closest surface water body, located approximately 2 miles south of the project site.

Coastal Zone Management
The runway at the Hana Airport sits at an approximate elevation of 78 feet. A portion of the northern property boundary varies in elevation; some portions over look the Pacific Ocean from an estimated elevation of 30 feet, while the remaining portions have moderate slopes that meet the shoreline. The runway and facilities at the Hana Airport rest far from the northern property line, and therefore so will much of the proposed work. The proposed ARFF location sits on the opposite side of the runway from the cliff side, thus posing a very low threat to the local coastal waters.

U.S. Federal activities involving or affecting coastal resources are governed by the Coastal Zone Management Act (CZMA) and E.O. 13089, Coral Reef Protection. The CZMA and the National Oceanic and Atmospheric Administration (NOAA) implementing regulations (15 CFR Part 930) provides procedures for insuring that a proposed action is consistent with approved coastal zone management programs. E.O. 13089, Coral Reef Protection, requires Federal agencies to ensure that any action that they authorize, fund, or carry out will not degrade the conditions of coral reef ecosystems. The CZMA consistency applies only to states having a CZM plan, the FAA should consult as necessary with the state agencies having jurisdiction one the affected resources to determine if additional information is needed (E.O. 10501.E Appendix 12 paragraph 3.4e).

Chapter 205A, HRS, the Hawaii Coastal Zone Management (CZM) Program was promulgated in 1977 in response to the Federal Coastal Zone Management Act of 1972. The CZM area encompasses the entire state including all marine waters seaward to the extent of the state's police power and management authority, including the 12-mile U.S. territorial sea and all archipelagic waters. All proposed project alternatives are consistent with the Hawaii Coastal Zone Management Program objectives in the following areas:

- Recreational Resources: *Provide coastal recreational opportunities accessible to the public.*

All proposed project schemes are located on State Department of Transportation, Airports Division property, and designated strictly for the use of the Hana Airport. The grounds of the Wai'anapanapa State Park are located to the east of the airport. The south-east boundary of the airport property lies along Ka'eleku State Park lands. Access to these recreational facilities will not be impacted by any of the proposed project schemes.

- Historic Resources: *Protect, preserve, and, where desirable, restore those natural and manmade historic and pre-historic resources in the coastal zone management area that are significant in Hawaiian and American history and culture.*

There is no Registered Places of Historic importance located within the proposed project site. An Inventory Survey carried out in September of 2006 did not identify any significant archaeological features on the airport property, although a Hawaii foot-trail lies adjacent, along the coast

4.4.2.1 *Alternative 1: No Action*

The No Action Alternative would have no impact on the surface and coastal water resources.

4.4.2.2 *Alternative 2: Proposed Action*

The nature of the proposed facility improvements may pose potential short-term impacts to erosion, sedimentation and local water quality, primarily related to storm water runoff from the near cliff-side during the construction phase of the project. The potential water quality impact to the cliff-side waters during construction will be mitigated to adhere to the State of Hawaii and County of Maui water quality regulations. All land disturbing activities (i.e. grading, excavation, etc.) are expected to be accomplished only to the extent necessary to facilitate the construction of the chosen project alternative and its supporting infrastructure.

Certain aspects of the proposed project may require the preparation of an erosion and control plan for the approval by the County of Maui before commencing grading activities. An erosion and control plan is designed to minimize erosion and sedimentation, and consider all factors that contribute to erosion and sedimentation. Figure 11 presents the Erosion Control Plan for the proposed project. Below are a few examples that may be included in an erosion and control plan:

- Temporary silt fences: for use during the earthmoving activities.
- Permanent control measures: and facilities, including disposal of materials removed from the project area.

- Collection of Runoff: All runoff from the project area will be collected and diverted to facilities for removal of sediment. Keep run-off on site
- Pollution Prevention: Prevent cement products, oil, fuel and other toxic substances from entering any bodies of water.
- Watering: The project site will be watered daily to help minimize any dust.

With the proposed action, the above listed measures for erosion and sedimentation control will be implemented in order to comply with all local regulations. To further minimize the effects resulting from grading and construction activities, applicable Federal, State and County rules and regulations will be implemented. All appropriate and applicable best management practices will be implemented to help reduce and control discharge of runoff from the construction areas.

4.4.3 Flood Plain Management

United States Executive Order (E.O.) 11988, Floodplain Management, requires U.S. Federal agencies to take action to reduce the risk of flood loss, minimize the impact of flood on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains. Floodplain maps are the basis for implementing floodplain regulations. A Flood Insurance Rate Maps (FIRM) is the official map produced by FEMA. FIRMs illustrate areas that would be inundated during a 100-year flood. Figure 12 illustrates the FIRM map for the Hana Airport (FIRM Community Panel No. 150003 0310 B). The Hana Airport property is located in Zone C, which is defined as an "An area that is determined to be outside the 100 and 500 year floodplains." The abutting cliff side of the airport property has a very small area that is designated as a Zone V29, which is described as "Coastal areas that have a 1% or greater chance of flooding and an additional hazard of storm waves." Base-flood elevates derived from detailed analyses are shown at selected intervals within these zones; these areas are outlined in the FIRM Map.

4.4.3.1 *Alternative 1: No Action*

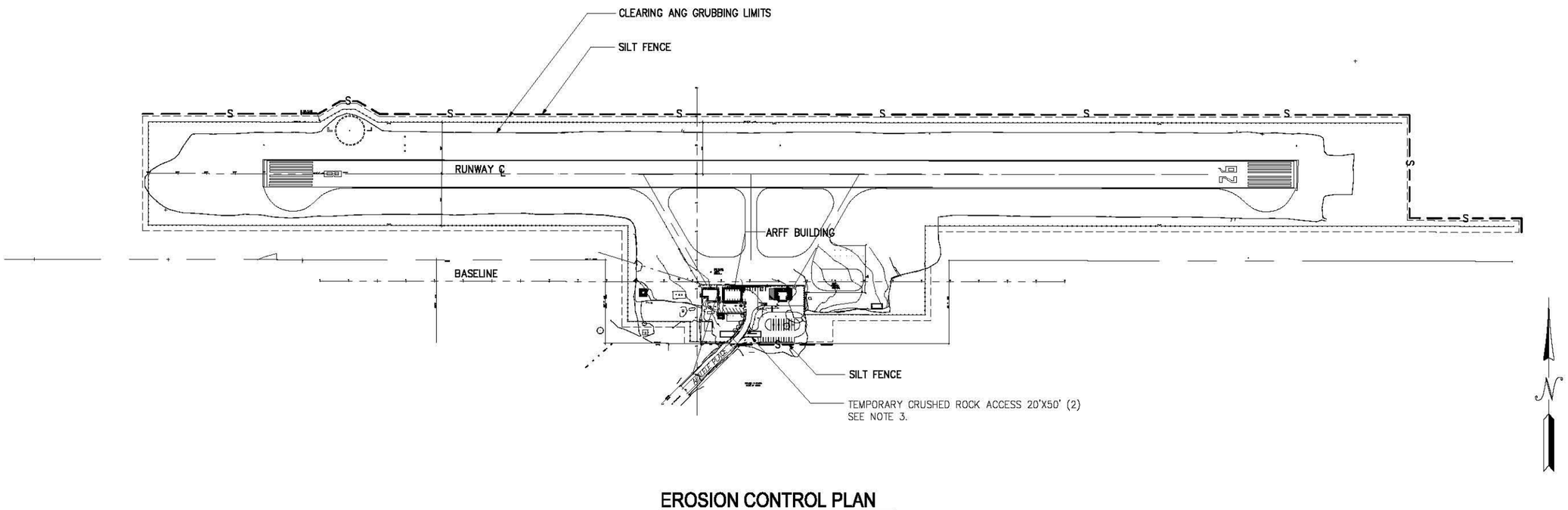
The No Action Alternative would have no direct impact to the floodplain areas.

4.4.3.2 *Alternative 2: Proposed Action*

There would be no notable impacts to the floodplain associated with the Proposed Action for the project site is outside of the 100-year flood zone and protects the federal investment from flood damages, per EO11988 as outlined in 44 CFR Part 9.11, which is consistent with the objectives in EO 11988.

4.5 SPECIAL MANAGEMENT AREA

The purpose of the Special Management Area (SMA) Assessment is to regulate any use, activity or operation that qualifies as a "Development." The assessment provides a means to preserve, protect and where possible, restore the natural resources of the Coastal



EROSION CONTROL PLAN

SCALE: 1" = 200'

BEST MANAGEMENT PRACTICES EROSION CONTROL NOTES

1. SILT FENCES SHALL BE CONSTRUCTED PRIOR TO COMMENCEMENT OF CLEARING AND GRUBBING AND ON THE DOWNHILL SIDE OF ALL SLOPES BEING GRADED.

2. SILT FENCES SHALL BE IMMEDIATELY REPAIRED WHEN DAMAGED DURING CLEARING AND GRUBBING OR GRADING OPERATIONS.

3. ALL UNPAVED SITE INGRESS AND EGRESS SHALL HAVE A CRUSHED ROCK PAD AND THE CONTRACTOR SHALL INSURE THAT ALL VEHICLES LEAVING THE CONSTRUCTION SITE WILL BE FREE OF MUD. PAD AREA SHALL BE AS NOTED AND CONSIST OF 8" DEEP #2 CRUSHED ROCK ON GEOTEXTILE FABRIC. INSTALL TEMPORARY ACCESS AT START OF PROJECT. REMOVE TEMPORARY ACCESS AS DIRECTED BY THE CONTRACTING OFFICER.

4. STOCKPILES:
STOCKPILES SHALL NOT BE LOCATED IN DRAINAGE WAYS OR OTHER AREAS OF CONCENTRATED FLOWS. SEDIMENT TRAPPING DEVICES SUCH AS FENCES, TRAPS, BASINS OR BARRIERS SHALL BE USED AROUND THE BASE OF THE STOCKPILES.

5. DUST CONTROL:
DUST CONTROL SHALL BE APPLIED TO REDUCE DUST EMISSIONS. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES: CHAPTER 11-60, AIR POLLUTION CONTROL.

6. SEDIMENT BARRIERS OR TRAPS:
SEDIMENT TRAPPING DEVICES SUCH AS FENCES, TRAPS, BASINS OR BARRIERS SHALL BE USED DOWN SLOPE OF ALL DISTURBED AREAS AND AROUND THE BASE OF ALL MATERIAL STOCKPILES.

7. SLOPE PROTECTION:
SURFACE FLOW FROM ABOVE AND EXPOSED SLOPE SHALL NOT BE ALLOWED TO FLOW OVER THE SLOPE WITHOUT PROTECTION. SLOPE PROTECTION SHALL BE USED ON ALL AREAS WITH SLOPES GREATER THAN 50% AND ON AREAS OF MODERATE SLOPES THAT ARE PRONE TO EROSION.

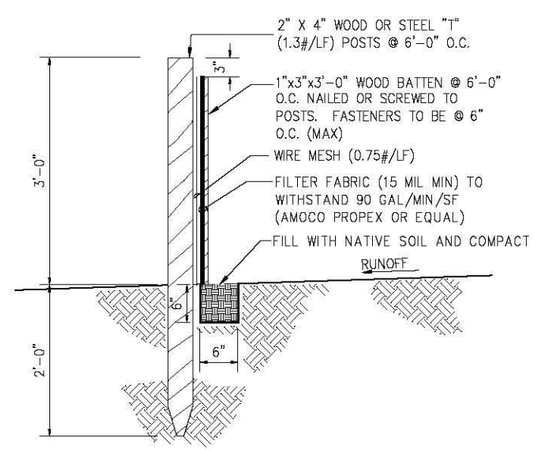
8. INLET PROTECTION:
ALL STORM DRAIN INLETS ON SITE, AND THOSE OFFSITE WHICH MAY RECEIVE RUNOFF FROM THE SITE SHALL USE AN INLET PROTECTION DEVICE.

9. GRASS SHALL BE ESTABLISHED ON DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WILL NOT BE WORKED FOR LONGER THAN 14 DAYS. ALTERNATIVES TO GRASS INCLUDE 2" MINIMUM STRAW MULCH COVER, EROSION BLANKETS WITH ANCHORS, 6-MIL PLASTIC SHEETS, SEDIMENT TRAPS OR PONDS, OR INTERCEPTOR DIKES/SWALES.

10. PERMANENT STABILIZATION:
ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED PRIOR TO REMOVING EROSION AND SEDIMENT MEASURES. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND AREAS OF DISTURBED SOIL WHICH RESULT FROM THE REMOVAL OF THE TEMPORARY MEASURES SHALL BE IMMEDIATELY PERMANENTLY STABILIZED.

11. CONTRACTOR SHALL REMOVE AND DISPOSE OF OFF SITE THE SILT FENCES WHEN THE PROJECT IS COMPLETED AND THE GRASS IS ESTABLISHED.

12. CONTRACTOR SHALL SUBMIT FOR REVIEW, INSTALLATION AND MAINTENANCE PLANS OF SILT FENCE.



DETAIL - SILT FENCE

SCALE: NONE

GRAPHIC SCALE:

200' 0 200' 400' 800'

SCALE: 1"=200'-0"

FIGURE 11 – EROSION CONTROL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

GMP HAWAII, INC.
ENGINEERS/ARCHITECTS/PLANNERS
1100 Alakea Street
Suite 1800 Honolulu, HI 96813
Ph: (808) 521-4711 www.gmphawaii.com

DSGN.	DRWN.	CHKD.	APPD.
TAC	EFP	TAC	

KEY PLAN / NOTES:

NO.	DATE	REVISIONS
B	10/29/07	60% DESIGN REVIEW

I HEREBY CERTIFY THAT THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature:

Expiration date: April 30, 2008

PROJECT TITLE :

AIRCRAFT RESCUE AND FIRE FIGHTING FACILITY & SECURITY PERIMETER FENCE

PART 139 IMPROVEMENTS AT HANA AIRPORT
HANA, MAUI, HAWAII

PROJECT NO.:

AM3031-01

SHEET TITLE:

EROSION CONTROL PLAN

DATE : OCTOBER 29, 2007

DWG. NO. : C005

SHEET OF -- SHEETS

FILE: C005_HH62701-005.dwg XREFS: TX_HH62701.dwg; C007_HH62701-007.dwg; ACX_HH62701-FP001.dwg; CX_HH62701-POINTS.dwg; CX_HH62701-FENCE.dwg; CX_HH62701-TOPO.dwg
Plotted on: Oct 26, 2007 at 4:00 pm by: epellena

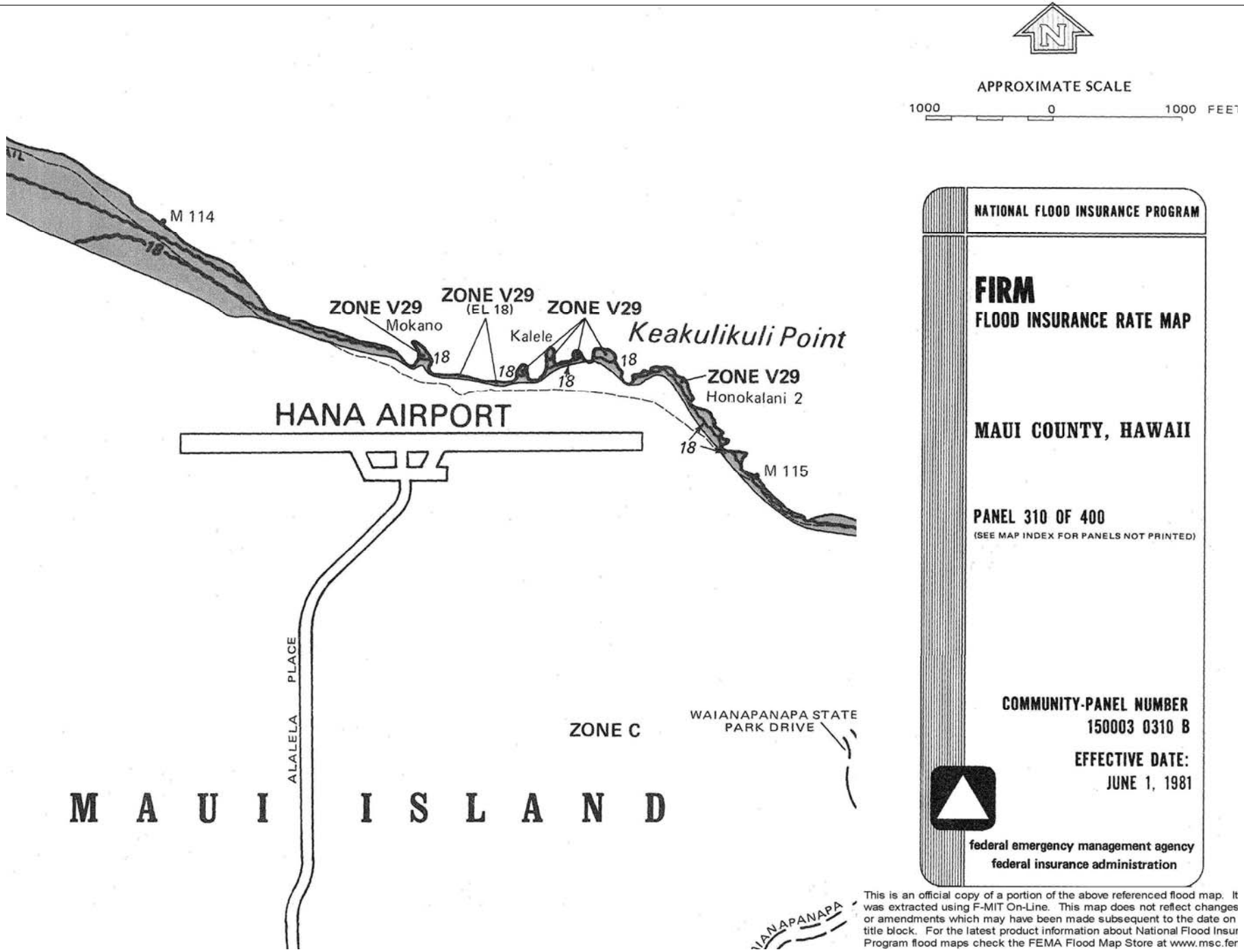


FIGURE 12 – FEMA FIRM MAP

Zone by establishing special controls on development within the areas along the shoreline so as to avoid the permanent loss of valuable resources and the foreclosure of land use and management options. The SMA originally encompassed all lands extending not less than 100 yards inland from the shoreline. The shoreline is defined as the upper reaches of the wash of the waves (other than storm or seismic waves) at high tide during the season of the year in which the highest wash of the waves occurs. The shoreline is usually evidenced by vegetation growth, or the upper limit of debris left by the wash of waves. Figure 13 illustrates project site in reference to the established SMA boundary area.

SMA applications are reviewed by the Director of the Central Coordinating Agency (Department of Public Works and Environmental Management, Development Services Administration) for completeness and approval. The presentation of a "proposed development plan" to the Hana Advisory Committee may be requested.

The following considerations are specified in Chapter 205, Hawaii Revised Statues (HRS) regarding the use of the land within the Special Management Area. Theses concern will be addressed as relevant to the Proposed Action**:**

1. All development in the Special Management Area shall be subject to reasonable terms and conditions set by the council to ensure that:

(a) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas and natural reserves is provided to the extent consistent with sound conservation principles.

Access to publicly owned or utilized beaches, recreation area and natural reserves will remain the same as a result of the proposed project.

(b) Adequate and properly located public recreation areas and wildlife preserves are reserved.

There are no wildlife preserves on or near the property. The nearest public recreation areas are the Wai'anapanapa and the Ka'eleku State Park lands, located to the east and southeast, respectively. There is no impact anticipated to the recreation areas from the proposed project.

(c) Provisions are made for solid and liquid waste treatment, disposition and management which will minimize adverse effects upon Special Management Area resources.

Solid waste at the project site is collected by the County of Maui Department of Public Works or private haulers and transported to the Hana Landfill. Any solid waste generated by during the construction will be disposed of properly and will not impact the region's solid waste refuse collection. Presently the wastewater at the facility is serviced by a septic system and leach field. The proposed project includes relocation of the current system and installation of a larger system in order to accommodate any future increase in wastewater generated at the project site**.** The proposed project will not impact the solid and liquid waste treatment resources in the region.

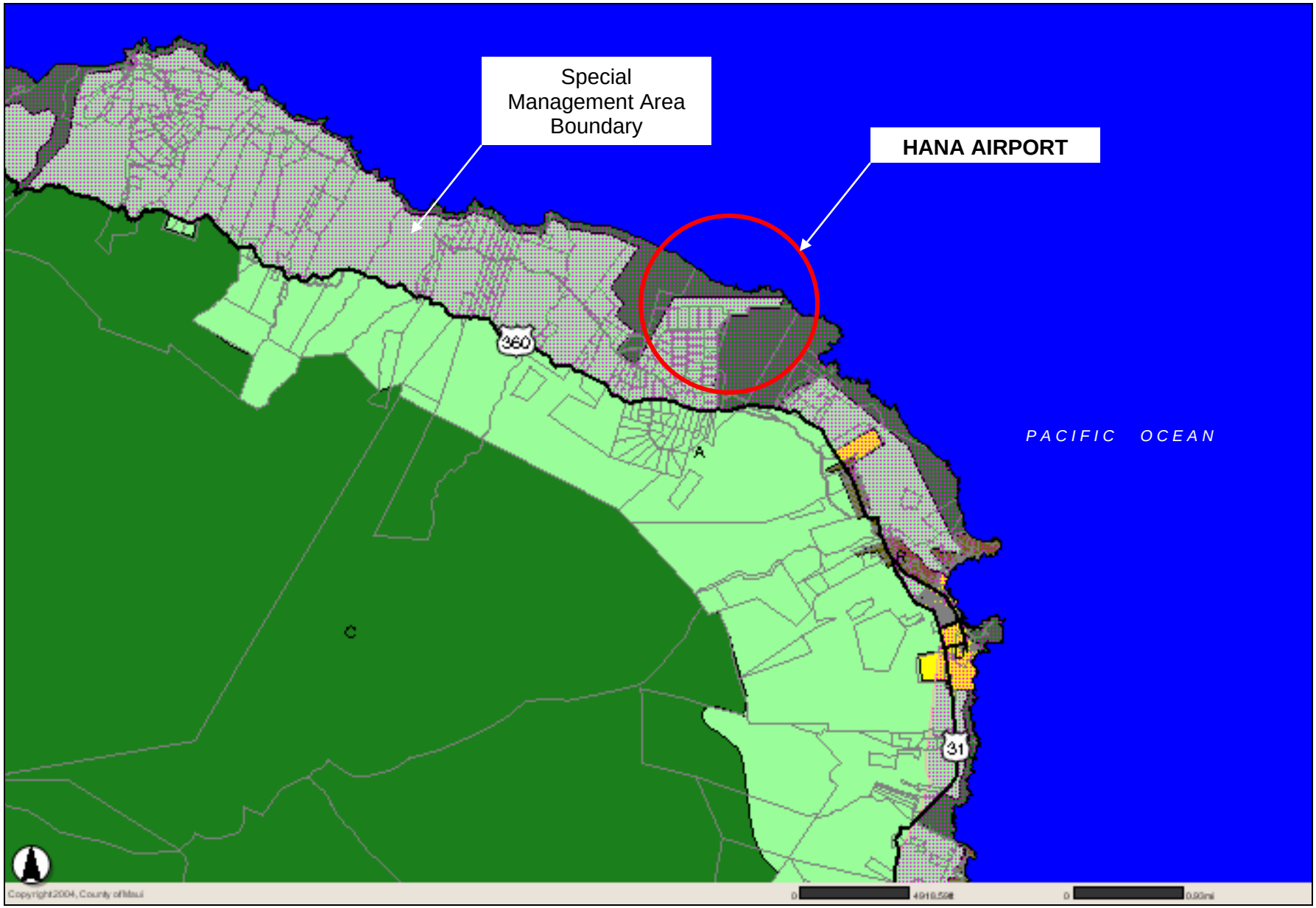


FIGURE 13 – SPECIAL MANAGEMENT AREA – HANA AIRPORT

(d) Alterations to existing landforms and vegetation; except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of earthquakes.

