

Stephen K. Yamashiro  
Mayor



Virginia Goldstein  
Director

Norman Olesen  
Deputy Director

RECEIVED

County of Hawaii '94 MAY 25 P3:40

PLANNING DEPARTMENT  
25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4557  
(808) 961-8288 • Fax (808) 961-9615

May 23, 1994

Mr. Brian Choy, Director  
Office of Environmental Quality Control  
220 South King Street, Fourth Floor  
Honolulu, Hawaii 96813

Dear Mr. Choy:

Environmental Assessment (Negative Declaration)  
Applicant: Kenai Air Hawaii, Inc.  
Request: Heliport and Related Facilities  
Tax Map Key: 6-2-01; Portion of 51

Enclosed please find four copies of the Final Environmental Assessment (EA) for the establishment of a heliport and related facilities within an area located to the east (mauka) of the existing Hapuna Beach Golf Course. The proposed heliport triggers the requirements of Chapter 343, H.R.S., relating to Environmental Impact Statement.

Comments on the Environmental Assessment be submitted to:

Virginia Goldstein, Director  
County of Hawaii Planning Department  
25 Aupuni Street, Room 109  
Hilo, Hawaii 96720

A copy of the comments should be sent to:

Sidney M. Fuke  
Sidney Fuke and Associates  
100 Pauahi Street, Suite 212  
Hilo, Hawaii 96720

64

Mr. Brian Choy, Director  
Office of Environmental Quality Control  
Page 2  
May 23, 1994

This Environmental Assessment is being submitted for publication in your  
June 8, 1994, OEQC Bulletin.

Should you have any questions, please feel free to contact Daryn Arai  
of this office at 961-8288.

Sincerely,

  
VIRGINIA GOLDSTEIN  
Director

DSA:pak  
A:\kenal07.dsa

Enclosures - Publication Form  
4 copies of Environmental Assessment

xc: Sidney Fuke w/publication form  
Kenai Air Hawaii, Inc. w/publication form  
West Hawaii Office w/publication form & Environmental Assessment  
TMK file

65

1994-06-08-HI-PEA-Kenai Air Hawaii  
Heliport

JUN - 8 1994

FINAL (Revised)  
ENVIRONMENTAL ASSESSMENT

Kenai Air Hawaii Heliport  
Ouli, South Kohala, Hawaii  
TMK 3/6-2-1:51 por.

Prepared By:

Sidney Fuke & Associates  
and  
Roy R. Takemoto

March 18, 1994

This Environmental Assessment was prepared pursuant to Chapter 343, Hawaii Revised Statutes and Chapter 11-200, Hawaii Administrative Rules (Environmental Impact Statement Rules, Department of Health).

**SPECIAL PERMIT APPLICATION**

**Kenai Air Hawaii Heliport  
Ouli, South Kohala, Hawaii  
TMK: 6-2-1:51 por.**

*Applicant:  
Kenai Air Hawaii, Inc.*

Submitted by:  
Sidney Fuke & Associates

March 18, 1994

DOCUMENT CAPTURED AS RECEIVED

APPLICATION FOR SPECIAL PERMIT  
COUNTY OF HAWAII  
PLANNING DEPARTMENT - PLANNING COMMISSION

APPLICANT: *Kenai Air Hawaii, Inc.*

APPLICANT'S SIGNATURE: *[Signature]*

ADDRESS: KENAI AIR HAWAII, INC.  
P. O. Box 4119 KAILUA\_KONA, HAWAII 96745

TELEPHONE: 885-5833

TAX MAP KEY: 6-2-01:51 por.

AREA OF PROPERTY: *approx. 1.00*

OWNER: *Mauna Kea Development Corporation*

OWNER'S SIGNATURE: *[Signature]*

*(Is: AUTHORIZED AGENT)*

APPLICANT'S INTEREST, if not Owner: *Easement grantee*

REEQUESTED USE: *Heliport*

APPLICANT'S REASONS FOR REQUESTING SPECIAL PERMIT (Please attach): *see attached Environmental Assessment*

NOTE: The applicant must show that

- (a) Such use shall not be contrary to the the objectives sought to be accomplished by the Land Use Law and Regulations;
- (b) the desired use shall not adversely affect surrounding properties;
- (c) such use shall not unreasonably burden public agencies to provide roads and street, sewers, water, drainage, school improvements, and police and fire protection;
- (d) unusual conditions, trends, and needs have arisen since the district boundaries and regulations were established;
- (e) the land upon which the proposed use is sought is unsuited for the uses permitted within the district;
- (f) the proposed use will not substantially alter or change the essential character of the land and the present use; and
- (g) the request will not be contrary to the General Plan and official Community Development Plan and other documents such as Design Plans.

## CONTENTS

1	INTRODUCTION .....	1
1.1	Applicant .....	1
1.2	Approving Agency .....	1
1.3	Agencies Consulted .....	1
2	DESCRIPTION OF PROPOSED ACTION .....	1
2.1	Location and Ownership .....	1
2.2	Existing Uses .....	5
2.3	Project Description .....	5
2.3.1	<i>Heliprot Facilities</i> .....	5
2.3.2	<i>Operations</i> .....	9
2.3.3	<i>Infrastructure</i> .....	9
2.3.4	<i>Timetable and Cost</i> .....	9
3	ENVIRONMENTAL SETTING, IMPACT, & MITIGATION MEASURES .....	12
3.1	Physical Characteristics .....	12
3.1.1	<i>Climate</i> .....	15
3.1.2	<i>Topography &amp; Soils</i> .....	16
3.1.3	<i>Natural Hazards</i> .....	16
3.1.4	<i>Flora/Fauna</i> .....	16
3.1.5	<i>Historic/Archaeological Resources</i> .....	18
3.1.6	<i>Water Resources</i> .....	21
3.1.7	<i>Air Quality</i> .....	21
3.1.8	<i>Noise</i> .....	31
3.1.9	<i>Scenic Resources</i> .....	31
3.2	Socioeconomic Characteristics .....	31
3.3	Public Facilities, Utilities, and Services .....	31
3.3.1	<i>Roads</i> .....	33
3.3.2	<i>Water System</i> .....	33
3.3.3	<i>Wastewater System</i> .....	33
3.3.4	<i>Drainage System</i> .....	33
3.3.5	<i>Solid Waste</i> .....	33
3.3.6	<i>Electrical/Telephone</i> .....	33
3.3.7	<i>Other Public Facilities</i> .....	33
4	ALTERNATIVES .....	35
4.1	No-Action Alternative .....	35
4.2	Queen Emma Foundation/Mauna Kea Properties Alternative .....	35
4.3	Waimea Airport .....	35
5	RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS .....	36
5.1	State Land Use Law and Special Use Permit .....	37
5.2	West Hawaii Regional Plan .....	38
5.3	Hawaii County General Plan and Zoning .....	38
5.4	Northwest Hawaii Community Development Plan .....	38
5.5	Hawaii State Helicopter System Plan .....	38

5.6	Department of Transportation Permits . . . . .	42
	5.6.1 <i>Licensing of Private Heliports</i> . . . . .	42
	5.6.2 <i>Tour Aircraft Operators Permit</i> . . . . .	42
5.7	Fly Neighborly Program . . . . .	42
5.8	FAA Regulations . . . . .	43
5.9	Other Permits and Approvals . . . . .	46
6	DETERMINATION WITH SUPPORTING FINDINGS AND REASONS . . . . .	46
	REFERENCES . . . . .	48

Exhibits

- A. Mandatory Fly Neighborly Program
- B. Archaeological Inventory Survey (Paul H. Rosendahl, Inc., Ph.D., Inc.)
- C. Acoustic Study of Potential Noise Impacts Associated with the Proposed Mauna Kea Heliport Facility (Y. Ebisu & Associates)
- D. Comments to the Draft Environmental Assessment and Responses

Figures

1.	Location Map	2
2.	Tax Map	3
3.	Site Photographs	4
4.	Existing Use Map	6
5.	Ownership Map	7
6.	Site Plan	8
7.	Proposed Heliport and Flight Paths	10
7a.	Revised Flight Paths	11
8.	Rainfall Map	13
9.	Wind Rose	14
10.	Waikoloa Stream Location Map	19
11.	Proposed State Land Use District Boundary Review Reclassification for Waikoloa Stream	20
12.	Relationship of the Proposed Site to Parks and Wildlands	23
13.	Relationship of the Proposed Site to Residential Areas	24
14.	Location of Noise Monitoring and Measurement Sites	26
15.	Project Site Location and Helicopter Ingress/Egress Routes	27
16.	Helicopter Approach, Departure, and Hover Taxi Tracks	28
17.	35 to 60 LDN Helicopter Noise Contours in Relationship to Existing and Future Noise Sensitive Land Uses	30
18.	Natural Beauty Areas and Views	32
19.	Photograph of Existing Reservoir	34
20.	General Plan LUPAG Map	39
21.	Zoning Map	40
22.	Preliminary Growth Scenarios	41
23.	Fly Neighborly Program: Restricted Areas	44
24.	Comparison of the Fly Neighborly Program Restricted Areas and the Helicopter System Plan Recommended Avoidance Areas	45

## 1 INTRODUCTION

### 1.1 Applicant

The applicant, *Kenai Air Hawaii, Inc.* ("Kenai"), a Hawaii corporation, proposes to relocate a majority of its helicopter operations from the Waikoloa heliport to a new facility located near the South Kohala Resort. Kenai is one of the largest private commercial helicopter operators in the State with operations on Oahu, Kauai, Maui and Hawaii. Kenai's primary business is chartered tours, but also conducts flights for aerial photographs, construction, government reconnaissance, and search/rescue.

### 1.2 Approving Agency

This environmental assessment is part of a Special Permit application. The approving agency for the Special Permit is the *County of Hawaii Planning Commission*, which will also review this environmental assessment and determine whether a full Environmental Impact Statement ("EIS") is required. Because the proposed action is for a helicopter facility, this environmental assessment has been prepared pursuant to the requirements of the State EIS law and associated rules.<sup>1</sup>

### 1.3 Agencies Consulted

The following agencies and organizations were consulted in the process of preparing this environmental assessment:

- State
  - Department of Transportation, Airports Division
  - Office of State Planning
- County
  - Planning Department
  - Department of Public Works

## 2 DESCRIPTION OF PROPOSED ACTION

### 2.1 Location and Ownership

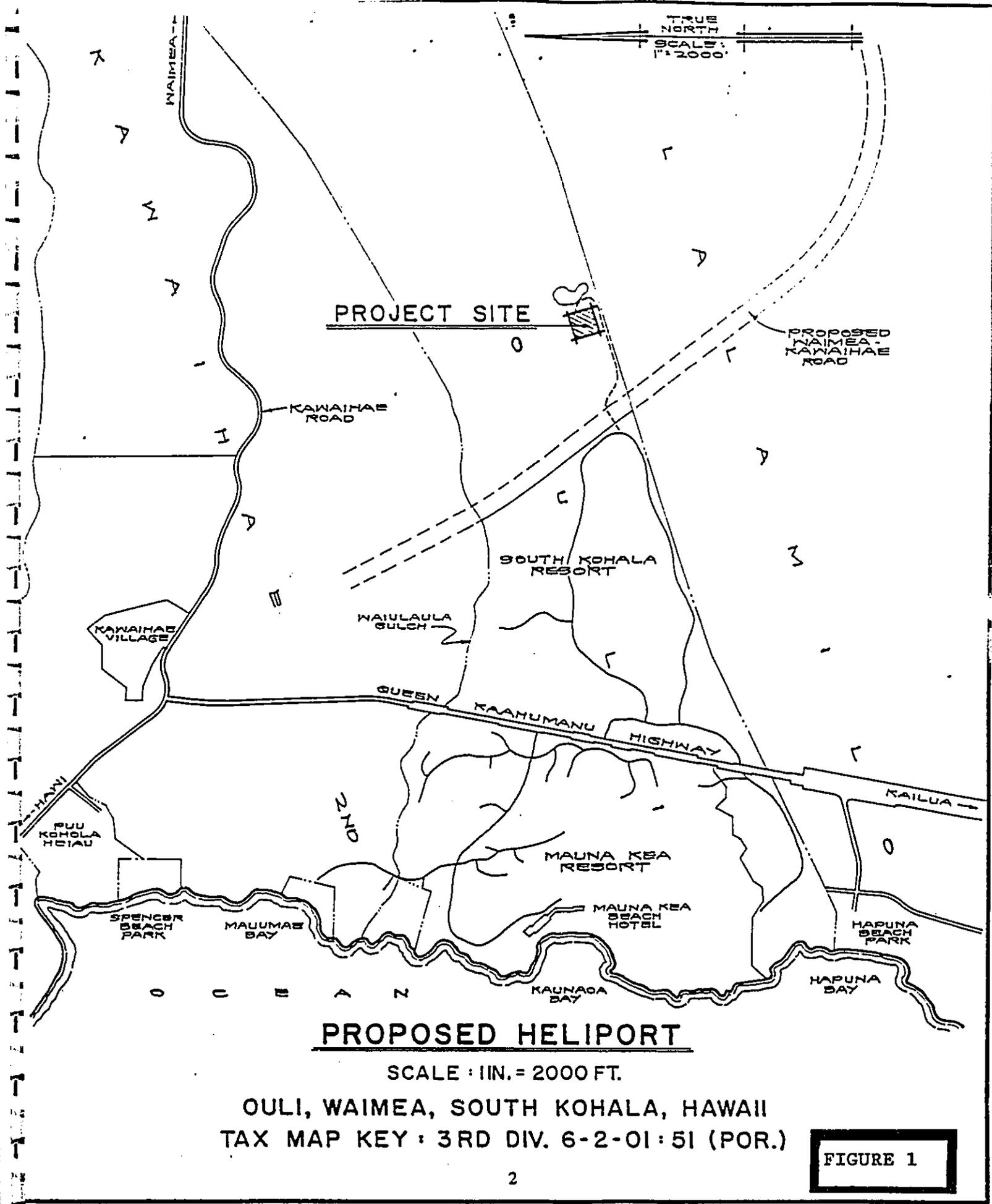
The location of the proposed heliport is on an approximately 4-acre portion (420' x 420') of an 843.232-acre parcel (TMK 6-2-01:51) situated mauka of the new South Kohala Resort golf course in Ouli, South Kohala district, island and county of Hawaii (see Figs. 1 and 2). Mauna Kea Development Corporation ("Mauna Kea") owns the parcel in fee simple and will grant a revocable license to the applicant for the approximately 4-acre portion for a term of at least 15 years.

### 2.2 Existing Uses

*Site.* The relatively level site is vacant and vegetated with grass and scattered kiawe trees (see Fig. 3).

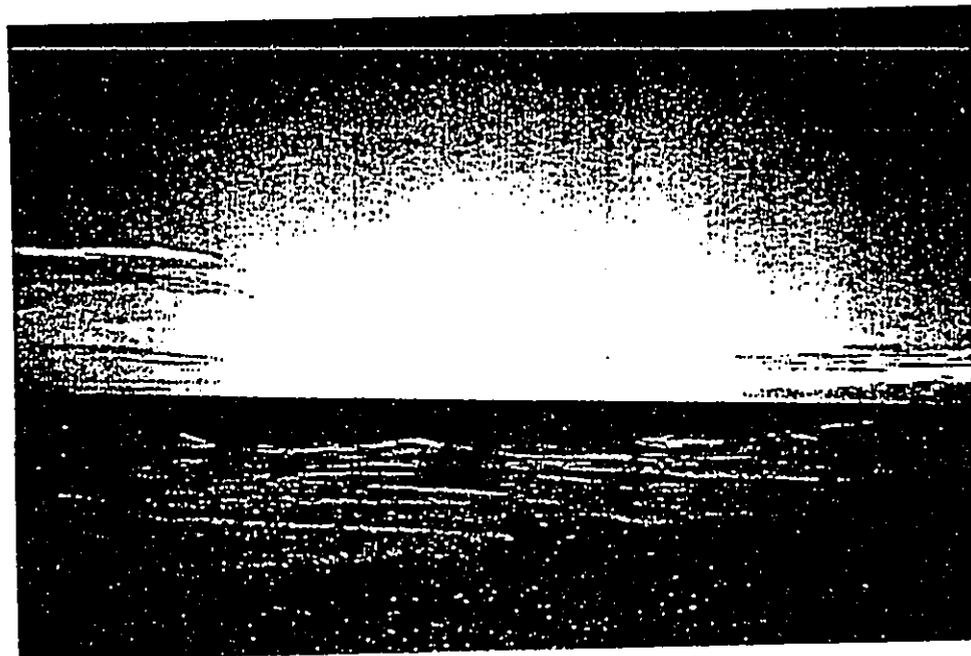
---

<sup>1</sup>§343-5(a)(8), Hawaii Revised Statutes (Environmental Impact Statements) requires that an environmental assessment be prepared for new helicopter facilities. Chapter 11-200, Hawaii Administrative Rules are the associated rules governing the preparation of environmental assessments.



**FIGURE 1**





Proposed Site (looking makai)



Proposed Site (looking mauka w/ reservoir as backdrop)

Fig. 3. SITE PHOTOGRAPHS

*Surrounding Areas.* Ownership and existing uses of the surrounding land include (see Figs. 4 and 5):

- Mauka (east): An earthen irrigation reservoir is located just mauka of the site. The reservoir is owned and used by Mauna Kea for irrigation. Further east (past the reservoir) is vacant land owned by Mauna Kea. The landowner to the east of Mauna Kea, located about 8000' from the site, is Ouli Hawaii Properties according to current Real Property Tax Division records. Nansay Hawaii proposes to develop an 18-hole golf course for the landowner (Ouli Country Club). Nansay's plans do not include any residential units.<sup>2</sup>
- North: The Queen Emma Foundation owns the adjacent large vacant parcel to the north of the site. The nearest existing residential area is the Kawaihae Village located about 8000 feet north of the site.
- Makai (west): The alignment for the future Waimea-Kawaihae Road passes about 1000 feet makai of the site. The planned South Kohala Resort, which includes a golf course and multi-family residential uses, borders makai of this planned road. The roads and golf course are currently under construction. The nearest planned residential area within the Resort is about 2000 feet from the site; however, the timetable for this residential phase of development according to Mauna Kea is 20 years, which is after the heliport license terminates.
- South: State-owned vacant land lies to the south of the site.

## 2.3 Project Description

### 2.3.1 *Heliport Facilities*

The proposed facilities consist of 4 helipads (gravel), two refueling pads (concrete), and a portable office building (160 s.f. plus lanai/deck) (see Fig. 6). Fuel will be trucked in and dispensed from the trucks in accordance with fire code-conforming practices followed by other airports and heliports; there will be no onsite storage tanks. There will be no regular maintenance facilities-- regular maintenance will be done at the applicant's facilities at Keahole Airport, and only unscheduled and preventive repairs will be done at the proposed site. The applicant plans to use Bell 206L helicopters exclusively.

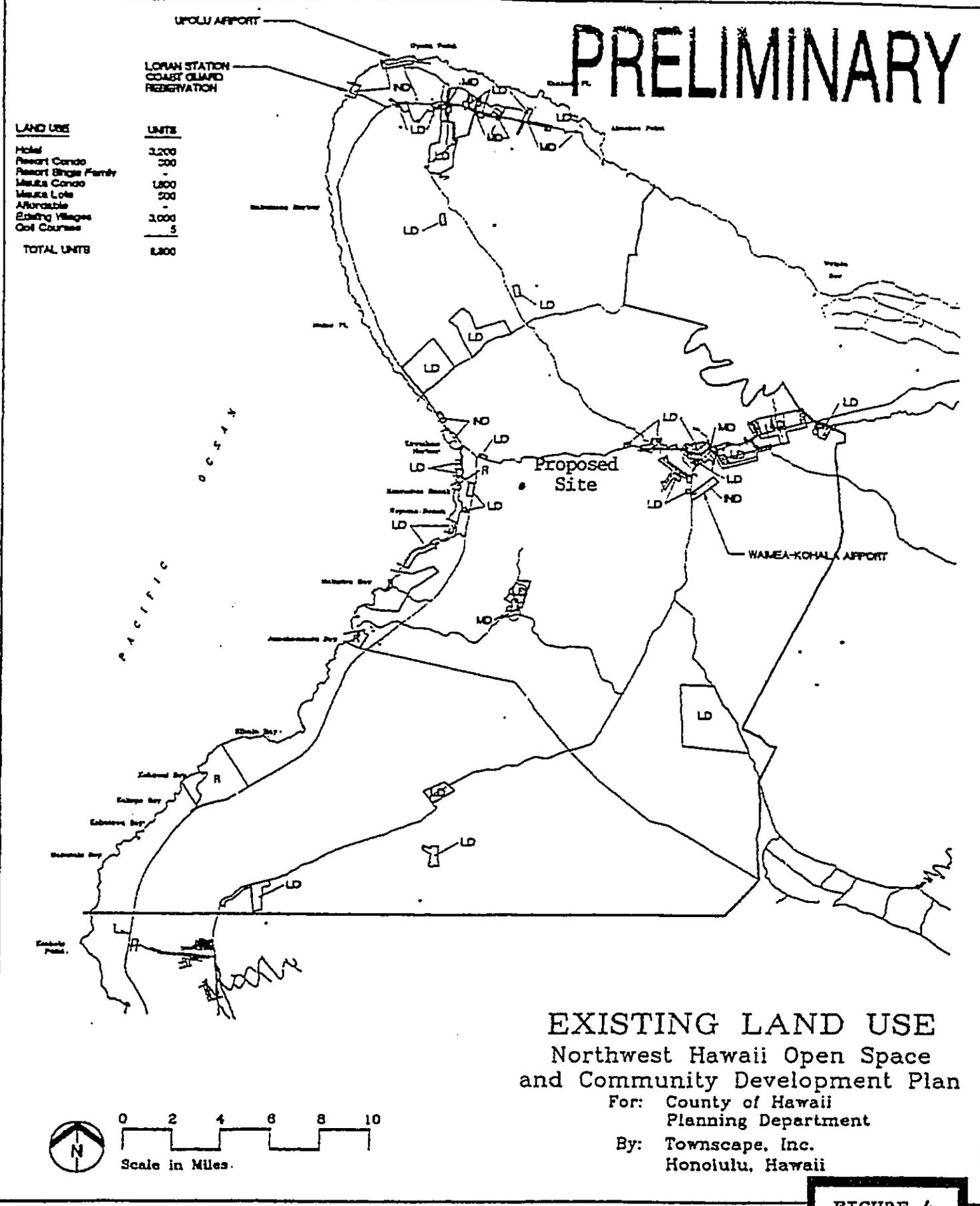
### 2.3.2 *Operations*

*Frequency and Hours of Operation.* Kenai will be the sole user of the proposed heliport. Since the primary demand for charter tours originate from hotel guests in the vicinity (e.g., Hyatt Regency Waikoloa, Mauna Kea Beach Resort, Mauna Lani), the flights/day will vary. On the average, the applicant projects about 16 flights/day with a maximum of 20 flights/day. Hours of operation will be limited to daylight hours from sunrise to sunset.

---

<sup>2</sup>Use Permit File for Ouli Country Club, Planning Department, County of Hawaii.

# PRELIMINARY

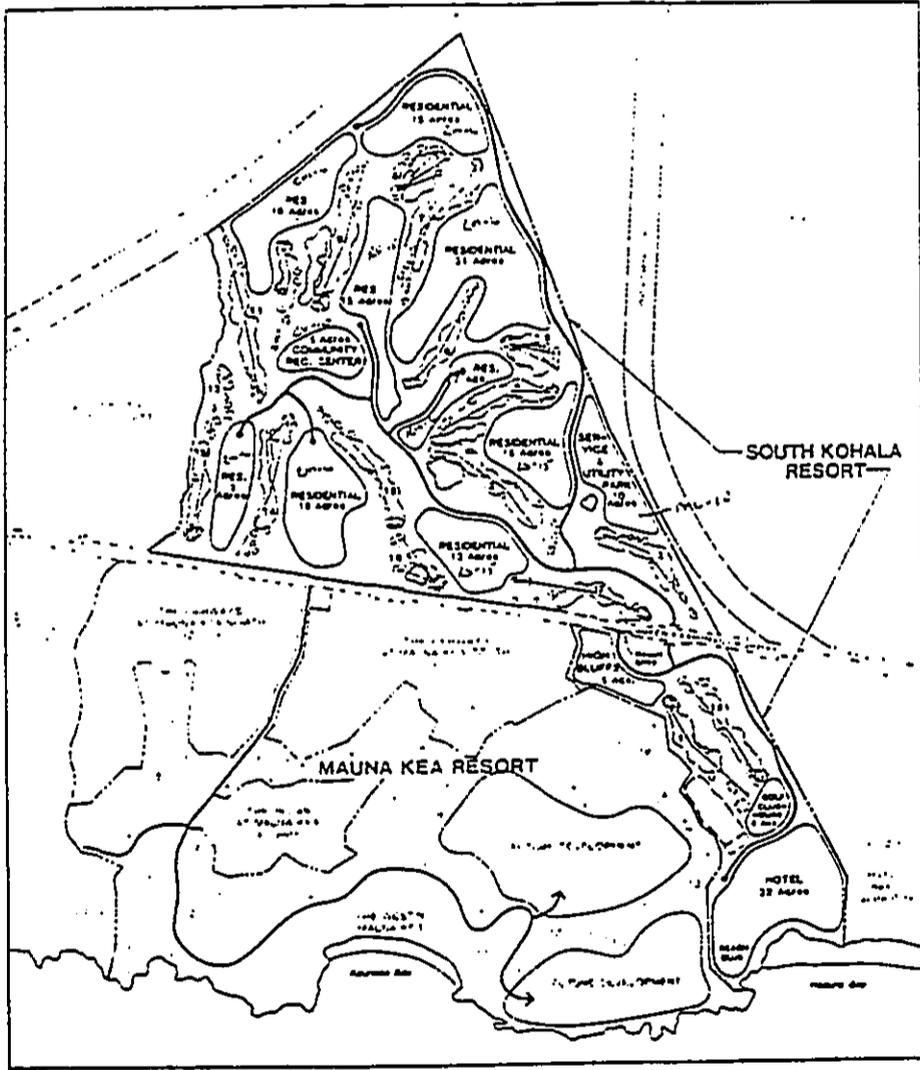
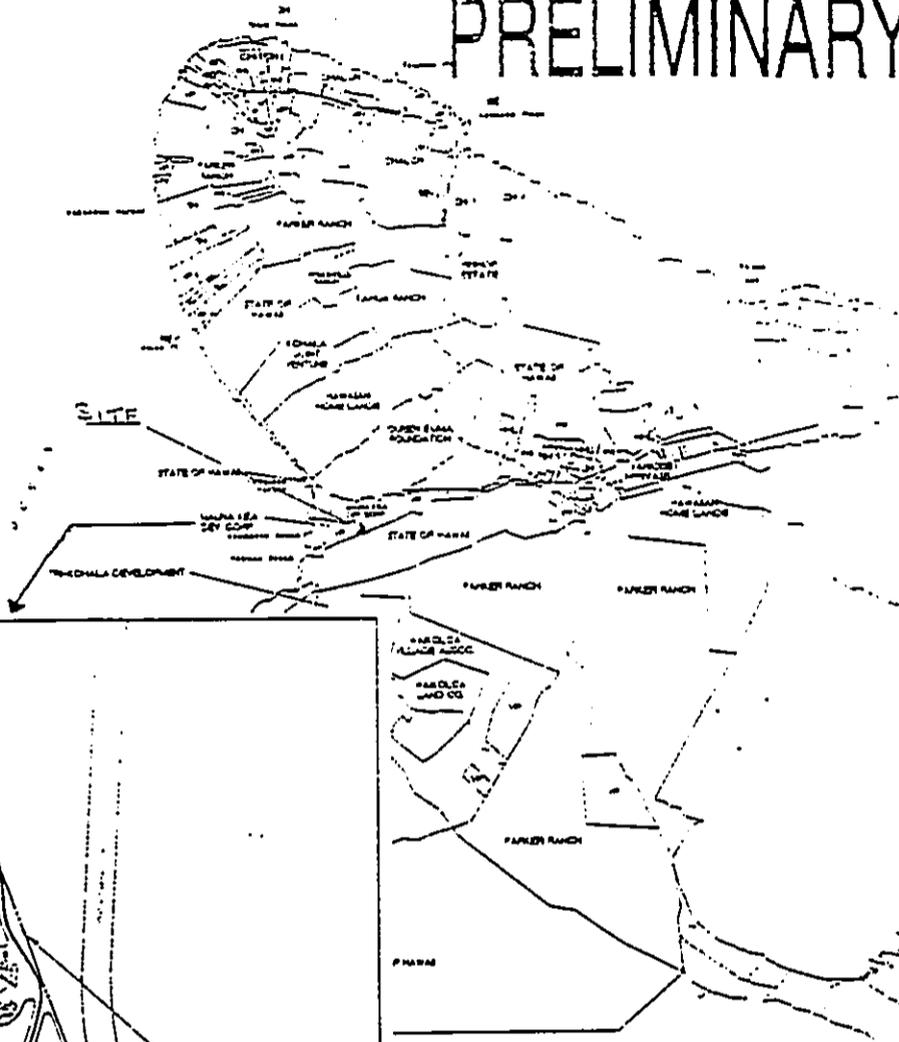


**EXISTING LAND USE**  
 Northwest Hawaii Open Space  
 and Community Development Plan  
 For: County of Hawaii  
 Planning Department  
 By: Townscape, Inc.  
 Honolulu, Hawaii

**FIGURE 4**

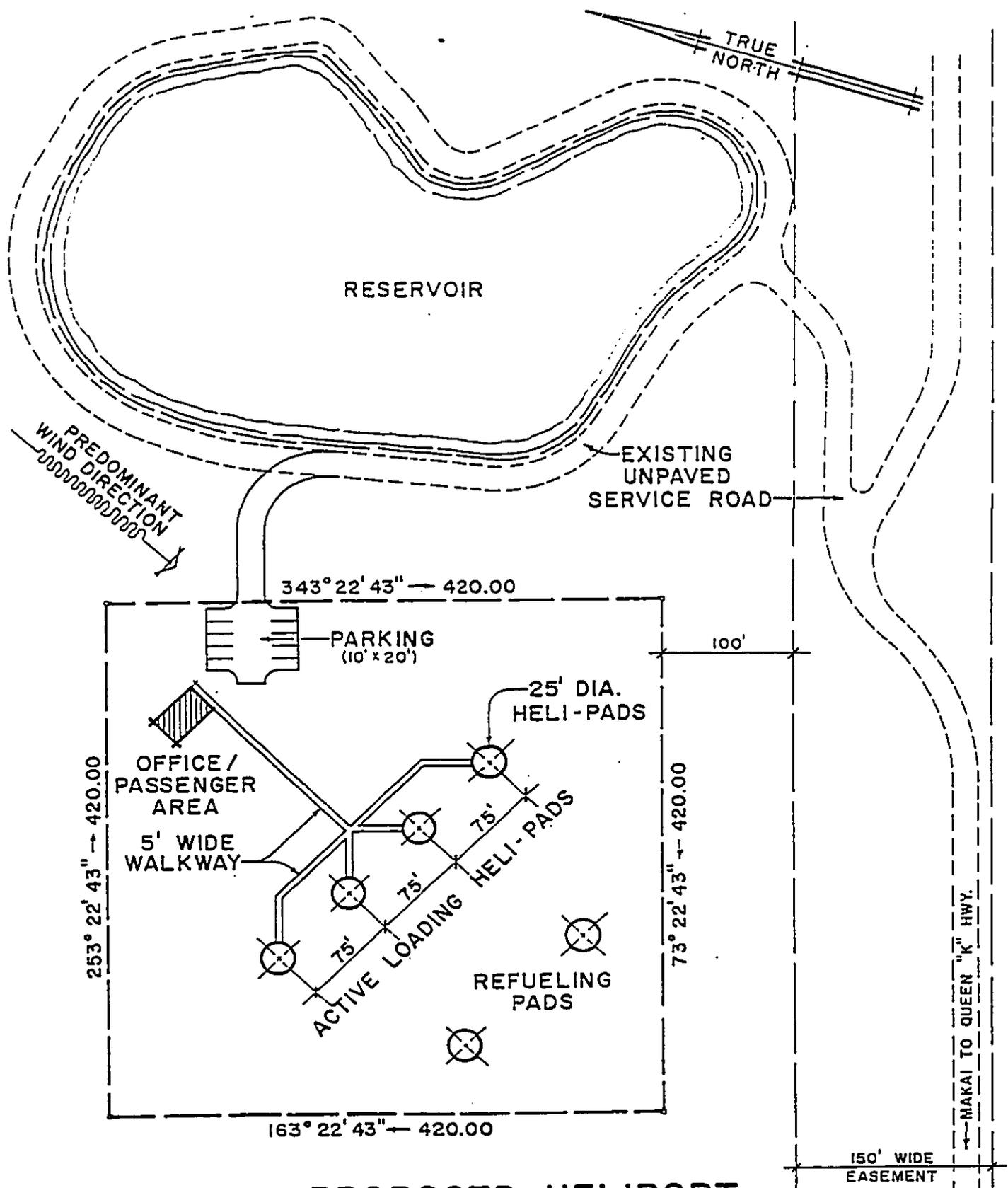
PRELIMINARY

- LEGEND
- SH STATE OF HAWAII
  - SE HAWAII ESTATE
  - CH CHALON INTERNATIONAL
  - FR PARKER RANCH
  - PP PARKER PRIVATE
  - PH PARKER HOME LANDS



**OWNERSHIP MAP**  
 Northwest Hawaii Open Space  
 and Community Development Plan  
 For: County of Hawaii  
 Planning Department  
 By: Townscape, Inc.  
 Honolulu, Hawaii

**FIGURE 5**



**PROPOSED HELIPORT**

SCALE : 1IN. = 100FT.

OULI, WAIMEA, SOUTH KOHALA, HAWAII  
 TAX MAP KEY : 3RD DIV. 6-2-01 : 51 (POR.)

**FIGURE 6**

**Primary Flight Paths and Operating Altitudes.** Kenai offers 30- and 50-minute helicopter tours in the North Kohala area (see Fig 7). From the proposed heliport, the 30-minute tour travels in a northerly direction towards Kahua Ranch where it lands at a helistop for a brief scenic picnic. The flight then continues northeasterly to the Kohala coastline via Honokane Gulch and returns to the proposed heliport site. This tour avoids any existing and proposed residential areas, with the closest being near Kawaihae Village. This path - which is already existing - goes mauka of the Village.

The 50-minute tour follows the same route as the 30-minute tour but continues from Honokane Gulch southeasterly to Waimanu and Waipio Valleys. On the return, a revised flight pattern was developed (Fig. 7a) after discussions with the Waimea Community Association Planning Committee. The revised pattern would avoid built up areas of Waimea and proposed developments along the Kawaihae Road in the vicinity of Ouli.

**Alternate Weather Route.** During periods of low cloud cover and/or gusty winds, the route to the Kahua Ranch helistop and the North Kohala coast would be the same as the primary flight paths, but the returns may vary. These are noted as secondary and tertiary routes (Fig. 7a). These routes continue to avoid existing and proposed urban areas.

### 2.3.3 Infrastructure

The proposed access will be a 18-foot wide gravel or all-weather road with traffic restricted to the applicant's vehicles and employees. Passengers will be ferried to the site by the applicant from hotels.

Aviation fuel will be transported via certified fuel carrying vehicles. These vehicles will be the same as those traveling on public streets and will comply with appropriate fire code and related regulations. Signages presently exist in areas where golf paths cross any roads to minimize conflicts between the fuel truck and golfers.

There will be no storage tanks on the site. The truck will fuel the helicopters as needed on the concrete pads and be parked a minimum distance of 75 feet from any public areas. The truck will then return to fueling areas in Kona and return to the site for fueling of the helicopters on a daily basis.

The fueling practice (fueling area, interim storage area, etc.) will all be done in accordance with FAA and State Airports rules. This practice is similar to the Waikoloa Heliport.

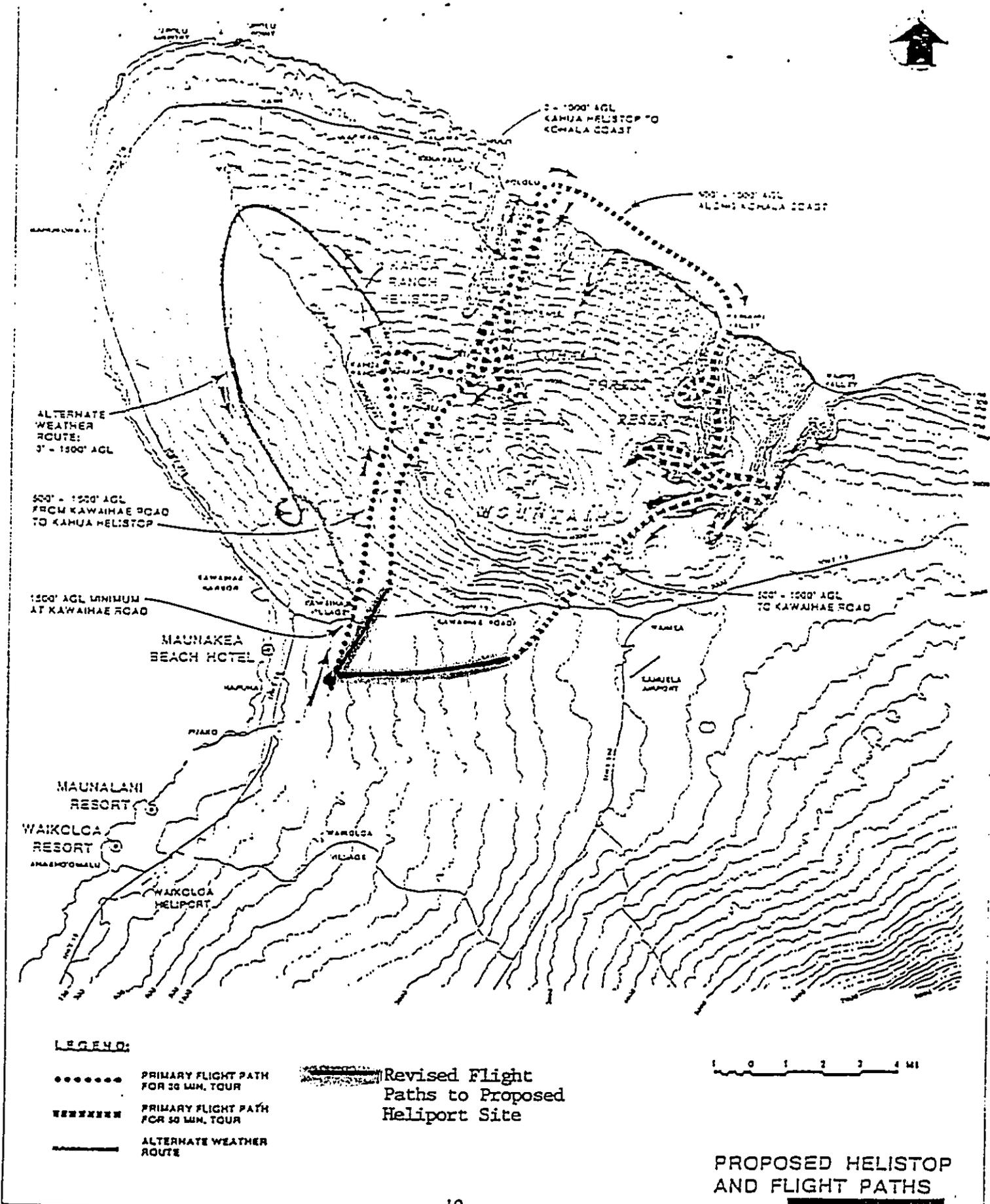
The refueling of the helicopters will occur on concrete pads. Thus, should there be any spillage, it would occur on the pads and not directly onto the ground. Additionally, as required by the FAA and State Airport rules and guidelines on fueling, there must be a contingency clean-up plan in the event of accidental spillage. This plan includes automatic shut-off valves on the fuel trucks and EPA-approved cleaning agents for the ground.

Other infrastructure include wastewater facilities. At this time, a cesspool is being proposed. In the event a more elaborate system is required by the State Department of Health - such as a septic tank - it will be so constructed.

Relative to potable water, this will be trucked in. Irrigation water will be used for the wastewater system and the required fire protective purposes.

#### 2.3.4 Timetable and Cost

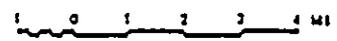
The applicant plans to commence construction within 6 months of obtaining the necessary permits with projected completion of construction about 5 months thereafter. The estimated construction cost is \$350,000.



**LEGEND:**

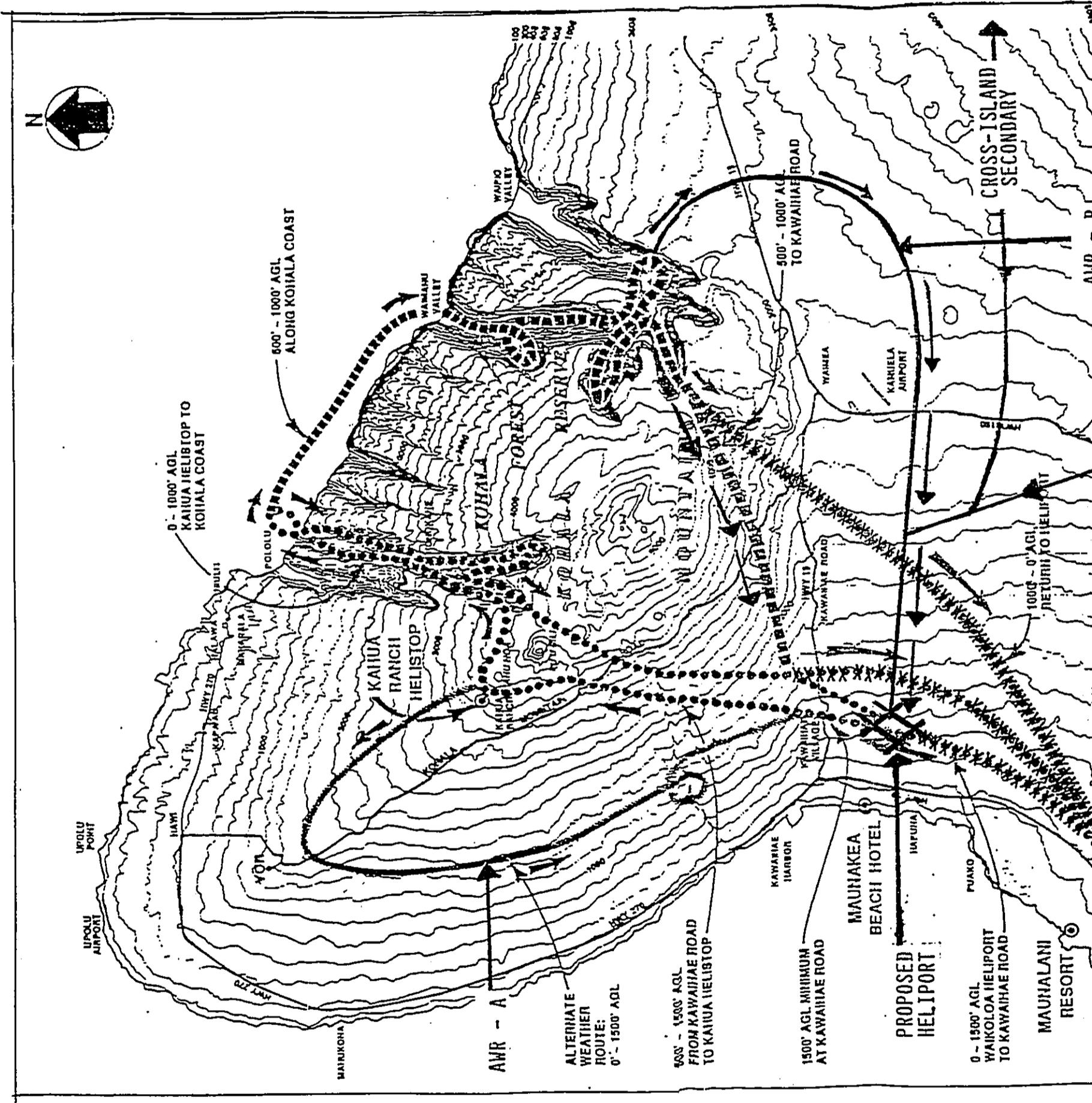
- ..... PRIMARY FLIGHT PATH FOR 30 MIN. TOUR
- PRIMARY FLIGHT PATH FOR 50 MIN. TOUR
- ALTERNATE WEATHER ROUTE

**Revised Flight Paths to Proposed Heliport Site**



**PROPOSED HELISTOP AND FLIGHT PATHS**

**FIGURE 7**



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

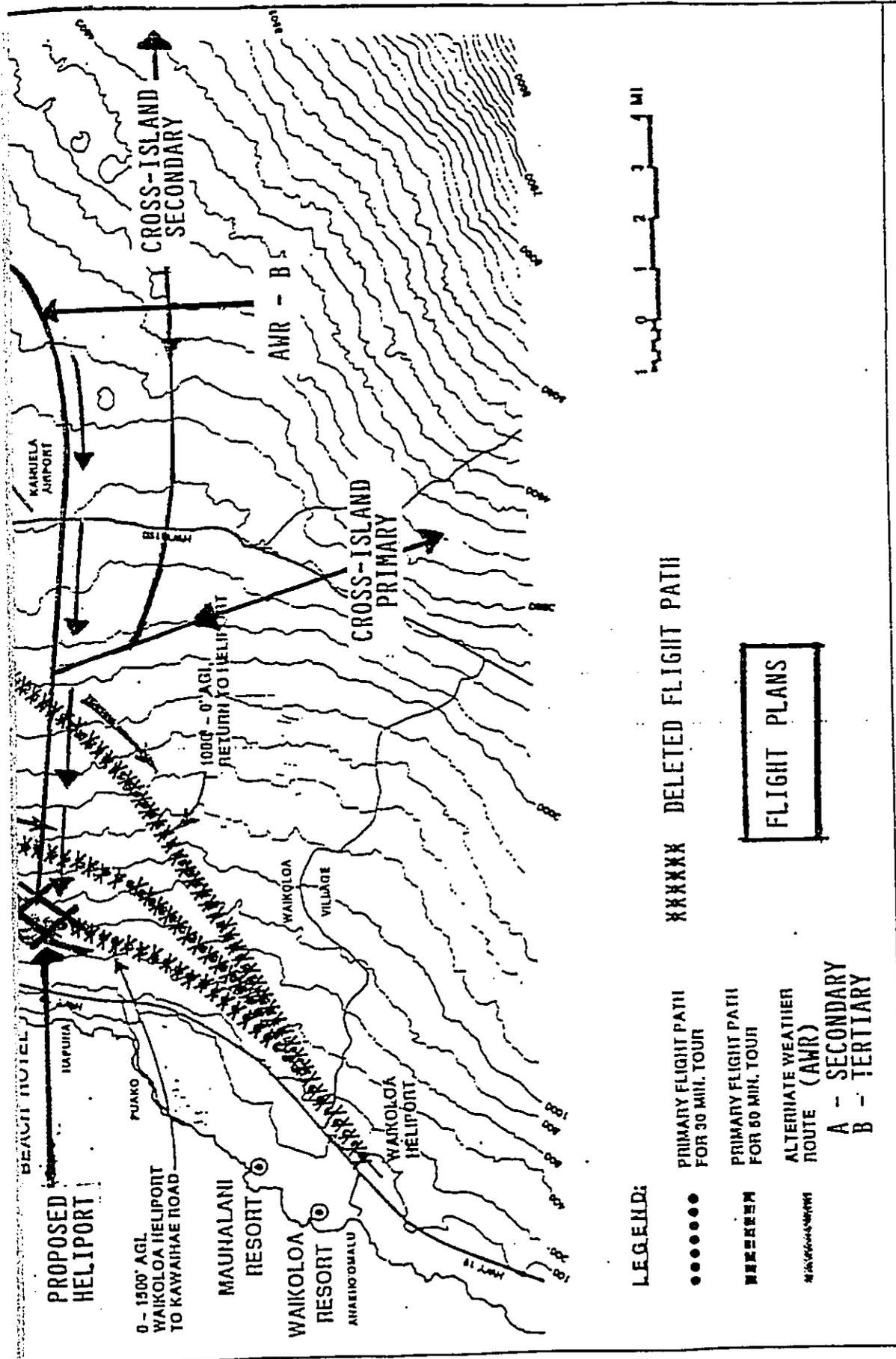


Fig 7a

### 3 ENVIRONMENTAL SETTING, IMPACT, & MITIGATION MEASURES

#### 3.1 Physical Characteristics

##### 3.1.1 Climate

*Rainfall.* The island of Hawaii, lying in the path of the northeast tradewinds, has an orographic rainfall pattern typical of the larger islands in the Hawaiian chain. The moisture-laden trades are cooled as they rise up the mountain slopes and lose part of their moisture as rain. The prevalence of the trades throughout much of the year accounts for the high annual rainfall of about 100 inches per year along the windward North Kohala coast, the featured area of the helicopter tours. The trades release much of their moisture before reaching the summit of the Kohala Mountain. As the winds descend on the leeward slopes and become drier and warmer, rainfall declines accordingly and results in near-arid climate (mean annual rainfall about 10 inches) along the Kawaihae coastline, the site of the proposed heliport (see Fig. 8). Generally, the wet months occur from October through April.<sup>3</sup>

*Cloudiness.* Under tradewind conditions, there is a temperature inversion layer at about the 5,000 to 7,000 elevation. When the inversion is present, as it is 50 - 70% of the time, cloud development is restricted to the zone beneath the inversion. On days when there is no inversion, towering clouds (15,000' elevation) form. Windward lowland areas (such as the North Kohala coast) is cloudy about 40 - 60% of the daylight hours. Leeward areas (such as Kawaihae) are cloudy about 20% of the daylight hours. In general, windward areas tend to be cloudier during the summer when tradewinds and tradewind clouds are more prevalent, while leeward areas which are less affected by tradewind cloudiness tend to be cloudier during the winter when general storms and frontal passages are more frequent.<sup>4</sup>

*Wind.* Wind patterns at the site are more similar to the wind characteristics of Kamuela than Kawaihae with winds predominantly from the northeasterly direction (approximately 85% of the time) (see Fig. 9).

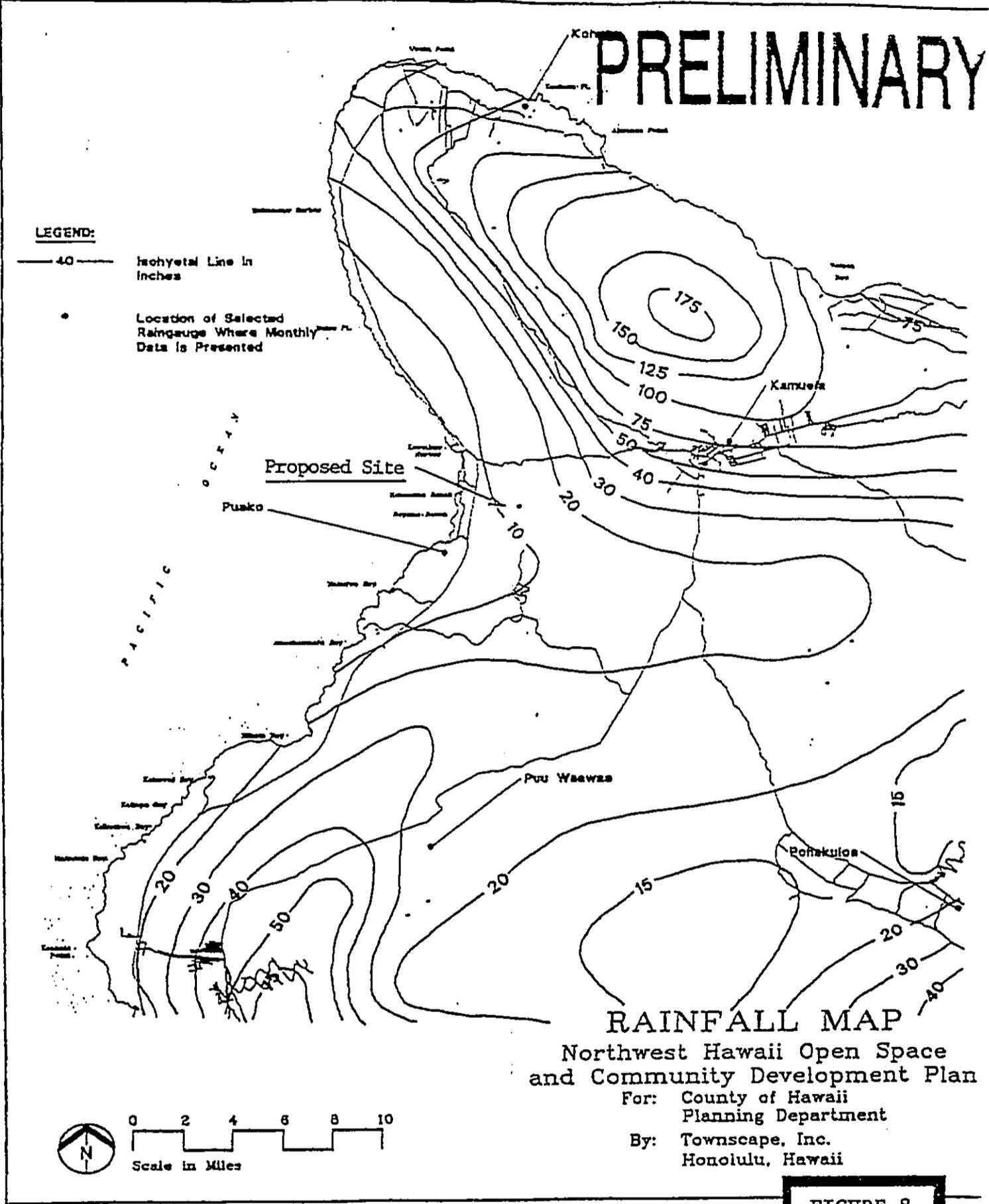
*Visibility.* Generally, along the mountain slopes and summit areas exposed to tradewinds (e.g., North Kohala windward coastline), adequate visibility conditions occurs about 70 - 75% of the time.<sup>5</sup> For the lowland and coastal areas (e.g., Kawaihae), adequate visibility occurs 90 - 100% of the time.<sup>5</sup>

---

<sup>3</sup>.State of Hawaii, Department of Land and Natural Resources, An Inventory of Basic Water Resources Data: Island of Hawaii, Report R34, 1970. [Reference 9]

<sup>4</sup>Blumenstock, D. and S. Price, Climates of the States: Hawaii, in A Natural History of the Hawaiian Islands (E. Alison Kay, ed.), University Press of Hawaii: Honolulu, 1972. [Reference 2]

<sup>5</sup>Y. Ebisu & Associates, Acoustic Study of the Possible Causes of Noise Impacts and Concerns Associated with Helicopter Operations in Hawaii, Appendix L in the Hawaii State Helicopter System Plan, prepared by Wilson Okamoto & Associates, prepared for the State of Hawaii, Department of Transportation, Airports Division, April 1989. [Reference 3]



**FIGURE 8**

PLATE 11

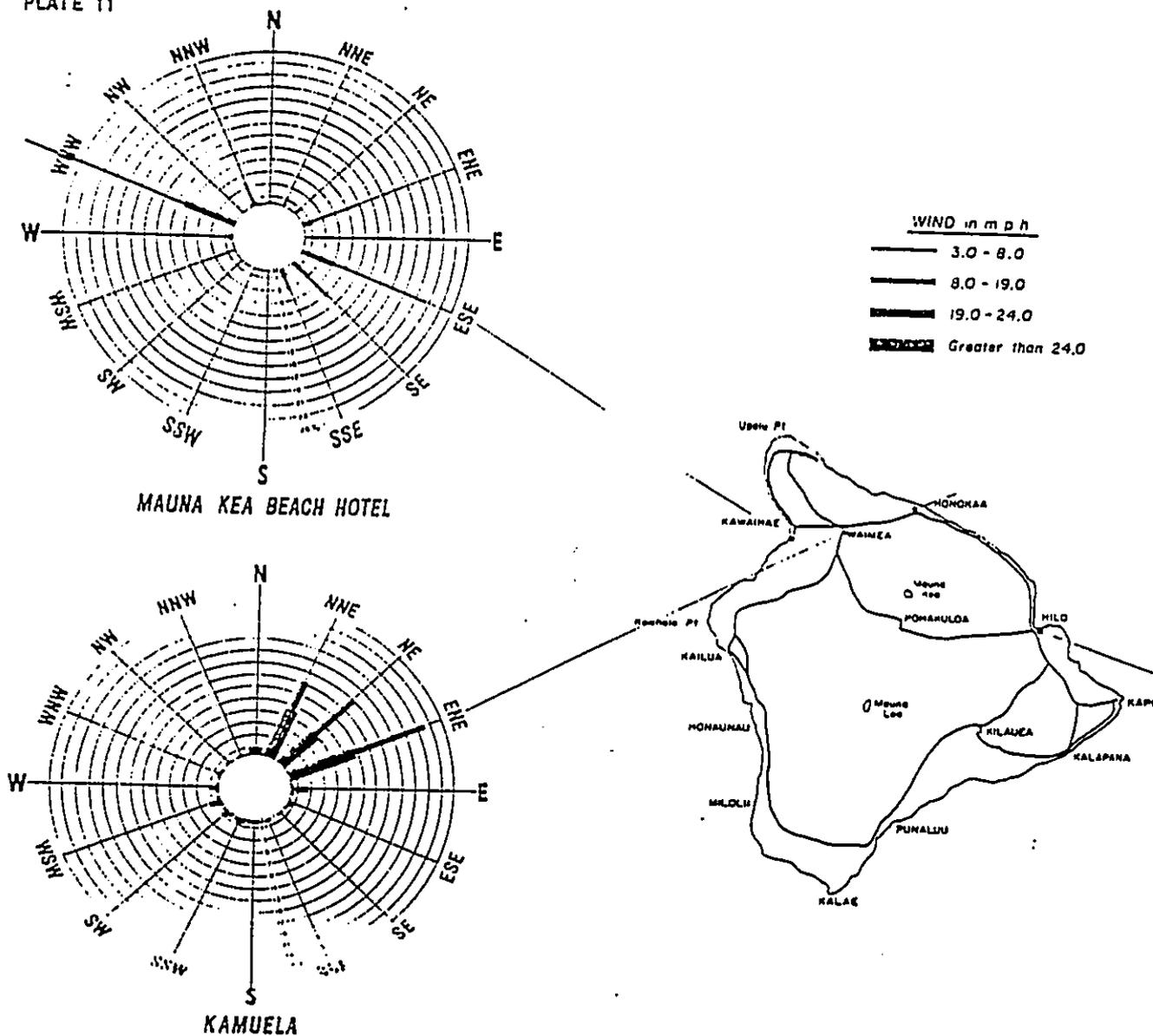


Fig. 9. WIND ROSES FOR SELECTED STATIONS

Source: Reference 9

### 3.1.2 Topography & Soils

According to the *Soil Survey of the Island of Hawaii*<sup>6</sup>, the soil on the proposed heliport site is classified as Kawaihae extremely stony very fine sand loam with gentle to moderate slopes of 6 to 12 percent (KNC). This soil, formed in volcanic ash under arid conditions (Aridisols), has a thin surface layer of dark reddish-brown, extremely stony, very fine sandy loam. Beneath this layer is dark reddish-brown and dusky-red stony silt loam and loam. The depth to hard pahoehoe bedrock is 33 inches. Permeability is moderate, runoff is medium, erosion hazard is moderate, and shrink-swell potential is low. The stoniness and shallow depth to bedrock may limit this soil's suitability for foundations, embankments, and compaction.

The soil is not suitable for agriculture. The various agricultural suitability ratings for this soil are as follows:

- *Soil Conservation Service (SCS): VII<sub>s</sub>*  
The SCS classification system rates the soil as VII<sub>s</sub> on a scale of I to VIII. Class VII soils have very severe limitations that make them unsuitable for cultivation and that restrict their use largely to pasture or range, woodland, or wildlife. The subscript "s" indicates that the main limitation is shallow, droughty, or stony conditions.
- *Agricultural Lands of Importance to the State of Hawaii (ALISH): Unrated*  
The ALISH system rates soils according to "prime" (land best-suited for the production of crops because of its ability to sustain high yields with relatively little input and with the least damage to the environment), "unique" (non-prime agricultural land that is currently used for the production of specific high-value crops), "other" (non-prime and non-unique agricultural land that is of importance to the production of crops), and "unrated" (by inference, land that is poorly suited for crop production). The soil on the project site is unrated.
- *Land Study Bureau's (LSB) Overall Productivity Rating: E*  
The LSB system rates soils according to five levels, with "A" representing the class of highest productivity and "E" the lowest. The soil on the project site is classified as E.<sup>7</sup>

The fine texture of the KNC soils makes it susceptible to wind erosion. The following measures will be implemented to mitigate wind erosion:

*Impacts from construction:* In accordance with appropriate State Department of Health and County Department of Public Works requirements, the construction documents will contain strict watering requirements for dust control purposes;

*Impacts from operations:* The site will be landscaped or mulched to the extent necessary

---

<sup>6</sup>Reference 11, Map 18.

<sup>7</sup>Reference 12, Map 120.

to control dust caused by the takeoff and landing of helicopters.

### 3.1.3 Natural Hazards

#### *Flooding*

According to the Flood Insurance Rate Maps, the project site is in Zone X defined as an area determined to be outside the 500-year floodplain.<sup>8</sup>

#### *Volcanic*

The project area is in the Lava Flow Hazard Zone 8, which on a scale of 1-9 (zone 1 being the most severe hazard) is of very low hazard risk.<sup>9</sup>

### 3.1.4 Flora/Fauna

Previous biological studies prepared for the South Kohala Resort, which is adjacent to the project site, describe the area as Open Scrub Grassland.<sup>10</sup> This vegetation cover type is characterized by extensive grassland areas on gently rolling hills, with scattered forbs, shrubs and trees providing less than 25% cover. Buffelgrass (Cenchrus ciliaris) and feathery pennisetum (Pennisetum setosum) are drought-resistant, exotic perennial grasslands typical of dry leeward grasslands throughout the state. Native species include the indigenous Pili grass (Heteropogon contortus), the endemic grass called 'Emo-loa or kawelu (Eragrostis variabilis), the endemic blue-seeded portulaca or 'ihi (Portulaca cyanosperma), and the endemic pa'u-o'hi'i-aka (Jacquemontia sandwicensis). The shrubs and trees include koa-haole (Leucaena leucocephala) and kiawe (Prosopis pallida). None of the species are considered rare or endangered.

The most abundant bird species in the area was the Japanese Quail (Coturnix coturnix) which favors open grasslands. Other observed bird species included the Gray Francolin (Francolinus pondicerianus) and Mourning Doves (Zenaidura macroura). The only native species observed was a single pueo (Asio flammeus sandwichensis). The only mammals observed were exotic species including mongooses and a feral cat.<sup>11</sup>

### 3.1.5 Historic/Archaeological Resources

Paul H. Rosendahl, Ph.D., Inc. conducted an inventory survey of the project site (see Exhibit B). This section summarizes the findings from that study.

<sup>8</sup>Federal Emergency Management Agency. Flood Insurance Rate Map, Map Index and Street Index, July 16, 1990 (by asterisk notation on the map index, FEMA indicated that it did not print the panels applicable to the project area but noted that these areas had minimal tsunami inundation). [Reference 5]

<sup>9</sup>Heliker, C. Volcanic and Seismic Hazards on the Island of Hawaii. U.S. Geological Survey, 1991. [Reference 8]

<sup>10</sup>Reference 1 (Appendix E: Hall, Erin M., Botanical Survey of the Proposed Development Sites of Mauna Kea Properties, Inc. on the Island of Hawai'i).

<sup>11</sup>Reference 1 (Appendix F: Bruner, P. An Avifaunal and Feral Mammal Survey of Mauna Kea Properties, Inc.).

*Settlement Patterns.* Previous archaeological research indicates that settlement in the vicinity of the project area followed the *ahupua'a* pattern, in which coastal and inland environments were linked in a pattern of economically and socially induced transhumance. Coastal exploitation of Ouli may have begun as early as AD 1200. Beginning about AD 1400 and continuing through 1550, these earlier coastal occupations were followed by expansion into and settlement of more inland environments. Eventually, developing agricultural technology and associated agricultural expansion allowed permanent settlement of upland communities, which had formerly been occupied on a seasonal basis only. Coastal residences were not abandoned but coexisted with inland sites. The inland and coastal sites exchanged their specialized products, as evidenced by the presence of well developed coastal-inland trail systems.

*Previous Studies.* Upland *mauka* studies within Ouli include a reconnaissance survey by Ching (1979), an inspection by Kam and Ota (1984), and intensive survey and excavations by Clark and Kirch (1983). Ching identified a few WWII structures and other evidence of military occupation and concluded that the remains were of no archaeological or historical significance. Kam and Ota inspected the vicinity of the South Kohala Resort *mauka* lands and identified several cultural features representing a range of sites, including some which were thought to be prehistoric. The sites were assessed as not significant, and required no further work. (In March 1984, the State Office of Historic Sites inspected the vicinity of the South Kohala Resort *mauka* lands and identified several cultural features representing a range of types classified in the Kam and Ota report, some of which were thought to be of Hawaiian origin. However, the State archaeologists concluded that the sites were not of sufficient significance to warrant further archaeological testing and excavation. As part of the field inspection, the State archaeologists completed recordation of the sites in accordance with accepted professional practice. The State determined that no further archaeological work was necessary, and the County of Hawaii Planning Department concurred.<sup>12</sup>) Clark and Kirch conducted extensive investigations along the Mudlane-Waimea-Kawaihae road corridor. Section 2 of the road corridor, which passes within 1000 feet of the current project area, contained aboriginal temporary habitation sites associated with agriculture (dryland cultivation of sweet potatoes and gourds). The sites appeared to have been confined to the banks of Waikoloa Stream. Clark and Kirch noted that Section 2 also contained numerous WWII defensive structures and windbreaks, as well as spent cartridges and other larger ordnance. An old USGS map prepared in 1928 and 1929 showed a foot trail, oriented coastal-inland, along the boundary between the Lands of Ouli and Lalamilo; this site was designated Trail 8 during preliminary inventory survey work by Kaschko and Rosendahl (1983).

*Field Survey.* Since the current project was between the favored coastal areas and the upland habitation-agriculture zone (in the vicinity of Waimea town), it was expected that few prehistoric sites would be encountered. One prehistoric site in the vicinity (but not within the project area) was expected—Trail 8 along the boundary of Ouli and Lalamilo (the project area lies c. 250 feet north of the Ouli-Lalamilo boundary). Background research also had indicated that the general vicinity of the project area was used for WWII military activities, and thus small shelters and artifacts related to the military were expected. The field work comprised both surface and subsurface examinations.

The surface survey was conducted using pedestrian sweeps, with crew members spaced at 15m intervals. The sweeps were oriented approximately N-S; 100% of the project area was covered. No archaeological sites were identified during the surface survey. The survey indicated the project area had been heavily disturbed, both historically and during modern times. Numerous bulldozer tracks and push

---

<sup>12</sup>Reference 1, p. 1V-35.

piles were found in the area, as well as a water pipe and valve, and modern debris. Also identified were abundant small pieces of shrapnel, probably relating to WWII.

The subsurface survey consisted of excavating four shovel tests to test for the presence/absence of buried cultural deposits and to test the nature of the soil within the project area. The test sites were placed near each corner of the project area to insure that soil stratigraphy throughout the project area was adequately represented. The shovel tests ranged in depth from 0.26 to 0.35 m below surface. All soil excavated was screened through 1/8-inch mesh. Soil stratigraphies in the shovel tests were similar, consisting of a yellowish-brown, fine-grained sandy silt overlying decomposing lava bedrock. No subsurface cultural materials were identified in any of the shovel tests.

*Recommendation.* In view of the negative findings from the inventory survey work, the archaeologist recommended no further work in the project area.

### 3.1.6 Water Resources

The site is about 1000 feet south of the Waikoloa Stream, a perennial stream that flows year-round in its upper reaches but intermittently in the lower reaches (see Fig. 10). The stream assessment study conducted for the State Water Plan selected this stream as a "candidate stream for protection" based on the diversity of aquatic life and very high sensitivity.<sup>13</sup> Recognizing the natural values of this stream, the Office of State Planning recommended reclassification of the ridge-to-ridge corridor along the stream from Agriculture to Conservation in the State Land Use District Boundary Review.<sup>14</sup> The proposed site is not within this area proposed for reclassification (see Fig. 11).

The proposed use will not impact the stream. Onsite surface drainage will be directed away from the stream or contained onsite by drywells. Since there will be no fuel storage nor regular maintenance activities onsite, the water quality of the surface drainage flow should not contain contaminants that could seep to the stream through the groundwater.

According to the Commission on Water Resource Management's well inventory, there are two wells that have been drilled about 1000' from the site boundary. During the design phase of this project, the civil engineer will more carefully analyze and locate the cesspool to comply with the Department of Health's requirement to locate the cesspool at least 1000' away from those wells in order to mitigate potential impacts of the cesspool leachate to the groundwater source of those wells (see §3.3.3).

---

<sup>13</sup>Hawaii Cooperative Park Service Unit, National Park Service. Hawaii Stream Assessment: A Preliminary Appraisal of Hawaii's Stream Resources. Prepared for the Commission on Water Resource Management, State of Hawaii, Report R84, December 1990. [Reference 6]

<sup>14</sup>Office of State Planning, State of Hawaii, State Land Use District Boundary Review: Hawaii (Draft), March 1992. [Reference 10]



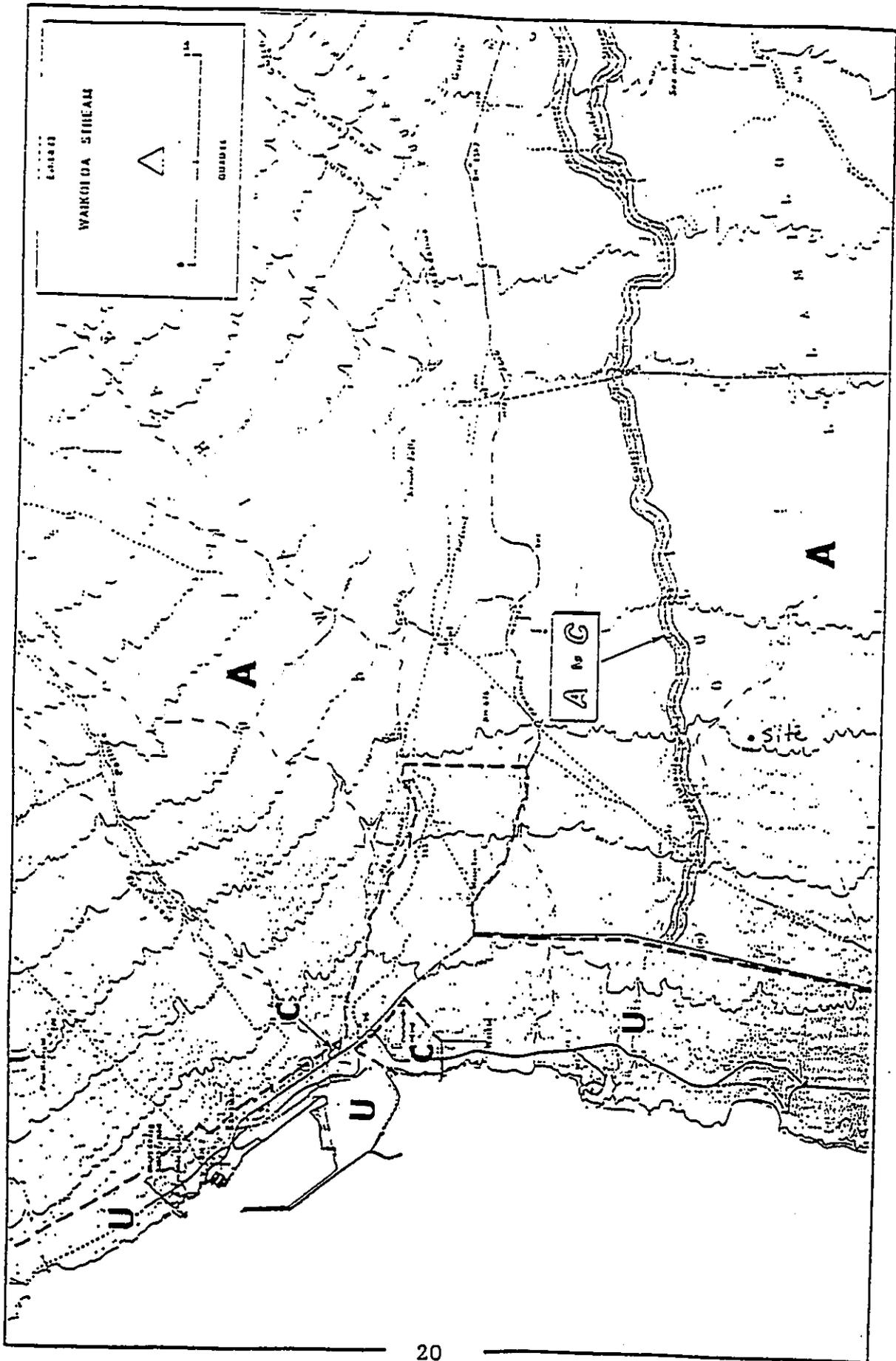


FIGURE 11

### 3.1.7 Air Quality

Present air quality in the project area is estimated to be almost pristine based on air pollutant measurements from State Department of Health monitoring stations located nearest to the project.<sup>15</sup> Helicopter operations may cause some dust in the immediate vicinity of the site during take-offs and landings typical of other existing heliports, helipads, and helistops. Since the surrounding lands are vacant, the dust will not affect these properties.

### 3.1.8 Noise

This section summarizes the noise analysis by the acoustic consultant (see Exhibit B). The analysis was conducted in accordance with the guidelines and recommendations contained in the Hawaii State Helicopter System Plan. Since the proposed flights will replace the flights currently flown by the applicant from the Waikoloa Heliport and follow the same routes (see §2.3.2 above), the proposed heliport will not increase the number of flights or add to the noise impacts along those flight routes in the North Kohala area. Therefore, the following noise analysis will not re-examine the impacts along the flight routes, and instead focus on the noise impacts of the ingress and egress routes to and from the proposed heliport location within a 2-mile radius of the site.<sup>16</sup>

*Noise Criteria.* The objectives of the noise criteria are 1) to protect the public health and welfare (i.e., prevention of hearing loss, activity interference, and speech interference), 2) protect users and wildlife in parks and wildlands from disruptive noise, and 3) minimize annoyance complaints.

- Public Health and Welfare Criteria. Most federal agencies (Federal Housing Administration, Veterans Administration, Department of Defense, Department of Transportation) accept 65  $L_{dn}$  as the threshold for residential housing exposure to exterior noise for purposes of protecting the public health and welfare.<sup>17</sup> Proposed uses that exceed this threshold require special noise abatement measures to qualify for federal funding assistance. A few federal agencies (HUD, EPA) recognize 55  $L_{dn}$  as a desirable goal for protecting the public health and safety with an adequate margin of safety. In Hawaii, where natural ventilation (which have less sound attenuation than insulated homes on the mainland) is a prevalent characteristic of residential housing, the more conservative level of 55  $L_{dn}$  is more appropriate. For commercial, industrial, and other non-noise sensitive land uses, exterior noise levels as high as 75  $L_{dn}$  are generally considered acceptable. The State Department of Health noise regulations, which apply only to Oahu, are expressed in maximum allowable property line noise limits rather than  $L_{dn}$ . When

<sup>15</sup>Reference 1, p. V-99.

<sup>16</sup>The restrictions in the Fly Neighborly Program address the impacts along the flight routes in the North Kohala area (see Exhibit A). In addition, the previous Environmental Assessment for the Kahua Ranch Helistop (September 1989) assessed the impacts along the Kohala coast route with a determination that the impacts were not significant. Since the flight routes discussed in that previous Environmental Assessment are identical to the routes that will be flown from the proposed heliport, that previous determination is hereby incorporated by reference pursuant to §11-200-13, Hawaii Administrative Rules. The impacts of these flight routes were also analyzed in the Hawaii Helicopter System Plan (Reference 13).

<sup>17</sup>The Day-Night Sound Level ( $L_{dn}$ ) represents the 24-hour average sound level for a typical day. Noise standards are expressed in  $L_{dn}$  rather than single event noise descriptors (e.g.,  $L_{max}$  or  $L_{se}$ ) because EPA studies have developed a relatively good correlation between the cumulative  $L_{dn}$  descriptor and annoyance reactions of the exposed population (see, for example, Table 2 in Exhibit B).

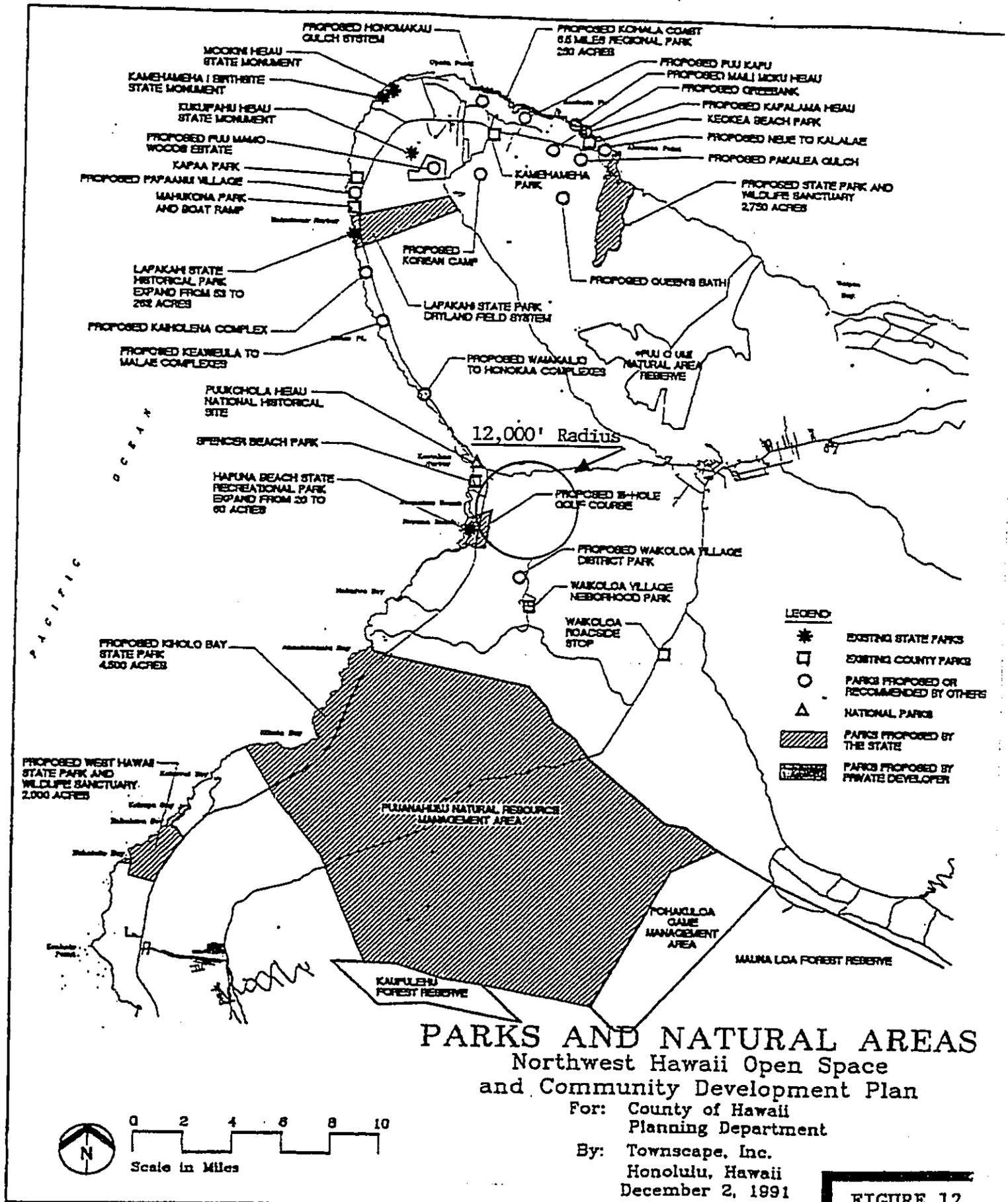
transposed to  $L_{dn}$  values, the limits (which vary depending on the land use) equate to approximately 55 (preservation/residential), 60 (apartment/commercial), and 76 (agricultural/industrial)  $L_{dn}$ . For information purposes, the DOH noise limits for agricultural lands require that noise greater than 70 dBA measured at the property line not be exceeded for more than 2 minutes in any 20-minute time period. In short, the most conservative noise criteria for purposes of protecting the public health and welfare is 55  $L_{dn}$  (measured at the situs of the noise-sensitive land use).

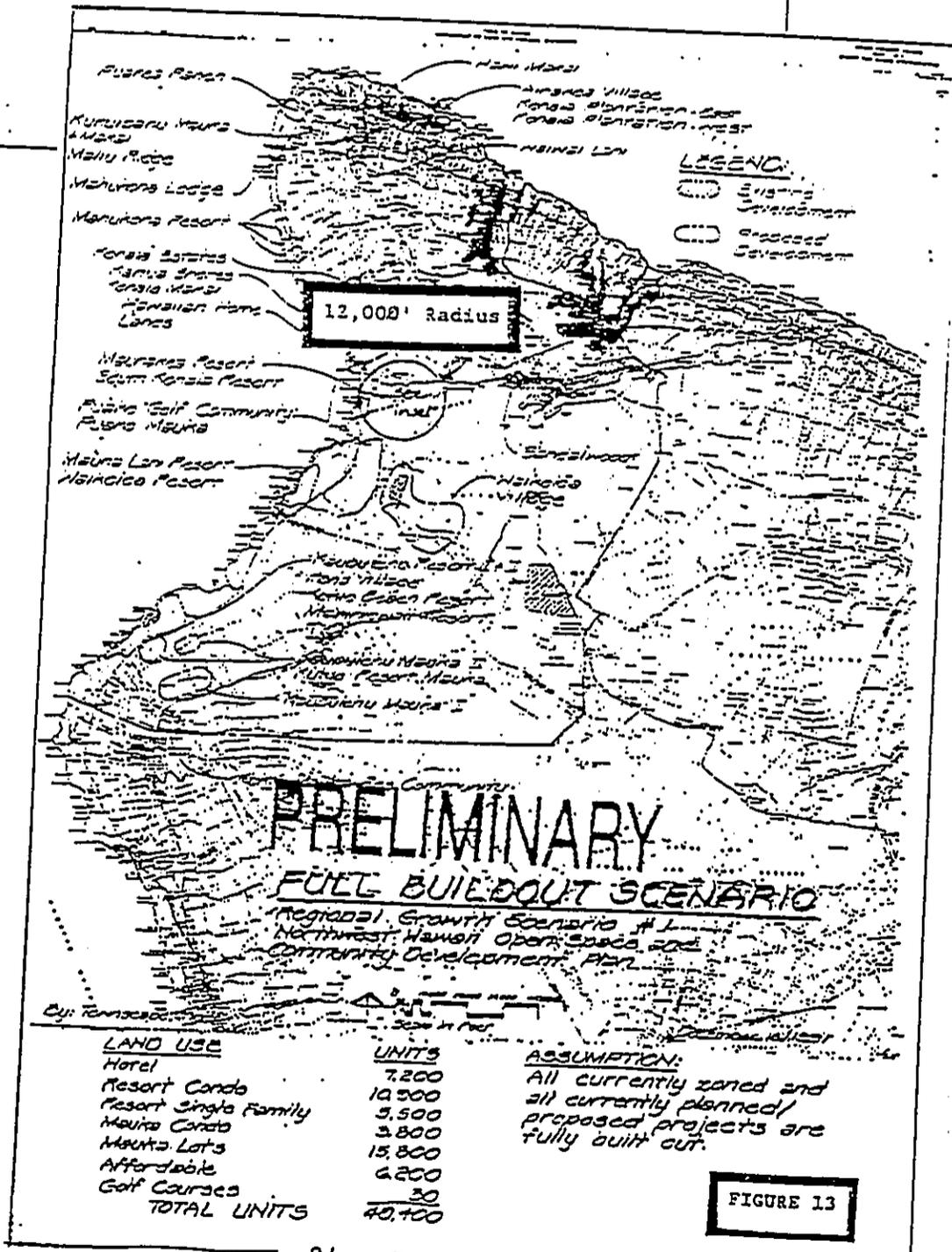
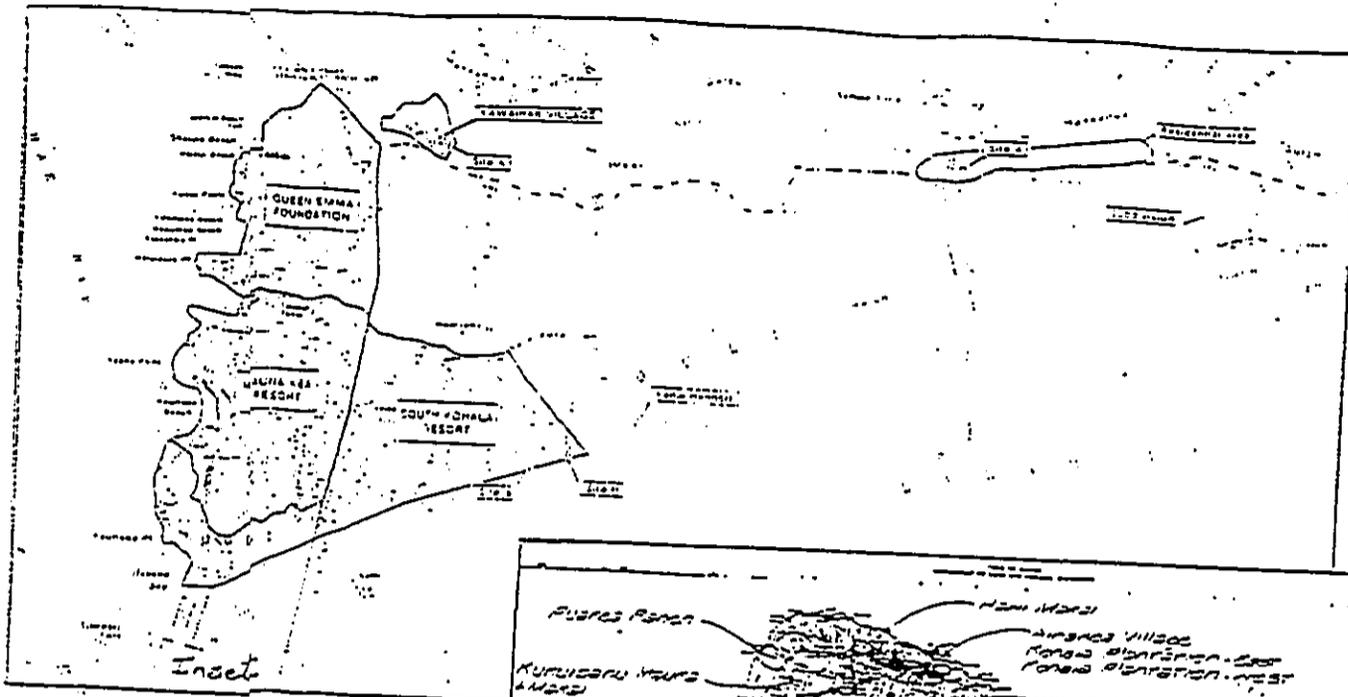
- Parks and Wildlands Criteria. A current acceptable threshold to determine compatibility with parks and wildland uses is 60  $L_{dn}$ . The U.S. Forest Service and National Park Service are researching the adequacy of this standard; however, the findings are yet not available. Until the studies are completed, the 60  $L_{dn}$  threshold must suffice.
- Annovance Complaints. In very quiet environments with ambient noise levels less than 55  $L_{dn}$ , complaints may arise due to factors other than public health such as the unique qualities of the noise source rather than the noise level (e.g., impulsive nature of helicopter blade slap), necessity and duration of the noise, and attitudes toward the noise maker. To minimize such complaints, the Helicopter System Plan recommended a sliding planning criteria of "ambient less 5  $L_{dn}$ " for noise-sensitive areas.

Noise-Sensitive Areas. Noise-sensitive areas include residential areas and parks/wildlands. The Helicopter System Plan recommended that all such sensitive areas that are located within a 6,000' radius of a proposed heliport facility or within 6,000' of ingress/egress route corridors be identified. The 6,000' radius represents the region of potential noise impact from the ground operations and ascent/descent of helicopters. As a conservative point of reference, Figures 12 and 13 delineate a radius of 12,000' feet from the proposed site. The only park or wildlands within a 12,000' radius of the proposed site was the proposed Hapuna Beach Park expansion area (see Fig. 12). This area is located about 7000' from the proposed site.

Existing and proposed residential areas within the 6,000' radius from the proposed site or in the vicinity of 6,000' from an ingress/egress corridor include (see Fig. 13):

- Kawaihae Village (existing) (approx. 4000' from an egress route);
- Scattered residences along the Waimea-Kawaihae Road mauka of Kawaihae Village (existing) (approx. 2000' from an ingress route);
- Anekona Subdivision (under construction) (approx. 8,000' from an ingress route); and
- South Kohala Resort (proposed) (approx. 2000' from the proposed site); Mauna Kea Development Corporation, the developer of the South Kohala Resort, anticipates build-out of the South Kohala Resort in 20 years. The applicant's license agreement will include a condition allowing the licensor (Mauna Kea) to revoke the license if Mauna Kea decides to proceed with the South Kohala project prior to the expiration of the license.





**FIGURE 13**

*Existing Ambient Noise Levels.* The existing background ambient noise levels in the vicinity of the proposed facility are controlled by motor vehicle traffic, rotary and fixed wing aircraft transiting the area, and the natural sounds of birds, insects, wind, and foliage. The acoustic consultant measured existing noise levels at four sampling sites (see Fig. 14):

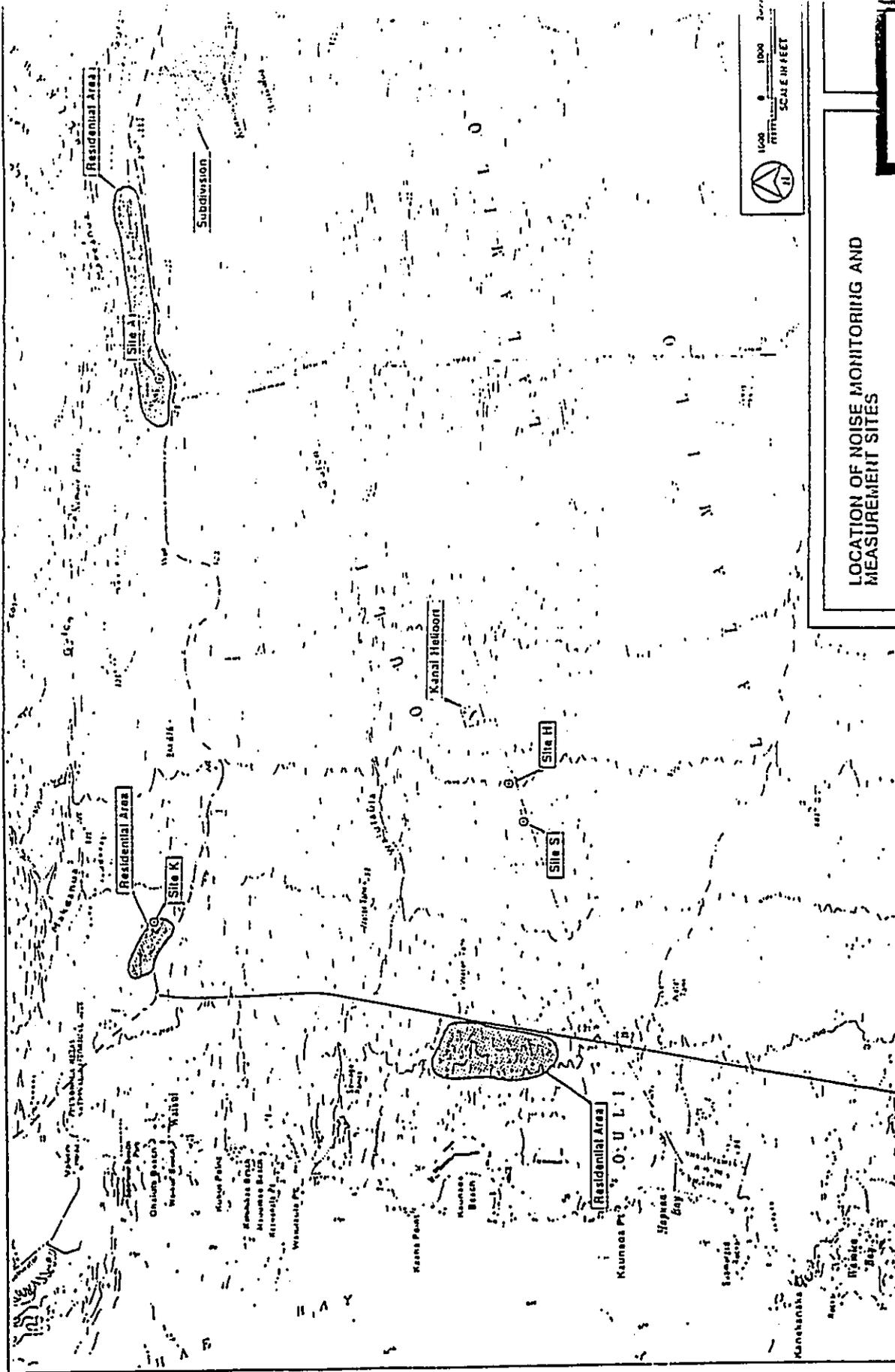
- Kawaihae Village (Site K);
- Scattered residences mauka of Kawaihae Village along the Kawaihae-Waimea Road (Site A); and
- Two sampling sites at South Kohala Resort near the existing Loop Road (Sites S & H).

Based on the measurements and previous studies, the acoustic consultant concluded that existing background ambient noise levels at locations within 200' of Queen Kaahumanu Highway or Kawaihae-Waimea Road experience noise levels greater than 45  $L_{dn}$  (and up to 59  $L_{dn}$  for residences within a 100' setback of the Queen Kaahumanu Highway). Areas which are more distant from these two roadways, or shielded by natural terrain features or other buildings, may experience background ambient noise levels in the range of 40 to 45  $L_{dn}$ .