The proposed project is on previously disturbed and developed land. No coastal scenic or recreational amenities will be affected. With respect to flood hazard, the project falls within Flood Zone C, areas outside the 100 and 500-year flood plain. The proposed facility is approximately 1400 feet from the coastline and lies outside the tsunami inundation zone. The facility is in earthquake zone Seismic Zone 2B, moderate seismic hazard, and the design will meet the requirements of the UBC 1997 and/or IBC 2003 Standards.

2. No development shall be approved unless the council has first found that:

(a) The development: will not have any substantial, adverse environmental or ecological effect except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interest. Such adverse effect shall include, but not be limited to, the potential, cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect: and the elimination of planning options.

The Hana Airport is the only means of aviation transportation for the east side of Maui and therefore it is vital that the airport facilities meet the FAA's safety standards. Presently, the current airport facilities are not deemed secure under FAA regulations for an airport of their classification. Currently there are no enclosures around the perimeter of the airport property, runway or aircraft movement areas at the Hana Airport. The lack of enclosures for the aircraft movements areas is a major safety concern, not only for the safety of those that may be on the ground but for the safety of the arriving and departing aircrafts as well. The Hana Airport's need for an ARFF Facility is crucial in order to assure the safety of aircraft operations and to ensure a fast and efficient response to any aircraft emergencies. Therefore the justification for the proposed improvements at Hana Airport is one due to public safety.

(b) The development: is consistent: with the objectives and policies set forth in Section 25-3.1 and any guidelines contained in HRS Section 205A-26.

These objectives and policies are discussed in the coastal zone management Section 4.4.2.

(c) The development is consistent with the county general plan, development plans and zoning.

The land use designation for the subject property indicates that the area is to be used for airport activities only. The project conforms to the county general plan, development plans and zoning. The objectives of the country general plan and zoning polices are discussed in Section 4.1. The proposed project will provide the Hana region with the improved safety and operating conditions at the Hana Airport, which are necessary and vital to both the welfare and public safety of the community.

3 .The County Council shall seek to minimize, where reasonable:

(a) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon.

The proposed project is self-contained within the existing airport property boundary. No ocean or fresh water resources will be affected by the proposed project. The proposed project does not involve dredging, filling or other alterations to any bay, estuary, salt marsh, river mouth or lagoon. The proposed project will not have an attributable impact on the coastal shoreline located approximately 1400 from the proposed project site.

(b) Any development, which would reduce the size of any beach or other area usable for public recreation.

The proposed perimeter fence will be located 400 to 1400 ft from the shoreline in various areas along the property boundary. The nearest public recreation areas are the Wai'anapanapa and the Ka'eleku State Park lands, located to the east and southeast, respectively. Public shoreline and beach access is not provided through the airport property. There is no impact anticipated to the recreation areas from the proposed project.

(c) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions or rivers and streams within the Special Management Area and the mean high tide line where there is no beach.

The proposed project is approximately 1400 feet from the shoreline area. The proposed project will have no effect public access to tidal or submerged lands, beaches, rivers or streams. Public shoreline and beach access is not provided through the airport property.

(d) Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast.

The state highway nearest the coast is Hana Highway 360, which is approximately one mile from the project site. The project will not substantially detract from the line of site toward the sea from this coastal highway.

(e) Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

The proposed project is not anticipated to have an impact on water quality or existing areas of open water. With the proposed action, measures for erosion and sedimentation control will be implemented in order to comply with all local regulations. To further minimize the effects resulting from grading and construction activities, applicable Federal, State and County rules and regulations will be implemented. All appropriate and applicable best management practices will be implemented to help reduce and control discharge of runoff from the construction areas. The operations of the proposed project will not adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

4.5.1 *Alternative 1: No Action*

No projects would be implemented under the No Action Alternative; therefore no impacts to the designated SMA would occur.

4.5.2 *Alternative 2: Proposed Action*

The Proposed Action is not anticipated to have an impact on the SMA boundary area. A determination that the Proposed Action is consistent with the county, community plan objectives and zoning policies will be completed through the submittal of a completed SMA Assessment Application. The Department of Planning will review the SMA Assessment Application to determine whether the proposed action qualifies as a "Development" and will make a determination on whether the proposed action is: (1) Exempt, (2) requires a SMA Minor Permit, (3) requires a SMA Major Permit, (4) requires a SMA Emergency Permit, or (5) cannot be processed due to inconsistencies with the county general plan, community plan, and zoning.

4.6 SHORELINE SETBACK AREA

The United States Congress enacted the federal Coastal Zone Management Act in 1972. To comply with the Act, the Hawaii State Legislature passed Public Law 92-583: "The Hawaii Coastal Zone Management Act of 1977" (Hawaii Revised Statutes Chapter 205A or HRS 205A). Like the federal Act, the State law contains a number of wide ranging objectives and policies. These are intended to guide the conservation and development of land and water resources within the coastal zone in light of competing demands for limited and sensitive coastal resources. Shoreline Setback regulations are governed by Chapter 205A of HRS, as amended and Title MC-12, Subtitle 02, Chapter 203, Shoreline Rules for the Maui Planning Commission. The purpose of these rules are to regulate the use and activities of the land within the shoreline environment in order to protect the health, safety, and welfare of the public by providing minimum protection from know coastal hazards; and to ensure that the public use and enjoyment of our shoreline resources are preserved and management law, HRS Chapter 205S, as amended. Shoreline Setback Areas (SSA) are a subset of the Special Management Area and range from 25 feet to 150 feet from the shoreline. Significant restrictions apply to the types of activities, structures and/or developments that are permitted within the SSA.

Establishment of the shoreline setback line is defined by title MC-12, Subtitle 02, Chapter 203 as:

> "All lots shall have a shoreline setback line that is the greater of the distances from the shoreline as calculated under the methods listed below or the overlay of such distances: For irregularly shaped lots, or where cliffs, bluffs, or there topographic features inhabit the safe measurement of boundaries and/or the shoreline, the shoreline setback line will be equivalent to twenty-five percent of the lot's depth as determined by the director, to a maximum if one hundred fifty feet from the shoreline."

4.6.1 *Alternative 1: No Action*

No projects would be implemented under the No Action Alternative; therefore no impacts to the designated SSA boundary would occur.

4.6.2 *Alternative 2: Proposed Action*

Any new structures and/or proposed activities must receive a Shoreline Setback Approval issued by the County of Maui Planning Department and a Shoreline Setback Determination (SSD) indicating that the setback area is properly located.

4.7 AIR QUALITY

The US Environmental Protection Agency has promulgated National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO_2), particulate matter less than or equal to 10 microns in aerodynamic diameter (PM_{10}), nitrogen dioxide (NO_2), carbon monoxide (CO), lead (Pb), and ozone (O_3). Two levels of protection are provided by the NAAQS. Primary NAAQS were set at levels to protect public health, while secondary NAAQS were established at levels designed to protect welfare, including agricultural crops, building materials, national parks and forests. The State of Hawaii has promulgated its own ambient air quality standards that were patterned after the NAAQS. The State Ambient Air Quality Standards (SAAQS) are more stringent than the NAAQS for three pollutants: NO_2, CO and O_3. The State of Hawaii also promulgated a 1-hour ambient standard for hydrogen sulfide (H_2S). Table 4.1 summarizes the State of Hawaii and Federal Ambient Air Quality Standards. In 2006, the State of Hawaii was in attainment for all NAAQS (DOH 2006 Annual Summary – Air Quality Data).

TABLE 4.1
STATE OF HAWAII AND FEDERAL
AMBIENT AIR QUALITY STANDARDS

POLLUTANT	Hawaii State Standards	Federal Primary Standard[a] (Health)	Federal Secondary Standard[b] (Welfare)
CARBON MONOXIDE			
1 hour	10,000 µg/m^3	40,000 µg/m^3	40,000 µg/m^3
8 hour	5,000 µg/m^3	10,000 µg/m^3	10,000 µg/m^3
NITROGEN DIOXIDE			
1 hour	---	----	----
24 hour	----	----	----
Annual (Arithmetic)	70 µg/m^3	100 µg/m^3	100 µg/m^3
PM -10[c]			
24 hour	150 µg/m^3	150 ug/m^3	150 µg/m^3
Annual (Arithmetic)	50 µg/m^3	50 ug/m^3	50 µg/m^3
HYDROGEN SULFIDE			
1 hour	35 µg/m^3	----	----
OZONE			
1 hour	100 µg/m^3	235 µg/m^3	235 µg/m^3
SULFUR DIOXIDE			
3 hour	1300 µg/m^3	-----	1300 µg/m^3
24 hour	365 µg/m^{33}	365 µg/m^3	
Annual (Arithmetic)	80 µg/m^3	80 µg/m^3	-----
LEAD			
3 months	1.5 µg/m^3	1.5 µg/m^3	1.5 µg/m^3

a: Designated to prevent against adverse effects on public health
b: Designated to prevent against effects on public welfare, including effects on comfort, visibility, vegetation, animals, aesthetic values, and soiling and deterioration of materials
c: Particulate Matter which is co microns or less in diameter
Sources: State standards HAR §11-59; Federal standards 40 CFR Part 50

Currently there is only one (1) Department of Health (DOH) air monitoring station on the island of Maui. The station is located in Kihei (DOH July 2004). The station is designated as a Special Purpose Monitoring (SPM) Station for PM_{10} measurements. The PM_{10} levels recorded at the station for 2006 are well below the State and Federal AAQS of 50 µg/m^{3}and 150 µg/m^3, respectively.

4.7.1 *Alternative 1: No Action*

Air quality standards would not be affected under the No Action Alternative.

4.7.2 *Alternative 2: Proposed Action*

The construction phase of the project is expected to have minimal effect on air quality. Fugitive dust and fumes may result from operations and exhaust emissions from

equipment and vehicles during the construction phase. The Contractor will be responsible for minimizing dust generated in compliance with the State Department of Health's Public Health Regulations, HAR Title 11 Chapter 60, Air Pollution Control.

The Contractor will employ dust control methods in accordance with the contractor's dust control plan. Several mitigative measures that may help prevent particulate matter from becoming airborne and travel off-site include: surrounding down-wind portions of the site with dust screens; frequently spray bare, exposed soils with water; pave, landscape and/or seed areas immediately after grading; and, cover or mix exposed soils with mulch.

Burning of cleared vegetation should be limited or prohibited. All motorized construction equipment shall be in good mechanical condition and equipped with emissions controls that meet the Department of Environmental Quality Standards. Open bed trucks shall be covered when transporting materials likely to give off airborne particulates. The operations impacts of the Proposed Action Alternative in regards to the air quality are expected to insignificant to non-existent.

4.8 FLORA AND FAUNA

The project area has been significantly altered through previous development activities, including clearing and grading. A survey conducted in October of 2006 (Cultural Surveys Hawaii), inventoried the natural flora environment at the Hana Airport. A copy of the survey is included as Appendix B[1]. The report states that currently the natural environment at the project area consists of the following but was not limited to:

> Open fields of St. Augustine grass (*Stenotaphrum secundatum*) that make up the runway service apron, surrounded by vegetation that includes, dense thickets of introduced cane grass (*Pennisetum perpereum*) and molasses grass (*Melinis minuitiflora*). Thick stands of *koa haole* (*Leucaena leucocephala*), *hala* (*Pandanus tectorious*), guava (*Psidium guajava*), Chirstmas berry (*Schinus terebinthifolius*), coastal *naupaka* (*Scaevola taccada*), century plants (*Agave americanum*), lantana (*Lantana camara*), and *kahili* ginger (*Hedychium gardnerianum*). Ti plants (Cordyline fruticosa) and coconut trees (Cocos nucifera) are interspersed within the thicket vegetation surrounding the airfield.

The predominant fauna inhabiting the area included the introduced mongoose, Hawaiian rat, house mice, brown rat, black rat and feral cats and dogs. Avifanua that may be found in the area include mynas, sparrows, finches, doves and cardinals.

There are no threatened, rare or endangered animal species are known to occur within the proposed project area.

[1] The TMK referenced in the October 2006 survey ((2)-2-1-003:022-040), differs from the TMK provided from the County of Maui, Department of Planning (2-1-3-003:022). Both TMKs refer to the proposed project parcel

4.8.1 *Alternative 1: No Action*

The No Action Alternative would not have an impact on the flora and fauna or terrestrial species at the site or the surrounding area. The current flora and fauna at the project would remain unchanged under this alternative.

4.8.2 *Alternative 2: Proposed Project*

Under this alternative, no direct impacts on the flora and fauna resources are anticipated as a result of construction of the Proposed Action Alternative, as the development of the new AARF would be consistent with the current operations at the site. There are no identified or known threatened, rare, or endangered species of flora or fauna inhabiting the project site. Flora and fauna have previously been displaced due to past construction and operation activities at the project site. Noise produced by the construction of the Proposed Action may temporarily displace some of the birds and rodents found at the plant. These animals will most likely re-establish themselves on the property once construction is complete. Anticipated adverse impacts to flora and fauna are not expected.

4.9 CULTURAL AND ARCHEOLOGICAL RESOURCES

E.O. 11593, Protection and Enhancement of the Cultural Environment, November 20, 1972, requires that U.S. Federal plans and programs contribute to the preservation and enhancement of sites, structures, and object of historic, architectural, or archaeological significance.

Hana is steeped in legend and was a major canter of population and political power in ancient Hawaii. According the Hana Community Plan; plantation sugar was cultivated here from the mid-nineteenth to the mid-twentieth century, obliterating many traditional structures. The community plan also states that do to the ruggedness if the land and the persistence of a large Hawaiian population with many small land claims have contributed to the preservation of sites. Hana has 32 recorded *heiau*, including the recently restored Pi'ilanihale, the largest in the state.

In 1984 Wendell Kam conducted a site inspection of the present project area for a clearance and fencing project at the Hana Airport. The inspection determined that, "the *mauka* portion of the runway had been previously bulldozed during the 1950's and [in] 1972 by Fong Construction and Hirahara Construction respectively." In regard to the *makai* (seaward) portion of the runway, the report stated that "no archaeological features existed in the proposed area although, a Hawaiian foot-trail lies adjacent, along the coast."

Jim Landrun III (1984) performed an archaeological reconnaissance and historical survey for the Department of Anthropology, Bernice Pauahi Bishop Museum, over a 14-acre area of the project site. With the exception of an abandoned segment of the old

government road and historic roadside refuse along a dump access road, no historic properties were identified.

Cultural Surveys Hawaii prepared a report of the cultural and historical properties assessment of the project area (Appendix B). Based upon the field investigation, literature review of existing documents and correspondence with the State of Hawaii Historic Preservation Division (SHPD), no historic properties have been identified within the project site.

4.9.1 Alternative 1: No Action

The No Action Alternative would have no impacts on the historic, archaeological, or cultural resources.

4.9.2 Alternative 2: Proposed Action

Under the Proposed Action Alternative, no impacts on historic, archaeological, or cultural resources are anticipated for none were identified within the project area**.** The project site has a history of past development. It is assumed that any site features of historic or archaeological value have been recovered or destroyed during these periods of development. Presently, no archaeological or historical resources are known to exist at the proposed project site. A *Letter of Determination-National Historic Preservation Act – Section 106 Review*, from the SHPD confirms that "no historic properties will be affected." A copy of the Letter of Determination is provided in Appendix C. Should any unanticipated historic or archeological materials be discovered during project work, all activities on the site shall be halted immediately and HDOT shall consult with SHPD, and other appropriate agencies for further guidance and action.

4.10 NATURAL HAZARDS

4.10.1 Wildlife Hazards

As previously noted the Hana Airport does not currently have a security fence, therefore creating a much larger possibility for wildlife hazards to enter the Airport Operating Areas (AOA). With the addition of a security fence at the borders of the airport property, the probability of wildlife in the AOA will lessen, creating a safer airport environment.

Requirements of FAR Part 139.337(e) and 139.337(f) The Wildlife Management Plan, state that each Airport Certificate holder shall take immediate measures to alleviate wildlife hazards whenever they are detected. The collaborated wildlife information should be included to fulfill Part 139 certificate requirements.

4.10.1.1 *Alternative 1: No Action*

The No Action Alternative will continue to generate the opportunity for wildlife hazards at the airport.

4.10.1.2 *Alternative 2: Proposed Action*

The impact on wildlife hazards due to the implementation of the proposed project will be a positive for; (1) The erection of a fence at the airport property boundaries will aid in keeping out unwanted or potentially dangerous wildlife (including many flight-less birds) and, (2) Once Hana Airport has obtained their AOC they will need to meet the requirements of Part 139, which includes implementing a wildlife hazard plan.

4.10.2 Seismic Hazards

According to the United States Geological Service (USGS) the island of Maui is classified as Seismic Zone 2B, as specified in the Uniform Building Code (UBC). Executive Order (E.O.) 12699, Seismic Safety of Federal and Federally-assisted or Regulated New Building Construction is under the responsibility of the Department of Transportation. The purpose of this E.O. is to "reduce the risk to lives of the building occupants, improve the capabilities of essential building to function during or after an earthquake, and to reduce earthquake losses of public buildings and investments".

According to the United State Civil Defense, the Hana Airport terminal facilities and proposed ARFF site are located outside of the evacuation zone designated for tsunami hazards.

4.10.2.1 *Alternative 1: No Action*

No Action would be taken under this alternative, therefore no impact would occur.

4.10.2.2 *Alternative 2: Proposed Action*

The proposed project would not have an impact on seismic hazards. The level of risk due to seismic activity would remain unchanged. The construction of the proposed action would incorporate the requirements per E.O. 12699 as outlined in 49 CFR Part 41 as well as in the Uniform Building Code (UBC) and or International Building Code (IBC) classification for the project site, which would be pursuant to HDOT and FAA's requirements.

4.11 SOCIOECONOMICS

In 2005 the estimated State of Hawaii population was 1,275,194, of which 139,884 was recorded for the County of Maui. The population in Hana recorded in 2000 was 1,855 persons. There was a -2.1% decrease in the population in Hana from 1090 to 2000. The Maui county civilian labor force for 2005 was 75,700 and the number of employed was 73,750. The unemployment rate decreased 0.5% between 2004 and 2005. In 2000 there were approximately 840 jobs recorded in the Hana area (Maui County Data Book, 2006).

The Hana region includes the town of Hana and the neighboring communities of Keanae, Kipahulu and Kaupo. The regions economy is based primarily on government services diversified agricultural, visitor industry, and subsistence activities. Diversified agricultural includes ranching, tropical flower, fruit and vegetable cultivation. Visitors, businesses and government services are centered in the town of Hana (Hana Community Plan 1994).

4.11.1 *Alternative 1: No Action*

Under the No Action Alternative, no activities would be undertaken. Therefore, the socioeconomic environment of the region would not be altered.

4.11.2 *Alternative 2: Proposed Action*

Construction of the proposed Facility and additional support structures will provide related jobs for local workers. Local material suppliers and retail businesses are expected to generate revenues by the project. These activities are anticipated to have a positive economic impact on the local economy.

4.12 PUBLIC HEALTH AND SAFETY

E.O. 12088 directs U.S. Federal agencies to comply with "applicable pollution control standards" in the prevention, control, and abatement of environmental pollution and to consult with the U.S. EPA, State, interstate, and local agencies concerning the best techniques and methods available for the prevention, control, and abatement of environmental pollution.

The Proposed Project Alternative involves construction of a new ARFF facility and the fence line within the Obstruction Free Zone (Figure 7). The Contractor shall be responsible for implementing appropriate measures to ensure public safety and health during the construction period. Construction areas will be delineated with no-trespassing and safety signs. Hana Airport's existing protocol for Standard Occupational Safety and Health Administration (OSHA) requirements, which include safety glasses and hard hats at a minimum, will be maintained.

Construction Debris

The Contractor shall be required to submit the necessary waste management plans to the Department of Environmental Management in accordance with both the County and State regulations for approval. The site shall be equipped with portable self-contained latrine facilities. Suitable vegetation shall be chipped and used as mulch. Unusable waste will be disposed of in an approved off-site landfill.

Removal and disposal of construction materials will be performed in accordance applicable to County, State and Federal regulations. It is expected that to the extent economically and operationally feasible, recycling services will be used by the various

airport operations for the disposal of solid wastes generated during and after construction of the proposed improvements. Solid wastes generated during the construction of the improvements should be recycled to the extent economically and operationally possible, providing there are qualified recyclers to accept the material.

Hazardous Materials

A hazardous waste is any hazardous material that is discarded, abandoned, or transported and stored prior to being recycled. The criteria that render a material hazardous also make a waste hazardous. Hazardous materials and wastes can result in public health hazards if released to the soil or groundwater or through airborne releases in vapors, fumes, or dust. Hazardous wastes must be disposed of in accordance with all federal and territorial hazardous waste regulations.

Government regulations are set in place to assure that operators of facilities that may obtain or poses forms of hazardous materials use these chemicals or materials in a safe manner that protects the health and welfare of the persons using them, as well as the community at large. Usually County Fire Departments (such as the Certified Uniform Program Agency CUPA) regulate the use, storage and disposal of hazardous materials. When there is an unauthorized release, County Fire official usually oversee the assessment and remediation of the hazardous materials in a way that mitigates any human and/or environmental health hazards.

Presently the operations at the project site do not involve the transport, use, or disposal of hazardous materials or wastes. The proposed project includes the installation of a 500 gallon vehicle fuel storage tank for fueling and utility back-up systems. Petroleum products are not considered a hazardous material under federal regulations.

If encountered, all fuel or other possible hazardous substances must be contained in a sufficient bermed area to contain the contents in the event of a spill or leakage. The contractor and facility personnel will have to adhere to the guidelines set forth by the EPA Spill Pollution Control and Countermeasures as well as the airports contingency plans in regards to the storage and release or petroleum products and possible hazardous materials.

4.12.1 *Alternative 1: No Action*

Maintaining the status quo would not involve the transport, use, or disposal of solid and hazardous materials or wastes and would not result in creation of a public health hazard**.**

4.12.2 *Alternative 2: Proposed Action*

During the construction and demolition phase of the Proposed Action Alternative, any debris, solid and hazardous waste will be disposed in accordance with regulations imposed by the County, State and Federal agencies. Special measures shall be taken to prevent oil or other possible hazardous substances from entering the local bodies of water, ground or drainage areas. All fuel or other possible hazardous substances will be

contained in a sufficient bermed area to contain the contents in the event of a spill or leakage.

In circumstances where hazardous materials and wastes may be involved in operations or activities with the proposed action, HDOT would follow all applicable local and federal regulations for use, storage, handling, and disposal of these substances.

4.13 NOISE

The proposed project site is subject to the noise generated from the existing airport operations. Noise is generally defined as loud, unpleasant, unexpected or undesired sound that is typically associated with human activity and which interferes with or disrupts normal activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human exposure response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise and its appropriateness in the setting, the time of day and the type of activity during which the noise occurs, and the sensitivity of the individual. Table 4.2 summarizes a range of typical noise levels.

Some land uses are considered sensitive to noise. Noise sensitive receptors are land uses associated with indoor and/or outdoor activities that may be subject to stress and/or significant interference from noise. They often include residential dwellings, mobile homes, motels, hospitals, nursing homes, educational facilities and libraries.

The State of Hawaii has adopted standards to limit noise from stationary and construction noise sources (Hawaii Administrative Rules, Chapter 46).

Stationary Noise Source: The maximum permissible sound levels for stationary noise sources are summarized in Table 4.3**.** The applicable limits are a function of the zoning districts and the time of day. The sound levels are measured at any point at or beyond the property line of the noise source. The noise level shall not exceed the maximum permissible sound level for more than ten percent of the time within any twenty-minute period.

Construction Noise Sources: Construction activity is permitted between the hours of 7:00 am and 6:00 pm, Monday through Friday, and 9:00 am and 6:00 pm on Saturday. No specific sound level limit has been established for construction during the permitted hours.