The closest residences to the proposed site within the Mauna Kea Resort, Kawaihae Village, and the scattered residences near Site A also front Queen Kaahumanu Highway or the Kawaihae-Waimea Road. Therefore, these residences probably experience background ambient noise levels greater than 45  $L_{dn}$ . At the future inland residential lots within the planned South Kohala Resort (near Sites S and H), background ambient noise levels are probably between 40 to 45  $L_{dn}$  during days of light wind and no construction activity.

*Helicopter Noise Levels.* The acoustic consultant used the FAA Heliport Noise Model, in accordance with the Helicopter System Plan's recommended procedures, to develop  $L_{dn}$  noise contours for the proposed facility. The assumptions used in the model were as follows:

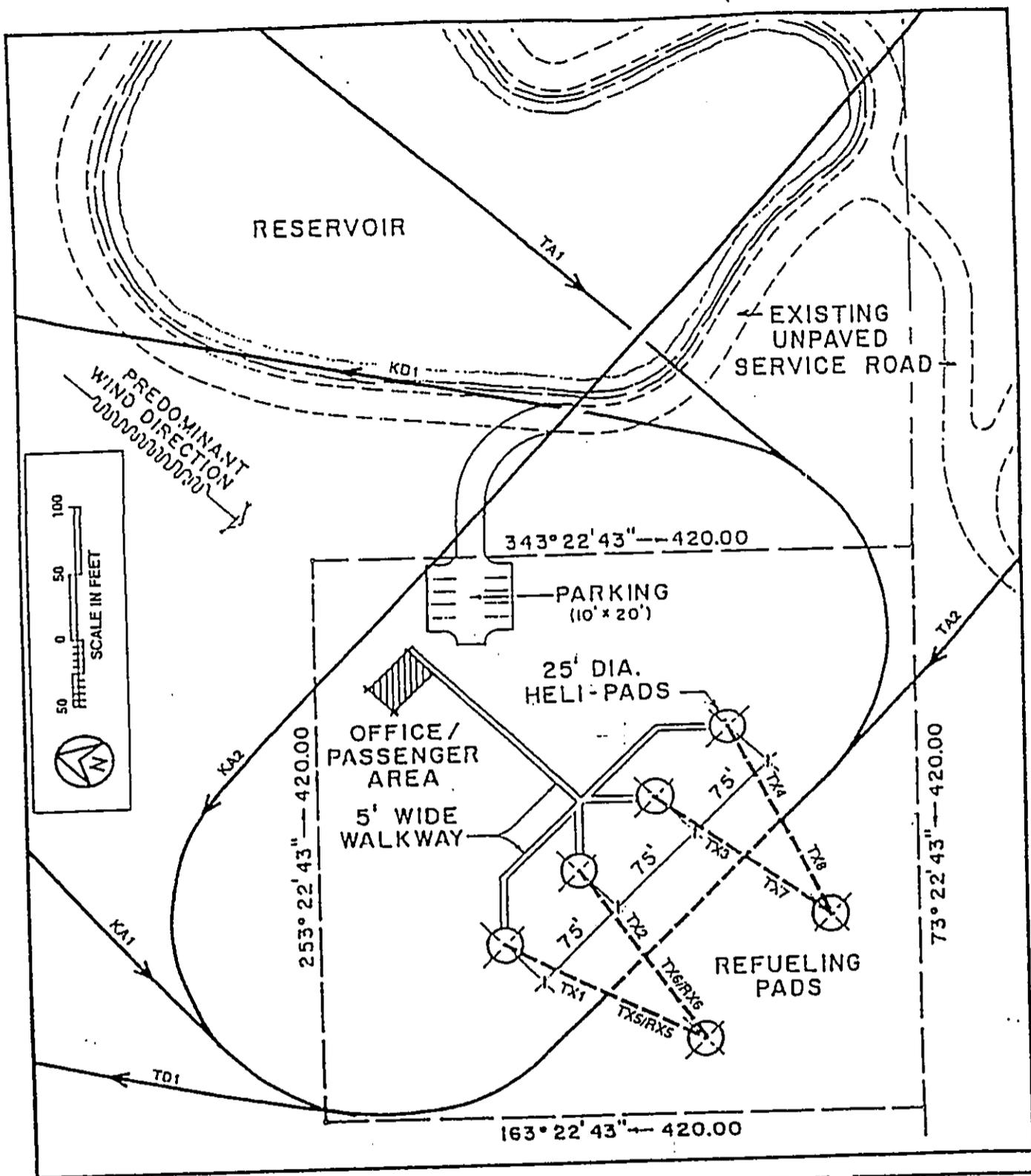
- Flight, Taxi, and Hover Tracks. Figure 15 depicts the flight tracks to and from the facility in relationship to existing noise sensitive land uses in the surrounding areas. The acoustic consultant adjusted the 30-minute tour ingress/egress routes (TA-1, TD-1, KA-1, KD-1) as necessary to avoid overflights of residential areas north of the heliport. Since the 50-minute tour ingress routes (TA-2, KA-2) fly over vacant land approaching from the east, these flight tracks were not a concern in terms of noise impact. The applicant will fly these routes during all weather conditions. A typical helicopter flight for the 30-minute tour during tradewind conditions (see Fig. 16) consists of a curved approach from the northeast (TA1), a landing at one of the four loading pads, idling during passenger drop-off (assumed ground idle duration of 180 seconds and 10 seconds flight idle), hover taxi to one of two refueling pads (TX1-4) (assumed hover duration of 7 seconds), refuel (assumed ground idle duration of 150 seconds and 10 seconds flight idle), hover taxi back to the loading pads (TX5-8) (assumed hover duration of 4 seconds), idling during passenger pickup (same assumed duration as passenger drop-off), lift-off and right-hand departure toward the North Kohala coast (TD1). During kona wind conditions (assumed 15% frequency), the flight track consists of a left hand approach from the northeast (KA1), the same idling and hover patterns as during tradewind conditions, followed by a left hand curved departure to the North Kohala coast (KD1).



LOCATION OF NOISE MONITORING AND MEASUREMENT SITES

FIGURE 14





HELICOPTER APPROACH, DEPARTURE, AND HOVER TAXI TRACKS AT THE MAUNA KEA HELIPORT

FIGURE 16

- Mix of Helicopter Traffic. In accordance with the applicant's plans, the acoustic consultant assumed the entire mix of helicopter traffic to consist of Bell 206L helicopters. Since the database for the FAA model does not include data for the Bell 206L, the acoustic consultant supplemented and adjusted the FAA noise data as necessary with measured helicopter sound level data for the Bell 206L obtained at the Lihue Heliport.
- Number of Operations. The noise contours are based on 11,680 annual helicopter operations, or an average of 16 flights (32 ingress/egress operations) per day, 365 days of the year. The flights occur during the day ranging from 8:00 a.m. to 4:30 p.m. for a typical day.

Based on the above assumptions, Figure 17 depicts the resulting  $L_{dn}$  noise contours ranging from 35 to 60  $L_{dn}$ , with ground and flight idle conditions included in the contour modeling process.

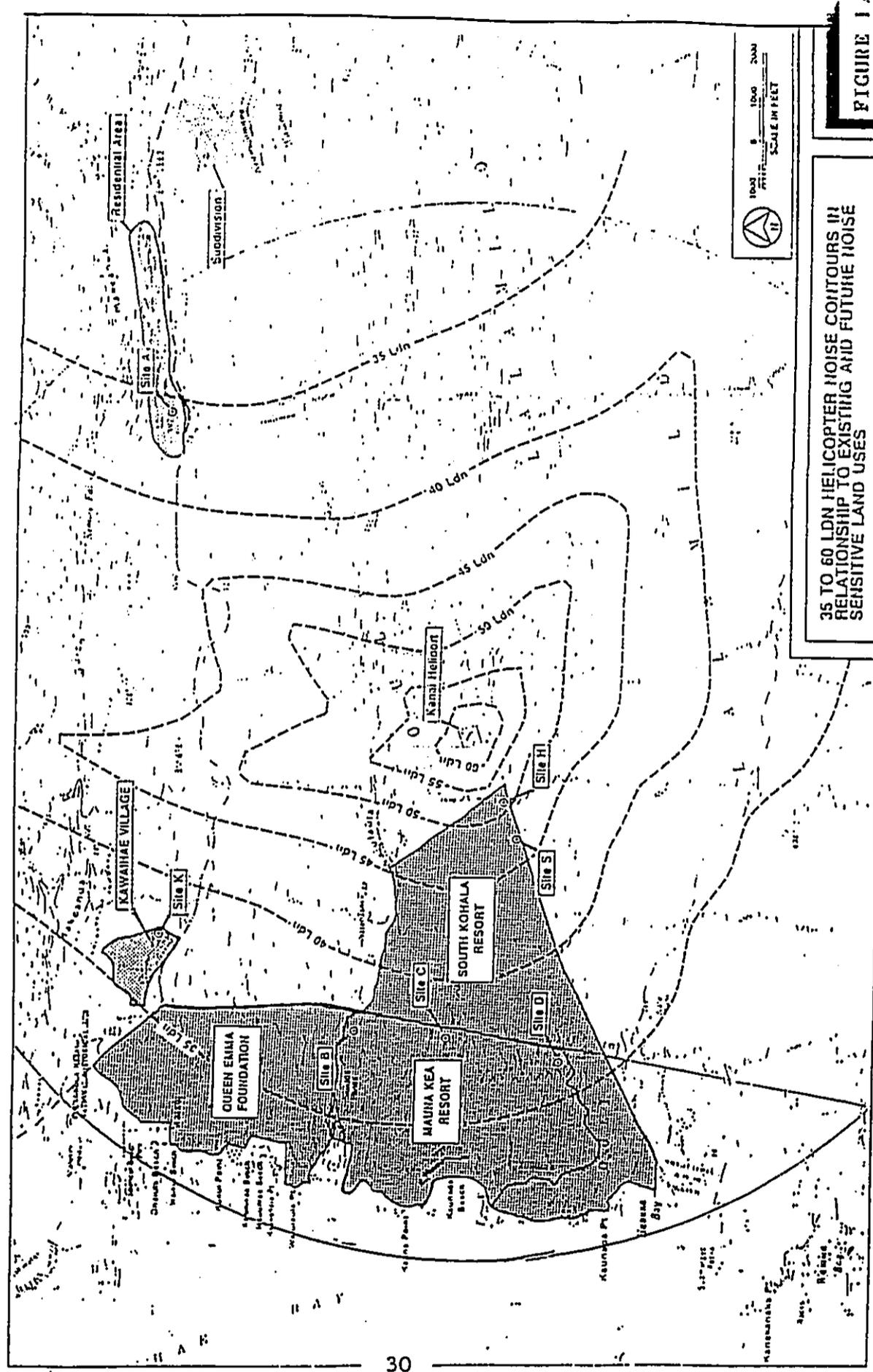
*Impact and Mitigation Measures.* At the level of 32 daily operations, the 55  $L_{dn}$  contour occurs at a distance of about 1000' from the proposed site. Since there are no existing or future noise-sensitive land uses within 1000' of the site, the proposed heliport location meets the most stringent federal criteria for public health and welfare. The 60  $L_{dn}$  contour, applicable to parks and wildlands, occurs at a distance of about 500' from the proposed site within which there are no parks or wildlands.

Based on the ambient noise level measurements, the annoyance complaint criteria of "ambient less 5  $L_{dn}$ " results in limits of 37  $L_{dn}$  (42  $L_{dn}$  minus 5  $L_{dn}$ ) for residences located away from the major highways (i.e., the future residences at the planned South Kohala Resort) and 40  $L_{dn}$  at the existing residences more removed from the proposed site (e.g., Kawaihae Village). The only noise-sensitive area encompassed by the 40  $L_{dn}$  contour is the future residences of the planned South Kohala Resort; however, the proposed heliport operations will cease with the build-out of this development. Existing and future residential areas at the Mauna Kea Resort, Kawaihae Village, the scattered residences along the Kawaihae-Waimea Road, and Anekona Subdivision are located beyond the 40  $L_{dn}$  contour. Since these areas meet the "ambient less 5  $L_{dn}$ " criteria and no overflights will occur, the complaint risk for these areas is very low (for unbiased receptors).

In terms of the DOH noise criteria (which applies only to Oahu), the ground idling operations will probably exceed the 70 dB noise limit for agricultural lands at the property boundary.

To mitigate noise complaints, the acoustic consultant recommended the following measures:

- adhere to the indicated ingress/egress routes in order to avoid overflights of noise-sensitive areas;
- maintain the assumed average durations of the static operations (ground idle, flight idle, and hover) unless emergency or flight safety considerations dictate otherwise;
- avoid aircraft maintenance operations at the proposed site which require follow-up flight testing unless emergency repairs are necessary;



35 TO 60 LDN HELICOPTER NOISE CONTOURS IN RELATIONSHIP TO EXISTING AND FUTURE NOISE SENSITIVE LAND USES

FIGURE 1

- conditionally require acquisition of noise easements (approximate widths of 150' along the north and east boundaries and 250' along the south and west boundaries) if future land uses encroach upon the proposed site such that compliance with the DOH standard becomes necessary (the location of the proposed site was shifted 100' to the north in light of the acoustic consultant's recommendation for a possible 250' easement along the south boundary);
- provide a mechanism to review the proposed use in relation to the build-out of the South Kohala Resort;
- require an update of the noise contours if significant changes to the heliport operations occur;
- require the applicant to submit complaint response procedures which the applicant will follow for any complaints relating to the proposed operations.

#### 3.1.9 *Scenic Resources*

The project site is not visible from the Queen Kaahumanu Highway or other major highways. The site does not impact upon any natural beauty areas identified in the preliminary maps for the Northwest Hawaii Open Space and Community Development Plan (see Fig. 18) and the General Plan.<sup>18</sup>

### 3.2 Socioeconomic Characteristics

The proposed action will not involve any relocation of residents, nor will the action induce or inhibit population growth. The action will not affect surrounding land values since the adjacent lands are vacant without any immediate development plans, and the noise impacts will not adversely impact existing or future developments. Since the proposed action will not necessarily expand the applicant's operations, the new heliport will not necessarily result in a net increase in employment. Increased property tax revenues to the County may result from the higher land and building values resulting from this development.

### 3.3 Public Facilities, Utilities, and Services

#### 3.3.1 *Roads*

The proposed project will not significantly increase traffic along any major roadways. Access to the site will be from the Queen Kaahumanu Highway, then along the internal Loop Road of the South Kohala Resort, and finally along a private all-weather road from the Loop Road to the site. The applicant will construct and maintain this private road.

---

<sup>18</sup>Reference 21 (General Plan), p. 35 (list of natural beauty areas for South Kohala).



The proposed Waimea-Kawaihāe Road will pass about 1000' west (makai) at the closest point to the site. This is a safe distance especially since none of the flight tracks cross the proposed road at this closest point.

### 3.3.2 *Water System*

Water will be trucked to the site as needed. The water source for fire fighting purposes will be the privately-owned reservoir situated next to the site (see Fig. 19).

### 3.3.3 *Wastewater System*

The project will use an individual wastewater system and therefore not impact any public wastewater facility. According to the Department of Health's Wastewater System Rules (Chapter 11-62, Hawaii Administrative Rules), the project area is within the Critical Wastewater Disposal Area that prohibits cesspools on lots less than 5 acres. The Department of Health determines the lot size on the basis of the tax map parcel.<sup>19</sup> Therefore, since the site is situated on a 4-acre portion of an 843-acre parcel that will not be subdivided, a cesspool would be permissible since the parcel is greater than 5 acres. The DOH rules require the cesspool to be located at least 50' from any stream and 1000' from any potable wells.<sup>20</sup> The site is located about 1000' from the Waikoloa Stream and at least a 1000' from two wells that have been drilled in the vicinity of the proposed site.

### 3.3.4 *Drainage System*

A drainage system acceptable to the Department of Public Works will be provided.

### 3.3.5 *Solid Waste*

The heliport operations will generate minimal solid waste.

### 3.3.6 *Electrical/Telephone*

The connection for electricity and telephone will most likely be from the South Kohala Resort system. HELCO is in the process of constructing a substation near the site (see Fig. 2). Power lines will be located within the 150'-wide easement along the length of the southern (Lalamilo) property boundary. FAA will evaluate the safety of the proposed site as part of the Notice of Landing process (see §5.8 below) and may require the applicant to place high visibility markers on the power lines.

### 3.3.7 *Other Public Facilities*

The project will not impact other public facilities, such as schools or health facilities. The heliport facilities and helicopters will be available for emergency police and fire operations.

---

<sup>19</sup>Telephone conversation with the Department of Health, Kona office, 7/24/92.

<sup>20</sup>§11-62-32, Hawaii Administrative Rules. [Reference 16]



PHOTOGRAPH OF EXISTING RESERVOIR

FIGURE 19

#### 4 ALTERNATIVES

Three alternatives to the proposed heliport are discussed in this section. A No-Action Alternative was considered, which would leave the applicant on a precarious, month-to-month arrangement at its existing site located at the Waikoloa Heliport site. Another alternative was to have the heliport located adjacent to Mauna Kea Properties' maintenance yard. The final alternative was relocating to the Waimea airport.

##### 4.1 No-Action Alternative

The no-action alternative would leave no change to the existing relationship the applicant has at the Waikoloa Heliport. The applicant presently has a month-to-month arrangement at that site. This does not provide the applicant with the desired level of security necessary to plan beyond a month. This adversely affect the applicant's financial and marketing plans.

Furthermore, the Waikoloa Heliport site was allowed through a Special Use Permit from the Planning Commission. Said Permit allowed the use to be operable until June 30, 1995.

As such, the no-action alternative would continue to put the applicant in its present precarious position because of the month-to-month arrangement. It would also require the applicant to eventually make some alternatives before June 30, 1995.

Given the time associated with the permitting process, working on an alternative site now is not premature.

Additionally, the use of the existing Waikoloa Heliport would require continued flights in the vicinity of Puako and Waikoloa Village. This is because many of the existing flight paths, including the applicant's, fly over these areas. The new heliport would eliminate this flight leg for at least all of the applicant's routes. The noise impacts to these existing communities should thus be abated.

##### 4.2 Queen Emma Foundation/Mauna Kea Properties Alternative

One of the other alternatives sought by the applicant was an area north of Waiulaula Gulch and approximately 1,000 feet mauka of Mauumae Beach. This site is owned by the Queen Emma Foundation and assigned to Mauna Kea Properties under a development agreement. Mauna Kea Properties are also the owners of the applicant's proposed site.

A Minor SMA application to allow this use was filed with the County. After due consideration by Mauna Kea Properties, this site was deemed inappropriate. There are some residential structures within 500 feet of the site. Additionally, a popular beach, Mauumae Beach, is located close by. This site thus would create noise impacts that may be incompatible with the surrounding residential and recreation uses.

##### 4.3 Waimea Airport

The Waimea Airport was also looked at as a possible alternative. This Airport is owned by the State and operated by the State Department of Transportation.

This site was considered, but there were several limiting factors. For one, the facilities at the Waimea Airport are rather limited, and there is very little parking ramp space to safely accommodate the helicopters.

More critically, however, was the potential noise impact to surrounding areas. The prevailing egress and ingress patterns of helicopters to the Airport would create a noise impact to adjoining and projected residential developments in the area. Most notable of these developments would be the Parker 2020 project. As reflected in the applicant's discussion with the Waimea Community Association, noise impact to existing and projected development areas was quite critical. This resulted in the applicant's re-routing of its flight pattern in and around the Waimea area (refer to Fig. 7a).

## 5 RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

### 5.1 State Land Use Law and Special Use Permit

The subject parcel is classified in the Agricultural district. Although a heliport is not a permitted use in the Agricultural district,<sup>21</sup> the county planning commission may permit certain "unusual and reasonable" uses within agricultural districts other than those for which the district is classified under a Special Permit.<sup>22</sup> Since the portion under consideration is less than 15 acres, the county planning commission will issue the final decision without review by the State Land Use Commission.

The proposed heliport use complies with the County of Hawaii Planning Commission's review criteria for Special Permits as follows:<sup>23</sup>

- *Such use shall not be contrary to the objectives sought to be accomplished by the Land Use Law and Regulations.* One objective of the Land Use Law and Regulations is to "preserve, protect, and encourage the development and preservation of lands in the State for those uses to which they are best suited in the interest of public health and welfare of the people of the State of Hawaii".<sup>24</sup> The primary siting factor for a heliport is its isolation from surrounding development. The proposed site is sufficiently isolated to avoid noise impacts to surrounding neighborhoods (see noise analysis in §3.1.8), yet convenient for its primary clientele which are hotel guests. The site is unsuitable and not presently used for agriculture; therefore, use of the site for a heliport is not contrary to the Land Use Law objective of preserving agriculture.
- *The desired use shall not adversely affect surrounding properties.* The applicant's pilots will adhere to strict ingress/egress routes and flight patterns that will minimize noise impacts to properties within the vicinity of the proposed site (see noise analysis in §3.1.8). The noise analysis was conducted in accordance with the criteria recommended in the Helicopter System

<sup>21</sup>§§205-2 & 4.5, Hawaii Revised Statutes [Reference 14]; §15-15-25, Hawaii Administrative Rules (permissible uses within the agricultural district) [Reference 18].

<sup>22</sup>§205-6, Hawaii Revised Statutes (Special Permit) [Reference 14]; Rule 6, Rules of Practice and Procedure, Planning Commission, County of Hawaii (Special Permit) [Reference 23].

<sup>23</sup>The review criteria is set forth in §6-3(b)(5), Rules of Practice and Procedure, Planning Commission, County of Hawaii [Reference 23].

<sup>24</sup>§15-15-01, Hawaii Administrative Rules [Reference 18].

Plan, discussed in greater detail below in §5.5.

- *Such use shall not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage, school improvements, and police and fire protection.* The proposed use will not burden public agencies to provide sewer (applicant proposes to use individual wastewater system), water (applicant will truck in water), roads (applicant proposes to construct private road), drainage (applicant proposes to use onsite drainage system), and fire protection (applicant proposes to use the adjacent reservoir as a source for fire protection). Police service would be required only on an emergency basis. School improvements are not applicable since the project is not a residential use.
- *Unusual conditions, trends, and needs have arisen since the district boundaries and regulations were established.* The helicopter sightseeing business gained popularity in the 1980s. Neither the Land Use Law nor the Regulations specifically address heliports. Under the County's zoning ordinance, heliports are specifically mentioned as a permitted use in the agricultural zoning districts.<sup>25</sup> There are only a few private heliports and helipads on the Big Island-- the Waikoloa Heliport, Akoakoa Point helipad, the Volcano Golf and Country Club helipad, Waipio Valley helipad, Kahua Ranch helipad, and hotel helipads at the Mauna Kea Beach hotel, Mauna Lani Resort, and Kona Village Resort. Of these existing heliports and helipads, at least two (Kahua Ranch Helistop and Akoakoa Point Helistop) are known to be located in the Agricultural district by Special Permits, and were therefore found to be "unusual and reasonable" uses at that time for those situations.
- *The land upon which the proposed use is sought is unsuited for the uses permitted within the district.* The proposed site is unsuited for agricultural use (LSB rating of E) (see §3.1.2).
- *The proposed use will not substantially alter or change the essential character of the land and the present use.* Because the existing topography is fairly level, grading would be minimal. The open character of the area will be maintained because the proposed improvements consist of some paving and only one structure (a portable office).
- *The request will not be contrary to the General Plan and official Community Development Plan and other documents such as Design Plans.* The General Plan LUPAG designation for the proposed site is Extensive Agriculture which provides for pasturage and range uses. The site is not presently used for such uses. The small area involved (4 acres) will not detract from future use of the parcel for agriculture. The County is in the process of preparing the Northwest Hawaii Community Development Plan (see discussion below in §5.4).

## 5.2 West Hawaii Regional Plan

The West Hawaii Regional Plan prepared by the Office of State Planning proposes a residential project called the Lalamilo Support Community on the adjacent State-owned property south of the site. The support community is targeted for in-migrating workers anticipated for the proposed resorts along the South Kohala and Kona coast. Since there are no specific plans for this project, the County has not included it in the preliminary scenarios developed for the Northwest Hawaii Open Space and Community

---

<sup>25</sup>§25-152(a)(10), Hawaii County Code [Reference 22].

Development Plan.

### 5.3 Hawaii County General Plan and Zoning

*General Plan.* The General Plan LUPAG designation for the proposed site is Extensive Agriculture (see Fig. 20).

*Zoning.* The site is zoned Unplanned (see Fig. 21). The County zoning ordinance requires a Use Permit for a heliport unless a heliport is listed as a permissible use in the applicable zoning district.<sup>26</sup> Because the County will review the project under a Special Permit application (see §5.1 above), the Use Permit is not required. Plan Approval would be required for any use established in the Unplanned district.<sup>27</sup>

### 5.4 Northwest Hawaii Community Development Plan

The site is within the planning area of the Northwest Hawaii Open Space and Community Development Plan, which is currently being prepared by the County. The project site does not conflict with preliminary alternative growth scenarios issued for public information in January 1992 (see Fig. 22).

### 5.5 Hawaii State Helicopter System Plan

The State Department of Transportation prepared the Hawaii State Helicopter System Plan pursuant to §261-13.6, Hawaii Revised Statutes.<sup>28</sup> The proposed site complies with the heliport siting criteria and guidelines recommended in the Plan (see the noise analysis in §3.1.8 above). Furthermore, as a member of the Hawaii Helicopter Operators Association, the applicant complies with the Fly Neighborly Program which specifies minimum flight altitudes for restricted areas. The current Fly Neighborly Program, as discussed in 5.7 below, amended its restricted areas to conform with the Helicopter System Plan.

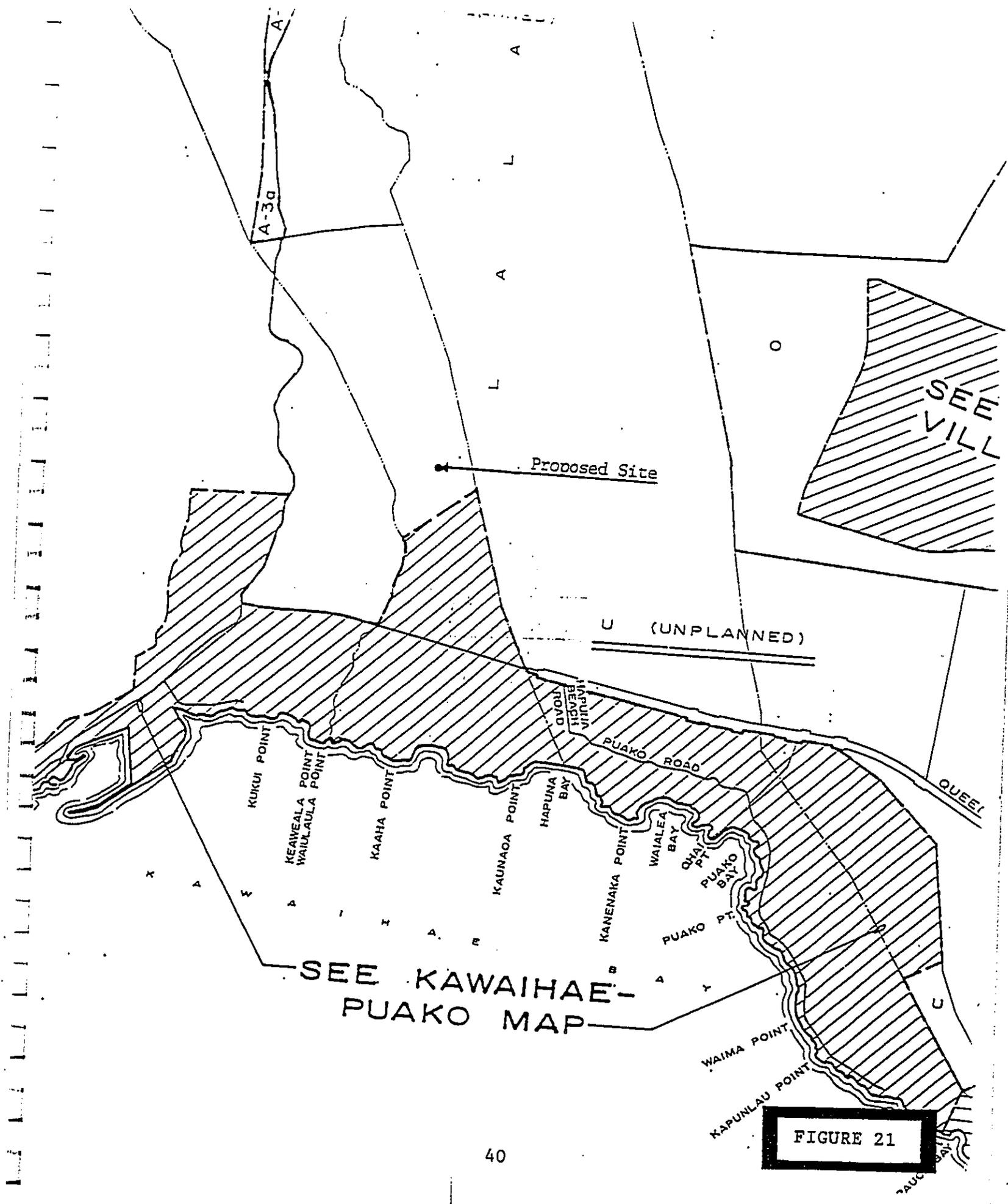
---

<sup>26</sup>§25-28(a)(8), Hawaii County Code [Reference 22].

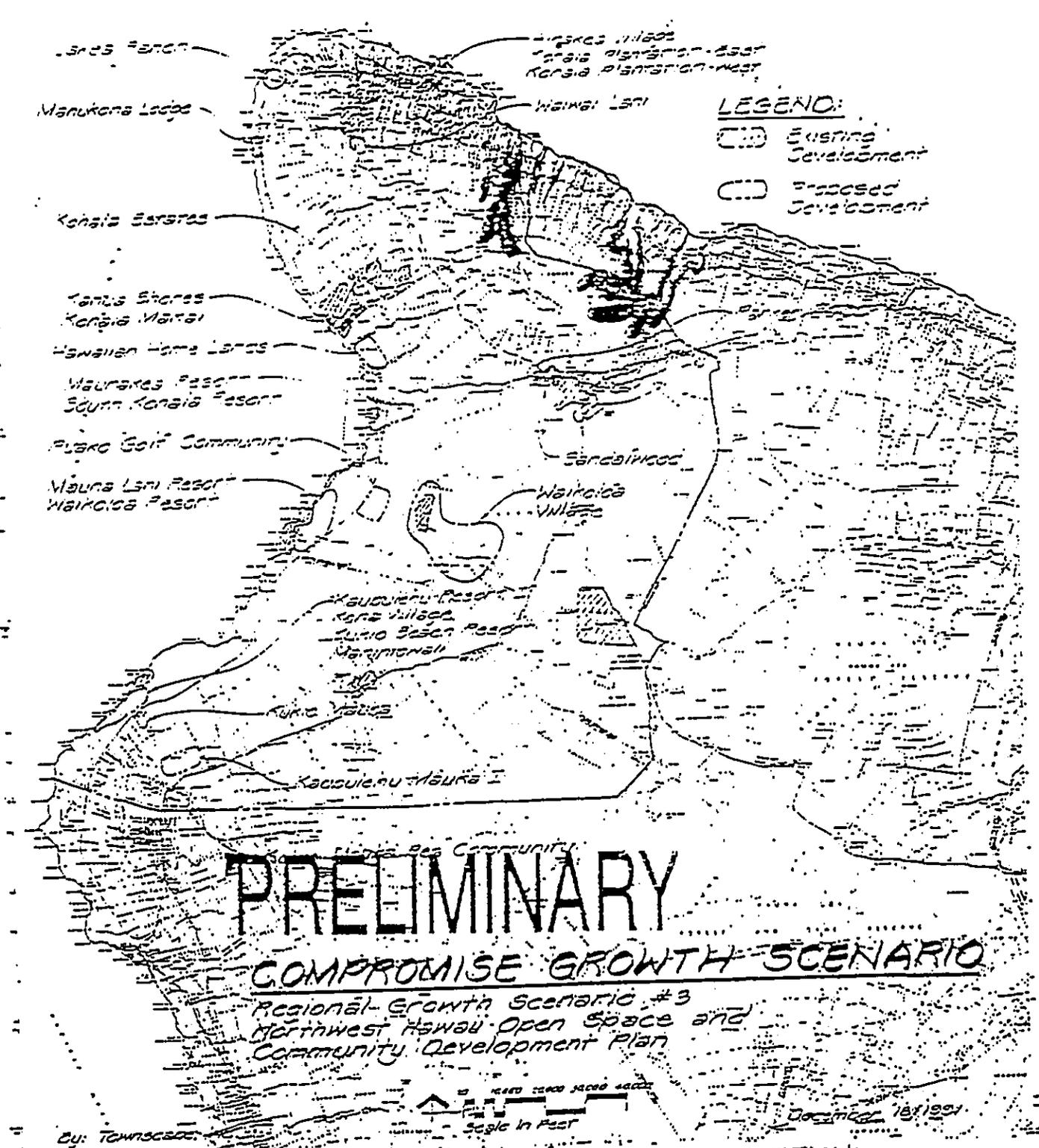
<sup>27</sup>§25-242(a), Hawaii County Code [Reference 22].

<sup>28</sup>State of Hawaii, Department of Transportation, Airports Division. Hawaii State Helicopter System Plan: Final Technical Report. Prepared by Wilson Okamoto & Associates, April 1989. [Reference 13]





**FIGURE 21**



# PRELIMINARY COMPROMISE GROWTH SCENARIO

*Regional Growth Scenario #3  
Northwest Hawaii Open Space and  
Community Development Plan*

<u>LAND USE</u>	<u>UNITS</u>
Hotel	5,300
Resort Condo	6,500
Resort Single Family	5,000
Mauka Condo	2,900
Mauka Lots	13,000
Affordable	5,600
Golf Courses	25
<b>TOTAL UNITS</b>	<b>38,300</b>

**ASSUMPTION:**  
All currently zoned projects and those projects for which zoning or State Land Use applications will be submitted in 1992 are fully built out.

FIGURE 22

## 5.6 Department of Transportation Permits

### 5.6.1 *Licensing of Private Heliports*

All airports, except federal facilities and private airports not open to the public (e.g., no paying passengers), require site approval and annual licensing by the State Department of Transportation.<sup>29</sup> Since the proposed heliport will carry paying passengers, the rules apply. The purpose of DOT's review is to ensure the absence of potential hazards in landing or take-off at the airport and that the air traffic patterns are compatible with all existing approved airports in the vicinity. The rules require site approval prior to construction. The applicant will seek approval after the Special Permit.

### 5.6.2 *Tour Aircraft Operators Permit*

In 1988, the Legislature passed a law requiring the State Department of Transportation to implement a permit system for all commercial aircraft tour operations.<sup>30</sup> The permit, which is renewable annually, applies only to operators who use public airports. The permit requires submittal of procedures for: a) noise abatement in the vicinity of identified noise sensitive areas, and 2) responding to complaints alleged to be generated by the aircraft. The Fly Neighborly Program, discussed below, may be submitted to satisfy the permit requirements. Since Kenai flies from public airports (Keahole and Lyman Field airports), Kenai has a current permit that includes an agreement to abide by the Fly Neighborly Program.

## 5.7 Fly Neighborly Program

The Hawaii Helicopter Operators Association (HHOA), a statewide organization whose membership is comprised of about 83% of the tour helicopter operators, developed a noise abatement program for tours called the "Fly Neighborly Program" with input from a task force comprised of HHOA members, community members, FAA, Congressional representatives, and state and county officials (see Exhibit A). HHOA has made it mandatory for its members to abide by this program. Kenai is a member.

Two major components of this program is the identification of Restricted Areas and the establishment of complaint reporting and penalty procedures.

- *Restricted Areas.* Restricted areas are the airspace above specified geographic areas within which an aircraft, while not wholly prohibited, is subject to restrictions. The program identifies four categories of Restricted Areas: 1) any residential area, 2) any "working" area (e.g., commercial and industrial buildings, hospitals, zoos), 3) recreational areas (e.g., hiking, tourist attraction, regular sporting activity) identified on maps adopted by the HHOA, and 4) parks (e.g., wilderness areas, wildlife areas, public parks) identified on maps adopted by the HHOA. A pilot must maintain a minimum altitude above ground (AGL) if flying directly over a Restricted Area, or maintain a minimum distance away from the Restricted Area ("standoff distance"). Currently,

---

<sup>29</sup>Chapter 19-11, Hawaii Administrative Rules (Airport Site Approval, Airport Licensing, and Airport License Renewal) [Reference 19].

<sup>30</sup>See §261-12, Hawaii Revised Statutes [Reference 15]. The associated rules are found in Chapter 19-34, Hawaii Administrative Rules (Tour Aircraft Operations at Public Airports) [Reference 20].

there are two classes of Restricted Areas:

- R-1: Minimum AGL or standoff distance of 1500'
- R-2: Minimum AGL or standoff distance of 3000'

As shown in Figure 23, Restricted Areas within the vicinity of the proposed project include Waikoloa Village (R-1), Kawaihae-Puako (R-1), Waimea (R-1), Hawi (R-1), and Waipio Valley (R-1 and R-2). These Restricted Areas are consistent with the areas identified in the Helicopter System Plan (see Fig. 24). The applicant's proposed flight paths observe the Restricted Areas (see discussion in §3.1.8 above).

○ **Complaint and Enforcement Procedures.** The procedure is as follows:

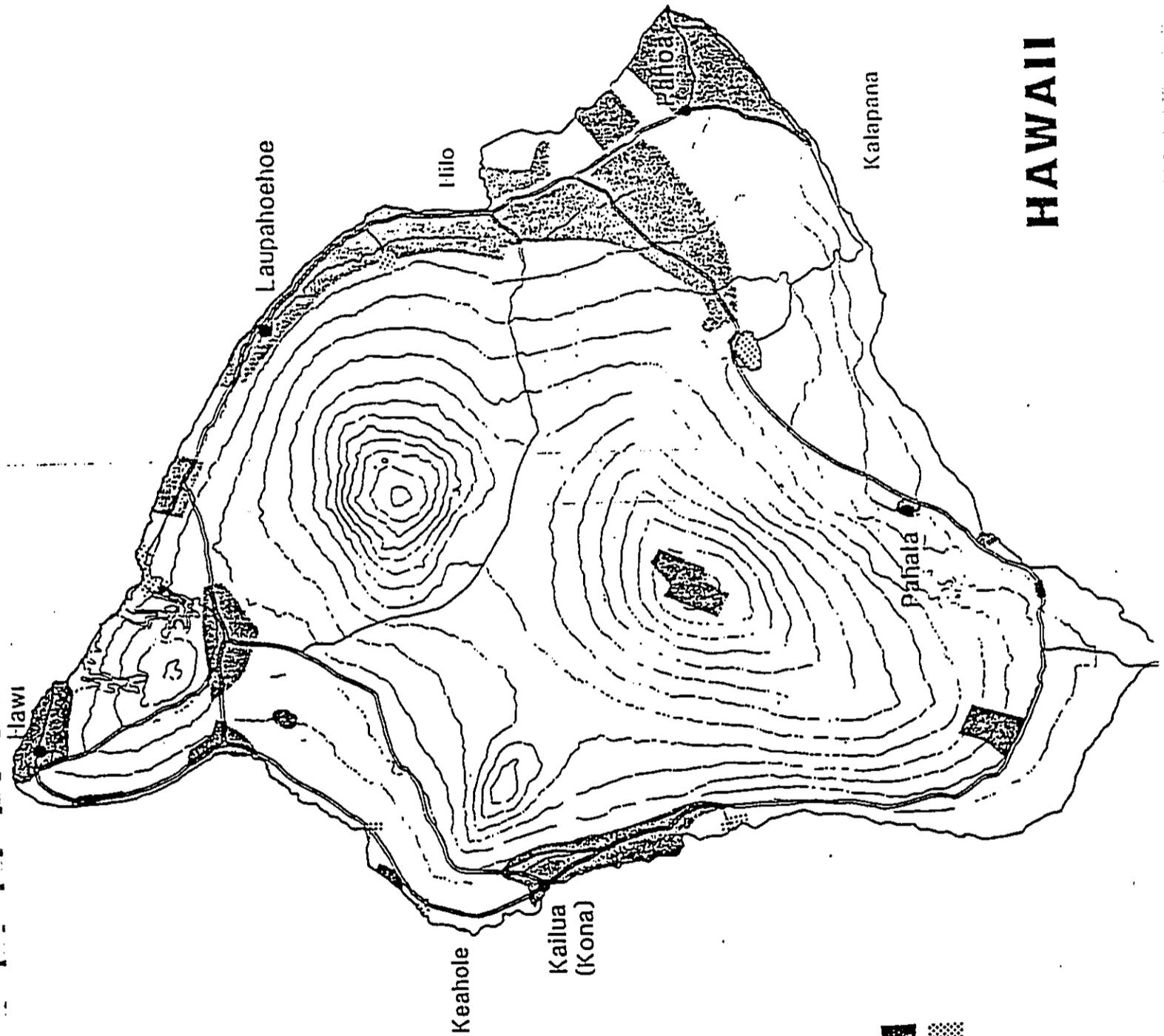
- 1) **Complaint Filed.** A citizen who feels a pilot has violated the Fly Neighborly Program may call the HHOA office, preferably within 24 hours for complaints relating to residential or working areas and 72 hours for recreational or wildland areas. The HHOA representative will ask questions to identify the aircraft (e.g., type, color, aircraft i.d. number) and to describe the alleged violation (e.g., date, time of day, location, direction, estimated altitude).
- 2) **Investigation.** HHOA will then investigate. If the flight is repetitious, HHOA will dispatch a representative to the location to observe flight patterns and collect evidence of violations. A representative will also try to determine what type of flight was involved (tour v. non-tour), the company (HHOA member v. non-member), and the pilot. If the flight was a tour, the representative checks to see if the pilot flew under an allowable supersedure or exemption to the Fly Neighborly Program. A report is prepared for presentation to the island's Fly Neighborly Commission Branch.
- 3) **Review.** The industry representative of the Branch reviews each complaint. Depending on the quality of available evidence, the representative recommends to the full Commission Branch whether to act upon or discharge the complaint.
- 4) **Decision and Appeal.** The Commission Branch reviews all complaints. Decision is by majority vote. Within 30 days of notification of the findings, either the pilot or the company involved may appeal the initial decision. The appeal is heard by a special session of the Commission Branch with the addition of two other persons. Final decision is by majority vote of the full appeal panel.
- 5) **Penalties.** The penalties increase in severity for repeated violations by a pilot with the pilot's company also held responsible:
  - 1st Violation by an individual pilot: The Commission Branch issues the pilot and company a citation in the form of a letter specifying the date, time, and nature of the violation.
  - 2nd Violation by the same pilot: Fine of \$100 each for the pilot and company payable to the Main Commission.
  - 3rd+ Violations by the same pilot: The company will suspend the pilot without pay for 30 days. Additionally, the company will pay a fine of \$250.

#### 5.8 FAA Regulations

The Federal Aviation Administration (FAA) must approve landing sites for new heliports pursuant

FIGURE 23

# HAWAII



R-1 [Solid Black Box]  
R-2 [Cross-hatch Box]



Airports Division  
Department of Transportation  
State of Hawaii

Hawaii State  
Helicopter  
System Plan

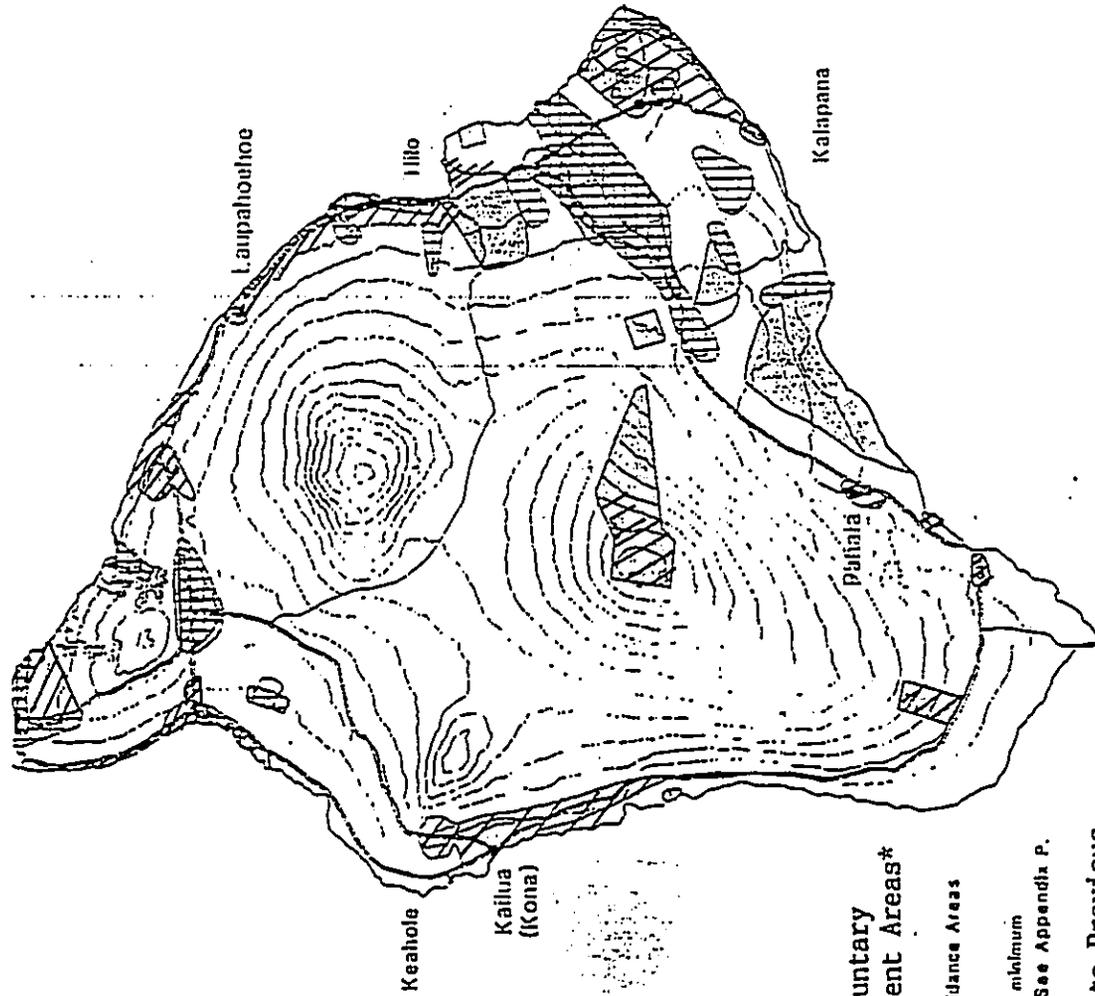
Fig. 8-7  
EXISTING AND  
PROPOSED NOISE  
ABATEMENT  
AREAS

Island of Hawaii



Prepared by:  
Wilson Okamoto  
& Associates, Inc.

FIGURE 24



LEGEND



Previous Voluntary  
Noise Abatement Areas\*



Recommended Avoidance Areas



Areas Added to Previous  
Voluntary Areas in Current  
Mandatory Fly Neighborly Program

\* Includes avoidance areas and minimum recommended altitudes. See Appendix P.

to FAR Part 157. The FAA evaluates the Notice of Landing proposal (FAA Form 7480-1) with respect to: 1) the safe and efficient use of airspace by aircraft, and 2) the safety of persons and property on the ground. The applicant intends to submit the Notice of Landing application after the Special Permit and anticipates about 30 days for processing.

#### 5.9 Other Permits and Approvals

Other applicable permits may include the grading permit, building permit, and DOH wastewater system approval.

### 6 DETERMINATION WITH SUPPORTING FINDINGS AND REASONS

The proposed heliport is not expected to cause significant impacts to the environment, pursuant to the significance criteria established by the Environmental Council as discussed below;<sup>31</sup> therefore, the determination is to issue a negative declaration.

- *The proposed project will not involve an irrevocable commitment to loss or destruction to any natural or cultural resources.* The proposed site does not contain any sensitive natural or cultural resources.
- *The proposed project will not curtail the range of beneficial uses of the environment.* The noise analysis confirms that the egress and ingress routes will not significantly impact the surrounding land uses in terms of noise. The proposed use involves only the siting of a new heliport; it does not involve the establishment of new flight routes. The applicant will follow the flight routes established in the Fly Neighborly Program and the Hawaii Helicopter System Plan. In addition, Kenai abides by a requirement not covered by the Fly Neighborly Program. This requirement, specified in the Special Permit for Kenai's Kahua Ranch Helistop, calls for a minimum 500' AGL along the North Kohala coast.
- *The proposed project will not conflict with the State's long-term environmental policies.* The proposed use complies with the environmental policies and standards with respect to helicopters as set forth in the Helicopter System Plan. The recommendations set forth in the Helicopter System Plan implement the environmental policies of Chapter 344, Hawaii Revised Statutes. These policies seek to balance safeguarding of Hawaii's unique natural environmental characteristics with the socio-economic welfare of the people of Hawaii. As such, the potential impacts of the proposed heliport, particularly the noise impacts, have been mitigated by careful siting and establishment of appropriate egress/ingress routes in accordance with the methodology recommended by the Helicopter System Plan. The tours offered by the applicant foster education and appreciation of Hawaii's unique environment by providing both local and out-of-state visitors a view and experience of Hawaii that not even hikers are able to access.
- *The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities.* The proposed project is not part of any larger or

---

<sup>31</sup>§11-200-12, Hawaii Administrative Rules, Environmental Impact Statement Rules, Department of Health, June 2, 1975 [Reference 17].

phased development. The support facilities for water and wastewater will be provided onsite and therefore not impact the demand on public facilities. Kenai will not be expanding its operations. All flights that currently fly out of the Waikoloa Heliport will instead fly from the new heliport. Kenai will maintain its authorization to fly from Waikoloa Heliport only to service special requests from guests or the owner of the Waikoloa heliport (Transcontinental). Whether Kenai's relocation indirectly causes increased flights to North Kohala by allowing another operator to use Waikoloa Heliport is speculative. In that regard, there could be two scenarios. One would be a relocation of existing operations that currently flies the North Kohala routes from another heliport on the island to Waikoloa; this situation would not result in increased flights. Another scenario would be the introduction of a new operator at the Waikoloa Heliport, resulting in increased flights. In that event, the associated noise impacts were already analyzed in the Helicopter System Plan where the acoustical consultant assumed maximum flights of 200/day, a number that is about twice the existing level. The restricted areas identified in the Helicopter System Plan were incorporated into the Mandatory Fly Neighborly Program, which Kenai follows.

- *The proposed project will not involve a substantial degradation of environmental quality.* The proposed heliport will involve minimal site improvements. The siting of the proposed heliport and related flight patterns have been designed to minimize degradation of environmental quality in terms of noise.
- *The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.* None of the flora and fauna species observed on the subject parcel are considered endangered or threatened.
- *The proposed project will not detrimentally affect air or water quality or ambient noise levels.* The proposed project will not generate any significant gaseous emissions. The wastewater system will be designed in compliance with DOH standards to avoid detrimental impacts to the groundwater quality. The impact to ambient noise levels will be within acceptable public health and annoyance complaint criteria. The proposed heliport will mitigate some of the existing noise impacts associated with the current flight paths originating from the existing facility at Waikoloa by eliminating the flight leg between the Waikoloa heliport and the proposed site that flies near the Puako residential community.
- *The proposed project is not located in an environmentally sensitive area (e.g., flood plain, tsunami zone, coastal area).* The proposed project is not located in a special hazard area for flood or volcanic hazards.

## REFERENCES

### Reports

1. Belt Collins & Associates. *Final Environmental Impact Statement for South Kohala Resort*. Prepared for Mauna Kea Properties, Inc., December 1987.
2. Blumenstock, D. and S. Price. "Climates of the States: Hawaii" in *A Natural History of the Hawaiian Islands* (E. Alison Kay, ed.), University Press of Hawaii: Honolulu, 1972.
3. Ebisu, Y. & Associates, "Acoustic Study of the Possible Causes of Noise Impacts and Concerns Associated with Helicopter Operations in Hawaii", Appendix L in Reference 13.
4. Ebisu, Y. & Associates. *Acoustic Study of Potential Noise Impacts Associated with the Proposed Mauna Kea Heliport Facility*. Prepared for Kenai Helicopters. August 1992.
5. Federal Emergency Management Agency. *Flood Insurance Rate Map, Map Index and Street Index*, July 16, 1990 (by asterisk notation on the map index, FEMA indicated that it did not print the panels applicable to the project area but noted that these areas had minimal tsunami inundation).
6. Hawaii Cooperative Park Service Unit, National Park Service. *Hawaii Stream Assessment: A Preliminary Appraisal of Hawaii's Stream Resources*. Prepared for the Commission on Water Resource Management, State of Hawaii, Report R84, December 1990.
7. Hawaii Helicopter Operators Association. *Mandatory Fly Neighborly Program*. 1st Ed.
8. Heliker, C. *Volcanic and Seismic Hazards on the Island of Hawaii*. U.S. Geological Survey, 1991.
9. State of Hawaii, Department of Land and Natural Resources. *An Inventory of Basic Water Resources Data: Island of Hawaii*. Report R34, 1970.
10. State of Hawaii, Office of State Planning, *State Land Use District Boundary Review: Hawaii (Draft)*, March 1992.
11. U.S. Department of Agriculture, Soil Conservation Service. *Soil Survey of Island of Hawaii*. State of Hawaii, 1973.
12. University of Hawaii, Land Study Bureau, *Detailed Land Classification- Island of Hawaii*. L.S. Bulletin No. 6, November 1965.
13. Wilson Okamoto & Associates. *Hawaii State Helicopter System Plan: Final Technical Report*. Prepared for State of Hawaii, Department of Transportation, Airports Division, April 1989.

### Laws, Ordinances, Resolutions, Administrative Rules

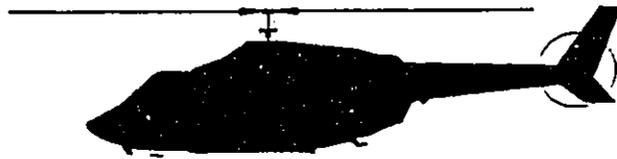
14. Chapter 205 (Land Use Commission), *Hawaii Revised Statutes*.
15. Chapter 261 (Aeronautics), *Hawaii Revised Statutes*.
16. Chapter 11-62, *Hawaii Administrative Rules*, Department of Health, Wastewater Systems.
17. Chapter 11-200, *Hawaii Administrative Rules*, Department of Health, Environmental Impact Statement Rules.
18. Chapter 15-15, *Hawaii Administrative Rules*, Department of Business and Economic Development, State Land Use Commission, Land Use Commission Rules.
19. Chapter 19-11, *Hawaii Administrative Rules*, Department of Transportation, Airports Division, Airport Site Approval, Airport Licensing, and Airport License Renewal.
20. Chapter 19-34, *Hawaii Administrative Rules*, Department of Transportation, Airports Division, Tour Aircraft Operations at Public Airports.
21. County of Hawaii, *General Plan*, Ordinance No. 89-142 (An Ordinance Adopting the County of

22. Hawaii General Plan and Repealing Ordinance No. 439, as amended).  
Chapter 25 (Zoning), *Hawaii County Code*.
23. County of Hawaii, Planning Commission, *Rules of Practice and Procedure*, Rule 6 (Special Permit).

EXHIBIT A

Mandatory Fly Neighborly Program

HAWAII HELICOPTER OPERATORS ASSOCIATION



MANDATORY  
FLY NEIGHBORLY PROGRAM

FIRST EDITION

HAWAII HELICOPTER OPERATORS ASSOCIATION  
120 Kapalulu Place, #214  
Honolulu, HI 96819  
808-836-8025

1931-6

HHOA FLY NEIGHBORLY PROGRAM

TABLE OF CONTENTS

I. Introduction .....	1
A. History of HHOA .....	1
B. Background of the HHOA Fly Neighborly Task Force .....	4
C. Safety statistics .....	6
D. Noise/nuisance complaint statistics .....	6
II. Definitions .....	7
A. Tour Aircraft Commission .....	8
B. Restricted Areas and Minimum Standoff Distance .....	8
C. Maximum Noise Levels .....	9
D. Disaster/Natural Phenomenon Areas .....	10
E. Flights Covered and Not Covered .....	10
III. Maps .....	11
IV. Complaint Reporting Procedures .....	12
V. Program Procedures .....	12
A. Flight monitoring .....	12
B. Commission Action .....	14
C. Supersedure and Exemptions .....	14
D. Disaster/Natural Phenomenon area notification and procedures .	14
VI. Pilot Training .....	15
VII. Penalties .....	15
VIII. Monthly Reports .....	16
IX. Agreements; Operator and Pilot .....	16
X. Tour Aircraft Commission Members .....	17
XI. Public Information .....	17
XII. Non-tour Reporting Procedures .....	17

HHOA FLY NEIGHBORLY PROGRAM

XIII. Endorsements ..... 17

XIV. Glossary ..... 18

## HHOA FLY NEIGHBORLY PROGRAM

### I. Introduction

This FLY NEIGHBORLY PROGRAM MANUAL sets forth the details of the program and explains procedures for the various parties involved. The introduction includes a history of HHOA and the helicopter tour industry in Hawaii, background on the HHOA Fly Neighborly Task Force and its methodology, and a review of some interesting statistics on safety issues as well as noise/nuisance complaints within the state. Should you have questions or comments about anything contained in this manual, please call or write HHOA, attention: Information Department.

It should be noted that HHOA members intend to continue to observe and to improve their voluntary noise abatement programs. This is because in certain specific instances, for legal and other reasons, a mandatory program cannot always be stringent enough.

#### A. History of HHOA and the helicopter tour industry in Hawaii:

In 1962 formal commercial touring by helicopter of the magnificent natural landmarks of the island of Kauai was introduced. This single-ship operation appears to have given birth to an industry which is still growing. Consumer demand will primarily dictate the extent to which it can continue to expand. Tourism in Hawaii has been steadily increasing for decades, and this trend is projected to continue for the foreseeable future. This being the case, helicopter touring is likely to continue growing at least as fast as tourism in general. Today, the tour helicopter industry in Hawaii serves about 500,000 customers per year and provides direct employment for over 1000 individuals. In addition, it voluntarily assists State and County organizations in emergency situations such as fire fighting and rescue operations. The chart beginning on page 2 gives an overview of the extent and chronology of the industry's evolution to date.

In early 1987 HHOA was formed because the industry realized that it needed to improve its flying procedures in order to become more compatible with both the permanent and transient (tourist) communities. Over the years, the number of flights had increased significantly and consequently the potential for disturbance had multiplied. Operators on Maui had already collaborated with much success on an abatement program (In 1988, the Maui group, HELO, received the Helicopter Association International's annual "Fly Neighborly Award"). The feeling statewide among operators was that for the good of the industry, they needed to organize to address noise/nuisance and safety concerns. HHOA's motto, "Promoting air safety and sound abatement in the State of Hawaii", spoke to its cause.

HHOA immediately began taking part in any forum which was designed to find solutions to the growing issues. It participated in numerous community-based organizations, communicated with local, regional, and national divisions of the FAA, met with county and state officials of the various branches of government, and sat on the individual island technical advisory committees for the State of Hawaii

## HHOA FLY NEIGHBORLY PROGRAM

Helicopter System Plan. Perhaps the industry should have started such a collective endeavor many years before, because the negative perception of helicopters was already substantial. Altering flight procedures and overcoming (or preventing) the growing objections would have been much easier if begun earlier.

Almost all helicopter tours flown today observe the existing voluntary Fly Neighborly programs, but the actual and perceived violations are still too great for some community members. The Fly Neighborly Task Force (described in Section I.B) addressed this and other issues. It outlined this mandatory Fly Neighborly Program for tours, which make up more than 90% of all commercial operations, statewide. It should be noted that many helicopter flights are unrelated to tours and do not fall under this or other tour noise abatement programs (This includes Drug Enforcement [DEA], Coast Guard, police and fire departments, search and rescue, military, private owner, and the 10% of commercial, non-tour flights [flight training, professional photography, special charters, real estate surveys, lift work, etc.]). The Task Force agreed these ultimately need to be addressed to determine how they might become more community compatible, but that the initial effort should be placed on tours, the predominant category of commercial flights.

The future of the helicopter tour industry is bright, providing it is able to accommodate community concerns. It was with that thought that the Fly Neighborly Task Force was organized by HHOA. It is our association members' sincere desire that through the implementation of its mandatory Fly Neighborly program, the helicopter tour industry will be able to achieve and maintain overall community acceptance. In addition, the members have pledged to continue the voluntary noise abatement programs where necessary (Because they are voluntary and can be "localized", voluntary programs can often be more stringent than a statewide, mandatory program).

### HELICOPTER TOUR INDUSTRY GROWTH IN HAWAII

KAUAI	1977	1982	1985	1987	1990
Number of Operators	3	6	9	14	12
Number of Aircraft	6	10	17	30	31

### HHOA FLY NEIGHBORLY PROGRAM

MAUI	1977	1982	1985	1987	1990
Number of Operators	2	3	7	9	8
Number of Aircraft	2	7	17	20	22

HAWAII	1977	1982	1985	1987	1990
Number of Operators	2	2	4	7	7
Number of Aircraft	5	4	7	11	17

OAHU	1977	1982	1985	1987	1990
Number of Operators	2	3	5	6	6
Number of Aircraft	2	5	8	10	14

TOTALS	1977	1982	1985	1987	1990
Number of Operators	9	12	23	31	30
Number of Aircraft	16	26	49	71	84

Notes: A. The number of operators shown in the "Totals" bracket is different from the combined island totals, because two operators (Kenai and Papillon) operate regularly on more than one island.

B. The number of aircraft shown is somewhat exaggerated because not all aircraft listed are devoted solely to tours. Interestingly, the number of flights has actually decreased in some areas in recent years. This is partly because many operators have incorporated 6-seat (passenger seat) helicopters into their fleets since about 1986. Originally, most were 4-seat, and many were even 2-seat aircraft.

## HHOA FLY NEIGHBORLY PROGRAM

C. Membership in HHOA as of 5/1/91; 28 of 33 companies (85%),  
83 of 90 aircraft (92%)

D. These figures are estimates and were compiled by interviewing  
members of HHOA.

### B. Background of the HHOA Fly Neighborly Task Force and its methodology:

Although HHOA participated in the assortment of forums mentioned in I.A above, none resolved the problems to everyone's satisfaction. The greatest difficulty centered on finding hard and fast definitions or procedures for four key items; 1) Minimum altitudes over and around residences, businesses, schools, hospitals, specified recreation areas, hotels, etc. 2) Maximum noise levels allowable over and around same. 3) Appropriate restricted flight areas. 4) Methods for monitoring a program and penalizing when necessary.

In October 1990, HHOA sponsored the Fly Neighborly Task Force, held over a two-day period in Honolulu, with the specific goal of arriving at these definitions. Comprised of an impressive group of concerned parties (see list of members below), the Task Force reached consensus either on individual definitions or the steps to attain them. The definitions or steps are contained within this manual along with other items the Task Force and the industry considered important to address.

The program will be improved, as needed, until the desired results are achieved. Drafts of this manual were sent to Task Force members and guests as well as HHOA members and others, so that appropriate suggestions could be incorporated before, during, and after the program is implemented. The Task Force encourages readers' comments or questions. Please call or write HHOA, attention: Information Department.

Special appreciation goes to Joel Kennedy of Stryker Weiner Associates, Honolulu, who provided guidance and acted as a facilitator throughout the Task Force. His concern, objectivity, and communication skills contributed greatly to its success.

### TASK FORCE MEMBERS AND GUESTS

Peter Beckner:	FAA Flights Standards District Office Manager
Mike Kitamura:	For Senator Daniel Akaka
Earl Arruda:	For Representative Patsy Mink
Ralph Hellman:	For Representative Pat Saiki
Dean Nakagawa:	Hawaii D.O.T., Airports Division
Wally Nishigata:	Hawaii D.O.T., Airports Division

## HHOA FLY NEIGHBORLY PROGRAM

Rodney Funakoshi: Hawaii D.O.T., Airports Division  
Cathy Shimabukuro: For Mayor Yukimura, Kauai  
Garrett Goo: For Mayor Fasi, Oahu  
Bill Haines: For Mayor Tavares, Maui  
Maxine Correa: Kauai County Council Chairperson  
Margy Parker: Private Citizen, Kauai  
Jack Thompson: Private Citizen, Maui  
George Robertson: Private Citizen, Hawaii  
Les Iczkowitz: Private Citizen, Oahu  
John Helm: Helicopter Association International  
Chris Ferrara: Aircraft Owners And Pilots Association  
Joel Kennedy: Stryker Weiner Associates (Public Relations)  
Ron Darby: Acoustical Engineer  
Doug Heiser: For Fixed Wing Tour Aircraft Operators  
Gina Goodman: Sierra Club, Hawaii Chapter  
Tony D'Antonio: HHOA Vice President, Maui Director  
Ross Scott: HHOA Maui Director  
Clarence Kanae: HHOA Oahu Director  
Paul Morris: HHOA Secretary, Kauai Director  
Mike Patton: HHOA Kauai Director  
Bob DeCamp: HHOA President, Oahu Director  
Michel Gallafant: HHOA Task Force Assistant  
Connie Ferrante: HHOA Assistant to Bob DeCamp  
Phyllis Graff: Kauai Helicopter Helpline  
Stephanie Sakugawa: Maui Helicopter Environmental Liaison Office  
David Bettencourt: HHOA Attorney  
Paul Asmus: South Sea Helicopters, Kauai  
Dave Chevalier: Blue Hawaiian Helicopters, Maui  
William Simon: Io Aviation Helicopters, Hawaii  
Preston Myers: Safari Helicopters, Kauai  
Rob DeVries: Papillon Helicopters, Operating Statewide  
Bonnie Lofstedt: Island Helicopters, Kauai  
Jim Hennessy: Papillon Helicopters, Director of Operations

Unable to Attend the Meetings, but Involved  
in Further Task Force Processes;

Senator Daniel Inouye  
Congressman Neil Abercrombie  
Representative Paul Oshiro: State Senate Transportation Committee  
Chairperson

## HHOA FLY NEIGHBORLY PROGRAM

Senator Lehua Fernandes Salling:	State Senate Transportation Committee Chairperson
Goro Hokama:	Maui County Council Chairperson
Russel Kokuban:	Hawaii County Council Chairperson
Councilman Gary Gill:	Honolulu City Council Transportation Committee Chairperson
Kenneth Fletcher:	Panorama Air, for Fixed Wing Tour Operators

### C. Safety statistics:

The following figures were compiled by the FAA from their own estimates of flight hours in Hawaii and from actual NTSB (National Transportation Safety Board) data. The accident/incident rate for the commercial helicopter industry in the year 1989 (per 100,000 flight hours) was;

United States; 6.4

Hawaii; 2.0

Based on these statistics, the helicopter industry in Hawaii was more than three times safer than the industry in the nation as a whole in 1989.

### D. Noise/nuisance complaint statistics:

In mid-1989, the State of Hawaii Department of Transportation, Airports Division installed its Aircraft Complaint Line to allow residents and visitors to phone in complaints relating to aircraft. The line was publicized at hearings on all islands and in stories on TV and in newspapers. Following is a summary of the first 13.7 months of its operation.

## HHOA FLY NEIGHBORLY PROGRAM

### STATE AIRCRAFT COMPLAINT LINE

7/11/89 Through 8/31/90

Breakdown of Complaint Calls by Island (Helicopter Tours Only)

	Number of Complaints	Complaints Per Month	Complaints Per Day
Hawaii	413	30	1
Kauai	25	1.8	.06
Maui	175	13	.4
Oahu	12	.9	.03
Statewide Totals	625	46	1.5

Notes: A. These figures represent all complaint calls (regarding helicopter tours) made to the State's aircraft complaint phone line. No effort was made to determine if the flights in question were actually in violation of the State's recommended guidelines, FAA Regulations, or the industry's Fly Neighborly Programs.

B. The helicopter tour related calls (625) made up only 56% of the total complaint calls (1110) made to the State Aircraft Complaint Line. The rest related to all other types of flights and aircraft (fixed wing and non-tour helicopter).

C. Based on these figures, the number of complaints per island averaged about one every four days.

D. During this reporting period, the Big Island of Hawaii did not have a noise abatement Helpline to assist in resolving noise/nuisance problems.

## II. Definitions

The greatest challenge in solving helicopter tour compatibility problems is finding definitions which can be applied statewide that are acceptable to all involved. The incredible assortment of geography in Hawaii makes this extremely difficult. The definitions contained in this manual were arrived at by thoughtful debate between Task

## HHOA FLY NEIGHBORLY PROGRAM

Force members. Though admittedly not perfect, they are designed to resolve the issues for as many people as possible. There are likely to be exceptions, but the Task Force felt that with these definitions the number of exceptions would be few, perhaps one or two per island. The Tour Aircraft Commission will observe the program and improve it where possible. The following definitions are applicable to the program at this time.

### A. Tour Aircraft Commission:

The Main Commission is responsible for the overall management and success of the program. It appoints members to the Commission Branches (described below) for each island and holds annual reviews of the program to determine if changes are needed. It is made up of 13 members who serve without pay for a period of one year. There is no limit to the number of terms a person may serve on the commission. Members are appointed by the HHOA Board of Directors. It is comprised of six helicopter industry members, one representative each from the General Aviation Council of Hawaii (GACH), Hawaii's Congressional delegation, the State Legislature, the State Department of Transportation, the State Department of Health, the Hawaii Visitors Bureau, and the Hawaii Chapter of the Sierra Club. A representative of the FAA will participate as an advisory member, without voting powers.

Each of the four counties will have a branch of the Commission which will serve two main purposes. First, it will define and refine the Restricted Areas for the county. Second, it will evaluate all alleged violations of the program which meet the minimum criteria for review and will issue penalties, where appropriate. In addition to these two main tasks, the Branch will also determine if flight patterns need to be altered in disaster/natural phenomenon areas which have been designated by governmental agencies other than the FAA (See Section II.D).

Branches will be made up of three people each; one industry member (the elected HHOA Director for that county), one representative of the county government, and one private citizen from that county. The non-industry Branch members will be appointed by the Main Commission and will serve without pay for a period of one year. There is no limit to the number of terms a person may serve on a Branch.

### B. Restricted Areas and Minimum Standoff Distance:

The mandatory Fly Neighborly Program will follow, as closely as possible, current practices and terminology used in the National Air Space System (NASS). This will enhance safety by improving communication and minimizing possible confusion for pilots. The NASS describes a restricted area as one which contains air space identified by an area on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions.

## HHOA FLY NEIGHBORLY PROGRAM

In this program, Restricted Areas are those locations and designated geographic zones on each island where the tour helicopter industry normally takes specified action to reduce the amount of noise/nuisance impact. Restricted Areas are either automatic, as described below, or are selected by the Task Force and illustrated in Section III. They can usually be placed in one of four main categories (not including disaster/natural phenomenon areas; see Section II.D): 1) "Residential" [Houses, Apartments/Condos, Barracks, etc.], 2) "Working" [Commercial and Industrial Buildings, Hospitals, Zoos, Etc.], 3) "Recreational" [Hiking, Tourist Attraction, Regular Sporting Activity, etc.], 4) "Park" [Wilderness, Wildlife, National, State, or County Parks].

Aside from listed exemptions (See Section V.C), numbers 1 & 2 qualify as Restricted Areas automatically, by the fact that they are residential or working areas. Numbers 3 and 4 are determined by the Task Force through discussion and compromise (See Section III for maps). Thus, a single house qualifies as a Restricted Area, though someone standing on a remote hill which is not within a designated Restricted Area, does not. A specified hiking or sporting event area does, a non-specified hiking or sporting event area does not.

In order to help meet one of the Task Force's goals (an effective program which is simple to manage), the action normally taken in Restricted Areas will be as follows: All helicopter tours will remain at a minimum standoff distance when flying in or around Restricted Areas. For further clarification, a tour must be flown at a minimum altitude above ground level (AGL) if the pilot flies directly over a Restricted Area. If a pilot is in the vicinity of, but does not intend to enter a Restricted Area, he/she needs to remain the same minimum standoff distance away from the Restricted Area, regardless of flight altitude (See Section V.C for explanation of supersedure and exemptions).

Currently there are two types of Restricted Areas:

R-1; Minimum AGL or standoff distance of 1500'

R-2; Minimum AGL or standoff distance of 3000'

### C. Maximum Noise Levels:

The Task Force recognized the controversy surrounding the issue of noise. Complications arise when using decibel measurements to determine acceptable nuisance levels. There is no scientific instrument to measure annoyance, as each individual determines this for him/herself, and it can vary depending on circumstances and one's attitude at the time. Whispering can even be an annoyance...in a library.

## HHOA FLY NEIGHBORLY PROGRAM

In the absence of any accepted scientific method of measuring nuisance, the industry felt that the mandatory Fly Neighborly Program should at least address the measurable issue of noise. Whereas the Environmental Protection Agency's (EPA's) current national goal for acceptable noise level is 65 decibels, their "most desirable" noise level goal is 55 decibels. In that regard, it was agreed that the helicopter tour industry's combined noise level in Restricted Areas should not exceed the EPA's most desirable goal for protection of health and welfare. As did the State's Helicopter System Plan, the industry recommended using this decibel level averaged over a 24-hour period. This is known as LDN. So, the maximum LDN level allowed under the Fly Neighborly Program, measured at a particular geographic location within a Restricted Area, is 55.

Future technological advancements were reviewed which will reduce the noise levels helicopters generate. The Task Force agreed that operators should incorporate new, quieter equipment into their fleets whenever possible. These are usually much more expensive than current equipment and though specifics were not determined, the Task Force agreed that it would be advisable to find methods to offset the extra costs or otherwise motivate operators to convert. The Main Commission will address this in the future.

### D. Disaster/Natural Phenomenon Areas:

A Disaster/Natural Phenomenon Area is one where a natural or manmade disaster or a natural phenomenon, such as a volcano, is occurring or did occur recently. The Fly Neighborly Program divides these areas into two types; 1) Those recognized by the FAA by their having issued a NOTAM (Notice to Airmen/Women) describing special flight procedures for the area, 2) Those not so recognized by the FAA, but established by some other governmental body, such as Civil Defense, the State, County, etc.

In the case of such FAA recognized areas, helicopter tours will follow the guidelines prescribed in the NOTAM. For the other areas, the Commission Branch for the affected island will determine what action to take and for how long. The Branch may choose to treat the area as a Restricted Area or it may choose not to alter tour flight procedures. The Branch will notify HHOA members of their decision.

Governmental leaders or their appointed representatives may call the applicable Branch to request action.

### E. Flights Covered and Not Covered by This Program:

All commercial tours flown by members of HHOA, with passengers who are paying a fee for the principal purpose of sightseeing by helicopter, are covered by this program. More than 90% of all commercial flights in Hawaii are tours. Thus, the

## HHOA FLY NEIGHBORLY PROGRAM

largest single block of commercial helicopter flights is included. As of October, 1990, HHOA members made up 83% of the tour helicopter operators, operating 92% of the tour helicopters in Hawaii. The Task Force encouraged HHOA to recruit every helicopter tour company into its program, and several non-industry Task Force members offered to help in that recruitment.

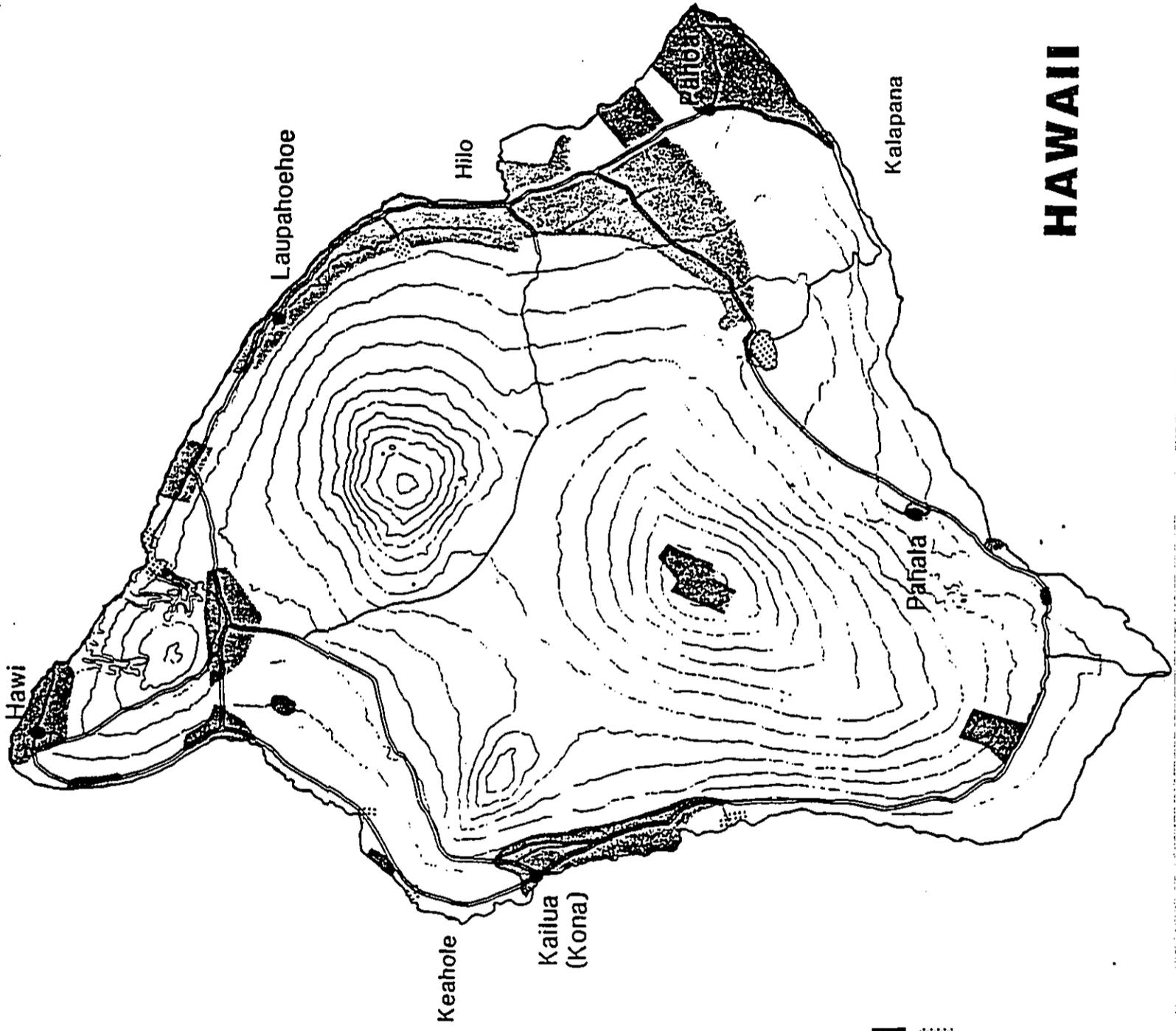
Examples of flights not covered: Military, Police, Fire Department including subcontracted and voluntary flights made by commercial operators, Coast Guard, Medevac, DEA (Drug Enforcement), News Coverage, Special Charters, Traffic Monitoring, Commercial Photography, Real Estate Site Inspection, Private Owner Flights, Lift Work, Electric Line Inspection, and Crop Spraying. Generally, if it's not a sightseeing tour, it's not covered.

Through the program's monitoring procedures, it will be more possible than ever to distinguish types of flights. If it is determined that tour flights are abiding by the program, the Task Force recommended that non-tour flights which are causing problems be addressed and corrected where feasible. But for now, it felt it was better to focus on tours which, by far, comprise the greatest share of commercial flights.

### III. Maps

The following maps and the large scale ones at the Helpline offices provide a general, though imprecise representation of the restricted areas applicable to the program. With these illustrations it is impossible to precisely depict each individual residence, business, etc., or the exact boundaries of a park or recreation area. Therefore, the program's definitions of restricted areas will be used by the Commission when the maps are inadequate.

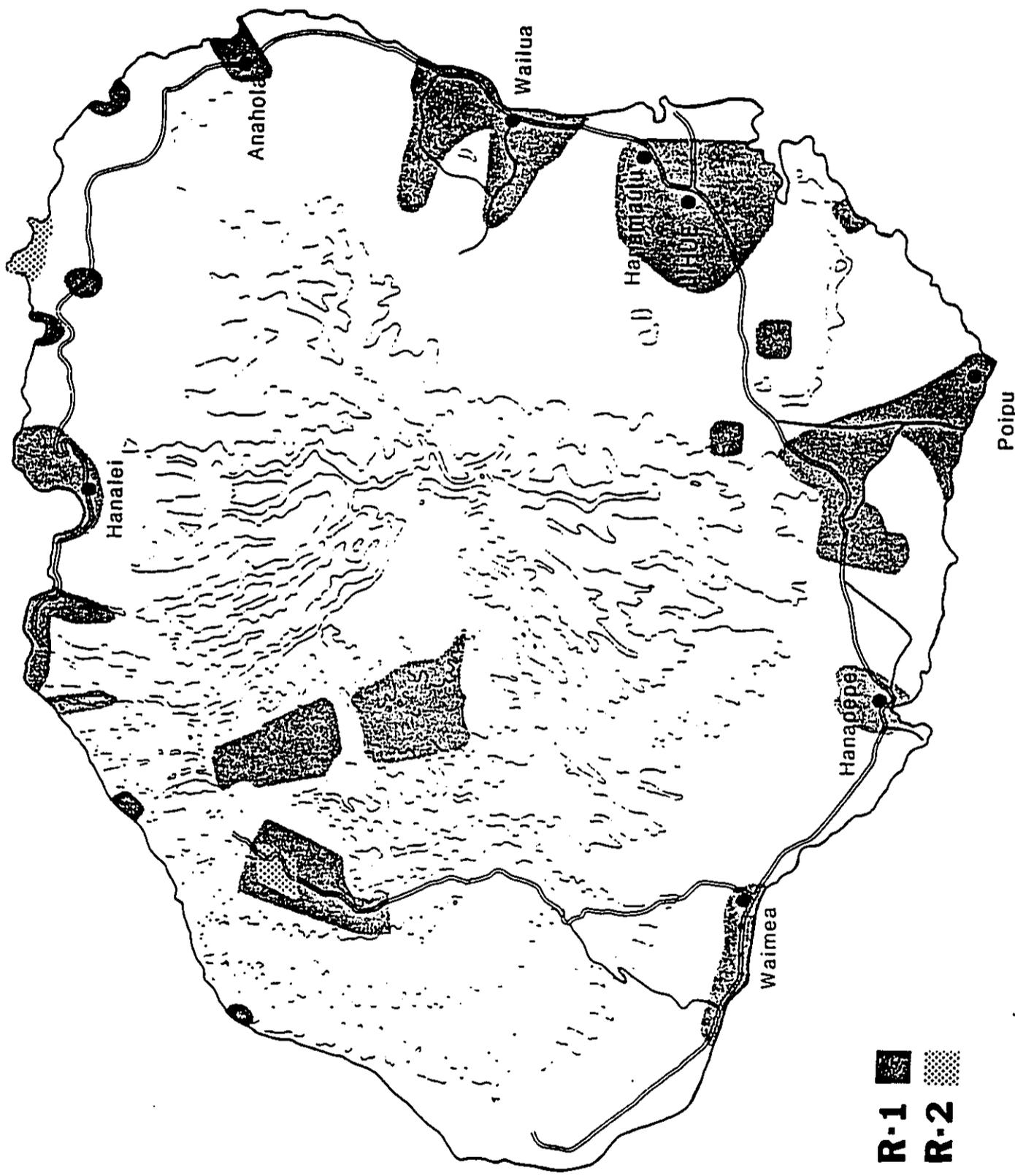
Large scale maps are available for review at each of the four Helpline locations. Please call the Helpline on the island of your interest for an appointment to review them. See Section IV for phone numbers.



**R-1** ■  
**R-2** ▨

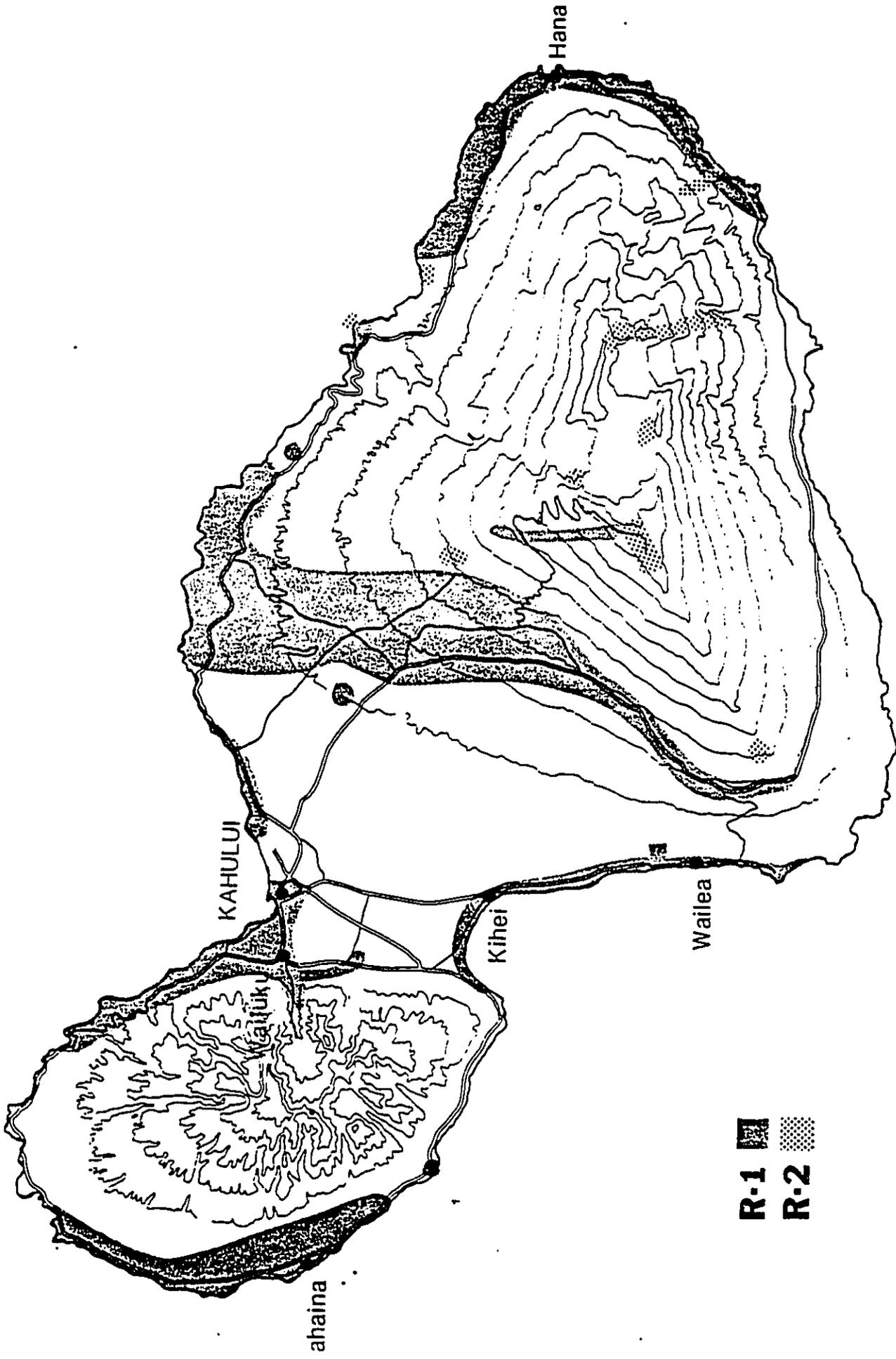
# HAWAII

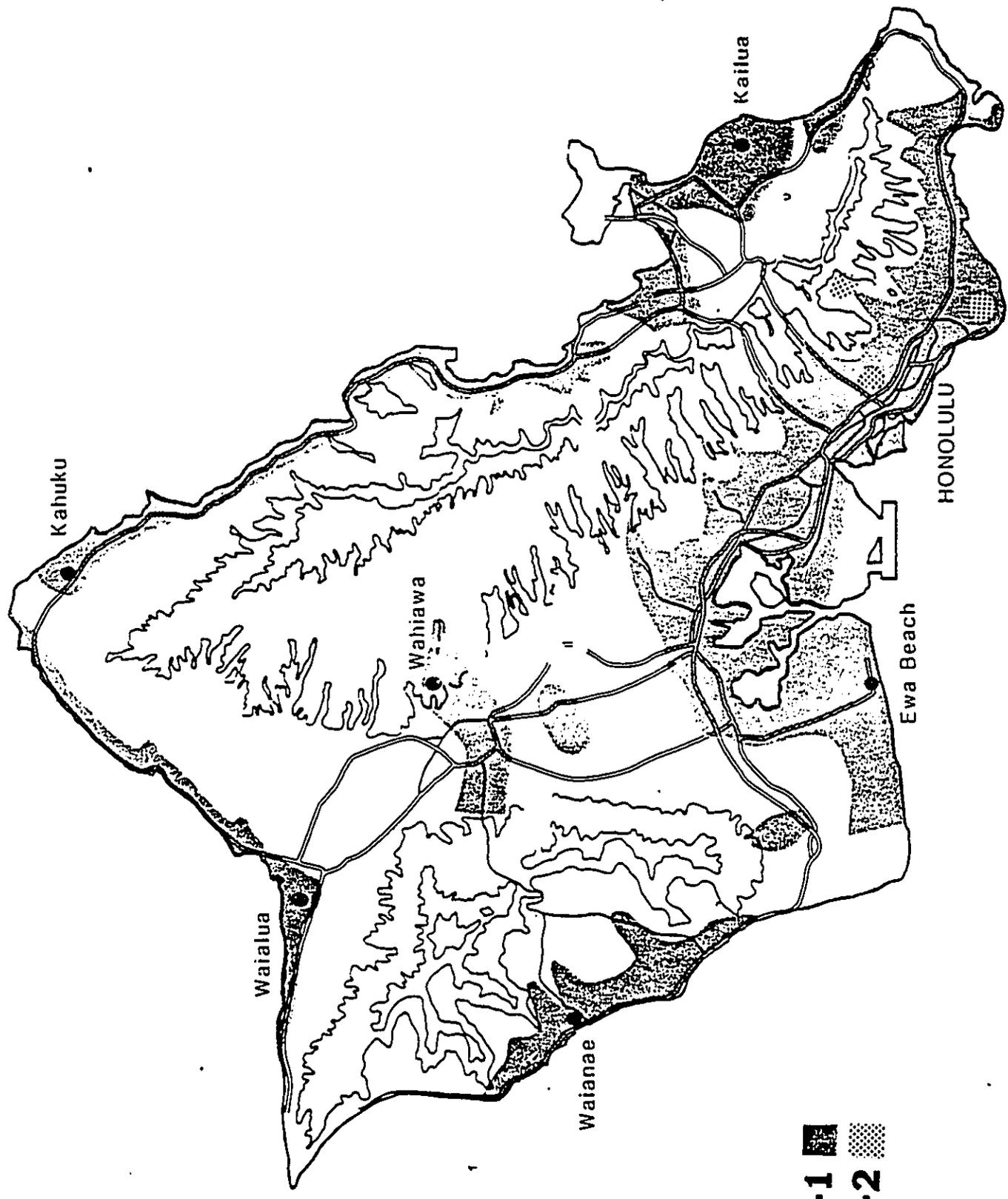
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



# KAUAI

# MAUI





# OHAU

**R-1** ■  
**R-2** ■

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

## HHOA FLY NEIGHBORLY PROGRAM

### IV. Complaint Reporting Procedures

A citizen who feels this mandatory Fly Neighborly program has been violated should call the Fly Neighborly number on the applicable island as soon after the incident as possible, (see list below). For best results, this should be within 24 hours for complaints relating to residential or working areas and 72 hours for those regarding recreational or park areas. Leave a message on the answering machine if the representative is out, including the date and time of the call. The representative will ask a few vital questions such as the type, color(s), and "N" number of the aircraft, date, time of day, location, direction, and estimated altitude of the flight. Once this information (or as much of it as possible) is gathered, the investigation and research process can begin. We are unable to act on anonymous calls. For problems with repetitious violations or when a citizen is unable to distinguish enough details, an HHOA representative can assist (See Section V.A for information).

Hawaii: 961-0104; Connie Ferrante

Kauai: 826-1182; Phyllis Graff

Mau: 244-7511; Stephanie Sakugawa

Oahu: 833-8969; Connie Ferrante

### V. Program Procedures

This section contains the following information; Methods to monitor and/or to gather facts about flights, Commission action for alleged violations, supersedure and exemptions to the Fly Neighborly Program, and notification of and Commission procedures for disaster areas.

#### A. Flight monitoring:

Review of past complaints to both the State Aircraft Complaint Line and the Industry Helplines shows that complaints are registered for primarily two categories of flights;

Type 1) Single or very infrequent flights which are not repetitious.

Type 2) Flights which are repetitious, even if only for a few hours or days.

The Task Force agreed that as with any legitimate program which invokes penalties for violations, acceptable evidence of a violation is required. Naturally,

## HHOA FLY NEIGHBORLY PROGRAM

Type 1 flights where the complaining citizen is the only witness to the alleged violation are the most difficult to substantiate. However, it is very important for concerned citizens to register these complaints, regardless of the improbability of penalization. This is because a follow-up is required within this program which we know from past experience often helps prevent similar problems in the future. Also, when "single or very infrequent flight" complaints from several people are grouped together, they can sometimes reveal patterns which become type 2 in nature and can be examined as such.

For type 2 flights, several methods can be used for monitoring. A trained and authorized HHOA representative may be dispatched to a location to observe flight patterns and collect evidence of violations. See Section IV for phone numbers. The representative will use RangeFinders and/or calibrated photography to help make a determination and will submit a report which will be reviewed as per Section V.B.

A new technology was brought to the attention of the Task Force by Papillon Hawaiian Helicopters. If funds can be made available, Papillon has volunteered to test it on Kauai, where the manufacturer believes it can be made fully functional. Known as an "Automated Electronic Flight-Following System" (AEFS), it may provide a much simpler and more reliable method to track tours and record their flight patterns. The system includes a radio device installed in each aircraft which sends a signal to a receiver and ultimately information from the signal is recorded on a computer disk. The data available from any given flight includes the aircraft I.D., the flight path, and the altitude along the flight path.

When a complaint call comes in, the record of all flights in the reported area at the time of the alleged violation can be retrieved from the computer and checked to see if the flight(s) was within the Fly Neighborly guidelines. If not, appropriate action would be taken. This system would not function statewide yet, but HHOA feels it should be tested and implemented wherever possible at this time. The D.O.T. Airports Division has expressed interest in funding such a device. If it performs satisfactorily, other islands could be added as they become workable (A satellite system is scheduled to be established in approximately 18 months which would make the system operate statewide.).