Appendix D outlines the Federal Standards (FAA Standards PART 150) for land use compatibility with respect to day and night average sound levels. According to Table 1 in Appendix D, Transportation (Airport) and Utility uses are compatible with noise levels under 75 L_{dn}. Hana Airport's current use it classified as airport operations and activities. The occupied areas of the proposed Facility (i.e. ARFF) will incorporate the appropriate noise level reduction measures in order to comply with the noise level standards illustrated in Appendix D. The current noise sources at the Hana Airport include small aircraft, vehicular traffic and maintenance equipment.

TABLE 4.2
SOUND LEVEL OF TYPICAL NOISE SOURCES AND NOISE ENVIRONMENTS
(A-weighted sound levels)

Noise Source	Scale of A-Weighted Sound Level in Decibels	Noise Environment	Human Judgment of Noise Threshold of Pain*
Military Jet Take off	140	Carrier Flight Deck	
Commercial Jet Take off	120	Airport	*32 times as loud
Pile Driver	110	Construction site	*16 times as loud
Rock Concert	110	Enclosed Arena	*16 times as loud
Ambulance (100ft)	100	Travel way	*8 times as loud
Power Lawn Mower (3ft)	100	Residential	*8 times as loud
Motorcycle (25 ft)	90	Residential	*4 times as loud
Diesel Truck, 40 mph (50 ft)	90	Residential	*4 times as loud
Garbage Disposal (3 ft)	80	Household	*2 times as loud
Living Room Stereo (15 ft)	70	Household	Moderate loudness
Vacuum Cleaner (3 ft)	70	Household	Moderate loudness
Normal Conversation	60	Business office	*half as loud
Light Traffic (100 ft)	50	Business office	*half as loud
Bird calls (distant)	40	lower limit of urban	quiet
Soft whisper (5 ft)	20	Quiet room	just audible

TABLE 4.3
MAXIMUM PERMISSIBLE SOUND LEVELS

Zoning District	Daytime 7am - 10 pm	Nighttime 10 pm - 7 am
Class A	55 dBA	45 dBA
Class B	60 dBA	50 dBA
Class C	70 dBA	70 dBA

Class A Zoning District - Includes all areas equivalent to lands zoned residential

Class B Zoning District - Includes all areas equivalent to lands zoned for multi- family dwellings, apartments, business, commercial, hotel, resort or similar type.

Class C Zoning District – Includes all areas equivalent to lands zoned agriculture, Country, industrial, or similar type.

4.13.1 *Alternative 1: No Action*

No construction or operational activities would take place under the No Action Alternative, therefore impacts on ambient noise conditions would not occur.

4.13.2 *Alternative 2: Proposed Action*

Based upon the existing operations at the project site, the proposed project will have no significant noise impacts on land uses in the airport vicinity. Implementation and construction activities associated with the Proposed Action Alternative at the project location will be subject to the noise generated from existing surrounding operations. Short-term noise impacts are expected from construction activities and construction equipment. The actual increase in the noise levels is dependent on the methods employed during the stages of construction. The major sources of noise will originate from excavation, development of the foundation and transport of equipment. Construction activities will be restricted to normal daylight working hours. The existing noise quality at the project site will be in accordance with the land use. All equipment will be properly maintained and shall be outfitted with noise muffling devices. During construction and operational phase of the project, the use of noise producing signals, which may include, whistles, alarms, horns and bells, would be for safety and security purposes only.

In accordance with the protocol for OSHA requirements all personnel exposed to noise levels above 80 dBA, shall be provided with hearing protection (i.e., earmuffs and/or earplugs). Also areas where the noise levels are expected to exceed 80 dBA, signs shall be posted stating "Hearing Protection Required."

Once operational, the facility will have stationary noise sources similar to the existing noise generated from surrounding area. All noise generated will be required to be at the levels that are consistent with the existing standards and will be designed and operated in such a manner as to comply with the standards. With the implantation of mitigative measures during operation of the airport, adverse impacts associated with the generation of noise from stationary equipment such as emergency generator, are not anticipated.

4.14 TRAFFIC

The project site is located in an area that is currently not regarded as a high traffic volume area. The entrance to the site is located on a secondary road, accessed from the main intersection (Highway 360).

4.14.1 *Alternative 1: No Action*

The No Action alternative would not have any impacts on the current traffic situation surrounding the project site.

4.14.2 *Alternative 2: Proposed Action*

The construction phase for the Proposed Action Alternative is not anticipated to have a significant adverse impact on the local traffic. All construction activities for the proposed project are confined within the boundaries of the existing site, and therefore construction should not impact the flow on the surrounding roadways. Mobilization of construction equipment and materials shall be conducted during light traffic periods. Work shifts may also be scheduled to coincide with light traffic periods. Construction vehicles should be required to be inspected, for example; tire safety and efficient lighting, so that no damage would be a result from poor maintenance.

In general, the implementation of the Proposed Action Alternative may result in some temporary, minor impacts to transportation. To minimize adverse impacts to traffic and circulation, HDOT could be required to implement the following mitigation measures or more stringent measures, if so required by local law or ordinance:

- Traffic along adjacent roadways would be temporarily rerouted as necessary during construction activities. Traffic lane closures would be coordinated with appropriate community officials.

- To the maximum extent feasible, large equipment-related vehicles would be prohibited from parking on residential streets.

- Heavy equipment and vehicle staging would be located to hinder the traffic flow as little as possible in the areas where the construction activities or emergency actions are implemented. Adjacent residential neighborhoods and commercial/industrial areas would be notified by HDOT in advance of repair activities and any rerouting of local traffic.

4.15 VISUAL RESOURCES

Visually the locations surrounding the project site are characteristic of the area and the existing operations. No areas of scenic importance have been identified.

4.15.1 *Alternative 1: No Action*

No impacts to the visual resources would occur under the No Action Alternative.

4.15.2 *Alternative 2: Proposed Action*

The construction phase of the Proposed Action Alternative would have a minor impact on the existing visual setting. The construction activities may create a minor temporary visual disturbance. However the visual setting would be improved upon completion of

the project with the implementation of mitigation measures which will provide for aesthetically pleasing structures.

Cumulative impacts are defined by the US CEQ as "the impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions…" (CFR Part 1508.7).

The project area is classified as an industrial area that contains development similar to the proposed project in scope. The anticipated short-term impacts associated with the implementation and construction of existing improvements to the aviation facilities are confined to the immediate site and to the area's existing infrastructure. Short-term impacts of the Proposed Action Alternative, which may affect the project site and adjacent areas, are generally associated with the construction activities such as clearing and grading, excavating, building and landscaping. The short-term impacts shall be limited to the estimated construction period and all construction activities will be contained within the project site property. Construction, operation, and maintenance of the Proposed Action (improvements to associated infrastructure, development of a new ARFF, and security fencing), as outlined, could have short-term minimal adverse impacts as well as long-term positive impacts on the public health, safety and human environment. Most of the adverse impacts would be short-term and construction-related. Adverse effects on topography, soils, and geology; floodplains and wetlands; biological resources are hazardous materials and waste; infrastructure; land use, noise and cultural resources are expected to be minimal or negligible with implementation of appropriate mitigation measures.

For the Proposed Action Alternative, impacts on human environment are expected to be less than significant with implementation of prescribed adverse affect minimization/mitigation measures outlined in this Final EA, along with the application of regulatory compliance. Beneficial impacts to the public safety resulting from improving the aviation infrastructure outweigh the short-term, minimal adverse impacts associated with construction.

Anticipated impacts on noise levels, traffic, air quality, water quality, soils, public health, safety, flora/fauna, economic, and archaeological/historical resources as a result of the proposed action and the appropriate mitigative measures are described in Section 4.

The anticipated long-term impacts associated with the operation of the Proposed Action Alternative and support structures are confined to the immediate site and to the area's existing infrastructure.

Under the No Action Alternative, Hana Airport would continue to not meet FAA safety criteria, and would also continue to provide inadequate emergency operations for the public's safety, posing safety risks for the near-term (i.e., the next one to three years).

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The proposed action will involve the commitment of fuel, labor, funding and material resources. Given the need for operational compliance with FAA's safety standards and regulations for an airport of their classification, the commitment of resources is justified based on the benefits that will be implemented through the proposed project.

The HDOT has applied the requirements of Chapter 343, Hawaii Revised Statutes (HRS), and the necessary significance criteria of Section 11-200-12 of Title 11 Chapter 200 and has made a FONSI determination for the proposed project. The proposed project will not have a significant impact based on the criteria set forth in the DOH Rules, Chapter 200, Title 11. HDOT determined that the proposed project will not have significant adverse impacts on the immediate or surrounding environment including air quality, water quality, noise, wildlife habitats, archaeological sites, or existing utilities. Any anticipated impacts will be encountered during the construction phase and will only be temporary and will not adversely impact the immediate and surrounding area. Discussion of the project conformance to the significant criteria is as follows:

1. **Involves an Irrevocable Commitment to Loss or Destruction of Any Natural or Cultural Resources**

   The proposed project will not involve the loss or destruction of any natural or cultural resources. There are no threatened, rare or endangered animal species found within the project site and surrounding areas. There are no findings of archaeological or historical sites in or around the area. The proposed project will be constructed within the area of the existing airport property.

2. **Curtails the Range of Beneficial Uses of the Environment**

   The proposed project is consistent with the facility's current function and therefore will not curtail the range of beneficial uses of the environment.

3. **Conflicts with the State's Long Term Environmental Policies, Goals and Guidelines as Expressed in Chapter 344, HRS, and any Revisions Thereof and Amendments Thereto, Court Decisions, or Executive Orders**

   The proposed project is consistent with the environmental policies, goals and guidelines addressed in Chapter 344, HRS.

4. **Substantially Affects the Economic or Social Welfare of the Community**

   The proposed project is expected to improve the safety of aircraft operations at the Hana Airport and provide compliance required by the FAA. No adverse long-term economic or social welfare impacts are anticipated as a result of the proposed project.

5. **Substantially Affects the Public Health**

   The proposed project will be constructed in compliance with the Federal, State and County regulations in regards to public health and safety. The short-term impacts anticipated during the construction phase of the project with regards to air

quality, water quality, noise and traffic, have been addressed in this EA document and all necessary and appropriate mitigation measures will be implemented.

6. **Involves Substantial Secondary Impacts, such as Population Changes or Effects on Public facilities**

   The proposed project will improve safety operations at the existing facility, which is consistent with requirements of the FAA AOC. Secondary impacts, such as population changes or increased demands on regional public facilities in not anticipated as a result of the proposed project.

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

   The proposed project will be designed and constructed in accordance with all Federal, State and County polices, including the policies of Chapter 343, HRS. No substantial degradation of the environment is anticipated as a result of the proposed project.

8. **Is individually limited but cumulatively has considerable effects on the environment, or involves a commitment for larger actions**

   The proposed project is intended to provide the necessary improvements to the facility in order to meet the requirements of the FAA AOC regulations. With the implementation of appropriate mitigations measures for the proposed project, the potential for considerable effects on the environment is not expected. A commitment for larger actions is not foreseen.

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

   There is no threatened, rare or endangered flora, fauna or animal species found within the project site or the surrounding areas.

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

    All possible anticipated short term impacts to air quality, water quality or noise levels most likely due to occur during the construction phase will be mitigated through the appropriate measures and Best Management Practices (BMPs) presented in this EA document. The ambient noise levels are expected to remain unchanged.

11. Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or costal waters

The proposed project will be constructed within the existing facility footprint, which is not located in an environmentally sensitive area.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies

The proposed project is not expected to adversely affect the scenic vistas or view planes. The proposed project is consistent with the zoning designation and permitted uses of the site, which allows for airport operations.

13. Requires substantial energy consumption

The proposed project will result in the short-term commitment of fuel for equipment, vehicles and other machinery utilized during construction. The short-term energy demand is not considered excessive and the proposed project is not anticipated to create long term additional demands for energy consumption.

In addition to the approval of this Final Environmental Assessment, the following permits and approvals are required for the development of the proposed ARFF Facility and Security Perimeter Fence.

STATE OF HAWAII

- Air Quality Permit.

- NPDES Notice of Intent (NOI) Form C-Construction Storm Water Discharges Hawaii Department of Health, Clean Water Branch.

- NPDES Notice of Intent (NOI) Form G-Discharges Involving Construction Dewatering - Hawaii Department of Health, Clean Water Branch.

- Department of Land and Natural Resources
    1. Conservation District Use Permit – Site Plan Approval
    2. Shoreline Certification

COUNTY OF MAUI

- Construction Plan Review and Approval - Department of Planning

- Building Permit - Department of Planning

- Special Management Area Use Permit (Major) - Department of Planning

- Shoreline Setback Determination - Department of Planning

- Grading, Grubbing and Stockpiling Permit - Department of Public Works

SECTION NINE AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED IN THE PREPARATION OF THE DEA AND FEA

The following agencies had received a copy of the Draft Environmental Assessment for the Hana Airport ARFF Facility and Security Perimeter Fence. A total of 11 of these entities formally replied with comment letters, indicated with a √ below. All comment letters along with responses are reproduced herein. All of the comments that are received have been addressed in the appropriate sections of the Final Environmental Assessment.

FEDERAL AGENCIES

Federal Aviation Administration
300 Ala Moana Blvd, Room 7-128
Honolulu, Hawaii 96850

Department of the Army
U.S. Army Engineer District, Honolulu
808 438-9862

STATE AGENCIES

Office of Environmental Quality Control
235 S. Beretania Street, Room 702
Honolulu, Hawaii 96814

Hawaii State Library
Hawaii Documents Center
478 South King St.
Honolulu, HI 96813

√ Department of Land and Natural Resources[1]
P.O. Box 621
Honolulu, Hawaii 96809

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

√ State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

State of Hawaii
Department of Health
Environmental Health Program
54 High Street
Wailuku, Hawaii 96793

COUNTY OF MAUI AGENCIES

√Department of Planning
250 South High Street
Wailuku, Hawaii 96793

√County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawaii 96732

√County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2
Wailuku, Hawaii 96793

√County of Maui
Department of Public Works and
Environmental Management
200 South High Street
Wailuku, Hawaii 96793

√County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793

INDIVIDUALS/ORGANIZATIONS

Hana Community Association
P.O. Box 202
Hana, Hawaii 96713

[1]Comments where received from various divisions within the DLNR Agency (Engineering Division, Office of Conservation & Coastal Lands, Forestry & Wildlife and Maui District Land Division.

Sample Letter Sent to the Agencies Requesting Comments

HAWAII, INC.

Engineers/Architects

March 23, 2008

U.S. Army Engineer District - CEPOH
Honolulu District
Building 230
Fort Shafter, HI. 96858-5440

Subject: Public Review Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Director or Project Manager,

The State of Hawaii Department of Transportation (HDOT), Airports Division under the direction and funding of the United States Federal Aviation Administration (FAA) grant number 3-15-0001-05 has requested that an Environmental Assessment (EA) be conducted to address the proposed improvements and construction at the Hana Airport (HNM). These improvements include the construction of a new Aircraft Rescue and Fire Fighting Facility (ARFF) and construction and installation of a perimeter security fence. On behalf of the HDOT, GMP Hawaii, Inc is preparing the Draft EA and organizing the consultation with concerned and/or affected parties.

This DEA details the proposed improvements and construction projects at the Hana Airport. These improvements include the; 1) Construction of a new one-story ARFF building, new septic sewer tank, emergency back-up generator, a proposed 500 gallon vehicle fuel storage tank, and a proposed 300 gallon water storage tank as redundant back-up systems. 2) Construction of a new security perimeter fence. The DEA presents the purpose and need for the proposed project, a comprehensive analysis of the alternatives considered, the affected environment, project and site-specific environmental consequences, and impact mitigation measures associated with the proposed construction of the ARFF building, perimeter security fencing.

The HDOT encourages all interested parties to provide comments concerning the scope and content of the Draft EA. All comments are to be submitted to the address shown below, and must be postmarked no later, Tuesday April 22, 2008.

If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

Enclosures

EA comments and responses received during the 30-day comment period are included herein

CHARMAINE TAVARES
Mayor

JEFFREY K. ENG
Director

ERIC H. YAMASHIGE, P.E., L.S.
Deputy Director

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

RECEIVED
GMP ASSOCIATES, INC.
2008 JUN 9 PM 1 16

June 3, 2008

Ms. Jennifer M. Littenberg, Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea St., Ste 1800
Honolulu, Hawaii 96813

Re: TMK: (2) 1-3-003:022
Project Name: Hana Airport Aircraft Rescue Fire Fighting Facility and Perimeter Fence

Dear Ms. Littenberg:

Thank you for the opportunity to comment on this Draft Environmental Assessment (DEA). We have the following comments:

System Infrastructure
There are no DWS waterlines or hydrants serving the property. The Hana Airport is served by a private system. Additional consumption would be approximately 351 gpd.

Conservation
To alleviate demand on the Hana system, we recommend that the following conservation measures be included in the project design or noted in the DEA:
Use Non-potable Water: Use brackish or reclaimed water for landscaping and other non-potable purposes when available. Reclaimed water or brackish water should be used for dust control and landscaping during construction.
Use Climate-adapted Plants: We recommend limiting turf areas and using native climate-adapted plants for all landscaping. The project is located in Plant Zone 5. Native plants adapted to the area conserve water and protect the watershed from degradation due to invasive alien species.
Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Owners should establish a regular maintenance program.
Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20A.680 requires the use of low-flow water fixtures and devices in faucets, showerheads, water closets, and hose bibs.

Pollution Prevention
In order to protect ground and surface water sources, we encourage Best Management Practices

The Department of Water Supply is an Equal Opportunity provider and employer. To file a complaint of discrimination, write: USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington DC 20250-9410. Or call (202) 720-5964 (voice and TDD)

Printed on recycled paper

below should be included in the DEA and be implemented during construction:

1. Prevent cement products, oil, fuel and other toxic substances from falling or leaching into the water.
2. Properly and promptly dispose of all loosened and excavated soil and debris material from drainage structure work.
3. Retain ground cover until the last possible date.
4. Stabilize denuded areas by sodding or planting as soon as possible. Replanting should include soil amendments, fertilizers and temporary irrigation. Use high seeding rates to ensure rapid stand establishment.
5. Avoid fertilizers and biocides, or apply only during periods of low rainfall to minimize chemical run-off.
6. Keep run-off on site.

Should you have any questions, please contact our Water Resources and Planning Division at 808-244-8550.

Sincerely,

Jeffrey K. Eng, Director
mlb

cc: engineering division

Attachments:
Plant Brochure: "Saving Water in the Yard"

HAWAII, INC.

Engineers/Architects

July 1, 2008

County of Maui
Department of Water Supply
Jeffery K. Eng - Director
200 South High Street
Wailuku, Hawaii 96793

Subject: Comments Received for the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Mr. Eng,

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport project. We have received your comments and the Maui County Plant Zone reference material dated June 3, 2008. Please find our responses to your comments below.

System Infrastructure:
It has been determined that Hana Ranch through Hana Water Company provides water to the project site.

Conservation:
The comments submitted have been reviewed and where applicable have been included in the project design. The project design includes specifications for native plants well suited for the area and for the installation of low-flow fixtures and devices.

Pollution Prevention:
Section 4.4.2.2 Alternative 2: *Proposed Action and Figure Erosion Control Plan,* provides the Best Management Practices (BMPs) for the proposed project site. The BMPs received by your office have been incorporated in the project design and Final EA where applicable.

If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

CHARMAINE TAVARES
Mayor

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GMP ASSOCIATES, INC.
2008 APR 10 PM 1 04

DEPARTMENT OF PARKS & RECREATION

Planning & Development Division
700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

TAMARA HORCAJO
Director

ZACHARY Z. HELM
Deputy Director

(808) 270-7931
Fax (808) 270-7162

March 27, 2008

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813

RE: Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting Facility and Perimeter Security Fence, Hana, Maui TMK (2) 1-3-003:022

Dear Ms. Littenberg:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Security Fence in Hana, Maui.

Upon review of the submitted assessment information booklet, we have no comment to offer at this time regarding the proposed improvements. Should you require anything further please feel free to contact me, or Patrick Matsui, Chief of Parks Planning & Development at 808-270-7931.

Sincerely,

Tamara Horcajo
Director

c: Patrick Matsui, Chief of Parks Planning & Development

HAWAII, INC.

Engineers/Architects

July 1, 2008

County of Maui
Department of Parks and Recreation
Planning and Development Division
Tamara Horcajo, Director
700 Halia Nakoa Street, Unit 2
Wailuku, Hawaii 96793

Subject: Comments Received for the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Ms. Horcajo,

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport. If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

CHARMAINE TAVARES
MAYOR

JEFFREY A. MURRAY
CHIEF

ROBERT M. SHIMADA
DEPUTY CHIEF

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

780 ALUA STREET
WAILUKU, HAWAII 96793
(808) 244-9161
FAX (808) 244-1363

May 20, 2008

RECEIVED
GMP ASSOCIATES, INC.
2008 MAY 22 PM 1 14

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, HI 96813

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR HANA AIRPORT

Dear Ms. Littenberg,

Our Department has no specific comments at this time. Please feel free to contact us if there are any questions or concerns in the future.

Sincerely,

Valeriano F. Martin
Captain
Fire Prevention Bureau

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2008

GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813-2833

Attention: Ms. Jennifer M. Littenberg
Environmental Engineer

Dear Ms. Littenberg:

SUBJECT: Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility & Perimeter Fence

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

In addition to the comments previously sent you, enclosed are comments from the Maui District office of the Land Division on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at 587-0417. Thank you.

Sincerely,

Darlene E. Unoki
for Morris M. Atta
Administrator

Enclosures

HAWAII, INC.

Engineers/Architects

July 1, 2008

County of Maui
Department of Fire and Public Safety
Captain Valeriano F. Martin
780 Alua Street
Wailuku, Hawaii 96793

Subject: Comments Received for the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Captain Martin,

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport. If you have any further comments or questions please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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MAUI DISTRICT
LAND DIVISION
2008 APR -1 PM 2:03

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

March 28, 2008

MEMORANDUM

TO: **DLNR Agencies:**
_Div. of Aquatic Resources
_Div. of Boating & Ocean Recreation
_x_Engineering Division
_x_Div. of Forestry & Wildlife
_x_Div. of State Parks
__Commission on Water Resource Management
_x_Office of Conservation & Coastal Lands
_x_Land Division – Maui District

RECEIVED
LAND DIVISION
2008 MAY -6 A 9:25
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM: for Morris M. Atta
SUBJECT: Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility & Perimeter Fence
LOCATION: Hana, Maui, TMK: (2) 1-3-3:22
APPLICANT: GMP Hawaii, Inc. on behalf of Department of Transportation, Airports Division

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Only 1 copy of DEA is available for reviewing in Room 220. Please submit any comments by April 17, 2008.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: _____
Date: 5/1/08

HAWAII, INC.

Engineers/Architects

July 1, 2008

Department of Land and Natural Resources
Land Division-Maui District
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Comments Received for the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Administrator,

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport Project.

If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

MEMORANDUM:

TO: Morris M. Atta, Acting Director
Land Division

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: DEA FOR HANA AIRPORT AIRCRAFT RESCUE FIRE FIGHTING FACILITY

TMK: (2) 1-3-3:22

LOCATION: Hana, Ko`olau, Maui

The Office of Conservation and Coastal Lands (OCCL) has reviewed the Draft Environmental Assessment for the proposed Hana Airport Rescue Fire Fighting Facility and Perimeter Fence.

Portions of the project parcel are within the Conservation District (CD). The current facilities all appear to lie outside the CD boundaries. The proposed facility also appears to lie outside the CD.

However, based upon the information provided, OCCL cannot determine if the proposed Perimeter Fence and the associated landscaping is within the CD or not. We would like to see the final Environmental Assessment address this more clearly, and to include a Boundary survey if necessary. OCCL would also remind the applicant that, if any land uses were to be proposed for the portions of the parcel within the CD, they would need to consult with us to determine if any permits would be needed.

Please contact Michael Cain at 587-0048, should you have any questions on this matter.

RECEIVED
LAND DIVISION
2008 APR 14 A 10:28
DLNR LAND &
NATURAL RESOURCES
STATE OF HAWAII

HAWAII, INC.