Unless otherwise approved by HHOA, the data derived from this system would be private and would be used for noise/nuisance related issues only. The information would be made available for that purpose to the Main or applicable Branch Commission only. A complaint would need to be lodged with the appropriate Fly Neighborly office in a timely fashion in order for this system to be used for verification. For residential or working areas, the time limit would be 24 hours from the time of the alleged violation. For recreational or park areas, the time limit would be 72 hours from the time of the alleged violation.

## HHOA FLY NEIGHBORLY PROGRAM

### B. Commission Action:

Action begins when a complaint has been lodged at one of the Fly Neighborly offices. The Fly Neighborly representative tries to determine what type of flight it was (tour or non-tour), which company (HHOA member or not), and the pilot involved. If it is determined that the flight was a tour, the representative checks to see if it may have been flown under an allowable supersedure or exemption to the program (See Section V.C). Whether the type of flight is ascertainable or not, after all possible information is accumulated, a report is prepared for presentation to the island's Fly Neighborly Commission Branch.

The industry representative of the Branch reviews each complaint. Depending on the quality of available evidence, he/she makes a recommendation to the full Commission Branch for action or for discharge of the complaint. All pending complaints are heard at a monthly meeting of the full Commission Branch. Each member of the branch may call for further review if desired, regardless of the initial recommendation made by the industry representative. Disposition is determined by a majority vote of the Commission Branch members (See Section II.A for Branch description.).

Within 30 days of notification of the findings, either the pilot or the company involved may appeal the initial decision and may be heard by a special appeal session of the Commission Branch. At an appeal, two additional people will sit on the Commission Branch. One will be the current president of HHOA and the other will be named during the introductory period of the program. The final decision will be made by a majority vote of this full appeal panel. No further appeal is available.

### C. Supersedure and Exemptions:

No pilot will jeopardize the safety of his passengers or the general public to stay within the noise abatement parameters outlined in this manual. Fly Neighborly procedures will be superseded when conditions of safety so dictate. Additionally, the procedures are exempt when FAR's (Federal Aviation Regulations) apply, including ATC (Air Traffic Control) clearances, landing and take-off approaches and departures, NOTAM's (Notices to Airmen/Women), and all other FAR's.

### D. Disaster/Natural Phenomenon area notification and procedures:

Even if a disaster area is not recognized by the FAA as needing special regulations, the Fly Neighborly Program may still set guidelines for tours to follow in the area. If a governmental body designates an area as a disaster area, it should notify the Commission Branch for the respective island by calling that Branch's industry representative (See Section X for names and phone numbers). He/she will review the information with the other Branch members and they will

## HHOA FLY NEIGHBORLY PROGRAM

collectively make a decision if and how to avoid the area and for how long. The Branch will notify all HHOA operators of their determination.

### VI. Pilot Training

Each HHOA member company is responsible for the proper Fly Neighborly Program training of its pilots. Before a pilot flies a tour covered by this program, an authorized representative of their employer will give them instruction on the Fly Neighborly procedures for each island over which they will fly. Within 30 (THIRTY) days of their first tour the company will notify the applicable Commission Branch in writing that the training has taken place. The notification shall include the name of the pilot, the name of the person(s) performing the training, the island(s) for which the training applies, and a copy of the signature page of the Fly Neighborly pilot agreement signed by the pilot.

### VII. Penalties

Company penalties run concurrently with those of each individual pilot who is found to be in violation of the program. Penalties for each pilot accrue for a period of one year from the date of their first violation. At the end of such one year period, the pilot's slate and the company slate for that pilot are wiped clean and the accrual process begins again.

Monetary penalties have an obvious effect and are to be payed to the Main Commission within 30 days of their determination by the respective Branch, unless appealed by the pilot and/or company. In that event, applicable penalties are to be paid within 30 days of the final determination of the appeal panel. Failure to do so may result in additional fines and/or suspensions, as deemed necessary by the Main Commission.

Suspension penalties have a two-fold affect. They cost the pilot direct income and they cost the company lost revenues and/or heavy expenses related to training and/or qualifying a substitute pilot.

#### A. First Violation by an individual pilot:

1. Pilot and Company; A letter specifying the date, time, and nature of the violation will be issued to the pilot and the company by the Commission Branch. Files will be opened in the pilot's name at the Branch and the Main Commission and a copy of the letter will be placed in both files. A copy will be filed in the company file at the Branch and the Main Commission.

#### B. Second Violation by the same pilot:

1. Pilot; The pilot will pay a fine to the Main Commission of \$100.00. Written notification will be made as in the first offense.

## HHOA FLY NEIGHBORLY PROGRAM

2. Company; The company will pay a fine to the Main Commission of \$100.00. Written notification will be made as in the first offense.

### C. Third and Subsequent Violations by the same pilot:

1. Pilot; The company will suspend the pilot without pay for a period of thirty days. Written notification will be made as in the first offense.

2. Company; The company will pay a fine to the Main Commission of \$250.00. Written notification will be made as in the first offense.

## VIII. Monthly Reports

Three reports will be compiled monthly for review by Task Force Members and other interested parties.

A. Complaints Registered: The Commission will publish a list of the numbers of helicopter-related complaints received by the individual Island Commission Branches, the FAA, and the State's Aircraft Noise Complaint Line. The report will show what portion of the complaints met the minimum information requirements for review by the Commission Branches. It will further show which of the reviewable complaints were verifiable tour related and therefore fall under its purview.

B. Penalties: This report will show which verifiable tour-related complaints were not in compliance with the Fly Neighborly Program, which pilots and companies were involved, and the penalties prescribed. No information about penalties will be published until the complaint process has reached its conclusion (after the appeal process is complete, if utilized).

C. Community Service: Such flights performed by the commercial helicopter industry, both voluntary and revenue producing, will be recorded. This report is not related to violations of the program, but is intended to demonstrate some of the positive aspects of the helicopter industry and to explain some of the flights which may not have been flown according to the Fly Neighborly program. Companies will file monthly reports with the respective helpline(s) on the island(s) over which such flights were flown. These reports will be consolidated for final publication.

## IX. Agreements; Operator and Pilot (See Attached)

## HHOA FLY NEIGHBORLY PROGRAM

### X. Tour Aircraft Commission Members

During the 90 day introductory period of the program, beginning July 1, 1991, the Main and Branch Commission members will be determined. They will be announced at the end of this period.

Until that time, calls may be directed to the Helpline for the applicable island (See Section IV) or to HHOA's main office listed on the cover.

### XI. Public Information

The Task Force recommended that a pamphlet be printed outlining the program's Restricted Areas on each island and other pertinent information. This information could be included in current State publications produced for visitors, hikers, etc. If budgets allow, the program and Helpline numbers could be advertised in newspapers, and on radio and TV.

### XII. Non-tour Reporting Procedures

Several types of flights are not covered by this program (See Section II.E for details). In the event an HHOA member is going to be flying such a flight, they will call the Fly Neighborly number on the island on which the flight will take place and inform the representative of the details. This will include the type of flight, the approximate time and duration of flight, the approximate location, and other relevant information. The representative will record this data so that if persons call to complain, they can be informed of the nature of the flight and the fact that it is not a tour. In some instances, such flights are requested "on the spot" so actual notification may occur during or after the flight.

### XIII. Endorsements (Following)



U.S. Department  
of Transportation  
Federal Aviation  
Administration

Flight Standards District Office  
90 Nakolo Place, Room 215  
Honolulu, Hawaii 96819  
(Telephone: 808-836-0615)

June 20, 1991

Mr. Bob DeCamp  
Hawaii Helicopter Operator Association  
421 Aowena Place  
Honolulu, HI 96819

Dear Mr. <sup>BOB</sup> DeCamp:

The Hawaii Helicopter Operator Association (HHOA) Mandatory Fly Neighborly Program is an excellent hand-in-hand approach by the helicopter tour industry and the communities of the Hawaiian Islands to accommodate community concerns.

This program has received wide acclaim at the FAA headquarters in Washington, D. C., as a first of its kind.

As the program is implemented and progresses, you may rest assured that I will continue to provide the program my wholehearted support toward the goal of industry and community harmony.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter E. Beckner".

Peter E. Beckner  
Manager

## HHOA FLY NEIGHBORLY PROGRAM

### XIV. Glossary

AEFS - automated electronic flight-following system.

AGL - above ground level.

ATC - Air traffic control. The management of aircraft in flight by FAA air traffic controllers.

automated electronic flight-following - A radio transmitting device which can be installed in an aircraft to relay its latitude, longitude, and sometimes its altitude to a base station.

Branch - see Commission Branch

calibrated photography - A means of using photography to determine how far away an object is.

Commission - see Tour Aircraft Commission

Commission Branch - A branch of the Tour Aircraft Commission representing each of the counties in Hawaii. Among other things, a Branch will define and refine Restricted Areas for its county and will evaluate alleged violations of the Fly Neighborly program.

decibel - The usual unit for measuring the relative intensity of sounds. Two to three decibels are approximately the smallest degree of difference of loudness ordinarily detectable by the human ear.

Disaster/Natural Phenomenon Area - An area where a natural or manmade disaster or a natural phenomenon, such as a volcano, is occurring or did occur recently.

EPA - Environmental Protection Agency. The federal agency assigned to protect the environment and its inhabitants from chemical, physical (including noise), and industrial pollutants. The EPA evaluates, monitors, regulates, and can penalize individuals, industry, and government in areas within its purview.

FAA - Federal Aviation Administration

FAR - Federal Aviation Regulation. A regulation imposed and administered by the FAA which relates to the operation, maintenance, etc. of an aircraft or airline.

Fly Neighborly - Fly Neighborly is a phrase originated by the Helicopter Association International (HAI) to describe its program of recommended methods of flying to reduce noise/nuisance problems associated with helicopters. HHOA, which is a member of HAI, chose to use this phrase to title its mandatory noise abatement program.

## HHOA FLY NEIGHBORLY PROGRAM

Fly Neighborly Task Force - A forum sponsored in October 1990 by HHOA to find agreeable solutions to the remaining helicopter tour noise/nuisance concerns within the state of Hawaii.

HAI - Helicopter Association International

Helicopter System Plan - The study of the helicopter industry in Hawaii conducted by the State of Hawaii Department of Transportation, Airports Division, completed in 1988. Among other items the evaluation included; 1) The current size and composition of the helicopter industry, 2) A summary of current state facilities, 3) An estimate of the capacities of current and projected state facilities, 4) A survey of the noise contributions made by the helicopter tour industry statewide.

helicopter tour - Commercial flights with passengers who have directly or indirectly paid a fee for the purpose of sightseeing by helicopter. The helicopter tours covered by this mandatory program are those flown by members of HHOA.

HELO - Helicopter Environmental Liaison Office. Founded in 1985 by the helicopter operators of Maui to address noise/nuisance concerns on their island.

HHOA - Hawaii Helicopter Operators Association. The statewide association of operators founded in 1987 to address noise/nuisance concerns throughout the state.

Ldn - A method of defining environmental sound averaged over a 24 hour period, with a nighttime penalty.

maximum Ldn levels - 55 Ldn. The maximum amount of noise allowed under the Fly Neighborly Program which the helicopter tour industry may contribute to the environment at a particular geographic location within a Restricted Area.

minimum standoff distance - The distance which helicopter tours will normally remain away from noise sensitive areas defined by the Task Force. R-1 = 1500', R-2 = 3000'

"N" number - The identification number of a particular aircraft.

NOTAM - Notice to Airmen/Women. Issued by the FAA when unusual circumstances require special flight procedures, usually for relatively short periods and most often for safety or security reasons.

R-1 - A Restricted Area where the minimum AGL or standoff distance is 1500'.

R-2 - A Restricted Area where the minimum AGL or standoff distance is 3000'.

Restricted Area - Air space identified by areas on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions. For the purpose of

## HHOA FLY NEIGHBORLY PROGRAM

the mandatory Fly Neighborly Program, such restrictions involve flying at minimum AGLs or standoff distances. See R-1 and R-2.

Rangefinder - A hand held mechanical measuring device which uses triangulation to determine how far away an object is.

Task Force - HHOA's Fly Neighborly Task Force

tour - See; helicopter tour

Tour Aircraft Commission - The commission responsible for the management and success of the mandatory Fly Neighborly program. Among other duties, the Main Commission appoints members to the Branches and reviews the program annually to determine if changes are needed.

HHOAFly.51 1931-6

HHOA FLY NEIGHBORLY PROGRAM  
O P E R A T O R   A G R E E M E N T

This AGREEMENT entered into this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between the HAWAII HELICOPTER OPERATORS ASSOCIATION, hereinafter known as "HHOA", whose mailing address for all purposes is 120 Kapalulu Place, #214, Honolulu, HI 96819, and \_\_\_\_\_, hereinafter known as "OPERATOR", whose mailing address for all purposes is \_\_\_\_\_, is for the purpose of providing a written record of the agreements between HHOA and OPERATOR as to the "FLY NEIGHBORLY PROGRAM" and all flight operations subject thereto conducted for hire by OPERATOR.

WHEREAS, HHOA and OPERATOR agree that all flight operations shall be conducted according to all applicable flight operational laws, rules, and regulations of the United States of America and the Federal Aviation Administration, and that any violation of the above by OPERATOR shall be grounds for termination of OPERATOR'S membership and participation in HHOA, and;

WHEREAS, HHOA and OPERATOR agree and recognize that in addition to the minimum standards of flight operational safety required by the applicable flight operations laws, rules, and regulations of the United States of America and the Federal Aviation Administration, OPERATOR has both the right and the duty to require its pilots to comply with such additional requirements and good operational practices as are required and/or recognized in the helicopter industry to achieve and maintain the highest degree of safety in air commerce for the protection of the travelling public, and;

WHEREAS, HHOA and OPERATOR agree and recognize that in addition to the minimum standards of flight operational safety required by the applicable flight operations laws, rules, and regulations of the United States of America and the Federal Aviation Administration, OPERATOR has the authority to direct and control the operations of aircraft owned and/or leased by OPERATOR and that in so doing OPERATOR may by Company Operations Manual and/or Employee Manual and/or otherwise provide such restrictions, procedures, penalties, and sanctions as required and/or deemed reasonable by OPERATOR to accomplish that purpose, and;

WHEREAS, HHOA and OPERATOR agree and recognize that the State of Hawaii has sought to control and/or limit the number and extent of helicopter operations conducted in the State of Hawaii,

HHOA FLY NEIGHBORLY PROGRAM  
O P E R A T O R A G R E E M E N T

and has sought to enact laws and regulations in order to achieve that goal, and may in the future continue to do so, both on its own initiative and upon the request and petition of community groups and individuals, and that it may in fact be successful in so doing if the helicopter operators in the State of Hawaii fail to recognize and address the problems, real or perceived, giving rise to public concern regarding helicopter operations, and;

WHEREAS, HHOA and OPERATOR agree and recognize that HHOA has been organized within the State of Hawaii by and for the benefit of OPERATOR by, among other things:

- A. Educating the media, public and government about the helicopter industry in Hawaii, including its impact on the State's economy, the valuable role it plays in the community (fire fighting, search and rescue, medevac, etc.), and its contribution to the State's number one industry, tourism;
- B. Educating the media, public, and government about helicopters in general, how they fly, and services they perform;
- C. Researching and communicating with the various helicopter operators and other interested parties on relevant issues within the industry itself, including Special Federal Aviation Regulations, hot-refueling regulations and practices, maintenance information and cooperative practices and facilities, insurance issues, acoustical studies and management, crisis management and support, topical seminars, legislative liaison, and legal aspects of operations;
- D. Supporting and/or establishing a Helicopter Environmental Liaison Office or Helpline on major islands to handle complaint calls;
- E. Supporting and/or establishing a Sound Abatement Program for each island;
- F. Establishing a good working and communication relationship with the Helicopter Association International, providing input to that organization and taking advantage of its information and position in the helicopter industry worldwide;

HHOA FLY NEIGHBORLY PROGRAM  
O P E R A T O R   A G R E E M E N T

G. Introducing positive legislation at the level of State and County governments on behalf of the helicopter industry;

H. Lobbying at the level of the State Legislature and the United States Congress in favor of intelligent legislation in the best overall interests of the public and the helicopter industry, and;

I. Establishing a code of ethics for helicopter operations in the State of Hawaii that assures safe and responsible business practices, and;

WHEREAS, HHOA and OPERATOR agree and recognize that the membership of OPERATOR in HHOA will confer benefits upon OPERATOR, its pilots, members of the public, and government agencies, in the form of promoting stability, growth, business opportunities, protection from unreasonable regulation, and that such membership is and will continue to be beneficial to OPERATOR, on balance, and;

WHEREAS, HHOA and OPERATOR agree and recognize that such membership in HHOA is and will in the future be conditioned upon OPERATOR'S agreement, and those of its pilots, to comply with all of the terms, conditions, and covenants imposed by HHOA as a means of achieving the goals and standards set forth above;

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

I. OPERATOR, in consideration of its membership in and the conferral of the benefits referred to above by HHOA upon OPERATOR and the mutual covenants and agreements contained herein, and in any other agreements between HHOA and OPERATOR which are recognized by the parties to constitute good and sufficient consideration, covenants and agrees as follows:

a. OPERATOR, in the operation of its aircraft while engaged in commercial flight activities, will take all required and necessary steps to insure that its pilots comply with all terms and conditions designated as the "FLY NEIGHBORLY PROGRAM" enacted and administered jointly by OPERATOR and HHOA.

b. OPERATOR agrees to the mandatory creation by OPERATOR of a Company Operators Manual and/or Employee Manual and/or other

HHOA FLY NEIGHBORLY PROGRAM  
O P E R A T O R   A G R E E M E N T

manual. but that at a minimum OPERATOR will effect the incorporation of HHOA'S "FLY NEIGHBORLY PROGRAM" into its Company Operations Manual and/or Employee Manual and/or other manual as that program now exists or may in the future be amended according to the procedures set forth by HHOA.

c. OPERATOR agrees that it will condition the employment or continued employment of its pilots upon its pilots' compliance with the "FLY NEIGHBORLY PROGRAM", including, if necessary, the sanctioning of pilots who fail and/or refuse to so comply.

d. OPERATOR agrees to assign to HHOA concurrent administrative responsibility for the enforcement of the "FLY NEIGHBORLY PROGRAM" and that sanctions may be imposed directly upon OPERATOR and/or its pilots according to the terms, conditions, and procedures of that program.

e. OPERATOR agrees that OPERATOR'S compliance, and the compliance of its pilots, with the HHOA "FLY NEIGHBORLY PROGRAM" does not constitute a restraint of trade and/or an unlawful attempt at restraint of trade, but that instead constitutes an attempt to increase trade and protect operational freedom and to self-impose reasonable operational controls to limit outside regulatory actions.

f. OPERATOR agrees, through the creation and modification of a Company Operations Manual and/or Employee Manual and/or other manual, containing all of the terms, conditions, and requirements of the "FLY NEIGHBORLY PROGRAM", to keep its pilots and supervisory personnel fully and accurately informed of all matters which may affect compliance with the "FLY NEIGHBORLY PROGRAM".

g. OPERATOR agrees not to direct its pilots to conduct any flight operation which would constitute a violation of the "FLY NEIGHBORLY PROGRAM".

II. HHOA, in consideration of the covenants and agreements of OPERATOR and in further consideration of such other terms and conditions as exist or may in the future exist in the relationship between HHOA and OPERATOR, agrees as follows:

a. HHOA agrees that OPERATOR has the power and the duty to represent the collective interests of its pilots in all proceedings, discussions, and decisions made by HHOA, in order to

H H O A F L Y N E I G H B O R L Y P R O G R A M  
O P E R A T O R A G R E E M E N T

insure fair and equitable enactment of the terms and conditions of the "FLY NEIGHBORLY PROGRAM" and to further insure the fair and equitable enforcement and adjudication of any complaint and/or investigation of its pilots in any proceeding arising during the administration of the "FLY NEIGHBORLY PROGRAM".

b. HHOA agrees, that OPERATOR has the right and the duty to provide an observer to accompany its pilots at all stages of investigation and/or enforcement of the "FLY NEIGHBORLY PROGRAM" which affect its pilots, and to provide its pilots with all relevant company records and documents, and to keep itself and its pilots informed as to the operation and administration of the "FLY NEIGHBORLY PROGRAM".

c. HHOA agrees that all information and documents developed during the administration of the "FLY NEIGHBORLY PROGRAM" relating to individual investigation and enforcement proceedings are confidential documents which will not be revealed to or discussed with any governmental agency or representative other than those involved in the program and then only within the context of the program unless:

i. Lawful demand is made for said documents by said governmental agency and said documents contain information relevant to a clear violation of applicable and valid laws or regulations, or;

ii. It is ordered to do so by a court of competent jurisdiction, or;

iii. It is ordered to do so by a properly constituted legislative body.

Agreed to this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_

OPERATOR

H H O A

By: \_\_\_\_\_  
Its: \_\_\_\_\_

By: \_\_\_\_\_  
Its: \_\_\_\_\_

H H O A A G M T . 1    1 9 5 - 5

HHOA FLY NEIGHBORLY PROGRAM  
P I L O T A G R E E M E N T

This AGREEMENT entered into this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between \_\_\_\_\_, hereinafter known as "PILOT", whose mailing address for all purposes is \_\_\_\_\_, and "OPERATOR", whose mailing address for all purposes is \_\_\_\_\_, is for the purpose of providing a written record of the agreements between PILOT and OPERATOR as to all flight operations conducted for hire by PILOT and OPERATOR.

WHEREAS, PILOT and OPERATOR agree that all flight operations shall be conducted according to all applicable flight operational laws, rules, and regulations of the United States of America and the Federal Aviation Administration, and that any violation of the above by PILOT shall be grounds for termination of PILOT by OPERATOR, and;

WHEREAS, PILOT and OPERATOR agree and recognize that in addition to the minimum standards of flight operational safety required by the applicable flight operations laws, rules, and regulations of the United States of America and the Federal Aviation Administration, OPERATOR has both the right and the duty to require PILOT to comply with such additional requirements and good operational practices as are required and/or recognized in the helicopter industry to achieve and maintain the highest degree of safety in air commerce for the protection of the travelling public, and;

WHEREAS, PILOT and OPERATOR agree and recognize that in addition to the minimum standards of flight operational safety required by the applicable flight operations laws, rules, and regulations of the United States of America and the Federal Aviation Administration, OPERATOR has the authority to direct and control the operations of aircraft owned and/or leased by OPERATOR and that in so doing OPERATOR may by Company Operations Manual and/or Employee Manual and/or otherwise provide such restrictions, procedures, penalties, and sanctions as required and/or deemed reasonable by OPERATOR to accomplish that purpose, and;

WHEREAS, PILOT and OPERATOR agree and recognize that the State of Hawaii has sought to control and/or limit the number and extent of helicopter operations conducted in the State of Hawaii, and has sought to enact laws and regulations in order to achieve that goal, and may in the future continue to do so, both on its

HHOA FLY NEIGHBORLY PROGRAM  
P I L O T   A G R E E M E N T

own initiative and upon the request and petition of community groups and individuals, and that it may in fact be successful in so doing if the helicopter operators in the State of Hawaii fail to recognize and address the problems, real or perceived, giving rise to public concern regarding helicopter operations, and:

WHEREAS, PILOT and OPERATOR agree and recognize that the HAWAII HELICOPTER OPERATORS ASSOCIATION, hereinafter known as "HHOA", has been organized within the State of Hawaii by and for the benefit of PILOT and OPERATOR by, among other things:

A. Educating the media, public and government about the helicopter industry in Hawaii, including its impact on the State's economy, the valuable role it plays in the community (fire fighting, search and rescue, medevac, etc.), and its contribution to the State's number one industry, tourism;

B. Educating the media, public, and government about helicopters in general, how they fly, and services they perform;

C. Researching and communicating with the various helicopter operators and other interested parties on relevant issues within the industry itself, including Special Federal Aviation Regulations, hot-refueling regulations and practices, maintenance information and cooperative practices and facilities, insurance issues, acoustical studies and management, crisis management and support, topical seminars, legislative liaison, and legal aspects of operations;

D. Supporting and/or establishing a Helicopter Environmental Liaison Office or Helpline on major islands to handle complaint calls;

E. Supporting and/or establishing a Sound Abatement Program for each island;

F. Establishing a good working and communication relationship with the Helicopter Association International, providing input to that organization and taking advantage of its information and position in the helicopter industry worldwide;

G. Introducing positive legislation at the level

HHOA FLY NEIGHBORLY PROGRAM  
P I L O T A G R E E M E N T

of State and County governments on behalf of the helicopter industry;

H. Lobbying at the level of the State Legislature and the United States Congress in favor of intelligent legislation in the best overall interests of the public and the helicopter industry, and;

I. Establishing a code of ethics for helicopter operations in the State of Hawaii that assures safe and responsible business practices, and;

WHEREAS, PILOT and OPERATOR agree and recognize that the membership of OPERATOR in HHOA will confer benefits upon both PILOT and OPERATOR in the form of promoting stability, growth, business opportunities, protection from unreasonable regulation, and that such membership is and will continue to be beneficial to both PILOT and OPERATOR, on balance, and;

WHEREAS, PILOT and OPERATOR agree and recognize that such membership is and will in the future be conditioned upon PILOT and OPERATOR'S agreement to comply with all of the terms, conditions, and covenants imposed by HHOA as a means of achieving the goals and standards set forth above;

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

I. PILOT, in consideration of the employment of PILOT by OPERATOR and the mutual covenants and agreements contained herein, and in any other employment agreements and compensation provided to PILOT by OPERATOR, which are recognized by the parties to constitute good and sufficient consideration, covenants and agrees as follows:

a. PILOT, in the operation of aircraft on behalf of OPERATOR while engaged in commercial flight activities in the course and scope of PILOT'S employment, will comply with all terms and conditions designated as the "FLY NEIGHBORLY PROGRAM" enacted and administered jointly by OPERATOR and HHOA.

b. PILOT agrees that PILOT is aware and consents to OPERATOR'S incorporation of HHOA'S "FLY NEIGHBORLY PROGRAM" into its company Operations Manual and/or Employee Manual, as that program now exists or may in the future be amended according to the procedures set forth by HHOA.

HHOA FLY NEIGHBORLY PROGRAM  
P I L O T   A G R E E M E N T

c. PILOT agrees that PILOT'S compliance with the "FLY NEIGHBORLY PROGRAM" is a condition of employment and continued employment for OPERATOR.

d. PILOT agrees to OPERATOR'S assignment to HHOA concurrent administrative responsibility for the enforcement of the "FLY NEIGHBORLY PROGRAM" and that sanctions may be imposed directly upon PILOT according to the terms, conditions, and procedures of that program.

e. PILOT agrees that PILOT'S and OPERATOR'S compliance with the HHOA "FLY NEIGHBORLY PROGRAM" does not constitute a restraint of trade and/or an unlawful attempt at restraint of trade, but that instead constitutes an attempt to increase trade and protect operational freedom and to self-impose reasonable operational controls to limit outside regulatory actions.

II. OPERATOR, in consideration of the covenants and agreements of PILOT, and in further consideration of such other terms and conditions of employment as exist or may in the future exist in the employment relationship between PILOT and OPERATOR, agrees as follows:

a. OPERATOR agrees to represent PILOT in all proceedings, discussions, and decisions made by HHOA, in order to insure fair and equitable enactment of the terms and conditions of the "FLY NEIGHBORLY PROGRAM" and to further insure the fair and equitable enforcement and adjudication of PILOT in any proceeding arising during the administration of the "FLY NEIGHBORLY PROGRAM".

b. OPERATOR agrees, through the creation and/or modification of a Company Operations Manual and/or Employee Manual and/or other manual, containing all of the terms, conditions, and requirements of the "FLY NEIGHBORLY PROGRAM", to keep PILOT fully and accurately informed of all matters which may affect PILOT in respect to that program.

c. OPERATOR agrees to provide an observer to accompany PILOT at all stages of investigation and/or enforcement of the "FLY NEIGHBORLY PROGRAM" which affect PILOT, and to provide PILOT with all relevant company records and documents.

d. OPERATOR agrees that all information and documents developed during the administration of the "FLY NEIGHBORLY PROGRAM" relating to individual investigation and enforcement proceedings are confidential documents which will not be revealed

HHOA FLY NEIGHBORLY PROGRAM  
P I L O T   A G R E E M E N T

to or discussed with any governmental agency or representative other than those involved in the program and then only within the context of the program unless:

i. Lawful demand is made for said documents by said governmental agency and said documents contain information relevant to a clear violation of applicable and valid laws or regulations, or;

ii. It is ordered to do so by a court of competent jurisdiction, or;

iii. It is ordered to do so by a properly constituted legislative body.

e. OPERATOR agrees not to direct PILOT to conduct any flight operation which would constitute a violation of the "FLY NEIGHBORLY PROGRAM".

Agreed to this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_

PILOT

OPERATOR

By: \_\_\_\_\_

Its: \_\_\_\_\_

EXHIBIT B

ARCHAEOLOGICAL INVENTORY SURVEY

**PHRI****Paul H. Rosendahl, Ph.D., Inc.***Archaeological · Historical · Cultural Resource Management Studies & Services*305 Mohoull Street · Hilo, Hawaii 96720 · (808) 969-1763 · FAX (808) 961-6998  
P.O. Box 23305 · G. M. F., Guam 96921 · (671) 472-3117 · FAX (671) 472-3131

February 18, 1993

Letter Report 1355-020993

Mr. Paul Morris  
Kenai Air Hawaii, Inc.  
c/o Mr. Sidney Fuke  
Sidney Fuke & Associates  
100 Pauahi Street, Suite 212  
Hilo, Hawaii 96720

*Subject: Archaeological Inventory Survey  
Kenai Air Heliport Parcel  
Land of Ouli, South Kohala District  
Island of Hawaii (TMK:6-2-01:Por. 51)*

Dear Mr. Morris:

At your request, Paul H. Rosendahl, Ph.D., Inc. (PHRI) recently conducted an archaeological inventory of the c. 3.7-acre Kenai Air Heliport Parcel project area (TMK:6-2-01:Por. 51). The parcel is within the Land of Ouli, South Kohala District, Island of Hawaii (Figure 1, at end). The basic objective of the survey was to provide information sufficient to satisfy the historic preservation review requirements of the Department of Land and Natural Resources - State Historic Preservation Division (DLNR-SHPD). The field work portion of the survey was conducted February 8, 1993 by Project Supervisor Jack D. Henry, B.S., and Field Archaeologist Mike Stubing, B.A. Projects Manager Donna K. Graves, M.A., provided overall guidance for the project.

The basic purpose of the inventory survey was to identify all sites and features of potential archaeological significance present within the project area. An inventory survey comprises an initial level of archaeological investigation. Basically, it determines the presence or absence of archaeological resources and, if present, indicates their general nature and variety, and their general distribution and density. Finally, it permits a general significance assessment of the archaeological resources, and facilitates formulation of realistic recommendations and estimates for such further work as might be necessary. Such work could include further data collection—additional data collection involving detailed recording of sites and features, and selected limited excavations; and possibly subsequent mitigation—data recovery research excavations, construction monitoring, interpretive planning and development, and/or preservation of sites and features with significant scientific research, interpretive, and/or cultural values.

The basic objectives of the survey were fourfold: (a) to identify (find and locate) all sites and site complexes within the parcel; (b) to evaluate the potential general significance of all identified archaeological remains; (c) to determine the possible impacts of proposed development upon the identified remains; and (d) to define the general scope of any subsequent data collection or other mitigation work that might be necessary.

The project area is c. 680 feet above mean sea level (AMSL), in the rain shadow of Mauna Kea. The vicinity of the project area is one of the driest in West Hawaii. Mauna Kea, at 14,000 feet AMSL, intercepts prevailing easterly moisture-laden air, and forces it upward, so that it cools and quickly precipitates its moisture. The air then descends toward the coast of West Hawaii where it heats up through compression, thereby increasing its potential to retain moisture, rather than precipitate it. This orographic rainfall pattern is reflected in the generally low annual rainfall figure for this area—about 10 to 20 inches.

The aridity of the *ahupua'a* is clearly reflected in the paucity of permanent water sources and particularly by the sparseness of the vegetation. There are no streams in the project area. The prevalent plant species are introduced grasses, principally buffel (*Cenchrus ciliaris*) and fountain grass (*Pennisetum sectaceum* [Forsk.] Chiov). Trees include sparse *kiawe* (*Prosopis pallida* (Humb. and Bonpl. ex. Willd.) and *koa-haole* (*Leucaena glauca* [L.] Benth.). For the most part the range of plant species is narrow and is generally restricted to forms adapted to xeric conditions.

The current survey represents the initial archaeological work in the project area. Numerous archaeological projects have been conducted in the general vicinity of the project area, mostly at coastal sites within Ouli. These include reconnaissance surveys by Reinecke (1930), Soehren (1964), and Kikuchi (n.d.), as well as intensive survey and excavations by Soehren (1967), Rosendahl (1969), Ching and Hammat (1980), Rosendahl and Kaschko (1983), and Walker and Rosendahl (1987). More recent work has focused on mitigating the effects of large-scale resort development (Graves and Rosendahl, in prep.) Collectively, these studies have identified numerous archaeological sites. The sites include both temporary and permanent habitation features. The primary focus of the sites appears to have been the exploitation of marine resources. Also identified were small historic features—primarily U-shapes. These features, at strategic locations along the coast, appear to be WWII sentinel posts.

Upland studies within Ouli include a reconnaissance survey by Ching (1979), an inspection by Kam and Ota (1984), and intensive survey and excavations by Clark and Kirch (1983). Ching identified a few WWII structures and other evidence of military occupation and concluded that the remains were of no archaeological or historical significance. Kam and Ota inspected the vicinity of the South Kohala Resort *mauka* lands and identified several cultural features representing a range of sites, including some which were thought to be prehistoric. The sites were assessed as not significant, and required no further work. Clark and Kirch (1983) conducted extensive investigations along the Mudlane-Waimea-Kawaihae road corridor. Section 2 of the road corridor, which passes within 1000 feet of the current project area, contained aboriginal temporary habitation sites associated with agriculture (dryland cultivation of sweet potatoes and gourds). The sites appeared to have been confined to the banks of Waikoloa Stream, an intermittent watercourse (ibid: 1983:179). Clark and Kirch noted that Section 2 also contained numerous WWII defensive structures and windbreaks, as well as spent cartridges and other, larger ordnance.

The Waimea Archaeological District, a large agricultural complex, has been identified in the vicinity of the project area (Clark 1981). The district contains many residential structures scattered throughout what was once an extensive agricultural system—the Lalamilo Agricultural Park. Clark defines the system as forming a large arc to the north, west, and south of the present day town of Waimea, beginning on the south flank of Kohala Mountains, extending down the slope to the Waimea Plains south of town, then turning east and fading out just south of Waimea and west of Kuhio Village. The current project area lies outside (west of) these defined boundaries.

In 1981 and 1982 Historical Researcher Carol L. Silva conducted historical research on Ouli in conjunction with preliminary archaeological research undertaken by PHRI (Rosendahl 1981). Included in Silva's 1981 report are references to early history (pre-European contact), land history, and accounts of voyagers, missionaries, and travelers. Silva's report, briefly summarized in the following, contains information directly relevant to the present project area.

Accounts of early voyagers, including Arago (1823), Cleveland (1886), Kotzebue (1821) and others, indicate that adjacent Kawaihae *ahupua'a* was a popular anchorage and was heavily traveled. It was important in terms of politics, economics, and religion. While the English missionary William Ellis was at Kawaihae, c. 1822-1823, he described Puukohola Heiau and the much-traveled Kawaihae-Waimea route, over which sandalwood was transported to the coast (Ellis 1963).

Land records indicate that the *ahupua'a* of Kawaihae and Ouli were given to John Young by Kamehameha I for assistance and services that Young had rendered in battle (Foreign Register n.d.). At the death of Young, the Land of Ouli was passed to his son, James Y. Kanehoa, who retained the land (LCA 8618-B:1, RP 2237) during the Great Mahele (c. 1848). A second, smaller claim (2.65 ac) within the Land of Ouli was awarded to Kaikai (LCA 4199:1, RP 4943).

At the State Survey Division were four maps of the Ouli-Kawaihae area: a 1903 map by A.E. Loebenstein, a preliminary draft of a USGS quadrant map prepared prior to 1916, the final USGS map, and a map prepared in 1928 and 1929 by W.E. Wall and C.L. Murray. The Wall and Murray map shows a foot trail, oriented coastal-inland, along the boundary between the Lands of Ouli and Lalamilo; this site was designated Trail 8 during preliminary inventory survey work by PHRI (Kaschko and Rosendahl 1983).

The previous archaeological research indicates that settlement in the vicinity of the project area followed the *ahupua'a* pattern, in which coastal and inland environments were linked in a pattern of economically and socially induced transhumance. Coastal exploitation of Ouli may have begun as early as AD 1200. Beginning about AD 1400 and continuing through 1550, these earlier coastal occupations were followed by expansion into and settlement of more inland environments. Eventually, developing agricultural technology and associated agricultural expansion allowed permanent settlement of upland communities, which had formerly been occupied on a seasonal basis only. Hommon (1976:258) suggests that during this period of inland expansion, coastal residences were not abandoned but coexisted with inland sites, and that inland and coastal sites exchanged their specialized products. This is supported by the presence of well developed coastal-inland trail systems. According to Kirch (1985), concurrent upland and coastal residential settlement may not have continued into the historic period; this, however, is debatable (Welch 1989).

A predictive model for settlement in the project area was formulated based on the background information for this project. As the current project was between the favored coastal areas and the upland habitation-agriculture zone, it was expected that few prehistoric sites would be encountered. One prehistoric site in the vicinity (but not within the project area) was expected—Trail 8, a *mauka-makai* trail along the boundary of Ouli and Lalamilo (the project area lies c. 250 feet north of the Ouli-Lalamilo boundary). A portion of the trail nearer the coast had been previously identified by Kaschko and Rosendahl (1983). Also, background research had indicated that the general vicinity of the project area was used for WWII military activities, and thus small shelters and artifacts related to the military were expected.

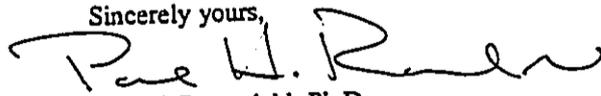
The field work for the current project comprised both surface and subsurface examinations. The surface survey was conducted using pedestrian sweeps, with crew members spaced at 15 m intervals. The sweeps were oriented approximately N-S; 100% of the project area was covered. No archaeological sites were identified during the surface survey. The survey indicated the project area had been heavily disturbed, both historically and during modern times. Numerous bulldozer tracks and push piles were found in the area, as well as a water pipe and valve, and modern debris. Also identified were abundant small pieces of shrapnel, probably relating to WWII.

The subsurface survey consisted of excavating four shovel tests (ST) to test for the presence/absence of buried cultural deposits and to test the nature of the soil within the project area. The STs were placed near each corner of the project area to insure that soil stratigraphy throughout the project area was adequately represented. The approximate locations of the STs were plotted on a topographic map, and detailed stratigraphic information was recorded on standardized PHRI forms, following standard procedures and terminology as set forth in the *Soil Survey Manual* (Soil Survey Staff 1962). The shovel tests ranged in depth from 0.26 to 0.35 m below surface. All soil excavated was screened through 1/8-inch mesh. Soil stratigraphies in the shovel tests were similar, consisting of an yellowish-brown (10YR 5/6), fine-grained sandy silt overlying decomposing lava bedrock. No subsurface cultural materials were identified in any of the shovel tests.

In view of the negative findings of this project, no further archaeological work is recommended in the project area. It should be noted that the above evaluations and recommendations have been based on the findings of an inventory-level survey and limited subsurface testing. There is always the possibility, however remote, that potentially significant unidentified cultural remains might be encountered in the course of future development activities. In such situations, archaeological consultation should be sought immediately.

If you have any questions please call me at our Hilo office (808) 969-1763.

Sincerely yours,



Paul H. Rosendahl, Ph.D.  
President and Principal  
Archaeologist

DH/dh

## References Cited

Arago, J.E.

- 1823 Narrative of a Voyage Around the World in the Uranie and Physicienne Corvettes, Commanded by Captain Freycient, During the Years 1817, 1818, 1819 and 1820... London: Treuttel and Wurtz, Treuttel, Jun, and Richter. (Facsimile reprint by Bibliotheca Australiana).

Ching, F.

- 1979 Letter Report - Archaeological Reconnaissance Survey of Olohana Corporation Project Area, Land of Ouli, South Kohala, Island of Hawaii. Prepared for Belt Collins and Associates.

Clark, J.T., and P.V. Kirch (Eds.)

- 1983 Archaeological Investigations of the Mudlane-Waimea-Kawaihae Road Corridor, Island of Hawaii. An Interdisciplinary Study of an Environmental Transect. *Departmental Report Series 83-1*. Dept. Anthro., B.P. Bishop Museum.

Cleveland, H.W.S.

- 1886 Voyages of a Merchant Navigator of the Days that are Past.... New

Ching, F.K.W., and H.H. Hammatt

- 1980 Archaeological Reconnaissance, Golf Course Expansion, Mauna Kea Beach Hotel, Ouli, Kohala, Hawai'i Island. ARCH 14-185. (Letter Report of 11 March 1980 to William Mielcke, Mauna Kea Properties, Inc.)

Ellis, W.

- 1963 *Journal of William Ellis, Narrative of a Tour of Hawaii, or Owhyee....*Honolulu: Advertiser Publishing Company.

Graves, D.K., and P.H. Rosendahl

- in prep Archaeological Data Recovery - Phase II, The Bluffs at Mauna Kea. PHRI Report being prepared for Belt Collins and Associates.

Foreign Register

- n.d. Typescript at Hawaii State Archives, Honolulu.

Hommon, R.J.

- 1976 The Formation of Primitive States in Pre-Contact Hawaii. Ph.D. dissertation (Anthropology), University of Arizona, Tucson. University Microfilms, Inc., Ann Arbor, Michigan.

Kam, W., and J. Ota

- 1984 Site Visitation, Mauna Kea Resort, Inc. Land of Ouli, South Kohala, Island of Hawaii. Prepared for Belt Collins and Associates.

**Kikuchi, W.K.**

- n.d. Report of the Archaeological Survey of the Kaunaoa Beach Area, Kawaihae, Hawaii Island. Ms. in Dept. Anthro., B.P. Bishop Museum. (1964)

**Kirch, P.V**

- 1985 *Feathered Gods and Fishhooks: An Introduction to Hawaiian Archaeology and Prehistory*. Honolulu: University of Hawaii Press.

**Kotzebue, O. von**

- 1821 *Voyage of Discovery in the South Seas...* London: Longmans. (Facsimile reprint by Bibliotheca Australiana, Three Volumes)

**Rosendahl, P.H.**

- 1969 An Archaeological Survey of the Ouli Coastal Lands Between Hapuna Bay and Kaunaoa Bay, South Kohala, Hawaii: Including Excavations at Site E4-14, Kaunaoa Point. Ms. 040069. Dept. Anthro., B.P. Bishop Museum.
- 1981 Preliminary Research Report: Mauna Kea Properties Trails Project, South Kohala, Island of Hawaii. PHRI Report 41-112081. Prepared for Mauna Kea Properties, Inc.

**Rosendahl, P.H., and M.W. Kaschko**

- 1983 Archaeological Investigation of Ouli Coastal Lands: Land of Ouli, South Kohala, Island of Hawaii. Intensive Survey and Test Excavations on Mauna Kea Beach Resort Lands Between Hapuna and Kaunaoa Bay. PHRI Report Ms. 38-030183.

**Soehren, L.J.**

- 1964 An Archaeological Survey of the Shores of Ouli and Kawaihae, South Kohala, Hawaii. Ms. Dept. Anthro., B.P. Bishop Museum.

**Soil Survey Staff**

- 1962 *Soil Survey Manual*. U.S. Dept. Agriculture-Soil Conservation Service. *Handbook* No. 18. Government Printing Office, Washington, D.C.

**Walker, A.T., and P.H. Rosendahl**

- 1987 Archaeological Reconnaissance, Intensive Survey and Testing, Southernmost Portion, S. Kohala Resort, PHRI Report 199-092585. Prepared for Belt Collins & Associates.

**Welch, D.J.**

- 1989 Archaeological Investigations at Pauoa Bay, Ritz-Carlton Mauna Lani Resort, South Kohala, Hawaii - Final Report. International Archaeological Research Institute, Inc. Prepared for Belt, Collins & Associates.



EXHIBIT C

ACOUSTIC STUDY OF POTENTIAL NOISE IMPACTS  
ASSOCIATED WITH THE PROPOSED MAUNA KEA HELIPORT FACILITY

ACOUSTIC STUDY OF  
POTENTIAL NOISE IMPACTS  
ASSOCIATED WITH THE  
PROPOSED MAUNA KEA  
HELIPORT FACILITY

Prepared for:

KENAI HELICOPTERS

Prepared by:

Y. EBISU & ASSOCIATES  
1126 12TH AVENUE, ROOM 305  
HONOLULU, HAWAII 96816

SEPTEMBER 1992

TABLE OF CONTENTS

CHAPTER	CHAPTER TITLE	PAGE NO.
	LIST OF FIGURES .....	ii
	LIST OF TABLES .....	iii
I.	SUMMARY .....	1
II.	PURPOSE .....	3
III.	NOISE DESCRIPTORS AND THEIR RELATIONSHIP TO LAND USE COMPATIBILITY .....	4
IV.	GENERAL STUDY METHODOLOGY .....	11
V.	EXISTING BACKGROUND AMBIENT NOISE LEVELS .....	16
VI.	HELICOPTER NOISE LEVELS .....	24
VII.	POSSIBLE NOISE IMPACTS AND COMPLAINT RISKS ASSOCIATED WITH THE HELICOPTER FACILITY .....	28
VIII.	RECOMMENDED NOISE MITIGATION MEASURES .....	30
A.	REFERENCES .....	33
B.	EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE ...	34

LIST OF FIGURES

NUMBER	FIGURE TITLE	PAGE NO.
1	LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVEL AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED .....	8
2	PROJECT SITE LOCATION AND HELICOPTER INGRESS/EGRESS ROUTES .....	12
3	HELICOPTER APPROACH, DEPARTURE, AND HOVER TAXI TRACKS AT THE MAUNA KEA HELIPORT .....	13
4	LOCATIONS OF NOISE MONITORING AND MEASUREMENT SITES .....	17
5	HISTOGRAM OF A-WEIGHTED SOUND LEVELS AT SITE 'K' (0910 TO 1010 HRS) .....	18
6	HISTOGRAM OF A-WEIGHTED SOUND LEVELS AT SITE 'K' (1100 TO 1200 HRS) .....	19
7	HISTOGRAM OF A-WEIGHTED SOUND LEVELS AT SITE 'S' (1400 TO 1500 HRS) .....	20
8	HISTOGRAM OF A-WEIGHTED SOUND LEVELS AT THE ANEKONA ESTATES SUBDIVISION (1612 TO 1632 HRS)...	21
9	35 TO 60 LDN HELICOPTER NOISE CONTOURS IN RELATIONSHIP TO EXISTING NOISE SENSITIVE LAND USES) .....	25
10	35 TO 60 LDN HELICOPTER NOISE CONTOURS IN RELATIONSHIP TO EXISTING AND FUTURE NOISE SENSITIVE LAND USES .....	27

LIST OF TABLES

NUMBER	TABLE TITLE	PAGE NO.
1	EXTERIOR NOISE EXPOSURE CLASSIFICATION (RESIDENTIAL LAND USE) .....	5
2	EFFECTS OF NOISE ON PEOPLE (RESIDENTIAL LAND USES ONLY) .....	7

## CHAPTER I. SUMMARY

The findings from the sound measurements which were performed and the helicopter noise contours which were developed indicate that there will be minimal risk of adverse health and welfare impacts from helicopter noise in the immediate environs of the proposed Mauna Kea Heliport at the assumed annual level of 11,680 operations per year. The reasons for this are that the expected level of helicopter operations are relatively low, and the helicopter ingress and egress routes to and from the facility can be located away from the existing and planned residential communities north and west of the proposed heliport site. For these reasons, the helicopter noise contours associated with potential adverse health and welfare impacts do not enclose existing or planned residential areas. Additionally, the 55 and 60 Ldn contour associated with compatible noise levels over parks and natural wildlife areas do not encroach into park lands west of the proposed heliport site.

Because the complaint threshold for helicopter noise can be lower than the most conservative threshold of 55 Ldn which is associated with public health and welfare impacts, there is some risk of annoyance reactions from residents in the project environs. This is particularly true for those planned noise sensitive receptors within the South Kohala Resort who will be located within 1 mile of the facility. The proposed heliport facility can be expected to meet the recommended "Ambient Less 5 Ldn" siting criteria at existing residential areas north and west of the proposed heliport, but will have difficulty meeting that siting criteria following build-out of the South Kohala Resort area.

Because the federal government has not promulgated a more detailed set of noise impact criteria other than the Ldn criteria currently published, the noise analysis was limited to available federal and state criteria. This was not considered to be a serious limitation since noise from the proposed Mauna Kea Heliport

operations are not expected to produce irreversible noise impacts on the adjacent lands. In addition, it is expected that the proposed helicopter facility's lease will not be extended beyond the date of habitation of the South Kohala Resort areas which are located within the 40 Ldn noise contour.

Mitigation measures are recommended to minimize complaint risks from the nearby noise sensitive residences. These mitigation measures are intended to further reduce complaint risks by adhering to proper flight procedures at the heliport, and by disclosing the expected future operating conditions and procedures at the heliport to all interested parties.

## CHAPTER II. PURPOSE

The purpose of this study was to evaluate the possible adverse noise impacts and complaint risks associated with operations at the proposed Mauna Kea Heliport facility on the island of Hawaii. The heliport is proposed to be located east (mauka) of the entrance to the existing Mauna Kea Resort and Golf Course, and approximately 1.5 miles southeast of the Kawaihae Village residential community.

The evaluations of potential noise impacts and complaint risks associated with the proposed operations at the heliport were performed in accordance with guidelines and recommendations contained in the Hawaii State Helicopter System Plan Report (Reference 1). It was assumed that the facility would be used primarily by Bell 206L helicopters for conducting tour operations along the North Kohala coastline on the island of Hawaii, and at an average frequency of sixteen tours per day.

This study did not evaluate the potential island-wide, secondary noise impacts associated with tour helicopter operations which would originate from the proposed Mauna Kea Heliport facility. If the annual operations from the proposed facility replace those which would occur from other helicopter facilities in Waikoloa, Keahole Airport, or Hilo International Airport, additional noise impacts at the remote off-site locations in North Kohala are not anticipated. If the annual operations from the proposed facility add to those which originate from existing facilities on the Big Island, additional noise impacts at the remote off-site locations in North Kohala are possible. The potential for complaints resulting from both the existing and proposed helicopter operations exists, however, and minimizing these complaints by the avoidance of noise sensitive areas is the recommended method of resolving these off-site conflicts.

### CHAPTER III. NOISE DESCRIPTORS AND THEIR RELATIONSHIP TO LAND USE COMPATIBILITY

A general consensus has developed for use of the Day-Night Sound Level (Ldn) in describing environmental noise in general, and for relating the acceptability of the noise environment for various land uses. The Day-Night Sound Level represents the 24-hour average sound level for a typical day, with nighttime noise levels (10:00 P.M. to 7:00 A.M.) increased by 10 decibels prior to computation of the 24-hour average. Annual aircraft operations are divided by 365 days to obtain the 24-hour average used in Ldn computations.

The Ldn descriptor employs a process of averaging instantaneous A-Weighted sound levels as read on a standard Sound Level Meter, which are normally referred to as meter readings in dBA. A brief description of the acoustic terminology and symbols used are provided in APPENDIX B. The maximum A-Weighted sound level occurring during an aircraft flyby event (or single event) is referred to as the Lmax value. The mathematical product (or integral) of the instantaneous sound level times the duration of the event is known as the Sound Exposure Level, or Lse, and is analogous to the energy of the time varying sound levels associated with an aircraft flyby event. Current noise standards and criteria which associate land use compatibility or adverse health and welfare effects with various levels of environmental noise are normally described in terms of Ldn rather than the single event (Lmax or Lse) noise descriptors. The reasons for this are based on the relatively good correlation between the cumulative Ldn descriptor and annoyance reactions of the exposed population. However, at very low levels of environmental noise (55 Ldn or less), other attitudinal variables and biases (besides noise) of the exposed population tend to influence annoyance reactions, and the correlation between annoyance reactions and Ldn levels deteriorates.

TABLE 1, extracted from Reference 2, categorizes the various

**TABLE 1**  
**EXTERIOR NOISE EXPOSURE CLASSIFICATION**  
**(RESIDENTIAL LAND USE)**

NOISE EXPOSURE CLASS	DAY-NIGHT SOUND LEVEL	EQUIVALENT SOUND LEVEL	FEDERAL <sup>(1)</sup> STANDARD
Minimal Exposure	Not Exceeding 55 L <sub>dn</sub>	Not Exceeding 55 L <sub>eq</sub>	Unconditionally Acceptable
Moderate Exposure	Above 55 L <sub>dn</sub> But Not Above 65 L <sub>dn</sub>	Above 55 L <sub>eq</sub> But Not Above 65 L <sub>eq</sub>	Acceptable <sup>(2)</sup>
Significant Exposure	Above 65 L <sub>dn</sub> But Not Above 75 L <sub>dn</sub>	Above 65 L <sub>eq</sub> But Not Above 75 L <sub>eq</sub>	Normally Unacceptable
Severe Exposure	Above 75 L <sub>dn</sub>	Above 75 L <sub>eq</sub>	Unacceptable

Notes: (1) Federal Housing Administration, Veterans Administration, Department of Defense, and Department of Transportation.

(2) FHWA uses the L<sub>eq</sub> instead of the L<sub>dn</sub> descriptor. For planning purposes, both are equivalent if: (a) heavy trucks do not exceed 10 percent of total traffic flow in vehicles per 24 hours, and (b) traffic between 10:00 PM and 7:00 AM does not exceed 15 percent of average daily traffic flow in vehicles per 24 hours. The noise mitigation threshold used by FHWA for residences is 67 L<sub>eq</sub>.

Ldn levels of outdoor noise exposure with severity classifications. TABLE 2, also extracted from Reference 2, presents the general effects of noise on people in residential use situations. FIGURE 1, extracted from Reference 3, presents suggested land use compatibility guidelines for residential and nonresidential land uses. A general consensus among federal agencies has developed whereby residential housing development is considered acceptable in areas where exterior noise does not exceed 65 Ldn. This value of 65 Ldn is used as a federal regulatory threshold for determining the necessity for special noise abatement measures when applications for federal funding assistance are made.

Federal agencies (HUD and EPA) recognize 55 Ldn as a desirable goal for exterior noise in residential areas for protecting the public health and welfare with an adequate margin of safety (References 4 and 5). Although 55 Ldn is significantly quieter than 65 Ldn, the lower level has not been adopted for regulatory purposes by federal agencies due to economic and technical feasibility considerations.

In Hawaii, where open living conditions prevail throughout the year, and where natural ventilation is a prevalent characteristic of residential housing, the more conservative level of 55 Ldn should be used to evaluate potential aircraft noise impacts. This is particularly true whenever relatively quiet areas are under evaluation. Also, at an exterior noise level of 55 Ldn, the noise attenuation characteristics of typical naturally ventilated dwellings produce acceptable noise levels within the dwelling (approximately 45 Ldn). Naturally ventilated residential units which are located outside the 55 Ldn contour are considered to be "Unconditionally Acceptable" in respect to adverse health and welfare effects.

For commercial, industrial, and other non-noise sensitive land uses, exterior noise levels as high as 75 Ldn are generally considered acceptable. Exceptions to this occur when naturally ventilated office and other commercial establishments are exposed

TABLE 2  
EFFECTS OF NOISE ON PEOPLE  
(Residential Land Uses Only)

EFFECTS <sup>1</sup> DAY-NIGHT AVERAGE SOUND LEVEL IN DECIBELS	Hearing Loss	Speech Interference <sup>2</sup>		Annoyance <sup>2</sup> % of Population <sup>3</sup> Highly Annoyed	Average Community <sup>4</sup> Reaction	General Community Attitude Towards Area
		Indoor %Sentence Intelligibility	Outdoor Distance in Meters for 95% Sentence Intelligibility			
75 and above	Qualitative Description May Begin to Occur	98%	0.5	37%	Very Severe	Noise is likely to be the most important of all adverse aspects of the community environment.
70	Will Not Likely Occur	99%	0.9	25%	Severe	Noise is one of the most important adverse aspects of the community environment.
65	Will Not Occur	100%	1.5	15%	Significant	Noise is one of the important adverse aspects of the community environment.
60	Will Not Occur	100%	2.0	9%	Moderate to	Noise may be considered an adverse aspect of the community environment.
55 and below	Will Not Occur	100%	3.5	4%	Slight	Noise considered no more important than various other environmental factors.

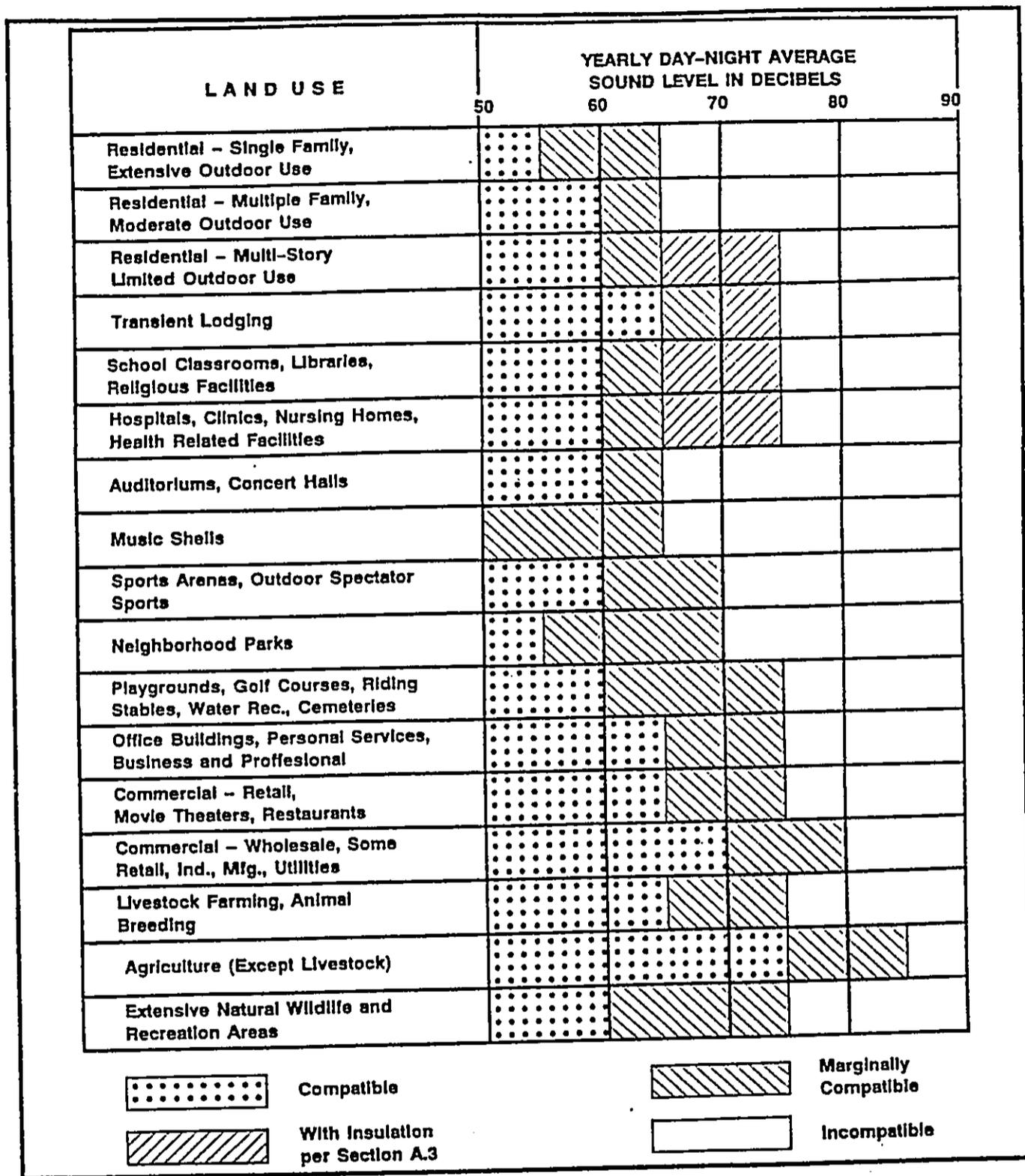
1. "Speech Interference" data are drawn from the following tables in EPA's "Levels Document": Table 3, Fig. D-1, Fig. D-2, Fig. D-3. All other data from National Academy of Science 1977 report "Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69 on Evaluation of Environmental Impact of Noise."

2. Depends on attitudes and other factors.

3. The percentages of people reporting annoyance to lesser extents are higher in each case. An unknown small percentage of people will report being "highly annoyed" even in the quietest surroundings. One reason is the difficulty all people have in integrating annoyance over a very long time.

4. Attitudes or other non-acoustic factors can modify this. Noise at low levels can still be an important problem, particularly when it intrudes into a quiet environment.

NOTE: Research implicates noise as a factor producing stress-related health effects such as heart disease, high-blood pressure and stroke, ulcers and other digestive disorders. The relationships between noise and these effects, however, have not as yet been quantified.



**LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVEL AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED**  
 (Source: American National Standards Institute S3.23-1980)

**FIGURE 1**

to exterior levels which exceed 65 Ldn.

It is of interest to note from FIGURE 1 that noise levels below 60 Ldn are considered "Compatible" for lands with "Extensive Natural Wildlife and Recreation Areas." For park areas such as those located along the shoreline and which are west of the proposed heliport facility, noise levels less than 55 to 60 Ldn are considered to be "Compatible" in FIGURE 1 and in Reference 2.

The U.S. Forest Service and National Park Service (Reference 6) are currently sponsoring and/or conducting research on the relationships between noise or aircraft overflights and adverse impacts on wilderness resources. Until these studies are completed and policy or regulatory decisions are made, universally accepted noise or overflight criteria for park and wilderness areas will not be available.

On the island of Oahu, the State Department of Health (DOH) regulates noise from on-site activities. State DOH noise regulations are expressed in maximum allowable property line noise limits rather than Ldn (see Reference 7). The noise limits do not currently apply on the outer islands, but statewide application of DOH noise limits are possible in the near future. Although they are not directly comparable to noise criteria expressed in Ldn, State DOH noise limits for preservation/residential, apartment/commercial, and agricultural/industrial lands equate to approximately 55, 60, and 76 Ldn, respectively. Because the heliport site is located on lands designated "Unplanned", DOH noise limits for agricultural lands could be applicable along the project boundary lines. These property line limits are 70 dBA for both the daytime and nighttime periods. For multifamily use, the State DOH limits are 60 dBA and 50 dBA during the daytime and nighttime periods, respectively. For single family residential use, the State DOH limits are 55 dBA and 45 dBA during the daytime and nighttime periods, respectively. These noise limits cannot be exceeded for more than 2 minutes in any 20-minute time period under the State DOH noise regulations. The State DOH noise regula-

tions do not apply to aircraft in flight.

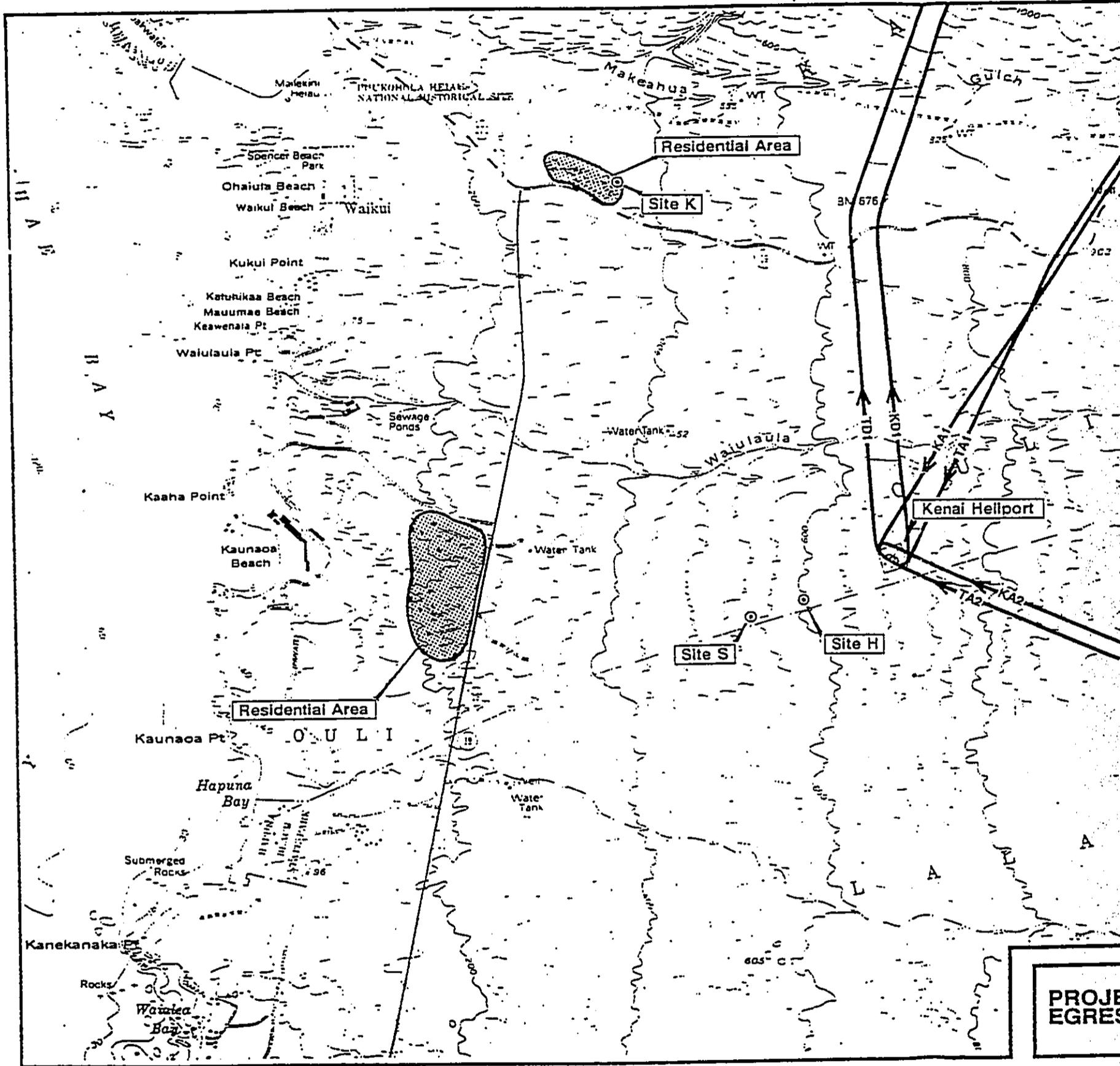
#### CHAPTER IV. GENERAL STUDY METHODOLOGY

The noise analysis procedures delineated in References 1 and 8 were used in this study. Ldn noise contours for a scenario with 11,680 annual helicopter operations were developed. A user generated data base of helicopter noise curves and flight profiles were included with the Federal Aviation Administration (FAA) Heliport Noise Model, Version 1.1 (HNM), to reflect the noise monitoring data and operating conditions at the proposed facility.

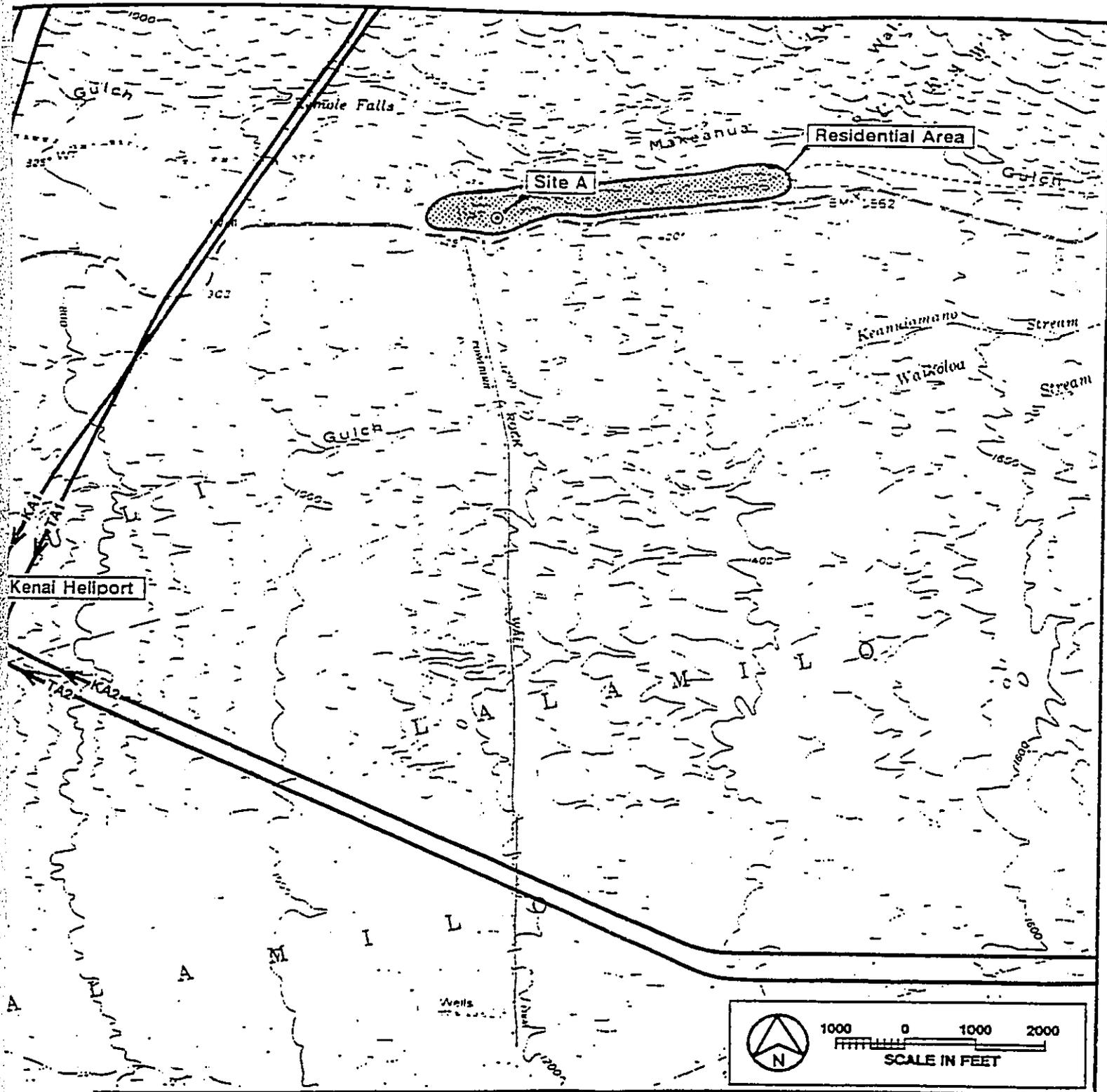
The Day-Night Sound Level (Ldn) noise descriptor was used to describe both the existing background ambient noise and future helicopter noise in the environs of the heliport facility. Background ambient noise measurements were obtained at the existing residential developments northeast and northwest of the proposed heliport, as well as at the future residential area west of the heliport. Helicopter noise contours were developed to compare the helicopter noise exposure levels with noise impact criteria and the measured background ambient noise levels.

FIGURE 2 depicts the location of the proposed heliport and the helicopter flight tracks to and from the facility in relationship to existing noise sensitive land uses in the surrounding area. Helicopter ingress and egress routes to the proposed heliport were adjusted to avoid overflights of existing residential areas north of the heliport and are expected to be flown as indicated in FIGURE 2 during all weather conditions.

An average of 16 helicopter flights (or 32 operations) per day was assumed at the proposed heliport facility. The hours of operation were expected to range from 8:00 AM to 4:30 PM during a typical day of the year. FIGURE 3 depicts the proposed heliport layout and close-in approach, departure, and hover taxi flight tracks during trade and kona wind conditions. A typical helicopter flight was assumed to consist of a curved approach from the northeast, a landing at one of the four proposed loading pads; idling during passenger drop-off, hover taxi to one of two refueling

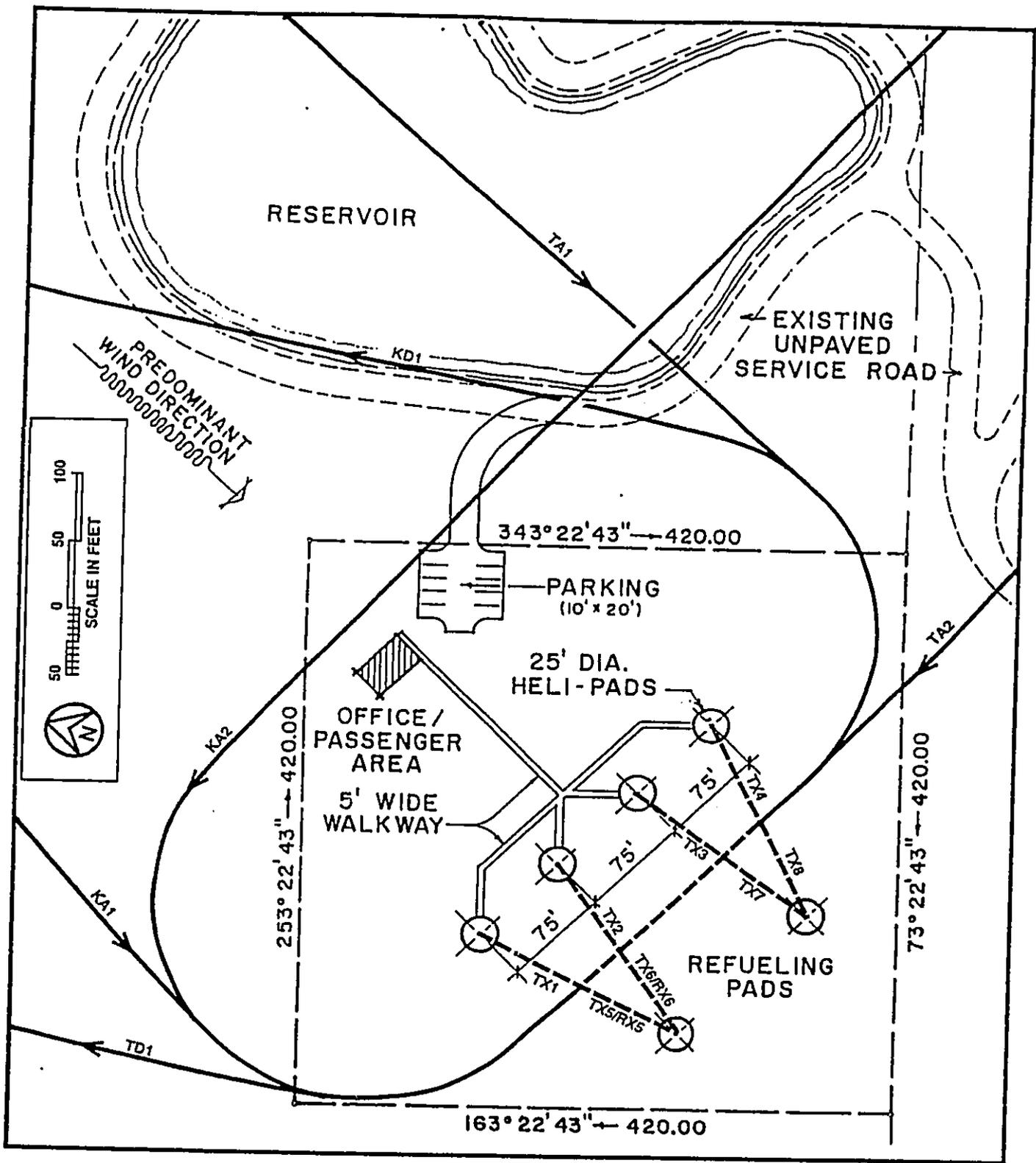


PROJECT  
EGRESS



**PROJECT SITE LOCATION AND HELICOPTER INGRESS/EGRESS ROUTES**

**FIGURE 2**



HELICOPTER APPROACH, DEPARTURE, AND HOVER TAXI TRACKS AT THE MAUNA KEA HELIPORT

FIGURE 3

pads, hover taxi back to the loading pads, idling during passenger pickup; and followed by lift-off and right-hand departure back toward the North Kohala coast. During kona conditions, which were assumed to occur fifteen percent of the time, a left hand approach pattern from the northeast, followed by a left hand curved departure to the North Kohala coast were assumed. The mix of helicopter traffic was assumed to consist entirely of Bell 206L helicopters.

The Bell 206L helicopter noise data base is essentially non-existent within the FAA HNM. The standard FAA HNM data base does not contain noise level data for the takeoff, approach, ground idle, and flight idle conditions for the Bell 206L helicopter. Measured helicopter sound level data obtained at the Lihue Heliport facility were used to supplement the FAA HNM noise data base for takeoff, approach, ground idle, flight idle, and hover conditions. The resident HNM noise levels for level flight and hover (in ground effect) were altered, since they did not correlate with the measured noise data.

The following were also assumed for each tour flight at the proposed heliport: 360 seconds of ground idle at the passenger loading pads; 20 seconds of flight idle at the passenger loading pads; 7 seconds of hover (in ground effect) at the passenger loading pads; 150 seconds of ground idle at the refuel pads; 10 seconds of flight idle at the refuel pads; and 4 seconds of hover (in ground effect) at the refuel pads.

Helicopter Ldn contours for 60, 55, 50, 45, 40, and 35 Ldn were generated using the user modified FAA HNM. Although FAA (Reference 8) does not require the development of noise contours below the 65 Ldn level, the development of the lower level contours were considered necessary to depict the areas of possible complaints and helicopter noise impact zones associated with the proposed facility. Additionally, References 1 and 9 recommend that more conservative noise criteria (rather than 65 Ldn) be used in evaluating the noise compatibility of new helicopter facili-

ties.

The helicopter noise contours were compared to existing land use compatibility criteria and background ambient noise levels to evaluate the potential noise impacts and complaint risks associated with the expected level of helicopter operations at the heliport facility. Using the Ldn noise contour results and the results of the background ambient noise measurements, evaluations were made of potential noise impacts in the health and welfare category, and of potential annoyance responses from nearby residences. In addition, risks of exceeding the 70 dBA State Department of Health noise limit (applicable on Oahu) along the property boundary lines of the facility were also evaluated. Based on the above evaluations, recommendations for mitigation measures which would minimize risks of health and welfare impacts and risks of annoyance responses from nearby residences were provided. Recommendations associated with the conduct and regulation of flight operations at the facility were also provided to minimize impacts and complaint risks at outlying areas.

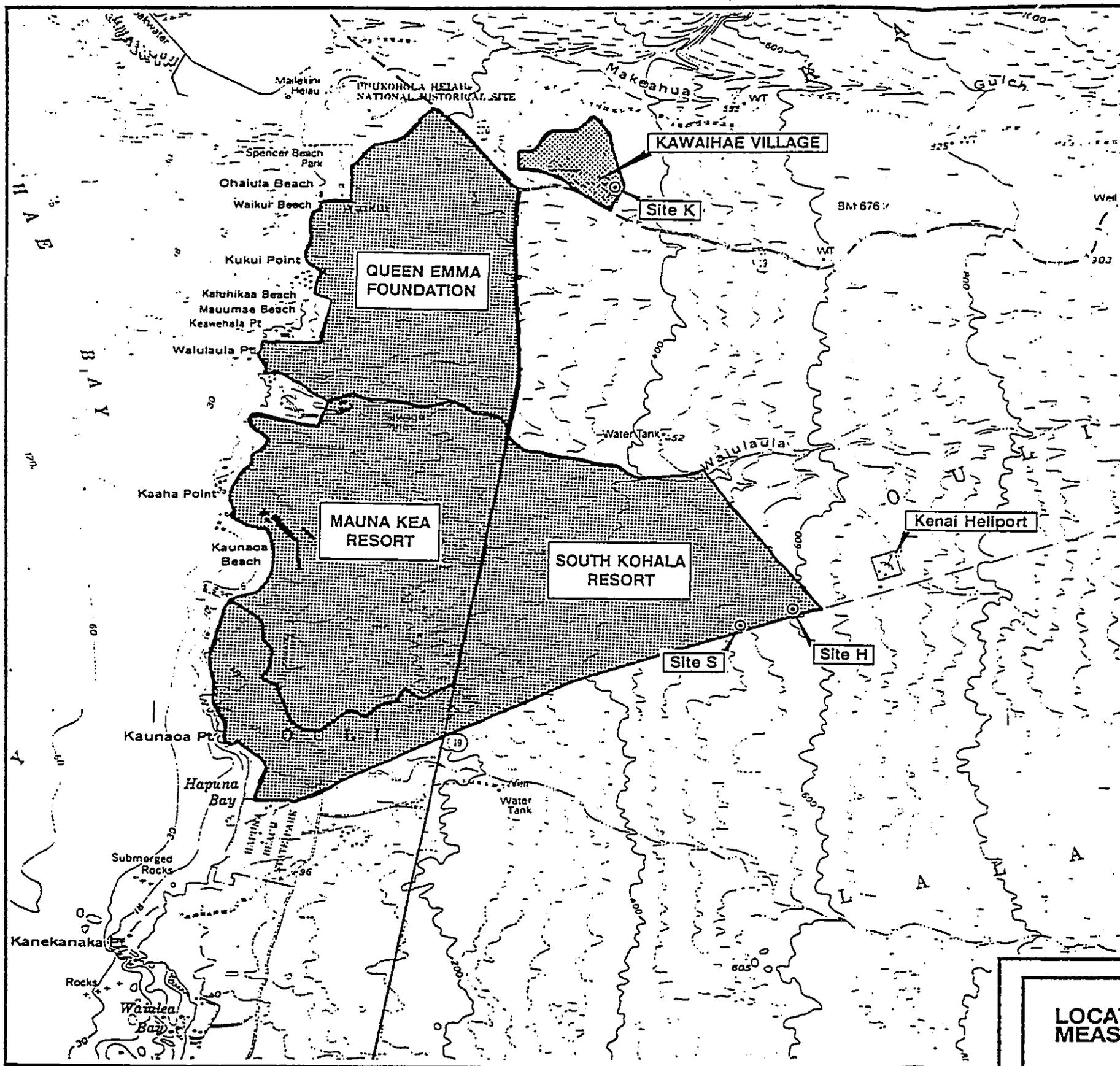
Detailed evaluations and recommendations regarding noise impacts on the scenic and park lands along the North Kohala coast were not performed due to the lack of widely accepted noise compatibility criteria for these types of land uses, and due to the ongoing efforts at the national level to develop these criteria.

## CHAPTER V. EXISTING BACKGROUND AMBIENT NOISE LEVELS

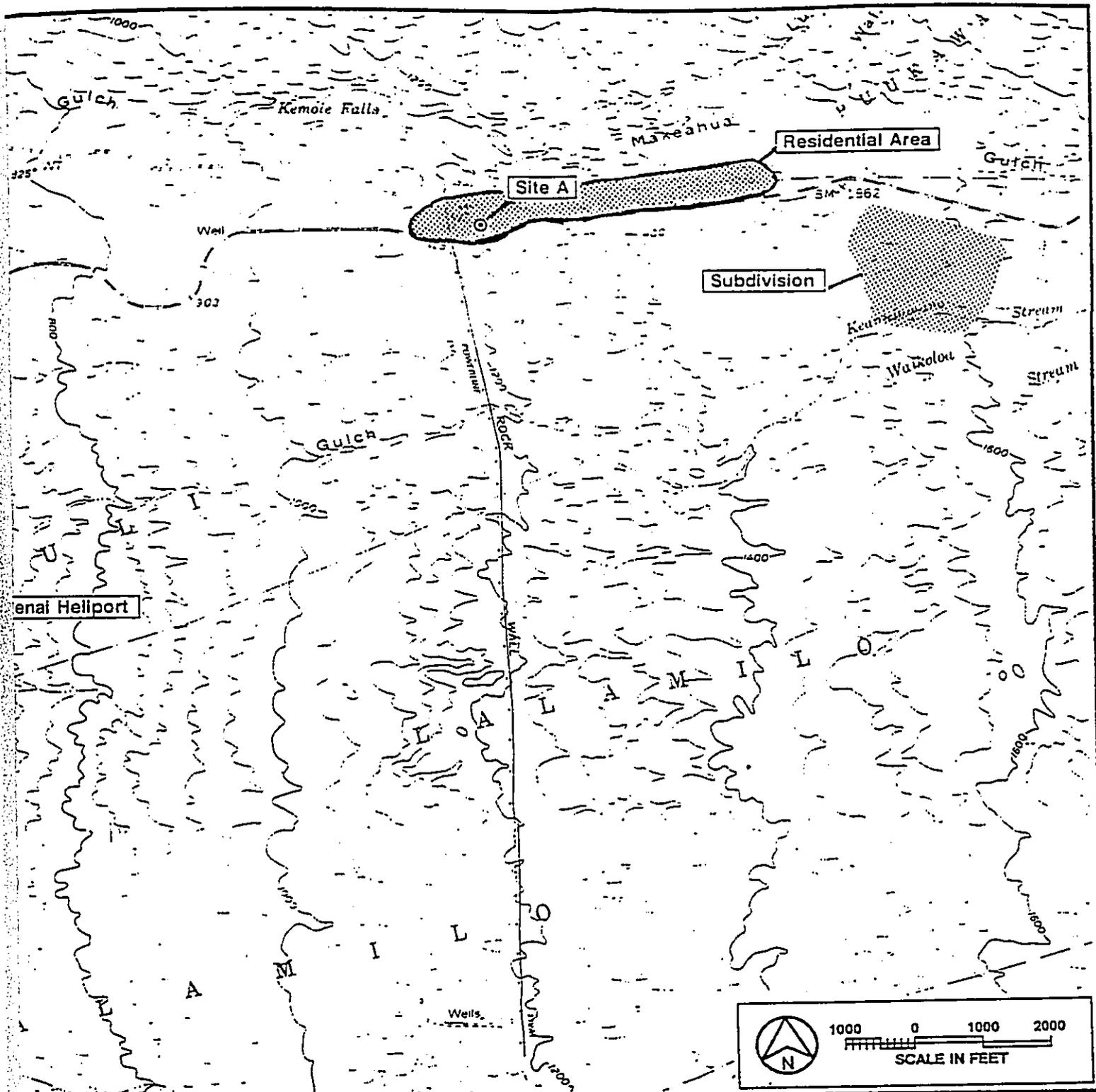
The existing background ambient noise levels in the vicinity of the proposed Mauna Kea Heliport facility are controlled by motor vehicle traffic, rotary and fixed wing aircraft transiting the area, and the natural sounds of birds, insects, wind, and foliage.

The locations of background noise monitoring sites are shown in FIGURE 4. FIGURES 5 thru 8 depict the results of the background noise monitoring effort on July 8, 1992 at the existing and future residential areas which were closest to the project site or the proposed helicopter flight tracks. Site 'K' was located in the existing residential community of Kawaihae Village, northwest of the proposed heliport, and approximately 4,000 FT west of the primary egress route from the proposed heliport. Site 'A' was located at the next group of residences when traveling toward Waimea along the Kawaihae-Waimea Road. Site 'A' was located approximately 3,000 FT east of the ingress route from the North Kohala area. Vacant lands currently exist between Sites 'K' and 'A'. Sites 'S' and 'H' were located near the existing Loop Road of the planned South Kohala Resort community. Additional background ambient noise levels were measured at the new Anekona Estates Subdivision along the Kawaihae-Waimea Road to depict typical ambient noise levels at inland areas along that roadway. The results of those measurements at the subdivision (which is presently under construction) are shown in FIGURE 8.