Engineers/Architects

July 1, 2008

Department of Land and Natural Resources
Office of Conservation and Coastal Lands
Mr. Samuel J. Lemmo, Administrator
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Comments Received for the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Mr. Lemmo,

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport project. We have received your comments dated April 28, 2008. Please find our responses to your comments below

1. Please note that the current facilities at the project site lie outside the Conservation District .

2. We have confirmed with the State Land Use Commission that a portion of the proposed perimeter fence along the eastern end of the property lies within the Conservation District. This portion of the perimeter fence will require a Site Plan approval as indicated by your office.

3. Please note that the Final EA has been revised to reflect the portion of the perimeter fence that is within the Conservation District and is discussed in Section 4.1 Existing Land Use and Zoning and Figures 9 and 10.

If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

LINDA LINGLE
GOVERNOR

BRENNON T. MORIOKA
DIRECTOR

Deputy Directors
MICHAEL D. FORMBY
FRANCIS PAUL KEENO
BRIAN H. SEKIGUCHI

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

IN REPLY REFER TO:

STP 8.2841

April 16, 2008

Ms. Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813

Dear Ms. Littenberg:

Subject: Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence
Draft Environmental Assessment (Draft EA)

The subject ARFF project is being undertaken by the Airports Division, Department of Transportation (DOT), State of Hawaii.

DOT is in full support of the project.

The courtesy of your notification and transmittal of the project's Draft EA is appreciated.

Very truly yours,

BRENNON T. MORIOKA, PH.D., P.E.
Director of Transportation

HAWAII, INC.

Engineers/Architects

July 1, 2008

State of Hawaii
Department of Transportation
Brennon T. Morioka, Director
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Subject: Comments Received for the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Mr. Morioka

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport Project.

If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA, Esq.
Director

GREGG KRESGE
Deputy Director

TRACY TAKAMINE, P.E.
Solid Waste Division

DAVID TAYLOR, P.E.
Wastewater Reclamation Division

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GMP ASSOCIATES, INC
2008 APR 18 PM 12 58

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET, SUITE 175
WAILUKU, MAUI, HAWAII 96793

April 14, 2008

Ms. Jennifer M. Littenberg
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, HI 96813-2833

SUBJECT: HANA AIRPORT AIRCRAFT RESCUE FIRE FIGHTING (ARFF) FACILITY AND PERIMETER FENCE PUBLIC REVIEW DRAFT ENVIRONMENTATAL ASSESSMENT TMK (2) 1-3-003:022

Dear Ms. Littenberg,

The Department of Environmental Management has reviewed the subject application and has the following comments:

1. Solid Waste Division comments

   a. Pages 4-21-22 address construction waste disposal and recycling.

2. Wastewater Reclamation Division comments:

   a. The County of Maui Wastewater Division does not own or maintain any sewer facilities in this area.

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

Sincerely,

Cheryl K. Okuma

Cheryl Okuma, Director

HAWAII, INC.

Engineers/Architects

July 1, 2008

County of Maui
Department of Environmental Management
Cheryl K. Okuma - Director
2200 Main St, Suite 175
Wailuku, HI 96793

Subject: Comments Received for the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Ms. Okuma,

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport and providing the comments dated April 14, 2008. We have reviewed your comments and discussed the construction waste disposal and recycling options with Mr. Gregg Kresge and the Manager of the Hana Landfill. Recommendations will be made to the contractors involved in the construction of the project with regards to the disposal and recycling options.

If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

March 28, 2008

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
_Div. of Boating & Ocean Recreation
_x_~~Engineering Division~~
_x_Div. of Forestry & Wildlife
_x_Div. of State Parks
__Commission on Water Resource Management
_x_Office of Conservation & Coastal Lands
_x_Land Division – Maui District

FROM: for Morris M. Atta
SUBJECT: Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility & Perimeter Fence
LOCATION: Hana, Maui, TMK: (2) 1-3-3:22
APPLICANT: GMP Hawaii, Inc. on behalf of Department of Transportation, Airports Division

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Only 1 copy of DEA is available for reviewing in Room 220. Please submit any comments by April 17, 2008.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

(X) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed: Paul J. Conry
Date:
PAUL J. CONRY, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE

MAR 31 2008

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LAND DIVISION
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HAWAII, INC.

Engineers/Architects

July 1, 2008

Department of Land and Natural Resources
Division of Forestry and Wildlife
Paul J. Conry, Administrator
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Comments Received for the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Mr. Conry,

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport Project.

If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

March 28, 2008

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
_x_Engineering Division
_x_Div. of Forestry & Wildlife
_x_Div. of State Parks
__Commission on Water Resource Management
_x_Office of Conservation & Coastal Lands
_x_Land Division – Maui District

FROM: for Morris M. Atta
SUBJECT: Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility & Perimeter Fence
LOCATION: Hana, Maui, TMK: (2) 1-3-3:22
APPLICANT: GMP Hawaii, Inc. on behalf of Department of Transportation, Airports Division

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Only 1 copy of DEA is available for reviewing in Room 220. Please submit any comments by April 17, 2008.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: _____
Date: 4/4/08

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Morris Atta
Ref.: DEA for Hana Airport Aircraft Rescue Fire Fighting Facility & Perimeter Fence
Maui.003

COMMENTS

(X) **We confirm that part of the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone V29. The National Flood Insurance Program does regulate developments within V29 as indicated in bold letters below.**

(X) **Please take note that the remainder of the project site according to the Flood Insurance Rate Map (FIRM), is located in Zones C. The National Flood Insurance Program (NFIP) does not regulate developments within Zone C.**

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

(X) **Please note that the project site must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.**

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

( ) Mr. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.

(X) **Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.**

( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

(X) **The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.**

( ) Additional Comments: _____

( ) Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
ERIC T. HIRANO, CHIEF ENGINEER

Date: 4/4/08

HAWAII, INC.

Engineers/Architects

July 1, 2008

Department of Land and Natural Resources
Engineering Division
Eric T. Hirano, Chief Engineer
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Comments Received for the Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Mr. Hirano,

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport project. We have received your comments dated April 4, 2008. Please find our responses to your comments below

1. Please note that the property that the proposed project is located on includes areas which are within the FIRM Flood Zone V29. These areas are along the northern coastline of the property. The proposed project construction and activities are not located within the FIRM Flood Zone V29. Please see Figure 10 of the Draft EA.

2. We confirm that the proposed project construction and activities are located in the FIRM Zone C and therefore are not regulated by the NFIP.

3. We have been in contact with both the State and County NFIP coordinator and have discussed the standards that are required for the proposed project.

If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

CHARMAINE TAVARES
Mayor

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

MICHAEL M. MIYAMOTO
Deputy Director

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

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

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM NO. 434
WAILUKU, MAUI, HAWAII 96793

RECEIVED
GMP ASSOCIATES, INC.
2008 APR 24 PM 1 15

April 17, 2008

Ms. Jennifer M. Littenberg
Environmental Engineer
GMP HAWAII, INC.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813

Dear Ms. Littenberg:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR HANA AIRPORT AIRCRAFT RESCUE FIRE FIGHTING FACILITY AND PERIMETER FENCE; TMK: (2) 1-3-003:022

We reviewed the subject application and have the following comments:

1. The architect and owner are advised that the project is subject to possible tsunami and flood inundation. As such, said project must conform to Ordinance No. 1145 pertaining to flood hazard districts.

2. A verification shall be provided by a Registered Civil Engineer that the grading and runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties.

3. A detailed and final drainage report and a Best Management Practices (BMP) Plan shall be submitted with the grading plans for review and approval prior to issuance of grading permits. The drainage report shall include hydrologic and hydraulic calculations and the schemes for disposal of runoff waters. It must comply with the provisions of the "Rules and Design of Storm Drainage Facilities in the County of Maui" and must provide verification that the grading and runoff water generated by the project will not have an adverse effect on adjacent and downstream properties. The BMP plan shall show the location and details of structural and non-structural measures to control erosion and sedimentation to the maximum extent practicable.

4. The applicant shall be responsible for all required improvements as required by Hawaii Revised Statutes, Maui County Code and rules and regulations.

5. Construction plans shall be designed in conformance with Hawaii Standard Specifications for Road and Bridge Construction dated 2005 and Standard Details for Public Works Construction, 1984, as amended.

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

7. Any Federal or State governmental agency is exempt from a building permit if requested in writing by the governmental agency.

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

Sincerely,

MILTON M. ARAKAWA, A.I.C.P.
Director of Public Works

MMA:MMM:ls
xc: Highways Division
Engineering Division
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HAWAII, INC.

Engineers/Architects

July 1, 2008

County of Maui
Department of Public Works
Milton M. Arakawa - Director
200 South High Street, Rm 434
Wailuku, Hawaii 96793

Subject: Comments Received for the Public Review Draft Environmental Assessment for the Hana Airport Aircraft Rescue Fire Fighting (ARFF) Facility and Perimeter Fence, Hana, Maui

Dear Director,

We greatly appreciate you taking the time to review the Draft Environmental Assessment for the Hana Airport project. We have received your comments dated April 17, 2008. Please find our responses to your comments below.

1. The project design will conform to Ordinance No. 1145 as required.

2. Prior to construction of the proposed project an Erosion Control Plan and Site Drainage Plan will be prepared by a Registered Civil Engineer and submitted for approval in order to properly address and contain any adverse effects the proposed project might have on adjacent and downstream properties.

3. Prior to construction of the proposed project a Final Drainage Report including Best Management Practices along with the final grading plans will be submitted for review and approval. The drainage report will comply with the provisions of the *Rules and Design of Storm Drainage Facilities in the County of Maui.* An Erosion Control Plan will also be submitted detailing the locations and details of structural and non-structural measures to control erosion and sedimentation from the project site. The Draft and Final EA both include a copy of the Erosion Control Plan (Figure 9 and 11 respectively).

4. The project design will be in accordance with all required improvements as required by the Hawaii revised Statutes, Maui County Code rules and regulations.

5. Where applicable the construction plans for the proposed project will be in conformance with the Hawaii Standard Specifications for Road and Bridge Construction (2005) and Standard Details for Public Works Construction (1984 as amended).

1100 Alakea Street • Suite 1800 • Honolulu, Hawaii 96813-2833 • Telephone: (808) 521-4711 • Fax: (808) 538-3269

6. The project plans submitted to the Department of Public Works for the building permit will be incompliance with the applicable building codes.

If you have any questions or require additional information please do not hesitate to contact me.

Regards,

Jennifer M. Littenberg
Environmental Engineer
GMP Hawaii, Inc.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813
(808) 521-4711 phone
(808) 538-3269 fax
jlittenberg@gmpassociates.com

LINDA LINGLE
GOVERNOR OF HAWAII

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GMP ASSOCIATES, INC.
2008 MAY 6 PM 2 51

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

April 30, 2008

Ms. Jennifer Littenberg, Environmental Engineer
GMP Hawaii Inc
1100 Alakea Street, Suite 1800
Honolulu, Hawai'i 96815-2833

LOG NO: 2007.3859
DOC NO: 0804NM39
Archaeology

Dear Ms. Littenberg:

SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review – Field Inspection of the Hana Airport Fence Line (CSH, 2006)
TMK: (2) 2-1-003: 022-040
Kawela, Kauamanu and Kaeleku, Hana, Island of Maui

We are in receipt of your letter of November 16, 2007 which includes a field inspection report entitled *Field Inspection of the Hana Airport Fence Line, Kawela, Kauamanu and Kaeleku Ahupuaa, Hana District, Island of Maui[TMK: (2) 2-1-003: 022-040](Hill, CSH,2006)*. We apologize for the delay in sending. This field inspection report is acceptable

If you have any questions, please call Nancy McMahon at 692-8015.

Aloha,

for Nancy McMahon
Laura H. Thielen,
State Historic Preservation Officer

NM:

C: CSH Hawaii

County of Maui, Planning Department, Planning and Zoning Code Handbook, July 1999.

County of Maui, Maui County Council, Hana Community Plan. 1994

Federal Emergency Management Agency, Flood Insurance Rate Map, Maui County, Hawaii Community Panel Number 15003-0310 B, June 1, 1981.

State of Hawaii, Department of Business, Economic Development and Tourism, Maui County Data Book - 2006“. Research and Economic Analysis Division.

State of Hawaii, Department of Business, Economic Development and Tourism, Land Use Commission, Land Use District Boundary Maps, 2007.

State of Hawaii, Department of Health (DOH) 1997. “The State Ambient Air Quality Standards”.

State of Hawaii, Department of Health (DOH) Clean Air Branch. “2006 Annual Summary-Hawaii Air Quality Data”.

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

University of Hawaii at Hilo, Department of Geography 1998. *Atlas of Hawaii*. Third Edition S.P. Juvic and J.O. Juvic Editors, T.R. Paradise, Chief Cartographer. University Press, Honolulu.

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

U.S. Environmental Protection Agency. 40 CFR 50 Air Quality Standards.

APPENDIX A

PART 139—CERTIFICATION OF AIRPORTS

Subpart A—General
Sec.
139.1 Applicability.
139.3 Delegation of authority.
139.5 Definitions.
139.7 Methods and procedures for compliance.

Subpart B—Certification
139.101 General requirements.
139.103 Application for certificate.
139.105 Inspection authority.
139.107 Issuance of certificate.
139.109 Duration of certificate.
139.111 Exemptions.
139.113 Deviations.

Subpart C—Airport Certification Manual
139.201 General requirements.
139.203 Contents of Airport Certification Manual.
139.205 Amendment of Airport Certification Manual.

Subpart D—Operations
139.301 Records.
139.303 Personnel.
139.305 Paved areas.
139.307 Unpaved areas.
139.309 Safety areas.
139.311 Marking, signs, and lighting.
139.313 Snow and ice control.
139.315 Aircraft rescue and firefighting: Index determination.
139.317 Aircraft rescue and firefighting: Equipment and agents.
139.319 Aircraft rescue and firefighting: Operational requirements.
139.321 Handling and storing of hazardous substances and materials.
139.323 Traffic and wind direction indicators.
139.325 Airport emergency plan.
139.327 Self-inspection program.
139.329 Pedestrians and Ground Vehicles.
139.331 Obstructions.
139.333 Protection of NAVAIDS.
139.335 Public protection.
139.337 Wildlife hazard management.
139.339 Airport condition reporting.
139.341 Identifying, marking, and lighting construction and other unserviceable areas.
139.343 Noncomplying conditions.

Authority: 49 U.S.C. 106(g), 40113, 44701-44706, 44709, 44719
Source: Docket No. FAA-2000-7479, Amendment No. 139-26 (69 FR 6380, 02/10/04) effective 06/09/04

Subpart A—General

§ 139.1 Applicability.

(a) This part prescribes rules governing the certification and operation of airports in any State of the United States, the District of Columbia, or any territory or possession of the United States serving any—

(1) Scheduled passenger-carrying operations of an air carrier operating aircraft designed for more than 9 passenger seats, as determined by the aircraft type certificate issued by a competent civil aviation authority; and

(2) Unscheduled passenger-carrying operations of an air carrier operating aircraft designed for at least 31 passenger seats, as determined by the aircraft type certificate issued by a competent civil aviation authority.

(b) This part applies to those portions of a joint-use or shared-use airport that are within the authority of a person serving passenger-carrying operations defined in paragraphs (a)(1) and (a)(2) of this section.

(c) This part does not apply to—

(1) Airports serving scheduled air carrier operations only by reason of being designated as an alternate airport;

(2) Airports operated by the United States;

(3) Airports located in the State of Alaska that only serve scheduled operations of small air carrier aircraft and do not serve scheduled or unscheduled operations of large air carrier aircraft;

(4) Airports located in the State of Alaska during periods of time when not serving operations of large air carrier aircraft; or

(5) Heliports.

§ 139.3 Delegation of authority.

The authority of the Administrator to issue, deny, and revoke Airport Operating Certificates is delegated to the Associate Administrator for Airports, Director of Airport Safety and Standards, and Regional Airports Division Managers.

§ 139.5 Definitions.

The following are definitions of terms used in this part:

AFFF means aqueous film forming foam agent.

Air carrier aircraft means an aircraft that is being operated by an air carrier and is categorized as either a large air carrier aircraft if designed for at least 31 passenger seats or a small air carrier aircraft if designed for more than 9 passenger seats but less than 31 passenger seats, as determined by the aircraft type certificate issued by a competent civil aviation authority.

Air carrier operation means the takeoff or landing of an air carrier aircraft and includes the period of time from 15 minutes before until 15 minutes after the takeoff or landing.

Airport means an area of land or other hard surface, excluding water, that is used or intended to be used for the landing and takeoff of aircraft, including any buildings and facilities.

Airport Operating Certificate means a certificate, issued under this part, for operation of a Class I, II, III, or IV airport.

Average daily departures means the average number of scheduled departures per day of air carrier aircraft computed on the basis of the busiest 3 consecutive calendar months of the immediately preceding 12 consecutive calendar months. However, if the average daily departures are expected to increase, then ``average daily departures'' may be determined by planned rather than current activity, in a manner authorized by the Administrator.

Certificate holder means the holder of an Airport Operating Certificate issued under this part.

Class I airport means an airport certificated to serve scheduled operations of large air carrier aircraft that can also serve unscheduled passenger operations of large air carrier aircraft and/or scheduled operations of small air carrier aircraft.

Class II airport means an airport certificated to serve scheduled operations of small air carrier aircraft and the unscheduled passenger operations of large air carrier aircraft. A Class II airport cannot serve scheduled large air carrier aircraft.

Class III airport means an airport certificated to serve scheduled operations of small air carrier aircraft. A Class III airport cannot serve scheduled or unscheduled large air carrier aircraft.

Class IV airport means an airport certificated to serve unscheduled passenger operations of large air carrier aircraft. A Class IV airport cannot serve scheduled large or small air carrier aircraft.

Clean agent means an electrically nonconducting volatile or gaseous fire extinguishing agent that does not leave a residue upon evaporation and has been shown to provide extinguishing action equivalent to halon 1211 under test protocols of FAA Technical Report DOT/FAA/AR-95/87.

Heliport means an airport, or an area of an airport, used or intended to be used for the landing and takeoff of helicopters.

Index means the type of aircraft rescue and firefighting equipment and quantity of fire extinguishing agent that the certificate holder must provide in accordance with Sec. 139.315.

Joint-use airport means an airport owned by the United States that leases a portion of the airport to a person operating an airport specified under Sec. 139.1(a).

Movement area means the runways, taxiways, and other areas of an airport that are used for taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and aircraft parking areas.

Regional Airports Division Manager means the airports division manager for the FAA region in which the airport is located.

Safety area means a defined area comprised of either a runway or taxiway and the surrounding surfaces that is prepared or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from a runway or the unintentional departure from a taxiway.

Scheduled operation means any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier for which the air carrier or its representatives offers in advance the departure location, departure time, and arrival location. It does not include any operation that is conducted as a supplemental operation

under 14 CFR part 121 or public charter operations under 14 CFR part 380.

Shared-use airport means a U.S. Government-owned airport that is co-located with an airport specified under Sec. 139.1(a) and at which portions of the movement areas and safety areas are shared by both parties.

Unscheduled operation means any common carriage passenger-carrying operation for compensation or hire, using aircraft designed for at least 31 passenger seats, conducted by an air carrier for which the departure time, departure location, and arrival location are specifically negotiated with the customer or the customer's representative. It includes any passenger-carrying supplemental operation conducted under 14 CFR part 121 and any passenger-carrying public charter operation conducted under 14 CFR part 380.

Wildlife hazard means a potential for a damaging aircraft collision with wildlife on or near an airport. As used in this part, ``wildlife'' includes feral animals and domestic animals out of the control of their owners.

Note: Special Statutory Requirement to Operate to or From a Part 139 Airport. Each air carrier that provides—in an aircraft designed for more than 9 passenger seats—regularly scheduled charter air transportation for which the public is provided in advance a schedule containing the departure location, departure time, and arrival location of the flight must operate to and from an airport certificated under part 139 of this chapter in accordance with 49 U.S.C. 41104(b). That statutory provision contains stand-alone requirements for such air carriers and special exceptions for operations in Alaska and outside the United States. Certain operations by air carriers that conduct public charter operations under 14 CFR part 380 are covered by the statutory requirements to operate to and from part 139 airports. See 49 U.S.C. 41104(b).

§ 139.7 Methods and procedures for compliance.

Certificate holders must comply with requirements prescribed by subparts C and D of this part in a manner authorized by the Administrator. FAA Advisory Circulars contain methods and procedures for compliance with this part that are acceptable to the Administrator.

Subpart B—Certification

§ 139.101 General requirements.

(a) Except as otherwise authorized by the Administrator, no person may operate an airport specified under §139.1 of this part without an Airport Operating Certificate or in violation of that certificate, the applicable provisions, or the approved Airport Certification Manual.

(b) Each certificate holder must adopt and comply with an Airport Certification Manual as required under § 139.203.

(c) Persons required to have an Airport Operating Certificate under this part must submit their Airport Certification Manual to the FAA for approval, in accordance with the following schedule:

(1) Class I airports—6 months after June 9, 2004.

(2) Class II, III, and IV airports—12 months after June 9, 2004.

§ 139.103 Application for certificate.

Each applicant for an Airport Operating Certificate must—

(a) Prepare and submit an application, in a form and in the manner prescribed by the Administrator, to the Regional Airports Division Manager.

(b) Submit with the application, two copies of an Airport Certification Manual prepared in accordance with subpart C of this part.

§ 139.105 Inspection authority.

Each applicant for, or holder of, an Airport Operating Certificate must allow the Administrator to make any inspections, including unannounced inspections, or tests to determine compliance with 49 U.S.C. 44706 and the requirements of this part.

§ 139.107 Issuance of certificate.

An applicant for an Airport Operating Certificate is entitled to a certificate if—

(a) The applicant provides written documentation that air carrier service will begin on a date certain.

(b) The applicant meets the provisions of § 139.103.

(c) The Administrator, after investigation, finds the applicant is properly and adequately equipped and able to provide a safe airport operating environment in accordance with—

(1) Any limitation that the Administrator finds necessary to ensure safety in air transportation.

(2) The requirements of the Airport Certification Manual, as specified under § 139.203.

(3) Any other provisions of this part that the Administrator finds necessary to ensure safety in air transportation.

(d) The Administrator approves the Airport Certification Manual.

§ 139.109 Duration of certificate.

An Airport Operating Certificate issued under this part is effective until the certificate holder surrenders it or the certificate is suspended or revoked by the Administrator.

§ 139.111 Exemptions.

(a) An applicant or a certificate holder may petition the Administrator under 14 CFR part 11, General Rulemaking Procedures, of this chapter for an exemption from any requirement of this part.

(b) Under 49 U.S.C. 44706(c), the Administrator may exempt an applicant or a certificate holder that enplanes annually less than one-quarter of 1 percent of the total number of passengers

enplaned at all air carrier airports from all, or part, of the aircraft rescue and firefighting equipment requirements of this part on the grounds that compliance with those requirements is, or would be, unreasonably costly, burdensome, or impractical.

(1) Each petition filed under this paragraph must—

(i) Be submitted in writing at least 120 days before the proposed effective date of the exemption;

(ii) Set forth the text of §§ 139.317 or 139.319 from which the exemption is sought;

(iii) Explain the interest of the certificate holder in the action requested, including the nature and extent of relief sought; and

(iv) Contain information, views, or arguments that demonstrate that the requirements of §§ 139.317 or 139.319 would be unreasonably costly, burdensome, or impractical.

(2) Information, views, or arguments provided under paragraph (b)(1) of this section must include the following information pertaining to the airport for which the Airport Operating Certificate is held:

(i) An itemized cost to comply with the requirement from which the exemption is sought;

(ii) Current staffing levels;

(iii) The current annual financial report, such as a single audit report or FAA Form 5100-127, Operating and Financial Summary;

(iv) Annual passenger enplanement data for the previous 12 calendar months;

(v) The type and frequency of air carrier operations served;

(vi) A history of air carrier service;

(vii) Anticipated changes to air carrier service;

(c) Each petition filed under this section must be submitted in duplicate to the—

(1) Regional Airports Division Manager and

(2) U.S. Department of Transportation's Docket Management System, as specified under 14 CFR part 11.

§ 139.113 Deviations.

In emergency conditions requiring immediate action for the protection of life or property, the certificate holder may deviate from any requirement of subpart D of this part, or the Airport Certification Manual, to the extent required to meet that emergency. Each certificate holder who deviates from a requirement under this section must, within 14 days after the emergency, notify the Regional Airports Division Manager of the nature, extent, and duration of the deviation. When requested by the Regional Airports Division Manager, the certificate holder must provide this notification in writing.

Subpart C—Airport Certification Manual

§ 139.201 General requirements.

(a) No person may operate an airport subject to this part unless that person adopts and complies with an Airport Certification Manual, as required under this part, that—

(1) Has been approved by the Administrator;

(2) Contains only those items authorized by the Administrator;

(3) Is in printed form and signed by the certificate holder acknowledging the certificate holder's responsibility to operate the airport in compliance with the Airport Certification Manual approved by the Administrator; and

(4) Is in a form that is easy to revise and organized in a manner helpful to the preparation, review, and approval processes, including a revision log. In addition, each page or attachment must include the date of the Administrator's initial approval or approval of the latest revision.

(b) Each holder of an Airport Operating Certificate must—

(1) Keep its Airport Certification Manual current at all times;

(2) Maintain at least one complete and current copy of its approved Airport Certification Manual on the airport, which will be available for inspection by the Administrator; and

(3) Furnish the applicable portions of the approved Airport Certification Manual to airport personnel responsible for its implementation.

(c) Each certificate holder must ensure that the Regional Airports Division Manager is provided a complete copy of its most current approved Airport Certification Manual, as specified under paragraph (b)(2) of this section, including any amendments approved under § 139.205.

(d) FAA Advisory Circulars contain methods and procedures for the development of Airport Certification Manuals that are acceptable to the Administrator.

§ 139.203 Contents of Airport Certification Manual.

(a) Except as otherwise authorized by the Administrator, each certificate holder must include in the Airport Certification Manual a description of operating procedures, facilities and equipment, responsibility assignments, and any other information needed by personnel concerned with operating the airport in order to comply with applicable provisions of subpart D of this part and paragraph (b) of this section.

(b) Except as otherwise authorized by the Administrator, the certificate holder must include in the Airport Certification Manual the following elements, as appropriate for its class:

REQUIRED AIRPORT CERTIFICATION MANUAL ELEMENTS

Manual elements	Airport certificate class			
	Class I	Class II	Class III	Class IV
1. Lines of succession of airport operational responsibility	X	X	X	X
1. Lines of succession of airport operational responsibility	X	X	X	X
2. Each current exemption issued to the airport from the requirements of this part	X	X	X	X
3. Any limitations imposed by the Administrator	X	X	X	X
4. A grid map or other means of identifying locations and terrain features on and around the airport that are significant to emergency operations	X	X	X	X
5. The location of each obstruction required to be lighted or marked within the airport's area of authority.....	X	X	X	X
6. A description of each movement area available for air carriers and its safety areas, and each road described in § 139.319(k) that serves it	X	X	X	X
7. Procedures for avoidance of interruption or failure during construction work of utilities serving facilities or NAVAIDS that support air carrier operations	X	X	X	
8. A description of the system for maintaining records, as required under § 139.301	X	X	X	X
9. A description of personnel training, as required under § 139.303.....	X	X	X	X
10. Procedures for maintaining the paved areas, as required under § 139.305	X	X	X	X
11. Procedures for maintaining the unpaved areas, as required under § 139.307	X	X	X	X
12. Procedures for maintaining the safety areas, as required under § 139.309	X	X	X	X
13. A plan showing the runway and taxiway identification system, including the location and inscription of signs, runway markings, and holding position markings, as required under § 139.311.....	X	X	X	X
14. A description of, and procedures for maintaining, the marking, signs, and lighting systems, as required under § 139.311.....	X	X	X	X
15. A snow and ice control plan, as required under § 139.313.....	X	X	X	
16. A description of the facilities, equipment, personnel, and procedures for meeting the aircraft rescue and firefighting requirements, in accordance with §§ 139.315, 139.317 and 139.319.....	X	X	X	X

REQUIRED AIRPORT CERTIFICATION MANUAL ELEMENTS

Manual elements	Airport certificate class			
	Class I	Class II	Class III	Class IV
17. A description of any approved exemption to aircraft rescue and firefighting requirements, as authorized under § 139.111.	X	X	X	X
18. Procedures for protecting persons and property during the storing, dispensing, and handling of fuel and other hazardous substances and materials, as required under § 139.321.	X	X	X	X
19. A description of, and procedures for maintaining, the traffic and wind direction indicators, as required under § 139.323	X	X	X	X
20. An emergency plan as required under § 139.325	X	X	X	X
21. Procedures for conducting the self-inspection program, as required under § 139.327	X	X	X	X
22. Procedures for controlling pedestrians and ground vehicles in movement areas and safety areas, as required under § 139.329	X	X	X	
23. Procedures for obstruction removal, marking, or lighting, as required under § 139.331.	X	X	X	X
24. Procedures for protection of NAVAIDS, as required under § 139.333.	X	X	X	
25. A description of public protection, as required under § 139.335	X	X	X	
26. Procedures for wildlife hazard management, as required under § 139.337.	X	X	X	
27. Procedures for airport condition reporting, as required under § 139.339.	X	X	X	X
28. Procedures for identifying, marking, and lighting construction and other unserviceable areas, as required under § 139.341.	X	X	X	
29. Any other item that the Administrator finds is necessary to ensure safety in air transportation.	X	X	X	X

§ 139.205 Amendment of Airport Certification Manual.

(a) Under Sec. 139.3, the Regional Airports Division Manager may amend any Airport Certification Manual approved under this part, either—

(1) Upon application by the certificate holder or

(2) On the Regional Airports Division Manager's own initiative, if the Regional Airports Division Manager determines that safety in air transportation requires the amendment.

(b) A certificate holder must submit in writing a proposed amendment to its Airport Certification Manual to the Regional Airports Division Manager at least 30 days before the proposed effective date of the amendment, unless a shorter filing period is allowed by the Regional Airports Division Manager.

(c) At any time within 30 days after receiving a notice of refusal to approve the application for amendment, the certificate holder may petition the Associate Administrator for Airports to reconsider the refusal to amend.

(d) In the case of amendments initiated by the FAA, the Regional Airports Division Manager notifies the certificate holder of the proposed amendment, in writing, fixing a reasonable period (but not less than 7 days) within which the certificate holder may submit written information, views, and arguments on the amendment. After considering all relevant material presented, the Regional Airports Division Manager notifies the certificate holder within 30 days of any amendment adopted or rescinds the notice. The amendment becomes effective not less than 30 days after the certificate holder receives notice of it, except that, prior to the effective date, the certificate holder may petition the Associate Administrator for Airports to reconsider the amendment, in which case its effective date is stayed pending a decision by the Associate Administrator for Airports.

(e) Notwithstanding the provisions of paragraph (d) of this section, if the Regional Airports Division Manager finds there is an emergency requiring immediate action with respect to safety in air transportation, the Regional Airports Division Manager may issue an amendment, effective without stay on the date the certificate holder receives notice of it. In such a case, the Regional Airports Division Manager incorporates the finding of the emergency and a brief statement of the reasons for the finding in the notice of the amendment. Within 30 days after the issuance of such an emergency amendment, the certificate holder may petition the Associate Administrator for Airports to reconsider either the finding of an emergency, the amendment itself, or both. This petition does not automatically stay the effectiveness of the emergency amendment.

Subpart D—Operations

§ 139.301 Records.

In a manner authorized by the Administrator, each certificate holder must—

(a) Furnish upon request by the Administrator all records required to be maintained under this part.

(b) Maintain records required under this part as follows:

(1) Personnel training. Twenty-four consecutive calendar months for personnel training records, as required under §§ 139.303 and 139.327.

(2) Emergency personnel training. Twenty-four consecutive calendar months for aircraft rescue and firefighting and emergency medical service personnel training records, as required under § 139.319.

(3) Airport fueling agent inspection. Twelve consecutive calendar months for records of inspection of airport fueling agents, as required under § 139.321.

(4) Fueling personnel training. Twelve consecutive calendar months for training records of fueling personnel, as required under § 139.321.

(5) Self-inspection. Twelve consecutive calendar months for self-inspection records, as required under § 139.327.

(6) Movement areas and safety areas training. Twenty-four consecutive calendar months for records of training given to pedestrians and ground vehicle operators with access to movement areas and safety areas, as required under Sec. 139.329.

(7) Accident and incident. Twelve consecutive calendar months for each accident or incident in movement areas and safety areas involving an air carrier aircraft and/or ground vehicle, as required under § 139.329.

(8) Airport condition. Twelve consecutive calendar months for records of airport condition information dissemination, as required under § 139.339.

(c) Make and maintain any additional records required by the Administrator, this part, and the Airport Certification Manual.

§ 139.303 Personnel.

In a manner authorized by the Administrator, each certificate holder must—

(a) Provide sufficient and qualified personnel to comply with the requirements of its Airport Certification Manual and the requirements of this part.

(b) Equip personnel with sufficient resources needed to comply with the requirements of this part.

(c) Train all personnel who access movement areas and safety areas and perform duties in compliance with the requirements of the Airport Certification Manual and the requirements of this part. This training must be completed prior to the initial performance of such duties and at least once every 12 consecutive calendar months. The curriculum for initial and recurrent training must include at least the following areas:

(1) Airport familiarization, including airport marking, lighting, and signs system.

(2) Procedures for access to, and operation in, movement areas and safety areas, as specified under § 139.329.

(3) Airport communications, including radio communication between the air traffic control tower and personnel, use of the common traffic advisory

frequency if there is no air traffic control tower or the tower is not in operation, and procedures for reporting unsafe airport conditions.

(4) Duties required under the Airport Certification Manual and the requirements of this part.

(5) Any additional subject areas required under §§ 139.319, 139.321, 139.327, 139.329, 139.337, and 139.339, as appropriate.

(d) Make a record of all training completed after June 9, 2004, by each individual in compliance with this section that includes, at a minimum, a description and date of training received. Such records must be maintained for 24 consecutive calendar months after completion of training.

(e) As appropriate, comply with the following training requirements of this part:

(1) § 139.319, Aircraft rescue and firefighting: Operational requirements;

(2) § 139.321, Handling and storage of hazardous substances and materials;

(3) § 139.327, Self-inspection program;

(4) § 139.329, Pedestrians and Ground Vehicles;

(5) § 139.337, Wildlife hazard management; and

(6) § 139.339, Airport condition reporting.

(f) Use an independent organization, or designee, to comply with the requirements of its Airport Certification Manual and the requirements of this part only if—

(1) Such an arrangement is authorized by the Administrator;

(2) A description of responsibilities and duties that will be assumed by an independent organization or designee is specified in the Airport Certification Manual; and

(3) The independent organization or designee prepares records required under this part in sufficient detail to assure the certificate holder and the Administrator of adequate compliance with the Airport Certification Manual and the requirements of this part.

§ 139.305 Paved areas.

(a) In a manner authorized by the Administrator, each certificate holder must maintain, and promptly repair the pavement of, each runway, taxiway, loading ramp, and parking area on the airport that is available for air carrier use as follows:

(1) The pavement edges must not exceed 3 inches difference in elevation between abutting pavement sections and between pavement and abutting areas.

(2) The pavement must have no hole exceeding 3 inches in depth nor any hole the slope of which from any point in the hole to the nearest point at the lip of the hole is 45 degrees or greater, as measured from the pavement surface plane, unless, in either case, the entire area of the hole can be covered by a 5-inch diameter circle.

(3) The pavement must be free of cracks and surface variations that could impair directional control of air carrier aircraft, including any pavement crack or surface deterioration that produces loose aggregate or other contaminants.

(4) Except as provided in paragraph (b) of this section, mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants must be removed promptly and as completely as practicable.

(5) Except as provided in paragraph (b) of this section, any chemical solvent that is used to clean any pavement area must be removed as soon as possible,

consistent with the instructions of the manufacturer of the solvent.

(6) The pavement must be sufficiently drained and free of depressions to prevent ponding that obscures markings or impairs safe aircraft operations.

(b) Paragraphs (a)(4) and (a)(5) of this section do not apply to snow and ice accumulations and their control, including the associated use of materials, such as sand and deicing solutions.

(c) FAA Advisory Circulars contain methods and procedures for the maintenance and configuration of paved areas that are acceptable to the Administrator.

§ 139.307 Unpaved areas.

(a) In a manner authorized by the Administrator, each certificate holder must maintain and promptly repair the surface of each gravel, turf, or other unpaved runway, taxiway, or loading ramp and parking area on the airport that is available for air carrier use as follows:

(1) No slope from the edge of the full-strength surfaces downward to the existing terrain must be steeper than 2:1.

(2) The full-strength surfaces must have adequate crown or grade to assure sufficient drainage to prevent ponding.

(3) The full-strength surfaces must be adequately compacted and sufficiently stable to prevent rutting by aircraft or the loosening or build-up of surface material, which could impair directional control of aircraft or drainage.

(4) The full-strength surfaces must have no holes or depressions that exceed 3 inches in depth and are of a breadth capable of impairing directional control or causing damage to an aircraft.

(5) Debris and foreign objects must be promptly removed from the surface.

(b) FAA Advisory Circulars contain methods and procedures for the maintenance and configuration of unpaved areas that are acceptable to the Administrator.

§ 139.309 Safety areas.

(a) In a manner authorized by the Administrator, each certificate holder must provide and maintain, for each runway and taxiway that is available for air carrier use, a safety area of at least the dimensions that—

(1) Existed on December 31, 1987, if the runway or taxiway had a safety area on December 31, 1987, and if no reconstruction or significant expansion of the runway or taxiway was begun on or after January 1, 1988; or

(2) Are authorized by the Administrator at the time the construction, reconstruction, or expansion began if construction, reconstruction, or significant expansion of the runway or taxiway began on or after January 1, 1988.

(b) Each certificate holder must maintain its safety areas as follows:

(1) Each safety area must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations.

(2) Each safety area must be drained by grading or storm sewers to prevent water accumulation.

(3) Each safety area must be capable under dry conditions of supporting snow removal and aircraft rescue and firefighting equipment and of supporting the occasional passage of aircraft without causing major damage to the aircraft.

(4) No objects may be located in any safety area, except for objects that need to be located in a safety area because of their function. These objects must be constructed, to the extent practical, on frangibly mounted structures of the

lowest practical height, with the frangible point no higher than 3 inches above grade.

(c) FAA Advisory Circulars contain methods and procedures for the configuration and maintenance of safety areas acceptable to the Administrator.

§ 139.311 Marking, signs, and lighting.

(a) Marking. Each certificate holder must provide and maintain marking systems for air carrier operations on the airport that are authorized by the Administrator and consist of at least the following:

(1) Runway markings meeting the specifications for takeoff and landing minimums for each runway.

(2) A taxiway centerline.

(3) Taxiway edge markings, as appropriate.

(4) Holding position markings.

(5) Instrument landing system (ILS) critical area markings.

(b) Signs.

(1) Each certificate holder must provide and maintain sign systems for air carrier operations on the airport that are authorized by the Administrator and consist of at least the following:

(i) Signs identifying taxiing routes on the movement area.

(ii) Holding position signs.

(iii) Instrument landing system (ILS) critical area signs.

(2) Unless otherwise authorized by the Administrator, the signs required by paragraph (b)(1) of this section must be internally illuminated at each Class I, II, and IV airport.

(3) Unless otherwise authorized by the Administrator, the signs required by paragraphs (b)(1)(ii) and (b)(1)(iii) of this section must be internally illuminated at each Class III airport.

(c) Lighting. Each certificate holder must provide and maintain lighting systems for air carrier operations when the airport is open at night, during conditions below visual flight rules (VFR) minimums, or in Alaska, during periods in which a prominent unlighted object cannot be seen from a distance of 3 statute miles or the sun is more than six degrees below the horizon. These lighting systems must be authorized by the Administrator and consist of at least the following:

(1) Runway lighting that meets the specifications for takeoff and landing minimums, as authorized by the Administrator, for each runway.

(2) One of the following taxiway lighting systems:

(i) Centerline lights.

(ii) Centerline reflectors.

(iii) Edge lights.

(iv) Edge reflectors.

(3) An airport beacon.

(4) Approach lighting that meets the specifications for takeoff and landing minimums, as authorized by the Administrator, for each runway, unless provided and/or maintained by an entity other than the certificate holder.

(5) Obstruction marking and lighting, as appropriate, on each object within its authority that has been determined by the FAA to be an obstruction.

(d) Maintenance. Each certificate holder must properly maintain each marking, sign, or lighting system installed and operated on the airport. As used in this section, to "properly maintain" includes cleaning, replacing, or repairing any faded, missing, or nonfunctional item; keeping each item unobscured and clearly visible; and ensuring that each item provides an accurate reference to the user.

(e) Lighting interference. Each certificate holder must ensure that all lighting on the airport, including that for aprons, vehicle parking areas, roadways, fuel storage areas, and buildings, is adequately adjusted or shielded to prevent interference with air traffic control and aircraft operations.

(f) Standards. FAA Advisory Circulars contain methods and procedures for the equipment, material, installation, and maintenance of marking, sign, and lighting systems listed in this section that are acceptable to the Administrator.

(g) Implementation. The sign systems required under paragraph (b)(3) of this section must be implemented by each holder of a Class III Airport Operating Certificate not later than 36 consecutive calendar months after June 9, 2004.

§ 139.313 Snow and ice control.

(a) As determined by the Administrator, each certificate holder whose airport is located where snow and icing conditions occur must prepare, maintain, and carry out a snow and ice control plan in a manner authorized by the Administrator.

(b) The snow and ice control plan required by this section must include, at a minimum, instructions and procedures for—

(1) Prompt removal or control, as completely as practical, of snow, ice, and slush on each movement area;

(2) Positioning snow off the movement area surfaces so all air carrier aircraft propellers, engine pods, rotors, and wing tips will clear any snowdrift and snowbank as the aircraft's landing gear traverses any portion of the movement area;

(3) Selection and application of authorized materials for snow and ice control to ensure that they adhere to snow and ice sufficiently to minimize engine ingestion;

(4) Timely commencement of snow and ice control operations; and

(5) Prompt notification, in accordance with § 139.339, of all air carriers using the airport when any portion of the movement area normally available to them is less than satisfactorily cleared for safe operation by their aircraft.

(c) FAA Advisory Circulars contain methods and procedures for snow and ice control equipment, materials, and removal that are acceptable to the Administrator.

§ 139.315 Aircraft rescue and firefighting: Index determination.

(a) An index is required by paragraph (c) of this section for each certificate holder. The Index is determined by a combination of—

(1) The length of air carrier aircraft and

(2) Average daily departures of air carrier aircraft.

(b) For the purpose of Index determination, air carrier aircraft lengths are grouped as follows:

(1) Index A includes aircraft less than 90 feet in length.

(2) Index B includes aircraft at least 90 feet but less than 126 feet in length.

(3) Index C includes aircraft at least 126 feet but less than 159 feet in length.

(4) Index D includes aircraft at least 159 feet but less than 200 feet in length.

(5) Index E includes aircraft at least 200 feet in length.

(c) Except as provided in § 139.319(c), if there are five or more average daily departures of air carrier aircraft in a single Index group serving that airport, the longest aircraft with an average of five or more daily departures

determines the Index required for the airport. When there are fewer than five average daily departures of the longest air carrier aircraft serving the airport, the Index required for the airport will be the next lower Index group than the Index group prescribed for the longest aircraft.

(d) The minimum designated index must be Index A.

(e) A holder of a Class III Airport Operating Certificate may comply with this section by providing a level of safety comparable to Index A that is approved by the Administrator. Such alternate compliance must be described in the ACM and must include:

(1) Pre-arranged firefighting and emergency medical response procedures, including agreements with responding services.

(2) Means for alerting firefighting and emergency medical response personnel.

(3) Type of rescue and firefighting equipment to be provided.

(4) Training of responding firefighting and emergency medical personnel on airport familiarization and communications.

§ 139.317 Aircraft rescue and firefighting: Equipment and agents.

Unless otherwise authorized by the Administrator, the following rescue and firefighting equipment and agents are the minimum required for the Indexes referred to in § 139.315:

(a) Index A. One vehicle carrying at least—

(1) 500 pounds of sodium-based dry chemical, halon 1211, or clean agent; or

(2) 450 pounds of potassium-based dry chemical and water with a commensurate quantity of AFFF to total 100 gallons for simultaneous dry chemical and AFFF application.

(b) Index B. Either of the following:

(1) One vehicle carrying at least 500 pounds of sodium-based dry chemical, halon 1211, or clean agent and 1,500 gallons of water and the commensurate quantity of AFFF for foam production.

(2) Two vehicles—

(i) One vehicle carrying the extinguishing agents as specified in paragraphs (a)(1) or (a)(2) of this section; and

(ii) One vehicle carrying an amount of water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by both vehicles is at least 1,500 gallons.

(c) Index C. Either of the following:

(1) Three vehicles—

(i) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) or (a)(2) of this section; and

(ii) Two vehicles carrying an amount of water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by all three vehicles is at least 3,000 gallons.

(2) Two vehicles—

(i) One vehicle carrying the extinguishing agents as specified in paragraph (b)(1) of this section; and

(ii) One vehicle carrying water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by both vehicles is at least 3,000 gallons.

(d) Index D. Three vehicles—

(1) One vehicle carrying the extinguishing agents as specified in paragraphs (a)(1) or (a)(2) of this section; and

(2) Two vehicles carrying an amount of water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by all three vehicles is at least 4,000 gallons.

(e) Index E. Three vehicles—

(1) One vehicle carrying the extinguishing agents as specified in paragraphs (a)(1) or (a)(2) of this section; and

(2) Two vehicles carrying an amount of water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by all three vehicles is at least 6,000 gallons.

(f) Foam discharge capacity. Each aircraft rescue and firefighting vehicle used to comply with Index B, C, D, or E requirements with a capacity of at least 500 gallons of water for foam production must be equipped with a turret. Vehicle turret discharge capacity must be as follows:

(1) Each vehicle with a minimum-rated vehicle water tank capacity of at least 500 gallons, but less than 2,000 gallons, must have a turret discharge rate of at least 500 gallons per minute, but not more than 1,000 gallons per minute.

(2) Each vehicle with a minimum-rated vehicle water tank capacity of at least 2,000 gallons must have a turret discharge rate of at least 600 gallons per minute, but not more than 1,200 gallons per minute.

(g) Agent discharge capacity. Each aircraft rescue and firefighting vehicle that is required to carry dry chemical, halon 1211, or clean agent for compliance with the Index requirements of this section must meet one of the following minimum discharge rates for the equipment installed:

(1) Dry chemical, halon 1211, or clean agent through a hand line—5 pounds per second.

(2) Dry chemical, halon 1211, or clean agent through a turret—16 pounds per second.

(h) Extinguishing agent substitutions. Other extinguishing agent substitutions authorized by the Administrator may be made in amounts that provide equivalent firefighting capability.

(i) AFFF quantity requirements. In addition to the quantity of water required, each vehicle required to carry AFFF must carry AFFF in an appropriate amount to mix with twice the water required to be carried by the vehicle.

(j) Methods and procedures. FAA Advisory Circulars contain methods and procedures for ARFF equipment and extinguishing agents that are acceptable to the Administrator.

(k) Implementation. Each holder of a Class II, III, or IV Airport Operating Certificate must implement the requirements of this section no later than 36 consecutive calendar months after June 9, 2004.

§ 139.319 Aircraft rescue and firefighting: Operational requirements.

(a) Rescue and firefighting capability. Except as provided in paragraph (c) of this section, each certificate holder must provide on the airport, during air carrier operations at the airport, at least the rescue and firefighting capability specified for the Index required by § 139.317 in a manner authorized by the Administrator.

(b) Increase in Index. Except as provided in paragraph (c) of this section, if an increase in the average daily departures or the length of air carrier aircraft results in an increase in the Index required by paragraph (a) of this section, the certificate holder must comply with the increased requirements.