The results of the noise measurements indicated that daytime average background ambient noise levels at noise sensitive locations which were removed from the high volume roadways ranged from 40 to 48 dB (Leq). At Site 'A', measured average noise level between 1100 to 1200 HRS was 46 dB (Leq). Previous measurements of traffic noise in the project environs (see Reference 10) indicated that existing traffic noise levels along Queen Kaahumanu Highway and Kawaihae-Waimea Road are approximately 59 Ldn at 100 FT set-



LOCA  
MEAS



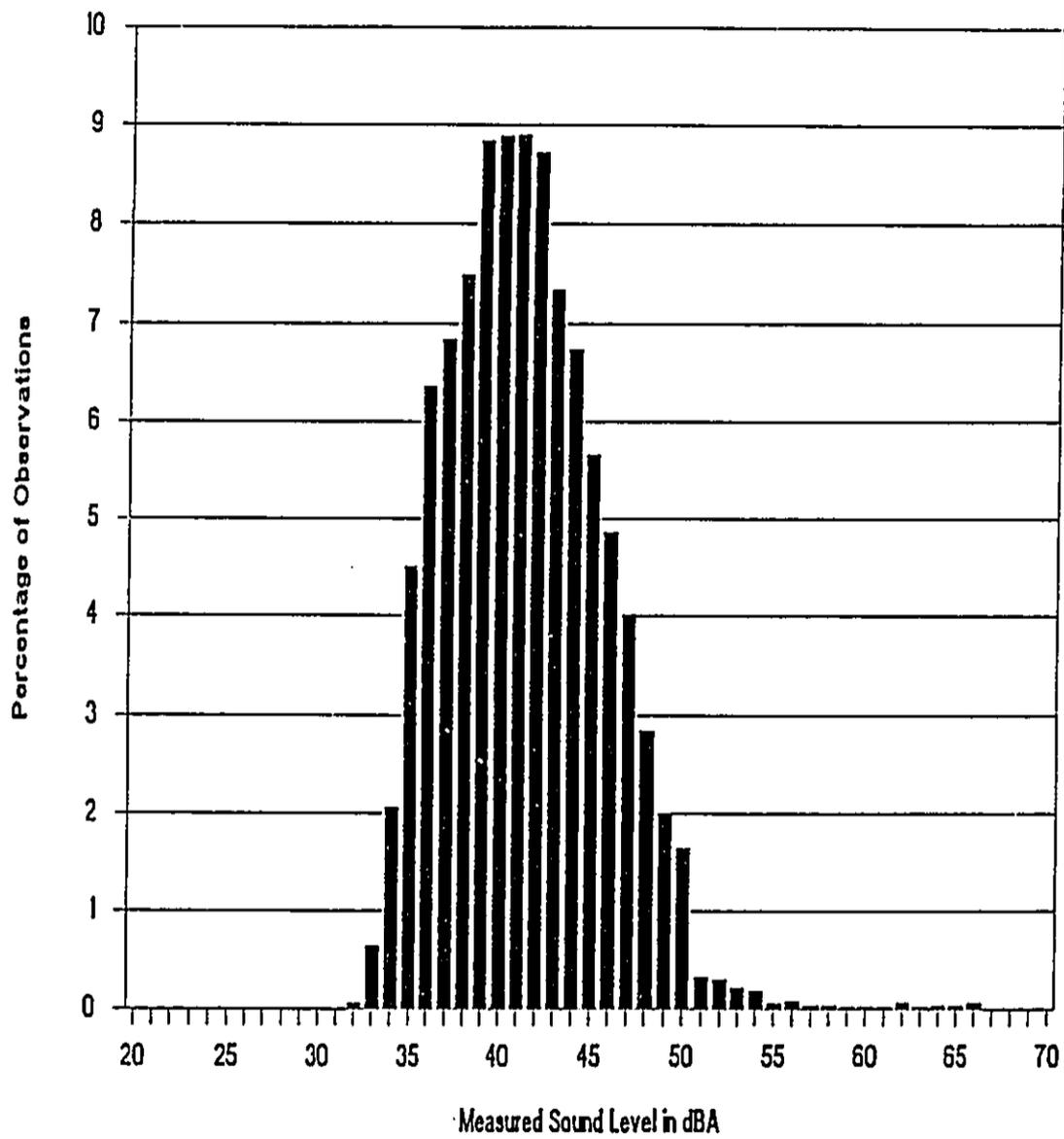
**LOCATION OF NOISE MONITORING AND MEASUREMENT SITES**

**FIGURE 4**

**FIGURE 5**  
**HISTOGRAM OF A-WEIGHTED SOUND LEVELS**  
**AT SITE 'K'**  
**(0910 HRS TO 1010 HRS)**

DATE: July 8, 1992

METER RESPONSE: Slow

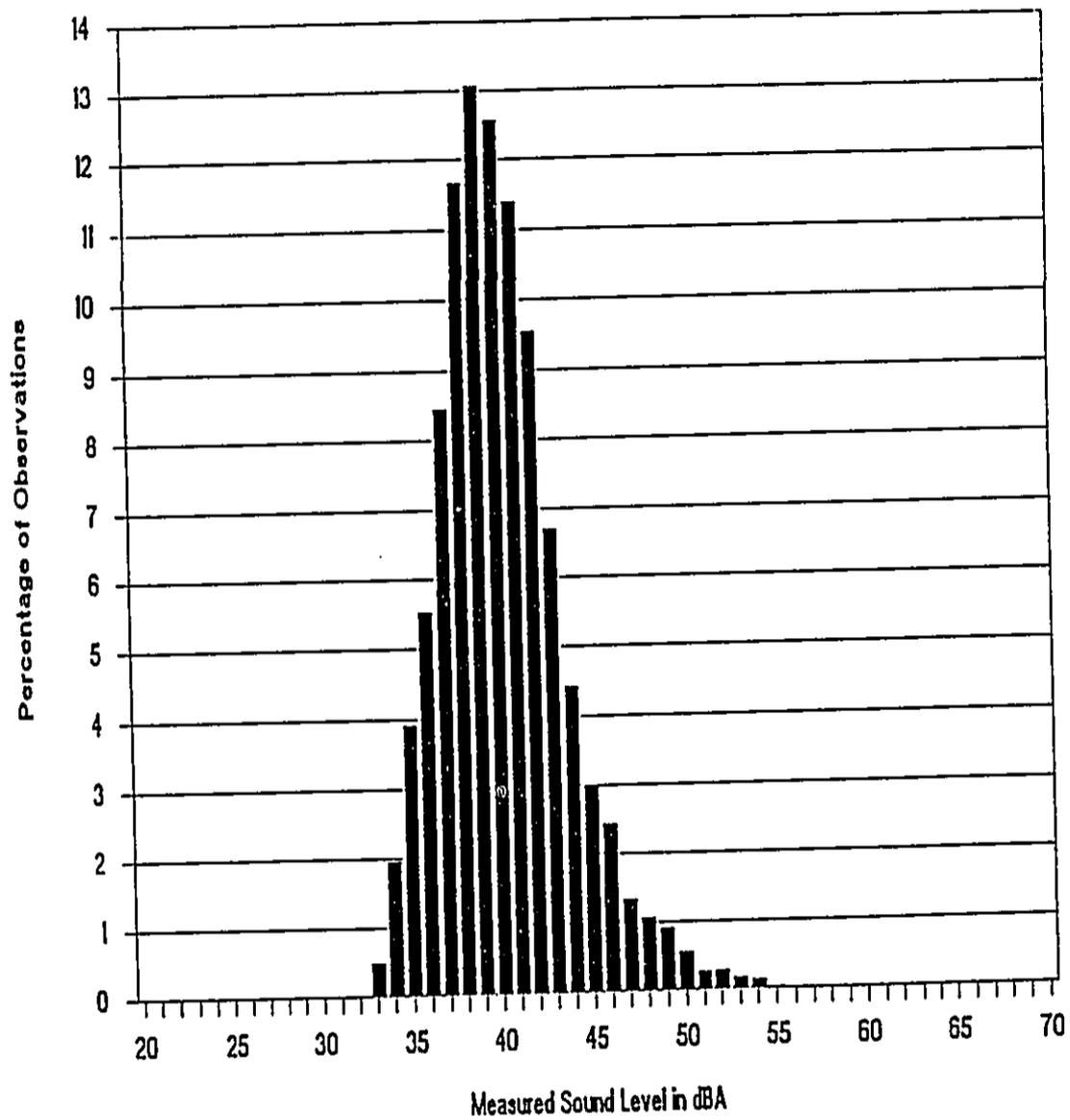


Lmax: 66.3 dBA  
 L10: 46.5 dBA  
 L50: 41.0 dBA  
 Leq: 44.4 dBA  
 Lmin: 31.4 dBA

**FIGURE 6**  
**HISTOGRAM OF A-WEIGHTED SOUND LEVELS**  
**AT SITE 'K'**  
**(1100 HRS TO 1200 HRS)**

DATE: July 8, 1992

METER RESPONSE: Slow

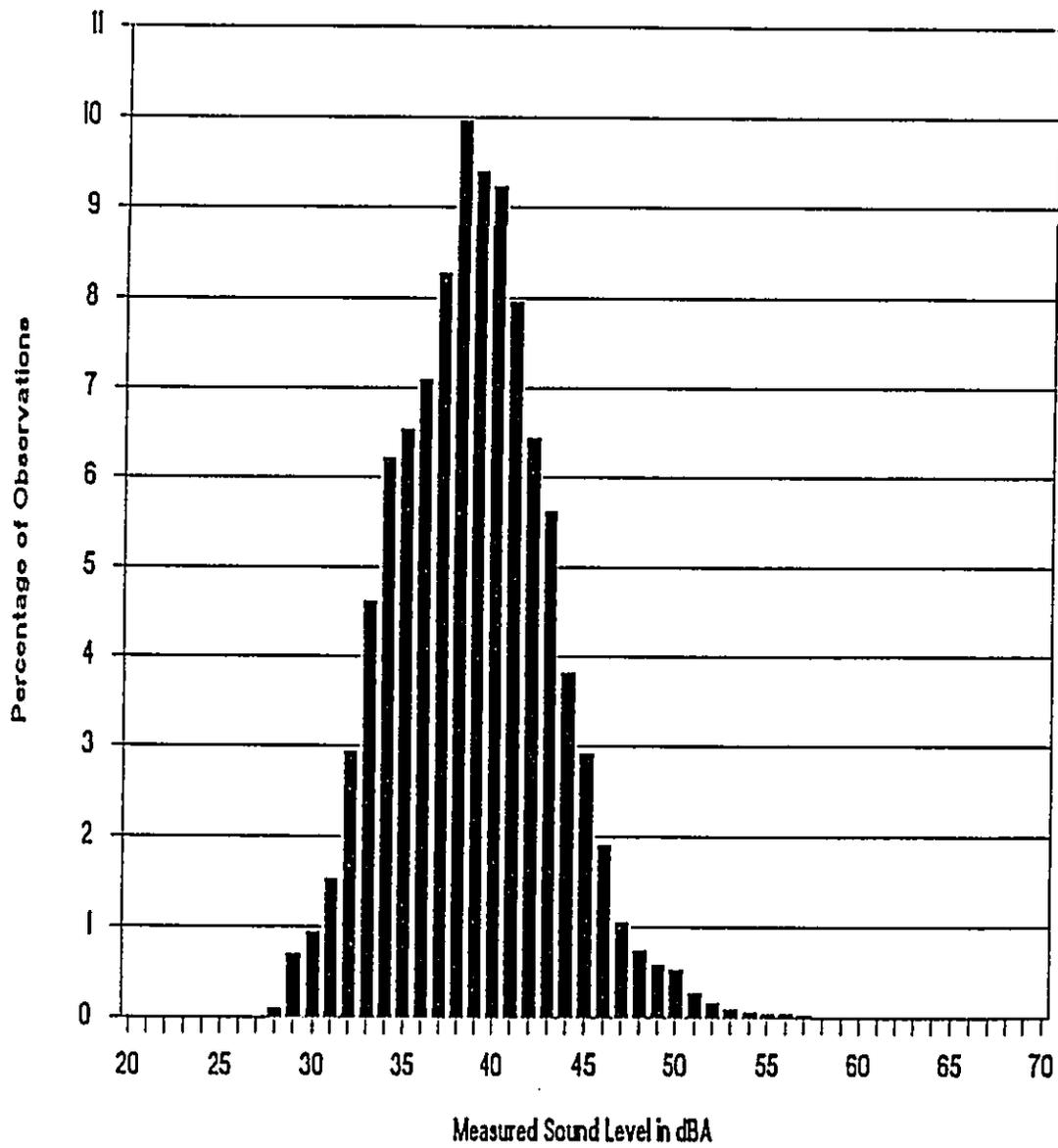


Lmax: 56.9 dBA  
 L10: 44.5 dBA  
 L50: 39.5 dBA  
 Leq: 41.6 dBA  
 Lmin: 32.1 dBA

**FIGURE 7**  
**HISTOGRAM OF A-WEIGHTED SOUND LEVELS**  
**AT SITE 'S'**  
**(1400 HRS TO 1500 HRS)**

DATE: July 8, 1992

METER RESPONSE: Slow

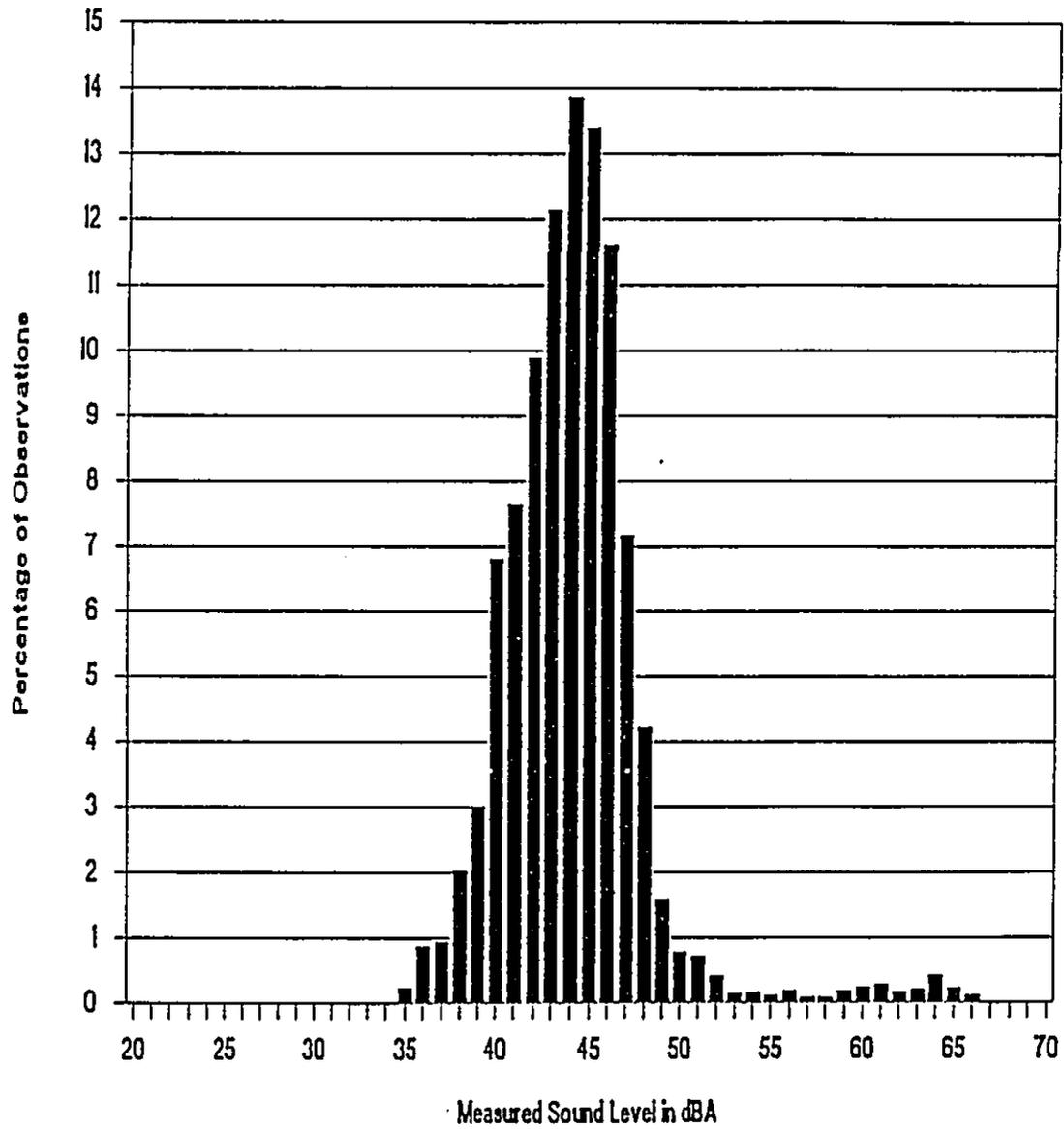


Lmax: 57.2 dBA  
L10: 44.0 dBA  
L50: 38.5 dBA  
Leq: 40.8 dBA  
Lmin: 27.8 dBA

**FIGURE 8**  
**HISTOGRAM OF A-WEIGHTED SOUND LEVELS**  
**AT ANEKONA ESTATES SUBDIVISION**  
**(1612 HRS TO 1632 HRS)**

DATE: July 8, 1992

METER RESPONSE: Slow



Lmax: 66.0 dBA  
L10: 47.5 dBA  
L50: 43.5 dBA  
Leq: 48.1 dBA  
Lmin: 34.7 dBA

back distance from the roadways' centerlines. Based on these measurements of existing background ambient noise levels, it was concluded that existing background ambient noise levels at noise sensitive areas located within 200 FT of Queen Kaahumanu Highway or Kawaihae-Waimea Road currently experience background ambient noise levels greater than 45 Ldn. Those locations which are more distant from these two roadways or shielded by natural terrain features or other buildings may experience lower background ambient noise levels in the range of 40 to 45 Ldn.

At the present time, there are no noise sensitive residences within 6,000 FT of the proposed heliport facility. Those existing residences at the Mauna Kea Resort, Kawaihae Village, and residences near Site 'A' which are closest to the proposed heliport facility also front Queen Kaahumanu Highway or the Kawaihae-Waimea Road. Because of this, the existing residences which are closest to the proposed heliport probably experience background ambient noise levels greater than 45 Ldn. At the future inland residential lots within the planned South Kohala Resort (near Sites 'S' and 'H'), background ambient noise levels are probably between 40 to 45 Ldn during days of light wind and no construction activity.

Based on the results of the noise monitoring effort, it was concluded that existing background ambient noise levels in the existing residential areas closest to the proposed heliport are greater than 45 Ldn, and as high as 59 Ldn for those homes which are within 100 FT setback distance from Queen Kaahumanu Highway or Kawaihae-Waimea Road. In the inland areas of the planned South Kohala Resort, existing background ambient noise levels probably range between 40 to 45 Ldn, or 42 Ldn. In order to meet the State Helicopter System Plan's recommended siting criteria, the noise levels associated with helicopter operations at the proposed Mauna Kea Heliport should not exceed 37 Ldn (or 42 Ldn ambient less 5 Ldn) at the planned residences of the South Kohala Resort, and should not exceed 40 Ldn (or 45 Ldn Ambient less 5 Ldn) at exis-

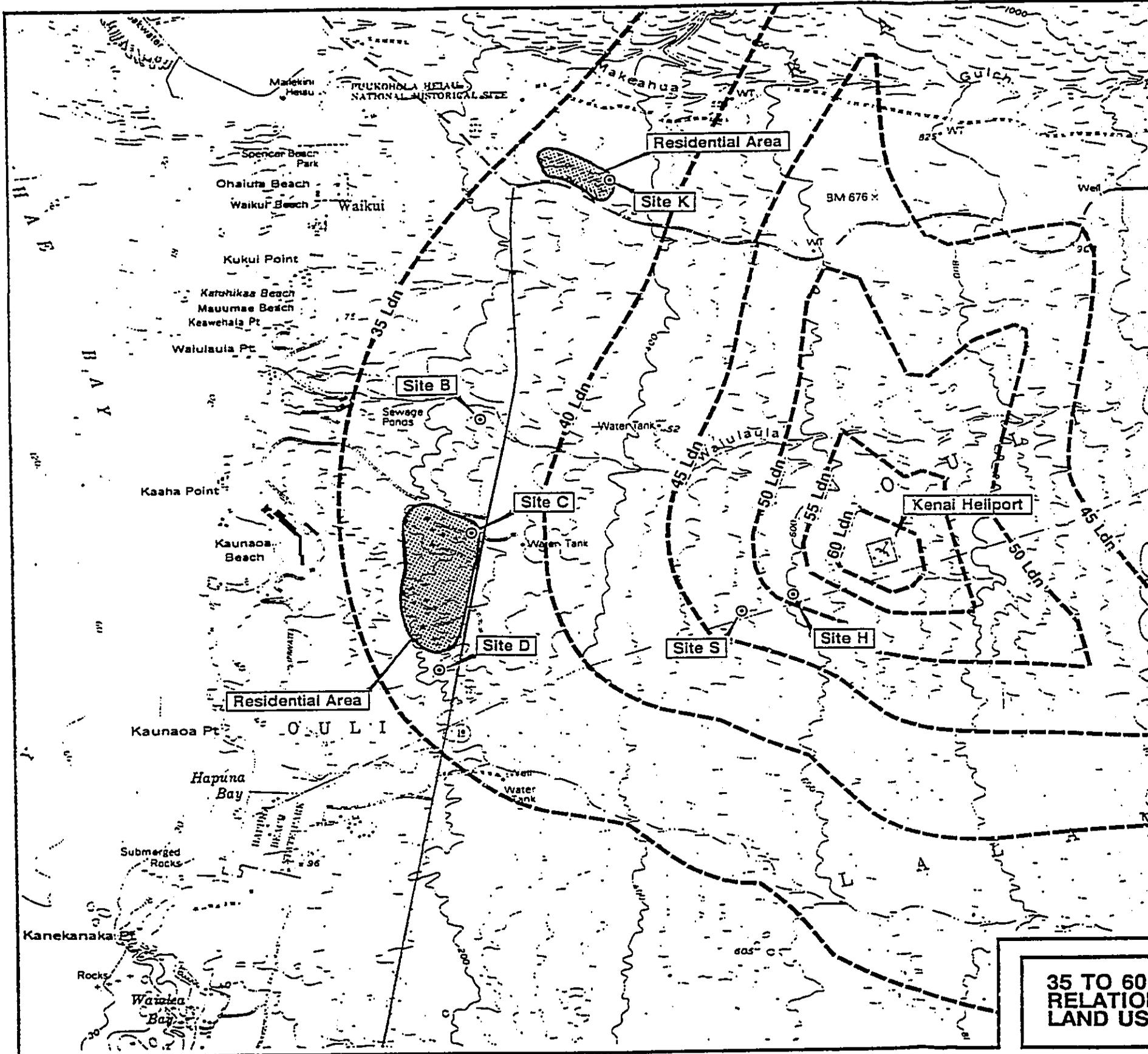
ting residences which are more removed from the proposed heliport site.

## CHAPTER VI. HELICOPTER NOISE LEVELS

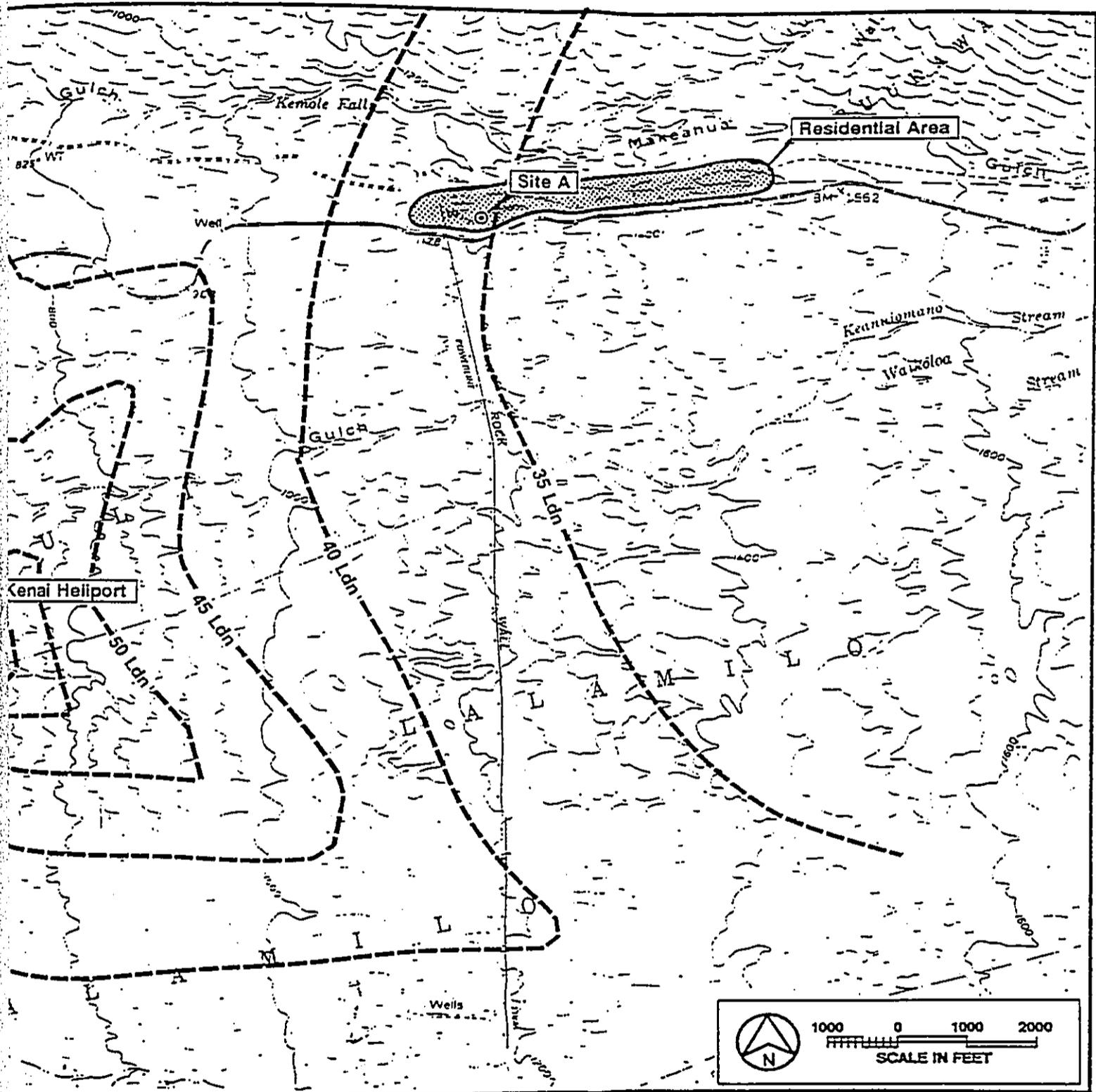
FIGURE 9 depicts the relationship of existing residential areas to the noise contours for the proposed Mauna Kea Heliport facility while operating at an average level of 32 operations (or 16 tour flights) per day. The noise contours represent the helicopter noise exposure levels of 60 Ldn thru 35 Ldn at 5 Ldn increments, with ground idle and flight idle conditions included in the contour modeling process.

Existing noise sensitive areas in the environs of the proposed Mauna Kea Heliport include the Mauna Kea Resort to the west, residences of Kawaihae Village to the northwest, and residences toward the northeast along Kawaihae-Waimea Road. As indicated in FIGURES 2 and 9, existing residential or other noise sensitive areas are not expected to be overflown or exposed to helicopter noise above 55 Ldn, and as such, the level of 32 daily operations at the helicopter facility should not alter the existing land use compatibility conditions in the project environs, and should not pose significant risks of adverse health and welfare effects. EPA's most stringent recommendation of 55 Ldn for residential land uses will be met at all existing noise sensitive receptor locations in the environs of the proposed heliport. The 60 Ldn criteria for recreation areas and areas with extensive natural wildlife will also be met at the expected level of 16 daily tour flights.

Because the Ldn noise descriptor represents a highly averaged measure of time-varying sound levels, the maximum A-Weighted sound level (Lmax) during an aircraft flyby event will generally be greater than the Ldn contour values shown. The proposed helicopter egress and ingress routes have been selected to avoid overflights of noise sensitive areas. For this reason, helicopter flyby sound levels are expected to be moderate and are expected to range from 60 to 64 dB (Lmax) at the residences near Sites 'A' and 'K'. At the Mauna Kea Resort (Sites 'B', 'C', and 'D') helicopter



35 TO 60  
RELATION  
LAND US



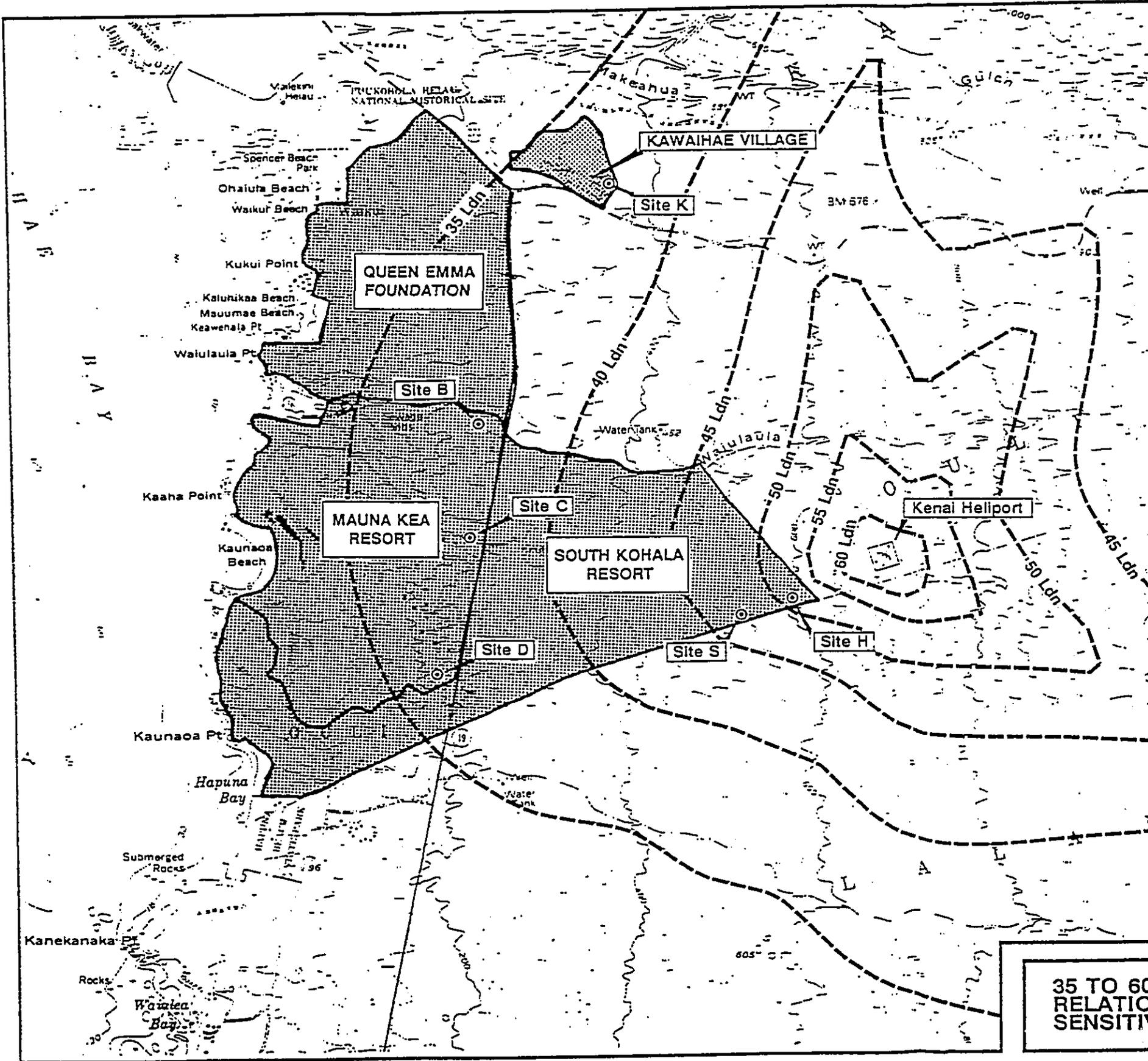
**35 TO 60 LDN HELICOPTER NOISE CONTOURS IN RELATIONSHIP TO EXISTING NOISE SENSITIVE LAND USES**

**FIGURE 9**

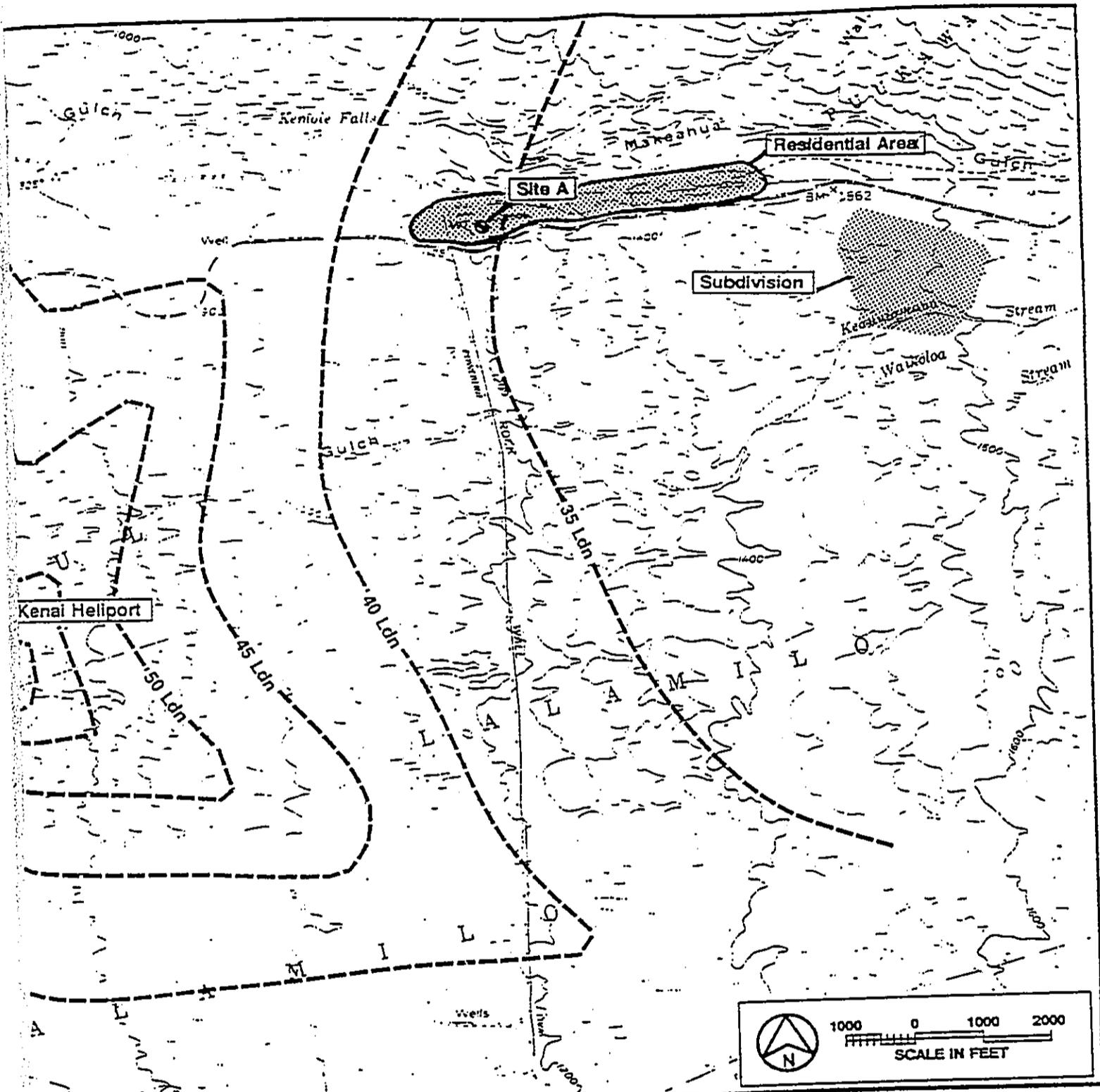
noise levels should not exceed 60 dB (Lmax). Helicopter noise during ground idling operations should not be audible at the nearest existing residences.

FIGURE 10 depicts the relationship of both existing and planned residential areas to the noise contours for the proposed Mauna Kea Heliport facility while operating at an average level of 32 operations (or 16 tour flights) per day. The planned South Kohala Resort community, which is closest to the heliport and is located between the proposed heliport and Mauna Kea Resort, is not expected to be exposed to helicopter noise levels greater than 55 Ldn. EPA's most stringent recommendation of 55 Ldn for residential land uses will be met at the planned South Kohala Resort, and as such, the 55 Ldn threshold should not be exceeded at all planned noise sensitive receptor locations in the environs of the proposed heliport. Helicopter noise during ground idling operations will probably be audible at the nearest future residences of the planned South Kohala Resort.

Average helicopter noise during ground idling operations along the heliport's boundary lines will probably exceed the 70 dB State DOH noise limit for agricultural lands on Oahu. Ground idling operations could typically exceed 2 minutes in any 20 minute period, and compliance with the 70 dBA limit along the proposed heliport boundaries is not expected during ground idling operations.



35 TO 60  
 RELATIO  
 SENSITI



**35 TO 60 LDN HELICOPTER NOISE CONTOURS IN RELATIONSHIP TO EXISTING AND FUTURE NOISE SENSITIVE LAND USES**

**FIGURE 10**

CHAPTER VII. POSSIBLE NOISE IMPACTS AND COMPLAINT RISKS  
ASSOCIATED WITH THE HELICOPTER FACILITY

Based upon the most stringent criteria and guidelines developed for the assessment of aircraft noise impacts on residential lands or other noise sensitive areas, the proposed Mauna Kea Heliport facility should generate minimal risks of adverse health and welfare impacts on existing and planned noise sensitive communities. Because the 55 Ldn noise contour associated with the proposed helicopter facility is not expected to enclose adjoining noise sensitive properties, noise impacts should be minimal with near zero risks of adverse health and welfare impacts.

Arrivals and departures to and from the helicopter facility are expected to be audible at nearby locations, and may annoy noise sensitive individuals at levels below 55 Ldn. The past history of community complaints and annoyance responses regarding helicopter noise suggest that the "no reaction" response threshold for helicopter noise can be less than the 55 Ldn threshold, which is associated with the protection of the public health and welfare. Based on information reported in References 1 and 5, the average "no reaction" response threshold for aircraft noise is approximately 5 Ldn units less than the Ldn associated with other background ambient noise, as long as the exposed population does not have attitudinal biases regarding the source of the noise. Variations in this "no reaction" response threshold are possible due to attitudinal biases (favorable and unfavorable) of the exposed population. For a background ambient noise level of 42 Ldn, which is believed to be characteristic of the quietist areas in the project environs, the "no reaction" response threshold is estimated to be approximately 37 Ldn for unbiased receptors. Stated in a different way--if the annually averaged Ldn from the noise of helicopters operating at the proposed facility exceeds 37 Ldn at the quietist noise sensitive receptor locations, the noise from the helicopter operations may cause annoyance reactions from that

particular residential area. At the noisier receptor locations along Queen Kaahumanu Highway and Kawaihae-Waimea Road, where the non-helicopter ambient noise components exceed 45 Ldn, helicopter noise levels below 40 Ldn are not be expected to cause annoyance reactions from unbiased residents.

The proposed ingress and egress routes to and from the heliport do not pass over existing or planned residential areas. For this reason, complaints which are associated with helicopter overflights should not occur from area residents. In addition, the helicopter noise contours developed during this study indicate that the present facility should not exceed the "Ambient Less 5 Ldn" complaint threshold at the existing residences near the proposed heliport if an average level of 16 tour flights per day or less occurs and if the assumed operational procedures are utilized at the proposed facility. Based on this "Ambient Less 5 Ldn" complaint criteria, risks of noise complaints from existing area residences were characterized as being low. For these reasons, additional noise mitigation measures for minimizing noise complaint risks are not considered to be necessary.

Because the "Ambient Less 5 Ldn" complaint criteria will probably be exceeded at the planned South Kohala Resort residences east of Queen Kaahumanu Highway, the potential for citizen noise complaints will increase following build-out of that resort area. At the present time, it is expected that the lease for the proposed heliport will not be extended following construction of the planned residences within the South Kohala Resort. If such is the case, additional noise mitigation measures for minimizing noise complaint risks from that area are not considered to be necessary.

## CHAPTER VIII. RECOMMENDED NOISE MITIGATION MEASURES

The primary noise mitigation measures recommended during operations at the helicopter facility are those operational procedures which minimize complaint risks from surrounding noise sensitive properties and which are possible within the operating constraints at the facility. One of the primary mitigation measures for reducing risks of complaints from noise sensitive properties is to avoid overflights of these properties, particularly at low altitudes of less than 1,500 FT above ground level. The proposed siting of the heliport does allow for the avoidance of overflights during the ingress and egress portions of the tour flights.

The proposed heliport is sufficiently separated from surrounding residential areas such that the "Ambient Less 5 Ldn" complaint criteria can be met at an average of 16 tour flights per day, as long as the indicated ingress and egress routes are followed, and as long as the durations of the static operations (ground idle, flight idle, and hover) are not excessive. The assumed average durations of the static operations should be maintained unless emergency or flight safety considerations dictate otherwise. Additionally, maintenance of the aircraft which requires follow-up flight testing should not be performed at the proposed Mauna Kea Heliport unless emergency repairs were necessary.

The acquisition of noise easements may be necessary to meet the 70 dBA noise limits along the heliport's four boundary lines. The approximate widths of the easement parcels are: 150 FT along the north and east boundaries; and 250 FT along the south and west boundaries. Relocation of the proposed facility by 100 FT north of its proposed location is also recommended to provide space for the noise easement parcel along the south boundary line. Relocation of the proposed facility by 100 FT north of its originally assumed location would not significantly alter the flight track or noise contour levels developed during this study.

For the purposes of documenting the conditions under which the proposed Mauna Kea Heliport will be operated and for documenting the noise abatement and complaint response procedures to be followed during its county permit period, it is recommended that the following information be submitted with the Mauna Kea Heliport use permit application:

- a. Company Name.
- b. Owner/Operator Name.
- c. Mailing Address.
- d. Base of Operation.
- e. A list of all aircraft to be used at the heliport during the permit period. The following information should be included with each aircraft:
  - (1) FAA aircraft registration number.
  - (2) Name of registered owner.
  - (3) Make.
  - (4) Model number.
  - (5) Color.
  - (6) Maximum gross takeoff weight.
  - (7) Maximum gross landing weight.
  - (8) Number of passenger seats.
- f. Name of contact and phone number.
- g. Hawaii Sectional Aeronautical Chart marked to indicate the ingress and egress routes to be used within 3 miles of the heliport facility.
- h. The annual average number of daily operations for each type of aircraft used, and the days and hours of operation. The annual average number shall be computed by dividing the total annual operations by 365 days.
- i. A "Fly Neighborly Program" which includes:
  - (1) Maximum and minimum altitudes to be flown on each ingress and egress route within 3 miles of the facility.
  - (2) Location of known noise sensitive areas in relation

to each route and the noise abatement procedure to be employed near these areas within 3 miles of the facility.

- (3) Response to be used to complaints generated by or suspected to have been generated by the applicant's aircraft.

If the heliport is constructed, a mechanism for periodic renewal of the permit should be included to adjust to the future build-out of the South Kohala Resort. If significant changes to the heliport's operations occur or are anticipated to occur prior to these review periods, the heliport's noise contours should be updated to reflect these changes.

APPENDIX A. REFERENCES

- (1) "Hawaii State Helicopter System Plan--Final Technical Report;" Department of Transportation, Airports Division; March 1989.
- (2) "Guidelines for Considering Noise in Land Use Planning and Control;" Federal Interagency Committee on Urban Noise; June 1980.
- (3) American National Standard, "Sound Level Descriptors for Determination of Compatible Land Use," ANSI S3.23-1980; Acoustical Society of America.
- (4) "Environmental Criteria and Standards, Noise Abatement and Control, 24 CFR, Part 51, Subpart B;" U.S. Department of Housing and Urban Development; July 12, 1979.
- (5) "Information on Levels of Environmental Noise Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety;" U.S. Environmental Protection Agency; EPA 550/9-74-004; March 1974.
- (6) Harrison, Robin T.; "Annoyance from Aircraft Overflights in Wilderness;" NOISE-CON 90; October 15-17, 1990.
- (7) "Title 11, Administrative Rules, Chapter 43, Community Noise Control for Oahu;" Hawaii State Department of Health; November 6, 1981.
- (8) "FAA Order No. 1050.1D - Policies and Procedures for Considering Environmental Impacts;" Federal Aviation Administration; December 21, 1983.
- (9) "Noise Assessment Guidelines for New Heliports;" FAA AC 150/5020-2; Federal Aviation Administration; December 9, 1983.
- (10) Y. Ebisu & Associates; "Noise Study for the Kawaihae Ten-Year Master Plan;" October 1991.

## APPENDIX B

### EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE

#### Descriptor Symbol Usage

The recommended symbols for the commonly used acoustic descriptors based on A-weighting are contained in Table I. As most acoustic criteria and standards used by EPA are derived from the A-weighted sound level, almost all descriptor symbol usage guidance is contained in Table I.

Since acoustic nomenclature includes weighting networks other than "A" and measurements other than pressure, an expansion of Table I was developed (Table II). The group adopted the ANSI descriptor-symbol scheme which is structured into three stages. The first stage indicates that the descriptor is a level (i.e., based upon the logarithm of a ratio), the second stage indicates the type of quantity (power, pressure, or sound exposure), and the third stage indicates the weighting network (A, B, C, D, E.....). If no weighting network is specified, "A" weighting is understood. Exceptions are the A-weighted sound level and the A-weighted peak sound level which require that the "A" be specified. For convenience in those situations in which an A-weighted descriptor is being compared to that of another weighting, the alternative column in Table II permits the inclusion of the "A". For example, a report on blast noise might wish to contrast the LCdn with the LAdn.

Although not included in the tables, it is also recommended that "Lpn" and "LepN" be used as symbols for perceived noise levels and effective perceived noise levels, respectively.

It is recommended that in their initial use within a report, such terms be written in full, rather than abbreviated. An example of preferred usage is as follows:

The A-weighted sound level (LA) was measured before and after the installation of acoustical treatment. The measured LA values were 85 and 75 dB respectively.

#### Descriptor Nomenclature

With regard to energy averaging over time, the term "average" should be discouraged in favor of the term "equivalent". Hence, Leq is designated the "equivalent sound level". For Ld, Ln, and Ldn, "equivalent" need not be stated since the concept of day, night, or day-night averaging is by definition understood. Therefore, the designations are "day sound level", "night sound level", and "day-night sound level", respectively.

The peak sound level is the logarithmic ratio of peak sound pressure to a reference pressure and not the maximum root mean square pressure. While the latter is the maximum sound pressure level, it is often incorrectly labelled peak. In that sound level meters have "peak" settings, this distinction is most important.

"Background ambient" should be used in lieu of "background", "ambient", "residual", or "indigenous" to describe the level characteristics of the general background noise due to the contribution of many unidentifiable noise sources near and far.

With regard to units, it is recommended that the unit decibel (abbreviated dB) be used without modification. Hence, DBA, PNdB, and EPNdB are not to be used. Examples of this preferred usage are: the Perceived Noise Level (Lpn was found to be 75 dB. Lpn = 75 dB). This decision was based upon the recommendation of the National Bureau of Standards, and the policies of ANSI and the Acoustical Society of America, all of which disallow any modification of bel except for prefixes indicating its multiples or submultiples (e.g., deci).

#### Noise Impact

In discussing noise impact, it is recommended that "Level Weighted Population" (LWP) replace "Equivalent Noise Impact" (ENI). The term "Relative Change of Impact" (RCI) shall be used for comparing the relative differences in LWP between two alternatives.

Further, when appropriate, "Noise Impact Index" (NII) and "Population Weighed Loss of Hearing" (PHL) shall be used consistent with CHABA Working Group 69 Report Guidelines for Preparing Environmental Impact Statements (1977).

APPENDIX B (CONTINUED)

TABLE I

A-WEIGHTED RECOMMENDED DESCRIPTOR LIST

<u>TERM</u>	<u>SYMBOL</u>
1. A-Weighted Sound Level	$L_A$
2. A-Weighted Sound Power Level	$L_{WA}$
3. Maximum A-Weighted Sound Level	$L_{max}$
4. Peak A-Weighted Sound Level	$L_{Apk}$
5. Level Exceeded x% of the Time	$L_x$
6. Equivalent Sound Level	$L_{eq}$
7. Equivalent Sound Level over Time (T) (1)	$L_{eq(T)}$
8. Day Sound Level	$L_d$
9. Night Sound Level	$L_n$
10. Day-Night Sound Level	$L_{dn}$
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$
12. Sound Exposure Level	$L_{SE}$

(1) Unless otherwise specified, time is in hours (e.g. the hourly equivalent level is  $L_{eq(1)}$ ). Time may be specified in non-quantitative terms (e.g., could be specified a  $L_{eq(WASH)}$  to mean the washing cycle noise for a washing machine).

SOURCE: EPA ACOUSTIC TERMINOLOGY GUIDE, BNA 8-14-78, NOISE REGULATION REPORTER.

APPENDIX B (CONTINUED)

TABLE II  
RECOMMENDED DESCRIPTOR LIST

TERM	A-WEIGHTING	ALTERNATIVE <sup>(1)</sup> A-WEIGHTING	OTHER <sup>(2)</sup> WEIGHTING	UNWEIGHTED
1. Sound (Pressure) Level <sup>(3)</sup>	$L_A$	$L_{pA}$	$L_B, L_{pB}$	$L_p$
2. Sound Power Level	$L_{WA}$		$L_{WB}$	$L_W$
3. Max. Sound Level	$L_{max}$	$L_{Amax}$	$L_{Bmax}$	$L_{pmax}$
4. Peak Sound (Pressure) Level	$L_{Apk}$		$L_{Bpk}$	$L_{pk}$
5. Level Exceeded x% of the time	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$
6. Equivalent Sound Level	$L_{eq}$	$L_{Aeq}$	$L_{Beq}$	$L_{peq}$
7. Equivalent Sound Level Over Time(T) <sup>(4)</sup>	$L_{eq(T)}$	$L_{Aeq(T)}$	$L_{Beq(T)}$	$L_{peq(T)}$
8. Day Sound Level	$L_d$	$L_{Ad}$	$L_{Bd}$	$L_{pd}$
9. Night Sound Level	$L_n$	$L_{An}$	$L_{Bn}$	$L_{pn}$
10. Day-Night Sound Level	$L_{dn}$	$L_{Adn}$	$L_{Bdn}$	$L_{pdn}$
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$	$L_{Adn(Y)}$	$L_{Bdn(Y)}$	$L_{pdn(Y)}$
12. Sound Exposure Level	$L_S$	$L_{SA}$	$L_{SB}$	$L_{Sp}$
13. Energy Average value over (non-time domain) set of observations	$L_{eq(e)}$	$L_{Aeq(e)}$	$L_{Beq(e)}$	$L_{peq(e)}$
14. Level exceeded x% of the total set of (non-time domain) observations	$L_{x(e)}$	$L_{Ax(e)}$	$L_{Bx(e)}$	$L_{px(e)}$
15. Average $L_x$ value	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$

(1) "Alternative" symbols may be used to assure clarity or consistency.

(2) Only B-weighting shown. Applies also to C,D,E,.....weighting.

(3) The term "pressure" is used only for the unweighted level.

(4) Unless otherwise specified, time is in hours (e.g., the hourly equivalent level is  $L_{eq(1)}$ ). Time may be specified in non-quantitative terms (e.g., could be specified as  $L_{eq(WASH)}$  to mean the washing cycle noise for a washing machine.

EXHIBIT D

COMMENTS TO THE DRAFT ENVIRONMENTAL ASSESSMENT  
& RESPONSES



US Department  
of Transportation  
Federal Aviation  
Administration

AIRPORTS DISTRICT OFFICE  
BOX 50244  
HONOLULU, HI 96850-0001  
Telephone: (808) 541-1243  
Fax: (808) 541-3462

November 24, 1992

PLANNING DEPARTMENT  
Attn: Planning Director  
County of Hawaii  
Hilo, Hawaii 96720

Dear Sir:

We have received the Special Permit Application for the Kenai Air Hawaii Helicopter dated September 8, 1992. Our only comment is that a Notice of Landing Area Proposal, FAA Form 7480-1, must be submitted by the proponent, per Federal Aviation Regulation (FAR) Part 157.

By copy of this letter, we are transmitting a Form 7480 to Kenai Air Hawaii for their use in fulfilling the requirements of FAR Part 157.

Sincerely,

*David J. Welhouse*

David J. Welhouse  
Airport Engineer/Planner

Henry A. Sumida  
Airports District Office Manager

cc:  
Kenai Air Hawaii, Inc.

**SidneyFuke&Associates**

100 Puuhale Street, Suite 212 • Hilo, Hawaii 96720  
Telephone: (808) 963-1522 • Fax: (808) 963-7996

Consenting Land Use Planners

January 28, 1993

Mr. David J. Welhouse  
Airport Engineer/Planner  
U. S. Department of Transportation  
Federal Aviation Administration  
Box 50244  
Honolulu, Hawaii 96850-0001

Dear Mr. Welhouse:

Re: Special Permit Application  
Kenai Air Hawaii, Inc.  
Tax Map Key: 6-2-01: 51 por

Thank you for your comments on the subject Special Permit application.

Please be informed that the applicant intends to submit the required Notice of Landing Area Proposal, FAA Form 7480-1, only upon receipt of a favorable decision on the pending Special Permit application. We appreciate your initiative to send the proper forms for the applicant's use.

Again, thank you for your comments. Should you have any questions, please feel free to contact me.

Sincerely,

*Sidney H. Fuke*

SIDNEY H. FUKE  
Planning Consultant

cc Ms. Virginia Goldstein, Planning Director  
Mr. Paul Morris, Kenai Air Hawaii, Inc.