(c) Reduction in rescue and firefighting. During air carrier operations with only aircraft shorter than the Index aircraft group required by paragraph (a)

of this section, the certificate holder may reduce the rescue and firefighting to a lower level corresponding to the Index group of the longest air carrier aircraft being operated.

(d) Procedures for reduction in capability. Any reduction in the rescue and firefighting capability from the Index required by paragraph (a) of this section, in accordance with paragraph (c) of this section, must be subject to the following conditions:

(1) Procedures for, and the persons having the authority to implement, the reductions must be included in the Airport Certification Manual.

(2) A system and procedures for recall of the full aircraft rescue and firefighting capability must be included in the Airport Certification Manual.

(3) The reductions may not be implemented unless notification to air carriers is provided in the Airport/Facility Directory or Notices to Airmen (NOTAM), as appropriate, and by direct notification of local air carriers.

(e) Vehicle communications. Each vehicle required under § 139.317 must be equipped with two-way voice radio communications that provide for contact with at least—

(1) All other required emergency vehicles;

(2) The air traffic control tower;

(3) The common traffic advisory frequency when an air traffic control tower is not in operation or there is no air traffic control tower, and

(4) Fire stations, as specified in the airport emergency plan.

(f) Vehicle marking and lighting. Each vehicle required under § 139.317 must—

(1) Have a flashing or rotating beacon and

(2) Be painted or marked in colors to enhance contrast with the background environment and optimize daytime and nighttime visibility and identification.

(g) Vehicle readiness. Each vehicle required under § 139.317 must be maintained as follows:

(1) The vehicle and its systems must be maintained so as to be operationally capable of performing the functions required by this subpart during all air carrier operations.

(2) If the airport is located in a geographical area subject to prolonged temperatures below 33 degrees Fahrenheit, the vehicles must be provided with cover or other means to ensure equipment operation and discharge under freezing conditions.

(3) Any required vehicle that becomes inoperative to the extent that it cannot perform as required by paragraph (g)(1) of this section must be replaced immediately with equipment having at least equal capabilities. If replacement equipment is not available immediately, the certificate holder must so notify the Regional Airports Division Manager and each air carrier using the airport in accordance with § 139.339. If the required Index level of capability is not restored within 48 hours, the airport operator, unless otherwise authorized by the Administrator, must limit air carrier operations on the airport to those compatible with the Index corresponding to the remaining operative rescue and firefighting equipment.

(h) Response requirements.

(1) With the aircraft rescue and firefighting equipment required under this part and the number of trained personnel that will assure an effective operation, each certificate holder must—

(i) Respond to each emergency during periods of air carrier operations; and

(ii) When requested by the Administrator, demonstrate compliance with the response requirements specified in this section.

(2) The response required by paragraph (h)(1)(ii) of this section must achieve the following performance criteria:

(i) Within 3 minutes from the time of the alarm, at least one required aircraft rescue and firefighting vehicle must reach the midpoint of the farthest runway serving air carrier aircraft from its assigned post or reach any other specified point of comparable distance on the movement area that is available to air carriers, and begin application of extinguishing agent.

(ii) Within 4 minutes from the time of alarm, all other required vehicles must reach the point specified in paragraph (h)(2)(i) of this section from their assigned posts and begin application of an extinguishing agent.

(i) Personnel. Each certificate holder must ensure the following:

(1) All rescue and firefighting personnel are equipped in a manner authorized by the Administrator with protective clothing and equipment needed to perform their duties.

(2) All rescue and firefighting personnel are properly trained to perform their duties in a manner authorized by the Administrator. Such personnel must be trained prior to initial performance of rescue and firefighting duties and receive recurrent instruction every 12 consecutive calendar months. The curriculum for initial and recurrent training must include at least the following areas:

(i) Airport familiarization, including airport signs, marking, and lighting.

(ii) Aircraft familiarization.

(iii) Rescue and firefighting personnel safety.

(iv) Emergency communications systems on the airport, including fire alarms.

(v) Use of the fire hoses, nozzles, turrets, and other appliances required for compliance with this part.

(vi) Application of the types of extinguishing agents required for compliance with this part.

(vii) Emergency aircraft evacuation assistance.

(viii) Firefighting operations.

(ix) Adapting and using structural rescue and firefighting equipment for aircraft rescue and firefighting.

(x) Aircraft cargo hazards, including hazardous materials/dangerous goods incidents.

(xi) Familiarization with firefighters' duties under the airport emergency plan.

(3) All rescue and firefighting personnel must participate in at least one live-fire drill prior to initial performance of rescue and firefighting duties and every 12 consecutive calendar months thereafter.

(4) At least one individual, who has been trained and is current in basic emergency medical services, is available during air carrier operations. This individual must be trained prior to initial performance of emergency medical services. Training must be at a minimum 40 hours in length and cover the following topics:

(i) Bleeding.

(ii) Cardiopulmonary resuscitation.

(iii) Shock.

(iv) Primary patient survey.

(v) Injuries to the skull, spine, chest, and extremities.

(vi) Internal injuries.

(vii) Moving patients.

(viii) Burns.

(ix) Triage.

(5) A record is maintained of all training given to each individual under this section for 24 consecutive calendar months after completion of training. Such records must include, at a minimum, a description and date of training received.

(6) Sufficient rescue and firefighting personnel are available during all air carrier operations to operate the vehicles, meet the response times, and meet the minimum agent discharge rates required by this part.

(7) Procedures and equipment are established and maintained for alerting rescue and firefighting personnel by siren, alarm, or other means authorized by the Administrator to any existing or impending emergency requiring their assistance.

(j) Hazardous materials guidance. Each aircraft rescue and firefighting vehicle responding to an emergency on the airport must be equipped with, or have available through a direct communications link, the "North American Emergency Response Guidebook" published by the U.S. Department of Transportation or similar response guidance to hazardous materials/dangerous goods incidents. Information on obtaining the "North American Emergency Response Guidebook" is available from the Regional Airports Division Manager.

(k) Emergency access roads. Each certificate holder must ensure that roads designated for use as emergency access roads for aircraft rescue and firefighting vehicles are maintained in a condition that will support those vehicles during all-weather conditions.

(l) Methods and procedures. FAA Advisory Circulars contain methods and procedures for aircraft rescue and firefighting and emergency medical equipment and training that are acceptable to the Administrator.

(m) Implementation. Each holder of a Class II, III, or IV Airport Operating Certificate must implement the requirements of this section no later than 36 consecutive calendar months after June 9, 2004.

§ 139.321 Handling and storing of hazardous substances and materials.

(a) Each certificate holder who acts as a cargo handling agent must establish and maintain procedures for the protection of persons and property on the airport during the handling and storing of any material regulated by the Hazardous Materials Regulations (49 CFR 171 through 180) that is, or is intended to be, transported by air. These procedures must provide for at least the following:

(1) Designated personnel to receive and handle hazardous substances and materials.

(2) Assurance from the shipper that the cargo can be handled safely, including any special handling procedures required for safety.

(3) Special areas for storage of hazardous materials while on the airport.

(b) Each certificate holder must establish and maintain standards authorized by the Administrator for protecting against fire and explosions in storing, dispensing, and otherwise handling fuel (other than articles and materials that are, or are intended to be,

aircraft cargo) on the airport. These standards must cover facilities, procedures, and personnel training and must address at least the following:

(1) Bonding.

(2) Public protection.

(3) Control of access to storage areas.

(4) Fire safety in fuel farm and storage areas.

(5) Fire safety in mobile fuelers, fueling pits, and fueling cabinets.

(6) Training of fueling personnel in fire safety in accordance with paragraph (e) of this section. Such training at Class III airports must be completed within 12 consecutive calendar months after June 9, 2004.

(7) The fire code of the public body having jurisdiction over the airport.

(c) Each certificate holder must, as a fueling agent, comply with, and require all other fueling agents operating on the airport to comply with, the standards established under paragraph (b) of this section and must perform reasonable surveillance of all fueling activities on the airport with respect to those standards.

(d) Each certificate holder must inspect the physical facilities of each airport tenant fueling agent at least once every 3 consecutive months for compliance with paragraph (b) of this section and maintain a record of that inspection for at least 12 consecutive calendar months.

(e) The training required in paragraph (b)(6) of this section must include at least the following:

(1) At least one supervisor with each fueling agent must have completed an aviation fuel training course in fire safety that is authorized by the Administrator. Such an individual must be trained prior to initial performance of duties, or enrolled in an authorized aviation fuel training course that will be completed within 90 days of initiating duties, and receive recurrent instruction at least every 24 consecutive calendar months.

(2) All other employees who fuel aircraft, accept fuel shipments, or otherwise handle fuel must receive at least initial on-the-job training and recurrent instruction every 24 consecutive calendar months in fire safety from the supervisor trained in accordance with paragraph (e)(1) of this section.

(f) Each certificate holder must obtain a written confirmation once every 12 consecutive calendar months from each airport tenant fueling agent that the training required by paragraph (e) of this section has been accomplished. This written confirmation must be maintained for 12 consecutive calendar months.

(g) Unless otherwise authorized by the Administrator, each certificate holder must require each tenant fueling agent to take immediate corrective action whenever the certificate holder becomes aware of noncompliance with a standard required by paragraph (b) of this section. The certificate holder must notify the appropriate FAA Regional Airports Division Manager immediately when noncompliance is discovered and corrective action cannot be accomplished within a reasonable period of time.

(h) FAA Advisory Circulars contain methods and procedures for the handling and storage of hazardous substances and materials that are acceptable to the Administrator.

§ 139.323 Traffic and wind direction indicators.

In a manner authorized by the Administrator, each certificate holder

must provide and maintain the following on its airport:

(a) A wind cone that visually provides surface wind direction information to pilots. For each runway available for air carrier use, a supplemental wind cone must be installed at the end of the runway or at least at one point visible to the pilot while on final approach and prior to takeoff. If the airport is open for air carrier operations at night, the wind direction indicators, including the required supplemental indicators, must be lighted.

(b) For airports serving any air carrier operation when there is no control tower operating, a segmented circle, a landing strip indicator and a traffic pattern indicator must be installed around a wind cone for each runway with a right-hand traffic pattern.

(c) FAA Advisory Circulars contain methods and procedures for the installation, lighting, and maintenance of traffic and wind indicators that are acceptable to the Administrator.

§ 139.325 Airport emergency plan.

(a) In a manner authorized by the Administrator, each certificate holder must develop and maintain an airport emergency plan designed to minimize the possibility and extent of personal injury and property damage on the airport in an emergency. The plan must—

(1) Include procedures for prompt response to all emergencies listed in paragraph (b) of this section, including a communications network;

(2) Contain sufficient detail to provide adequate guidance to each person who must implement these procedures; and

(3) To the extent practicable, provide for an emergency response for the largest air carrier aircraft in the Index group required under § 139.315.

(b) The plan required by this section must contain instructions for response to—

(1) Aircraft incidents and accidents;

(2) Bomb incidents, including designation of parking areas for the aircraft involved;

(3) Structural fires;

(4) Fires at fuel farms or fuel storage areas;

(5) Natural disaster;

(6) Hazardous materials/dangerous goods incidents;

(7) Sabotage, hijack incidents, and other unlawful interference with operations;

(8) Failure of power for movement area lighting; and

(9) Water rescue situations, as appropriate.

(c) The plan required by this section must address or include—

(1) To the extent practicable, provisions for medical services, including transportation and medical assistance for the maximum number of persons that can be carried on the largest air carrier aircraft that the airport reasonably can be expected to serve;

(2) The name, location, telephone number, and emergency capability of each hospital and other medical facility and the business address and telephone number of medical personnel on the airport or in the communities it serves who have agreed to provide medical assistance or transportation;

(3) The name, location, and telephone number of each rescue squad, ambulance service, military installation, and government agency on the airport or in the communities it serves that agrees to provide medical assistance or transportation;

(4) An inventory of surface vehicles and aircraft that the facilities, agencies, and personnel included in the plan under paragraphs (c)(2) and (3) of this section will provide to transport injured and deceased persons to locations on the airport and in the communities it serves;

(5) A list of each hangar or other building on the airport or in the communities it serves that will be used to accommodate uninjured, injured, and deceased persons;

(6) Plans for crowd control, including the name and location of each safety or security agency that agrees to provide assistance for the control of crowds in the event of an emergency on the airport; and

(7) Procedures for removing disabled aircraft, including, to the extent practical, the name, location, and telephone numbers of agencies with aircraft removal responsibilities or capabilities.

(d) The plan required by this section must provide for—

(1) The marshalling, transportation, and care of ambulatory injured and uninjured accident survivors;

(2) The removal of disabled aircraft;

(3) Emergency alarm or notification systems; and

(4) Coordination of airport and control tower functions relating to emergency actions, as appropriate.

(e) The plan required by this section must contain procedures for notifying the facilities, agencies, and personnel who have responsibilities under the plan of the location of an aircraft accident, the number of persons involved in that accident, or any other information necessary to carry out their responsibilities, as soon as that information becomes available.

(f) The plan required by this section must contain provisions, to the extent practicable, for the rescue of aircraft accident victims from significant bodies of water or marsh lands adjacent to the airport that are crossed by the approach and departure flight paths of air carriers. A body of water or marshland is significant if the area exceeds one-quarter square mile and cannot be traversed by conventional land rescue vehicles. To the extent practicable, the plan must provide for rescue vehicles with a combined capacity for handling the maximum number of persons that can be carried on board the largest air carrier aircraft in the Index group required under § 139.315.

(g) Each certificate holder must—

(1) Coordinate the plan with law enforcement agencies, rescue and firefighting agencies, medical personnel and organizations, the principal tenants at the airport, and all other persons who have responsibilities under the plan;

(2) To the extent practicable, provide for participation by all facilities, agencies, and personnel specified in paragraph (g)(1) of this section in the development of the plan;

(3) Ensure that all airport personnel having duties and responsibilities under the plan are familiar with their assignments and are properly trained; and

(4) At least once every 12 consecutive calendar months, review the plan with all of the parties with whom the plan is coordinated, as specified in paragraph (g)(1) of this section, to ensure that all parties know their responsibilities and that all of the information in the plan is current.

(h) Each holder of a Class I Airport Operating Certificate must hold a full-scale airport emergency plan exercise at

least once every 36 consecutive calendar months.

(i) Each airport subject to applicable FAA and Transportation Security Administration security regulations must ensure that instructions for response to paragraphs (b)(2) and (b)(7) of this section in the airport emergency plan are consistent with its approved airport security program.

(j) FAA Advisory Circulars contain methods and procedures for the development of an airport emergency plan that are acceptable to the Administrator.

(k) The emergency plan required by this section must be submitted by each holder of a Class II, III, or IV Airport Operating Certificate no later than 24 consecutive calendar months after June 9, 2004.

§ 139.327 Self-inspection program.

(a) In a manner authorized by the Administrator, each certificate holder must inspect the airport to assure compliance with this subpart according to the following schedule:

(1) Daily, except as otherwise required by the Airport Certification Manual;

(2) When required by any unusual condition, such as construction activities or meteorological conditions, that may affect safe air carrier operations; and

(3) Immediately after an accident or incident.

(b) Each certificate holder must provide the following:

(1) Equipment for use in conducting safety inspections of the airport;

(2) Procedures, facilities, and equipment for reliable and rapid dissemination of information between the certificate holder's personnel and air carriers; and

(3) Procedures to ensure qualified personnel perform the inspections. Such procedures must ensure personnel are trained, as specified under Sec. 139.303, and receive initial and recurrent instruction every 12 consecutive calendar months in at least the following areas:

(i) Airport familiarization, including airport signs, marking and lighting.

(ii) Airport emergency plan.

(iii) Notice to Airmen (NOTAM) notification procedures.

(iv) Procedures for pedestrians and ground vehicles in movement areas and safety areas.

(v) Discrepancy reporting procedures; and

(4) A reporting system to ensure prompt correction of unsafe airport conditions noted during the inspection, including wildlife strikes.

(c) Each certificate holder must—

(1) Prepare, and maintain for at least 12 consecutive calendar months, a record of each inspection prescribed by this section, showing the conditions found and all corrective actions taken.

(2) Prepare records of all training given after June 9, 2004 to each individual in compliance with this section that includes, at a minimum, a description and date of training received. Such records must be maintained for 24 consecutive calendar months after completion of training.

(d) FAA Advisory Circulars contain methods and procedures for the conduct of airport self-inspections that are acceptable to the Administrator.

§ 139.329 Pedestrians and ground vehicles.

In a manner authorized by the Administrator, each certificate holder must—

(a) Limit access to movement areas and safety areas only to those pedestrians and ground vehicles necessary for airport operations;

(b) Establish and implement procedures for the safe and orderly access to, and operation in, movement areas and safety areas by pedestrians and ground vehicles, including provisions identifying the consequences of noncompliance with the procedures by an employee, tenant, or contractor;

(c) When an air traffic control tower is in operation, ensure that each pedestrian and ground vehicle in movement areas or safety areas is controlled by one of the following:

(1) Two-way radio communications between each pedestrian or vehicle and the tower;

(2) An escort with two-way radio communications with the tower accompanying any pedestrian or vehicle without a radio; or

(3) Measures authorized by the Administrator for controlling pedestrians and vehicles, such as signs, signals, or guards, when it is not operationally practical to have two-way radio communications between the tower and the pedestrian, vehicle, or escort;

(d) When an air traffic control tower is not in operation, or there is no air traffic control tower, provide adequate procedures to control pedestrians and ground vehicles in movement areas or safety areas through two-way radio communications or prearranged signs or signals;

(e) Ensure that each employee, tenant, or contractor is trained on procedures required under paragraph (b) of this section, including consequences of noncompliance, prior to moving on foot, or operating a ground vehicle, in movement areas or safety areas; and

(f) Maintain the following records:

(1) A description and date of training completed after June 9, 2004 by each individual in compliance with this section. A record for each individual must be maintained for 24 consecutive months after the termination of an individual's access to movement areas and safety areas.

(2) A description and date of any accidents or incidents in the movement areas and safety areas involving air carrier aircraft, a ground vehicle or a pedestrian. Records of each accident or incident occurring after the June 9, 2004, must be maintained for 12 consecutive calendar months from the date of the accident or incident.

§ 139.331 Obstructions.

In a manner authorized by the Administrator, each certificate holder must ensure that each object in each area within its authority that has been determined by the FAA to be an obstruction is removed, marked, or lighted, unless determined to be unnecessary by an FAA aeronautical study. FAA Advisory Circulars contain methods and procedures for the lighting of obstructions that are acceptable to the Administrator.

§ 139.333 Protection of NAVAIDS.

In a manner authorized by the Administrator, each certificate holder must—

(a) Prevent the construction of facilities on its airport that, as determined by the Administrator, would derogate the operation of an electronic or visual NAVAID and air traffic control facilities on the airport;

(b) Protect—or if the owner is other than the certificate holder, assist in

protecting—all NAVAIDS on its airport against vandalism and theft; and

(c) Prevent, insofar as it is within the airport's authority, interruption of visual and electronic signals of NAVAIDS.

§ 139.335 Public protection.

(a) In a manner authorized by the Administrator, each certificate holder must provide—

(1) Safeguards to prevent inadvertent entry to the movement area by unauthorized persons or vehicles; and

(2) Reasonable protection of persons and property from aircraft blast.

(b) Fencing that meets the requirements of applicable FAA and Transportation Security Administration security regulations in areas subject to these regulations is acceptable for meeting the requirements of paragraph (a)(l) of this section.

§ 139.337 Wildlife hazard management.

(a) In accordance with its Airport Certification Manual and the requirements of this section, each certificate holder must take immediate action to alleviate wildlife hazards whenever they are detected.

(b) In a manner authorized by the Administrator, each certificate holder must ensure that a wildlife hazard assessment is conducted when any of the following events occurs on or near the airport:

(1) An air carrier aircraft experiences multiple wildlife strikes;

(2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component;

(3) An air carrier aircraft experiences an engine ingestion of wildlife; or

(4) Wildlife of a size, or in numbers, capable of causing an event described in paragraphs (b)(1), (b)(2), or (b)(3) of this section is observed to have access to any airport flight pattern or aircraft movement area.

(c) The wildlife hazard assessment required in paragraph (b) of this section must be conducted by a wildlife damage management biologist who has professional training and/or experience in wildlife hazard management at airports or an individual working under direct supervision of such an individual. The wildlife hazard assessment must contain at least the following:

(1) An analysis of the events or circumstances that prompted the assessment.

(2) Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences.

(3) Identification and location of features on and near the airport that attract wildlife.

(4) A description of wildlife hazards to air carrier operations.

(5) Recommended actions for reducing identified wildlife hazards to air carrier operations.

(d) The wildlife hazard assessment required under paragraph (b) of this section must be submitted to the Administrator for approval and determination of the need for a wildlife hazard management plan. In reaching this determination, the Administrator will consider—

(1) The wildlife hazard assessment;

(2) Actions recommended in the wildlife hazard assessment to reduce wildlife hazards;

(3) The aeronautical activity at the airport, including the frequency and size of air carrier aircraft;

(4) The views of the certificate holder;

(5) The views of the airport users; and

(6) Any other known factors relating to the wildlife hazard of which the Administrator is aware.

(e) When the Administrator determines that a wildlife hazard management plan is needed, the certificate holder must formulate and implement a plan using the wildlife hazard assessment as a basis. The plan must—

(1) Provide measures to alleviate or eliminate wildlife hazards to air carrier operations;

(2) Be submitted to, and approved by, the Administrator prior to implementation; and

(3) As authorized by the Administrator, become a part of the Airport Certification Manual.

(f) The plan must include at least the following:

(1) A list of the individuals having authority and responsibility for implementing each aspect of the plan.

(2) A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:

(i) Wildlife population management;

(ii) Habitat modification; and

(iii) Land use changes.

(3) Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits.

(4) Identification of resources that the certificate holder will provide to implement the plan.

(5) Procedures to be followed during air carrier operations that at a minimum includes—

(i) Designation of personnel responsible for implementing the procedures;

(ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;

(iii) Wildlife hazard control measures; and

(iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.

(6) Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section, including:

(i) The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and

(ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.

(7) A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by paragraph (d) of this section.

(g) FAA Advisory Circulars contain methods and procedures for wildlife hazard management at airports that are acceptable to the Administrator.

139.339 Airport condition reporting.

In a manner authorized by the Administrator, each certificate holder must—

(a) Provide for the collection and dissemination of airport condition information to air carriers.

(b) In complying with paragraph (a) of this section, use the NOTAM system, as appropriate, and other systems and procedures authorized by the Administrator.

(c) In complying with paragraph (a) of this section, provide information on the following airport conditions that may affect the safe operations of air carriers:

(1) Construction or maintenance activity on movement areas, safety areas, or loading ramps and parking areas.

(2) Surface irregularities on movement areas, safety areas, or loading ramps and parking areas.

(3) Snow, ice, slush, or water on the movement area or loading ramps and parking areas.

(4) Snow piled or drifted on or near movement areas contrary to § 139.313.

(5) Objects on the movement area or safety areas contrary to § 139.309.

(6) Malfunction of any lighting system, holding position signs, or ILS critical area signs required by § 139.311.

(7) Unresolved wildlife hazards as identified in accordance with § 139.337.

(8) Nonavailability of any rescue and firefighting capability required in §§ 139.317 or 139.319.

(9) Any other condition as specified in the Airport Certification Manual or that may otherwise adversely affect the safe operations of air carriers.

(d) Each certificate holder must prepare and keep, for at least 12 consecutive calendar months, a record of each dissemination of airport condition information to air carriers prescribed by this section.

(e) FAA Advisory Circulars contain methods and procedures for using the NOTAM system and the dissemination of airport information that are acceptable to the Administrator.

§ 139.341 Identifying, marking, and lighting construction and other unserviceable areas.

(a) In a manner authorized by the Administrator, each certificate holder must—

(1) Mark and, if appropriate, light in a manner authorized by the Administrator—

(i) Each construction area and unserviceable area that is on or adjacent to any movement area or any other area of the airport on which air carrier aircraft may be operated;

(ii) Each item of construction equipment and each construction roadway, which may affect the safe movement of aircraft on the airport; and

(iii) Any area adjacent to a NAVAID that, if traversed, could cause derogation of the signal or the failure of the NAVAID; and

(2) Provide procedures, such as a review of all appropriate utility plans prior to construction, for avoiding damage to existing utilities, cables, wires, conduits, pipelines, or other underground facilities.