MAUNA KEA SOIL AND WATER CONSERVATION DISTRICT  
PO BOX 1089  
KAHUELA, HAWAII 96743  
(808) 885-5602

January 28, 1993

Mr. Herman Hayashi, Director  
County of Hawaii  
Engineering Department  
1500 W. Maunaloa Street  
Honolulu, Hawaii 96720

Dear Mr. Hayashi:

Re: Special Permit Application  
Applicant: Kenai Air Hawaii, Inc.  
Project: Establish Helicopter and Related Facilities  
Site: S-2-01; Portion of S1

We submit the following comments to Kenai Air Hawaii, Inc.'s proposed application:

The soil is KIC, a very fine sandy loam. This soil is very erodible and subject to wind erosion. We stress the importance of dust control in this area, not only during construction but also during normal operations.

The applicant states that helicopter operations may cause some dust in the immediate vicinity of the site during take-off and landings typical of other existing helicopters, airpads, and helistops. To minimize soil disturbances during these times, we suggest landscaping with appropriate plants and mulches to stabilize the surrounding area.

We also suggest a drainage system that creates onsite disposal of water generated by these improvements and not discharge to stream runoff.

We also believe there are recently potable water wells nearby. The use of a wastewater system other than cesspools may be more appropriate to minimize the potential for ground water contamination.

Thank you for the opportunity to review this application.

Sincerely,

*Jeanine Lum*  
Jeanine Lum  
Chairperson

SidneyFuke&Associates

100 Puuahi Street Suite 212 • Maunaloa, Hawaii 96720  
Telephone (808) 969-1522 • Fax (808) 969-7995

Consulting Land Use Planners

January 28, 1993

Ms. Jeanine Lum, Chairperson  
Mauna Kea Soil and Water Conservation District  
P. O. Box 1089  
Kahuela, Hawaii 96743

Dear Ms. Lum:

RE: Special Permit Application  
Kenai Air Hawaii, Inc.  
Tax Map Key: 6-2-01: 51 por

Thank you for your comments on the subject Special Permit application. We address your concerns as follows:

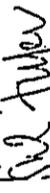
- 1. Wind Erosion.** We acknowledge the susceptibility of the KIC soil to wind erosion due to its fine texture. In accordance with appropriate State Department of Health and County Department of Public Works' requirements, the applicant will ensure that the construction documents contain strict watering requirements to control dust during construction.  
The applicant will also landscape or mulch the vicinity of the site that is vulnerable to the swirling caused by the take-off and landing of the helicopters.
- 2. Drainage System.** The applicant's civil engineers will design a drainage system to contain the runoff onsite and minimize or avoid discharge into the streams. The design typically will involve the use of drywells. The plans must be reviewed and approved by the County Department of Public Works.
- 3. Potable Wells and Wastewater System.** The Department of Health rules require cesspools to be located 1000 feet from any potable water wells in order to mitigate potential impacts of the cesspool leachate on the groundwater source of the wells. According to the Commission on Water Resource Management's well inventory, there are two wells that have been drilled about 1000 feet from the site boundary.

Ms. Jeanine Lun, Chairperson  
January 28, 1993  
Page 2

As such, during the design phase of this project, the civil engineer will more carefully analyze and locate the cesspool to comply with the Department of Health rules in order to avoid potential impacts to those wells.

Again, thank you very much for your comments. Should you have any questions, please feel free to contact me.

Sincerely,



SIDNEY H. FUCE  
Planning Consultant

cc Ms. Virginia Goldstein, Planning Director  
Mr. Paul Morris, Kenai Air Hawaii, Inc.

COMMUNICABLE  
1-1-79



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS DIVISION

1000 KALANOA'OLE AVENUE, SUITE 100, HONOLULU, HAWAII 96813-1000

RECEIVED  
JAN 28 1993  
AIRPORTS DIVISION  
STATE OF HAWAII  
COMMUNICATIONS SECTION

AIR-1G  
92.0690

December 15, 1992

Planning Director  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Sir:

I have reviewed the Special Permit Application of Kenai Air Hawaii, Inc. for their heliport in South Kohala and have no objections to the establishment of this facility as described in the proposal. The operator must comply with the County of Hawaii Planning Commission's review criteria for Special Permits pertaining to noise, i.e., "pilots will adhere to strict ingress/egress routes and flight patterns that will minimize noise impacts to properties within the vicinity of the proposed site".

To mitigate noise complaints, the company must also follow the recommendations of the acoustic consultant on page 23 and the Hawaii Helicopter Operators Association's "Fly Neighboring Program".

If you have any questions, please contact me at 235-6450.

Sincerely,

Rodney Kuba  
General Aviation Officer

CCS

**Sidney Fuke & Associates**

100 Palms Street, Suite 212 • Hilo, Hawaii 96720  
Telephone: (808) 969-1522 • Fax: (808) 969-1798

Consulting Land Use Planners

January 28, 1993

Mr. Rodney Kuba, General Aviation Officer  
State Department of Transportation, Airports Division  
Honolulu International Airport  
Honolulu, Hawaii 96819-1898

Dear Mr. Kuba:

Re: Special Permit Application  
Kenai Air Hawaii, Inc.  
Tax Map Key: 6-2-01: 51\_POR

Thank you for your comments on the subject Special Permit application. Please be informed that the applicant intends to adhere to the following noise mitigation measures suggested in your letter:

1. Planning Commission's Conditions. The applicant has no objections to your suggested special condition pertaining to noise mitigation that "pilots will adhere to strict ingress/egress routes and flight patterns that will minimize noise impacts to properties within the vicinity of the proposed site." In the Draft Environmental Assessment, the acoustic consultant identified appropriate ingress/egress routes that would mitigate the noise impacts. The applicant's pilots will follow those identified routes.
2. Other Conditions and Requirements. As a member of the Hawaii Helicopter Operators Association, the applicant is mandated to abide by the Fly Neighboring Program. Further, they will abide by the other recommendations of the acoustic consultant set forth in the Draft Environmental Assessment.

Again, thank you for your comments. Should you have any questions, please do not hesitate to contact me.

SIDNEY H. FUKU  
Planning Consultant

cc Ms. Virginia Goldstein, Planning Director  
Mr. Paul Morris, Kenai Air Hawaii, Inc.



**Fire Department**

County of Hawaii • 466 Kinohiki Street • Hilo, Hawaii 96720-3933 • (808) 961-3277 • Fax (808) 961-6920

Stephen Yamashiro  
Mayor  
Nelson H. Tsuji  
Fire Chief

December 15, 1992

To: Virginia Goldstein, Planning Director  
From: Nelson H. Tsuji, Fire Chief  
SUBJECT: SPECIAL PERMIT APPLICATION  
APPLICANT: KENAI AIR HAWAII, INC.  
REQUEST: ESTABLISH HELIPORT AND RELATED FACILITIES  
TRK: 5-2-01: PORTION OF 51

On Page 5 of the application, the applicant states, "Fuel will be trucked in and stored in the truck tanks; there will be no onsite storage tanks."

The Fire Code states:

"Section 79.808(c) TIME LIMIT. Tank vehicles and tank cars shall be unloaded as soon as possible after arrival at point of delivery and shall not be used as storage tanks."

Please clarify, "stored in the truck tanks."

Page 30 states that the water source for fire fighting purposes will be the privately-owned reservoir situated next to the site.

Please clarify our access distance to the reservoir and the stability of the ground in the area for drafting purposes or provide a means of obtaining the water from this "reservoir."

NELSON H. TSUJI  
Fire Chief

HNT/mo

**SidneyFuke&Associates**

100 Puuhale Street, Suite 212 • Hilo, Hawaii 96720  
Telephone (808) 969-1522 • Fax (808) 969-7996

Consulting Land Use Planners

January 28, 1993

Mr. Nelson H. Tsuji, Fire Chief  
Fire Department  
County of Hawaii  
466 Kinohiki Street  
Hilo, Hawaii 96720-2983

Dear Chief Nelson:

RE: Special Permit Application  
Kenai Air Hawaii, Inc.  
Tax Map Key: 6-2-01: 51 POF

Thank you for your comments on the subject Special Permit application. The applicant intends to address your concerns in the following manner:

1. Onsite Fuel Storage. The applicant is aware of the appropriate Fire Code section relating to fuel delivery by trucks. Kenai will follow the code-conforming practice at other heliports and airports where fuel is dispensed from trucks.
2. Proposed Use of the Reservoir as the Water Source for Fire Fighting Purposes. During the design phase of the project, the applicant will make sure that the civil engineer coordinates with your department to accommodate your requirements.

Again, thank you for your comments. Should you have any questions, please do not hesitate to contact me.

Sincerely,

SIDNEY M. FUKU  
Planning Consultant

cc Ms. Virginia Goldstein, Planning Director  
Mr. Paul Morris, Kenai Air Hawaii, Inc.

66663

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
PO BOX 21  
HONOLULU, HAWAII 96820

REF: OCEA:RCK

FILE NO.: 93-291

DOC. ID.: 1927

The Honorable Virginia H. Goldstein, Director  
Planning Department  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Ms. Goldstein:

Subject: Special Permit Application for Heliport at  
Ouli, South Kohala, Hawaii, TRM: 6-2-1: 51

Thank you for giving our Department the opportunity to review this  
matter. We believe that activities of this type should be consolidated  
with existing aviation facilities in the area.

In addition, our Historic Sites section will respond to the County in an  
separate letter.

Thank you for your cooperation in this matter. Please feel free to  
contact Sam Lemo at our Office of Conservation and Environmental Affairs,  
at 587-0377, should you have any questions.

Very truly yours,

*William H. Paty*  
WILLIAM H. PATY

RECEIVED AIR OPERATIONS  
SECTION  
JAN 23 1993  
100 PALUA STREET, SUITE 212 • HAWAII, HAWAII 96720  
TELEPHONE (808) 569-1522 • FAX (808) 563-7556

Sidney Fuke & Associates

100 Palua Street, Suite 212 • HAWAII, HAWAII 96720  
Telephone (808) 569-1522 • Fax (808) 563-7556

January 23, 1993

Mr. William Paty, Chairperson  
Department of Land and Natural Resources  
STATE OF HAWAII  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Paty:

RE: Special Permit Request  
Kenai Air Hawaii, Inc.  
TRM: 6-2-1: 51 For

This is in reference to your letter of December 18,  
1993, regarding the subject matter. For your reference, your  
File No. is 93-291, Doc. ID. 1927.

Thank you for your comments. While we can understand  
and appreciate the concern to having aviation facilities  
consolidated - largely from a control and impact standpoint -  
it is the applicant's belief that the proposed location  
should mitigate some of the existing noise impacts associated  
with the current flight paths originating from the existing  
facility at Waikoloa.

The applicant's overall existing flight routes will not  
change. What will change, however, will be the elimination  
of that flight leg between the Waikoloa Heliport (where the  
applicant presently operates from) and the proposed site.  
The route will now be shorter (as noted in Figure 7 of the  
Environmental Assessment). This shorter route will eliminate  
a need to fly near or adjacent to the Puako residential  
community. Thus, the existing noise impact to that area will  
be further mitigated by the this new site for the applicant.

Again, thank you for your comments, and we await the  
response of your Historic Sites section. Please feel free to  
contact me if you have questions on this matter.

*Sidney H. Fuke*  
SIDNEY H. FUCE  
Planning Consultant

cc Ms. Virginia Goldstein, Planning Director  
Mr. Paul Morris, Kenai Air Hawaii, Inc.

NONI WALKER  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
STATE HISTORIC PRESERVATION DIVISION  
33 SOUTH KING STREET, 8TH FLOOR  
HONOLULU, HAWAII 96813

January 6, 1993

Ms. Virginia Goldstein, Director  
Planning Department  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Ms. Goldstein:

**SUBJECT:** County of Hawaii, Special Permit Application - Helipoint at Ouli, Kenai Air Hawaii, Inc.  
Ouli, South Kohala, Island of Hawaii.  
TMK: 6-2-1: 051

LOG NO. 6914  
DCC NO. 9301KS02

WILLIAM W. FAYT, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

JOHN P. SUPRENA, II  
DONALD L. HANSEN

AGRICULTURE DEVELOPMENT PROGRAMS  
AQUATIC RESOURCES CONSERVATION AND RECREATION AFFAIRS  
CONSERVATION AND RECREATION AFFAIRS  
COUNTY/STATE FORESTRY AND WILDLIFE HISTORIC PRESERVATION DIVISION  
LAND AND NATURAL RESOURCES STATE PLANNING DIVISION  
WATER AND LAND DEVELOPMENT

Sidney Fuke & Associates

100 Puuhoh Street, Suite 212 • Hilo, Hawaii 96720  
Telephone: (808) 969-1522 • Fax: (808) 969-7298

Consulting Land Use Planners

March 14, 1994

Mr. Don Hibbard, Administrator  
State Historic Preservation Division  
Department of Land and Natural Resources  
STATE OF HAWAII  
33 South King Street, 6th Floor  
Honolulu, Hawaii 96813

ATTN: Mr. Kanalei Shun

Dear Mr. Hibbard:

RE: Special Permit Application  
Kenai Air Hawaii, Inc.  
TMK: 6-2-01: Portion of 51

This is in reference to your memo of January 6, 1993, to the Planning Director regarding the subject matter. A copy of said memo is attached for your information.

Please be informed that an archaeological survey was conducted of the subject site. A copy of this report is enclosed for your information and appropriate action. As you will note, the survey concluded that nothing of archaeological significance was found within the project area.

Thank you for commenting on this application. If you have further questions on this application, please feel free to contact me.

Sincerely,

SIDNEY H. FUKU  
Planning consultant

encl  
cc Ms. Virginia Goldstein, Planning Director  
Mr. Paul Morris, KENAI

Our records for the ahupua'a of Ouli, based on previous archaeological inventory surveys associated with the proposed Wainana-Kawaihāe Road corridor and other planned developments for the mauka side of Queen Kaahumanu Highway, indicate presence of significant historic sites such as shelters, alignments, and cairns, often associated with agricultural sites in the area of the subject parcel. It is very likely that such historic sites may be present in the property. Hence, we recommend that no decision be made on the application until an inventory archaeological survey has been undertaken to determine if significant historic sites are present in the project area. The results of the survey should be submitted to our office in report format for review. If significant historic sites are present, then an acceptable mitigation plan must be proposed. No construction activities for the proposed helipoint should be permitted until our office has had an opportunity to complete our review process.

If your office should have any questions, please contact Kanalei Shun at 587-0007.

Sincerely,

DON HIBBARD, Administrator  
State Historic Preservation Division

KS:xy

cc OCEA (File No. 93-291)

30-79

**Sidney Fuke & Associates**

100 Puuani Street, Suite 212 • Hilo, Hawaii 96720  
Telephone: (808) 969-1522 • Fax: (808) 969-7996

Consulting Land Use Planners

DEPARTMENT OF PUBLIC WORKS  
COUNTY OF HAWAII  
HILO, HAWAII

March 14, 1994

DATE January 20, 1993

*Memorandum*

TO: Planning Director  
FROM: Robert K. Yanabu, Division Chief  
Engineering Division

SUBJECT: Special Permit Application  
Applicant: Kenai Air Hawaii, Inc.  
Location: Ouli, South Kohala, Hawaii  
TMK: 6-2-01:Portion of 51

We have reviewed the subject application and our comments are as follows:

1. Buildings shall conform to all requirements of code and statutes pertaining to building construction.
2. All development generated runoff shall be disposed of on site and shall not be directed toward any adjacent properties. A drainage system should be installed meeting with the approval of DPM.
3. All grading and grubbing activities shall comply with Chapter 10 of the Hawaii County Code.

TYP: sls

cc: Engineering - Hilo  
Engineering - Kona  
Planning - Kona

Mr. Galen Kuba, Division Chief  
Engineering Division  
Department of Public Works  
COUNTY OF HAWAII  
25 Apunui Street  
Hilo, Hawaii 96720

Dear Mr. Kuba:

RE: Special Permit Application  
Kenai Air Hawaii, Inc.  
TMK: 6-2-01: Portion of 51

This is in reference to your memo of January 20, 1993, to the Planning Director regarding the subject matter. A copy of said memo is attached for your information.

Please be informed that the applicant intends to comply with all of your stated conditions and/or requirements relative to the construction of this project. These include any pertinent building, drainage, and grading/grubbing requirements.

Thank you for commenting on this application. If you have further questions on this application, please feel free to contact me.

Sincerely,  
  
SIDNEY M. FUKE  
Planning Consultant

encl  
cc Ms. Virginia Goldstein, Planning Director  
Mr. Paul Morris, KENAI

5/13/93



## LIFE OF THE LAND

Ms. Virginia Goldstein  
County Planning Director  
25 Aupuni Street  
Hilo, HI 96720

Dec 30, 1992

RE: Special Permit application of Kenai Air Hawaii, EIS requirement

Dear Ms. Goldstein:

Having reviewed the assessment prepared by Sidney Fuke and Associates, we believe an environmental impact statement should be required by the Planning Department. This application is clearly of a different nature than other recent applications which sought merely a "rest stop" along pre-established routes. The other recent applications I refer to are by Kenai and Papillon for helipads at Kahua Ranch and in the Moakoa Point areas, respectively. This new application, and the two others I mention, are specifically for tour operations over the North Kohala/Hamakuu windward valley areas.

The Planning Department has issued negative declarations for the two "rest stop" applications, based primarily on the purported lack of impact at the landing site itself. Since those applications did not add new flights, nor create additional facilities which would support additional flights, there was little attention paid to an in-depth assessment of the impacts along the entire flight routes.

The current application is of a different, more substantial nature. It seeks to create a base site of 4 helipads and 2 refueling pads, along with a portable office building. According to the opening sentence of the assessment, "The applicant ... proposes to relocate a majority of its helicopter operations from the Waikoloa helipad to a new facility located near the South Kohala Resort." We do not know how the scope of this new facility compares to the facilities currently available to Kenai at Waikoloa. Consequently we do not know if this represents an expansion of operational capability for Kenai. However, we do know that the overall impact is one of expanded operations, since the facilities at Waikoloa will henceforth be available to other tour aircraft operations. Consequently the impact of increased tour helicopter flights over the North Kohala and Hamakuu districts must be assessed in conformity with HRS 343 requirements. THIS HAS NOT BEEN DONE in the assessment which accompanies the application and which purports to satisfy HRS 343 assessment requirements. Note section 5 of the assessment on pages 41 and 42, which focuses entirely on the heliport site itself.

19 Niolopa Place, Honolulu, Hawaii 96817. Tel. 595-3903

For an example of the secondary impact nature of a project, and its relevance to HRS 343, note the EIS which was required for the Lualaba Water System, more than a decade ago. That assessment and the subsequent EIS fully examined the impact of the increased resort facilities which would be supported. The linkage to impacts beyond the immediate project site is even more clear in the current Kenai application.

Over the full flight routes there are a number of endangered bird species, most notably the Hawaiian hawk. This North Kohala/Hamakuu valley area is one of the premier habitats of the hawk, statewide. In addition there are other endangered endemic bird species, such as the io, the elepaio, and the sparrow which live and nest in the Kohala Mountain area, although likely to be found in only the upper elevation areas of the flight routes.

Another environmental impact along the flight routes is the noisy, intrusive nature of the flights to hikers, campers and boaters. I can personally attest to this degradation of environmental quality. HRS Chapter 344 represents state law as to the expectation which every citizen of Hawaii can reasonably expect. The current Kenai application is not in conformity with HRS 344.

We also note the flight paths shown in figure 7 of the assessment prepared by Sidney Fuke and Associates. Note the elevation shown for that section of the flight path from the Kahua heliport to the Kohala coast, given as 0 - 1000'. We also note that Kenai is a plaintiff in Civil No. 90-00369 (U.S. District Court) against the State of Hawaii. That lawsuit, in its Sixth Claim for Relief, and others, alleges that no interference is possible in areas which have been preempted by the laws and regulations of the United States of America. In other words, Kenai believes that control over the actual flights can only be exercised by the federal government, presumably via the F.A.A. The 0-1000' AGL flight path from Kahua to the coast is also contrary to Kenai's representations in their prior special permit application for the Kahua heliport. The only reasonable interpretation of Kenai's attitude, vis-a-vis HRS 343, is that environmental impacts of the tour operations cannot be mitigated by the state or county in any way thru regulation. Thus when HRS 343 requires an EIS if there MAY be significant environmental impact, the County of Hawaii must assume that there may be flights at all altitudes, and even along corridors outside of the established routes, barring any F.A.A. regulations to the contrary.

Aside from the flight routes, there are additional impacts at the heliport site itself, which merit an EIS. The refueling operations represent a potential hazard not found at the "rest stop" sites of prior North Kohala special permit applications. The frequent

Sidney Fuke & Associates

170 Paahoa Street, Suite 212 • Hahaione, HI 96720  
Telephone: (808) 969-1522 • Fax: (808) 969-7395

Consulting Land Use Planners

January 28, 1993

Mr. Bill Graham, Director  
Life of the Land  
P. O. Box 155  
Hawi, Hawaii 96719

Dear Mr. Graham:

Re: Special Permit Application  
Kenai Air Hawaii, Inc.  
Tax Map Key: 6-2-01: 51.00R

Thank you for your comments on the subject Special Permit application. We found them interesting and well-stated. However, we do not agree with your belief that an EIS is required. Our reasons follow.

1. The scope of the proposed action is not significant.  
It should be emphasized that the proposed action is the establishment of a heliport. It does not involve the establishment of a new flight route, nor from the applicant's standpoint, result in an increase in the number of flights the applicant presently makes in the area.

The proposed heliport, although larger than the "rest stop" facilities for Akaoko Point and Kahua Ranch, will have very minimal facilities and should not cause significant impacts to the area.

- a. The proposed site is not in a sensitive area.

The proposed site is located in an area even less sensitive than the Akaoko Point or Kahua Ranch rest stops. Where Akaoko Point and Kahua Ranch are located in relatively undeveloped lush areas, the proposed Kenai site is in an arid, barren area isolated from existing development. Egress/ingress routes have been established to mitigate noise impacts to surrounding sensitive areas.

crashes of helicopter operators on our island also represent an environmental impact, no pun intended.

The Big Island tour helicopter industry continues to grow and we have had only one instance where an EIS was required by the County of Hawaii. That application (heliport near Mauna Kea Beach Hotel) is either dormant or is superseded by the current one, no EIS having been prepared. Since HRS 343 has recently added helicopter facilities to its trigger mechanism, there is obviously recognition by the legislature of the significant environmental impact of helicopter tour operations. If not now, at what juncture will the County of Hawaii deem it appropriate to acknowledge the potential for significant impacts?

We ask that you consider the above comments carefully in your EIS deliberations. Our comments on other aspects of the application (beyond HRS 343) will be forthcoming at the appropriate moments.

Sincerely,

*Sidney Fuke*

Bill Graham, LOL director,  
P.O. Box 155  
Hawi, HI 96719

cc: Sidney Fuke  
Kenai Air Hawaii  
O.E.Q.C.  
Sierra Club Legal Defense  
Barry Stokes (CAM)  
Fred Benco

b. The proposed actions are not large-scale.

The proposed heliport will be about one-third the size of Waikoloa heliport. On the average, only two of the four helipads will be used. There are no plans for future expansion.

2. The impacts along the proposed routes have been assessed by previous studies.

The Environmental Assessment for the Kahua Ranch Heliport (September 1989), prepared for Kenai Air Hawaii, Inc., analyzed the impacts along the flight routes. Except for a change in the takeoff/landing point from the Waikoloa Heliport to the proposed heliport site, there will be no change to the flight routes as described in the Kahua Ranch environmental assessment.

The EIS rules permit incorporation by reference of previous determinations (11-200-13, Hawaii Administrative Rules). As such, the Kahua Ranch determination relating to flight routes was incorporated by reference.

It should also be noted that the flight routes and appropriate mitigation measures were intensively studied with substantial input from the public and documented in the Hawaii State Helicopter System Plan (prepared by Wilson Okamoto & Associates for the Department of Transportation, April 1989) and the Hawaii Helicopter Operators Association's Mandatory Fly Neighborly Program.

Kenai intends to comply with the mitigation measures set forth in the Helicopter System Plan and the Fly Neighborly Program. As such, it is believed that it would be redundant to reiterate the entire analysis, rationale, and conclusions discussed in those previous documents.

3. The secondary impacts of the proposed heliport are not overly significant.

As a significant secondary impact of the proposed heliport, you note that the new heliport would induce expanded helicopter operations in the North Kohala area. We do not agree.

Kenai will not be expanding its operations. All flights that currently fly out of the Waikoloa Heliport will instead fly from the new heliport. Kenai will maintain its authorization to fly from Waikoloa Heliport only to service special requests from guests or the owner of the Waikoloa heliport (Transcontinental).

Whether Kenai's de facto relocation indirectly causes increased flights to North Kohala by allowing another operator to use Waikoloa Heliport is speculative. In that regard, there could be two scenarios. One would be the relocation of an existing heliport to this area. Should that be the case, then, that will be a relocation of existing operations and will not result in increased flights.

Another scenario would be the introduction of a new operator at the Waikoloa Heliport, resulting in increased flights. In that event, we note that the noise impacts were already analyzed in the Helicopter System Plan where the acoustical consultant assumed maximum flights of 200/day, a number that is about twice the existing level. The restricted areas identified in the Helicopter System Plan were incorporated into the Mandatory Fly Neighborly Program, which Kenai follows and hopefully all of the other operators.

As you are aware, Kenai has already agreed to abide by a further restriction for the North Kohala coast area not covered by the Fly Neighborly Program. This restriction calls for a minimum 500' AGL and was mandated as a condition of a Special Permit issued for the Kahua Ranch Heliport (10/24/91).

Similar restrictions could or should be imposed on other operators to mitigate noise impacts in this wilderness zone through the State Department of Transportation's Air Tours Permit or other applicable county permits.

We also note that there is a difference between the secondary impacts relative to Kenai's proposed heliport and the Lalanilo Water System you cited in your letter. In the Lalanilo Water System document, the potential urban growth induced by the water system was not previously assessed. In this case, however, the secondary impacts have been assessed by previous Environmental Assessments (e.g., Kahua Ranch Heliport) and the Helicopter System Plan.

4. The proposed Kenai heliport does not contravene any of the environmental policies in Chapter 344, Hawaii Revised Statutes.

Generally, the policies seek to balance "safeguarding the State's unique natural environmental characteristics" with the "social, economic, and other requirements of the people of Hawaii" in a manner in which "man and nature can exist in productive harmony" (quotations excerpted from Chapter 344-3(1), Hawaii Revised Statutes).

In terms of the proposed action itself (the proposed heliport), the impacts - as noted above and in the assessment - are not overly significant. The environmental impacts of the proposed heliport in relation to the site are minimal. It will be constructed and used in a manner that is consistent with State and County regulations governing wastewater system, noise and air pollution, and the like.

Much of the concerns you raise, however, appear to focus around the industry itself and the flight routes. Rather than being repetitive, please refer to the discussions covered in items 2 and 3 above.

As an aside, there are some beneficial impacts of the industry. The helicopter tours industry is an economic venture that gainfully employs a significant number of local residents. The tours also foster education and appreciation of Hawaii's unique environment by providing both local and out-of-state visitors a view and experience of Hawaii that not even hikers are able to access.

Like other industries, there are some negative impacts such as noise. However, through the development and aggressive implementation of a plan - such as the Helicopter System Plan and the Fly Neighborly Program - the industry and the community have made strides to fulfill the State's environmental policies; and these policies, as noted earlier, seek to balance the negative environmental impacts by mitigating them as much as possible with the beneficial economic and environmental education impacts.

Notwithstanding the discussion on the flight industry and routes, we emphasize again that the location and operation of the proposed heliport will not be inconsistent with the environmental policies noted in Chapter 344, HRS.

5. The 0'-1000' AGL from the Kahua heliport to the Kohala Coast as shown in Figure 7 of the Environmental Assessment represents the landing and takeoff at the heliport and conforms with the Special Permit conditions.

Figure 7 is the same figure referenced in the Kahua Ranch Heliport Special Permit. It was modified only to reflect the location of the proposed heliport, not the flight routes.

Condition No. 6 of the Special Permit for the Kahua Ranch Heliport (SP No. 90-39) requires a minimum 500-foot AGL, "exclusive of ingress and egress", along the Kohala Coast. Kenai has and will continue to abide by these conditions of the Special Permit.

6. The impacts at the heliport site have been sufficiently mitigated to result in insignificant impacts.

The potential impacts at the proposed site - including flora/fauna, archaeological, natural hazards, noise impacts related to the ingress/egress routes, and others - were assessed in the environmental assessment and found to be insignificant. You did, however, indicate two other impacts: refueling and increased potential for helicopter crashes.

In that regard, we note that Kenai will comply with design and operational requirements relating to fueling facilities imposed by F.A.A. and the County fire code in a manner similar to practices at other heliports and airports. Trucking of fuel occurs at all service stations, heliports, and airports. Unlike those other facilities, the proposed Kenai heliport will not have the additional risk of underground fuel leakage since there will be no onsite tanks.

Relative to crashes, they are regrettable and do occur. Sometimes they occur because of mechanical malfunctions; other times due to pilot error. Nonetheless, like automobiles, airplanes, cycles - there are accidents and crashes resulting in deaths.

Again, this aspect of the discussion focuses on the industry itself and not necessarily the proposed action - i.e., heliport. This discussion is somewhat analogous to evaluating not necessarily a site for an automotive car rental site but the number of automobile accidents. Thus, its relationship to the proposed action is debatable.

Nonetheless, we would like to observe that when helicopters have crashed, they have been generally in remote areas (thereby minimizing injury or damage to persons or property on the ground). According to the Helicopter System Plan, the passenger

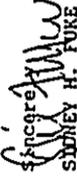
survival rate has been surprisingly high. The Plan notes that there were little injuries to passengers or crew in 40 percent of the past crash incidents. It states:

"Contrary to what many believe, the failure of a helicopter's engine will not cause it to fall 'like a rock.' In a maneuver known as autorotation, the engine automatically disengages from the rotor system, allowing the rotor blades to rotate at normal operating speeds. The upward flow of air on the rotor blades provides sufficient thrust to maintain rotor revolutions throughout the descent. Unlike a conventional airplane, the helicopter can touch down with little or no forward movement in a relatively small cleared space.

"Thus, it is often argued that a single engine helicopter has a much better chance to make a safe landing following a power failure than a single engine airplane. Autorotation is practiced frequently by helicopter pilots for making a safe landing." (Helicopter System Plan, April 1989, p. 2-3).

In short, the impacts from refueling and crash risks for the proposed Kenai heliport are less than similar risks posed by automobiles and airplanes.

Again, thank you very much for taking the time out to comment on the assessment. Should you have any questions, please do not hesitate to contact me.

Sincerely,  
  
SIDNEY H. FUKÉ  
Planning Consultant

cc Ms. Virginia Goldstein, Planning Director  
Mr. Paul Morris, Kenai Air Hawaii, Inc.

LIFE OF THE LAND



Mr. Sidner Fuke  
100 Pauahi Street, Suite 212  
Hon. HI 96720

February 3, 1992

RE: Special Permit Application, Kenai Helicopters, EIS requirement

Dear Mr. Fuke:

I received your letter of January 28th, and wish to offer some comments and rebuttal. I do recognize that it is not appropriate to engage in extended argumentation, back and forth by mail. I will try to be brief. Naturally I write to Planning Director Goldstein's ear as well, since the EIS determination is hers to make.

You say that the impacts along the proposed routes have been assessed by previous studies. You refer to the environmental assessment for the Kenai Helipad at Kahua, and to the Hawaii State Helicopter Master Plan. The prior assessment made by Kenai did not deal with the native Hawaiian birdlife in North Kohala and Hamakua. It was put together by a man with extensive Alaska experience who stated that in Alaska there was no significant impact on birds where the helicopter traffic remained above 500 ft elevation. The Hawaii State Helicopter System Plan has one anecdotal sentence at the bottom of page 3-12 that references North Kohala birdlife. That is all there is.

As to flight hours and routes, the Hawaii State Helicopter Master Plan states on page iv, "In other wildland park areas frequented by hikers, campers, and others with expectations of quiet, it is recommended that tour aircraft not overfly and maintain adequate setback distances to reduce audibility."

Your item (5) references the 0-1000' AGL flight plan. Truly it is the same figure referenced in the Kahua Ranch Helistop Special Permit. Kenai did indicate that they would fly above 500' on all flights THAT STOP AT THE KAHUA HELISTOP. However, several weeks after the granting of the Kahua permit I observed a Kenai helicopter well below the 500' elevation and reported it to the FAA and the County. (Verbal contact with Connie Kiriu.) No action was taken by the County with reference to the low flying since the flights had not yet begun to use the Kahua helistop. In other words, Kenai has showed no intention to fly only above 500' on ALL FLIGHTS in the North Kohala/Hamakua districts.

You state that it is speculative on my part to assume that additional operations may come in to Waikoloa when Kenai leaves to use the new heliport being proposed. It may be speculative but it would certainly seem reasonable. If you can produce any stipulation by the owners of the Waikoloa Heliport to the contrary, that would be most relevant in support of your contention.

Sidney, in a more informal tone, we are not attempting to harass the applicant or the helicopter industry. On our island as well as the other Hawaiian Islands, the tour aircraft industry continues to grow and the annoyance to our residents is amply documented. Annoyance to wildlife is not amply documented, and we would like to see a proper and thorough analysis of the impacts on wildlife. Certainly we recognize that there are beneficial economic and other aspects to the industry, such as search and rescue. The state legislature incorporated tour helicopters into HRS 343 trigger mechanisms because of their significant impact, not because the legislature finds them harmful or beneficial on balance.

We do find your assessment inadequate in respect to the EIS rules, Title 11, Chapter 200 of the Department of Health, as well as in respect to HRS 343, your current reference to past documents notwithstanding.

Sincerely,  
*Bill Graham*  
Bill Graham

cc: County of Hawaii  
Sierra Club Legal Defense Fund  
Citizens Against Noise

## SidneyFuke&Associates

100 Foothill Street, Suite 212 • Hilo, Hawaii 96723  
Telephone: (808) 969-1322 • Fax: (808) 969-7796

Consulting Land Use Planners

February 17, 1993

Mr. Bill Graham, Director  
LIFE OF THE LAND  
P. O. Box 155  
Hawi, Hawaii 96719

Dear Bill:

RE: Special Permit Request  
Kenai Air Hawaii, Inc.

Thank you for your letter of February 3. I appreciate the effort you have put into this and other planning matters affecting the County, and I respect you for that. I am also aware of your concerns and have made every reasonable effort to address them within the confines of existing statutes, rules and regulations. Through this and other communicative means, I hope that we can eventually come to grips with our narrowing differences.

As you explained, Bill, the EIS determination is now in the hands of the Planning Director. Thus, while this letter may not have much value in terms of the Director's future decision-making, I believe that it could help us better understand our respective positions.

I continue to emphasize that the proposed siting of the heliport does NOT change the alignment or altitudes of the existing flight routes over North Kohala. Unless the appropriate governmental entity disallows those routes or the various flight operators voluntarily discontinue those routes, they will continue to exist regardless of the outcome of Kenai's pending Special Permit application.

While I can appreciate your concerns, the focus of this application, Bill, is NOT the impacts of the route but the impacts of the heliport. The routes are pre-existing, and this heliport - in and of itself - does not purport to increase the number of users of these routes; nor does the applicant intend to fly different routes because of this heliport.

The impacts of the existing routes is an industry-wide issue and not peculiar to Kenai. It is my understanding that that was why - in part - the Helicopter System Plan (HSP) was

Mr. Bill Graham  
February 17, 1993  
Page 2

developed. It was designed to deal with those issues that were shared by the entire industry.

As you are aware, the HSP did identify the lack of available information on the impact of helicopters on wildlife. It also mentioned that a follow-up study which the National Park Service was supposed to have undertake. Perhaps, then, there should be a follow up to the HSP, particularly with the State Department of Transportation.

Again, thank you for your comments.

Sincerely,



SIDNEY H. FUKE  
Planning Consultant

cc Ms. Virginia Goldstein, Planning Director  
Mr. Paul Morris, Kenai Air Hawaii, Inc.

## SidneyFuke&Associates

100 Paalani Street, Suite 212 • Hilo, Hawaii 96720  
Telephone: (808) 943-1522 • Fax: (808) 943-1998

Consulting Land Use Planners

September 27, 1993

Hr. Bill Graham, Director  
LIFE OF THE LAND  
P. O. Box 155  
Hawi, Hawaii 96719

Dear Bill:

RE: Special Permit Request  
Kenai Air Hawaii, Inc.

Thank you very much for your time and inputs on this matter. I believe that through our various discussions over the past few months, we have each been more sensitized to our respective points of view.

Based upon our discussions, Kenai is prepared to accept the following conditions. While some of these may not totally address your concerns, it is Kenai's belief that they represent a higher threshold of mitigations than presently exist; and if uniformly applied to other operators, could lead to the eventual development of standards that may be mutually acceptable to the industry and the community.

These conditions are:

1. Limit the number of pads to 4 active and 2 refueling and/or repair pads;
2. Limit the use of the permit to a period coterminous with the existing license and/or lease from the property owner, but in either case, no longer than 15 years from the date of issuance of occupancy permit of the heliport;
3. Annually contribute, beginning one year after the anniversary date of the initial opening of the heliport, \$15,000 or an amount equal to \$5 per flight, whichever is greater, towards a Comprehensive Flight Route EIS fund or other appropriate existing County funding account. Said funds shall be used by the County to address issues associated with flight routes, such as the development of a comprehensive EIS on all existing and possible flight routes;

Hr. Bill Graham  
September 27, 1993  
Page 2

4. Subject all flights to Section 135 of the Federal Aviation Regulations relating to flight operations, maintenance procedures, aircraft and equipment and details on training requirements and qualifications for personnel;
5. Participate, by installing the required instruments, with HHOA's pilot computerized noise abatement program; and if accepted, agree to participate in it;
6. Participate in HHOA's procedures and programs, such as the "hot line;"
7. For tour flights, abide by the HHOA Fly Neighboring Program of altitude above ground level (AGL) of a minimum AGL or standoff distance of 1,500 feet within the Restricted (R-1) zone and minimum AGL or standoff distance of 3,000 feet within the Restricted (R-2) zone, as noted on the attached map;
8. For single-event, non-recreational flights (such as for real estate and specialized study) where the minimum AGL cannot be maintained, inform adjoining property owners, County, and HHOA "hot line" of the time and duration of the flight prior to the actual flight;
9. Record the date, time, and circumstance resulting in a deviation of the flight pattern and AGL guidelines and submit a copy to the Planning Director as part of the applicant's annual report requirement;
10. Agree to an enforcement program constituting of fines for the first two confirmed violations, as determined by the Planning Director, and for subsequent alleged violations occurring within a three year period of the initial violation - a hearing before the Planning Commission to determine whether further violations occurred and if so, whether the permit should be revoked.

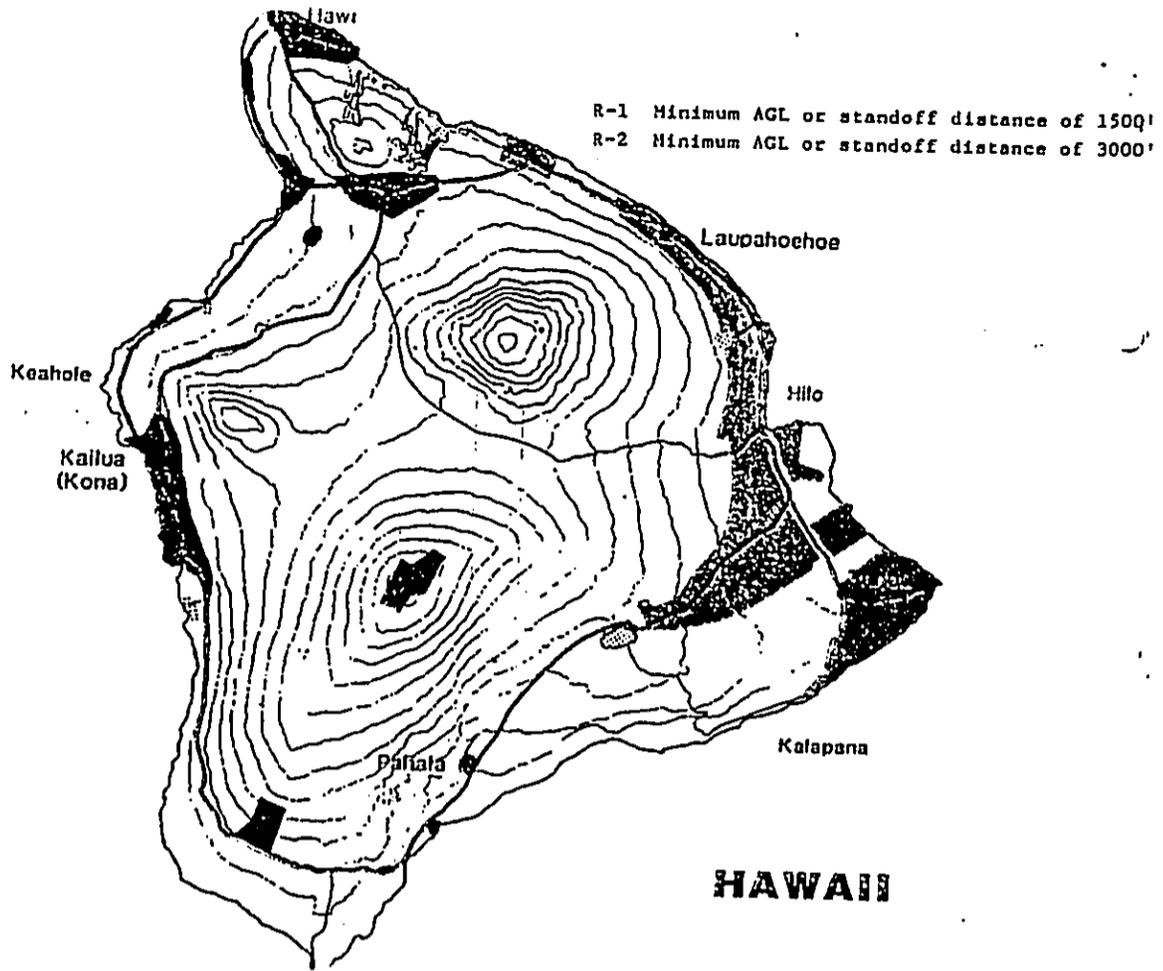
Mr. Bill Graham  
September 27, 1993  
Page 3

Again, we appreciate the time and your assistance on this matter. Your inputs have been very helpful. We believe that through open discussions and a willingness to sit down to work things out, the gap between the industry and the community can only get smaller. And we thank you for that.

Sincerely,  
  
SIDNEY M. FURE  
Planning Consultant

encl  
cc Ms. Virginia Goldstein, w/encl  
Mr. Paul Morris, Kenai Air, Inc. w/ encl

R-1 ■  
R-2 ■



WAIMANA-KAWAIHAE COMMUNITY ASSOCIATION  
P.O. BOX 685  
KAMUELA, HAWAII 96743

March 18, 1993

Ms. Virginia Goldstein, Planning Director  
Planning Department  
25 Aupuni St. Rm. 109  
Hilo, Hawaii 96720

Subject: Special Permit Application  
Kenai Air Hawaii, Inc.  
TMK: 6-2-0-1: Portion of 51

Dear Ms. Goldstein:

The Waimea Community Association Planning Committee has reviewed the subject Special Permit Application and has the following comments.

1. A primary concern by the community is the lack of control of the number of tours allowed, the areas of the overflights or the altitude of the flights. It was strongly felt that there should be a plan developed with public input that would address these issues and place strict and enforceable limits on the entire helicopter tour operation.

2. It was noted by several who live near or under one or another of the "flight paths", illustrated in the Application document (figure 7, p. 10) as a line, that the actual flight paths of observed helicopters are over a much wider zone than the narrow line illustrated. Since there is no other control over the location of these flight paths, we are assuming that the flight paths illustrated are established by the helicopter company itself. We do not know if other companies have different flight paths. We feel there should be more control over these flight paths.

3. Concerns were expressed for the safety of tourists and the community below, for the noise pollution, and for the invasion of privacy during all hours of the day.

4. With new interest and enthusiasm for "Eco-Tourism", it is obvious that we need to maintain certain areas of our Island as natural and pristine places to visit only on foot or horseback. At the present time, those who trouble to hike for hours to reach a peaceful valley are often subject to the rude and unsettling experience of a helicopter landing right beside them on the beach. It makes more economic sense to restrict the flights that would then permit the high quality experience that these tourists desire.

5. It was noted that the Waimea airport is under-utilized and could be used instead of building a new facility. It was also questioned why the applicant could not continue to utilize the existing facility currently in use or why new improvements could not be made at that location.

In line with the above comments, we feel that this application fails to comply with the following items of the Application:

(b) Such use shall not be contrary to the objectives sought to be accomplished by the Land Use Law and Regulations:

It will certainly adversely affect surrounding properties including the larger Waimea area in the probable increase in the number of flights and the lack of control over flight paths.

(f) the proposed use will not substantially alter or change the essential character of the land and the present use:

The proposed use will substantially impact the existing peaceful character of the entire area with increased helicopter and road traffic.

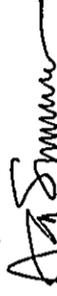
(g) the request will not be contrary to the General Plan and official Community Development Plan and other documents such as Design Plans.

The intent of the General Plan is to provide a framework for orderly growth towards a desired goal. Since the issues raised have not been dealt with in the General Plan to a sufficient degree, further development without proper controls should not be allowed until a proper plan has been established.

At the February meeting of the Waimea Community Association, there was unanimous agreement of those attending that this request should be denied.

Because of the foregoing comments, our recommendation at this time is to deny this Special Permit Application.

Sincerely,



Aza Summers  
Chairman, WCA Planning Committee

C4447

**SidneyFuke&Associates**

100 Puuhale Street, Suite 212 • Hilo, Hawaii 96720  
Telephone: (808) 969-1522 • Fax: (808) 969-7996

Consulting Land Use Planners

January 18, 1994

Ms. Virginia Goldstein, Director  
Planning Department  
COUNTY OF HAWAII  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Ms. Goldstein:

RE: Special Permit Application  
Kenai Air Hawaii, Inc.  
TKK: 6-2-01: Portion of 51

Thank you very much for your time last week to review the status of the subject application. Pursuant to our discussion, we look forward to your finalizing the environmental review process and a hearing before the Planning Commission soon, possibly in April.

For your added information, we have had discussions with the Waimea Community Association Planning Committee (WCAPA). We shared with them Kenai's willingness to accept certain conditions that were previously discussed with Mr. Bill Graham of Life of the Land. A copy of this letter was previously sent to your office.

Furthermore, Kenai has agreed to accept a revised flight route proposed the the WCAPA. This route would further mitigate potential noise impacts to existing and planned residential areas in and around Waimea, particularly around the HPA and the subdivisions along the Kawaihae Road. We hope that in due time, the WCAPA will submit its updated comments on Kenai's application to your office.

Enclosed please find a map reflecting the revised flight routes. Also included are Kenai's primary and secondary cross-island routes for your information.

Again, thank you for your time and assistance. Please feel free to contact me if you have further questions.

Sincerely,



SIDNEY M. FUKE  
Planning Consultant

encl

cc Mr. Paul Morris w/ encl  
Mr. Aza Summers, Chairperson, WCAPA w/ encl