(b) FAA Advisory Circulars contain methods and procedures for identifying and marking construction areas that are acceptable to the Administrator.

§ 139.343 Noncomplying conditions.

Unless otherwise authorized by the Administrator, whenever the requirements of subpart D of this part cannot be met to the extent that uncorrected unsafe conditions exist on the airport, the certificate holder must limit air carrier operations to those portions of the airport not rendered unsafe by those conditions.

APPENDIX B

Cultural Surveys Hawai'i Inc.
Archaeological and Cultural Impact Studies
Hallett H. Hammatt, Ph.D., President

Providing Excellence in Cultural Resource Management

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September 26, 2006

Dr. Melissa Kirkendall
Maui Island Archaeologist
State Historic Preservation Division
DLNR Office Annex
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Wailuku, HI, 96793

Subject: **Field Inspection of the Hana Airport Fence Line, Kawela, Kauamanu and Kaʻelekū Ahupuaʻa, Hāna District, Maui Island [TMK (2) 2-1-003:022-040]**
CSH Job Code: KAELE-1

Dear Dr. Kirkendall:

At the request of Ms. Kristen Warren of GMP Associates Hawaii, a field inspection was conducted by Jessica L. Hawkey, B.S., and Robert R. Hill, B.A., of Cultural Surveys Hawaiʻi Inc. on September 11, 2006. The surface inspection was requested as part of a State Historic Preservation Division (SHPD) review for the future installation of a fence line enclosing the project parcel. The review comments regarding an appropriate scope of work for this project were made by Dr. Melissa Kirkendall, Maui Archaeologist with the SHPD, during a consultation with CSH archaeologist Tanya Lee-Greig, M.A. The consultation established that the landowner have a professional archaeologist perform a field inspection to determine the effects of the proposed undertaking on cultural sites. If significant finds were reported during the field inspection, an archaeological inventory survey would then become the appropriate scope of work. The present letter report contains the results of the field inspection.

The proposed action at the Hāna Airport involves the erection of approximately 9,700 linear feet (2,955 meters) of fencing at the Hāna Airport in order to conform with 2004 Federal Aviation Administration rules that revised the Federal airport certification regulation Title 14, Code of Federal Regulations, Part 139, (14 CFR Part 139). The revised regulation established certification requirements for airports serving scheduled air carrier operations in aircraft designed for more than 9 passenger seats but less than 31 passenger seats. These rules amended a section of 14 CFR Part 121 to conform with changes to airport certification requirements. The major changes at the Hāna Airport include the fencing project described above, the expansion of the terminal area to include a fire-fighting and rescue station, and the expansion of airplane and helicopter tie-down areas.

Project Area Description

The project area is set back from the Hāna coastline at an average of 300 feet (90 meters) within State Department of Transportation Airports Division property and reserved for use by the airport (Figure 1). Access to the project parcel is from the Hāna Highway via the Alalele Place right-of-way (Figure 2).

According to GMP Associates Hawaii, the proposed fence line would enclose an area of 143.7 acres. The fence itself will be constructed of fence posts placed ten feet apart, at a Federal Aviation Administration (FAA) regulation height of eight feet, with footings estimated to be excavated to a depth of three feet.

The natural environment currently consists of open fields of St. Augustine grass (*Stenotaphrum secundatum*) that make up the runway service apron, surrounded by vegetation that includes dense thickets of introduced cane grass (*Pennisetum purpureum*) and molasses grass (*Melinis minutiflora*). Thick stands of *koa haole* (*Leucaena leucocephala*), *hala* (*Pandanus tectorius*), guava (*Psidium guajava*), Christmas berry (*Schinus terebinthifolius*), coastal *naupaka* (*Scaevola taccada*), century plants (*Agave americanum*), lantana (*Lantana camara*), and *kāhili* ginger (*Hedychium gardnerianum*). *Ti* plants (*Cordyline fruticosa*) and coconut trees (*Cocos nucifera*) are interspersed within the thicket vegetation surrounding the airfield (Figure 3). The soils of the project area are classified as "OPD" Opihikao extremely rocky muck, 3 to 25 percent slopes, and "MYD" Malama extremely stony muck, 3 to 25 percent slopes (Foote, *et al* 1972) (Figure 4). These soils are characterized as extremely rocky, composed of either fragmental *ʻaʻa* (clinker) lava (Malama Series) or *pāhoehoe* lava bedrock (Opihikao Series) from young cinder cones of the east rift zone of Haleakalā (Stearns 1942).

The built environment consists of a regional airport complex including a terminal building, a parking lot, a maintenance building, and a runway measuring 3,605 feet long (1,098 meters). The current Hāna Airport Master Plan (Black & Veatch 1998) includes plans for the future expansion of terminal facilities that would include aircraft hangars, a new fire-fighting station, new fuel storage tanks, and additional parking for both automobiles and aircraft. The grounds of the Waiʻānapanapa State Park are located east of the airport. The south-east boundary of the project parcel abuts Kaʻelekū State Park lands, and private lands designated as an agricultural park are located to the south and west of the airport runway.

Historic Overview of the Project Area

Kaʻelekū Sugar Plantation

Named for a prominent land division (*ahupuaʻa*) in Hāna, Kaʻelekū literally means *the basalt*. Covering 1,483 acres, the plantation lands included fertile soils clinging to the upland mountain slopes, and cindery soils made up of the *ejecta* from two cinder cones: Puʻu Pūʻou and Olopawa. The main source of surface water for the plantation at Kaʻelekū was Honomāʻele Stream (Stearns 1942). In the early 1910's, the Kaʻelekū manager, John Chalmers, established a plantation railroad, that included the construction of bridges to span the many streams and gulches flowing through the company fields.

The plantation railroad's northernmost terminus was at a trail that paralleled Mapunaiwai Gulch. The Kawaipapa Gulch bridge, which separated the Hāna Division fields from the Kaʻelekū Division fields was completely rebuilt in 1926. The southernmost terminus of the railroad was just north of Kawaikaoia Gulch. At the height of operations, the harvesting system consisted of 12 miles of permanent railroad track, 2½ miles of portable track, 10½ miles of permanent flume, and 1½ miles of ditch used to carry water to the harvesting fields (Conde 1973). The cane was flumed into cars located near the field, and transported to the mill by railway (Gilmore 1936). The project area of the Hana airport is located just north of three of the largest field systems for the plantation.

By 1924, the Honolulu Iron Works Company had completely remodeled the Ka‘elekū mill and increased its’ crushing capacity to 600 tons of cane per day (Honolulu Iron Works 1924). In 1933, Ka‘elekū Sugar Company was purchased by C. Brewer and Company. The new management put an additional 400 acres into cultivation, and increased the 1935 yield to 7,518 tons. A 250-foot long concrete pier in Hāna Bay made it possible for steamers to load molasses directly from the wharf. As of 1936, the number of permanent “skilled and unskilled” employees totaled 531. Together with non-working women and children, the total company population amounted to 1042 people living in 223 houses (Gilmore 1936).

Operations in 1936 appeared to have hit their peak (Gilmore 1936). Following the installation of a new bagasse-fired power plant built in 1940 to supplement two existing diesel-fired plants, sugar production dropped to 6,745 tons (Stearns 1942). Despite new acreage put into cultivation, production continued to falter. The records of the Hawaii Sugar Planters’ Association noted the liquidation of the company on December 31, 1945.

Aviation History of the Hāna Area

Immediately following World War I (1915-18), Hāmoa Bay provided a safe anchorage for early military seaplanes. A landing strip was cleared in the Hāmoa area early in the 1920’s (Schlapak personal communication). Land-based aircraft of the U.S. Army’s 5th Bomb Group stationed at Luke Field, Ford Island, Pearl Harbor, utilized the Hāmoa land strip. Flight operations by the military were carried out in Curtiss JN-6HG-type aircraft between the main Hawaiian Islands, beginning in 1920. By the early 1930’s, military flight operations to the Hāna coast were shifted to a land strip built at Ka‘elekū (Mander 1946).

With the shift from Hāmoa to Ka‘elekū, newer aircraft types for observation and bombing were able to utilize the landing field in Hāna. Military aircraft based at the U.S. Army’s Wheeler Field at Schofield Barracks, Honolulu, such as the Thomas Morse O-19B and de Havilland DH-4M-1, were frequent visitors to Hāna *en route* to the Big Island. In the years just prior to World War II, the Hawaiian Department of the Army Air Corps had expanded to include four bombardment squadrons and a like number of long-range observation squadrons (Mander 1946).

Modern Use of the Project Area

The present Hāna Airport opened on November 11, 1950. The cost of building the airfield was equally split between the Hawaii Aeronautics Commission (HAC) and the Territory of Hawaii Civil Aeronautics Administration (Black & Veatch 1998). The airport continues to operate as a small regional airport, serving small commuter-type aircraft.

Previous Archaeology

Beginning in the late 1920's and continuing in recent decades, archaeological studies have been conducted within the ahupuaʻa of West and East Honomāʻele, Kawela, Kauamanu, Kaʻelekū, and Honokalani (Figure 5). These studies suggest patterns of Hawaiian activity during the pre-contact and early post-contact periods. Between 1928 and 1929, Winslow Walker of the Bishop Museum attempted the first island-wide systematic archaeological survey of Maui. Walker recorded one major site at West Honomāʻele: Piʻilanihale Heiau (Walker Site 102) near the present project area. Piʻilanihale Heiau was described as "The largest *heiau* found on Maui" and as Walker notes, "Very probably it was the royal abode of the great Piʻilani family of Maui chiefs, who flourished in the 16th century" (Walker 1931).

Archaeological studies in the 1970s focused specifically on the *makai* portions of the *ahupuaʻa* of Kaʻelekū and Honokalani in response to the development of facilities for both the Kaʻelekū and Waiʻānanpanapa State Parks. See Figure 5 for a map showing the locations of previous archaeological investigations near the present project area. Fieldwork was also conducted in West and East Honomāʻele (see Table 1 for these studies) to further document features of the Piʻilanihale Heiau.

Richard J. Pearson (1970) identified approximately 34 archaeological features during the initial survey of Waiʻānapanapa State Park. These features included one *heiau*, five cave shelters, a pre-contact trail, one pictograph, six *ahu*, two U-shaped shelters, five miniature enclosures, three shelter walls, two house platforms, three cemeteries that had been apparently divided by either familial or religious affiliation, as well as several other wall segments or enclosures. Pearson further noted the presence of an additional graveyard on State-owned lands to the west of the park: between the park and the current location of the Hana Airport. These graves consisted of a series of rectangular platforms, some with *ʻiliʻili* paving and one with an upright rectangular basalt crystal. The graves were said to belong to a Hāna family, but had not been used in three generations at the time of the survey. Based on the overall findings within the park boundaries, Pearson (1970) observed that the exploitation of wetter environs surrounded by dense rainforests, as opposed to the leeward counterpart, may have resulted in the development of scattered homesteads rather than nucleated villages.

Robert Bevacqua (1972) of the Bernice Pauahi Bishop Museum conducted an initial walk-through survey of the Hāna High and Elementary School Campus. Bevaqcua noted one archaeological habitation site in one corner of the school campus that had been previously disturbed by bulldozing.

Wendell Kam (1984) conducted a site inspection of the present project area for a clearance and fencing project of the Hāna Airport. The inspection determined that, "the *mauka* portion of the runway had been previously bulldozed during the 1950's and [in] 1972 by Fong Construction and Hirahara Construction, respectively." In regard to the *makai* (seaward) portion of the runway, the report stated, "that no archaeological features existed in the proposed area although a Hawaiian foot-trail lies adjacent, along the coast."

Jim Landrum III (1984) performed an archaeological reconnaissance and historical survey for the Department of Anthropology, Bernice Pauahi Bishop Museum, over an 14-acre area. With the exception

of an abandoned segment of the old government road and historic roadside refuse along a dump access road, no historic properties were identified within the project area.

Joseph Kennedy (1984) identified and mapped a total of 368 features at the burial complex initially noted by Pearson (1970). These features were grouped into five broad categories: 1. filled areas between lava flow; 2. above ground burial platforms; 3. *ahu*; 4. incomplete or unfinished graves; and 5. a possible religious structure.

Paul L Cleghorn and Elaine Rogers-Jourdane (1987) conducted preliminary archaeological and historic investigations of "Hana Ranch Lands" for the Bishop Museum in the early part of 1987. Ms. Kathie Rogers conducted the historical research. The archaeological research consisted of compiling a list of known sites, analysis of aerial photographs and a brief field inspection. Cleghorn notes: "The analysis of aerial photographs proved to be quite productive" (Cleghorn and Rogers 1987:13). Because the area had been intensively used for sugarcane cultivation, the probability of finding archaeological sites within the Cleghorn and Rogers study area was thought to be low. However, in every instance where vegetated areas were noted on aerial photographs, archaeological site remnants were discovered during field investigations. A total of 48 archaeological sites were previously recorded within the project area covered by the Cleghorn and Rogers study. Of the 48, approximately 20 were noted as destroyed or no longer extant. While nearly half of the previously recorded archaeological sites are no longer present, many archaeological site remnants and the potential for additional finds within vegetated areas were identified during the study. Previous investigations of the lands covered by Cleghorn and Rogers focused on the coast or religious structures. Data and observations gathered during the 1987 study have expanded the inventory of site types to include archaeological sites representative of habitation and agriculture.

Agnes Estioko-Griffin (1988), the State Parks Archaeologist at that time, performed a field inspection of SIHP 50-50-13 1485, the Kawaipapa Complex, in conjunction with a fishpond rehabilitation project that was being considered by the landowner. The complex in its entirety consists of an unnamed pond and two shelter caves. The field inspection resulted in the relocation of the pond and one of two previously recorded habitation caves; in addition to a wall segment, an additional cave, and one artifact consisting of a drilled trumpet shell.

Following a site survey report for the Pi‘ilanihale Heiau by Ross Cordy in 1970, and two short reports establishing a research design for the Pi‘ilanihale Heiau (one by H. David Tuggle in 1976, and one by Michael Kolb in 1989), Michael J. Kolb (1990) began a series of excavations at the Pi‘ilanihale Heiau. 33 Test Units were excavated in different areas of the *heiau* structure, as well as other structures that appeared to be related to the *heiau* itself. The report discusses the *heiau* in terms of three separate entities: the west platform, the central terrace, and the east platform. Test Unit data revealed that the terracing and paving of the west platform occurred first, and that material culture associated with this platform suggests it functioned as a residence. Test Unit data confirmed that the large central structure was built in a separate, single building episode, and that domestic debris recovered suggested that it may have functioned as a chiefly residence, in addition to the ritual function of the *heiau*. A third building episode established a southwesterly retaining terrace for the central platform that resulted in the construction of the east platform. The last stage represents a series of modifications and pavings that post-date all other building episodes. Radiocarbon dates were pending at the conclusion of this report.

J. D. Henry and D. Graves (1993) identified four historic properties during an inventory survey for the Hana Medical Center. Two of the historic properties were complexes (SIHPs 3150 and 3153) while two were interpreted as boundary walls (SIHPs 3151 and 3152). Formal site types associated with the identified historic properties included and enclosure, L-shape enclosure, platform, wall, and terrace with the following functional determinations; habitation, animal husbandry, boundary, agriculture, and indeterminate. The Henry and Graves study parcel was also thought to have been a *pu'uhonua* or refuge. Further research by the Mr. Kepā Maly revealed that while the study parcel did not contain a *pu'uhonua*, an adjacent parcel did.

Warren Wulzen, Paul H. Rosendahl, and Susan T. Goodfellow (1996) conducted an archaeological data recovery for SIHP 50-50-13-3150 (Henry and Graves 1993) at the Hana Medical Center Site. A total of eight excavation units were dug at all four features of SIHP -3150 (Feature A, n=1; Feature B, n=4; Feature C, n=1; and Feature D, n=2). In all, the data recovery efforts yielded 177 portable artifacts, primarily historic in nature, and 386.71 grams of midden or ecofactual remains. Final analysis and interpretation by Wulzen and others (1996) indicated that the site was likely used for a limited range of activities that revolved on domestic activities. During the course of excavation, Feature C was determined to be a modern alignment resulting from bulldozer push. The relative abundance and diversity of items recovered from Feature D suggests that this feature was likely the primary locus of activity while Features A and B served as work areas or ancillary habitation features. Ceramic and glass attributes indicate that occupation of the site likely occurred after AD 1880, a time period that is contemporary with the maximum extension of the Hāna sugar plantation fields.

Eric Fredericksen and Demaris Fredericksen (2004) conducted an archaeological assessment of the Hāna High and Elementary School. The assessment consisted of pedestrian sweeps across the built portions of the campus, spaced approximately 5 meters apart. While no significant cultural materials or structural remains were noted during a pedestrian inspection of the developed campus, a possible rock enclosure was noted the general vicinity of a planned leach field installation. This possible rock enclosure remnant was noted in a drainage area on an adjacent parcel. Other observations included possible rock alignments on a heavily vegetated parcel adjacent to and northwest of the campus proper. (Assessment recommended monitoring in association with classroom construction and installation of new leach field, as well as, inventory survey on the heavily vegetated and undeveloped northeastern portion of the school campus in the event of construction in the area)

Alan E. Haun , Dave Henry, and Maria E. K. Orr (2004) conducted a study that resulted in the relocation of most of the archaeological sites that were originally identified during Pearson's initial study of Wai'ānapanapa Park in 1970 as well as a few newly identified sites and features. In all, the survey conducted by Haun and others (2004) resulted in the identification of a total of 59 sites that were comprised of 119 features in a 111-acre project area. Identified features included 29 enclosures, 14 walls, ten cairns, ten terraces, eight pavements, six platforms, five trails, five caves, five uprights, four U-shapes, four L-shapes, four mounds, three overhangs, three alignments, three cemeteries, two C-shapes, and one cupboard, modified outcrop, pictograph and petroglyphs. Functional interpretation for the sites identified included permanent habitation (n=51), ceremonial (n=16), temporary habitation (n=15), undifferentiated habitation (n=1), marker (n=10), agriculture (n=5), transportation (n=5), historic burial (n=3), livestock control (n=6), boundary (n=2), rock art (n=2), burial (n=1), storage (n=1) and indeterminate (n=1). The earliest radiocarbon date was retrieved from one of the large cave sites (SIHP 5372) and indicated that

settlement within the area occurred as early as the late 1200s while dates from a platform site at SIHP 5366 indicates that occupation occurred between the 1400s and mid-1600s. Based on examples of enclosed house yards indicate that occupation within the area continued into the historic period while use of the area continued into modern times. Unlike the settlement pattern put forth by Pearson (1970) whereby habitation was represented by scattered homesteads, Haun and others suggest that the rather concentrated nature of site clusters as well as the location of permanent habitation sites relative to ceremonial features were more characteristic of nucleated village settlement.

Results of the Field Inspection

On September 11, 2006, CSH archaeologists Jessica L. Hawkey, B. S., and Robert R. Hill, B.A., carried out a pedestrian field inspection of eight boundary line segments measuring 9,700 linear feet (2,955 meters) (Figure 6). Each boundary line segment survey was conducted by two archaeologists at distances between 5 and 10 meters from each other (depending on vegetation). The inspection was designed to survey the project area boundary line, as well as a reasonable construction buffer. The manager of the Hāna Airport, Mr. Pedro Olivera, showed the author four boundary points that surveyors had recently re-flagged. During the field inspection of the eastern end of the runway (Runway 26), Mr. Olivera stated that the surveyors had been looking for a fence line that was reportedly constructed along the airport boundary with Ka‘elekū Park lands.

The boundary line segments of D, C, B, and A were inspected by maintaining compass bearings through the thick vegetation. In this manner, a cross-section of the airfield construction area was observed. With the exception of the most seaward area of segment A, the topography of the boundary line remained remarkably flat. Apparently the lands had been leveled and graded, in order that the easterly approach to runway 8 would be free of obstructions. As the traverse was conducted along the segment A boundary line northward toward the ocean, a series of shallow (0.3-0.5 m) weathered washouts were encountered. Only within 25 meters of the rugged shoreline did the topography change from level fill to unmodified undulating *‘a‘a* clinker lavas normally found along the coast.

Surprisingly, at no point during the inspection of the western (Runway 8) boundary area, no remnant agricultural stacked basalt or wire fencing was observed. No archaeologically or historically significant features were encountered. An inspection of the vegetation along segment H did not disclose a boundary fence line. At that point along segment H between the end of Runway 26 and the coastline, a thick stand of *Hala* trees appeared to mark an informal boundary between the two properties. No archaeologically or historically significant deposits were encountered.

Based on the field inspection of the subject project area, it is clear that the surface soils of the project parcel consist of fill material that has been graded and leveled to accommodate a regional airport runway. The original topography of portions of the project parcel located along the project area boundary has been graded to accommodate the present runway orientation. The present-day boundary segments located at the west-facing end of Runway 8 appear to have been previously graded to accommodate the runway orientation of the original 1930’s landing strip. The earlier runway alignment was south to north, instead of the present-day east to west (Schlapak 2006).

Summary of Findings

Accounts of the modern use of this project area for a regional airport date to 1950. The Aeronautical Commission for the Territory of Hawaii recommended the use of Ka‘elekū as the site for a new airport following the end of World War II. The predominant surface layer of soil appears to consist of fill materials containing pulverized basalt lava fragments pushed and graded by heavy equipment. Although natural basalt lava flow features (mounds, lava tubes, and outcrops) were encountered at the eastern end of the project area, these features appeared to show no archaeological content.

Recommendations

Although the site inspection of the proposed fence line at Hāna Airport by Kam (1984), and the present field inspection of the airport boundary by the author did not identify any surface archaeological features, it is recommended that monitoring take place during the excavation of footings for the installation of the proposed fence line, based on reports of traditional cultural features found on neighboring lands during previous archaeological studies. It is possible that significant pre-contact or post-contact historic properties exist, and would be adversely affected by the excavation of footings, as the anticipated use of a mechanical auger to excavate fence-post footings is expected to penetrate the surface stratum of basalt gravel fill to a depth of three feet (0.9 meters), and, given the ever present potential for subsurface finds in shoreline environments in Hawai‘i, it is recommended that construction personnel be advised on the proper procedures for response and notification in the event that inadvertent cultural finds are uncovered during ground disturbing activities associated with construction.

We further recommend that in the event any previously unidentified sites or remains such as artifacts, shell, bone, or charcoal deposits, human skeletal remains, rock or coral alignments, pavings or walls are encountered, that all work in the immediate area stop, and that the Maui Island archaeologist for the State Historic Preservation Division, Melissa Kirkendall be contacted at (808)-243-5838.

September 26, 2006

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September 26, 2006

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If there are any further questions or concerns regarding this Field Inspection, please feel free to contact me at either our Wailuku location, (808) 242 9882, or via email at rhill@culturalsurveys.com.

Thank you for your attention to these matters.

Sincerely,
Cultural Surveys Hawaii, Inc.

Robert R. Hill, B.A.
Archaeologist for
Hallett H. Hammatt, Ph.D.

cc: Melissa Kirkendall, SHPD –Maui County Archaeologist
Ms. Kristen Warren, GMP Hawaii, Inc.

Enclosures: (14)

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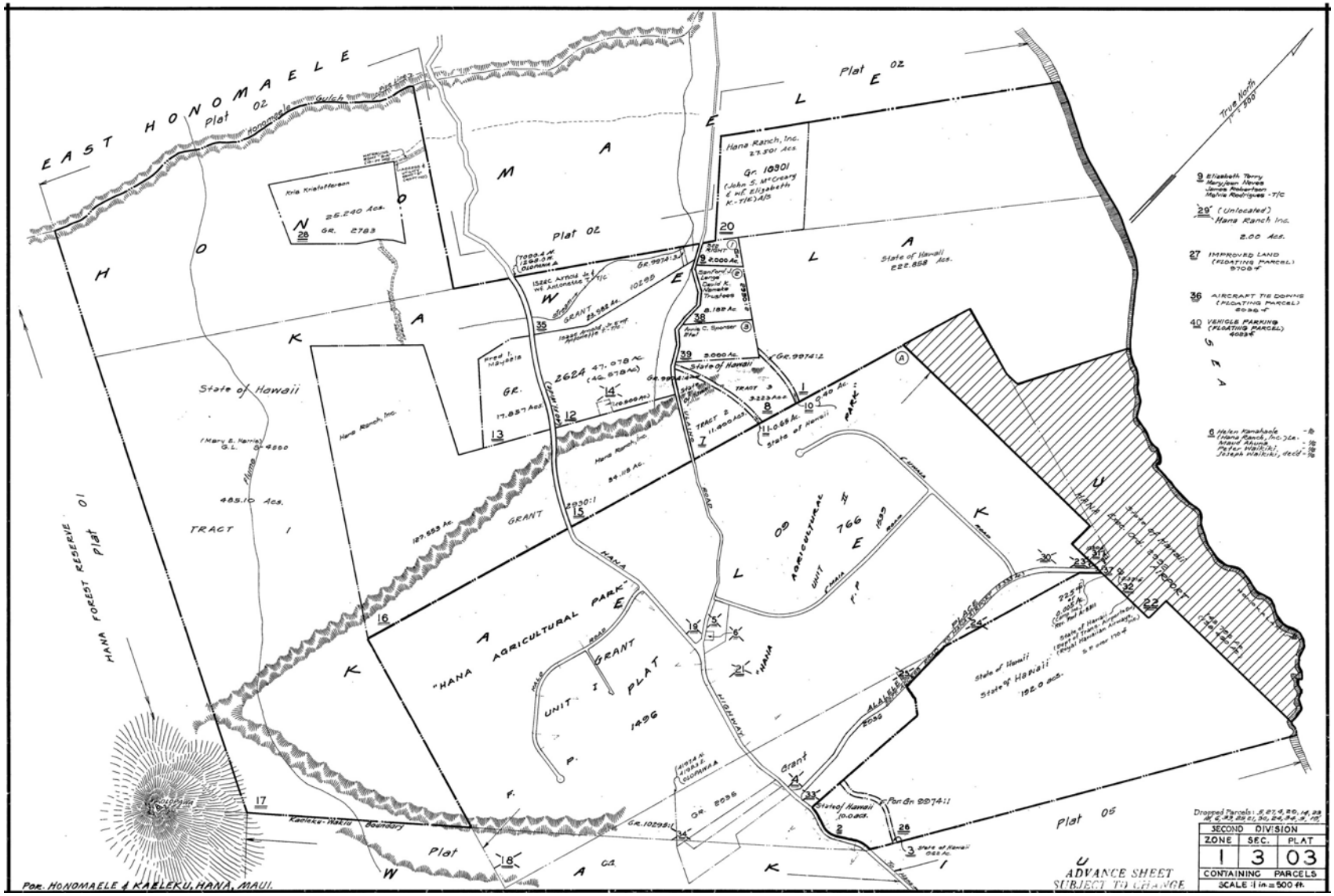

Figure 1. Portion of TMK (2)-1-3-003: 022-040 showing the Hāna Airport Project area (shaded), adjacent State of Hawai‘i lands, and private lands of the Hāna Agricultural Park. Topography of the shoreline is shown to the north of the project area (right).

Figure 2. View of existing airport facilities from Alalele Place showing the existing passenger terminal and car rental building, as well as the existing utility service easement.

Figure 3. View of thick vegetation within which the fence line is planned. View is to the east, along the southeast airport property boundary line (CSH Segment H).

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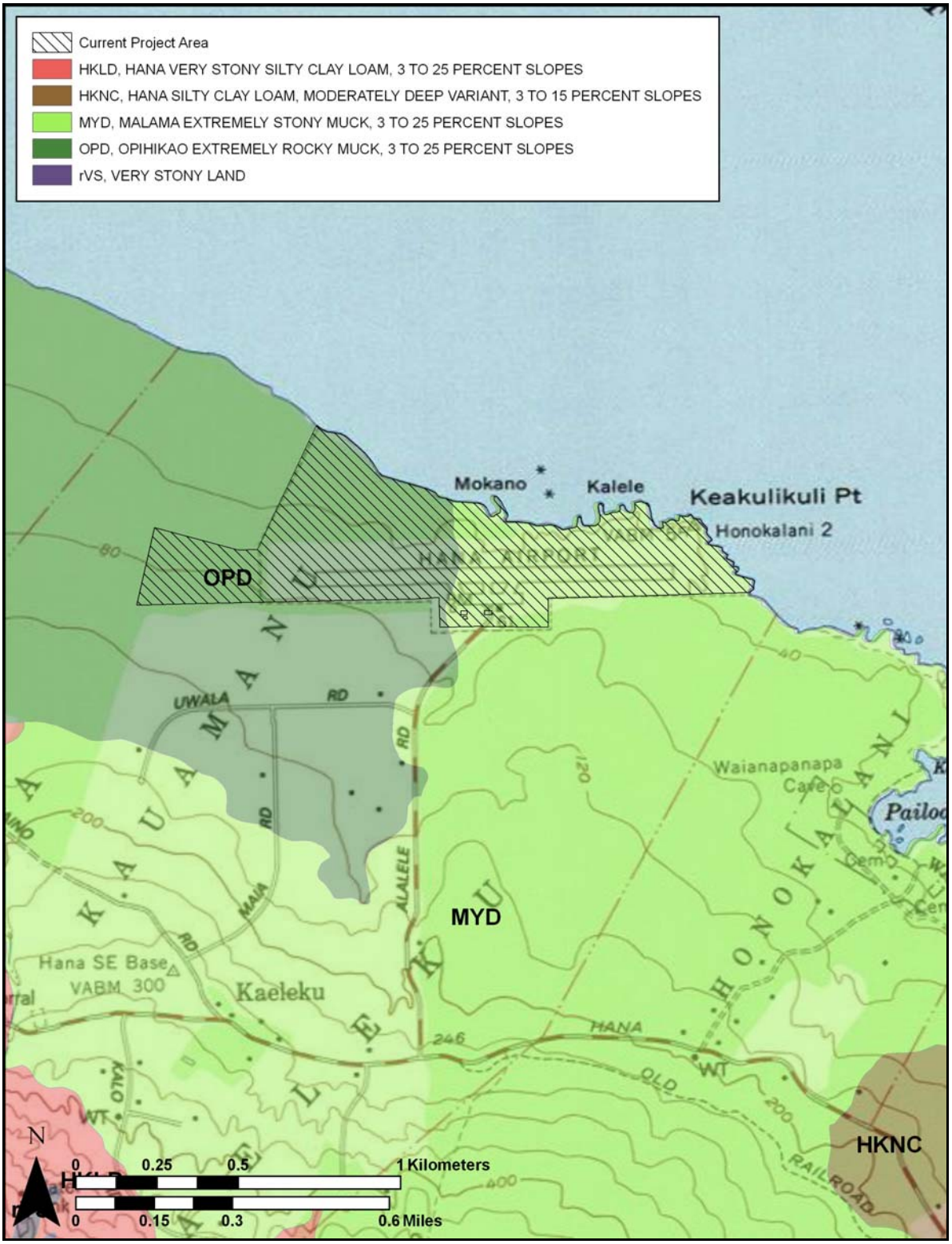

Figure 4. U.S. Geological Survey 7.5 minute series topographic map (1983), Hana Quadrangle, showing soil type distribution (USDA 2001) and current Project Area (shaded).

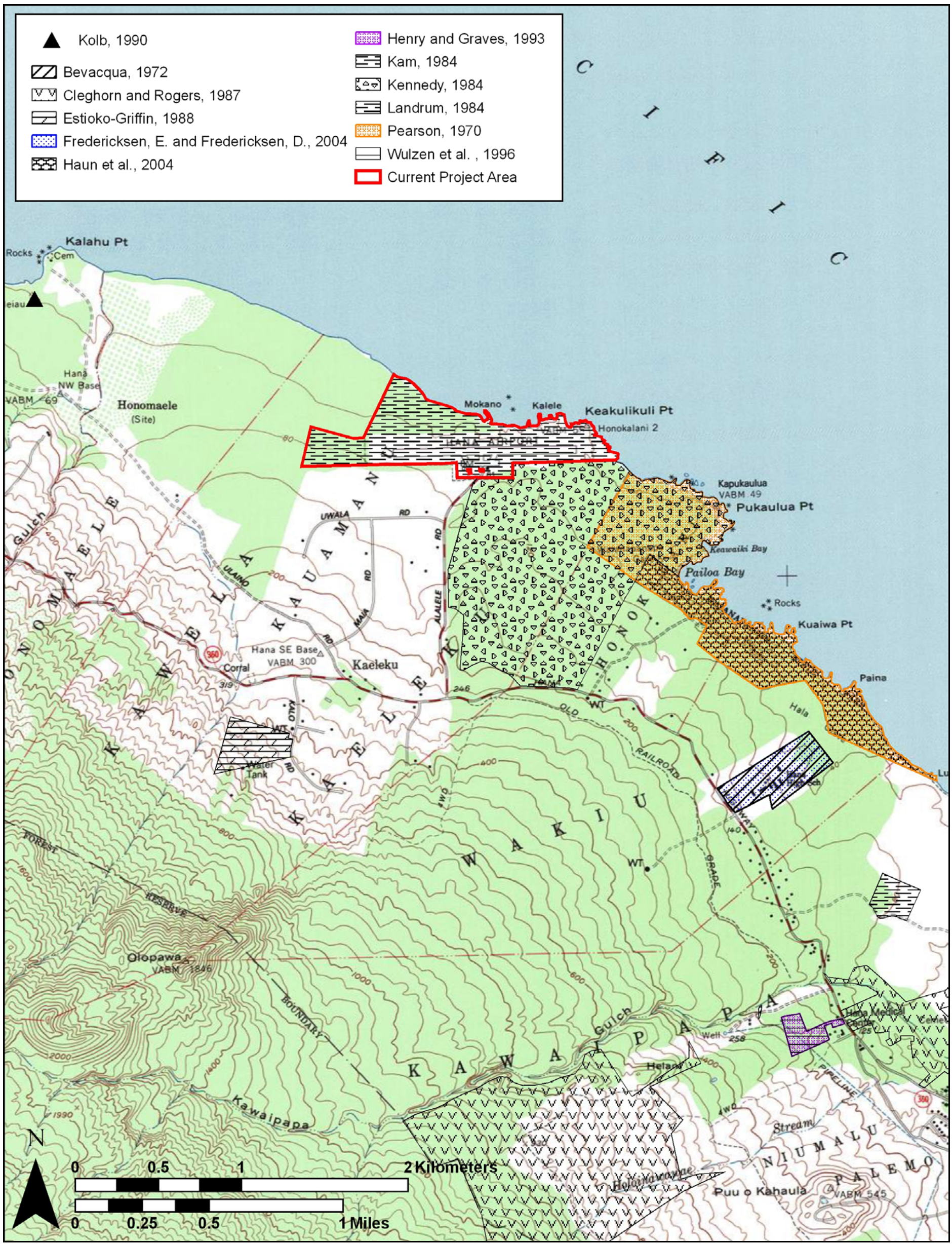

Figure 5. Map showing the locations of previous archaeological studies and surveys within the West and East Honomāʻele, Kawela, Kauamanu, Kaʻelekū, Honokalani, Wākiu, and Kawaipapa Ahupuaʻa

Table 1. Previous archaeological investigations in ‘West and East Honomā‘ele, Kawela, Kauamanu, Ka‘elekū, and Honokalani Ahupua‘a.

Author(s)/ Date	Location	Nature of Work	Findings
Walker 1931	Island-wide	Field Survey	Identifies 1 *heiau* (Walker Site 102) in West Honoma‘ēle (closest to the present project area) as the largest *heiau* on Maui. A plan view map of the central platform is drawn, and cursory notes taken at the site.
Pearson 1970	Wai‘ānapanapa State Park	Inventory Survey	Identification of 34 archaeological features representing human burial, ceremony, habitation, and transit
Bevacqua 1972	Wakiu	Archaeological Reconnaissance	One disturbed habitation site
Kam 1984	Pi‘ilanihale Heiau	Site Inspection	Site inspection of the present project area was performed for a clearance and fencing project at the Hāna Airport. The inspection determined that the area had been previously bulldozed and “that no archaeological features existed …although a Hawaiian foot-trail lies adjacent, along the coast.”
Kennedy 1984	Wakiu	Inventory Survey	Documentation of a total of 368 archaeological features at a burial complex initially note by the Pearson (1970) study
Landrum 1984	Kawaipapa	Archaeological Reconnaissance	No Findings
Estioko-Griffin 1988	Kawaipapa	Field Inspection	Relocation of Kawaipapa fishpond, one of two previously recorded habitation caves and discovery of an additional cave, a wall segment, and one drilled trumpet shell
Kennedy 1990	Kainalimu Bay	Archaeological Reconnaissance	Identified and mapped SIHP 50-50-13-109, Kauleiula Heiau.
Kolb 1990	Pi‘ilanihale Heiau	Excavation Study	Thirty-three Test Units were excavated at the Pi‘ilanihale Heiau Test Unit data revealed that construction of three constituent platforms occurred during four distinct building episodes. Test Unit data suggested that the *heiau* functioned not only as a ritual center, but included evidence that habitation

September 26, 2006

Author(s)/ Date	Location	Nature of Work	Findings
			enclosures were used by chiefs and their attendants.
Haun et al. 2004	Wai‘ānapanapa State Park	Inventory Survey	Village settlement of 59 archaeological sites representing human burial, ceremony, habitation, transit, agriculture and animal husbandry
Henry and Graves 1993	Kawaipapa	Inventory Survey	Documentation of 4 historic era properties, two of which were habitation complexes and two boundary walls.
Wulzen et al. 1996	Kawaipapa	Data Recovery	Verified the historic timetable for the occupation of SIHP 50-50-13-3150, previously recorded by Haun and Graves (1993), based on ceramic and glass attributes from recovered artifacts. Date of occupation is estimated to have occurred after AD 1880.
Haun and Henry 2003	Pauwalu/Wailua Nui	Archaeological Inventory Survey	Identified one pre-contact temporary habitation shelter, 50-50-07-5237
E. Fredericksen and D. Fredericksen 2004	Wakiu	Archaeological Assessment	No surface indication of archaeological sites and/or features. Recommended monitoring for proposed classroom construction and leach field installation.

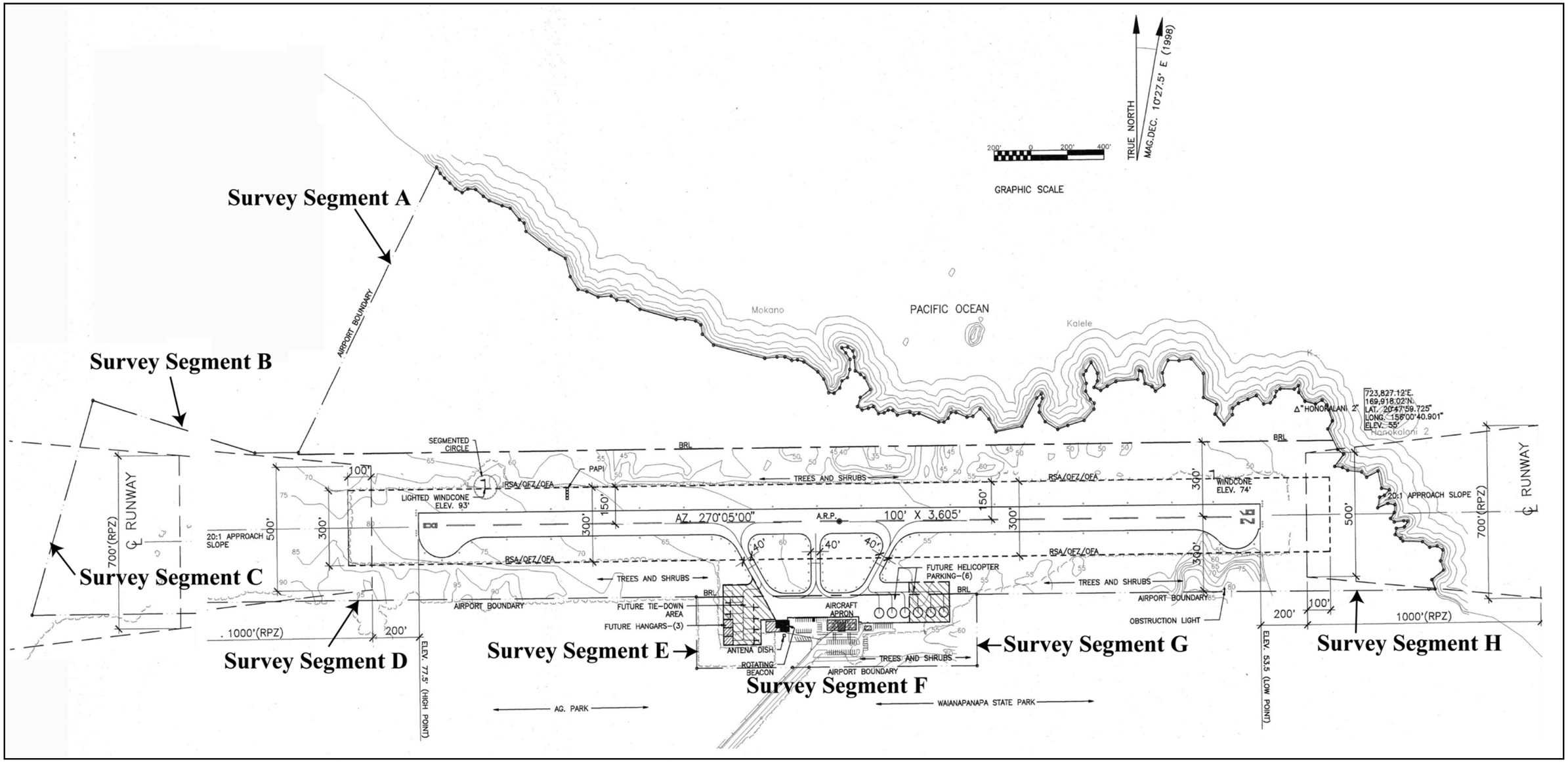

Figure 6. Plan view schematic showing the location of inspection segments A through H within the Project Area and along the airport boundaries.

Survey Segment A

Length: 1,300 Feet

Basalt cobbles and boulders strewn across a substrate of ancient lava flows; evidence of granular pyroclastics from more recent cinder cone eruptive events (Pu‘u Puou and Olopawa); overall evidence of modern modification to the soil surface; modification of surface soils ends close to coastal shoreline; no pattern of pre-contact land use. No cultural material was found.

Figure 7. Survey Segment A, view to south. *Hala* trees and *naupaka kahakai* grow profusely in fields of geologically recent *‘a‘a* clinker basalt.

Survey Segment B

Length: 1,100 Feet	Dense vegetation, predominantly guava and *koa haole*; overall evidence of modern modification of the surface soils for the airport; a few burned trees and charcoal bits observed on the soil surface were attributed to historic brush fires. No pattern of pre-contact land use detected and no cultural material was found.

Figure 8. View of airport service apron in foreground. Survey Segment B vegetation shown in background. Airport boundary is located in the vegetation thicket. View to northwest.

Survey Segment C

Length: 800 Feet Dense vegetation, ground surface covered predominantly in California grass; overall evidence of modern modification to the soil surface from construction of the airfield; no pattern of pre-contact land use; no cultural material was found.

Figure 9. Survey Segment C showing view to west. Airport boundary is located within the thicket of guava and *koa haole* (right).

Survey Segment D

Length: 2,900 Feet Crushed basalt and crushed cinder gravels indicate complete modification of the surface soils for airport construction; thick introduced grasses dominated the vegetation; no pattern of pre-contact land use detected; charcoal flecks and bits observed on the soil surface were attributed to historic brush fires. No cultural material was found.

Figure 10. Survey Segment D is located in the thicket to the left. View to west, showing meteorological equipment in use at the airport.

Survey Segment E

Length: 300 Feet

Basalt cobbles and boulders of ancient lava flows pushed into debris piles along the edges of the survey segment; evidence of naturally occurring cinder utilized as fill material during grading; overall evidence of modern modification to the soil surface; survey segment located adjacent to existing airport maintenance building; no pattern of pre-contact land use. No cultural material was found.

Figure 11. Survey Segment E showing view to north. Note microwave equipment located adjacent to the maintenance building.

Survey Segment F

Length: 1,100 Feet Right-of-way to airport terminal; overall evidence of modern modification of the surface soils for construction of airport infrastructure; no pattern of pre-contact land use detected; No cultural material was found.

Figure 12. Survey Segment F showing modern two-course stacked basalt retaining wall at entry to the airport along Alalele Place. View to west.

Survey Segment G

Length: 300 Feet

Basalt cobbles and boulders pushed into large mounds by bulldozing; cinder pyroclastics not covered by vegetative humus; overall evidence of modern modification to the soil surface; no pattern of pre-contact land use. No cultural material was found

Figure 13. Survey Segment G, view to east of vegetation within the survey area.

Survey Segment H

Length: 1,900 Feet

Basalt cobbles and boulders strewn across a substrate of ancient lava flows; evidence of granular pyroclastic material blown out of the Pu‘u Puou and Olopawa; limited evidence of modern modification of the surface soils to eliminate obstructions for runway 26; no pattern of pre-contact land use detected; charcoal flecks and bits observed on the soil surface were attributed to historic brush fires.
No cultural material was found.

Figure 14. Survey Segment H showing view to east. Note that tree line of ironwood (*Casuarina equisetifolia*) at extreme right is the airport boundary line for the proposed fence.

APPENDIX C

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
GMP ASSOCIATES, INC
2007 DEC 6 PM 3:30

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

LAURA H. THIELEN
INTERIM CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

December 3, 2007

Jennifer Littenberg, Envirnomental Engineer
GMP Hawaii Inc.
110 Alakea St, Suite 1800
Honolulu, Hawaii 96813

LOG NO: 2007.3753
DOC NO: 0711NM22
Archaeology

Dear Ms. Littenberg:

SUBJECT: **National Historic Preservation Act- Section 106 Review – Letter of Determination**
Hana Airport Fence Line (DOT – Airports Division)
Kawela, Kauamana and Kaelea, Hana District, Island of Maui
TMK: (2) 2-1-003: 022-040

The aforementioned permit is for a well security fence around the perimeter of the Hana Airport.

We believe with your determination that "**no historic properties will be affected**," because:

- ☐ Intensive cultivation has altered the land
- ☒ Residential development/urbanization has altered the land
- ☒ Previous grubbing/grading has altered the land
- ☒ An accepted archaeological inventory survey (AIS) found no historic properties
- ☐ SHPD previously reviewed this project and mitigation has been completed
- ☒ Other: *Assessment Report by CSH.*

In the event that historic resources, including human skeletal remains, are identified during routine construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Maui Section, needs to be contacted immediately at (808) 243-5169.

Aloha,

Melanie Chinen, Administrator
State Historic Preservation Division

NM:oap

APPENDIX D

APPENDIX D

TABLE 1 - LAND USE COMPATIBILITY* WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS

Land Use	Yearly day-night average sound level (L_{dn}) in decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
RESIDENTIAL						
Residential, other than mobile homes and transient lodging	Y	N(1)	N(1)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
PUBLIC USE						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
COMMERCIAL USE						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail--building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade--general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N

MANUFACTURING AND PRODUCTION						
Manufacturing, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Numbers in parenthesis refer to notes.
*The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.
Key to Table 1
SLUCM=Standard Land Use Coding Manual.
Y (YES)=Land Use and related structures compatible without restrictions.
N (No)=Land Use and related structures are not compatible and should be prohibited.

NLR=Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, or 35=Land use and related structures generally compatible; measures to achieve NLR of 25, 30 or 35 dB must be incorporated into design and construction of structure.
Notes for Table 1
(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
(2) Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(4) Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(5) Land use compatible provided special sound reinforcement systems are installed.
(6) Residential buildings require an NLR of 25.
(7) Residential buildings require an NLR of 30.
(8) Residential buildings not permitted.

SOURCE: FAA, FAR PART 150